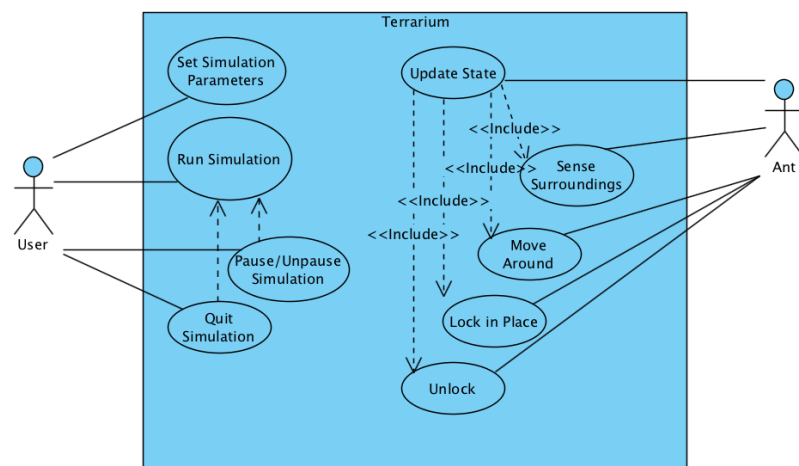


1. *Team*: Jordan Dick, Nelson Mitchell
2. *Title*: Terrarium
3. *Project Summary*: A robust, fully animated simulation of self-assembling "ants" that can create structures out of their bodies to reach physical goals ("food"). Competing groups of ants will have both workers to construct structures and soldiers to defend and attack them. Users will interact with the simulation by setting initial parameters including the number of ants and the location of the food; as well as control the camera angle, pause and un-pause, hide and show an informational overlay, and quit.
4. *Project Requirements*:
  - Individual agents use local information to solve global problems
  - Conway's GOL shader used to update the state of objects all at once
  - User can interact with the system using keyboard inputs
    - Space bar - pause/resume
    - ESC - quit
    - Arrow keys - rotate camera
    - Z/X - Zoom in, zoom out
    - H - show/hide overlay
  - Minimum viable product: Ants can build structures robust enough to reach any goal the user provides them in the environment
  - (Stretch goal) Some buttons or other GUI elements
  - (Stretch goal) Different colors ("species") of ants compete by destroying each other's structures

## 5. Use Cases

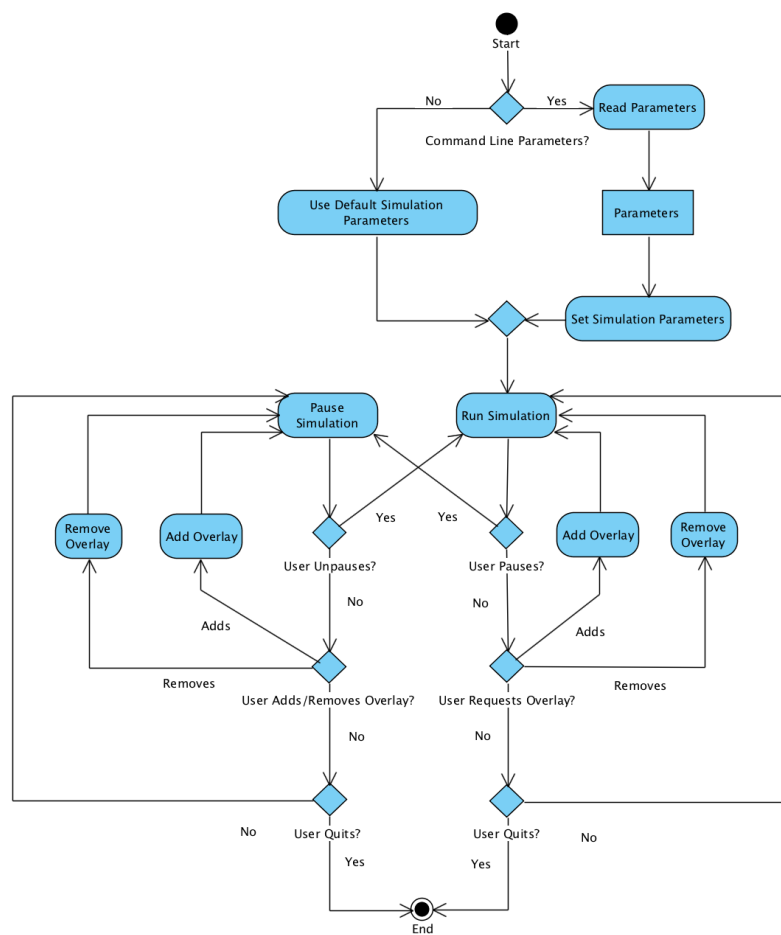
(a) Use Case Overview:



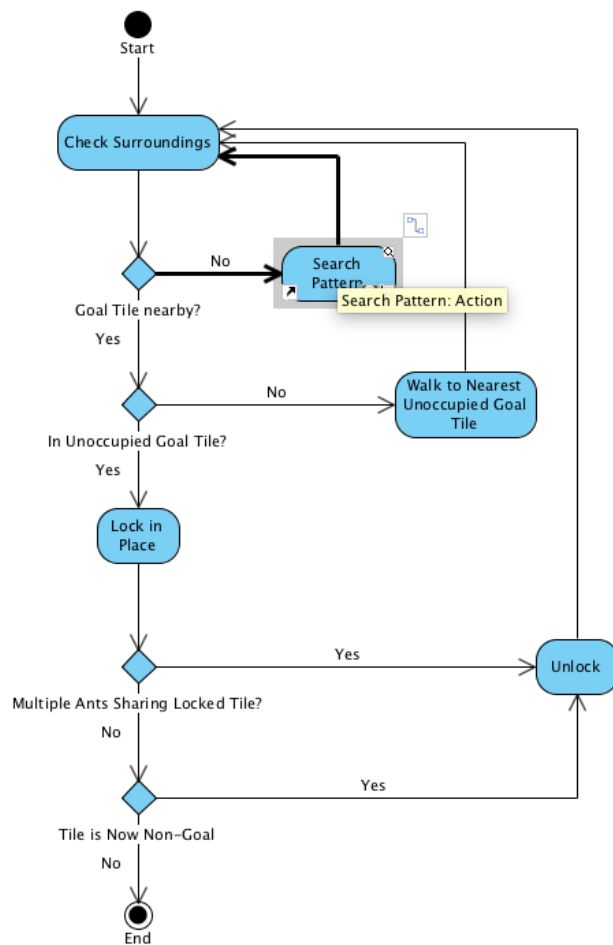
(b) Use Case Documents:  
# TODO

6. *Activity Diagrams:*

## (a) Run Simulation:

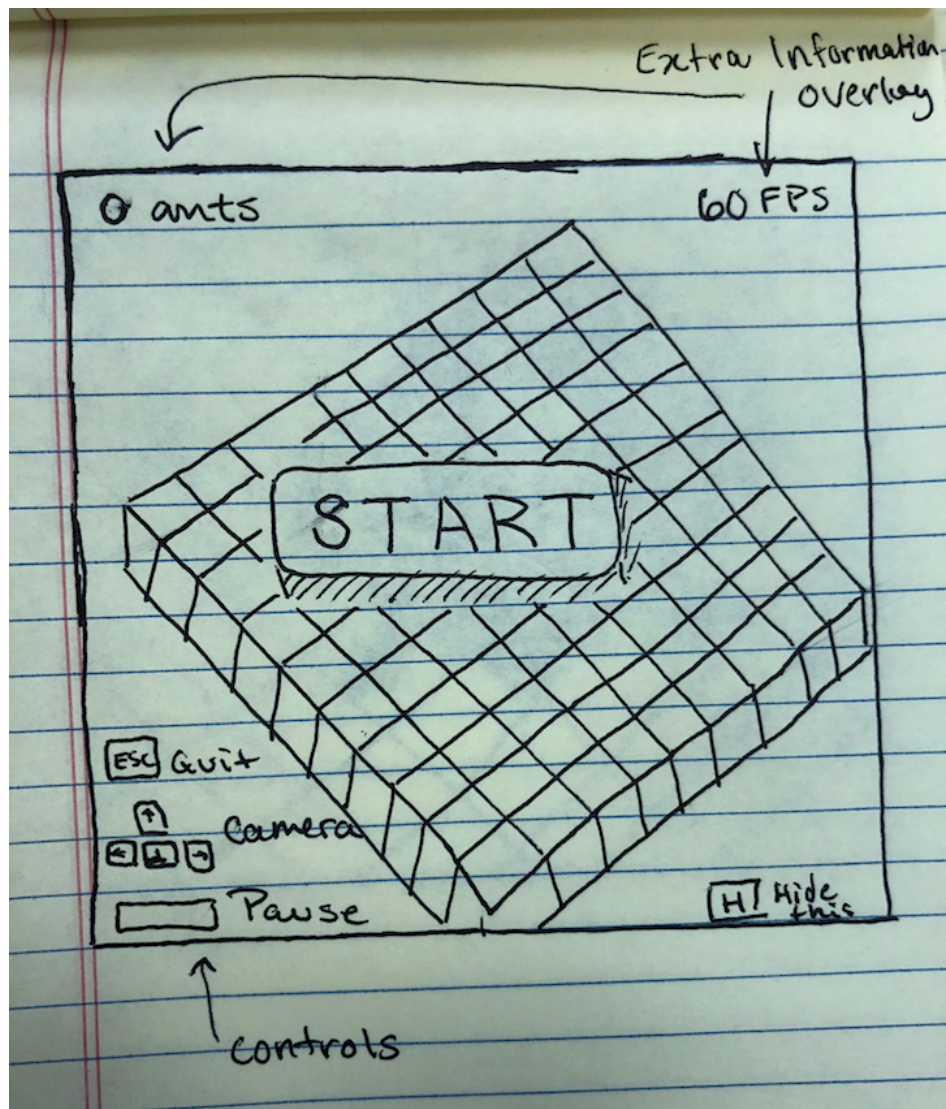


## (b) Update State of Ant

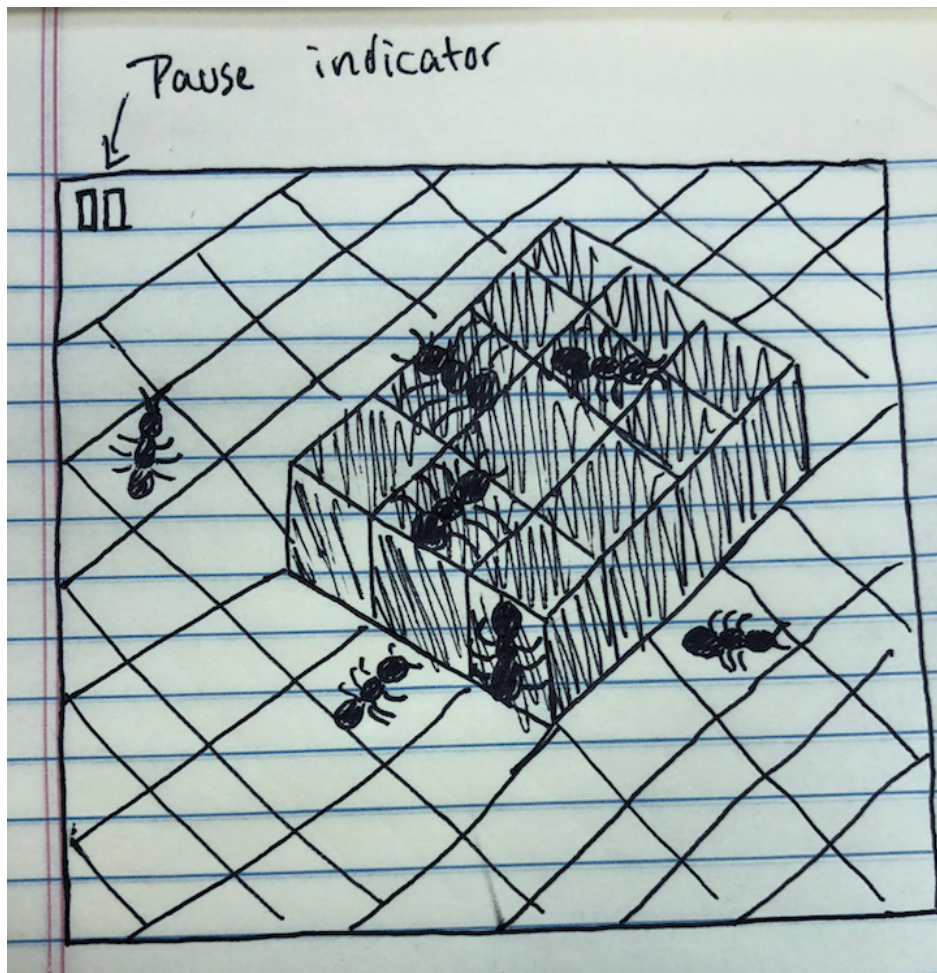


7. UI Mock-up:

- Start-screen:

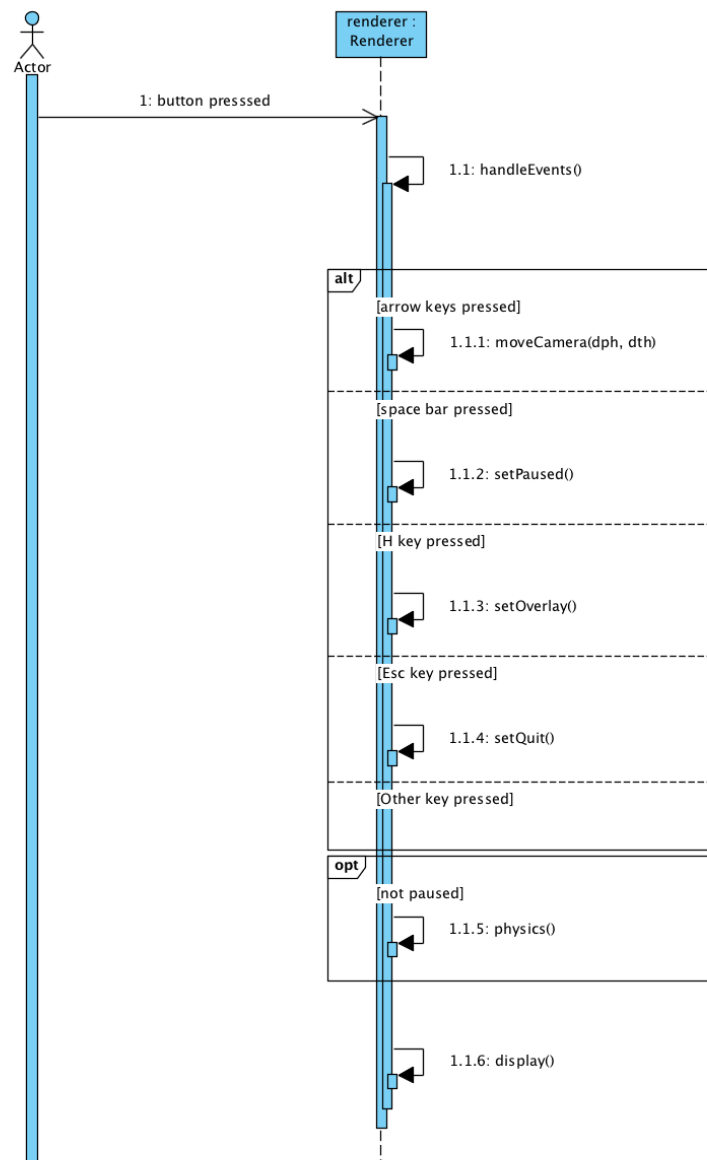


- Simulation:

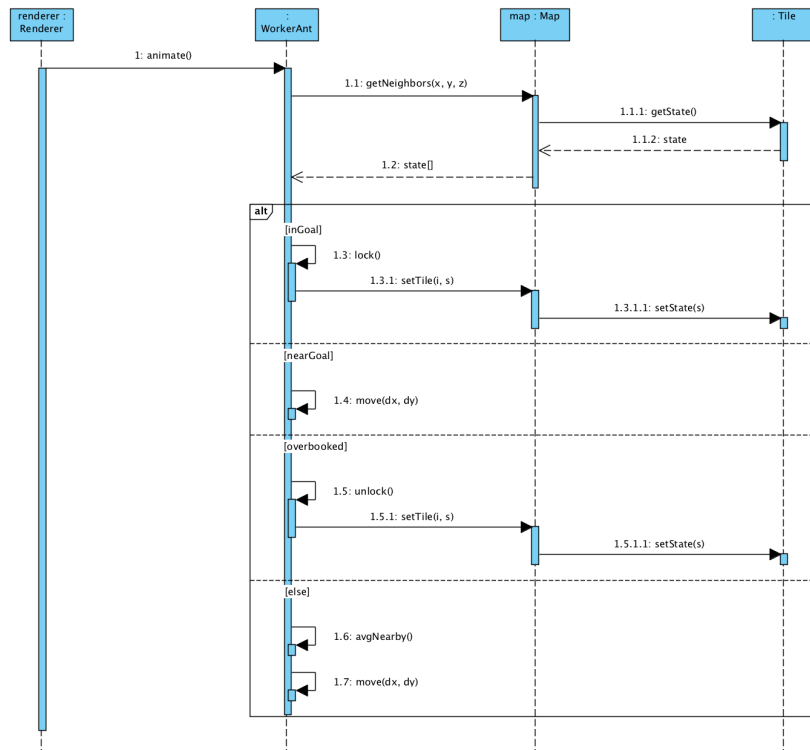


8. *Sequence Diagrams:*

(a) Handle User Interaction:



(b) Animate Ants:





9. *Class Diagram:*