Final Project Proposal

15-112
Section P

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Project Description

Ctesiphon - World in a Bottle Ctesiphon will be a **sandbox civilization simulator** on a procedurally-generated world. In particular, it will be a mostly hands-off experience focusing on the interactions and evolution of civilizations and cultures over time. Players will be able to view the simulation as it evolves over time, as well as slightly influencing events through various means. Specific facets that will be focused on will be discussed further under "Structural Plan".

Competitive Analysis Several grand-strategy games are the inspiration and the closest comparison for this project. In particular

- **Civilization** - Civilization is probably the most well-known game in this genre. Civilization tends to be more focused on being a game, with the growth and evolution of civilizations and technology being more of a theme than the centralizing focus, and the underlying dynamics being shallow or absent. Ctesiphon will be similar in that it begins with a mostly-empty, dynamically-generated world.
- **Europa Universalis (EU)** - EU is another extremely popular grand strategy game. The main focus on EU is mainly around combat and economics, while Ctesiphon will be more focused on the 'softer' aspects of politics and culture. Furthermore, EU, as a historical game, is tightly linked to real-world civilizations and the world itself, while these will be dynamically-generated in Ctesiphon.

In general, Ctesiphon will be more of a simulation than a game, like watching ants in a glass box, and hence can have more realistic processes dealing with cultures / politics etc., than these existing games.

Structural Plan Each large feature to be implemented will be segregated into a separate file.

- **Mapmaking** - The methods to generate the world, which will be dynamically generated. This will include two submodules:
  - **Voronoi** - The map will be generated using a Voronoi diagram, to introduce irregularity and variety. Since this is pretty complicated, it will be in its own module.
  - **Terrain** - Dynamically generate altitude, climate, rivers, and other geography.