Gods of Capture

Connor Novak
Anika Payano
Sophia Nielsen
Colvin Chapman
Emily Lepert

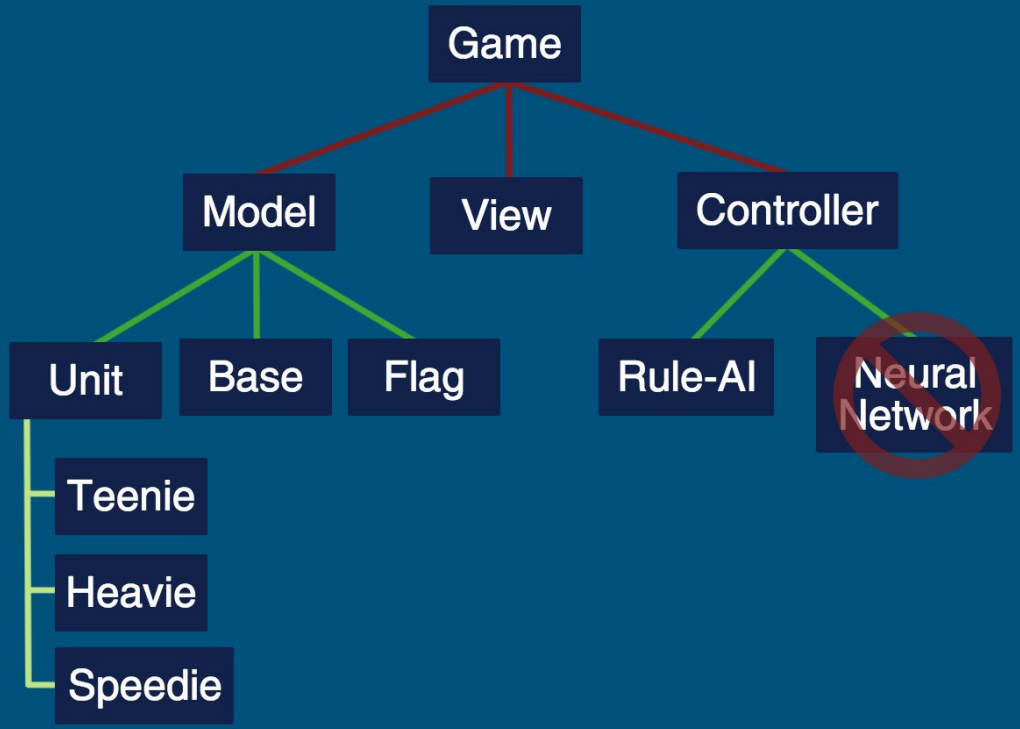
Game

Evolving Artificial Intelligence

- Rule-based Artificial Intelligence plays the game
- Set of weights control the AI’s decisions
- Weights evolve based on how well the AI plays

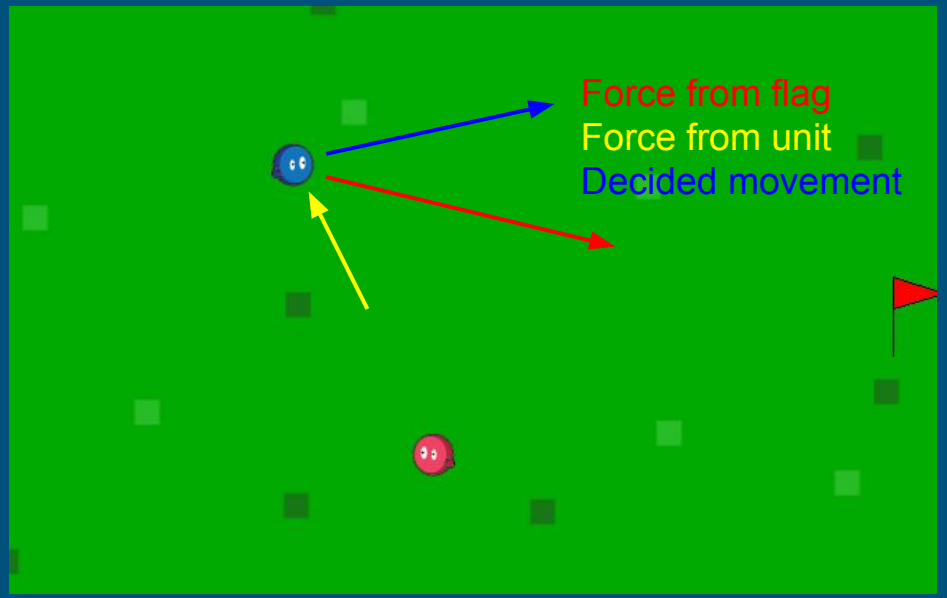
Basic Architecture

Model, View, Controller



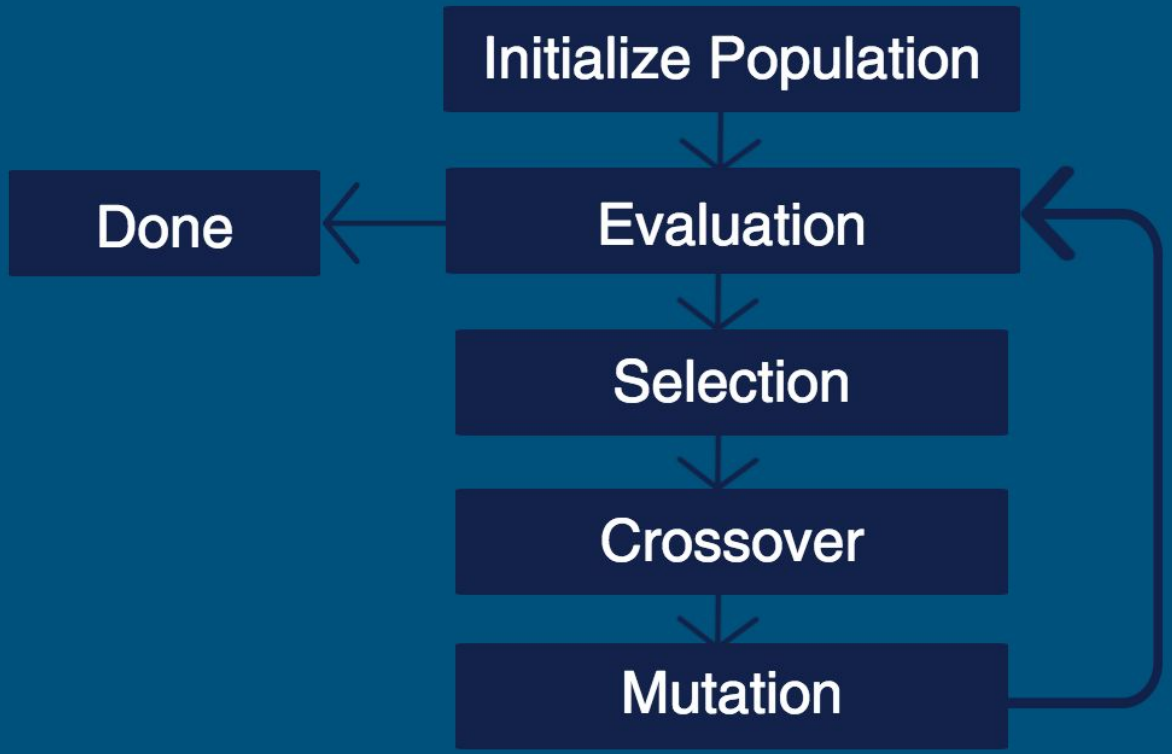
Structure of Rule-AI

- Each “AI” is made of a Matrix of weights, and a uniform algorithm.
- Thresholds for strategy
- “Force” vectors for unit movement



Algorithms

Evolutionary Algorithm



Status of work

Accomplishments

- Model, View, Controller
- Investigated neural networks extensively
- Capture the flag game mechanics with neutral sprites
- Simple, base case if-tree AI logic

In the next week...

- Continuation of If-tree AI logic
- Finalize implementation of evolutionary algorithm
- Make sure units can’t occupy the same space
- Set limit on unit number
- Speed handicap while carrying flag

Stretch Goals

- Implementation of AI with personalities
- Implement Machine-Learning Style AI (heuristic functions)
- Adding attack animations
- Have AIs “discover” parts of the board

Questions?