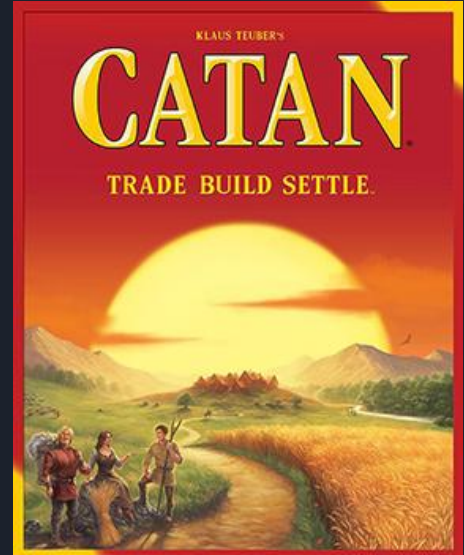


Java Catan “Javatan”



Names: Trevor Crystal, Chris Lambertson,
Ruben McWilliams, Chuanfeng Xiong

Catan Overview

- 3-4 players
- Players place buildings on intersections of tiles
- Receive resources based on adjacent tiles
- Roads to build to place more buildings
- Goal is to reach 10 victory points
- Victory points from building/upgrading



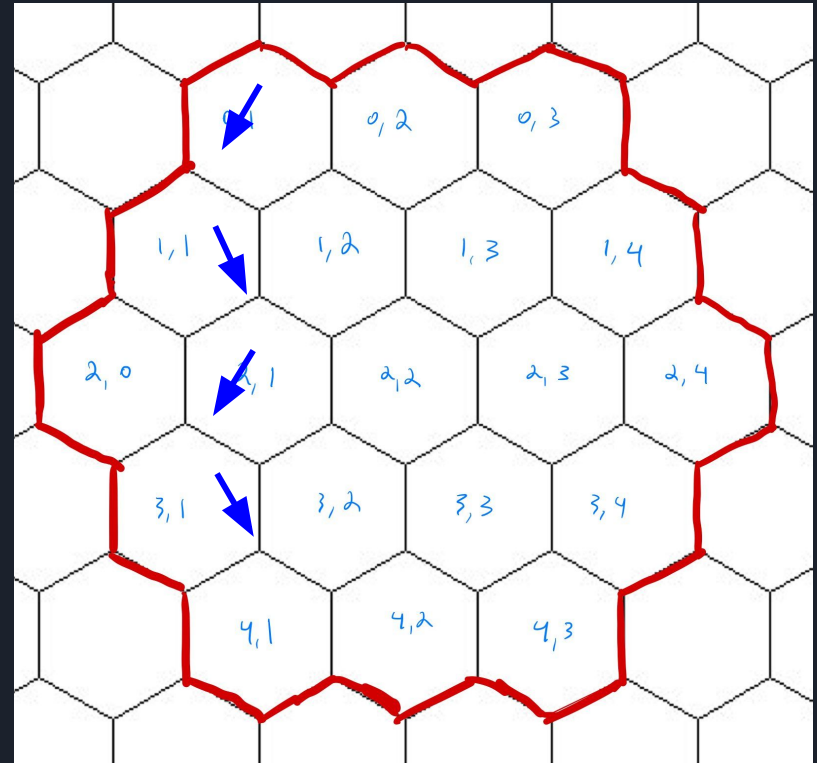


Implementation Overview

- Plan: Everyone works a little on all sections (core, GUI, networking, documentation)
- Reality: Work together on plan, then divide and conquer
- Trevor: Part of the core, documentation
- Chris: Core, bringing the components together
- Ruben: GUI
- Chuanfeng: Networking

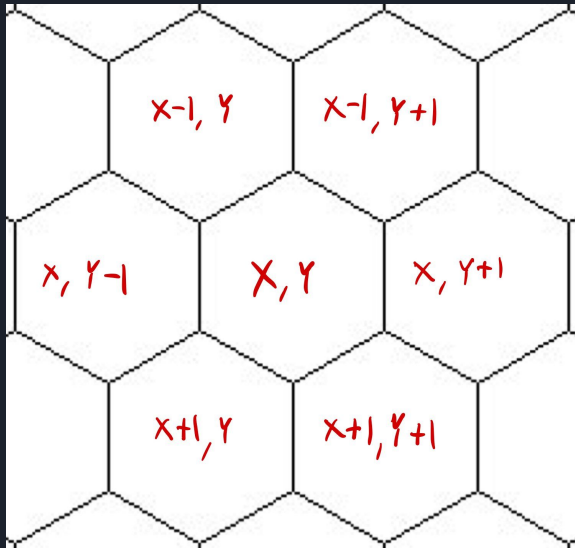
Board Management

- Need to represent a hex board in square arrays
- Some requirements
 - Get adjacent hexes from a vertex
 - Get adjacent edges from a vertex
 - Get adjacent vertices from a hex
- Solution
 - Offset each row
 - Formulate equations to convert between hex, edge, and vertex coordinates

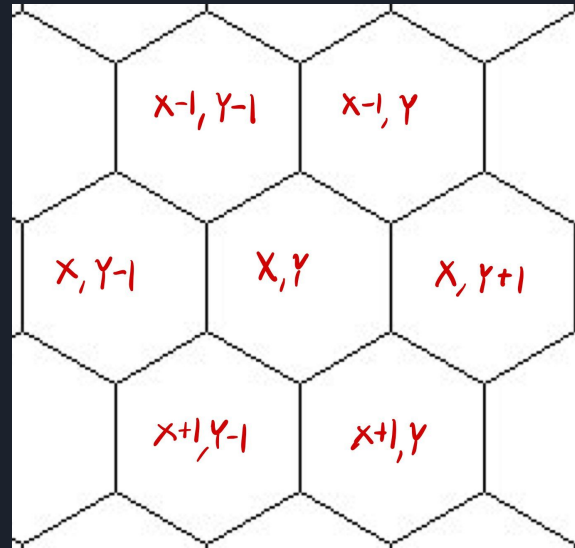


Hex Numbering

Even rows (x)

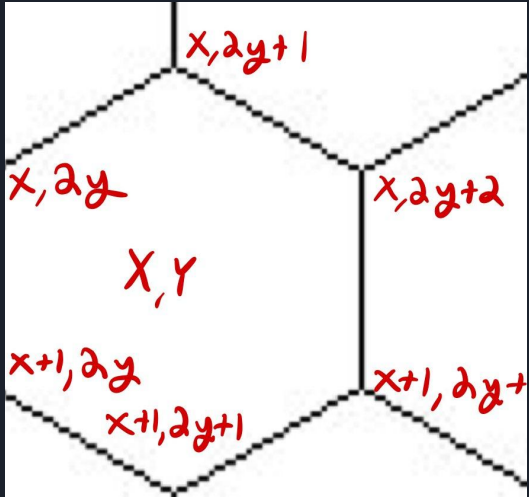


Odd rows (x)



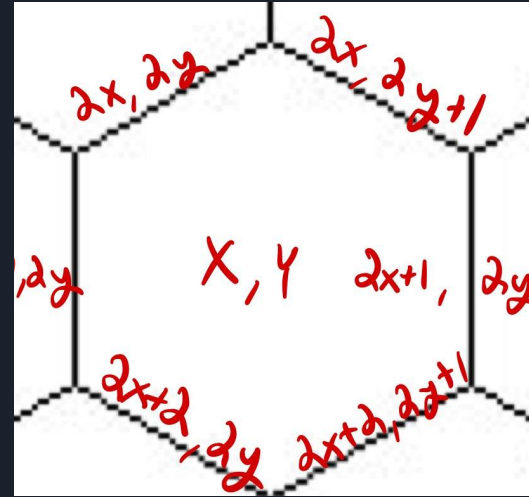
Vertex and Edge Numbering

Vertices



Note: For odd rows subtract 1 from y index

Edges

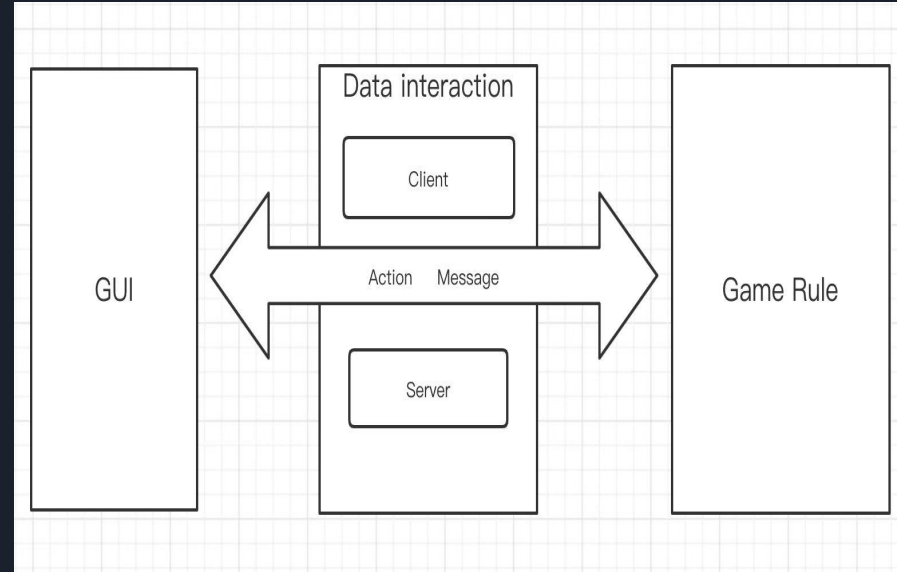
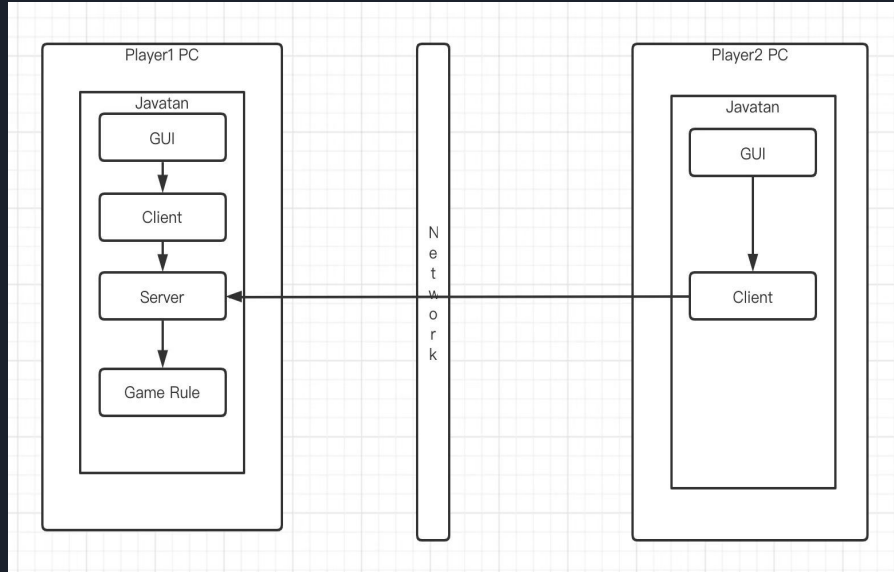




GUI

- Used JavaFX
- Update color of Catan hexes
- Color of the player
- See resource cards
- Place roads
- Change color of roads
- Remove roads
- Place settlements
- Upgrade settlements to cities

Networking





Questions?