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For Devs

For Devs

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Victory Condition(s)

The game ends when a player has reached 1000 influence points (IPs). This number is a combination of the strength of your military, how much territory you possess and the strength of your economy. IP is calculated as follows:

$$MP + EP + TP_{(1)} = IP$$

MP (military points) and EP (economy points) have more complex calculations.

Military Points: A player's MP score is made up of the strength of their military (number of units times unit strength), battles won (larger battles carry more importance), battles lost, and defensive strength. (*Include military production?*) The formulas for each of these are listed below:

MP = units * unit strength + battles won * battle modifier - battles lost * battle modifier + defenses * defense strength

$$MP = U * US + BW * BM - BL * BM + D * DS$$

Economy Points: A player's EP score is made up of their production ability, the economic score of the tiles they control, and their imports and exports.

$$EP = P + ES * tiles + E - I$$

You can increase the amount of points you get from exports and decrease the amount imports cost by improving your capital. The amount exports are worth is determined by the global market. These prices are influenced by demand and global events and are calculated at the start of every turn.

Anatomy of a Turn

At the start of the game,

Are players allowed to choose their starting location? If no broad choice, do we give them an area to start wherein they can choose the specific tile(s)?

Players start the game controlling a single hex called their capital. This capital has high defensive stats and has some slight buffs to military and economic production. Players can level up their capital to increase its production. Players start the game with some influence points as a result of this capital. After their capital is placed, players can also choose a (city/leader) type which gives them a small buff in a certain area (economic, military, etc). Players also select a certain amount of tiles around their capital on this first turn to build their territory. Once this is done the normal turn sequence begins.

At the start of a turn before players are able to make decisions, their EP, MP, and IP are updated to reflect the current state of the game.

During a player's turn they have many choices to make regarding their territories, their military, and their economy:

Territorial choices: Players are able to take territory (limited to two hexes per turn), and build territorial improvements each turn.

Military choices: Players are able to build military units, move military units, and attack opposing players during a turn.

Economic choices: Players are able to import/export materials every turn and purchase military units or territorial improvements.

Event choices: Over the course of a game, players will be randomly presented with choices to make for their territory. These events (national events) usually make the player choose between increasing their political points at the expense of some aspect of their military or economy, although not all events follow this pattern. (More about events can be found in the events section.)

Each of these choices are discussed further in their own sections. A turn is broken up into stages: the peace stage and the battle stage. During the peace stage, players can make economic choices, build improvements and units, and deal with events. During the battle stage, a player can move units and start battles. These stages are divided so that the peace stage can be

synchronous while the battle stage is asynchronous. A player's turn ends when they choose, or whenever they have made all possible moves during their turn. (Maybe include a time limit for turns.)

The Game Board

The game board is made out of hexes. There are several hex types, each with different attributes. These hexes are (semi)randomly generated to provide a unique experience each game. As of now the board shape/design does not change, but more maps will be added at a later date. Hex attributes include economic score, resource given, defensive score, and movement score which are detailed below:

Economic score: Each hex has an economic score that determines how many resources the tile yields per turn when a player controls it. This number ranges from 1-3 with 2 being the most common. (Probability distribution: 50% chance of a 2, 25% chance of a 1, 25% chance of a 3.)

Resource given: Some hexes give certain types of resources that can be sold or used for production.

Defensive score: Some hexes grant an additional defensive score *or can be upgraded to have a certain defensive score*.

Movement score: Only certain tiles slow movement (represented by a negative movement score), like rivers or mountains, and most hexes have a neutral movement score.

Events:

There are two types of events players will encounter in the game: global events and national events. Excluding the first few turns, global events are active the entire game and last between two and four turns. National events are random and specific to each player. The same random number of national events happen to each player, although when they happen is random. National events cannot happen before turn 5. (Subject to balance)

Global events are random and affect all players simultaneously and usually have to do with prices of resources or influence some aspect of a player's military (*or political score*).

National events will be the main source of political points players get in the game and national events make the player choose between increasing their political points at the expense of some aspect of their military or economy or vice versa. However, not all national events follow this pattern and some are purely positive or negative choices. An explanation of political points is as follows:

Political points represent the stability of your territory. They do not factor into your influence points directly, like MP and EP do, but they are still important. Randomly throughout the game, the player will be presented with **political events**. These events can be dealt with via political points, but will be costly to the player in other areas (IP, EP, or MP) if they lack the required amount of political points.

Here is a comprehensive list of events in the game¹:

GLOBAL EVENTS:

Bad weather

- Movements speed -1 for all units.

Food shortage

- 1 EP loss for every military unit

Forest fire

- Wood costs x more.

¹ Going to make a comprehensive list later, but for coding purposes here are some example events and the categories events should influence

NATIONAL EVENTS:

Uprising!

- Spend x political points or lose x% of EPs and x% of military units (or MPs?)
- This one is pretty harsh

Bandits

- Spend x political points or lose x% of EPs.

The Economy

The economy in the game involves gathering resources from the hexes in your territory and selling them to the global market to generate EPs.

The Bank: The Bank involves the buying and selling of resources for EPs and is one of the central elements to Influence. Each resource in the game has a price, which is based on supply/demand, intrinsic worth, and global events. These prices will fluctuate throughout the game, as prices are calculated before every new turn based upon player actions and game events. As such, a player needs to strategize when to sell certain items to maximise EP efficiency while also retaining enough resources to build improvements and military units without sacrificing too many EPs in the process.²

Prices: Prices are calculated based on resource supply [also demand?]. I.e. if in the previous turn a lot of a certain resource was sold to the bank then the price would be lower than if none were sold because the supply has increased.

Resources: There are different resources in the game that serve different purposes that are specified below.³

Iron Ore: Iron ore is useful for creating military units and structures.

Wood: Wood is useful for creating structures *and defenses*.

Spices: Spices can be sold to generate EP.

Stone: Stone is useful for creating structures *and defenses*.

Leather: Leather is useful for creating military units.

Jewels: Jewels can be sold to generate EP.

² This system is designed to give a good depth of strategy to the economy while reducing unnecessary complexity, tedium, and micromanagement. The system also allows players to have appreciable economic interactions with each other while keeping the game fair and fun, especially for newer players (i.e. preventing bad trades/unfair prices/etc that might occur if players could interact directly). The system also incorporates a level of randomness and unpredictability that makes the game fun and replayable.

³ I know that it looks like there are duplicate resources that accomplish the same thing as others, but resources have different things that they can make, i.e. leather is useful for making cavalry but not infantry.

Military and battles

Your military is essential to taking and defending territory. Military strength is twofold: it contributes directly to your IP score through your MPs, but also is necessary to take territory which contributes to your IP score. This section will discuss details about each military unit, how units are moved, how battles are initiated, how battles are simulated, and how territory is captured after battles.

Fog of war: Influence features a fog of war mechanic for military units. The game board is shown in its entirety to players, and is the same for all players with information about territory improvements, capital level, etc. While the position and number of all military units is shown on the map, the type of unit is hidden from opposing players if they are not within one tile of the enemy unit.

Stats: Military stats include attack, defense, and movement. The attack stat describes how well a unit performs on the offensive in a battle, and the defense stat describes a unit's ability to defend territory. (Attack and defense stats are discussed in more detail in the battles section.) The movement stat describes how many hexes a unit can move per turn. Units also have a stat that describes how much they contribute to your MP total.

Units:4

Infantry: Infantry is the base unit in the game. They are relatively cheap to produce and have well-rounded stats as they are an unspecialized unit.

Archers: Archers are good at defending and decent at attacking, but are not very mobile. They are more expensive than infantry, but not by much.

Cavalry: Cavalry are very mobile and great at attacking. However, their defensive stat is quite low. They are also the most expensive of the group.

Battles: This section will detail the game's battle mechanics. When military units from two opposing players are adjacent to each other, they are able to perform an attack on the other unit. The unit that attacks is the attacker and the unit being attacked is the defender. The attacking player's battle stat is based on the sum of attack stats from all the units attacking and the defending player's battle stat is based on the sum of defense stats from all of the defending units. A die is rolled for each player which (compounded by a multiplier) is added to their battle scores. The side with the highest battle score wins. The difference in battle scores determines the

⁴ Might add more units in the future, but want to stick to these for the initial implementation.

harshness of the penalty for the losing side, measured in percent of units destroyed (equations are listed in the behind-the-scenes section. *Units on the losing side that aren't casualties of the battle will retreat (towards their capital?)*. *If this isn't possible (they are surrounded by opposing units or terrain is blocking their retreat) they will die.* [Maybe not do retreats?] If the attacker wins the battle, the attacking unit(s) will move to occupy the contested space. The territory isn't captured immediately upon winning a battle, as territory needs to be captured in the first half of a turn.

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Pseudocode to determine battle outcome:

if (sum of attack + dice roll > sum of defense + dice roll)

attacker wins

else

defender wins
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dice roll = add .3 * sum of attack to sum every time a coin flip
succeeds.

(Might change dice roll based on game balancing. Right now there's a ~25% chance for the player with a lower battle score to win if the difference is within 30% of the score. If the dice roll is changed to make battles more random, the dice roll should be shown, perhaps with an animation, to the players.)

Definitions

IP = Influence points

EP = Economy points

MP = Military points

PP = Political points