COMP 521 Project Proposal
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Topics: Terrain Analysis, AI

Overview:
Our project will be to dynamically analyze fixed terrains using different methods in the context of a simple, two player real time strategy game. The terrain analyses would then be used by the two AI players.

Different maps will be used in conjunction with the different terrain analysis approaches and AI to measure data such as win percentage, map control, total damage taken/inflicted and units lost.

Goals (ordered):
- Implement the basic strategy game
    - One type of unit
    - Each player has multiple units that can be moved
        - The units attack enemies automatically when in range
    - Low and high ground in terrain
- Implement basic terrain analysis (chokepoints, ramps), possibly using heatmaps
- Implement simple AI that avoids choke points and tries to gain the higher ground
- Implement more detailed terrain analysis which will look at how easy a point is to defend or how hard it is to capture
- Implement a different kind of AI which tries to flank, surround or use some other strategy
- The AIs will resolve disadvantageous situations
- Implement terrain analysis using a different approach than the first and see if it improves the performance of the AI

Responsibilities:
Note: Due to the scale of terrain analysis technical implementations, some parts will be assigned to Terrence.
Nicholas:
- Technical implementations (game, terrain design)
- Terrain analysis

Terrence:
- AI implementation in units, usage of terrain analysis, decision making.
- Game data analysis