FIELD OF GLORY II

MEDIEVAL

SLITHERINE

BYZANTINE
GAMES

Contents

1. Introduction

1.1. Welcome

Welcome to *Field of Glory II: Medieval*. The feudal system, in which a social elite performed military service in return for hereditary grants of land, first evolved in Carolingian France, and gradually spread to the Christian kingdoms of Europe. It never took complete root in the western, northern and eastern fringes. From a ruler's point of view, it was far from satisfactory, feudal service usually only being required for a period of 40 days per annum, though this could be extended in return for pay. This put a severe limitation on the duration and extent of military campaigns, so that often only very limited objectives could be achieved. Moreover, the power of the greater nobles was often excessive, as they could call on the service of their own vassals if they chose to rebel against the king. To counteract these problems, rulers made greater and greater use of mercenaries as the period progressed. These were generally at least as reliable and effective as their feudal counterparts. Money for their employment was raised, amongst other means, by the practice of scutage, in which feudal vassals made money payments in lieu of service. By the end of the 13th century the feudal system was in terminal decline, with most military service, even by feudal vassals, performed on a contractual basis.

In the feudal kingdoms of western and central Europe, this was the heyday of the mounted knight. Armoured from head

Field of Glory: Oath of Fealty, *cover art by Peter Dennis*

to toe by the later 12th century, European knights rode heavy horses in tight formation, and delivered a devastating charge with couched lances. By the 13th century horses were also often armoured. Rear ranks were filled by mounted sergeants in somewhat lighter armour. Particularly in Anglo-Norman and German armies in the 11th and 12th centuries, a proportion of the knights sometimes fought dismounted. By contrast French knights were said to be of little value on foot.

Infantry spearmen were relegated to a defensive role, forming up in phalanxes either in front of the bodies of knights and sergeants, behind them, between them or on the flanks. Archers and crossbowmen were usually deployed on the flanks, though sometimes they skirmished ahead of the main battle line.

Major themes of the period include the struggles of the Kings of France against the Kings of England and the German Emperors, the English wars of conquest or attempted conquest against the Welsh, Scots and Irish, the Baltic Crusades and the Mongol invasion of Eastern Europe. With dynastic struggles and rebellions by powerful nobles thrown into the mix, Europe was in an almost constant state of war.

Field of Glory II: Medieval is a turn-based tactical game set during this epic period of history. It allows you to take command of the armies of the Anglo-Saxons and Normans, post-conquest England, France, Germany, Scotland, Wales, Ireland, the Low Countries, the Free Cantons, Denmark, Norway, Sweden, Bohemia, Poland, the Teutonic Knights, the pagan Old Prussians and Lithuanians, Russia, Hungary, the Cumans,

Volga Bulgars and Mongols in an endless variety of battles and campaigns set in 11th-13th century North and Central Europe.

There are single player and multiplayer battle modes – the latter using Slitherine's easy-to-use PBEM++ Multiplayer system.

1.2. System Requirements

Minimum Spec
Windows 8 / 10
2 GHz processor
6 GB RAM
5 GB of HD space
DirectX Compatible Sound Card
1 GB DirectX 9 Compatible Graphics Card
Slower Intel integrated video cards will require the game to run on lower graphics settings

Recommended Spec
As above but:
8 GB RAM
2 GB dedicated DirectX 9 Compatible Graphics Card
Please ensure your graphics and sound drivers are up to date before playing the game or you may experience graphical glitches or more serious errors. Check your manufacturer's website for the latest version, as new drivers are released regularly.

1.3. Installing the Game

Please ensure that your system meets the minimum requirements listed above.

If you purchased from the Slitherine or Matrix site you will have been provided a download link for the games installer. Have your Serial Number ready as you will need to enter it as part of the installation process. The Serial Number is included in the order receipt for downloads, or printed on the disc or box for hard copies. To install the game, either double click on the installation file you downloaded or insert the game's disc into your drive (if you have disabled the auto run function on your CDROM doubleclick on the installation archive file, then double click on the file that is shown inside the archive). Follow all on-screen prompts to complete installation.

If you have redeemed a Steam key or purchased via Steam you can also launch the game on Steam.

1.4. Uninstalling the Game

Please use the Add/Remove Programs option from the Windows Control Panel or the Uninstall shortcut in the games Windows "Start" menu folder to uninstall the game. Uninstalling through any other method will not properly uninstall the game.

1.5. Product Updates

In order to maintain our product excellence, Slitherine releases updates containing new features, enhancements, and corrections to any known issues. All our updates are available free on our website (www.slitherine.com) and can also be downloaded quickly and easily by clicking on the "Update" link in your Game Launcher or by using the "Update Game" shortcut in your Windows "Start" menu folder for the game. If you have the Steam version, Steam will update it according to your settings.

1.6. Multi-Player Registration

Wherever you bought the game, in order to play Multiplayer games on Slitherine's PBEM (play by e-mail) server, you need to create a registered Slitherine account.

https://www.slitherine.com/register

When registering you can choose to sign up to the newsletters to receive regular updates, offers and discounts on the rest of Slitherine's catalogue so it is worth registering even if you do not plan to play multiplayer.

If you bought the game directly from Slitherine/Matrix, we highly recommend registering your game first before playing. You can simply do this through the game menu, from Multiplayer or directly at Slitherine`s website at:

https://www.slitherine.com/member/registerserial

(You need to log in to your account first.)

STEAM and GOG users cannot currently register the game at Slitherine, though they are able to play multiplayer by creating a Slitherine account using the first link above.

1.7. Game Forums

Our forums are one of the best things about Slitherine. Every game has its own forum with our designers, developers and the gamers playing the game. If you are experiencing a problem, have a question or just an idea on how to make the game better, post a message there.

Go to www.slitherine.com and click on the Forums hyperlink.

1.8. Need Help?

Go to www.slitherine.com and click on the Forums hyperlink.

2. Nations

2.1. France

During this period the power of the King of France was often overshadowed by that of his nominal vassals. France was a very decentralised state, with the great nobles holding almost king-like power in their own territories. The direct authority of the Capetian kings was limited to their own fief of the Île-de-France as Counts of Paris. They had the support of the church, and the prestige of a royal dynasty dating back to 987, but though their royal title was acknowledged by the great nobles, it was often disrespected.

Following the Norman conquest of England in 1066, The Duke of Normandy was now also King of England – thus an equal of the King of France, though still theoretically owing homage for Normandy. Following the coronation of Henry II as King of England in 1154, the situation became even worse. Inheriting Normandy as a possession of the English Crown and Anjou from his father, Henry married France's divorced ex-queen, Eleanor of Aquitaine, gaining Aquitaine, Gascony and Poitou. He also made the Duke of Brittany his vassal, thus ruling most of western France as part of the so-called Angevin Empire.

Albigensian rebels with French royal knight captive, by Angus McBride. From Men-at-Arms 231: French Medieval Armies 1000–1300 © Osprey Publishing Ltd

The reign of Philip II Augustus (Philippe Auguste) (1180–1223) saw a great expansion of the French royal domain and influence. He spent much of his reign fighting the Angevin Empire of the Kings of England, supporting Henry II's sons in their rebellions against their father. Following the succession of Richard I the Lionheart in 1189, the two kings went on the Third Crusade together, but their friendship broke down during the crusade. When Richard finally returned home in 1194 after being captured on his return journey by Leopold of Austria and held for ransom, the two kings fought each other in France. Philip was losing until Richard was killed by a crossbow bolt during a minor siege in 1199.

Richard was succeeded by his brother John Lackland, and from then on the war went Philip's way. By the end of John's reign in 1216, especially after the French victory over John's Imperialist allies at Bouvines in 1214, Philip had brought most of the French territory of the Angevin Empire back under French suzerainty. The English king was left holding only Gascony in the south-west.

The early 13th century also saw the Albigensian Crusade (1209–1229) against the Cathar heretics in Languedoc.

By the end of the reign of Philip's grandson Louis IX the Saint (1226-1270) France was at last a centralised kingdom.

2.2. Germany

It is in this period that the German Empire started to use the name most connected with it – the "Holy Roman Empire". In reality it was never more than an alliance of more or less independent states that were just as likely to squabble among themselves as with outsiders. Only a few strong Emperors proved capable of exerting enough control of the various states to make the construct resemble anything like a true empire.

In addition to struggles against rival claimants to the throne, the Holy Roman Emperors in this period devoted much effort to re-establishing Imperial control of northern Italy, against opposition from the Pope and the Lombard League of north Italian cities.

It was common for Imperial armies to include feudal contingents (usually from the personal holdings of the Emperor) as well as ecclesiastical and city contingents. Feudal contingents from other princes of the empire did occur but were not usual, as most of them were not interested in a strong emperor and had no obligation to send troops, unlike the princes of the church.
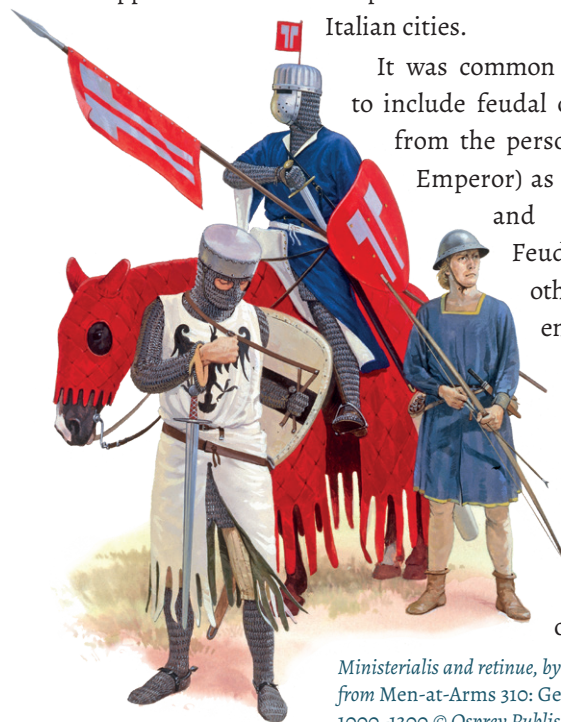
Ministerialis and retinue, by Graham Turner. Taken from Men-at-Arms 310: German Medieval Armies 1000–1300 © Osprey Publishing Ltd

The various regional lords bore a multitude of titles, usually Herzog (Duke), Erzherzog (Archduke), or König (King). Over time they became known collectively as Kurfürsten (Electors) or 'Princes of the Empire' indicating that they had the privilege to elect, from among themselves, the next German King if the throne was vacant.

Some of the princes used the lack of Imperial attention to slowly expand their territory into Slavic areas, sometimes by force, but usually by peaceful colonization.

2.3. England

2.3.1. Anglo-Saxon England

At the start of this period England was an Anglo-Saxon kingdom, with its own social and military system distinct from the feudal system of mainland western Europe.

The standard Anglo-Saxon battle formation was the shieldwall (*bord-weal or scyld-burh*). Huscarls were a permanently retained royal force of armoured Danish mercenaries, armed with two-handed axes, capable of felling a horse and rider with one blow. By this date the Select Fyrd, comprising thanes (minor noblemen) holding 5 or more hides of land, were expected to muster with sword, spear, shield, byrnie (mail coat), helmet and horse. In emergencies the Great Fyrd would be summoned, consisting of all able-bodied freemen, but poorly trained and equipped.

2.3.2. Norman England

The Norman conquest of England by William I the Conqueror in 1066 replaced the Saxon monarchy with a Norman dynasty, and introduced the feudal system. During this period wars were fought against English and Anglo-Norman rebels, Danes, Scots, Welsh, Bretons, Irish and French.

Following the death of Henry I in 1135, an 18-year civil war was fought between his chosen heir, his daughter the Empress Matilda, and his nephew Stephen of Blois, who was crowned king by the barons.

Stephen died in 1154, and by previous agreement was succeeded by Matilda's son Henry II. Having inherited Anjou and Maine from his father Geoffrey Plantagenet, and Normandy as a possession of the English Crown, he had also acquired Aquitaine, Gascony and Poitou through his marriage to Eleanor of Aquitaine in 1152. He thus already possessed control of most of western France, and rounded this off by forcing Conan, Duke of Brittany to accept vassal status and subsequently making his son Geoffrey Duke of Brittany by marrying him to Conan's heiress.

This led to frequent war with the King of France, who in later years supported Henry's sons in rebellion against him. When Henry died in 1189, he was succeeded by his eldest surviving son, Richard I, best known for his part in the partially successful Third Crusade. After his death in 1199, he was succeeded by his brother John, who, in a series of wars against the King of France, managed to lose all of his holdings in France apart from Gascony. In 1216 the barons offered the English throne to Prince Louis

of France, who arrived with an army and was proclaimed King of England at London, though not crowned. Retreating from the French invasion, John fell ill and died. His son, the 9-year old Henry III, was hastily crowned at Gloucester. Gradually the barons went over to his side until Louis was forced to return to France and abandon his claim to the English throne. Henry III's 65-year reign was marred by civil war against the barons.

2.4. Scotland

In the second quarter of the 12th century King David I of Scotland supported the claim of his niece the Empress Matilda against King Stephen of England. He invaded northern England several times. In 1138 a pitched battle was fought at Northallerton against a local English force. The Scots were defeated with heavy losses.

Over the rest of the period Scots forces entered England on a number of occasions. However, the main task of the Scottish Kings was to expand their control, which initially was confined to the lowlands, over the rest of Scotland.

At the start of the period the Isles and much of the Highlands were under the control of the Norwegian Earl of Orkney. Norsemen and Scottish Gaels came to share a common culture. Internecine strife between rival heirs to the earldom, however, meant that the earldom was often divided between rival claimants.

Following the Battle of Largs in 1263, in which a Scottish army, assisted by stormy weather, prevented a Norwegian fleet from landing troops in force, the Norwegians abandoned their

attempts to control the Western Isles. Angus Mor MacDonald accepted King Alexander III of Scotland as his (nominal) overlord. By the Treaty of Perth in 1266 Magnus VI of Norway formally ceded the Western Isles to Scotland. Norway retained control over Orkney until 1468, though the Earls were Scotsmen from 1232.

The "common army" made up the bulk of lowland Scottish forces, comprising poorly equipped peasant infantry armed with 3.7 metre (12 foot) spears, usually unarmoured with only helmet and shield. Scots knights were usually heavily outnumbered by their English counterparts.

The commonest weapon of the Islesman was the two-handed axe, but the Lewis chessmen (c.1175) and a proportion of later grave effigies show spear and sword instead. Later battle accounts suggest that the wealthier Highlanders were equipped with mail, bow, targe, sword and/or axe. Lesser followers, equipped only with targe, sword or knife made up the rear ranks.

2.5. Wales

At the time of the Norman conquest of England in 1066, the most powerful ruler in Wales was Bleddyn ap Cynfyn, Prince of Gwynedd (in the north-west) and Powys (in the east). Soon afterwards the Normans began to make incursions into Wales, overrunning Gwent in the south-east by 1070, and reaching Deheubarth in the south-west by 1074. Following the death of Bleddyn ap Cynfyn in 1075, civil war broke out in Wales, allowing the Normans to make inroads into North Wales. Much of

Troops of the Kingdom of the Isles, by Angus McBride. Taken from Men-at-Arms 396: Medieval Scandinavian Armies (1): 1000–1300

Gwynedd was seized in 1081 following the treacherous capture of Gruffydd ap Cynan at a parley. Morgannwg, in the south, was annexed in 1090, Deheubarth in 1093. Welsh fortunes were at a low ebb.

In 1094, however, the Welsh revolted and some of the lost territories were restored to Welsh rule. A strong kingdom of Gwynedd was rebuilt by Gruffydd ap Cynan. The Normans were heavily defeated at Crug Mawr in 1136 and Ceredigion recovered. Powys also remained independent, though it was permanently split from 1160. Most of Deheubarth was reconquered from the Normans by 1171, when Rhys ap Gruffydd (The Lord Rhys) came to terms with Henry II. Rhys also controlled much of the rest of South Wales through client princes. On his death in 1197, his lands were split between his sons, who became clients of the North.

Llywelyn ap Iorwerth, also known as Llywelyn Fawr (The Great), was sole ruler of Gwynedd by 1200 and between then and his death in 1240 gained effective control over much of Wales. A period of internecine strife following his death was followed by the rise of Llywelyn ap Gruffydd, also known as Llywelyn Ein Llyw Olaf (Our Last Leader), who was recognised as "Prince of Wales" by Henry III in Treaty of Montgomery in 1267. However, Wales was finally conquered by Edward I between 1276 and 1284.

From around 1100 archers predominated in South Welsh armies, while in the North spearmen were the more numerous type. Little, if any, protective armour was worn. Although raids and ambushes were preferred, Welsh armies did engage in pitched battles from time to time.

2.6. Ireland

Forced into exile by the High King Ruaidri Ua Conchobair (Rory O'Connor) in 1166, Diarmait Mac Murchada (Dermot MacMurrough), King of Leinster, fled to the court of Henry II of England, seeking help to regain his kingdom. Granted permission to obtain aid from Henry's vassals, Diarmait secured the interest of several of the Norman lords of Wales, including Richard de Clare, Earl of Pembroke (Strongbow). The first contingent, under Richard fitz Godbert de Roche, arrived in 1167. The main body of Norman, Welsh and Flemish troops arrived in 1169, rapidly gaining control of Leinster, Waterford

Irish troops ambush Anglo-Irish knight, by Angus McBride. Taken from Elite 9: The Normans © Osprey Publishing Ltd

and Dublin. Strongbow married Diarmait's daughter, and was named heir to the Kingdom of Leinster. Fearing the possible creation of an independent Norman kingdom in Ireland, Henry II arrived with a large fleet in 1171. He declared Waterford and Dublin royal cities, and made his youngest son, John, "Lord of Ireland".

A treaty was signed between Henry and Ruaidri in 1175, leaving Ruaidri as King of the rest of Ireland outside Leinster, Meath, and Waterford, in return for tribute. However, the Norman lords in Ireland did not respect this treaty but continued to expand their lands, advancing far into the west of the island. Throughout the 13th century, however, the policy of the Kings of England was to weaken the power of the Norman lords in Ireland. From the middle of the century onwards, the native Irish began to push back the frontiers of the area under Norman control. By the end of the 15th century English control was limited to a relatively small area around Dublin ("The Pale").

Irish warriors of this period mostly fought on foot, armed with a variety of weapons, the most prestigious being the heavy axe. Giraldus Cambrensis states that neither helmet nor mail were any protection against it. "The whole thigh of a soldier, though ever so well cased in iron mail, is cut off by one blow of the axe, the thigh and the leg falling on one side of the horse, and the dying body on the other". Armour was rare amongst Irish troops.

2.7. Low Countries

In this period the Low Countries were divided into a number of secular and ecclesiastical principalities, whose borders had more or less stabilised by the end of the 13th century: The counties of Flanders and Hainaut, the duchies of Brabant and Limburg, the county of Namur, the county of Loon, the county of Holland and Zeeland, the county of Guelders, and the prince-bishoprics of Liège, Utrecht, Tournai, and Cambrai. Most of these principalities were in theory subject to the Holy Roman Emperor, while the count of Flanders held most of his land as the vassal of the King of France. The Frisian areas had no sovereign authority – see Free Cantons below.

The main urban centres that grew up during this period were in the County of Flanders in the South, the County of Holland in the North and Northern Guelders/Oversticht in the East.

The industrious cities of the Low Counties provided reliable citizen militia infantry. They used very long spears but did not form up in especially deep formations in this period, so we rate them as spearmen rather than pikemen.

2.8. Free Cantons

Frisia was the largest of the 'autonomous peasant republics' also known as the Free Cantons. Smaller Free Cantons included Dithmarschen and Stedinger. While formally belonging to this or that powerful noble or city they were effectively independent.

All attempts to bring them to heel failed, often at large cost to the would-be conquerors. In large part this was due to the inaccessible terrain. It also helped that most of the nominal overlords were not that interested in subjugating these people, realizing the cost of doing so and the comparably low value of what they stood to gain.

Frisia and Dithmarschen continued to maintain their independence until the late 15th century, although the Stedinger Republic fell to a crusading alliance led by the Duke of Brabant in 1234.

The long pole spear used by the Free Cantoners had a disk on the butt end to prevent it sinking into the mud when it was used as a 'vaulting pole' to quickly and safely jump over drainage channels, small bogs or other treacherous terrain features. This allowed the users unmatched mobility in marshy terrain.

2.9. Denmark, Norway and Sweden

After a period of civil war, Denmark was united under the rule of Valdemar the Great (1131-1182). Valdemar built Denmark into a major power in the Baltic region. He and his successors launched several "crusades" against the pagan tribes of the Baltic, adding parts of Wendland and northern Estonia to the Danish kingdom. By the late 13th century, however, the power of the Danish monarchy had declined, with the Counts of Holstein owning much of the country.

Norway suffered a series of civil wars between 1130 and 1240, when King Håkon Håkonsson defeated his last royal rival.

Håkon brought Iceland and Greenland under Norwegian rule. Orkney, the Western Isles of Scotland and the Isle of Man were already at least theoretically subject to Norwegian rule, but Haakon's attempt to enforce these rights failed following the Battle of Largs in 1263 and he died on his way back to Norway. By the terms of the Treaty of Perth (1266), his son and successor Magnus VI the Law-Mender gave up his claim to the Western Isles and Man but retained control of Orkney.

From 1130 the throne of Sweden alternated for several generations between the rival houses of Sverker in Östergötland and Eric in Uppland, until in the 1220s the Eric dynasty got the upper hand, and the Sverker dynasty became extinct in the

Swedish forces at the Battle of Hova, 1275, by Angus McBride. Taken from Men-at-Arms 396: Medieval Scandinavian Armies (1): 1100–1300 © *Osprey Publishing Ltd*

male line. In 1250 Valdemar Birgersson ascended the throne, having inherited Eric and Sverker dynasty claims through his mother and grandmother. He was the first king of the House of Bjälbo, which ruled Sweden until the late 14th century. At some time circa 1249 Sweden conquered parts of Finland, although details of the conquest are obscure, and further areas were annexed in 1293.

The mainstay of Scandinavian armies in this period was still the infantry shieldwall (*skjaldborg*), comprising men armed with various combinations of sword, axe, throwing spears, thrusting spears and bows. Mounted knights were increasingly important, however, particularly in Denmark, although always heavily outnumbered by the infantry.

2.10. Bohemia

The Czech Duchy of Bohemia became part of the Holy Roman Empire in 1002. Although some rulers of Bohemia used the title of King in the 11th and 12th centuries, Bohemia was formally established as a hereditary kingdom in 1198 by Přemysl Ottokar I, whose status was acknowledged by Philip of Swabia, elected King of the Romans, in return for his support against the rival Emperor Otto IV. This was subsequently ratified in 1204 by Otto IV and Pope Innocent III. In 1212, the Golden Bull of Sicily, issued by Emperor Frederick II, permanently elevated the Duchy of Bohemia to Kingdom status. The King of Bohemia was exempted from all obligations to the Holy Roman Empire other than participation in imperial councils.

In the 13th century, the Holy Roman Emperor Frederick II's preoccupation with Italian affairs, and the subsequent Great Interregnum which lasted from 1250 to 1273, weakened Imperial authority in Central Europe. Together with the weakening of Hungary and Poland by the Mongol invasion of 1241-1242, this allowed Přemyslid Bohemia opportunities for expansion.

Přemysl Ottokar II (1253–78) married the heiress to the Duchy of Austria, thus gaining Upper Austria, Lower Austria, and part of Styria. He subsequently conquered the rest of Styria, most of Carinthia, and parts of Carniola. In 1260, he defeated Hungary in the Battle of Kressenbrunn, where 65,000 men clashed. From 1273, however, Rudolf I, the new Habsburg King of Germany, began to reassert Imperial authority, checking Ottokar's power. All of Ottokar's German possessions were lost in 1276, and he died in 1278 fighting Rudolf in the Battle on the Marchfeld.

Despite this disaster, Ottokar's son and successor Wenceslaus II was crowned King of Poland in 1300, and his son Wenceslaus III was crowned King of Hungary a year later, so that for a brief period the Kings of Bohemia ruled from Hungary to the Baltic Sea.

2.11. Poland

Bolesław the Brave became the first King of Poland in 1025. A period of instability under Boleslaw's son, Mieszko II, was followed by a resurgence under his son, Casimir the Restorer, who reigned till 1058.

Following his death, there was another period of instability until Bolesław III Wrymouth reunited the country in 1106.

However, before his death in 1138, he divided up power in the country between his four sons, with the eldest, Władysław, having the title of Grand Duke of Kraków. Władysław's attempt to deprive his brothers of power and reunite the country led to civil war, resulting in Władysław's defeat and exile in 1146. Thereafter the country remained effectively divided, with the Duke of Krakow as titular Duke of Poland, but the other Polish principalities effectively independent. It was not until the early years of the 14th century that much of the country was reunited by King Władysław the Elbow-High.

In 1241 Mongol forces invaded Central Europe. The main force, under the supreme command of the Great Khan's general Subutai, invaded Hungary, while a diversionary force invaded Poland. The Hungarians were severely defeated at Mohi, and the Poles, under Duke Henry II of Silesia, at Legnicą (Liegnitz). Fortunately for Europe, the Great Khan, Ögedei, died the same year, and the Mongol leaders broke off the campaign to take part in the election of a new Great Khan.

The Polish nobility lagged somewhat behind that of Western Europe in terms of tactics and equipment, continuing to use hit and run tactics for the earlier part of the period. By the start of the 13th century, however, they had adopted standard western European Knightly tactics.

2.12. Teutonic Knights

The Teutonic Knights or Teutonic Order (The Order of the German House of St. Mary in Jerusalem) was founded as

a German hospital order during the siege of Acre in 1190 and transformed into a military order in 1198, but never managed to become as powerful and famous in Outremer as the Templars or Hospitallers.

In 1211 King Andrew II of Hungary accepted the aid of the Knights in defending Hungary against the Cumans, granting them lands in the Burzenland in Siebenbürgen (Transylvania), but was forced to expel them again in 1225 as an increasing threat to his authority.

In 1226 Konrad I, Duke of Masovia in west-central Poland, invited the Teutonic Knights to assist in the conquest of the pagan Prussians, granting them and the Order of Dobrzyń (which Konrad had founded) the use of the Kulmerland (Chełmno Land) in modern central Poland as their base. In the same year the Holy Roman Emperor Frederick (Friedrich) II bestowed special rights on the Order for the conquest and possession of Prussia, including Chełmno Land, with nominal Papal sovereignty. In 1235 the Teutonic Knights assimilated the smaller Order of Dobrzyń. The following year they also absorbed the Schwertbrüder Orden (Livonian Brothers of the Sword) – which had been founded in 1202 and operated around the Gulf of Riga – following the severe defeat of the Schwertbrüder by the Lithuanians and Semigallians at the Battle of Schaulen (Saule).

In 1242 there was the famous clash between the Teutonic Order and the Russian Republic of Novgorod, the Battle of Lake Peipus.

Taking advantage of the current crusading atmosphere as well as the boredom many nobles faced during the winter months,

the Order soon started to organize annual 'winter crusades', when the annual freeze made the marshy Baltic terrain easier to traverse. With this added manpower the Order managed to slowly but surely subdue the natives over a period of almost 50 years. After the Prussians were finally subdued the Order then began to expand into Livonia. By 1300 the Teutonic Order was well established in Prussia, Latvia, Estonia, and Livonia.

Subject foot included Estonians, Kurs, Letts, Livs and Prussians.

2.13. Baltic Tribes

This covers the various pagan Slavic or Baltic tribes in the Baltic region who were conquered by a series of Crusades in the 12th and 13th centuries AD.

Wendland was conquered by German and Danish crusaders by 1185. Estonia was conquered by the Danes and the Livonian Sword Brethren by 1227. Prussia was conquered by the Teutonic Knights by 1283.

Foot were mainly armed with spears, throwing axes, swords and hand axes. They lacked armour but mostly carried smallish kite shields. The Baltic tribes favoured raids and ambushes, rarely fighting pitched battles. Their preferred tactic was to throw spears and then charge – although mounted knights were usually received at the halt with spear in hand.

2.14. Lithuania

The Lithuanians and Samogitians comprised a number of related Baltic tribes in the area of modern Lithuania. In the 11th century the Lithuanian tribes paid tribute to Kievan Rus, but by the 12th century their raids on neighbouring territories had become troublesome.

The threat posed by the Teutonic Knights to the west and the Livonian Brothers of the Sword to the north resulted in the unification of the Lithuanian tribes by Mindaugas, who inflicted a severe defeat on the Sword Brethren at the Battle of Šiauliai (Saule) in 1236. Following this disaster, the depleted Sword Brethren were absorbed into the Teutonic Order, with whom Mindaugas signed a treaty in 1250. By the terms of this treaty he transferred parts of Samogitia to the Order. He was baptized in 1251 and crowned as the first and only King of Lithuania in 1253. Following the defeat of the Teutonic Order by the Samogitians at the Battle of Durbe in 1260, however, Mindaugas renounced the treaty. It is uncertain whether he also renounced Christianity, but after his assassination by his nephew Treniota in 1263, Lithuania certainly reverted to paganism and ceased to be recognised as a Kingdom.

For the rest of the century Lithuania was in conflict with the Teutonic Order, the Polish Duchy of Masovia and the local Russian principalities. In addition, Lithuania suffered Mongol (Tatar) raids in 1241, 1259 and 1275.

Lithuanian cavalry were equipped with a shortish light "lance" which could be thrust or thrown. They also carried

a 1 metre (3 foot) self bow, which in this period was only used when dismounted. They were fond of skirmishing and ambushes, often dismounting to fight in woodlands. Boyars fought surrounded by their less well-equipped followers. We assume that only the best equipped contingents would have enough armoured men to justify classification as Armoured.

2.15. Russia

By the mid-11th century, the fusion of Scandinavian and Slavic elements that was Kievan Rus had reached the height of its power under Prince Yaroslav the Wise, ruling over a huge territory comprising modern Belarus, northern Ukraine and western Russia. The senior Rurikid Prince ruled from Kiev, while the other Russian cities were governed by junior princes of the dynasty. To the south, the steppe was dominated by the nomadic Cumans (known to the Russians as Polovtsy). To the west were the kingdoms of Poland and Hungary. At this time, Kievan Rus was not only geographically the largest, but also in several ways one of most culturally advanced states in northern Europe. Literacy was widespread, and Kiev's population was four times that of contemporary London.

As time went on, however, the increasingly numerous princes came to identify more with their local regions than with the larger polity. By the time of the Mongol invasion, Russia was divided into a number of rival principalities, including the Principalities of Kiev, Vladimir-Suzdal, Chernigov, Halych-Volhynia, Polotsk and Smolensk, and the Republic of Novgorod.

40

Russian militia, by Angus McBride. Taken from Men-at-Arms 333: Armies of Medieval Russia 750–1250 © Osprey Publishing Ltd

In 1223 a Russian army, with Cuman allies, was defeated at the Kalka River by a Mongol reconnaissance force. Between 1236 and 1239, Mongol forces subjugated the Volga Bulgars, the Cumans and the Russian principalities. Most of the major Russian cities, including Kiev, were sacked. The south Russian principalities of Kiev and Chernigov were completely subjugated, the others, with the exception of Novgorod, were reduced to vassal status. Novgorod, though independent, had its own problems with aggression by the Swedes and Teutonic Knights. Halych-Volhynia was eventually absorbed into the Polish-Lithuanian Commonwealth.

Alexander Nevsky, as elected Prince of Novgorod, won victories over the Swedes at the Neva in 1240 and the Teutonic Knights at Lake Peipus in 1242. In 1252 he was installed as Grand Prince of Vladimir, which he remained until his death in 1263.

The proportion of cavalry steadily increased during this period. The numerous princes and their retinues (*druzhina*) supplied armoured cavalry. Turkic mercenary horse archers, including Pechenegs and other Turkic nomad tribes, were employed in large numbers and often settled in Russian territory – becoming "our pagans" (svoi poganye). Town militia (polk) supplied well-equipped spearmen, whose proportion in field armies steadily decreased throughout the period. Land-owning peasants (smerdy) were sometimes called up to fight but were of general poor quality, lacking experience or good equipment.

2.16. Hungary

In 1000 the Magyar High Prince, Vajk, of the Árpád dynasty, accepted Christianity. He was recognised as King of Hungary by Pope Sylvester II and ruled under his Christian name of István (Stephen) I. Under his successors Hungary developed a feudal economy and expanded its territories, becoming one of the leading powers in south-eastern Europe.

Until the 13th century, the Árpád kings enjoyed more or less absolute power. In the early 13th century, however, they found it necessary to make large land grants to the nobles, shifting the balance of power in favour of the magnates. When the Mongols

Hungarian Cavalry, by Angus McBride. Taken from Men-at-Arms 195: Hungary and the Fall of Eastern Europe 1000–1568 © Osprey Publishing Ltd

invaded in 1241, many of the magnates failed to answer the call of King Béla IV, who was severely defeated at the Battle of Mohi. The Mongols caused much devastation and slaughtered up to 30% of the population before being recalled to elect a new Great Khan on the death of Ögedei in 1242.

Though primarily equipped with lance and shield, Hungarian armoured cavalry continued to carry bows and operate as heavy horse archers when necessary until the end of the 12th century.

Many western knights, principally Germans and Italians, were employed as mercenaries and subsequently granted Hungarian lands especially in the east of the kingdom. They gradually became absorbed into the Hungarian nobility, who themselves came to adopt their equipment and tactics. The king's household and court were the first to do so.

Cuman prisoners of war were settled on the frontier from the later 11th century. In 1239, however, 40,000 of them under Khan Kötöny were accepted into Hungary following their defeat by the Mongols, in return for military service. A stormy relationship ensued, with several attempts being made to purge them before they finally agreed at the end of the 13th century to accept Christianity, adopt a settled life style and stop killing Hungarians.

2.17. Cumans

The nomadic Cumans appeared in the steppes north of the Black and Caspian seas in the 11th century, after defeating the Pechenegs. From this base they raided the Byzantine Empire, the Kingdom of Hungary, and the Russian principalities. Various groups took part in the wars of the surrounding nations. In 1238 they were decisively defeated by the Mongols. Many took refuge in Hungary, Bulgaria and the Byzantine Empire. Those who remained on the steppe became part of the Mongol Golden Horde. The Cuman language survived in Hungary until the 17th century.

Cuman armies consisted almost entirely of horse archers.

2.18. Volga Bulgars

Following defeat by the Khazars circa 668, part of the Bulgar horde fled north and part fled west. The western branch formed the Danubian Bulgar kingdom. The northern branch fled up the Volga and formed the Volga Bulgar state.

For the following three centuries the Volga Bulgars were subject to the Khazar Khaganate. Islam was adopted in 922. Following the destruction of Khazar power in the 960s by Sviatoslav I of Kiev, Volga Bulgaria grew greatly in size and power, controlling much of the trade between Europe and Asia - until the Crusades made other trade routes practicable. From the 11th to 13th centuries Volga Bulgaria came under increasing pressure from the Russian principalities to the west. However, after repelling an initial Mongol incursion in 1223, Volga Bulgaria was conquered by the Mongols between 1236 and 1241.

2.19. Mongols

In 1223 a Kievan Russian army, with Cuman allies, was defeated at the Kalka River by a Mongol reconnaissance force under Subutai.

After the death of Ghengis Khan in 1227, command of the Mongol forces in South Russia was divided between Ghengis's grandsons, the brothers Batu in the west (Blue Horde) and Orda

in the east (White Horde). Batu had the larger forces, mostly recruited from conquered tribes, including Cumans (Polovtsy), Alans, Bashkirs, Burtas, Circassians, Karburdians, Kirghiz, Khwarazmians, Mordvins, Volga Bulgars and others.

Between 1236 and 1239, Batu's forces subjugated the Volga Bulgars and the Russian principalities. Most of the latter retained vassal status rather than being directly incorporated into the Horde's territories.

In 1241 Mongol forces invaded Central Europe. Batu's forces (under the supreme command of the Great Khan's general Subutai) invaded Hungary, while Orda's forces invaded Poland. The Hungarians were severely defeated at Mohi and the Poles at Legnicą (Liegnitz). Fortunately for Europe, the Great Khan, Ögedei, died the same year, and the Mongol leaders broke off the campaign to take part in the election of a new Great Khan.

After his return in 1242, Batu established his capital at Sarai, on the lower Volga. Following Batu's death in 1255, the Blue and White Hordes were consolidated into a single state by Batu's brother and successor, Berke. This state came to be known as the Golden Horde, and was the longest lasting of the Mongol successor states. "Tatar" came to be the general term used for its multi-ethnic population.

Mongol cavalry were mostly horse archers, though some also carried lance.

3. Playing The Game

3.1. New Players

New players should start by playing through the Tutorial scenarios, as this will introduce the basics of movement, shooting, close combat, morale and important troop interactions. After completing the tutorials, start with a Quick Battle. Once you have played a few of these you can move on to the more flexible Custom Battles with larger armies or try the Campaigns or Epic Battles. Feel free to adjust the difficulty as needed in the Settings screen (see Settings below). The settings button is in the top left of the Main menu screen. However, we recommend that you start by using the default settings.
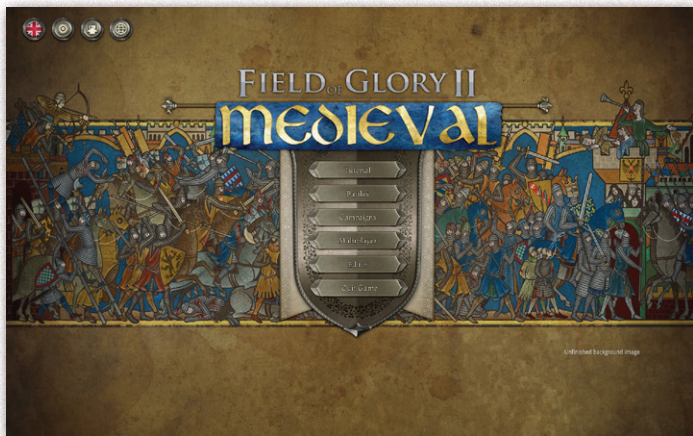
3.2. Starting a Single Player Game

If you have not played before, select the Tutorial from the main menu.

When you have played through that, we suggest you select Battles from the first menu and then Quick Battles.

This will set up a moderate sized battle between historically opposing armies chosen from historically accurate army lists appropriate to the date of the battle. If you want to play larger battles, you can change the battle size in the Quick Battles setup screen. Or, if you want more control over the options, pick Custom Battle. Or, you can select Epic Battles to play one of the iconic historical battles of the period. Most of these can be played from the point of view of either side. The historical

scenarios are arranged in chronological order, but you can play them in any order you like. You can adjust the difficulty in the Settings menu.

Once you are familiar with the system, you may like to try one of the campaigns and lead your army to victory through a series of connected battles.

4. Quick Battles

For an instant battle, click on "Fight Now!" which will randomly pick a battle from the available Quick Battles. Otherwise, click "Quick Battles", which will allow you to choose which quick battle to fight.

Quick Battles are smallish battles useful for when you are exploring the game or just want a quick battle. They are hypothetical battles between historical opponents representing some of the smaller actions that took place during their wars. Detailed accounts are often lacking for such battles, giving us licence to speculate.

The battle map, orders of battle and scenario type are generated afresh automatically each time you play these scenarios.

First pick your side.

Then pick the enemy side.

Then pick the conflict.

The default battle size is small, but you can change to a different battle size if you prefer.

Then click on "Create" to start the battle.

If you want greater control over the battle setup, select "Custom Battle" in the main game menu.

5. Custom Battles

Custom Battle mode allows an infinite number of what-if scenarios to be played. The player (or challenger in the case of multiplayer games) can choose the size of the forces involved, the size of the map, and the nationality and date of the opposing forces. The battle will be fought on a computer-generated battlefield.

5.1. Armies

The armies for Custom Battles are chosen from historically-based army lists for a particular nation and date range.

You can select which army you will use with the top button.

The list of armies can be sorted either alphabetically, by start date or geographically from west to east. You can set start and end dates to exclude army lists outside of that range. You can also exclude army lists from DLCs you do not own.

If you select "Pot Luck", the computer will set up a battle between two opposing forces – matched by date and geographical region if those filters are on.

If you choose to select the nations involved, you can either pick them from historically possible opponents or turn the Date and/or Geographical filters off.

If you click the "Preview Army Options" button for either army, a preview of the army selection options will be shown. The minima and maxima of each unit type will vary according to the currently set battle size.
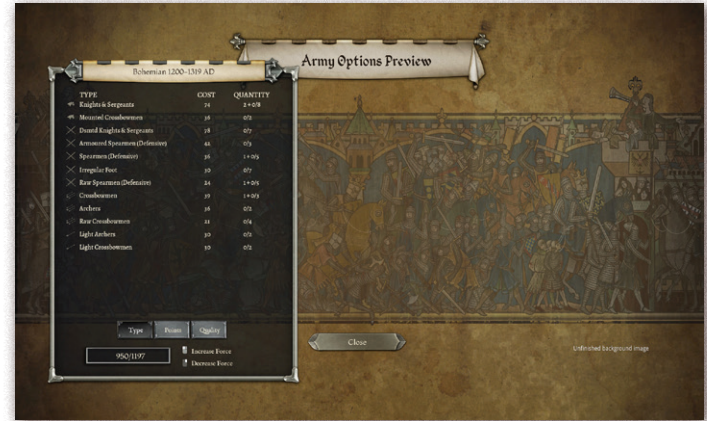
5.2. Allies

You can choose to have allies from a different army list in custom battle armies. The main army list will provide the majority of the troops available for selection, the allies will provide a smaller proportion.

Permitted allies are specified in the army list, based on known historical alliances. For historical reasons, where a small country and a large country were allied historically, the smaller country will be specified as an ally for the larger country, but sometimes not vice versa. This is when it is deemed historically unlikely that the larger country's troops would form a minority of the army, even if, for example, it sent a force to assist a client in regaining his throne.

When the Geographical and Date filters are turned on, the list of permitted allies is also filtered for geographical

proximity to the enemy state and date compatibility with both the enemy army list and any enemy allies list.

Allied troops in custom battles are not required to deploy together under an ally general. This is not entirely historical, but is a "quality of life" game design decision, to avoid issues with deployment and group moves.

5.3. Scenario Types

5.3.1. Open Battle

Both sides are eager for battle on an open battlefield.

5.3.2. Reinforcements (Enemy)

The enemy is expecting reinforcements. Best defeat him before they arrive.

5.3.3. Reinforcements (Own)

You are expecting reinforcements. Can you hold the enemy off until they arrive?

5.3.4. Send Flank March

You have decided to send part of your forces on a flank march, to catch the enemy at a disadvantage. Alternatively he might overrun you before they arrive.

There is no scenario selection to make the enemy send a flank march, but they may choose to do so in any of the other scenario types.

5.3.5. Rearguard

The enemy are advancing with overwhelming force. You have been left in command of a rearguard, with orders to slow down the enemy advance to allow the rest of our army to escape. You must hold out for as many turns as possible.

5.3.6. Advance Guard

Your army and the enemy army have blundered into each other on the march. The main armies will not arrive before nightfall. You must make best use of your advance forces as they arrive to secure the battlefield before nightfall, whatever the cost.

5.3.7. Remove the Head

The enemy are led by a charismatic C-in-C. If you can kill him, they should break. Of course, you also need to protect your own C-in-C.

5.3.8. Escort Baggage train

Your army is advancing through hostile territory. You must protect your baggage train at all costs, otherwise your army will be forced to withdraw. Your task is to get at least half of your baggage train safely to the far side of the map before nightfall, while avoiding defeat by the enemy forces.

5.3.9. Own Side Defending

You have manoeuvred the enemy into a situation where they must attack you. If you can hold out till nightfall you will achieve a strategic victory. If field fortifications are available to your army, you may use them.

5.3.10. Enemy Defending

The enemy have manoeuvred you into a position where you must attack them. If they can hold out till nightfall they will achieve a strategic victory. If field fortifications are available to their army, they may use them.

5.3.11. Relieve Besieged Fortress

One of your fortresses is under siege. You must defeat the besieging army to relieve the siege. Your fortress garrison can sally out to aid in the battle.

5.3.12. Enemy Relieve Besieged Fortress

You are besieging an important enemy fortress. You must defeat the army they have sent to relieve the siege. Their fortress garrison can sally out to aid in the battle.

5.3.13. Ambush (Own)

You have sent over half of your army points on a flank march to surprise the enemy. They will arrive at the start of your second turn. All units in the enemy army will take a cohesion test when the ambush arrives.

5.3.14. Ambush (Enemy)

The enemy have sent over half of their army points on a flank march to surprise you. They will arrive at the start of their first turn. All units in your army will take a cohesion test when the ambush arrives.

5.3.15. Open Battle (Enemy Overconfident)

(SP only). The enemy have a slight advantage, but this has made them overconfident.

5.3.16. Own Side Defending (Enemy Overconfident)

(SP only). You have manoeuvred the enemy into a situation where they must attack you. Their forces outnumber yours, but this has made them overconfident. If you can hold out till nightfall you will achieve a strategic victory. If field fortifications are available to your army, you may use them.

5.4. Force Size

You can choose the size of battle you wish to fight. There are preset Very Small, Small, Medium, Large and Very Large sizes, or you can specify other sizes in the Advanced section. The points balance between the two sides in the preset options

will depend on the scenario type, difficulty setting (in Single Player games) and whether you opt to choose your own force or let the program do it automatically for you.

5.5. Map Size

You can choose the width of the battlefield. The program will automatically increase the map width setting for larger force sizes unless you set the map width manually in the Advanced section.

5.6. Map Type

The general terrain type of the region in which the battle will take place can be specified. The types are Agricultural, Hilly, Wooded, Mountains, Steppe, Desert, Tropical or Marshy. Agricultural, Hilly, Wooded, Mountains and Marshy maps have

North European, North European Frozen, Mediterranean and Middle-Eastern variants.

The terrain type and region modify the parameters the random map generator uses to set up the map, but note that even in mountainous regions there may be some valleys wide enough to allow a fairly open battlefield.

You can also choose "Pot Luck" terrain. The game will choose a region appropriate to at least one of the combatants, and randomly select the terrain type (heavily weighted toward Agricultural).

✦ Added **Plains** map type for North Europe, Mediterranean, Middle East, Frozen and Tropical regions. Plains maps are not completely featureless open terrain, but are a lot more open than many Agricultural maps, with no hills or marshes and fewer areas of woods or rough going.

✦ Plains have been added to the Pot Luck terrain selection as a relatively uncommon selection. (Bearing in mind that many "Agricultural" maps are also mostly open terrain.)

5.7. Force Selection

You can choose whether to have the computer pick the armies (few historical commanders had the luxury of choosing the forces available to them) or allow the player(s) to tailor their forces within specified limits. If you choose the latter option in single player games you will get a slightly smaller force.

5.8. Advanced Options

The Advanced Options panel allows you to customise the Turn Limit, Map Width, Map Height and Force Size for each side.

6. Epic Battles – Historical Scenarios

Each of the scenarios in the Epic Battles section of the game is a historical battle, and is closely modelled on the real battle. Most of them can be played from either side. Victory conditions vary from scenario to scenario, as specified in the scenario briefing, but an army will generally break when a certain proportion of its units are routed or destroyed. The commonest goal is to defeat the enemy army.

You can select the scenario to play in the scenario selection screen. The location of each battle is shown on the map.

You can pick which side to play as by clicking on the buttons at the bottom of the panel. The currently selected side's banner moves.

Each historical scenario starts with a popup scenario briefing, which shows brief information about the forthcoming battle. You can see the briefing again by opening the briefing panel using the button at the top left of the screen.
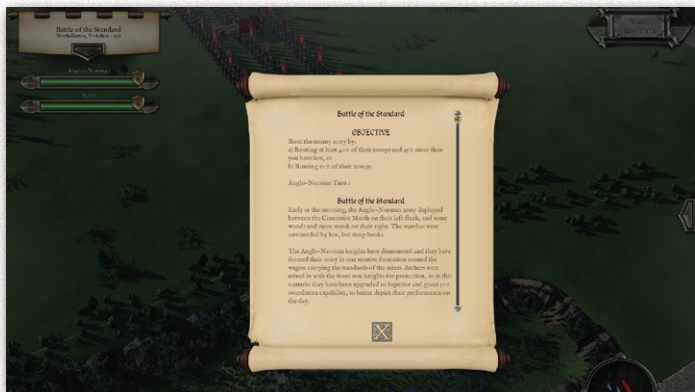
7. Multi-Battle Campaigns

Campaigns allow you to fight a series of connected battles, with the core of your army progressing from one battle to the next, gaining experience and elan with each victory.

7.1. Sandbox Campaigns

The sandbox campaign ("Sandbox Campaigns") allows you to pit any nation against any other. Depending on the nations and dates selected, other historically allied nations may join in as allies to either side during the campaign, or your country may come under attack by other enemies on a different frontier.

There is a toggleable button in the Sandbox Campaign set up screen that allows you to define the focus of the campaign:

+ **Default:** Campaign may involve other enemies as well as the main protagonists and their local allies.
+ **Focused:** Campaign may involve historical allies local to both main protagonists, but not attacks by other enemies.
+ **Duel:** Campaign will only involve the main protagonists. (Although the player may get the option to seek troop contingents from his local allies)

"What if" matchups can be created by turning off the date and/or geographical filter. In anachronistic matchups, the additional enemies will match the period of the main enemy army, not that of the player army.

7.1.1. Armies

The armies for Sandbox Campaigns are chosen from historically-based army lists for a particular nation and date range.

The list of armies can be sorted either alphabetically, by start date or geographically from west to east.

If you select "Pot Luck", the computer will set up a campaign between two historically possible opposing forces of the same date and geographical region.

If you choose to select the nations involved, you can either pick them from historically possible opponents or turn the Date and/or Geographical filters off.

If you click the "Preview Army Options" button for either army, a preview of the army selection options will be shown. The minima and maxima of each unit type will vary according to the currently set first battle size.

7.1.2. First Battle Size and Last Battle Size

You can choose the size of the first and last battles in the campaign. Other battles during the campaign will scale between these values. The last battle must be larger than the first battle.

7.1.3. Number of Battles

You can choose between a 3, 5, 7, 9, 11, 13 or 15 battle campaign. Additional battles may be added to the campaign as it proceeds, depending on the results of previous battles.

7.1.4. Difficulty Settings

You can set the difficulty level to be used for the campaign. You can also choose whether the difficulty level should remain constant during the campaign, or gradually increase by one level between the first and last battles of the campaign (NOT

one level per battle). Whichever is chosen, losing more than 15% losses in a battle will make subsequent battles harder, as recruitment points will need to be used to make up losses rather than recruit new units. Losing less than 15% losses in a battle will tend to make subsequent battles easier, as more points will be available to recruit new units. However, if the "Progressive" difficulty setting is chosen, the gradual increase in difficulty from the first battle to the last battle will tend to offset this.

7.2. Preset Campaigns

The preset campaigns follow a historical narrative. To reflect historical events, they often involve fighting against multiple different foes during the course of the campaign, with or without various allies.

Field of Glory II: Medieval ships with four such campaigns: Angevin Empire (Henry II of England), Northern Crusades (Teutonic Knights), Mongol Invasion of Europe, and Alexander Nevsky (Prince of Novgorod).

The campaign system is designed so that more preset multi-battle campaigns can be added without difficulty by user scenario designers.

7.3. Campaign Battles

Campaign battles are fought on randomly generated maps appropriate to the current campaign circumstances.

After each battle, the campaign stage screen appears.
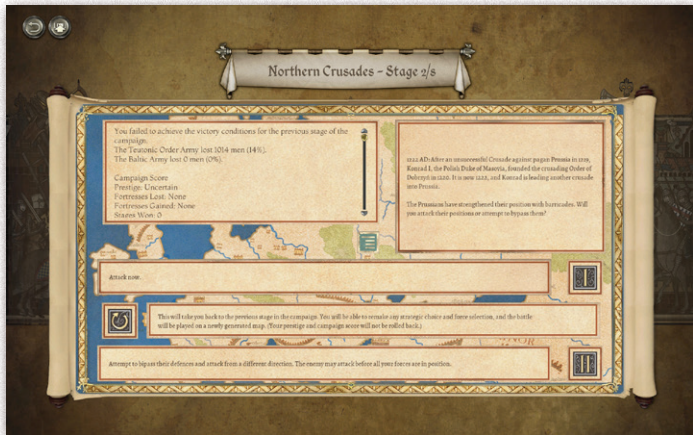
If a battle is lost, sometimes (if the battle was fought with the field army) you will get the chance to retreat and join up with reinforcements, then fight the same enemy army (minus its losses from the first battle) again. Otherwise the player must replay that stage of the campaign until he is victorious before he can proceed with the campaign.

If a player wins a battle, but feels he did not win it well enough, he also has the option to replay that campaign stage instead of proceeding to the next battle.

7.4. Unit Advancement

Units in the core field army usually persist through the campaign, gaining experience and elan as a result of previous victories.

Units on the victorious side will normally gain experience and elan. However, units that suffer no losses at all in a battle do not gain experience – on the assumption that they did not fight. Units routing or dispersed at the time the battle ends lose elan even if their side won the battle.

Some unit types have a progression path which allows them to be promoted to a new unit type (e.g. Raw Spearmen > Spearmen) if their experience and elan both reach the standard level for the new unit type.

Note that to prevent armies from becoming ludicrously elite, unit advancement is slower in longer sandbox campaigns.

The current state of your army can be viewed by pressing the "Review Army" button in the Campaign Stage screen.

Enemy armies are generated fresh for each battle in the campaign, so that they remain a challenge.

7.5. Losses

Although losses can usually be replaced by recruitment (see below) the number of points for recruitment for the next battle are calculated based on the expected surviving forces from the previous battle. This estimate is based on the assumption that the previous battle was won decisively.

If it was not won decisively, the points available for recruitment for the next battle may not be enough to keep the strength of the army up sufficiently to match the enemy army for the next battle.

Therefore, if losses were too high in the previous battle, it may be better to replay the stage rather than proceed to the next battle.

As a general guide, 15% losses in a battle will allow your army to maintain the balance against the enemy for the next battle. Higher losses will mean that the odds are moving against you, and lower losses will move the odds in your favour.

7.6. Garrisons

After a victory, you are sometimes required to leave garrisons in the captured or recaptured territory. The player can choose which units to leave as garrisons in the Review Army screen. You can also voluntarily leave units "in garrison" to avoid the cost of maintaining them. The "points" thus saved can be used to raise additional new units of a different type, thus allowing the composition of the field army to be modified to better suit the needs of the next stage in the campaign.

Troops to be left as garrisons are simply moved from the Field Army window on the left of the screen, to the Garrisons window on the right. Normal Windows conventions for using SHIFT and CTRL keys to select multiple units apply.

If more points worth of troops are moved into garrison than the minimum required, the extra points are added to the available recruitment points for the next battle.

Note that the "garrison" mechanism, while it does represent the real world need to garrison captured territory, has the primary in-game purpose of allowing sufficient reinforcement points for each battle to allow new units to be recruited as

well as bringing existing units up to full strength, without each battle always having to be significantly larger than the last.

7.7. Strategic Decisions

At various points in the campaign the player will have a choice between two strategic options affecting the next battle.

7.8. Recruitment

Depending on the strategic situation, points may be available to recruit new units and/or bring existing units up to full strength for the next battle.

As noted above, excessive losses from a previous victory may mean that the available recruitment points are not sufficient to keep the next battle from becoming more difficult.

7.9. Replays

After a defeat, sometimes (if the battle was fought with the field army) you will get the chance to retreat and join up with reinforcements, then fight the same enemy army (minus its losses from the first battle) again. Otherwise the campaign stage must be replayed. It can also be replayed voluntarily if the player does not feel he won the battle decisively enough.

When a campaign stage is replayed, the player can change any strategic decision he made, which troops are placed in garrison and which are recruited. The battle will be fought on a newly generated map.

7.10. Difficulty

Campaign battle difficulty is based on the difficulty level set by the player. If the Progressive difficulty option is selected, the difficulty level gradually increases by one level overall between the first battle in the campaign and the last. (*NOT one level per battle*). The battles in between scale accordingly.

However, as noted above, if losses in a previous battle exceed 15%, subsequent battles will be more difficult than the above estimate, and if they are less than 15% subsequent battles will be easier than the above estimate.

If you find all of the battles in a campaign a bit too easy, then you should increase the difficulty setting for your next campaign. If you find the battles in a campaign get easier during the course of a campaign, then you should select the Progressive difficulty option for your next campaign.

7.11. Victory

To achieve ultimate victory, the player must achieve the required victory conditions in all stages of the campaign. Replaying individual campaign stages does not prevent victory in the campaign.

7.12. Campaign Scoring

At the end of the campaign you are given a campaign score based on the average score achieved for each battle in the campaign. The score for each battle depends on the margin of victory/

defeat, the difficulty level and whether campaign difficulty was set at Static or Progressive. If you replay any of the battles, the scores for both play-throughs are included in the final score.

Your highest ever campaign score is also reported.

You also have a Prestige rating which rises and falls according to your success in the campaign. If you roll back a campaign stage the Prestige rating is not rolled back. The chance of a revolt by your barons or the populace increases if your Prestige is low.

8. Battle
8.1. Camera Controls
8.1.1. Scroll
The map can be scrolled by moving the mouse cursor to the edge of the screen or by holding down the left mouse button and dragging. Alternatively: W scrolls the map up, S scrolls the map down, A scrolls the map left, D scrolls the map right

8.1.2. Zoom
The map can be zoomed using the mouse wheel or the up and down arrows. Alternatively: F zooms the map out. R zooms the map in.

8.1.3. Rotate
The map can be rotated using the left and right arrows, or by holding down the right mouse button and dragging. Alternatively: E rotates the map clockwise, Q rotates the map anticlockwise.

8.1.4. Pitch/Tilt
The map can be tilted by holding down the right mouse button and dragging. Alternatively, by using SHIFT-up and down arrows.

8.1.5. Other Hot Keys
A full list of the standard keyboard shortcuts can be seen by pressing the F1 key.

8.2. Force Selection
At the start of each battle, unless the forces for the scenario are preset, or you have chosen auto-selection or pot luck in a custom battle, you will see the force selection display. Some units are fixed, these are the core units in the historical army. The rest are available for selection according to your choice. You can select units from those available up to the points limit specified. The points available will often depend on the difficulty level you have set. When you mouse over the unit list, the moused over unit's appearance and stats are shown, along with a basic text description.

L-clicking on the unit list adds a unit to the forces you will deploy for the battle, R-clicking removes it. You can also remove purchased (brown-highlighted) units by R-clicking on them on the map *when no unit is selected* on the map. In epic battles you can also choose as yet unpurchased (blue-highlighted) units by clicking on them on the map.

You can auto-purchase units to fill up your remaining points by hitting "Autofill". After an Autofill you can still remove units and replace them with different ones.

In most epic battles the position of the units is fixed – according to the historical deployment. In some, however, and in custom battles, you can rearrange the deployment of your troops during or after force selection. You can move the units manually into position by clicking or dragging, or select Autodeploy to automatically put the currently selected units into a sensible formation. After an Autodeploy you can still move the units around manually.

In Custom Battles you have the option to preview the enemy army list options during force selection. Click on the "Preview Enemy Options" button to the right of the Accept button. This option is not available in Epic Battles (which don't use army lists) or Campaigns (which may use them in non-standard ways).

In Custom Battles where Stakes or Field Fortifications are available to your units, you can toggle each of these off in the force selection window. This will reduce the points cost of those units, but you won't be able to use those defences in the battle. Note that if you turn Stakes or Field Fortifications back on again after using up all your build points, the game will automatically deselect and undeploy sufficient units to correct any overspend. You can then adjust your selections as you see fit.

8.3. The Battlefield

The battlefield is covered with an invisible square grid. Each unit occupies one square (tile). Units move from square to square and never end up part way between squares. Units can face in any of 8 directions. Diagonal movement costs 1.5 times the AP (action points) of straight movement. There can never be more than one unit in a square (although light infantry can pass through other units, ending up on the far side).

Buildings, woods and hills block line of sight. You will only see enemy units on tiles you have line of sight to and that are within visibility range. Squares you cannot see into are darkened - representing the "fog of war".

Squares on the edge of concealing terrain that might be concealing enemy are marked with yellow question marks if that option is turned on. Different terrain types have different effects – see the Terrain section below.

You can toggle the visible map grid on and off using the G hot key.

8.4. Battlefield Display

Information about the currently selected unit appears on the left-hand side of the screen. Information about any non-selected friendly or enemy unit appears on the right-hand side of the screen when the mouse is hovered over the unit. The unit's available AP, troop-type, quality rating, armour, combat capabilities and cohesion state are also displayed.

More detailed unit information can be displayed by selecting Toggle Detailed Unit Info from the right-hand tools menu (see below) or CTRL-L-clicking on the unit.

8.4.1. Current score

At the top left of the screen the % of each side's units currently routed or dispersed is shown. The difference in rout % is also shown – in green if the side is winning, in red if it is losing.

8.4.2. Briefing Panel

The briefing panel is opened using the button at the top left of the screen.

The briefing panel shows the victory conditions for the battle as well as any briefing notes provided. It also contains the Retreat button, the Load/Save button and the Settings button. If the Retreat button is selected and confirmed, the player is deemed to have conceded victory to the enemy.

8.4.3. End Turn Button

The End turn button is in the top right-hand corner of the screen. When this is clicked, you are asked to Confirm that you really want to end your turn. You can cancel End Turn by clicking anywhere other than on the Confirm button.

The End Turn button also show the current turn number and any turn limit.

8.4.4. Tools Menu Button

The button at the right-hand side of the screen opens the tools menu. This contains the following buttons:

8.4.4.1. Next Unmoved (TAB hotkey)

This cycles through your units that have not yet performed any action this turn.

8.4.4.2. Next Unshot (B hotkey)

This cycles through your units that have not yet shot this turn and have a target.

8.4.4.3. Toggle Line of Fire – LOF (1 hotkey)

This toggles on the Line of Fire display for the selected unit. Note that this only takes into account the effects of terrain, it does not take into account the blocking effect of intervening units.

8.4.4.4. Toggle Line of Sight – LOS (2 hotkey)

This toggles on the Line of Sight display for the selected unit. Note that this only takes into account the effects of terrain, it does not take into account the effect of intervening units blocking shooting.

8.4.4.5. Toggle Command Range (3 hotkey)

This toggles on the Command range display for the selected general.

8.4.4.6. Toggle Detailed Unit Info (CTRL-L-click on unit)

Shows more detailed information about the selected or clicked on unit.

In addition to the stats shown in the battlefield display, this shows all of the Points of Advantage (POAs) that apply to this unit in close combat against various opposing unit types.

8.4.4.7. Toggle Combat Log (C hotkey)

This toggles on the combat log. This shows details of all the factors and modifiers applying to each close combat resolution and cohesion test during the game.

8.4.4.8. Casualties (K hotkey)

This shows a display of both sides losses so far.

8.4.4.9. Toggle Unit List (L hotkey)

A list of your units (excluding those that are irretrievably dispersed or currently off the battlefield) can be obtained by selecting the Tools button at the right-hand side of the screen and then selecting Toggle Unit List or by hitting the L key on the keyboard. Units that have already moved are greyed out. Units with a shooting capability that currently have a valid shooting target and have not yet shot this turn have "Can Shoot" shown in yellow. Those who have a melee to resolve this turn have "Melee Due" shown in orange. You can select a unit by clicking on it in the list.

8.4.4.10. Toggle Briefing

This opens and shuts the briefing panel.

8.4.5. Minimap

The minimap at the bottom right of the screen shows the relative positions of all visible units of both sides. It also has a button to toggle between top down and isometric views. The isometric view is recommended for playing the game, but the top down view can occasionally be useful.

8.5. Unit Recognition on the Field

8.5.1. Models

Each unit is made up of a number of historically representative models in an appropriate formation.

For infantry and cavalry, one model represents 60 men when the scenario uses the standard representational scale. However, some scenarios and campaigns use a different representational scale, in which case all numbers of men or casualties will be reported accordingly.

Models are removed from the unit in proportion to casualties suffered. Note that in campaigns units may sometimes start the battle understrength, in which case they will have less models from the start of the battle. Their autobreak point (see the Cohesion section below) will be based on their strength at the start of the battle, not the full strength for their unit type.

8.5.2. Banners

Each unit has a banner providing the following information

1. The design of the banner shows which side the unit is on.
2. The facing of the banner shows the facing of the unit.

3. The size of the banner shows whether the unit includes a general or not – generals use larger banners. (Standard Wagons also use large banners, for aesthetic reasons, whether or not they have a general with them). The C-in-C's banner has a bronzed/gilded ball on top of the pole.
4. The cloth part of the banner becomes progressively tattered as the unit suffers losses.
5. The upper section of the banner becomes yellow when the unit is Disrupted and red when the unit is Fragmented. When the unit is Routed the whole banner becomes white.
6. See the Cohesion (Morale) section below.
7. Player unit banners are darkened when the unit has moved.
8. Units currently counting as keils (see section 29.4.4) have a bronzed ceremonial halberd head on top of their banner pole, and an extra streamer pennon behind the banner.
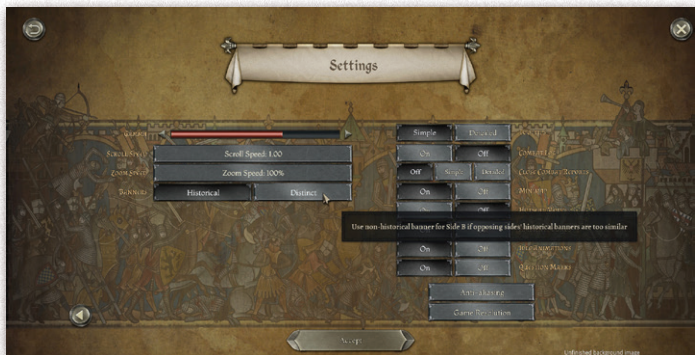
If you find the banners of the two opposing sides too similar for easy recognition, you can switch to using Distinct rather than Historical banners for Side B in More Options in the Settings screen, or by pressing the H hotkey. You can also turn off all banners except those of generals in settings or using the H hotkey. This is not recommended for normal game play.

9. Generals

At the start of the battle, your army is divided into commands. In quick battles, custom battles and campaigns, all non-light commands have their own general. In historical scenarios, the allocation of generals will be part of the scenario design.

You can only switch units from one command to another during the deployment phase (if there is one).

When you select a unit, the tiles of the commanding general and the other units in his command are shaded and outlined. Units that are part of the command, but too far away from

the general to count as in command range (see below), have the tile outlined but not shaded.

When you select a general's unit, and toggle the 3 hotkey, tiles within his command range are highlighted.

9.1. Command Range

Units that are out of command range of a general in line of command have reduced command control. They lose the free 45 degree turn that is allowed to troops without the Unmanoeuvrable attribute that are in command range. (This may sound like a minor handicap, but in practice it can cause significant inconvenience). The exception is that they can move at least one square even if this does involve a turn of 45 degrees.

Command range is determined at the start of the player's turn. Troops that are in command range at that time will be deemed to be in command range until the player's next turn, unless the general from whom they were taking command control is disabled. Troops that are out of command range at the start of the turn will remain out of command range until the player's next turn, even if the general moves into range before that.

Units that are in command range this turn have their tiles fully highlighted when any unit of their command is selected. Units that are out of command range only have outline highlighting.

In the screenshot, the selected unit of Welsh Spearmen are out of command range of the general. Their tile is outlined but not shaded. They have "Reduced CC" displayed in their information panel at the bottom of the screen.

Command range varies with the command ability of the general. You can see the command range for each of your generals by selecting his unit and toggling on the Command Range display (see above). "Troop Commanders" have a command range of 4 squares, "Field Commanders" 8 squares and "Great Commanders" 12 squares.

Generals have no command range when in close combat, pursuing or routing, so if any of these apply at the start of the player's turn, their units will have reduced command control unless there is another general in line of command within command range.

9.2. Line of Command

The C-in-C can provide command control to any troops. A sub-general can provide command control to any non-allied troops. An ally-general can only provide command control to the units in his own command.

9.3. Generals in Close Combat

A general whose unit is in close combat is deemed to be fighting in that combat. He adds +50 Points of Advantage (POAs) to his unit's combat capability. He also adds a +1 modifier on Cohesion Tests for friendly units within (command range / 4) squares while he is in close combat (but not otherwise). Ally-generals can only inspire units of their own command.

However, he is at risk of being killed or wounded in the combat. This is much more likely to occur if his unit loses the combat.

If a general is killed or wounded, all friendly units within 1 square if the general was a sub-general, or 2 squares if the general was a C-in-C or ally-general must take a Cohesion Test. Ally-generals only affect units of their own command.

If a general is incapacitated in a campaign game, he may or may not survive to fight again later in the campaign.

9.4. Moving Generals

Generals normally move with the unit they are with. However, unless their unit is in close combat or pursuing, they can move once per turn to another unit in line of command within 4 squares. (See Battlefield Orders below).

9.5. Rallying Units

Disrupted, Fragmented or Routed units have a chance of testing to rally at the start of each of their side's turns if eligible (see the chapter on Cohesion/Morale below).

A unit with a general tests every time. (Units without a general have a much lower chance of testing). Generals can therefore be used to greatly increase the chance of unsteady troops rallying.

10. Deployment

Some scenarios allow you to redeploy your troops before the battle proper starts (some don't). You can drag, move or swap units into any permitted square (see below), and also set their initial facings.

When you select one of your units, its potential redeployment area is highlighted. Redeployment is restricted to specified areas. Light troops have a somewhat larger redeployment area than non-light troops.

You can redeploy a unit in any of the highlighted squares, but bear in mind that moving a unit too far from its commanding general will impair its command control and hence manoeuvrability. You can, however, switch the unit to be part of another command – see the Switch Command order section below.

Once you're happy with the starting positions of your troops, you can start the battle.

11. Battlefield Orders

When the default Left/Right UI mode is in use, units are selected with the left mouse button, and orders are issued with the right mouse button. Units are deselected by left-clicking on another unit or an empty square, or pressing SPACE.

When the optional Left Only UI mode is in use, units are selected and orders are issued with the left mouse button. Units are deselected by right-clicking on any square, or pressing SPACE.

The order system is simple. The following actions are permitted. Each has its own icon, which shows when you hover over the target square.

11.1. Move

Apart from heavy artillery, all units can potentially move to any square within reach of their AP (action points). Heavy artillery (including Trebuchets and Bombards) can only move until the first time they shoot. This represents them being set up in a static position within range of the enemy.

In Open Ground, moving one square generally costs 4 AP if the move is straight and 6 AP if it is diagonal. Other terrain types may have higher movement costs for some or all troop-types. A unit can move to any square where the total cost of reaching it does not exceed its total AP. There may be additional AP costs if the overall move includes a turn – see "Turns" below.

Moves cannot go between units in close combat or between pursuers and routers.

11.1.1. ZOC (Zone of Control)

Movement is restricted when close to the enemy, as follows:

1. Each unit exerts a primary ZOC (zone of control) into the square directly in front of it.
2. It also exerts a secondary ZOC into the two squares either side of the primary ZOCd square.

A unit's move can enter an enemy unit's primary or secondary ZOC, but not pass beyond it.

When you select a unit, any enemy ZOCs affecting its potential movement are indicated on screen, using red highlighting for primary ZOCs and yellow for secondary ZOCs. Dots of the same colour indicate which unit is exerting the ZOC.

A unit that is already in an enemy ZOC cannot make a normal move except away from that enemy – which (owing to turning restrictions) means that this is mostly only possible for light troops. The direction of movement must be less than 45 degrees from directly away from the enemy unit. Movement off to the sides is not permitted – this is specifically intended to reduce the slipperiness of light troops. If a unit is in the ZOC of multiple enemy units, its movement is restricted by all of these.

Primary and secondary ZOCs affect normal movement equally, but primary ZOCs have additional effects on turns and charges – see those sections below. The following troops exert no ZOCs:

+ Units in close combat.   + Artillery.

+ Units in square.   + Baggage.

+ Routing troops.

Non-light troops ignore the ZOC of light troops. Evaders, routers and pursuers ignore ZOCs completely.

Keils (see section 29.4.4) ignore the ZOCs of non-keil enemy units unless the enemy unit is directly in front of them and they are in its primary ZOC.

Undeployed War Wagons (see section 29.4.5.1) exert a ZOC to their front, but Deployed War Wagons (see section 29.4.5.2) don't exert any ZOC.

ZOC restrictions apply equally to player and AI units.

Change: ZOCs no longer prevent breakoffs from close combat. They still prevent voluntary Fall Back moves.

11.2. Move Whole Command

This order is only available if no unit in the command is within 5 squares of any enemy.

All units in the command will attempt to move on a parallel course with the selected unit.

Units that have already made single-unit moves this turn are excluded. Units that will take part in the order are marked by a triple arrowhead icon.

11.3. Pass Through

Light foot can pass through friendly units, but only directly from front to back or back to front. They cannot pass through friends that are in close combat.

11.4. Turn

Units can face any of the 8 squares adjacent to their own. Facing is very important because arcs of fire are restricted and flank or rear attacks can be deadly (see below).

11.4.1. Free Turns

When making a move, only the angle between the original facing and the line between the starting tile and the final position is taken into account. If this is less than 45 degrees, there is no additional cost for the direction change.

In addition, each game turn non-light units that are in command range are allowed one free turn of 45 degrees. Units that are out of command range of their general lose this.

Light troops (light foot and light horse) are allowed one free turn in any direction.

11.4.2. Unmanoeuvrable Units

Some units are Unmanoeuvrable and never get a free 45 degree turn in normal movement. These include:

✠ Knights
✠ Undrilled Heavy Foot
✠ Warriors
✠ Cataphracts
✠ Elephants
✠ Artillery
✠ Large units (original strength 10 or more models).
✠ Raw or untrained units. Note that some units may have high elan but are poorly trained, so they are still unmanoeuvrable even though their overall quality is average.

11.4.3. Turn Costs

Apart from the free turns listed above, turns are costed as follows:

✚ 45 degree turns by troops that are unmanoeuvrable or out of command range cost 4 AP except on bridges and in heavy fortification squares.

✚ Turns of between 46 and 90 degrees cost 8 AP

✚ Larger turns cost the unit's full starting AP.

Any turn required to reach the chosen square in a Move order is costed similarly. Note that only the angle between the original facing and the line between the starting tile and the final position is taken into account, so that sometimes a unit can make multiple twists and turns along the way that are not costed. This is particularly true of AI units, which use a different route finding algorithm taking into account terrain preferences. The route they take may sometimes include multiple changes of direction, but as usual only the overall angle between the original facing and the line between the starting tile and the final position is taken into account. This may appear to favour the AI, but in fact they end up moving to the same final position that they would have reached using the direct route if they were a player unit.

All this means that most non-light foot troops cannot turn more than 45 degrees and also move in the same turn. Most non-light mounted troops can turn 90 degrees and still move a square or two, but use their entire movement allowance to turn 135 or 180 degrees.

11.4.4. Other Restrictions

Turns are also restricted by enemy proximity. A unit that is in the primary ZOC of an enemy unit (marked in red) cannot turn except to reduce the threat of a flank charge or face another enemy unit in whose primary ZOC it is. Note however, that non-light troops ignore the ZOCs of enemy light troops.

ZOC restrictions apply equally to player and AI units

11.5. Turn Whole Command

This will turn all units in the command in the same direction as the selected unit.

Units that have already made single-unit moves this turn are excluded. Units that will take part in the order are marked by a triple arrowhead on their tile.

11.6. Fall Back

Units can fall back one or two squares straight backwards while maintaining their original facing. Such moves could panic the troops if performed close to the enemy. Consequently, if a fall back move is performed when within charge reach of a non-routing non-light enemy unit (whether or not that enemy is actually in a position to charge), the falling back unit will take a Cohesion Test (see Morale below).

Heavy Artillery (including Trebuchets and Bombards) cannot fall back.

11.7. Form Square and Leave Square

The following units can form square:

✚ Units with at least 25% Pikemen.

✚ Extra-deep units of Offensive Spearmen or Heavy Weapon.

This uses the unit's entire move allowance for the turn.

If a unit is capable of forming square, this will be indicated in the unit UI.

Units in square:

✚ Are immune to flank or rear charges.

✚ Exert no ZOC.

✚ Cannot charge.

✚ Never pursue even if raw.

✚ Use their entire movement allowance to move 1 square, turn or leave square.

A unit cannot form or leave square while in close combat. A unit in square automatically leaves square when it routs.

Leaving square also uses up the unit's full movement allowance for the turn.

11.8. Undo

The Undo order can be used to cancel the last single or group move or turn. Only the last unit or group moved can have its last move Undone.

Undo is prevented in the following circumstances:

✚ If the unit charges or shoots.

✚ If the move resulted in the unit (or any unit in the group) seeing previously unseen enemy. This is to prevent Undo being used to scout.

✚ If a fall back move results in a cohesion test (whether passed or failed).

11.9. Add General

In random map battles, during the deployment phase after force selection is completed, if an army of more than 800

points has less than 4 generals, or a smaller army has less than 3, you can add additional generals to make up the number. A general can be added to any unit that does not currently have a general, except artillery or baggage units. That general's unit then creates a new command, which other units can be moved to if desired.

11.10. Move General

A sub-general or ally-general can move once in a turn to another unit of his command that is within 4 squares (even if the general's unit has already moved this turn). A C-in-C can also move to a unit of one of his sub-generals' commands.

Generals cannot move from a unit that is in close combat or pursuing, and cannot move to join an artillery or baggage unit.

11.11. Shoot

Units with shooting weapons can shoot in their own turn only.

All shooting must be ordered. *If you forget to order a unit to shoot it will not shoot automatically.* This is because ammunition is limited (see below), so holding fire might be deliberate.

11.11.1. Shooting Tooltip

If the Simple Tooltips option is toggled on (see Settings), the tooltip shows the range bracket (if long range), arc of fire, cover modifier (if any) and range of casualties that shooting will inflict. If the Detailed Tooltips option is toggled on, the tooltip gives additional information.

11.11.2. Range

Shooting weapons can shoot if in range. Some weapons have a long and a short range – shooting at half effect at long range.

11.11.3. Arc of Fire

All units have an arc of fire. If the target unit is outside 45 degrees of straight ahead they can't shoot at it. If the target unit is between (approx.) 22.5 degrees and 45 degrees of straight ahead, they can only shoot with half their men. (They do not get to use the other half against a different target).

Potential target units are indicated by a full or half arc of fire icon on the unit's tile. Full arc is indicated by three arrows and full brown highlighting on the target tile. Half arc is indicated by a single arrow and half brown highlighting on the target tile.

Line of Fire can be displayed on the map by selecting Toggle Line of Fire from the right-hand Tools menu, or using the "1"

hotkey. Note that this does not take into account the blocking effect of intervening troops.

11.11.4. Line of Sight

Line of sight is blocked by higher ground, woods and built-up areas – though not by individual buildings which are not large enough to block LOS through the whole square.

For shooting purposes, it is also blocked by units. The line of sight algorithm for shooting past troops is fairly generous, however – it assumes that there are large enough gaps to shoot through between units in chequerboard formation.

Non-gunpowder artillery can shoot over other units. Bows, crossbows, slings and gunpowder artillery can shoot over other units from higher ground or heavy fortifications.

Line of Sight can be displayed on the map by selecting Toggle Line of Sight from the right-hand Tools menu, or using the "2" hotkey. Note that this does not take into account the blocking effect of intervening troops.

11.11.5. Ammunition

Units are assumed to carry enough ammunition for 5 turns of shooting at full effect.

Once they have shot 5 times, they are assumed to be low on ammunition, relying on passing out spare ammunition from men who have some left, scrounging spent ammunition from the battlefield or limited resupply. Units with low ammunition shoot at half effect.

The ammunition rules may be suspended for some scenarios.

11.12. Turn and Shoot

Units that are not directly facing their target can be ordered to turn and shoot as a single order if they have the necessary AP to do so. The unit will turn to face the target, shoot, and then remain facing the target.

There is no "Turn and Shoot" order for War Wagons, the degree of turn (for Undeployed War Wagons) must be selected manually.

11.13. Charge

Troops in adjacent map squares are not automatically in close combat. Those that *are* in close combat are indicated by close combat indicators between the units as well as close combat animations.

When you select a unit, any currently chargeable enemy units will be indicated by a crossed swords chargeable icon on the enemy unit's tile.

Charges are triggered by the Charge action. The unit has to have sufficient AP to enter the square that the enemy is in – although the unit is not actually moved into the square. The enemy are assumed to have made a short counter-charge if that would be appropriate to the matchup, and not if not, but their unit is not physically moved from its square. There is no special bonus for the unit that initiates the charge – the combat factors already take into account the appropriate enemy response – counter-charge or stand to receive.

Charges can only be launched against units that are within 45 degrees of straight ahead at the start of the move.

Charges, even by units that are Unmanoeuvrable or out of command range, always get a free 45 degree turn if required.

To charge a unit you need to click on the Charge icon twice.

11.13.1. Charge Tooltip

After clicking once on the Charge icon, the charge tooltip

appears. If the Simple Tooltips option is toggled on (see Settings), the tooltip shows approximate Win:Draw:Lose chances for the Impact combat and first round of Melee combat. If the Detailed Tooltips option is toggled on, the tooltip gives a full breakdown

of the factors affecting the combat. The Detailed Tooltip mode can also be temporarily turned on by holding down the CTRL key.

Note that the Win:Draw;Lose chances are estimates calculated from a sample of 1000 test resolutions of the combat in question – so each time they are recalculated the result may be slightly different. This also explains why the Win:Lose chances for an equal combat may not be shown as exactly equal.

11.13.2. Effect of enemy ZOCs on Permitted Charges

An enemy unit which is *directly* facing a square has a primary ZOC (Zone of Control) into that square.

A unit that is in the primary ZOC of an enemy unit (marked in red) cannot charge a different enemy unit unless it is also in the primary ZOC of that unit.

In the screenshot, the spearmen cannot charge the spearmen diagonally to their right because they are in the primary ZOC of the spearmen directly to their front.

This restriction also applies if the charge path passes through a (primary) ZOCd square.

Change: A unit that is in the primary ZOC of one or more enemy units could already charge any of those within a 45 degree arc of the unit's front. It can now also charge an enemy unit in the square directly to its front if it is in that unit's secondary ZOC. This is intended to remove the deliberate or inadvertent contact-delaying effect of each unit in a line of units turning to face diagonally.

Keils (see section 29.4.4) ignore the ZOCs of non-keil enemy units unless the enemy unit is directly in front of them and

they are in its primary ZOC. However, even if ZOCed by such a unit, they are also permitted to charge other units whose primary ZOC they would be in if the above did not apply. This does not allow them to charge a non-keil unit if they are ZOCed by a keil.

Non-light troops ignore the ZOC of enemy light troops.

Sometimes, when the default charge path chosen by the program passes through a ZOCd square, the charge may still be possible by moving the unit to a different intermediate square first.

ZOC restrictions apply equally to player and AI units.

11.13.3. Non-Permissible Charges

Light Foot cannot charge unbroken non-light troops (other than artillery) even in flank or rear, unless the target unit is in rough or difficult terrain.

Artillery, baggage, standard wagons and units in square cannot charge.

FRAGMENTED troops (see Cohesion/Morale section below) cannot charge.

11.13.4. Evasion

Light troops (light foot and light horse) and non-lancer cavalry or camelry can attempt to evade charges. Lancer cavalry with 100% Bow capability can also do so, but it is difficult to train troops to this level of proficiency with two tactical systems, so only certain Highly Superior or Elite units have this combination of capabilities.

The AI decides for the (player or AI) unit whether it will evade, based on its chance of winning the combat and its chance of successfully getting away. It will always evade if charged in the flank/rear unless it is non-light troops being charged by light troops. Light Foot will always evade non-light chargers unless the light foot are in rough or difficult terrain or defending an obstacle.

The charging unit pursues with its remaining APs, so that it is more likely to catch the evaders if it started the turn in an adjacent map square. Evaders and chargers may get a random addition or deduction of 4AP to/from their current AP (25% chance of each).

In order to give later knights (12 AP) a reasonable chance to catch evading enemy non-light cavalry if they started the turn in an adjacent square, they always get the additional 4AP. This gives them a 25% chance of catching evading cavalry if they start the turn in an adjacent square. This can be rationalised on the basis that their armour does not prevent them from galloping in short bursts.

Evaders who escape may nevertheless suffer some losses from missiles or stragglers being caught. The closer the chargers are at the end of the move, the more losses will be suffered.

Evaders may also go off the battlefield, in which case they do not count as lost and may possibly return to the battlefield later. While they are off the battlefield they count half as much towards the army's rout threshold as if they were routing. Chargers never follow evaders off the battlefield.

If the chargers' pursuit path goes adjacent to another enemy unit (within 45 degrees of the next step of the chargers' pursuit path), they will switch targets and charge the new unit if they (the AI on their behalf) fancy their chances and they have enough AP left to charge them.

Evaders who are caught are treated as having been charged in the rear – see the next section.

If a unit that successfully evaded is then charged by another unit, it cannot evade again. However, this second charge does not automatically qualify as a flank/rear charge – the normal rules for positioning apply, relative to the target unit's post-evade facing.

11.13.5. Flank/Rear Attacks

Charges by units that start their (whole) move behind the flank of a unit count as flank/rear attacks. To count as being behind the flank, the unit must be on or behind a line extending the target unit's flank as shown in the screenshot. The left-hand knights unit starts its move behind the spearmen unit's flank, so its charge will count as a flank attack. The right-hand knights

unit is not behind the flank, so even if its charge contacts the spearmen unit's flank, it will not count as a flank attack. If the right-hand unit moves on to the line and then charges, its charge still won't count as a flank attack, because in order to do so, it must start its whole move behind the flank.

If the flank-charged unit is already in close combat against another unit, or evaded this turn, it automatically drops 1 cohesion level (see the Cohesion/Morale section below), and the impact combat is fought on a guaranteed net POA (see Points of Advantage in the Close Combat section below) of +200 to the flank attackers, unless any of the following apply:

✚ Non-light troops are charged by light troops.

✚ Mounted troops (not elephants) are charged by infantry.

✚ Elephants are charged by mounted troops (not elephants).

✚ Infantry are charged across an obstacle (irrigation ditch, fortification etc.), or while in a built-up-area.

If the flank-charged unit was neither already in close combat, nor evaded this turn, or one of the above exceptions applies, the unit does not drop a cohesion level. The flank chargers instead get a guaranteed net POA of +50 if their non-flanking net POA would be less than +50.

Units in square, Standard Wagons and War Wagons are immune to flank/rear attacks.

Keils (see section 29.4.4) are immune to flank attacks, but not rear attacks. In order to count as a rear attack, the charger must both contact the target unit from the square directly behind it, and have started its turn less than 45 degrees from directly behind it.

Barring these exceptions, being charged in the flank is VERY bad. The AI does its best to avoid it and so should the player. The AI will not miss any chance offered.

A unit can only suffer one automatic cohesion drop in a turn from flank/rear attacks, even if charged by multiple units.

Unengaged mounted troops who are charged in flank or rear by foot can immediately turn and break off after the impact combat.

11.14. Fight Melee

Four pairs of crossed swords on each unit's tile indicates that a melee is due to be fought this turn. You can activate these melees at any point in your turn, and in any order, using the Fight Melee order.

Any melees that have not been resolved when the End Turn button is pressed will be resolved automatically. It is not therefore possible to avoid fighting a round of melee by not clicking the Fight Melee icon.

11.15. Switch Command

This order can only be used in the Deployment Phase, to switch a unit from one command to another. Note that a unit with a general cannot switch commands without moving the general to another unit of the original command first.

11.16. Name Unit

In campaigns you can give your units custom names during the deployment phase. Each unit will keep its custom name throughout the campaign as long it survives.

11.17. Dismount/Remount

Some mounted units are permitted to dismount as equivalent infantry units during the deployment phase only (and can

remount if you change your mind). Dismounting/remounting is not permitted during force selection nor during the battle after deployment is finalised.

Dismounting is not available to all armies, but is confined to nations that often dismounted their cavalry in open battle. This is to keep the game true to the historical tactical doctrines of the various nations.

11.18. Place Stakes

A unit with stakes can emplace them to cover the front of the unit on any turn after the Deployment phase. (The latter restriction is to prevent stakes from being emplaced and then the longbowmen unit behind them being replaced by another unit type. Because the AI does not redeploy units after its initial autodeployment, this restriction does not apply to

the AI). Emplacing stakes uses the unit's entire AP allowance, but does not preclude a free turn before or after. Stakes cannot be placed by units on slope squares unless they are facing downhill. (This restriction is because otherwise the stakes end up buried in the hill).

11.19. Remove Stakes

Stakes can be lifted again by a unit on the same square that has itself already placed stakes. (It does not have to be the same unit that placed those particular stakes). This uses the unit's entire AP allowance but does not preclude a free turn before or after.

11.20. Deploy War Wagons

Undeployed War Wagons can be deployed at any stage in the game after force selection is complete. If a mistake is made,

deployment can be undone immediately, but after that they cannot be undeployed, except during the Deployment phase.

Mouse over the square adjacent to the War Wagon in the direction you want the front of the deployed war wagon to be facing. (You want the side of the wagon to be facing the enemy). Then click on the icon to Deploy the wagon.

11.21. Undeploy War Wagons

This order is only available during deployment. At other times, however, the Undo button will be available to Undeploy war wagon provided that nothing else has been moved since they were Deployed.

11.22. Disembark War Wagon Crew

The crew of a non-artillery War Wagon can disembark as an infantry unit at any stage in the game after force selection is complete. If a mistake is made, disembarkation can be undone immediately, but after that they cannot be re-embarked, except during the Deployment phase.

If wagon crew are disembarked during the Deployment phase, the War Wagons are removed from the map – but will be returned to the map if the re-embark order is used while still in the Deployment phase. If they are disembarked after the Deployment phase, the empty War Wagons remain on the map as static Field Fortifications, but cannot be re-embarked (except by an immediate Undo).

Mouse over the square adjacent to the War Wagon in the direction you want the disembarked crew to be facing.

Disembarked crew can move or charge on the turn they disembarked.

11.23. Re-Embark War Wagon Crew

This order is only available during deployment. At other times, however, the Undo button will be available to re-embark war wagon crew war wagon provided that nothing has been moved since they disembarked.

12. Shooting

The effects of shooting are modified by various factors, not least the number of men shooting.

12.1. Range

Some weapons have a long and a short range – they shoot at half effect at long range.

SHOOTING RANGES	Short	Long
Foot bow, longbow and crossbow	2	4
Mounted bow and crossbow, sling	2	-
Javelins, Bombs, mounted handgun	1	-
Foot handguns	1	2
Heavy artillery	6	9
Light artillery	6	-

12.2. Arc of Fire

All units have an arc of fire. If the target unit is outside 45 degrees of straight ahead they can't shoot at it. If the target unit is between (approx.) 22.5 degrees and 45 degrees of straight ahead, they can only shoot with half their men.

Non-artillery War Wagons can shoot all round, but shoot most effectively to the sides. When shooting close to directly forwards or backwards they shoot at "Half Arc" – i.e. half effect. Artillery Wagons cannot shoot close to directly forwards or backwards at all.

12.3. Points of Advantage

The casualties inflicted by shooting depend on the number of shooters, range, arc of fire, unit cohesion and movement. In addition, there are a number of other factors that can modify the effect of shooting depending on the shooting weapon and the target. Points of Advantage (POAs for short) are used to define these factors. 100 POA is roughly equivalent to a 33% modifier to casualties inflicted.

Note that the POA table below is provided only as a guide to various factors that may influence the effectiveness of shooting. Some of the modifiers are applied at different stages in the shooting calculation, so you cannot work out the overall modifier by simply totalling the POAs. The detailed shooting tooltips show the applicable modifiers.

Shooting Weapon	Target	vs Foot	vs Mounted	vs Artillery	vs Elephants
Bow/Longbow/Sling/Javelins	Unprotected	0	0	0	
Bow/Longbow/Sling/Javelins	Protected	-75	-50		
Mounted Bow	Armoured	-150	-85		
Sling/Javelins/Foot Bow	Armoured	-150	-106		
Longbow	Armoured	-125	-50		
Crossbow	Unprotected to Armoured	-125	-75	-125	
Mounted Bow	Heavily Armoured	-225	-125		
Sling/Javelins/ Foot Bow	Heavily Armoured	-225	-156		
Longbow	Heavily Armoured	-175	-110		
Crossbow	Heavily Armoured	-155	-125		
Mounted Bow	Fully Armoured	-225	-150		
Sling/Javelins/Foot Bow	Fully Armoured	-250	-187		
Longbow	Fully Armoured	-191	-130		
Crossbow	Fully Armoured	-165	-141		
Handgun	Unprotected to Fully Armoured	0	-100		

Bombs	Unprotected to Fully Armoured	0	0		
Bow/Longbow/Sling	Elephants				-50
Javelins/Crossbow/Handgun/Bombs	Elephants				+50
Additional modifier for massed non-combat Bowmen with unbroken enemy combat troops within 2 squares of them and facing within 90 degree of towards them		-70	-70	-70	-70
Artillery			-100	0	-200	+100
Additional modifier for target being in cover			Up to -225	Up to -225	Up to -225	Up to -225
Additional modifier for artillery vs large or enfiladed target			+100	+100	+100	+100
Additional modifier for shooting at skirmishers (light foot, light horse)			-100	-100		
Additional modifier for shooting at pursuers			-150	-150		-150
Additional modifier for all except javelins when it is raining or snowing			-50	-50	-50	-50
Additional modifier for quality of shooting unit			-50 to +100	-50 to +100	-50 to +100	-50 to +100

12.4. Overhead Shooting

Only non-gunpowder artillery can shoot over other units on level ground. Bows, crossbows and slings can shoot over other units from higher ground. Troops on Heavy Fortifications can shoot over other units on the ground, unless the tile the other unit is on is more than 50 height units higher than the tile the Heavy Fortifications are on.

12.5. Shooting and Moving

Stationary units shoot more effectively than units that move or turn. Artillery cannot shoot after moving or turning.

12.6. Cover

Terrain and obstacles provide varying degrees of cover in various circumstances (see the Terrain section).

12.7. Armour

The effects of armour are on a continuous sliding scale depending on the armour rating of the target unit. The above values are only for guidance – shooting POAs against units with intermediate armour values are adjusted accordingly.

12.8. Skirmisher Target

Casualties inflicted when shooting at skirmishers (Light Foot or Light Horse) are reduced because of their dispersed formation.

12.9. Large Targets and Enfilade

Large units such as deep spear and pike units and units shot at from behind their flank will suffer higher losses from artillery fire.

12.10. Morale/Disorder

Shooting is reduced by disorder and low morale/cohesion.

12.11. Massed Non-Combat Bowmen

Non-light foot bowmen or crossbowmen lacking any close combat (impact or melee) capabilities. These get nervous and shoot less well when too close to enemy combat troops (troops who do have impact and/or melee capabilities).

13. Close Combat

13.1. Combat Strength

Because of the huge range of army sizes in this period, the representational scale of men per model varies from one battle to another. The commonest representational scales used are 30 men per model or 60 men per model, but the very smallest and largest battles may use other ratios. Whatever the ratio, all combat and casualties scale accordingly. Hence the following discussion is stated in terms of models rather than men.

In shooting and close combat, infantry units larger than standard-sized units of 8 models (in 2 ranks) count only the

first 2 ranks of models (representing 8 ranks of men) towards "combat strength", and cavalry units larger than 4 models count only 4 models. Additional ranks do not count towards "combat strength", but they do provide resilience, and for some types may provide extra rank bonuses (see Points of Advantage below).

In impact combat, only the men who actually make contact fight, so if a smaller unit charges a larger one, or vice versa, both sides initially fight with the strength of the smaller unit.

Note that the "combat strength" is not the strength in actual men or models, but the relative combat strengths of the units. Mounted troops generally have 33% more combat strength per man/model than foot. Nevertheless, standard-sized 8-model infantry units are large enough that they have 50% higher overall combat strength than standard 4-model mounted units.

In continuing combat (melee), a unit with lower combat strength will be overlapped, so the higher combat strength unit fights with extra strength equivalent to half the difference between the units' actual combat strengths.

However, because of the limitation on the maximum number of ranks that can count towards "combat strength", a full strength pike unit (16 models in 4 ranks) does not count for this purpose as having higher combat strength than a full strength 8-model unit. In practice it will still get some combat strength bonus because after both units have suffered losses, the pike unit will still have 8 full-strength models available to fight, but the smaller unit won't.

As standard cavalry units have lower overall combat strength than standard infantry units, a standard infantry unit will have 50% more combat strength than a standard cavalry unit, which will give it a +25% combat strength bonus in melee.

In melee, a unit that is fighting more than one unit fights them each in turn, but suffers a 20% reduction in combat strength per extra enemy unit, with a maximum reduction of 50%.

13.2. Points of Advantage

In addition to relative combat strength, there are a number of other factors that will affect the outcome of a combat. Troop type, armour, combat capabilities and situational factors will all make a difference. **Points of Advantage** (POAs for short) are used to determine who has the upper hand.

Combat efficacy depends on the net difference between the POAs applying to the opposing units. 100 POA difference is roughly equivalent to a 33% combat modifier.

The POA difference can never be above 200 – additional POAs beyond that are ignored.

Take a look at the POA tables over the next few pages.

13.2.1. Impact POA Table

IMPACT POAs			
Impact foot.	+200	vs any foot	
	+10	if 3 or more ranks of models deep vs any foot	
	+100	vs elephants or any mounted, unless the foot are charging mounted shock troops	
Pike, if not FRAGMENTED or SEVERELY DISORDERED	+100	vs any troops (except mounted shock troops that the pikes are charging)	
Pike, if not DISRUPTED or DISORDERED	+100	If 4 ranks of models deep vs any troops in open terrain	
Offensive Spearmen, if not FRAGMENTED or SEVERELY DISORDERED	+100	vs any troops unless the spearmen are charging mounted shock troops.	
Offensive Spearmen, if not FRAGMENTED or SEVERELY DISORDERED	+50	vs knightly lancers if non-charging deep spearmen (started 3 models deep)	
Defensive Spearmen, if not FRAGMENTED or SEVERELY DISORDERED	+100	vs any troops if not charging, or vs defensive spearmen	
Mounted light spear	+50	vs any troops except knightly lancers	
Foot light spear	+100	vs any troops, unless the foot are charging mounted shock troops	
Heavy weapon	+100	vs any troops, unless charging against mounted shock troops	
Artillery	+100	vs any troops, if defending an obstacle and not FRAGMENTED or SEVERELY DISORDERED	
	-200	vs any troops if not defending an obstacle	
Elephants	+250	vs any	

Knightly Lancers	Only in open terrain	+100	vs any mounted
		+200	vs foot, unless these are steady, non-charging pike, offensive spearmen or defensive spearmen
		+150	vs steady, non-charging pike, offensive spearmen or defensive spearmen
Other Lancers		+100	vs any mounted except knightly lancers
		+100	vs foot, unless these are steady, non-charging pike, offensive spearmen or defensive spearmen
		+50	vs steady, non-charging pike, offensive spearmen or defensive spearmen
Mounted		+100	vs light foot, bowmen or mob
On higher ground (height difference <= 75)		+25	vs any
On higher ground (height difference >= 100)		+100	vs any
Foot defending light fortifications		+100	vs any
Foot defending heavy fortifications		+200	vs any
Pure missile troops defending other obstacles, if not FRAGMENTED or SEVERELY DISORDERED		+100	vs any mounted
Any foot defending other obstacles if the above does not apply		+25	vs any
General with the unit		+50	vs any
Charge counting as on flank or rear		+50	**Final minimum overall net POA if charge vs unengaged unit, or by foot vs mounted, mounted vs elephants or light troops vs non-light troops**
		+200	**Final overall net POA regardless of all other factors if vs engaged or evaded unit and none of the above exceptions apply**

13.2.2. Melee POA Table

MELEE POAs		
Mounted Swordsmen	+150	if knights vs any mounted
	+100	If other mounted swordsmen vs any mounted
	+100	vs foot, unless these are steady and pike, offensive spearmen, defensive spearmen or defending an obstacle.
	+50	If cataphracts vs steady pike, offensive spearmen, defensive spearmen unless these are defending an obstacle.
Foot Swordsmen	+100	vs mounted
	+100	vs foot, unless these are steady and offensive spearmen, defensive spearmen or defending an obstacle.
	+50	vs foot who are steady and offensive spearmen, defensive spearmen or defending an obstacle.
Pike, if not FRAGMENTED or SEVERELY DISORDERED	+100	vs any troops
Pike, if not DISRUPTED or DISORDERED	+100	If 4 ranks of models deep vs any troops
Offensive or Defensive Spearmen, if not FRAGMENTED or SEVERELY DISORDERED	+100	vs any
Heavy Weapon	+100	vs any
	+10	If Armoured or better, vs all troops except elephants.
Artillery	+100	vs any troops, if defending an obstacle and not FRAGMENTED or SEVERELY DISORDERED
	-200	vs any troops if not defending an obstacle

Elephants	+100	vs any
Better Armour	Up to +100 vs foot, up to +50 vs mounted	vs any except artillery or elephants. Enemy heavy weapon cancels the first 50 POA of armour advantage.
Overlappers	+15	vs smaller enemy units.
On higher ground (height difference <= 75)	+25	vs any
On higher ground (height difference >= 100)	+100	vs any
Foot defending light fortifications	+100	vs any
Foot defending heavy fortifications	+200	vs any
Pure missile troops defending other obstacles, if not FRAGMENTED or SEVERELY DISORDERED	+100	vs any mounted
Any foot defending other obstacles if the above does not apply	+25	vs any
General with the unit	+50	vs any

13.2.3. Troop Quality

In addition to the POAs specified in the tables above, there is a final POA adjustment of between -50 and +100 POA for troops that are below or above average quality.

13.2.4. Mounted

These include Knights, Cavalry, Light Horse, Cataphracts and Camelry. Elephants are not included in "Mounted" or "Foot".

13.2.5. Steady

A unit is only STEADY for combat purposes if it is neither Disrupted, Fragmented or Broken, nor Moderately or Severely Disordered.

13.2.6. Depth

POAs that depend on unit depth are reduced proportionately as the unit loses casualties. Thus an incomplete 4th rank of pike models will have a partial depth effect.

13.2.7. Open Terrain

A combat does not count as "in open terrain" if either unit is in non-open terrain or the combat is across an obstacle.

13.2.8. Overlappers

Large units that include a proportion of men with Heavy Weapon get an Overlappers bonus in Melee against smaller enemy units.

13.2.9. Partial Close Combat Capabilities

Units with at least 33% Light Spear, Heavy Weapon or Defensive Spearmen or 50% Lancers capability get full POA effect from these at Impact as if 100% of the unit had the capability – because the men so-armed are in the front ranks. In Melee, however, Swordsmen, Heavy Weapon or Defensive Spearmen get their actual % of the full POA.

Units with less than 100% Heavy Weapon remove only the equivalent proportion of the enemy armour advantage. If the majority of the unit are Pike or Offensive Spearmen, the unit is treated as 100% of that type for determining weapon POAs.

Mixed units of Offensive Spearmen and Heavy Weapon are treated as 100% Offensive Spearmen for their own POA, but partially cancel the first 50 POA of enemy armour advantage in proportion to the % of Heavy Weapon, and large units get Overlappers bonus in Melee against smaller enemy units.

Units with at least 40% Pike capability treat men with Heavy Weapon or Swordsmen capability as having Pike capability for the purpose of their own POAs, but partially cancel the first 50 POA of enemy armour advantage in proportion to the % of Heavy Weapon, and large units get Overlappers bonus in Melee against smaller enemy units.

Units with less than 40% Pike, and a higher percentage of Heavy Weapon than Pike, treat Pike as Heavy Weapon for their own POA, partially cancel the first 50 POA of enemy armour advantage in proportion to the % of Heavy Weapon, and large units get Overlappers bonus in Melee against smaller enemy units. But, while the unit is Steady, enemy POAs (e.g. Lancers, mounted Swordsmen) are modified as if they were Pike.

13.2.10. Pure Missile Troops

Whether troops count as "pure missile troops" for the purpose of the POA for pure missile troops defending "other" obstacles (ditches, pits and stakes) vs mounted troops, depends on what

applicable close combat POAs they have in the current phase. For example:

- ✚ Raw Longbowmen have no close combat capabilities at all, so get the full +100 POA vs mounted at Impact and in Melee.
- ✚ Average Longbowmen have 100% swordsmen capability. This does not apply at impact, so they get +100 POA vs mounted at Impact, but only the default +25 POA in Melee.
- ✚ Skutatoi and Archers units have 50% spearmen and 50% bow capability. At impact they count as 100% spearmen (see section 13.2.9), so they only get the default +25 POA for the obstacle. In melee, however, they only count 50% spearmen, and have no other close combat capability, so get +50 POA vs mounted for the obstacle.

13.3. Combat Results

At the end of the combat calculation, the combat round will either be a draw or one side will have won. The losing unit will take a Cohesion Test (see Cohesion below) and may drop morale. It will also suffer more casualties.

A detailed report of the combat is printed to the Combat Log. The combat log can be toggled on and off using the left-hand Tools panel, the "C" hotkey or the Settings menu.

Simple or Detailed popup Combat Reports can also be enabled or disabled in the Settings menu.

13.4. Push Backs and Follow Ups

If foot lose badly in close combat against foot Shock Troops (see glossary) who originally initiated the close combat, they may be pushed back and followed up by the enemy.

In order to prevent units from being pushed back further in the course of a battle than is historically realistic, pushbacks only occur with every other "lost badly" result if the losing unit is facing orthogonally (towards a square edge) and with every third "lost badly" result if facing diagonally (towards a square corner). This gives an average pushback distance of about half a square width per "lost badly" result. The first push back will occur with the first "lost badly" result if facing orthogonally, with the second if facing diagonally.

War Wagons, Standard Wagons, Artillery and Elephants are never pushed back, and never follow up.

13.5. Break Offs

One of the units may break off – this is determined by the AI.

Mounted troops will break off from enemy foot if they don't fancy their chances in the continuing combat. They will break off from enemy mounted if they lose badly in close combat. They can only break off from mounted enemy Shock Troops (see glossary) if they themselves initiated the close combat.

Foot will sometimes break off from enemy foot if they lose badly in close combat and are not followed up. The frequency with which this will occur is the same as for push backs – see previous section.

War Wagons, Standard Wagons, Artillery and Elephants never break off.

13.6. Continuing Combat (Melee)

If neither side breaks or breaks off after the impact combat, the close combat continues each subsequent turn until it is decided.

If you mouse over one of your units that is in close combat, unless another unit is selected you will see an approximate estimate of your unit's Win:Draw:Lose chances in the next round of Melee combat. If the Detailed Tooltips option is toggled on, the tooltip gives a full breakdown of the factors affecting the combat. The Detailed Tooltip mode can also be temporarily turned on by holding down the CTRL key.

Note that the Win:Draw:Lose chances are estimates calculated from a sample of 1000 test resolutions of the combat in question – so each time they are recalculated the result may be slightly different. This also explains why the Win:Lose chances for an equal combat may not be shown as exactly equal. If you mouse back and forth between your units in close combat (with no unit currently selected) you will see the estimates change slightly each time as they have been recalculated.

13.6.1. Turning to Face

At the start of its next turn, a unit that is not facing any of its melee opponents will normally turn to face whichever opponent is nearest to straight ahead.

Standard Wagons and War Wagons do not turn to face enemy in close combat.

Non-light troops will not turn to face light troops in close combat if the enemy would then be able to flank/rear charge them with a non-light unit on their next turn.

13.7. End of Close Combat

When a close combat ends as a result of one side breaking or breaking off from melee, the victors and breakers off cannot move again or shoot in the same turn. They may be able to turn 45 degrees if they are in command range and not unmanoeuvrable.

Close combats that end in the enemy turn do not affect movement in the following turn.

14. Cohesion (Morale)

14.1. Cohesion States

There are 4 states of Cohesion.

+ STEADY
+ DISRUPTED
+ FRAGMENTED
+ BROKEN (ROUTING)

DISRUPTION and FRAGMENTATION reduce a unit's fighting capability. FRAGMENTATION also reduces its movement distance. FRAGMENTED units cannot charge.

BROKEN units flee away from the enemy. If they leave the battlefield or continue to rout for several turns they are considered irretrievably dispersed.

Cohesion states and losses are indicated visually by a banner above the unit – see below. Losses are also indicated by models "dying".

14.2. Cohesion Tests

Troops take a Cohesion Test if they suffer significant total shooting casualties (> approximately 10%) in a turn, lose a round of close combat (inflict significantly less total close combat damage in the turn than they suffer), see a friendly unit break or a general in line-of-command incapacitated nearby, or attempt to Fall Back when in the charge range of enemy non-light troops.

The cohesion test is based on the equivalent of two six-sided dice added together, with some "re-rolls" depending on troop quality. There are shades of quality, and the effect of these variations is fully represented mathematically by the game engine. However, as a general guide, Untrained troops re-roll 6s, Superior troops re-roll 1s, Elite troops re-roll 1s and 2s. A final score of 6 (after modifiers have been applied) is required to pass the test. If a unit fails it drops a cohesion level, and can sometimes drop two levels if the score is below 3. (It cannot double drop from shooting, nor from close combat unless it lost badly).

COHESION TEST					
MODIFIERS					
Unit suffered heavy total shooting casualties this turn (> approximately 16%)*	-1		Unit is heavy or determined foot and of at least Average quality. (Exception: Close Order "Warbands" – Undrilled Heavy Impact Foot – do not get this modifier)		+1
Unit suffered significant total close combat damage this turn (> approximately 5%) **	-1		Unit is inspired by a friendly general fighting in close combat within (command range / 4) squares. (Allied units are only inspired by their own general, and ally-generals only inspire their own units)		+1
Total close combat damage suffered this turn exceeds total close combat damage inflicted by a large margin	-1		Friendly Standard Wagon in adjacent square***		+1
Unit has lost over 25% of its original men	-1		Current Cohesion State		
Unit has lost over 50% of its original men	-1		Disrupted or Severely Disordered		-1
			Fragmented		-2
Foot battle troops with threatened flank	-1		Broken		-3
Foot lacking any close combat (impact or melee) capabilities testing for losing a close combat	-1				
Any one of...	Any troops shot at by artillery, bombs or handguns, now or earlier in the turn*	-1	* Only applies when testing as a result of shooting. The modifier for being shot at by artillery applies whether or not they inflicted any casualties.		
	Any troops testing for having lost close combat against elephants**	-1	** Only applies when testing as a result of losing a close combat against a unit of that type.		
	Medium foot, warriors, bowmen, light foot or mob testing for having lost close combat against mounted troops or mixed or heavy foot in open terrain**	-1	Other tests do not use these modifiers even if they occur in the same phase.		
	Foot testing for having lost impact phase combat against knightly lancers in open terrain.**	-2			
	Otherwise, any troops testing for having lost impact phase combat against lancers**	-1	*** Only applies if the standard wagon is close enough to the front line, and facing the right direction. If it isn't, this is indicated in the unit UI.		
	Foot testing for having lost impact phase combat against impact foot**	-1			

Standard Wagons (as long as they are facing the right way and not too far from the main action, as indicated by their unit UI card at the bottom of the screen) give a +1 Cohesion Test modifier to friendly units on adjacent squares. This modifier also applies to the Standard Wagon unit itself.

Any troops shot at by artillery, bombs or handguns, now or earlier in the turn, suffer a -1 modifier on CT tests for being shot at.

Infantry losing an impact combat vs Knightly lancers in open terrain suffer a -2 modifier instead of the normal -1 modifier vs lancers.

As a unit may have to take multiple cohesion tests for the same reason in the same turn, the random cohesion test score for each of shooting and close combat is retained for the whole turn. (But replaced in the enemy turn). This means that (for example) subsequent cohesion tests for shooting after the first will get the same result unless there are additional modifiers – such as -1 for being shot at by artillery, or -1 for the total shooting casualties this turn exceeding 16% of the unit. The program remembers if the unit has already been shot at by artillery this turn, so it does not matter which order the shooting is done in. For example, if the unit is shot at by artillery first, it might not reach the threshold of 10% shooting casualties this turn necessary to trigger a Cohesion Test. If it is subsequently shot at by archers, and the total losses from shooting this turn exceed 10%, a Cohesion Test will be taken, with a -1 modifier for being shot at by artillery.

A unit cannot drop cohesion twice in the same turn from shooting. It can drop a maximum of twice from close combat, but only if the unit has lost badly overall in close combat so far this turn, and the cohesion test score is low enough to qualify for a double drop. In this case the double drop can occur in two stages – if one close combat causes a single cohesion drop, a further close combat could cause a second drop if additional modifiers brought the overall result below the double drop threshold. Note that melees that were not resolved before hitting End Turn are resolved automatically and count as part of the preceding turn for the above purpose.

Also, a unit that is Fragmented may break (without waiting to be contacted) if charged by another unit, even if it became Fragmented as a result of a previous impact close combat this turn.

Note also that the % casualties calculation only takes into account up to 12 ranks of men - equivalent to 3 ranks of models. Thus 4 model deep units such as pike units will be deemed to have suffered 10% or 16% casualties when the overall % losses are somewhat lower - the logic being that beyond a certain depth, extra ranks do nothing much to counteract the morale effect of casualties on the front rank.

Furthermore, because of the way shooting is resolved, the 10% and 16% thresholds are only approximate.

14.3. Rallying

There is a chance at the start of each of its side's turns that a Disrupted, Fragmented or Routed unit will take a Cohesion Test to improve its cohesion state. The chance of testing is much lower if it is routing. However, a unit with a general will always test.

If it does take a test and scores 6 or more, it rallies and goes up one cohesion level.

Units cannot test to rally if they dropped Cohesion in the previous own or enemy turn. Routing units cannot test to rally if they are being pursued, or if they suffered more than 10% losses from shooting in the previous enemy turn.

14.4. Autobreak

In addition, units will Autobreak if their losses get too high. For example an average quality unit will autobreak if it falls below about 50% of its original strength. Higher quality units will stick it out longer and Raw units won't hang around as long.

14.5. Flank/Rear Attacks

Troops may also automatically drop a cohesion level if charged in flank or rear (see the Flank/Rear Attacks section under Battlefield Orders > Charge).

14.6. Routing and Pursuing

If a unit breaks, nearby friendly troops take a Cohesion Test, unless the broken unit was artillery or baggage, or the broken unit was light troops and the nearby friends aren't.

Units normally only have to take such tests if they are in a square adjacent to the breaking unit when it breaks, but this distance is increased to 2 squares if the breaking unit is Elephants.

Broken units rout. Their close combat opponents will sometimes pursue:

+ Mounted troops and elephants normally pursue at least once.
+ Foot warbands normally pursue foot at least once if they originally initiated the close combat, and have a 25% chance of doing so if they didn't. They have a 10% chance of pursuing mounted or light troops.
+ Raw or untrained foot also have a chance of pursuing, but this is never more than 25%. They have a 10% chance of pursuing mounted or light troops.
+ Other foot never pursue after close combat.
+ War Wagons, Standard Wagons, Artillery and troops in Square formation never pursue after close combat.

If pursuers end their pursuit move within 2 map squares of the routers they are still considered to be pursuing, and will inflict some casualties on the routers.

After each turn, routers will rout again. Pursuing units test to see if they continue to pursue, the chance of which depends on their troop type.

Troops pursuing routers cannot perform any other actions until the unit decides to stop pursuing. However, if the pursuers meet fresh enemy in an adjacent map square that is within 45 degrees of the next step in their pursuit route, they will switch

target and charge them if they have enough move left and they (the AI on their behalf) fancy their chances. For the purpose of determining whether such charges count as flank/rear attacks, the starting position of the charger at the beginning of the pursuit is what is taken into account, not its starting position at the start of the whole turn. If the charged unit breaks and the pursuer pursues again, the starting position is once again reset.

If the routers go off the battlefield they are considered irretrievably dispersed. The pursuers test to see if they follow them off. If they do, they subsequently have a chance each turn of returning to the battlefield close to the place where they left it.

Routers that have no route of escape are dispersed. Unless they are still being actively pursued, routers are also dispersed if they have not rallied after 5 consecutive rout moves.

Broken Baggage, Artillery or Standard Wagons are removed from the map. When non-artillery War Wagons break, the crew disembark and flee, leaving the empty War Wagon behind as static Field Fortifications. When Artillery Wagons break, the crew disperse, leaving the empty Artillery Wagon behind as static Field Fortifications.

15. Unit State – Banners

The banners above each unit become progressively more tattered as the unit suffers losses. They also show a yellow upper section if the unit is Disrupted or a red upper section if the unit is Fragmented. If the unit is Broken, the banner turns white.

16. Terrain

16.1. Difficulty

Terrain is divided into 4 difficulty levels: Difficult, Rough, Non-Open and Open. These affect movement and order to varying degrees. (Heavy Fortifications count as Difficult to troops attacking them but cause no ill effects on troops defending them).

Difficult terrain includes Woods, Marsh and Difficult Slopes. It does not disorder Light Foot. It disorders Medium Foot, Warriors, Bowmen and Mob. It causes severe disorder to other types.

Rough terrain does not disorder Light Foot, Medium Foot, Warriors, Bowmen, Mob or Deployed War Wagons. It severely disorders Heavily Armoured or Fully Armoured Knights or Cataphracts. It disorders other types.

A unit disordered or severely disordered by terrain loses that disorder as soon as it moves into a terrain square that is neither difficult or rough.

Non-Open terrain (e.g. Enclosures, some Streams) does not cause disorder, but stops combats counting as "In Open Terrain" thus reducing Impact POAs for some troops.

Open has no effect.

Streams vary in difficulty level according to the size of the stream.

Built-up areas protect occupying foot from the ill effects of flank/rear charges.

16.2. Impassable Terrain

Water squares (including moderately large rivers except at bridges or fords) are impassable to land troops.

Mountains and Cliffs are impassable to all troops.

16.3. High Ground

Troops on higher ground gain an advantage in close combat. This is minor (+25 POA) if the height differential is 75 or less, but significant (+100 POA) if the differential is 100 or more. Squares for which no height is shown on the tooltip are height 0.

16.4. Visibility

Woods, Buildings and Marsh offer concealment to stationary foot troops inside.

Woods, built-up areas and higher ground block line of sight. (Some individual buildings don't, if they are not large enough to block a whole square).

16.5. Close Combat on the Edge of Terrain

If troops inside a terrain feature are in close combat with troops outside, then the troops outside will suffer the disorder penalties as if inside the terrain if they are attacking into it, but not if the enemy is attacking out of it. Either way the combat will not count as if "in open terrain".

16.6. Obstacles and Fortifications

16.6.1. Obstacle Positions

Linear obstacles are on or close to tile edges. Foot troops in a tile with an obstacle along an edge gain benefits when defending it against troops beyond an imaginary line extending that edge. Fortifications only protect the tile edges where fortifications are depicted.

16.6.2. Obstacle Effects

Foot defending obstacles count as "Protected" against mounted troops (see combat charts) and against the ill-effects of being flank/rear charged across the obstacle. Depending on the nature of the obstacle they may also count Cover – reducing incoming shooting casualties (see below).

Irrigation ditches, low walls and hedges can protect

stationary foot whichever side of them they are on. Cover is lost if the unit moves, even to change facing. Fortifications only protect foot inside the fortification, but cover is not lost if the unit turns or moves. Heavy Fortifications (castle and city walls) also give cover to mounted troops and elephants.

Troops that charge enemy across an obstacle lose all benefits that they would have had if the enemy charged them.

16.6.3. Obstacle Types

Irrigation ditches & hastily dug protective ditches – these give "Protection" but no Cover, +100 POA Protection bonus in close combat for pure missile foot defending against mounted troops, and +25 POA for other foot or against other opponents. (See section 13.2.10)

Field Fortifications (Light Fortifications) – these give "Protection", 33% Cover, and +100 POA bonus in close combat to any foot defending them.

Heavy Fortifications - these give "Protection", 75% Cover, and +200 POA bonus in close combat to any foot defending them, and also count as Difficult Terrain for troops assaulting them across the fortifications.

Discontinuous field fortifications do not protect against enemy attacking from 45 degrees to their front. This is to prevent the exploit of placing and defending field fortifications in alternate squares.

This limitation does not apply to ditches or stakes. Fighting across obstacles does not count as in "Open Terrain".

16.6.4. Stakes

Stakes were a type of portable obstacle used by Longbowmen in English and some other armies from 1415 AD on, mainly for defence against mounted men-at-arms. They are purchased as part of the cost of the unit.

Stakes give "Protection" but no Cover, +100 POA Protection bonus in close combat for pure missile foot defending against mounted troops, and +25 POA for other foot or against other opponents. (See section 13.2.10)

Fighting across stakes does not count as in "Open Terrain". Heavily Armoured or Fully Armoured foot attacking troops defending stakes are treated as if in "Rough Terrain" – and hence are Disordered.

Unlike other field fortifications, discontinuous stakes do protect against attacks from 45 degrees to their front.

Unlike pre-prepared field fortifications, stakes do not cancel the normal terrain type of the square.

16.6.5. War Wagons

War Wagons, whether Deployed or Undeployed, are treated as obstacles. Combats against War Wagons therefore do not count as "in Open Terrain".

A line partly of field fortifications and partly of Deployed or Abandoned War Wagons will have the same effect as a solid line of field fortifications.

Normally, a unit behind field fortifications at the end of a line of field fortifications is vulnerable to attack by an enemy

unit diagonally to its front (beyond the FF) without counting as being behind FF, unless there is also a FF section protecting the unit's flank. However, friendly Deployed War Wagons in the square adjacent to the end of the FF line will also have the same protective effect.

Abandoned War Wagons are treated as field fortifications, but unlike pre-prepared field fortifications, do not cancel the normal terrain type of the square.

17. Other Causes of Disorder

Cavalry (all types) or camelry in a square adjacent to enemy elephants are disordered. If the elephants are friendly the cavalry are slightly disordered.

Cavalry (all types) in a square adjacent to enemy camelry are disordered. If the camelry are friendly the cavalry are slightly disordered.

18. Victory Conditions

These will depend on the individual scenarios. However victory conditions depending on losses are based on units routing or dispersed rather than casualties or destroyed units. The size of units is taken into account. Units that have evaded off the map count as half their routed value added to their side's rout % unless they return. Units that pursue routers off map don't.

Default victory conditions are that an army breaks and the side loses if 60% of its original troops are routed or dispersed, or if 40-59% are routed or dispersed and the enemy have loss at least 25% less. Thus a side will fight on longer if the battle is hard fought than if it is a disaster.

If the battle is undecided at the time limit, default victory conditions vary according to the scenario. For player reinforcement, player defending, and enemy relieving siege scenarios, the player will win even if he has a higher % routed. For enemy reinforcement, enemy defending, baggage protection and player relieving siege scenarios, the enemy will win if the victory conditions are not achieved before the time limit, even if the enemy has a higher % routed. For open battles, the AI will win timed-out games in single player custom battles and campaign battles, even if it has a higher % routed, whereas in MP games the side who has the lower % routed at the time limit wins.

In standalone SP games, the player is given the option to play on and conduct mopping up operations after the enemy army is defeated. This option is not given in campaigns because the campaign system already takes into account losses caused in the pursuit.

When a battle ends, you can review the battlefield by clicking the "Review Battlefield" button in the victory/defeat screen.

18.1. Standard Wagons (Carroccios)

In this era the Italian cities took to fielding a Carroccio, which was a large wagon carrying the army's main battle standard.

It served as a rallying point for the whole army. Its loss would have a severe effect on the army's morale, so it was usually guarded by a strong force of infantry. Other nations began to copy the Carroccio, and such standard wagons are occasionally historically recorded for Imperial, Hungarian, Low Countries and Anglo-Norman armies.

To avoid standard wagons having an excessive effect in game, they do not have a direct effect on the morale of individual units – there is no Cohesion Test modifier for having a standard wagon.

Instead they have a disproportionately high rating for rout % calculations. The effect of this is that they significantly reduce the calculated % routing of their army, until they are lost. Thereafter they significantly increase their army's % routing. They thus increase the resilience of the army, but hasten its collapse if lost.

Their positive effect only applies if they are facing in the general direction of the enemy army and are no more than 4 squares further away from the enemy centre than is their own army's centre. Their UI card will show when these conditions are not met. Their negative effect only applies when they are lost.

They should therefore be deployed near the centre of the army, not far back from the front line, and should not turn to face the rear.

Standard Wagon units include a strong guard of Superior Armoured Defensive Spearmen, who can fight all round the wagon. Hence they are immune to flank or rear attacks. The wagon does not turn to face enemy attacking their flank or rear. They cannot charge, but do exert a ZOC.

✚ For rout % calculations, Standard Wagons are treated as equivalent to 4 standard-sized heavy infantry units.

✚ In addition to their effect on rout % calculations, Standard Wagons (as long as they are facing the right way and not too far from the main action) also give a +1 Cohesion Test modifier to friendly units on adjacent squares. This modifier also applies to the Standard Wagon unit itself.

19. Battle Reports

When a scenario is won (or lost!) you get a report showing each side's losses resulting from the battle. This takes into account additional losses suffered in the pursuit, and the recovery of some walking wounded.

20. Load/Save

The Load/Save menu allows you to load and save games.

When engaged in a battle or campaign you can save your progress at any time except during the enemy turn. Saved games are located in "Documents\My Games\FieldOfGloryMedieval\ SAVES".

21. Settings

The Settings menu allows you to set the difficulty level and set various UI display, audio and screen options.

21.1. Difficulty

There are six difficulty settings: Sergeant, Knight, Baron, Duke, Prince, King. Sergeant is the easiest and King is the hardest.

In most battles the only effect of these difficulty settings is to adjust the size of force available to the player. In a few of the historical scenarios, there may instead be special historical factors modified by the difficulty setting. The lowest and highest difficulty settings adjust the quality of the troops slightly.

The setting at which the two sides forces are most evenly balanced is the default Knight setting. (Although with Auto force selection, the player will actually have a slight advantage).

Note that the "size" of forces is determined by a points system, in which better troops are more expensive. Thus, depending on the composition of the armies, one side in an equally balanced battle may have many more men than the other. If so, this

is because his men are less well equipped, of lower quality, or otherwise less effective.

All combat, cohesion tests and other troop interactions are exactly the same on all difficulty levels, and do not favour the AI in any way. The random number generator is not biased towards either side. (Though it is easy to imagine otherwise when luck goes against you).

Multiplayer games ignore the difficulty setting entirely.

21.2. Mouse Button Mode

The default UI mode is called Left/Right UI mode. In this mode the left mouse button is used to select units and the right mouse button is used to issue orders. Units are deselected by left-clicking on another unit or an empty square (or by using the SPACE bar).

The alternative UI mode is called Left only UI mode. In this mode the left mouse button is used to select units and issue orders. Units are deselected by right clicking or by using the SPACE bar. (They can also be deselected by left-clicking on another unit, but this is not recommended as it will instead result in the first unit executing a turn action if the second unit is on an adjacent square).

21.3. Screen Mode

This can be used to set the screen mode. The game must be restarted before changes take effect.

Windowed mode runs in an unframed window, and if the game resolution matches the screen resolution looks exactly

the same as Full Screen mode, but may run better on some systems.

Framed Window mode allows the window (if the game resolution is set lower than the screen resolution) to be moved around the screen. While in this mode map scrolling by moving the mouse cursor to the edge of the window may not work, instead it can be scrolled by holding down the left mouse button and dragging.

Note that, unless you want to tile something else on your screen at the same time as the game, it is recommended to play in Full Screen or non-framed Windowed mode and use ALT-TAB to switch between programs.

21.4. Game Speed

This option allows the game to be slowed down if desired.

21.5. Unit Speed Turbo

This option allows unit movement to be speeded up if desired. Other animations are not affected.

21.6. Sounds, Sounds Effects and Music

These options do what you would expect.

21.7. Shadows

This allows Shadow quality to be lowered to improve game performance on slower systems.

21.8. Tooltips: Simple/Detailed

Detailed tooltips display the factors affecting shooting or close combat in much greater detail. However, detailed tooltips can be temporarily turned on by holding down the CTRL button while mousing over the target unit.

21.9. Close Combat Log: On/Off

You can toggle the detailed combat log on or off in the Settings menu, or during a battle in the left-hand Tools menu or using the "C" hotkey. When the close combat log is turned off, the most important close combat information can still be seen as floating text above the units.

Also close combats are reported to the log whether or not it is visible, so you can toggle it on if something unexpected happens and find a report of the combat in question.

21.10. Close Combat Reports: Off/Simple/Detailed

The default setting for close combat reports is Off. However, you can set the game to show simple or detailed close combat reports after each close combat is resolved. This will effectively pause the action after each combat.

21.11. Minimap

You can toggle the Minimap on and off.

21.12. Hotseat Mode

When this is turned on, it allows you to play any of the single player battle types (including FOG2:Medieval campaign battles) in Hotseat mode. Thus you can either play both sides or play one side each with a friend using the same computer, without going through the MP server or having to watch the replays.

You can change the setting during a battle, and the new setting will take effect on the AI side's next non-deployment turn. If you set Hotseat mode on before starting the battle, this allows you to use Hotseat mode to do force selection and deployment for the enemy side, then switch off Hotseat mode and allow the AI to control the enemy army for the rest of the battle. You can also turn Hotseat mode back on again later in the battle if you wish.

21.13. Ambient Sounds

This option can be used to turn off the ambient sounds that play during each battle.

21.14. Idle Animations

This option can be used to turn off the Idle Animations that play when units are standing still.

21.15. Question Marks On/Off

When this option is on, question marks appear to warn of terrain that might conceal hidden enemy units.

21.16. Anti-Aliasing

The game defaults to no anti-aliasing, to allow it to run smoothly on as many systems as possible. However, you can improve the look of the graphic elements by turning on Anti-Aliasing. Some systems will be able to cope with the maximum level of anti-aliasing without affecting game performance. Older machines may not.

21.17. Game Resolution

This allows the game resolution to be selected. Changes do not take effect until the game is restarted.

21.18. Gamma

This option can be found by clicking the More Options button at the bottom left of the main Settings screen. It can be used to adjust the Gamma setting. This only works in Full Screen

mode. Switching to Full Screen mode does not take effect until the game is restarted.

21.19. Scroll Speed

This option can be found by clicking the More Options button at the bottom left of the main Settings screen. It controls the map scroll speed.

21.20. Zoom Speed

This option can be found by clicking the More Options button at the bottom left of the main Settings screen. It controls the map zoom speed.

21.21. Banners

This option can be found by clicking the More Options button at the bottom left of the main Settings screen. The default setting is Historical: Both sides will use historical banners except in civil wars. The second option is Distinct: A more distinctive banner will be shown for Side B if the two historical banners are too similar. The third option is Hide: Banners will only be shown for generals.

You can also toggle between the options during a battle by using the "H" hotkey.

21.22. Key Bindings

This option can be found by clicking the More Options button at the bottom left of the main Settings screen. It allows the main map control keys to be rebound. You should not change the key bindings to use any of the following keys, which are used for other purposes : 1, 2, 3, B, C, CTRL, ESC, F, F1, F2, F3, F4, F6, G, H, K, L, N, R, X, SPACE. You should not use any of the following unless you are also altering their binding in the Key Binding UI: A, D, E, M, Q, S, W, Left Arrow, Right Arrow, Up Arrow, Down arrow, TAB.

If your changes have any unforeseen effects, you can reset to the default settings.

21.23. Level of Detail

LODing (Level of Detail coding) for more distant terrain objects (not unit models) is on by default. This really isn't needed on more powerful machines, and hence its effect on game performance and FPS (Frames per Second) will be barely noticeable for many users. However, it does significantly reduce the drop in FPS that some people with slower systems have experienced with North European and Frozen maps with significant amounts of wooded terrain.

You can alter the viewing distance at which LODing is triggered by adjusting the slider in More Options in Settings. The default value is 700. We recommend starting with that value, but if you are still getting significant FPS drops on large North European maps when you zoom out, you could try reducing the value.

You can also turn LODing off completely if you have a fast system that does not seem to need it. This will save up to 4 or 5 seconds when first loading a map. You should not turn off LODing if your system has performance issues – the most obvious effect of which is poor mouse responsiveness.

Turning LODing on and off does not take effect until a battle is started or reloaded.

22. Multiplayer

Field of Glory II: Medieval includes a very comprehensive and easy to use multi-player system. To reach it, select Multiplayer from the main game menu. If you already have a Slitherine forum username or have previously played other multiplayer games on our server, choose the login option and enter your details. If you are new to Slitherine, register your username and password in game. You can use these details to log in to the Slitherine forum and view stats or chat to other players.

The revolutionary PBEM++ (Play by E-Mail) system does not require you to organise games in advance; you do not even need to be online at the same time as your opponent. It is as simple to play as a single player game, removing all the barriers to entry of other multiplayer games.

It really needs to be tried to be believed!

When you arrive in the Lobby, you'll see 3 tabs. The first tab, "My Games", lists any games you currently have going. The middle tab is how you issue a challenge to start a new game, while the third lets you view any challenges from other players looking to start a game. You can accept these to get playing.

Any games displaying a padlock icon are private challenges only available to specific opponents.

If you don't see any open challenges in the list, it is not because people aren't playing, but because new challenges get snapped up very quickly after they are created. Your best bet is to create some new challenges of your own – they will soon be accepted. You can play up to 30 games at a time if you wish.

To create a new challenge, go to the My Challenges tab and click the "New Challenge" button and you'll see a list of available scenarios. Select the one you wish to play, or click the "Create

Skirmish" button to set up a computer generated scenario, then select your side.

If you check the Paired (Mirror) Challenge box, the game will generate two copies of the battle. Each player will get to play one game as the side A army, and one game as the Side B army, on the same map.

Once you have an opponent, the game moves to "My Games". If it is your turn you'll be able to select the game and press Play. If not, you'll have to wait for your opponent to take their turn. When your opponent has moved you'll be notified by e-mail. It is very important that you enter your real e-mail address when registering or you will not see the e-mail alerts when it is your turn.

If your opponent has not moved for 7 days or more in a non-tournament game you can use the End Stalled Game button to claim the game as abandoned.

23. Hints and Tips

23.1.1. Generals

Try to keep your units within command range of a general in line of command. If they are out of command range they will be less manoeuvrable.

Generals give the unit they are with a big boost in close combat, but they cannot issue orders while they are in close combat, so the units of their command will be deemed out of command range until the close combat ends, unless they are within range of another general in line of command.

Also, generals in close combat risk being killed or incapacitated, which can have a disastrous effect on the morale of nearby units.

Moving a general to an unsteady unit will increase the chance of the unit rallying. Moving him to a routing unit will increase their chance of rallying, but is risky as he cannot leave again until the unit stops routing, and he will go off the map with them if they don't rally.

23.1.2. Cohesion

The key to defeating the enemy is to make his units drop Cohesion (Morale) until they break and run. This is much more important than inflicting casualties, as units will often break long before they have suffered heavy casualties, and when they do so, nearby enemy units may also suffer cohesion loss even though they might be at full strength.

Disrupted or Fragmented troops fight less well. Fragmented troops are likely to rout if anything else goes wrong, or if they are charged. Fragmented troops cannot charge and cannot move far. If they attempt a Fall Back action when the enemy is in charge reach, they will probably break. However, if you can keep the enemy occupied with other units they may get a chance to rally.

When a unit routs, its opponents may pursue. You cannot issue orders to routing troops until they rally, nor pursuers until they stop pursuing. Troops that pursue off the visible map may return later. Routers won't.

23.1.3. Shooting

Although an enemy unit can be worn down eventually by casualties, reducing their cohesion is the real object of shooting.

The more shooting damage a unit suffers in a turn, the more likely it is to lose cohesion. It therefore pays to concentrate your fire as much as possible on individual enemy units.

Troops shoot better at short range, with full arc of fire and when stationary. They shoot less effectively if they move or turn. If you are not advancing, try to anticipate enemy movements and have your troops in position before the enemy is in range. Artillery cannot shoot at all if they move or turn.

Ammunition is limited – shooting becomes much less effective when ammunition is low. It may therefore be better for a unit to hold its fire if the target is at long range or out of full arc, or if you cannot shoot at the target with more than one unit.

23.1.4. Close Combat

For close combat Points of Advantage are the key to victory. (See the Close Combat section above). Try to ensure that your units have the best possible matchups, and try to avoid charging frontally against enemy who will have the advantage in close combat.

In the wrong situation, a powerful unit can lose to a much weaker one. Along with the optimal use of firepower, advantageous matchups are key to victory.

Some units have capabilities which give them an advantage in the initial impact against some troops. Some of these require the unit to be stationary – i.e. not charging. For the others, it does not matter whether the unit is charging or receiving the charge as the unit receiving the charge is assumed to counter-charge a short distance if that fits the situation.

A unit that is in melee against more than one enemy unit fights less effectively against each of them. Ganging up multiple units in close combat against an enemy unit therefore increases the chance of defeating it.

Once in close combat, units continue to fight each turn until one side routs or breaks off. Higher quality troops fight better and are more resilient. When a unit routs, its opponents may pursue. You cannot issue orders to routing troops until they rally, nor pursuers until they stop pursuing. Troops that pursue off the visible map may return later. Routers won't.

23.1.5. Flank or rear attacks

Flank or rear attacks can be very dangerous. For devastating effect, the enemy unit first needs to be engaged in close combat by another unit.

Try to avoid leaving your units vulnerable to flank charges. Try to set up flank charges against enemy units.

Remember that for a charge to qualify as a flank charge, the charger must start its *whole* move behind the flank of the target unit.

If in doubt, remember that the charge tooltip will say whether a charge will count as a flank charge or not, and whether it will have full effect or not.

23.1.6. Terrain

Some terrain disorders troops, especially mounted troops and heavy foot. The worse the disorder, the more the fighting ability of the unit is affected. Troops charging enemy who are in disordering terrain are disordered as if they were in the terrain themselves. However, troops in open terrain that are attacked by troops in disordering terrain are not disordered by the terrain, though the combat will be treated as not in "open terrain".

Troops in close combat have an advantage if on higher ground than the enemy - the advantage is much greater if the slope is steep (height differential 100 or more).

Troops in cover take reduced shooting damage, especially when stationary.

Foot can hide in buildings, woods and some other terrain. They can only be seen by nearby enemy or if they shoot. Mounted troops can be seen if on the edge of woods, but will be hidden if further in. All troops will be hidden if no unit in the enemy army has a line of sight to their position.

Before some battles begin you may be able to redeploy your troops. Position troops to make good use of terrain.

Troops behind obstacles or fortifications gain various advantages against attacking enemy. They lose these if they themselves charge. Troops behind obstacles (other than fortifications) lose any cover provided by the obstacle if they move or turn.

23.1.7. Knowing Your Troop Types

Heavy Foot are more resilient than Medium Foot/Warriors, but worse affected by terrain.

Foot shock troops (Impact Foot, Offensive Spearmen and Pikemen), will follow up pushed back enemy foot if they win a round of combat decisively. They will only do so if they originally initiated close combat – they won't follow up if they were originally charged.

Follow ups may lead to a unit getting into a position where it can be flank charged by another enemy unit. Judgement is therefore required in deciding whether to charge or whether to wait for the enemy to attack. You can set up situations where the enemy pushes forward into a position where they can be flanked – if your unit fighting them frontally lasts long enough!

Light Foot, Bowmen and Mob are vulnerable to mounted troops in the open. Try to keep them in terrain or behind obstacles when cavalry are about. Heavy Foot, Medium Foot and Warriors are all capable of repelling mounted charges in open terrain when they are steady, but will be at risk if disrupted.

Light Foot can't charge most non-light troops in open terrain.

Light troops (Light Foot and Light Horse) and non-lancer Cavalry/Camelry can evade enemy charges (also Highly Superior or Elite lancers who have 100% Bow capability), but may get caught, especially if the chargers start their whole move close to them. Troops that evade off the battlefield may return later.

24. Making a Map in the Map Editor

A map in *Field of Glory II: Medieval* is built up from a grid of tiles, with 3D objects placed on them. As well as the visual look, the tiles determine the passability and cover values of each square, although certain objects can override these values.

The default size for a map is 32x32 tiles. If you wish to change the size or proportions of the map, click the button at the bottom left of the sidebar.

This opens up the map resize dialogue. You can either create a new map of the required dimensions, or resize the current map. Resizing the current map can cause issues if care isn't taken to avoid lopping off key features or leaving placed units stranded off map. If just the size of an existing map is changed,

the playable area will shrink or expand from tile 0,0. If this isn't what is desired, the x and y offset values can be used to shift the point at which the new sized playable area is applied.

Make sure to save the existing state of the map before trying this.

24.1. Tiles

Once the size is correct, the basic terrain can be laid out with tiles. To work with terrain tiles, press the top left button on the sidebar.

The tiles are grouped into palettes of terrain types. Selecting a palette name from the second window down in the sidebar displays all the terrain tiles in that palette in the larger window below. Mousing over the tiles within this window displays a tooltip of the tile's terrain type. Clicking on a tile within the large palette window selects it and allows you to place the tile onto the map with a click of the mouse (or hold the mouse button down to paint large swathes). Overlay tiles can be rotated in 90 degree increments using the R key, although some have their rotation automatically randomised. While over the map, the tooltip displays the existing tile's terrain type, rather than the type of the tile you are painting with.

The most commonly used base tiles use textures that are much larger than a single tile, and these textures feather into each other where they adjoin. This allows much more natural-looking terrain maps to be produced.

The palettes available in the window are limited to those matched with the terrain style specified when the map was

created. However, an "Advanced Mode" can be turned on with the button underneath the tile window, which allows access to all terrain tile types at once.

There are two kinds of tiles, base and overlay.

Base tiles are used to block out the functional landscape and set terrain types - open ground, forest, marsh, water etc.

The tiles from an overlay palette sit on a layer over the top of normal tiles. An alpha channel on the overlay tiles allows parts of the tile beneath to be seen. Some overlay tiles are completely transparent but alter the terrain-type of the tile without altering its appearance (e.g. Enclosure, Deep Stream, Medium Stream, Dead Ground).

These two layers of tiles can be edited independently of one another. Selecting an overlay tile from the palette window and clicking on an already laid down overlay tile will replace it without changing the tile underneath, while an underlying base tile can be changed without affecting the overlay above it. Pressing the "Delete" key while working with terrain tiles will remove any overlay tile underneath the mouse pointer, but will not remove base tiles – these can be removed by painting over them with another base tile.

Some overlays (e.g. roads and tracks) can be layered over other overlays (e.g. streams).

Certain overlay tiles change the terrain type of a tile they are placed over. Roads, paths and tracks can be laid out across multiple tiles and overwrite their terrain types.

24.1.1. Auto-Edging.

Auto-Edging can be toggled on and off using the button underneath the tile window.

When a base tile is placed while Auto-Edging is on, the computer will automatically assign edge overlays to blend the terrain to the default terrain.

Water placed on the map will automatically form streams or lakes/sea. Rivers (as opposed to streams) must be placed manually using the appropriate overlay tiles.

Roads will join together without time consuming selection of bends and straights.

This generally saves a great deal of time, but in some cases a map designer may wish for more control. Turning "Auto Edging" off using the button below the "Advanced Mode" button will disable this feature, and allow individual selection of overlay tiles. This is very useful when joining different types of roads together or when sorting out the propensity of the editor to create "mini-roundabouts" whenever roads make tight turns.

See also "Edging and Style" below.

24.2. Hills

The game supports multiple hill levels. Holding the CTRL key allows the player to change the height of tiles on the map. Left click raises a tile in set increments, right click lowers. Complex hill geometry can prove very tricky for the game's LOS rules to interpret, especially narrow ridges.

The autoedging places open terrain slopes round all hills. Difficult slopes and Cliffs can be substituted using the appropriate slope overlay tiles. There is also an (invisible) Rough Ground overlay that can be used to make open slopes Rough.

24.3. Water

If autoedging is turned on, painting water tiles from the base set will produce streams if the water is a single square wide, lake/sea/large river shores if the water is more than a single square wide. (If auto-edging is turned Off you won't be able to see where the tiles have been painted, because the base Water tile uses one of the Open Ground textures to avoid blending issues at the edge of the water. The actual water is applied using overlay tiles – automatically if Auto-Edging in On). Large areas of water at the edge of the map will need edging tiles to be removed or added manually to make the water go right to the map edge.

To turn a stream into a river, river overlay tiles need to be added. To make a stream large (rough going) or deep (difficult going) apply the appropriate (invisible) overlay tile.

24.4. Objects

Objects are accessed via the central button in the top row of the sidebar. Objects are grouped together in palettes in much the same way as the tiles. As with the Tiles, the terrain type selected in the map creation screen determines the object set available, unless "Advanced Mode" is active, in which case all object sets can be used.

To place an object, select a name from the list in the larger window. The object is then attached to the cursor and can be placed as seen on the map with a left mouse click. Objects can be rotated in 90 degree increments using the "R" key. They can also be freely rotated using the "Page Up" and "Page Down" keys. Objects can be scaled up and down using the "Home" and "End" keys. Holding SHIFT while scaling or rotating allows for finer control. Pressing "Delete" will remove any object currently under the cursor.

Certain objects, such as buildings and fortifications, change the terrain type of a tile they are placed over as well as blocking the LOS. Bridges create a passable tile beneath them over water. These objects' placement is often constrained to within a tile's boundary, to prevent the placed object falling between two tiles and creating visually misleading terrain. If two objects on the same tile have different terrain effects, whichever was placed last will take precedence.

Trees are a special case. The terrain tile "Woods" specifies that the tile provides cover for infantry units. However, it is the objects placed on it that cause the tile to block LOS.

Some objects have restrictions on where they can be placed on the tile. Certain objects, such as Irrigation Ditch objects, can only be placed on tile edges. These will provide defensible obstacles as detailed in the Terrain section above.

24.5. Units

Once the map has taken shape, it can be populated with units.

To work with Units, click the right-hand side button on the top level of the sidebar. Repeated clicks toggle between placing units for Side 0 and Side 1. The list can be refined by clicking on the filters in the small window above the main unit list. Mousing over a unit type will show a tooltip giving details of the unit.

Once a unit type has been selected from the list, move over the map and click the left mouse button to place the unit on a tile. Press "R" while holding the mouse cursor over an already placed unit will rotate it in 45 degree increments.

To delete a unit, hold down the "Delete" key and click on the unit.

You should only put one unit on a tile. (The editor will let you load one unit on top of another if you click the right mouse button, but this game does not support stacked units).

Care must also be taken in where units are placed. There are no limitations to where a unit can be deployed, so to avoid problems once the scenario is being played we must, for example, guard against units in lakes or outside the battlefield.

Placed units will show the appropriate banner (if available) for their side's nationality if side names have been specified, otherwise plain red for side 0 and plain blue for side 1.

24.5.1. Fixed/Unfixed Units

When a unit is placed in the map editor, it displays a label "Fixed" above it. This denotes that in a scenario the player will not have to purchase that unit and it will always be present in the scenario. Pressing the "F" key with the cursor over a unit turns off the fixed label and means that the unit will have to be purchased using the points allocated in the scenario.

24.5.2. Alternate Unit Textures

The map editor allows units to have a variety of different textures.

The "Unit Textures" button will pop up a list of textures available for the currently selected unit type. Selecting a different texture will convert all units of that type on that side to the new texture.

The alternate textures are kept in subfolders in Data/Battle/UnitTextures (either in the main installation or under the specific campaign). The name of the subfolder determines the name that will appear in the text box. The textures must be named the same as the original texture.

If you make use of the default SCENARIOTEMPLATE.BSF script – see below - all units will automatically be reskinned to make use of all available texture variants, unless the ReSkinArmy() calls on (approximately) lines 126 and 127 are commented out by placing // in front of them. Half of the available textures are automatically assigned to side0 and the rest to side1. Thus, even if there are identical units on both sides, they will use different textures, and thus be easily recognisable. This is probably preferable to assigning textures in the editor, because it allows multiple different textures for the same unit type to be used on the same side, which the editor does not.

However, to allow scenario designers to override this behaviour, it is not default behaviour for scenarios without scenario scripts.

Modders can find out which texture names apply to which unit by looking in the Squads.csv file in the AssetFilename column. However, altering the Squads file will not alter the file-reference in the associated model, so the editor will still show the alternative textures as per the unaltered filename.

24.6. Copy & Paste

Copying and pasting of Tiles, Objects, and/or Units works using the standard Ctrl-C and Ctrl-V keyboard shortcuts. The Copy/Paste window will be displayed while pasting or when Shift-Ctrl-C is pressed (note this opens the window and enters tile selection mode but does not copy). This window allows selection of which types of data to paste. The most recently copied data can also be exported to a file for later use, the clipboard is cleared whenever a scenario is loaded. To select a region for copying, press Y and then define the region by clicking on opposite corners (press Y again to cancel).

24.7. Edging and Style

This section allows high level control of the auto-edging functionality in the editor.

"Edge All" will attempt to edge all terrain tiles, overwriting any hand placed edging that the player has implemented.

"Align all roads" will attempt to join all roadways together.

"Clear all ground edging" removes all generated and hand placed edging of ground terrain.

"Clear all water edging" removes all generated and hand placed edging of water tiles.

"Convert Style" allows the designer to change the visual look of a map but keep its layout if more than one texture set is available. This only works if the two texture and tile sets have the same components. Note that objects will not be changed.

24.8. Conditions

Setting rain or snow for a scenario in the Editor gives a -50 POA modifier to all shooting except by javelins. Alternatively, rain or snow can be set to start and stop during a scenario using a scenario script and the SetWeather() function.

24.9. Reinforcements Mode

This section allows a designer to bring on reinforcements for either side during a scenario. While in reinforcement mode, click on any units on the map to add them to the current reinforcement group (there are up to 8 reinforcement groups per side). Each group can be assigned a turn to arrive on.

Note that reinforcement groups are not the same as AI teams. They need to be specified while in reinforcements mode.

If you wish to display a message to the deploying side when the reinforcements arrive, type it under Message. Message text will be stored in the TEXT9.TXT file in your campaign. If you wish the camera to pan to show the units to the player, set Move Camera: to Yes.

The units will appear where they were placed, so some discretion should be exercised to avoid complaints of teleportation.

Advanced users may wish to customize their own scenario scripts (see the Scenario Script section below). Once units have been added to the map and assigned to reinforcement groups, clicking Export to File in the Reinforcements Editor window writes a script fragment with the unit types and locations. The units should be removed from the map once the fragment has been integrated into the main scenario script.

24.10. Deployment Mode

Clicking on this button cycles through the three options for deployment in the scenario

✛ No deploy – all units start where they are placed

✛ Partial deploy – one side deploys while the other is fixed

✛ All deploy – both sides can deploy

The default behaviour is that units can deploy into any tile they can see into. To use the standard deployment rules as outlined in the main Deployment section above, you need to include

```
if (GetTurn() == -1)
{
SetUniversalVar("StandardDeployment", 1);
SetStandardDeploymentBounds();
}
```

in the StartTurn(side) function of your scenario script.

24.11. Custom Unit Names

Custom unit names can be added to your scenario as follows:

You can add a new custom unit name to the list of custom unit names by typing the name into the edit box and clicking on "Add New Unit Name". The name will then be added to the list of names in the lower list box. When you save the scenario, any new custom unit names you have added will automatically be added to the text9.txt file in your campaign's main directory in Documents/My Games/FieldofGloryMedieval/CAMPAIGNS or Documents/My Games/FieldofGloryMedieval/MULTIPLAYER

(If you make a typo, you cannot edit the name in the Editor, but you can simply edit the line in your text9.txt file after saving the scenario – they are in the form 'IDS_CUSTOMUNITNAME_n, "*UnitName*",' If you want, you can delete the whole of the offending line. This will not cause any side effects unless the name is in use in any of the scenarios in the campaign. You should not renumber any lines).

To add a custom unit name to a unit, you need to assign it to a unit on the map. First highlight the name in the names list, then, **with the editor in unit placement mode,** place the unit you want to give a custom name to, or click on a unit that is already on the map. Then click on "Assign Name". The custom unit name, default unit name and map location will appear in the list box at the top of the Custom Named Units window. You can check you have assigned the name to the right unit by mousing over the unit on the map.

You can assign the same custom unit name to multiple units if you wish.

If you decide to remove the custom unit name from a unit, you do this by highlighting the unit in the top list box and then clicking on "Remove Custom Name".

When you save the scenario, any custom unit names you have added will be automatically saved with the other scenario data.

24.12. Custom AI Dialogue and Teams

This controls the division of the armies into teams (commands), and non-scripted AI behaviour.

First the armies should be divided in teams (commands). These are important for both sides, because they will determine which units move together when group movement orders are issued.

The "AI Team" button cycles through the 8 possible teams that the AI force can be split into. Select a team number, then click on any units on the map to assign them to that team.

Player side teams are assigned in the same way, but with the CTRL button held down.

"Aggression" controls the currently selected AI team's responses to the player. Each behaviour has its own value

✚ **2** – Move at speed of slowest unit in team.

✚ **4** – Ignore all enemy unless they are close. Don't move (except to turn to face) even if they are.

✚ **8** – Ignore all enemy unless they are close. Engage them as per other orders if they are.

✚ **16** – Seek and Destroy.

✚ **32** – Use threat map to choose route avoiding danger from enemy troops.

✚ **64** – Stay put in current tile.

✚ **128** – Non-light troops ignore enemy light troops unless they are very close.

✚ **256** – Ignore enemy foot troops unless very close.

✚ **512** – Ignore enemy mounted troops unless very close.

✚ **1024** – Light troops bug out. (This isn't much use if applied in the Editor, but it can be used in scripted AI in the scenario script).

✚ **2048** – Ignore enemy artillery.

These behaviours can be combined by adding them together. For example, a team can seek and destroy enemy non-light foot only by combining seek and destroy (16), ignore enemy light troops (128) and ignore enemy mounted (512). The resulting Aggression code would be 656. Holding shift advances the values by 10 each click.

These "Aggression" values can also be used to control AI behaviour in scripts using the available script functions.

There is no need to set "Aggression" values for player teams.

"AI target point" allocates a destination to the AI team. Clicking the AI point button cycles through the twenty four available points. Once the correct number is displayed, click the "Place AI point" button, then click on the map to place the marker.

24.13. Plugin Tools

This button accesses the additional tools that have been coded to help scenario design. There are currently three.

24.13.1. Random Enemy

This controls how many points each of the 8 AI teams will be given to purchase unfixed units. **It should only be used in SP scenarios.**

24.13.2. Random Map

This section creates a random map using the present map's dimensions. The random map generator creates battlefield terrain tailored to the regions covered by the game.

Click "Create Map" to generate the map. Each click will build a different map.

24.13.3. Victory Points

Warning: The use of objective points is anachronistic in the FOG2 Medieval era. We do not recommend it. However, the engine supports it, so we have left the option available for user scenario designers if they want to experiment with it.

This section covers the placement and allocation of victory points, and also the conditions required for victory.

Clicking on the left-hand button of a VP cycles through its four possible states – Off, Neutral, belonging to side 0, belonging to side 1. Clicking on the right-hand side, then clicking on the map allows the placement of VP.

Clicking the side 0 and/or side 1 boxes allows the designer to set victory conditions. Left clicking the "Capture" and "Defend" boxes raises the count, right clicking decreases.

Left clicking increases the turn limit, right clicking decreases it. Clicking the small box next to the turn limit sets the victory conditions to be "whoever has the most VPs at the end of the game".

The bottom section allows the designer to select which AI teams will attempt to capture any VP flags held by the player. **We cannot guarantee that this will work correctly with *FOG2 Medieval*.**

24.14. Scenario Description

In the editor, click the Scenario Description Exporter button to open the tool.

It allows you to create and save the 5 strings that are associated with each scenario: Name and Description (for scenario selection screen), Title, Subtitle, and Briefing (for battle screen). Once you have done this, the strings will automatically be displayed for your scenario. Note that some of the generated strings have different naming conventions from the ones in the vanilla campaign text files, but the scripts recognise either version, and will use whichever version exists.

The strings are saved to text9.txt in

/Documents/My Games/FieldofGloryMedieval/Campaigns/*My CampaignName*

for SP scenarios or

/Documents/My Games/FieldofGloryMedieval/Multiplayer/*My CampaignName*

for MP scenarios.

It is safe to manually edit the strings in Text9.txt after they have been exported, it is only rewritten when explicitly exporting from this window.

24.15. Text Markers

Text markers can be created and placed on the map. The top window shows a list of markers currently specified. New markers can be created by clicking "New Marker" while existing ones can be removed by clicking "delete marker".

The window below these buttons shows pre-set options for the text markers. If another option is required, the designer can click "Clear String" and type their message into the box. The tag displays the identity tag of the text line – this will be generated automatically for any custom text lines created. Both the font and the text colour can be customised.

Once the Text marker has been created, it can be placed on the map by clicking "Place Marker" then clicking on the map. This will clip to the centre of the tile, although holding Shift down will allow for finer placement.

Use the ID shown in the text marker list to turn the visibility of text markers off and on from script using SetVisibilityTextMarker.

Strings created in the text marker edit window are stored in the TEXT9.TXT file in your campaign.

24.16. Generals

Generals can be added to your scenarios as follows:

You can add a new general name to the list of custom general names by typing the name into the edit box and clicking on "Add New General Name". The name will then be added to the list of names in the lower list box. When you save the scenario, any new general names you have added will automatically be added to the text9.txt file in your campaign's main directory in Documents/My Games/FieldOfGloryMedieval/CAMPAIGNS or Documents/My Games/FieldOfGloryMedieval/MULTIPLAYER

(If you make a typo, you cannot edit the name in the Editor, but you can simply edit the line in your text9.txt file after saving the scenario – they are in the form 'IDS_CUSTOMGENERALNAME_*n*, "*GeneralName*",' If you want, you can delete the whole of the offending line. This will not cause any side effects unless you have used that name in another scenario in the campaign. You should not renumber any lines).

To add a general to the scenario, you need to assign him to a unit on the map. First highlight his name in the names list, then set his type (Sub-General, Commander-in-Chief or Ally-General) and quality (Troop Commander – command range 4, Field Commander – command range 8, or Great Commander – command range 12).

Then, **with the editor in unit placement mode,** place the general's unit or click on a unit that is already on the map. Then click on "Place General". His name, characteristics and map

location will appear in the list box at the top of the Generals window. The unit's banner will change to a longer general's banner. You can check you have the right general with the right unit by mousing over the unit on the map.

If you decide to move him to a different unit, you must first remove him from the generals list by highlighting him in the top list box and then clicking on "Delete General". You then need to assign him to another unit following the procedure above.

You also need to assign the units that will be under his command in the scenario. You do this using the custom AI data dialog to assign the units to a team. (You need to hold down the CTRL key when doing this for Side0 units). The general will be in command of all units in the same team as his unit. (Note that even if you use a scenario script that includes code that reassigns team allocations – such as the AI_Masterplan() function – the original team allocations will be retained for command control purposes.)

When you save the scenario, any generals you have added will be automatically saved with the other scenario data.

24.17. Side0/Side1

Side 0 is the player's side, Side 1 the AI or opponent's side. Clicking on the button opens a list of available side names in alphabetical order. By default this shows only side names used in the applicable Army List file. All of these should have assigned banners which will appear on their units when they are placed.

Toggling on the Show All button adds currently unused side names to the list. These are also listed in alphabetical order, starting after the default list. Most of these side names probably won't have assigned banners, in which case their units will use plain red banners for side 0 and plain blue for side 1.

If both sides would use the same banner, a generic alternative banner will be used for Side 1 to avoid confusion. This will also happen when the scenario is played.

24.18. Point Allocation

Underneath the tile/unit list window are the displays for the points available for each side. If a side has no points allocated, it will be unable to buy any non-fixed units. If there are no non-fixed units on the map, the points allocated are redundant.

The Side1 points are only used in MP scenarios. In SP scenarios, unless the Random Enemy plugin is used, the AI side will get all fixed and unfixed units.

These points values are over-ridden if the scenario script contains a FORCE_POINTS_CALLBACK(side, points) function.

24.19. Scenario Script

It isn't absolutely necessary to have a Scenario Script for scenarios created in the Editor to function. However, a Scenario Script is recommended because it will allow:

✦ AI more complex than what can be set in the Editor.

- ✤ Bespoke victory conditions – without a script the game will use the default victory conditions with no adjustment for MP imbalance.
- ✤ Different points availability for different difficulty levels – otherwise the difficulty levels will all be the same.
- ✤ Scripted reinforcements – the Editor can generate a script fragment to do this.
- ✤ Any other scripted behaviour

Examples of how to do the first three of these are in ScenarioTemplate.BSF in the main directory.

You can clone this file as the starting point for your own scenario script – copy it into the same directory as the scenario .BAM file created by the editor, and rename it with the same name as the scenario – SCENARIONAME.BSF. If you use the cloned file unchanged, your scenario will work correctly, but you can add any additional script features that you want.

Note that if you are designing a straightforward encounter scenario, with side0 on the left of the map and side 1 on the right, you can use the AI_Masterplan() function to automate the AI. This is in SCENARIOTEMPLATE.BSF but is currently commented out. If you decide to use it, you can activate it by removing the "//" comments marks from the line that reads // AI_Masterplan(15);. You also need to remove the comment marks from the line that reads // AI_ReassignTeams(1);

25. Modding

Field of Glory II: Medieval offers very many modding opportunities. You can create new scenarios, alter unit tables, modify the campaign structure, and adjust the game rules and user interface.

For help modding and creating scenario scripts see the modding section of the ARCHON wike at http://archonwiki.slitherine.com/index.php/Modding

Also please visit the *Field of Glory II: Medieval* modding forum at http://www.slitherine.com/forum/

The recommended modding system works without making any alterations to your main game build. You are strongly advised not to mod your main game build, especially if you intend to play MP games, as these will not work correctly unless both players are using exactly the same game scripts and data set.

26. User Created Content

A large number of user created scenarios and mods can be downloaded directly into the game using the "Download community scenarios" button in the main menu. This button will glow when new user content has been added since you last played the game.

Select the one you want to download and click the "Download the Selected Campaign" button.

The downloaded content will be saved into /Documents/ My Games/FieldOfGloryMedieval in the /CAMPAIGNS, / MULTIPLAYER or /MODS sub-folder. Some antivirus software may block the game from unpacking the data to these folders until you have set permissions in the antivirus software.

You can find the full list of user content available for in-game download in the Field of Glory Medieval section of the Slitherine forums.

Go to www.slitherine.com and click on the Forums hyperlink.

Once user content has been downloaded, Epic Battles and Campaigns will automatically appear in the appropriate menu. Custom Battles modules can be selected using the "Select another module" button in the Custom Battle setup screen.

User-created Multiplayer Epic Battles and Custom Battles modules can be used to set up MP games, but both players must have the same version of the module installed.

Global Mods affect all Single Player gameplay and can be activated using the button at the bottom left of the Main Menu screen – only one Global Mod can be active at a time. Any active Global Mod will automatically be switched off when the game version is updated. This is to prevent script incompatibilities from crashing the game. If you restart the global mod and start getting script error reports leading to crashes, you need to notify the mod author that his mod needs updating to make it compatible with the new game version. You will not be able to use that mod until it has been updated to be compatible.

27. Technical Support and Game Forum

The Slitherine *Field of Glory II: Medieval* forum is on the Slitherine web site:

Go to www.slitherine.com and click on the Forums hyperlink.

It has a technical support section. You can go there to post your question or problem. Please remember to tell us as much information about your problem as possible and include your machine's specs and operating system.

28. Useful Hot keys

1 – Toggle LOF display.

2 – Toggle LOS display.

3 – Toggle command range display.

A – scroll map to the left.

C – toggles combat log.

CTRL and left click on unit - detailed information on the unit.

CTRL when moused over target – show detailed tooltips.

B – next unshot unit.

D - scroll map to the right.

E - rotate map to the left.

ESC - opens load, save, settings and exit options.

F - zoom out on map.

F1 - list of hot keys.

F2 - Takes a screenshot and dumps it to

Documents\My Games\FieldOfGloryMedieval\SCREENS.

G – toggles visible map grid.

H – toggles the historical/distinct banners option.

K – toggles casualty screen.

L – toggles unit list. (In the main menu, L loads the last saved game).

M - toggles the overhead map view.

N - next unit.

Q - rotate map to the right.

R - zoom in on map.

S - scroll map down.

SPACE - deselect unit. Also closes non-critical popup windows.

TAB - next unmoved unit.

W - scroll map up.

You can reallocate the keys used for the main keyboard controls in the Options.txt file which you will find in /Documents/My Games/FieldOfGloryMedieval.

29. Appendices

29.1. Representational Scales

The representational scale in *Field of Glory II:Medieval i*s flexible, to allow smaller battles sufficient tactical manoeuvre units, and very large battles to be represented without unmanageable numbers of units on the battlefield.

When no numerical adjustment is in use, one infantry or cavalry model on the battlefield represents 60 men, in 4 ranks, so a standard non-light infantry unit of 8 models in two ranks represents 480 men in 8 ranks. When other representational scales are in use, all numbers of men and casualties are scaled and reported accordingly.

Many of the battles fought in Western Europe in this period were fought with relatively small armies, so that a 50% scaling factor is often used, with one model representing 30 men, so that standard infantry units become 240 men, standard cavalry units 120 men.

The army lists specify a standard scaling factor for each historical army. When two armies with different scaling factors meet in Custom Battles, a scaling factor half-way between the two values is used.

Battlefield ground scales are based on maximum effective massed-firing bow ranges when the standard representational scale is used. Thus 4 squares represent approximately 240 paces, and each man in a close order formation occupies a frontage of approximately one pace.

Obviously the unit frontage to shooting range ratio would in reality be different at different representational scales, but this is deliberately ignored so that the game plays the same whatever the notional representational scale. We deem it more important to ensure that the movement distance to shooting range ratio remains constant.

29.2. Troop Types

Troop Type	Description
Heavy Foot	Foot troops who fight in close formation such as most Medieval spearmen.
Determined Foot	These are heavy foot renowned for their fast and resolute advance, such as Swiss halberdiers and pikemen.
Medium Foot	Foot troops who fight in close formation, but are more lightly equipped, such as Welsh or Free Canton spearmen. They are still capable of fighting in the main battle line, but are not as resilient as heavy foot. However, their lighter equipment means that they are less affected by terrain.
Warriors	Tribal warbands fighting in a less dense formation, such as Baltic Foot.
Bowmen	Massed bowmen, crossbowmen or longbowmen. These are very vulnerable to a mounted charge if caught in open ground.
Light Foot	Foot troops who fight in a dispersed formation with missile weapons. They are best at harassing enemy from a distance, evading if charged, and operating in difficult terrain.
Mob	Untrained rabble, usually of low morale, fighting as a disorganised mass. They may be equipped with only peasant weapons or may have been hastily equipped with proper weaponry but not trained to use it effectively.
Knights	European Medieval knights. They ride knee to knee on heavy horses, and rely on a devastating charge with couched lance. Usually only a proportion of the men are actual knights, with less well-equipped sergeants or other retainers filling up rear ranks.
Light Horse	Lightly equipped horsemen specialising in skirmishing, usually with missile weapons.
Cavalry	Most other non-light mounted troops fall into this category.
Cataphracts	Fully armoured lancers on armoured horses. Their heavy equipment means that they are not as mobile or manoeuvrable as other cavalry.
Elephants	War elephants, whose strength is breaking into solid lines of enemy troops or frightening enemy horses.
Camelry	Camel-mounted cavalry. Like elephants, camels frighten horses.
Light Artillery	Light bolt-shooters or gonnes. These have some mobility on the battlefield.
Heavy Artillery	Heavy stone-throwers or gonnes. These have little mobility once set up on the battlefield.
Standard Wagon	Wagon carrying the army's main battle standard. Guarded by a strong force of resolute armoured spearmen. Bolsters the overall morale of the army while it stands close to the main battle line. Its loss will inflict a severe blow to the army's morale.
War Wagons	Hussite-style fighting wagons. (See section 29.4.5)
Baggage	The baggage train of the army. Its function is to require protection.

29.3. Combat Capabilities

The combat system is function based. The mere possession of a weapon is not sufficient to qualify for a combat capability. For example, many missile-armed troops were equipped with a cheap side-arm but were not well-practised in its use and so do not have swordsmen capability.

Similarly, some cavalry primarily operating as horse archers also carried lances, but are not given lancers capability because their primary tactic was horse archery rather than a fierce charge with the lance. Some Byzantine units had some ranks with lance and some with bow, but these units operated principally as lancers with fire support during the charge. Only Highly Superior or Elite units can be trained sufficiently to have both 100% Lancer and 100% Bow capability and operate equally well in either role.

Allocation of capabilities inevitably has a subjective element.

Capabilities are situational and may not result in points of advantage in every combat.

Units may have men with different capabilities – if so this is expressed as a percentage value. E.g. Szekler cavalry who have Light Spear (100%), Swordsmen (100%) and 50% Bow capability.

Combat Capabilities		
Capability	Phase	Description
Bow	Shooting	Specialist foot bowmen or horse archers.
Crossbow	Shooting	Specialist foot or mounted crossbowmen.
Longbow	Shooting	Specialist foot bowmen armed with longbow.
Javelins	Shooting	Light foot or light horse with javelins.
Sling	Shooting	Light foot with sling.
Handgun	Shooting	Foot or mounted troops with early firearms.
Heavy Artillery	Shooting	Heavy stone-throwing engines or gonnes.
Light Artillery	Shooting	Light bolt-shooting engines or gonnes.
Impact Foot	Impact	Foot relying on a volley of heavy throwing weapons or a fierce charge to disrupt the enemy at impact. e.g. Baltic Foot.
Light Spear	Impact	Foot or mounted battle troops armed with light spear, whether thrust or thrown. e.g. Lithuanian cavalry.
Pike	Impact, Melee	Foot fighting in deep formations with long two-handed pikes. e.g. Swiss pikemen.
Offensive Spearmen	Impact, Melee	Foot fighting in formation with thrusting spear, and as willing to attack as defend. e.g. Scots or Low Countries spearmen.
Defensive Spearmen	Impact, Melee	Foot fight in formation with thrusting spear, but with a more defensive tactical role. e.g. Most feudal spearmen.
Swordsmen	Melee	Foot using swords as their primary weapon. e.g. Sword-and-bucklermen. Scots Highlanders, Brigans/Ribauds.
Heavy Weapon	Impact, Melee	Troops armed with heavy cutting weapons such as heavy sword, axe, halberd or bill.
Knightly Lancers	Impact	Medieval knights trained to charge fiercely with couched lance.
Other Lancers	Impact	Other mounted troops specialising in charging with lance. e.g. Detached sergeants, Byzantine and Arab lancers.

29.4. Glossary

29.4.1. Light Troops

These include light foot and light horse.

29.4.2. Battle Troops

All troops that do not count as light troops.

29.4.3. Shock Troops

These include:

+ Impact Foot.
+ Offensive Spearmen.
+ Pikemen more than 3 models deep. Pike units cease to be rated as Shock troops once the entire 4th rank of models has been lost.
+ Lancers (except light horse).
+ Determined Foot always count as Shock Troops.

29.4.4. Keils

Keils are very large units of pikemen and men with heavy weapon or swordsmen capability, and are subject to various special rules.

To qualify as a keil, the unit must have:

+ At least 40% pikemen overall.
+ Start the battle with a block of men with pike, heavy weapon or swordsmen capability equivalent to more than 960 men at the default representational scale.

+ Currently have a block of men with pike, heavy weapon or swordsmen capability equivalent to at least 640 men at the default representational scale.

The numbers above are adjusted proportionately when alternative representational scales are used.

The unit UI will display whether the unit currently qualifies as a keil - a unit may lose keil status after suffering enough losses.

The keils currently in the game start with approximately 1200 men at the default representational scale. They should, in theory, be shown as five ranks of models, but the game engine only allows a maximum of 16 models in a unit. Hence the fifth rank is not displayed. However, no models are removed until the entire "fifth rank" would have been removed, and the unit will suffer no degradation to its depth POAs for pike until then.

Units currently counting as keils have a bronzed ceremonial halberd head on top of their banner pole, and an extra streamer pennon behind the banner.

29.4.5. War Wagons

War Wagons are roughly treated as Infantry units with built-in field fortifications. They only get the full effect of these when Deployed.

29.4.5.1. Undeployed War Wagons

+ Undeployed War Wagons are pulled by horses and can move and even charge enemy troops.
+ They get +25 POA in close combat for the protection offered by the wagons. They get 10% cover vs shooting other than by heavy artillery.

+ They exert a ZOC to their front.
+ They can deploy at any stage in the game after force selection is complete. (See section 11.20)
+ Undeployed war wagons are Moderately Disordered in Rough terrain and Severely Disordered in Difficult terrain.

29.4.5.2. Deployed War Wagons

+ Deployed War Wagons cannot move, turn or charge. Their horses have been taken to the rear.
+ They get +100 POA in close combat for the protection offered by the wagons, and 34% cover against shooting other than by heavy artillery – these are equivalent values to the effect of normal field fortifications.
+ They exert no ZOC.
+ Deployed war wagons are not disordered by Rough terrain, but are Severely Disordered in Difficult terrain.

29.4.5.3. Disembarking War Wagon Crew

Non-artillery War Wagon crew can be disembarked as an infantry unit at any stage in the game after force selection is complete, and moved away from the wagons (See section 11.22). The abandoned war wagons are left behind, and count as field fortifications (See section 16.6.5).

29.4.5.4. Miscellaneous War Wagon rules

+ War Wagons are immune to flank/rear attacks.
+ War Wagons do not turn to face enemy in close combat.

- War Wagons do not break off, get pushed back or pursue.
- Combats against War Wagons, whether Deployed or Undeployed, do not count as "in Open Terrain".
- When non-artillery War Wagons break, the crew disembark and flee, leaving the empty War Wagon behind as static Field Fortifications. When Artillery War Wagons break, the crew disperse, leaving the empty Artillery Wagon behind as static Field Fortifications.
- Although Artillery Wagons only have 34% Light Artillery capability, the unit size is larger than normal Light Guns units, so they shoot at roughly the same effectiveness as a Light Guns unit.

30. Tactics

30.1. Tactical advice for beginners

The most important lesson that a beginner has to learn is that he should have a plan. Almost any plan is better than no plan at all. A good plan, however, is the first step to victory. It should take into account the layout of the battlefield, the relative strengths and weaknesses of the opposing forces and the enemy's likely actions. If you misjudge, you will find it difficult to change your plan or redeploy, so best get it right first time if possible.

Ask yourself how your army differs from that of the enemy. Who has the best close combat infantry? If it's you, plan your attack around them, but if it's the enemy, you will need to avoid or delay contact with them. Who has the best rough/difficult terrain infantry? If you do, you can use terrain to secure your flanks and create outflanking opportunities. However if it's the enemy, you should plan to avoid such terrain. Who has the best cavalry? If you do, you may be able to carry out sweeping manoeuvres on his flanks but if he does, or if his army greatly outnumbers yours, you will need to avoid being outflanked yourself.

Does the enemy have any troops that are certain to give you problems? Can you use terrain to hamper them or reduce their impact? Have you enough skirmishers to damage their cohesion before contact?

Does the enemy have elephants? Can you disrupt them or put them to flight with shooting before they contact?

It isn't always necessary to attack immediately, but if you adopt a defensive position, don't rely on your opponent attacking where you want him to. Few opponents will co-operate by making a suicidal attack on an impregnable position. If you adopt a rigid defence, a clever opponent will concentrate his main attack on your weakest point while demonstrating against the rest of your battle line to keep it occupied. He may concentrate shooting on part of your line until its cohesion fragments before charging your demoralised troops. A defensive stance followed by a pre-planned counter-attack can be more effective.

It is often effective to attack on one wing while skirmishing or defending on the other. Obviously the attacking wing should contain heavy troops and the refused wing should contain troops capable of skirmishing or be in a secure defensive

position. If your refused wing looks as if it is in danger, do not be tempted to siphon off troops from your attacking wing to bolster it. All this is likely to do is ensure that your main attack peters out.

You should try to keep your plan and your deployment as simple as possible, with most of your troops deployed in battle lines under the control of your commanders. This will prevent the majority of your troops from being overlapped or attacked in flank. You should avoid leaving gaps in your line, unless you have supporting units to protect the flanks of your front line units.

If you plan a wide, on-map, outflanking move, this should be led by a commander. Or you might try an off-map flank march, as these can be very effective. The danger is that it may arrive too late or never at all.

Ambushes can also be effective by concealing your intentions from the enemy, but do not be tempted to ambush in every piece of terrain just because you can. Such stratagems should be part of your overall plan. Infantry can ambush in woods and built up areas, and any troops can ambush out of sight behind high ground, trees, or built up areas.

Troops held back behind the front line can act as reserves to plug a hole or exploit an opportunity. A central reserve of good quality mobile troops can be used to achieve a crucial advantage at the point of decision if employed in the right place at the right time.

An army with a second line as reserves will obviously occupy less frontage than an army deployed in less depth, creating a risk that you might be outflanked. However, terrain can be used secure flanks, and failing this your flank reserves should be suitably positioned to counter any enemy outflanking manoeuvre. This flexibility and ability to deal with all eventualities can be contrasted with the rigidity of the army deployed on too wide a front, which has no counter to an enemy breakthrough and will find it difficult to compensate for any deficiencies in its original plan.

One possible exception to the above general rule might be armies largely consisting of horse archers, who cannot expect to win a frontal contest and must therefore attempt to outflank the enemy on one or both flanks. They may still benefit from keeping a strong reserve, and even if this leaves gaps in their line, the enemy will find it difficult to exploit this without breaking up their own formation, which in turn may present opportunities for the horse archers to concentrate their shooting or to attack flanks.

If you have the advantage in light horse and light foot, a good tactic is to rush forward with these on one or both flanks, defeat the opposing skirmishers, then concentrate shooting to erode the cohesion of the heavier troops on the enemy wings. The skirmishers can fall back slowly in front of the enemy, evading if charged. Remember, however, that light foot are vulnerable to mounted troops in the open and may not be able to evade far enough to get away. They may be better able to delay the enemy if deployed in ambush in terrain ready to spring out at the appropriate moment.

Flank attacks, especially by non-skirmishers, can be overwhelming, so you must avoid enemy getting behind the flanks of your units. Conversely, if you can manage to outflank the enemy the battle should be all but won – but remember that the enemy must also be engaged frontally for flank attacks to be deadly.

A commander fighting with a unit will greatly improve the odds in close combat, but there is a risk of losing the commander. On balance, the benefit usually outweighs the risk if the combat is otherwise at least equal, or if the result of the combat is critical. However, once committed, the commander cannot be used to control or rally other units until the close combat is over.

30.2. Vegetius

The Roman writer Publius Flavius Vegetius Renatus wrote his *Epitoma rei militaris* in the late 4th century AD. Medieval translations of this work were carried and used as handbooks by Medieval and Renaissance soldiers. Its precepts are still very useful to Medieval wargamers.

Here are some excerpts from Lieutenant John Clarke's translation, published in 1767.

30.2.1. Choice of the Field of Battle

Good generals are acutely aware that victory depends much on the nature of the field of battle. When you intend therefore to engage, endeavour to draw the chief advantage from your situation. The highest ground is reckoned the best. Weapons thrown from a height strike with greater force; and the party above their antagonists can repulse and bear them down with greater impetuosity, while they who struggle with the ascent have both the ground and the enemy to contend with. There is, however, this difference with regard to place: if you depend on your foot against the enemy's horse, you must choose a rough, unequal and mountainous situation. But if, on the contrary, you expect your cavalry to act with advantage against the enemy's infantry, your ground must indeed be higher, but plain and open, without any obstructions of woods or morasses.

30.2.2. Reserves

The method of having bodies of reserves in rear of the army, composed of choice infantry and cavalry, commanded by the supernumerary lieutenant generals, counts and tribunes, is very judicious and of great consequence towards the gaining of a battle. Some should be posted in rear of the wings and some near the centre, to be ready to fly immediately to the assistance of any part of the line which is hard pressed, to prevent its being pierced, to supply the vacancies made therein during the action and thereby to keep up the courage of their fellow soldiers and check the impetuosity of the enemy. This was an invention of the Lacedaemonians, in which they were imitated by the Carthaginians. The Romans have since observed it, and indeed no better disposition can be found.

The line is solely designed to repulse, or if possible, break the enemy. If it is necessary to form the wedge or the pincers, it must be done by the supernumerary troops stationed in the rear for that purpose. If the saw is to be formed, it must also be done from the reserves, for if once you begin to draw off men from the line you throw all into confusion. If any flying platoon of the enemy should fall upon your wing or any other part of your army, and you have no supernumerary troops to oppose it or if you [try] to detach either horse or foot from your line for that service, then by endeavouring to protect one part, you will expose the other to greater danger. In armies not very numerous, it is much better to contract the front, and to have strong reserves. In short, you must have a reserve of good and well-armed infantry near the centre to form the wedge and thereby pierce the enemy's line; and also bodies of cavalry armed with lances and cuirasses, with light infantry, near the wings, to surround the flanks of the enemy.

30.2.3. General Maxims

It is the nature of war that what is beneficial to you is detrimental to the enemy and what is of service to him always hurts you. It is therefore a maxim never to do, or to omit doing, anything as a consequence of his actions, but to consult invariably your own interest only. And you depart from this interest whenever you imitate such measures as he pursues for his benefit. For the same reason it would be wrong for him to follow such steps as you take for your advantage.

+ It is better to have several bodies of reserves than to extend your front too much.
+ A general is not easily overcome who can form a true judgment of his own and the enemy's forces.
+ Valour is superior to numbers.
+ The nature of the ground is often of more consequence than courage.
+ He who rashly pursues a flying enemy with troops in disorder, seems inclined to resign that victory which he had before obtained.
+ A general whose troops are superior both in number and bravery should engage in the oblong square, which is the first formation.
+ He who judges himself inferior should advance his right wing obliquely against the enemy's left. This is the second formation.
+ If your left wing is strongest, you must attack the enemy's right according to the third formation.
+ The general who can depend on the discipline of his men should begin the engagement by attacking both the enemy's wings at once, the fourth formation.
+ He whose light infantry is good should cover his centre by forming them in its front and charge both the enemy's wings at once. This is the fifth formation.
+ He who cannot depend either on the number or courage of his troops, if obliged to engage, should begin the action with his right and endeavor to break the

enemy's left, the rest of his army remaining formed in a line perpendicular to the front and extended to the rear like a javelin. This is the sixth formation.

✢ If your forces are few and weak in comparison to the enemy, you must make use of the seventh formation and cover one of your flanks either with an eminence, a city, the sea, a river or some protection of that kind.

✢ A general who trusts to his cavalry should choose the proper ground for them and employ them principally in the action.

✢ He who depends on his infantry should choose a situation most proper for them and make most use of their service.

✢ [Where possible] dispositions for action must be carefully concealed from the enemy, lest they should counteract them and defeat your plans by proper expedients.

31. Design Notes

31.1. AI

31.1.1. AI development philosophy

From a development point of view, we believe that the AI is the most important part of a wargame, and development of the AI needs to start at the very beginning of the game development process. It also needs, where possible, to work off the actual combat mechanisms rather than using approximate pre-

calculated estimates. This greatly improves the quality of its decisions.

Most importantly, the AI needs to be designed by someone who is a skilled wargamer themselves. It is hard enough to make the AI follow an effective plan even if you know what an effective plan is. If the writer of the AI is hazy about this, there is little chance that the AI will play very well.

We also don't believe that easier difficulty levels should be achieved by nobbling the AI, nor harder ones by giving the AI unfair advantages in the combat or morale mechanisms. Our AI behaves the same at all difficulty levels, and both sides play to exactly the same rules at all difficulty levels without any hidden bonuses and random number tweaks to help the AI.

Instead we achieve the different difficulty levels by adjusting the balance of the opposing forces – few if any historical battles were fought between exactly equal strength armies.

With six difficulty levels, we are confident that the AI in FOG2 will give players of all abilities an enjoyable challenge.

31.1.2. Deployment

For non-preset scenarios, it is important that the AI can deploy its army in a sensible formation, taking account of the prevailing terrain.

Generally speaking, even in the Medieval period, most armies with a substantial number of infantry would deploy with an infantry centre. They would then have cavalry on both

wings and perhaps in reserve. Skirmishers, if present, might be deployed both in the centre and on the wings.

Except for largely mounted armies, the "autodeploy" routine therefore starts with the infantry centre, in one or more solid or partial lines. If the army has a mixture of heavy and medium foot, it will deploy the heavy foot where the terrain is most open, and the medium foot where it is most uneven. This takes into account not just the deployment line but also the map in front of where the line will advance.

If it is possible to rest one flank of the infantry on a river or a coastline, it will do so.

Mounted troops are then assigned to each wing depending on the amount of adverse terrain on each wing. More cavalry will be deployed on an open wing than on one with lots of rough or difficult terrain or a river. Some cavalry may be assigned to a reserve behind the infantry, even if only the C-in-C's bodyguard unit.

Light troops are then assigned in a similar way to the cavalry, but more light foot will be deployed on the wing with more terrain, and more light horse on the more open wing.

For mounted armies, the cavalry are divided into centre and two wings, and the usually weak infantry deployed at the back in reserve.

31.1.3. High Level AI

This level of AI governs the actions of the main divisions of the army – the centre, the wings, the reserve, and the various groups of light troops. For pre-set scenarios it is usually scripted specifically to fit the scenario, but for custom and campaign battles a generic but highly-detailed AI script is used to make a sensible initial plan and then react appropriately to subsequent enemy actions.

This "AI_Masterplan" script refreshes its plans every turn. It takes into account not only the initial divisions into which the enemy army is divided, but any changes to those divisions. Thus if most of the enemy left wing cavalry rides across to reinforce its right wing, the AI will reassign those units to the enemy right wing before making its plans for the turn.

The first decision the AI makes is whether to advance from the outset. A primarily infantry army will not do so, for example, if its infantry are outmatched, taking into account any high ground the enemy army may occupy.

If the infantry are not advancing, the cavalry wings will also usually hang back, so that they cannot be defeated piecemeal by the enemy before the infantry engage. Even if the infantry are advancing, the cavalry will not forge ahead unless they outmatch the enemy cavalry on that wing and are not facing enemy non-light infantry.

Likewise the light troops will not advance too far ahead, unless they overmatch their counterparts on the enemy side.

31.1.4. Low Level AI

This is what governs the behaviour of the troops once they approach the enemy. Numerous things are taken into account. For example:

- ✝ AI units will pick a primary target for the turn from among the enemy units, taking into account proximity, relative combat and shooting power, and all other tactical factors. If their route to that unit is blocked, they will pick a different target.
- ✝ Heavy troops will try to avoid terrain that would disorder them.
- ✝ Units won't advance into situations where they could be charged in flank or rear. (Although non-lights will ignore lights for this purpose.) If they can't avoid being flanked they will form square if pikes or deep spear units, otherwise will turn to leave their flank threatened by the least dangerous enemy unit.
- ✝ Units will actively seek out enemy flanks to attack. Units in position to attack a flank or rear will wait for friends to attack them frontally first if they can do so this turn.
- ✝ Units will usually avoid charging enemy who overmatch them in close combat. Such calculations are made using the actual combat resolution mechanisms, taking into account the actual situation (terrain etc.) in which the units will fight.
- ✝ Light troops and non-lancer cavalry (and Highly Superior or Elite lancers with 100% bow capability) will evade charges by troops that outmatch them in close combat, unless the enemy is so close that they are likely to be caught and charged in the rear.
- ✝ Units with longer range shooting will stop outside the range of enemy shooters.
- ✝ Light troops that are close to breaking will retreat out of range of the enemy.

32. Field Of Glory II Credits

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SPECIAL THANKS
Osprey Publishing