

# FeurGame specifications

## *First version*

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## Introduction

In FeurGame, you are the leader of a country, and you must lead your armies and your economy to victory in this turn-by-turn multiplayer PC video game!

All possible actions are detailed in the gameplay section of this document.

Multiplayer could be “true multiplayer” with a host and clients, but we can also play face-to-face by taking turns on the PC, which allows us to avoid all the networking aspect.

Please note that the optional sections are intended for implementation after the initial working version and may not be included in the first release.

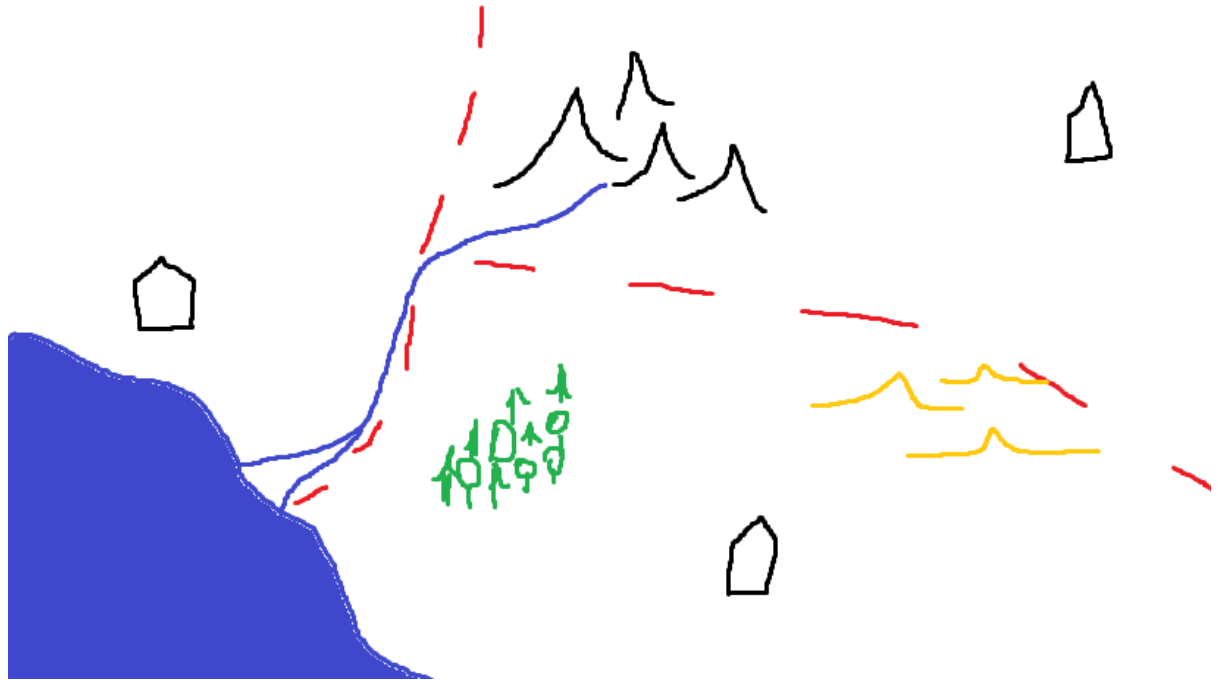
## Summary

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## Gameplay

The game takes place on a map, with various terrain types (such as “*Plains*”, “*Mountains*”, “*Forests*”, “*Deserts*”, “*River*”, “*City*”, and “*Sea*”). You can move your armies (groups of soldiers) around on the different tiles.

These tiles belong to “*Regions*”, which are sets of tiles that have a “*Capital City*”. It is a turn-based game: each player/bot takes their turn and then the next one takes theirs, and so on.



An example of a map. The little houses are the cities, red lines are the regions' frontiers, etc...

## Military

- “*Units*” are groups of individual soldiers that make up an army. They can be classified as “*Infantry*”, “*Cavalry*”, or “*Artillery*”. These units must possess the following properties:
  - a. Health: The number of surviving soldiers (the maximum is 100). If this number is low, the unit will deal less damage.

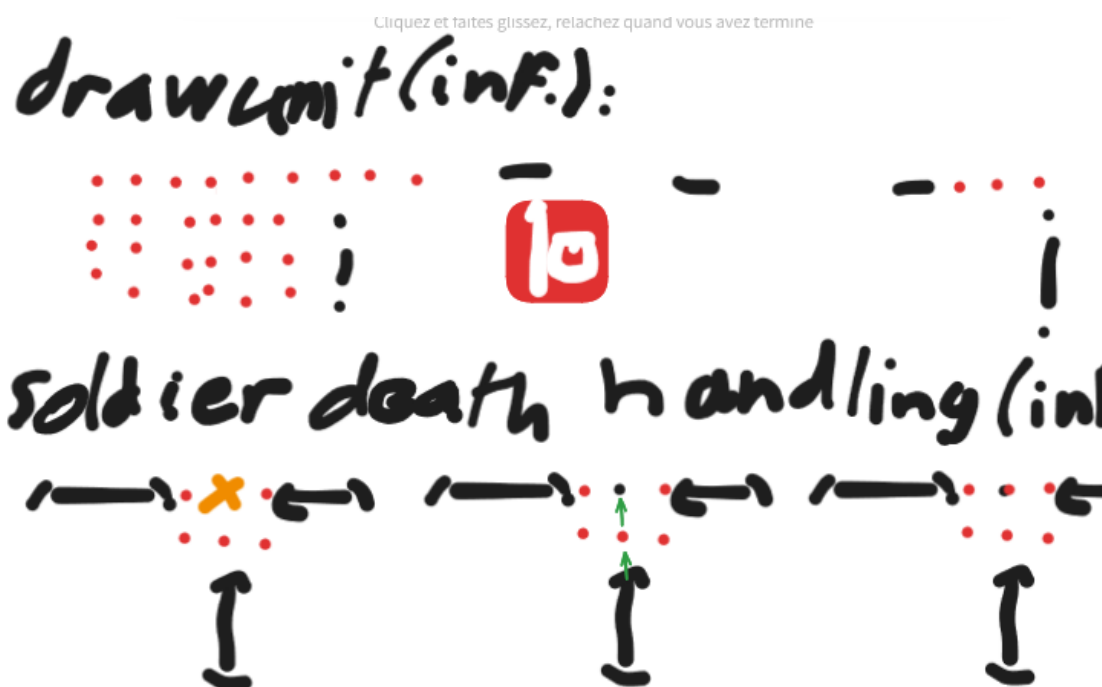
Note for artillery: there are 4 soldiers for each gun or catapult, with a maximum of 8 piece/unit, so 32 soldiers per artillery unit.

- b. Level and progress: units earn progress by performing good actions, such as scaring off or destroying enemy's units). If the progress is equal to or greater than 100, the unit wins a level, and the progress resets to 0. The more levels a unit has, the more

difficult it will be for enemies to damage them, decrease their morale, etc...

- c. Morale: if it is low, the unit will deal less damage. If it continues to decrease, the unit will flee. It will try to recover its morale. If a unit's morale reaches 0 (for example, if it can't leave the combat zone), it will try to leave the battlefield and will never recover. A unit that is trying to recover doesn't obey to its player/bot orders.
- d. Price: This is the cost of maintaining and training the unit.
- e. Technologies (optional): if a player has built a university, they can study technologies to unlock new battlefield techniques (e.g. a wall of spears for pikemen against cavalry, etc...).

About unit drawing (during battles):

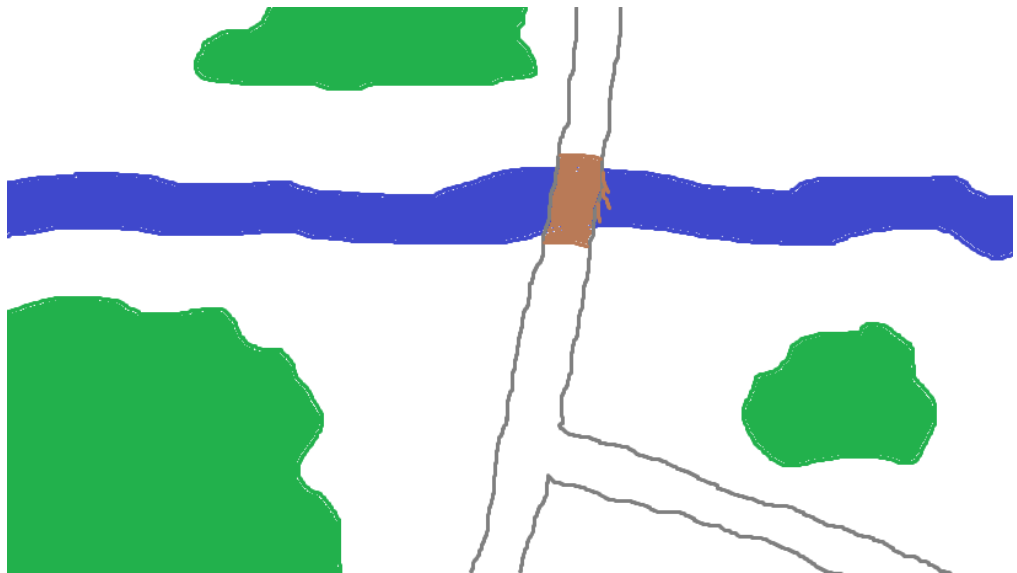


For the infantry, you could draw a dot to represent each soldier. If one dies, you could create a short animation to replace them. You can do the same for cavalry and artillery. Remember to indicate the unit type by drawing its symbol in a square with rounded edges and a background color corresponding to the player who owns the unit (in the case of the example, the unit is a pikemen unit belonging to the player Red).

If the unit is demoralized and is fleeing, the soldiers will try to flee as quickly as possible, so they are giving up their positions and formation. They may flee in columns. The colors of the unit type symbol are inverted (if the unit is fleeing and won't go back, draw a small white flag instead of the unit type).



- (optional) Each army has a General (some could not have any) who can lead one of its units and upgrade the morale of the surrounding units. Generals have a portrait that can be displayed on their army's unit bar and in the comparing forces screen before a battle.
- Armies can attack other armies and cities belonging to other players/bots.
- When two armies are fighting each other, a new map is displayed on which the armies' units can be moved to attack enemy's units, as shown in the map below.



- Each city has a "*Garrison*" which is an army that can't move and will defend the city if it is attacked.
- If an army A is stationed in a city C and the city (or the army) is attacked, the battle will take place within the city walls (with the defenders inside

and the attackers outside). The city's garrison will be then included into the army A.

- If the capital city of a region is captured, the entire region changes ownership and becomes the property of the attacker.
- If an army rests in a city, the health of its units will increase depending on the city's population.

## Economy

In the cities, players can build structures to increase their money, population, garrison, etc... Buildings can be upgraded and demolished (and optional: demolished by battles and you'll have to rebuild them).

- Units have a price so players should ensure that they have sufficient funds to maintain their armies. If not, the money is shared equally between all the player's units (including all units in all armies and garrisons), and their morale decreases depending on the difference between the required amount and the amount given to the unit.
- Population provides money thanks to taxes (optional: implement population anger and edit taxes rate, if the taxes are too high the population anger may increase).
- (optional: if build time is implemented) Buildings can't provide any bonuses while being upgraded (except Barracks).
- Buildings (optional: add these buildings into the city's battle map):
  - a. Markets: generates more income depending on the city's population
  - b. Trade Docks: generates more income (optional: create trade agreements with other players/bots to trade and use these docks, you cannot trade with open enemies)
  - c. Military docks (optional): If navies are implemented, the player can raise a navy in this city.
  - d. Barracks: increases the size of the garrison. The player can hire new units for the garrison, and the recruited troops will have a higher level (even for the player's existing armies in the city). The units that can be recruited depend on the city's population.
  - e. Habitable houses: increase city population.

## Diplomacy (optional)

Each bot must establish a friendship rating with each player to inform its decisions about them, (for example, if the player is “mean” to the bot, it may not accept a trade). This rating will be available for both parties.

Declare war / offer peace: a player/bot must declare war on another player/bot before attacking their armies and cities. Both parties can then offer peace to the other if they wish to stop the war.

Alliances: If a player/bot A is allied with a player/bot B and A attacks/is attacked by another player/bot C, then B declares war on C. (optional: difference between defensive and offensive alliances)

Non-aggression pact: two players/bots can't attack each other for a limited time. This time can be set by the parties involved.

Trade agreement: allows two players/bots to trade.

Gifts: send a given amount of money (or regions) to ease tensions or strengthening friendships.

(optional) vassals: if a player/bot requests peace while losing the current war, the other player/bot can counter with the option of becoming their vassal. This means that:

- Defensive/offensive alliances between both.
- Tax by turn (this can be set by the suzerain, but is not mandatory)
- The suzerain's armies can rest in the vassal's cities.
- If the vassal is a bot, the friendship spectrum for its suzerain is set to “good”.
- The name of the vassal is edited: “, vassal of <suzerain's name>” is added at the end of it.
- A vassal could buy their freedom from their suzerain.
- A vassal could be “vassalized” by another player/bot. In this case, they would no longer be vassals of the first suzerain, but of the second.

## End of the party

The party ends after 100 turns have been played, i.e. after each player/bot has played 100 times. This number may change.

### *Victory conditions*

Players/bots who die during the party are eliminated. The remaining players/bots win if they each verify at least one of these conditions (there could be several winners):

- a. The player/bot rules over at least 50% of the map's regions at the end of the game (optional: including vassals).
- b. The player/bot rule over 75% of the map's regions at any point during the game (optional: **not** including vassals).  
NOTE: In this case, the game ends as soon as you acquire your last city).
- c. (optional) You have more than one vassal at the end of the game.

### *Party statistics (optional)*

You can display information such as the names of the players who have won the most of battles, killed the most players/bots, amassed the most wealth, etc...

## GUI

Home:

- Logo
- Play button
- Settings button

Settings:

- Map sets path
- Available map sets (dropdown button or different layout)
- Plugins connected (maybe a button to turn them up/down)

Players form:

- Inputs are getting the names and the number of players
- If the enter key is pressed: add a new input (adds a new player)
- If the button is clicked, verify that the inputs aren't empty and then launch player choice
- Bots will have random first names (Anna, Alice, Bob, etc...).

Choose map:

- Displays the list of all the maps available for the specified number of human players (searches for map sets inside map sets path specified).

- For each map, show the associated image, map context, number of bots, author maybe, etc...
- If one of these is clicked, launch player country choice layout.

#### Player country choice:

- The players will choose which country they'll handle. The remaining ones are going to bots.
- The map should be visible to help players to choose which nation they want, maybe the map context too.
- There is a default configuration to start straight ahead (first player with first country, etc...).
- The players' names are edited to "<country name> (<player name>)" so the players can recognize themselves.

#### Shared:

- Army's unit bar:
  - o Highlight army
  - o If generals implemented and if general in the army, show their face + name on the left
  - o displays the list of units in an army (surrendered and runaways aren't displayed)
  - o unit info if unit clicked
  - o recruit button (if not in battle):
    - show a similar panel but with available units with their price
    - If unit clicked, consume price and add the unit in the army unit list (optional: time of training)
    - (optional: hiring fees higher if not in a city)
    - (optional: requiring time of training) Can recruit mercenaries (another button), ready instantly but way more expensive.
  - o (optional: if an army of the same player is near, a transfer of units could occur)
- Unit info:
  - o If in Map, displays the dissolve button
  - o Displays data about the unit (level, type, health, etc...)
  - o Highlights unit (if in battle, highlight unit in battlefield too)
- City info:
  - o Highlights city
  - o Displays the list of the buildings (on click, show building info)
  - o Button build -> list of buildings available to build
  - o Button garrison -> garrison's unit bar stands over the city bar



- Button recruit -> if an army is laying down in the city, small choice between the two and then displays selected army unit's bar + recruiting context
- Building info:
  - Income/benefits
  - Upgrade button (with the price on it).
  - Delete button
- Tile info:
  - Region's name
  - Region's owner's name

About "X info": these are displayed on the bottom right on the screen.

About "X bar": these are displayed on bottom center of the screen.

Map:

- Click on army: get army's unit bar (if not current player's, they are unknown, we have the count of the units but not their types and health etc..., only when the army isn't on the current player's land, otherwise all data is visible).
- Click on city: get city's bar
- Click on empty tile: get tile info
- Click on city + click on building: get building info
- Click on army + click on unit: get unit info

Battles:

- Shows player's army's unit bar (during all the battle)
- Click on unit (on the army's bar or in the battlefield): adds unit into focused (if the player wants to focus more at once, they need to hold the "cmd" key while clicking)
- "cmd" key + click on unit (from army's bar or in the battlefield): adds unit into focused units
- focused units:
  - displays last clicked & focused unit info
  - for each focused: highlight on battlefield and in the unit bar
- focused units + click enemy unit: each focused unit attacks this unit (attack depends on the strategy)
- focused units+ click position: move all units to this position (they keep the relatives' angles and positions)
- Cmd released: empty focused list
- (optional) Hold click: expand/shrink unit depending on the direction of the mouse

- (optional) techniques buttons of the focused unit and apply them to all selected.  
If many units (of different type) keep the techniques that they share together.

## Bots

Bots must be able to handle correctly their economy and battles.

If diplomacy is implemented, they must have a spectrum for each of the other players/bots to help them decide on which they could propose things to a player etc...

## Modularity

### Plugins

Plugins are pieces of software that are permitted to define new units, new buildings, etc...

### Map sets

“*Map sets*” are sets of different map configurations supporting various amounts of players and bots for a same scenario.

That helps the scenarios and map builders to distribute a single entity instead of one for each config.