# 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
- ScheduledExecutorService-controlled
- Waits for time limits to occur, then advances the game state

Not shown: Anything Simulator related, any AI 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:

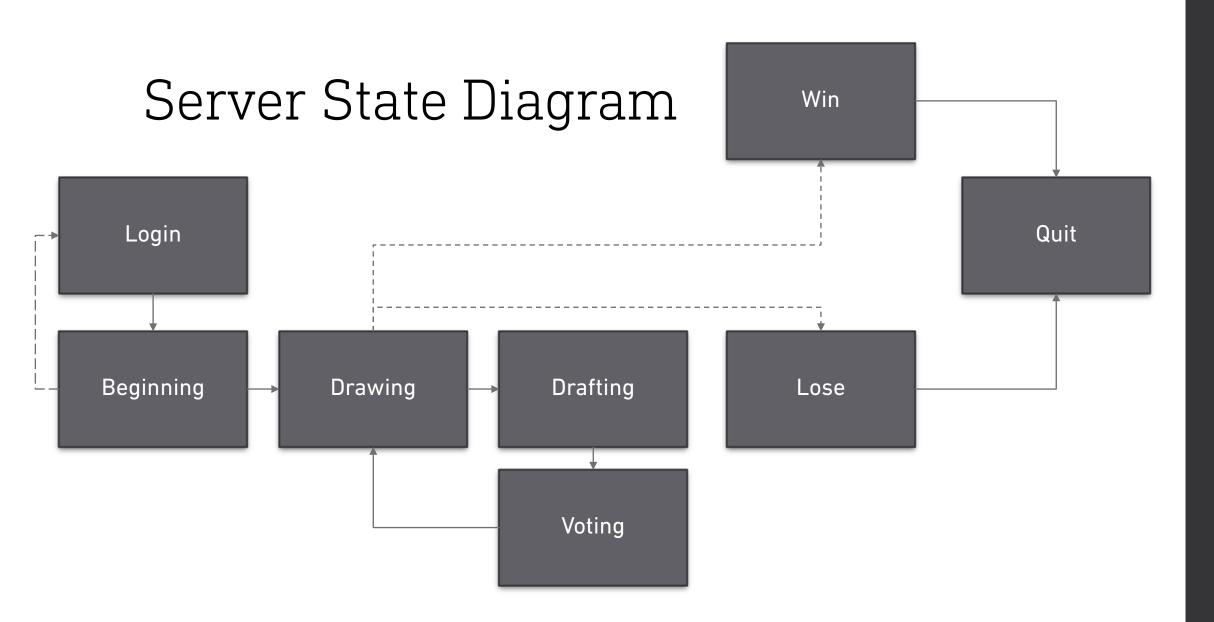
 Password to connect with

## \$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?