COMP4511 Game Proposal

Steel of Stalin (Group 18)

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Outline

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Introduction

- Name — Steel of Stalin
- Category — Turn-based, "Multi-player", Strategic
- Visual characteristics — Abstract 2D game map with a first-person top-down view
- Goal — Manipulating game *units* on a designated map for destorying enemy's capital !!
- Target at anyone who equipped with,
  - Balanced tatics on when facing multiple game options
  - Ability to adapt to opponents' moves

Inspiration

- Some old strategic board games are good !!
- *Advanced daisenryaku: Deutsch Dengeki Sakusen*, made in 1991 by Saga
  - Customizable, hexagonal-tiled map
  - Deployment planning on troops and weapons
- *Diplomacy*, made in 1954 by Allan B. Calhamer
  - Simultaneous turn-based mechanism
  - Collision handling on troop movement
- Our objectives are greatly inspired by them
  - Incoporate the above into one game
  - More extensions — weapons' customization, more metrics, AI-player

Gameplay

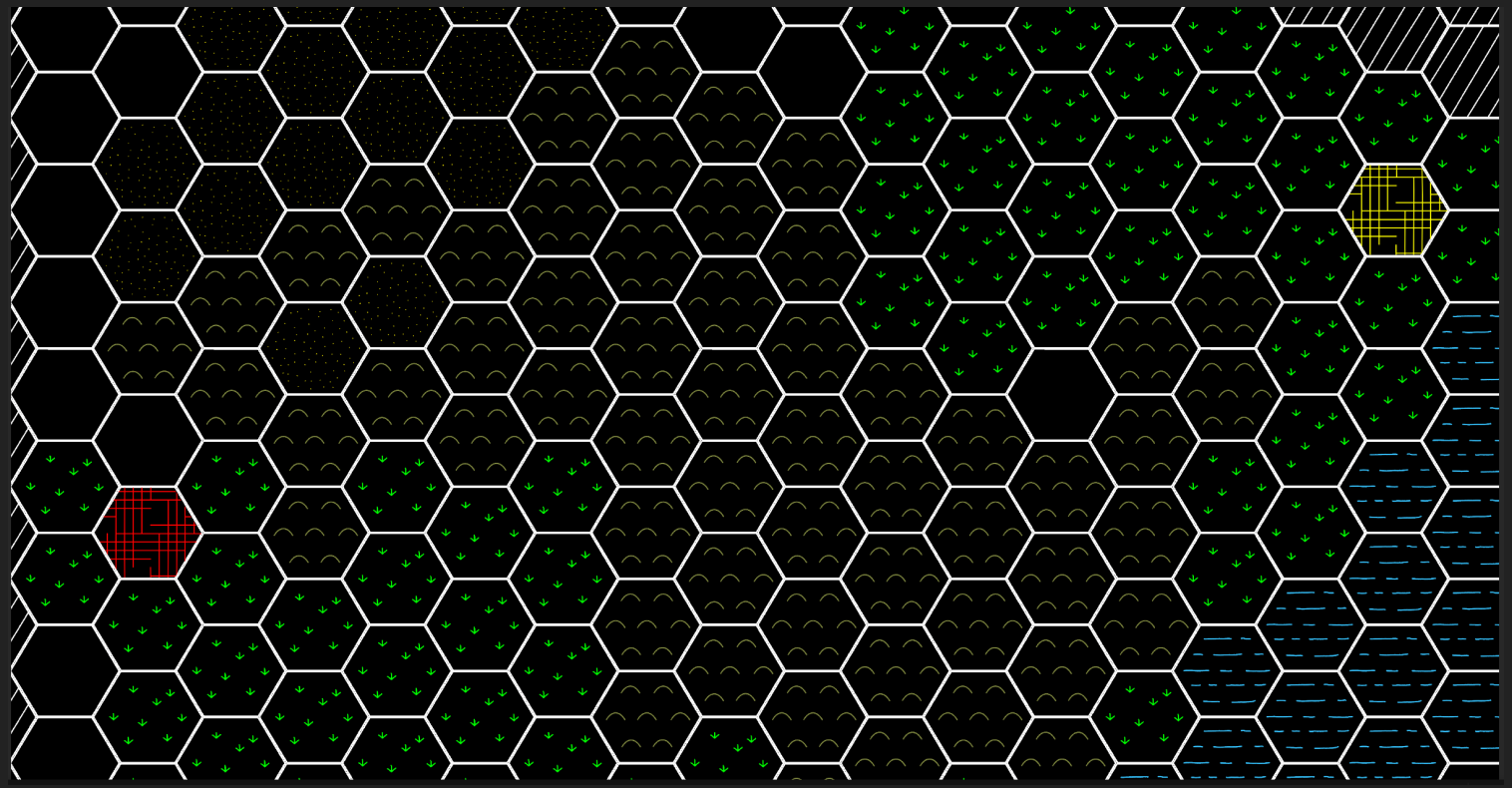
- Due to time limit, multi-player, negotiation-based $\rightarrow$ human-to-AI, competition-based
- Hence, at each turn,
  - Human and AI players make decisions *simultaneously*
  - All investment / deployment / movement are then fired by the program *at the same time*
- Human-player shall do more than merely deploy troops in order to win the game
  - Construct, defend the "research facilites" that supplies the resources
  - Study and exploit the geography of the map
- Human-player make decisions, so should the AI-player
  - 10% luck $+$ 30% strategy $+$ 0% "diplomacy" $+$ 20% management $+$ 40% control
  - Luck on computed probabilistic bias, with the rest on enemy's historical moves
- Can greedy works? **NO !!** Units counter each other, and probability gives unpredictability.

Implementations

- ThreeJS + WebGL as base framework
  - Material layout with light effect could turn such 2D game into a pseudo-3D game
  - Javascript — Possibility for extending into a web framework-based application
- Several programming challenges that have to be overcome
  - AI-player design
    - It should be an unpredictable, fair player to the human
    - Hence need keep monitoring and evaluating game units, so that metrics can be computed and applied to the AI-player.
  - Game map and units design
    - They have to be trivial and visually appealing at the same time
    - Hence requires thinking on grid arrangement and construction, and on design of game units

Quick Demonstations

- Below is a preliminary hexagonal grid, with many details to be filled.



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