The highland defense

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# Brief Overview

I will make an RTS (real time strategy game) that focuses on defending a base. It will consist of one Human player ( defending) and a randomly chosen AI invader. The Human player will be responsible for collecting a resource and will build units and towers to defend their base. If the player outlives a time limit, then the player will win, but will lose if the AI manages to destroy the human’s base.

Features

1. Resource gathering: The human player has citizens available to gather resources that allow them to build towers/soldiers.
2. Minimap: To make navigation easier, the human player has a minimap available that could be used to navigate through the map.
3. Fog of War: ( in conjuction with 2) the human player needs to “explore” the map to see what exists, adding an intelligence dimension to the RTS war game.
4. Unit/building generation : The human player can create citizens/soldiers and defense towers from a buttonpanel located at the bottom of the game.
5. Procedural generation ( of resources, difficulty):The map should generate resources randomly but reasonably. For this algorithms that balance user playability and randomness should be used.
6. AI mind strategy: The enemy should be able to intelligently attack units. E.g Cavarly against artillery, spikes against cavalry etc.
7. Upgrades: IF time allows, the user could upgrade units/towers so that they could be stronger
8. Different nations for AI(with different units); Different civilizations with differen bonuses with regards to buildings and units could be used to add nuance to the game.

# Goals

Describe where you want the project to be by milestone 1.

I wish to complete a miniature version of resource gathering scenarios. This includes building a resource gathering unit( citizen/villager) That will go and take resources and return them to the home base. The resource bar should increase by a fixed amount ( if the villager returns). I also plan on using the mouse to select a citizen and order them to gather a given resource. I plan on implementing a minimap, and if time allows, fog of war so that the player could use to find resources (which will be colored to indicate their presence). The citizen should be able to walk/find a path based on mouse locations and recognize if obstacles are there ( and thereby go around them). This may require graph algorithms to efficiently figure it out.