Final Project Team Prototyping: The Great Filter Simulation

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This project explores the 'Great Filter' hypothesis through an interactive simulation where users can manipulate civilizations & observe their rise or fall. The inspiration for this project came from games like 'Missile Command' & simulations of nuclear war, with an added layer of city-building & societal development.

(Missile Command)

Theory: The 'Great Filter' hypothesis, a concept from the Fermi Paradox, which posits that civilizations may reach existential barriers to their survival.

Critique: The simulation may critique human tendencies toward self-destruction (nuclear war scenarios). It can also explore societal development, stagnation, & decline, reflecting themes from dystopian media like Idiocracy.

Possibilities:

- Users can play as a "god-like" figure, shaping or destroying civilizations.
- Simulate cities responding to external threats and internal challenges.
- Explore how small actions (like nuking a city or developing a technology) have far-reaching consequences.
- Balancing forces:
  -plague/disease
  -inclement weather / crop failure
  -meteor strike
  -introduction of lead pipes
  -unifying "alien" threats

Visualization:

- Main Interface: A map or grid showing the cities, their status
    - Cities can be expanded to show their interactions with other cities, and more details on their status
- Action Menu: Options for the user to drop nukes, develop technologies, or intervene in city interactions.
- City Status: Indicators showing a city's development, population, resources, or likelihood of collapse

User Interaction:

- Attack or prevent attacks on cities
- Watch civilizations grow, stagnate, or collapse dynamically.
- Influence city interactions indirectly (e.g., funding development or sabotaging progress).
- Witness emergent behaviors like wars, alliances, or self-destruction.

Game End States:

- Ecosystem failure - mass starvation
- Nuclear annihilation
- All matter becomes paperclips - i.e. Out of Control Machines
- (less likely/secret ending) Become Interstellar/higher tier species etc… dramatically ride off into the stars

Diagrams:

Technical Summary:

The Great Filter Simulation is a dynamic, event-driven simulation where cities are modeled with key attributes like population, resources, and technology levels. These attributes determine how cities grow, interact, or collapse under various conditions. The user acts as a "god-like" figure, influencing the simulation by performing actions such as initiating disasters, funding development, or altering