Starvation Evasion Server

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Server Thread Model

Main Thread **Event Thread** Worker Thread(s) **Futures Thread**

- Initializes server threads
- Listens for connections
- Handles messages from clients in sequential order
- One per client
- Handles communication to/from each client
- Handled by a ScheduledExecutorService
- Waits for time limits to occur, then advances the game state

Not shown: Anything Simulator related, any Al processes

Communication With AI Processes

- Accomplished with Environment Variables
- Each AI is launched in a separate process that shares STDIN/STDOUT/STDERR with the server for ease of debugging.

\$SEUSERNAME

Username to connect with

\$SEPASSWORD:

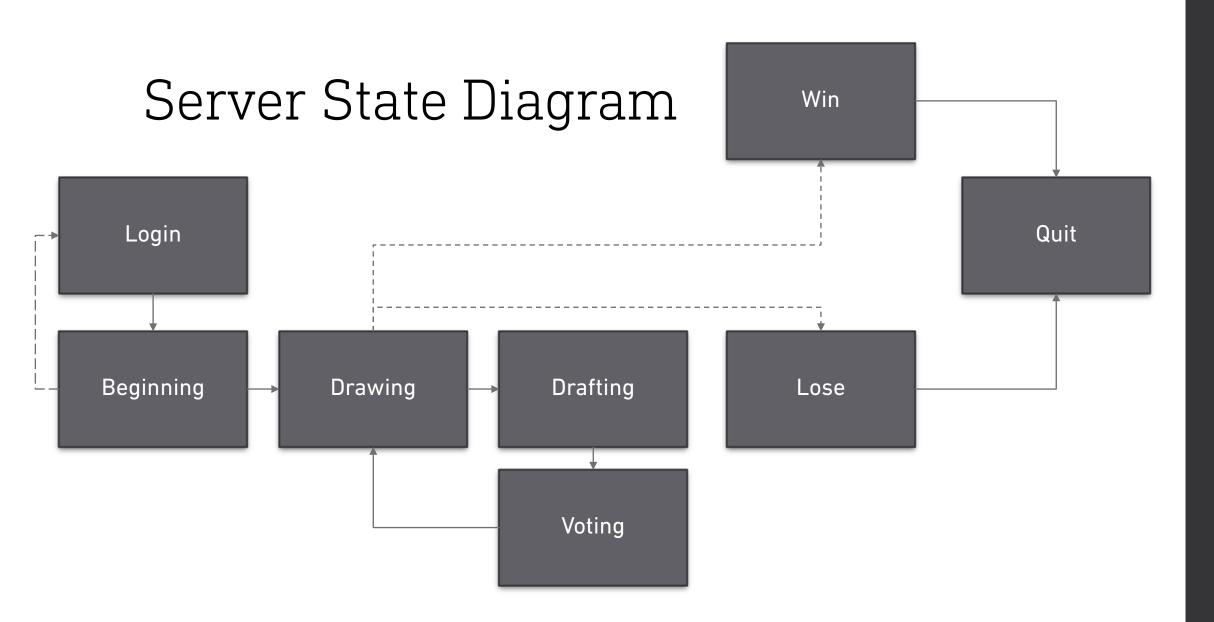
 Password to connect with

\$SEHOSTNAME:

Hostname of the server

\$SEPORT

Port to connect on



Solid lines denote primary data paths; Dashed lines denote conditional paths

Client/Server Networking

- Uses Java Serialization over TCP Network Sockets
- All messages are
 acknowledged by the server
 with a member of the
 Response Enum, followed by
 any other response
 information necessary.
 - Response's are only to acknowledge correct transport
 - A message may be 'wrong' (e.g. trying to log in with bad credentials) and still be acknowledged with an OK

Response.OK

Message was correctly transmitted and received

Response.Inappropriate

 Message was inappropriate for the current server/client state

Response.Bad_Message

 Message was corrupt, or couldn't be properly deserialized

Response.Other_Error

Example Message Types

ActionResponse

 Response to drafting, voting, discard messages

AvailableRegions

Message indicating which regions are taken

Login

 Login message containing username and hashed password

PhaseStart

 Indicates that a phase has begun, and when it ends (if applicable)

DraftCard

• Tells server to play a card.

GameState

- The current state of the world
- Also the player's hand

Thank You

Any questions?