Spike: 13
Title: The "Planning" in GOAP

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Goals / deliverables:
Create an agent simulation that utilises GOAP. You must consider
- Actions with long term outcomes
- Intelligent agent/s

Technologies, Tools, and Resources used:
- Knowledge of python
  - https://docs.python.org/3/tutorial/
- Python Interpreter
  - Visual Studio
    - https://www.visualstudio.com/downloads/
- Knowledge of how a finite state works and implementing one
  - https://gamedevelopment.tutsplus.com/tutorials/finite-state-machines-theory-and-implementation--gamedev-11867

Tasks undertaken:
Using the code from lab 6:
- Remove any unnecessary code
- Add three states
  - Seek
  - Flee
  - Wander
- Using distance between the target cross
  - Update the states so there is a dominate goal
    - If you're further an 300m away. Lean towards Wander
    - If you're less than 300m away. Lean towards Seek
    - If you're less than 20m. Lean towards Flee
- When working add an agent that wanders the map soullessly.
  - Update the states so there is a dominate goal
    - If you're further an 300m away. Lean towards Wander
    - If you're less than 300m away. Lean towards Seek
    - If you're less than 20m. Lean towards Flee
- Calculated the best goal judged by which state has the highest number
- Once working it creates a stack of actions to complete and once done it pops them from the list

What we found out:
- The agents will wander around and when it's near the target it look realistic because it will keep wandering until it realises that there is something there and needs to see what it is
- This works the same as above for seeking this position. It will travel there and arrive at this point but once it realises that it's not a good place to be it flees the area.
- When you flee you high tail it out of the position and once you clearly see there isn't anything to be worried about it would wander the map. This works the same for the hunter which moves around aimlessly.
- Overall, we see that it looks like a human making decisions based on what it can see and then it makes a decision based on what it thinks is the best action to do.