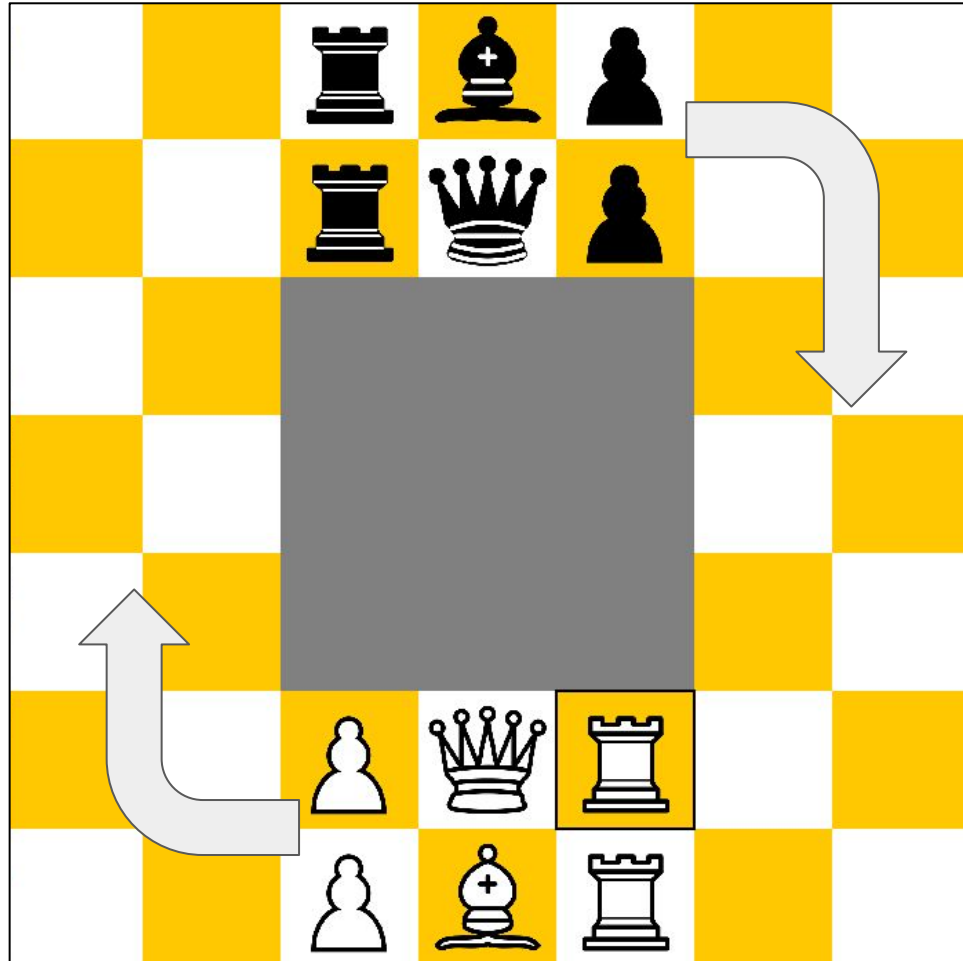




THE SOGGY ZEBRAS **Rollerball**

Jonathan Cowles, Angela Root, Dawson
Canby, Courtney Torres, Jordan Peterson

Rollerball Review



Recap

- 7x7 Game Board with 3x3 hole in the center
- Pieces for each color
 - 1 King
 - 1 Bishop
 - 2 Rooks
 - 2 Pawns
 - If a pawn reaches the other teams starting locations of their pawns, they can be promoted to a Bishop or Rook.
- Player wins by putting other teams King in checkmate.

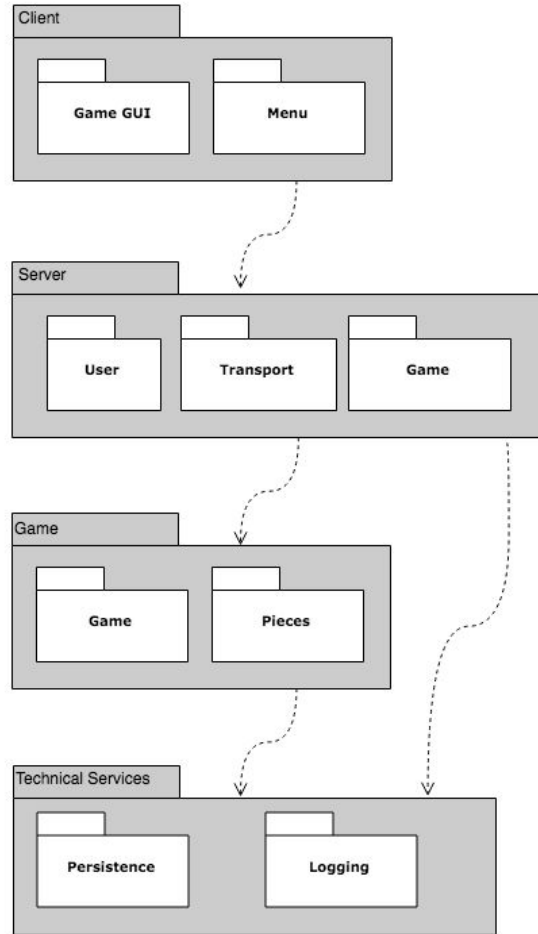
New Use Case: Playing with an AI Bot

Use case id:	12
Use case name:	Playing with an AI Bot
Brief description:	Player play a game with an AI instead of another Player
Type:	User Goal
Primary actors:	Player
Secondary actors:	None
Pre-conditions:	None
Main flow:	1. Player starts game with AI
Alternate flow:	1. Player wants to play game with other player
Post-conditions:	1. Player is able to play with AI

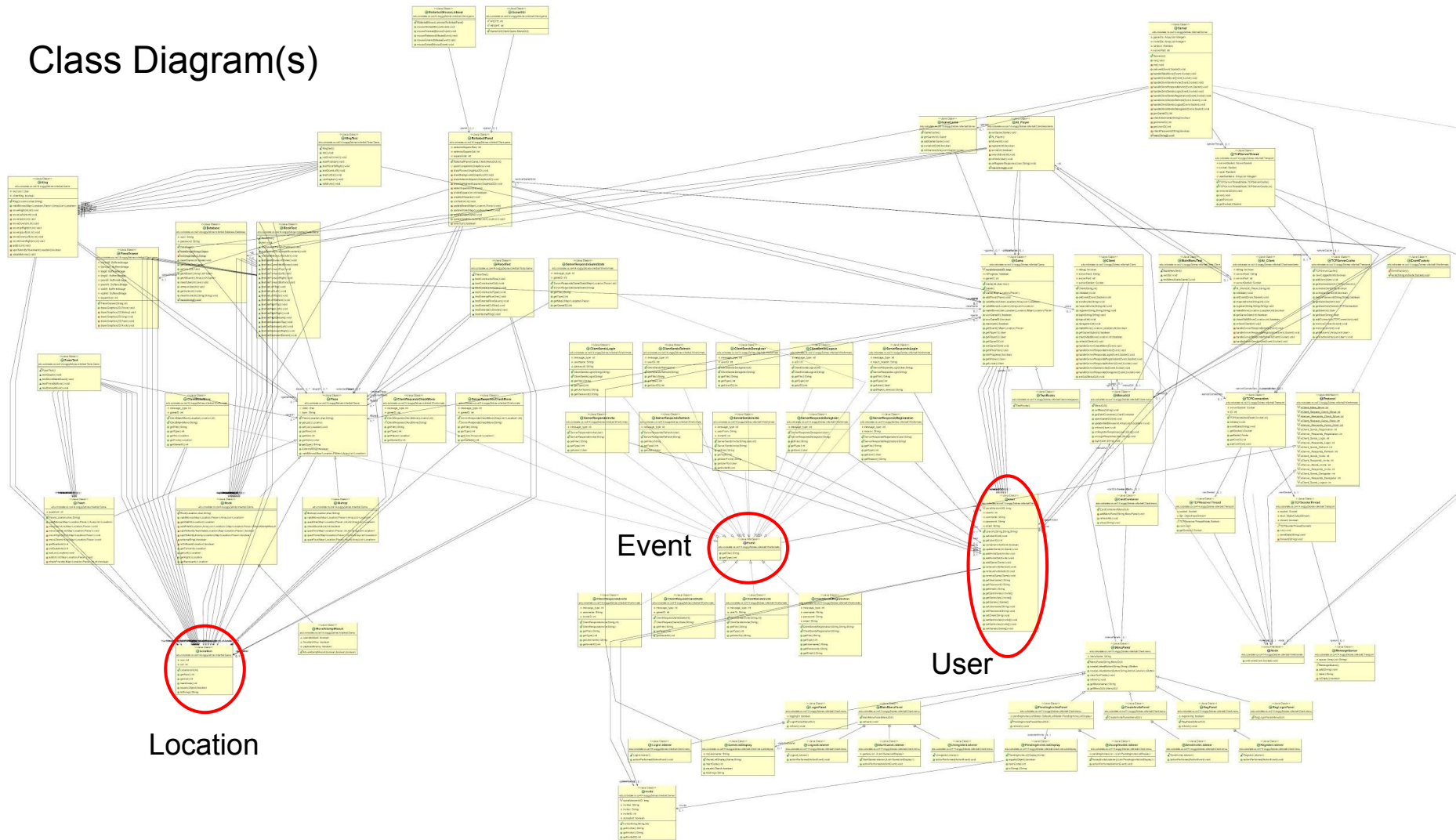
Traceability Matrix

	1_LOGIN	2_LOGOUT	3_UNREGISTER	4_REGISTER	5_RESUME_GAME	6_QUIT_GAME	7_ACCEPT_INVITE	8_PLAY_GAME	9_CREATE_GAME	10_INVITE_PLAYERS	11_REJECT_INVITE	12_PLAYING_AI
gameGUI	x			x	x	x		x				x
RollerballPanel	x			x	x	x		x				x
CreateInvitePanel	x			x					x	x		
LoginPanel	x			x								
MainMenuPanel	x	x	x	x	x		x	x	x	x		x
MenuGUI	x	x	x	x	x		x	x	x	x		x
PendingInvitesPanel	x			x			x	x		x	x	
RegLoginPanel	x			x								
RegPanel				x								
Database	x	x	x	x	x	x	x	x	x	x	x	x
Bishop					x	x		x	x			x
Game					x	x		x	x			x
King					x	x		x	x			x
Location					x	x		x	x			x
Pawn					x	x		x	x			x
Piece					x	x		x	x			x
Rook					x	x		x	x			x
GameCache	x			x	x	x	x	x	x	x	x	x
Invite	x			x					x	x		
Server	x	x	x	x	x	x	x	x	x	x	x	x
User	x	x	x	x	x	x	x	x	x	x	x	x
Transport	x	x	x	x	x	x	x	x	x	x	x	x
ClientMakeMove	x			x				x				x
ClientRequestGameState	x			x	x	x		x	x			x
ClientRequestsCheckMove	x			x				x				x
ClientRespondsInvite	x			x			x			x	x	
ClientSendsUnregister	x		x	x								
ClientSendsInvite	x			x					x	x		
ClientSendsLogin	x			x								
ClientSendsLogout	x	x		x								
ClientSendsRefresh	x				x			x				x
ClientSendsRegistration				x								

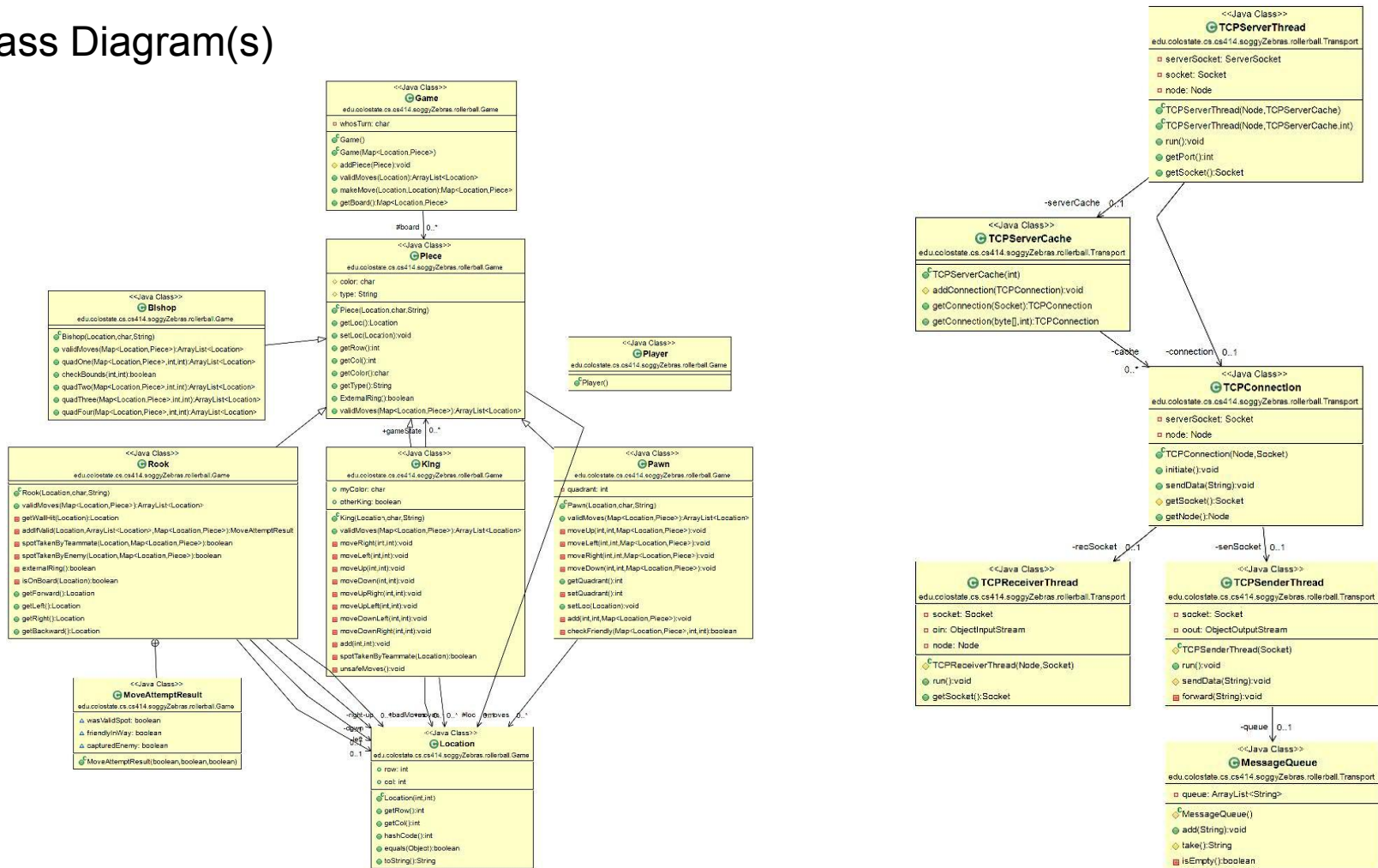
Package Diagram



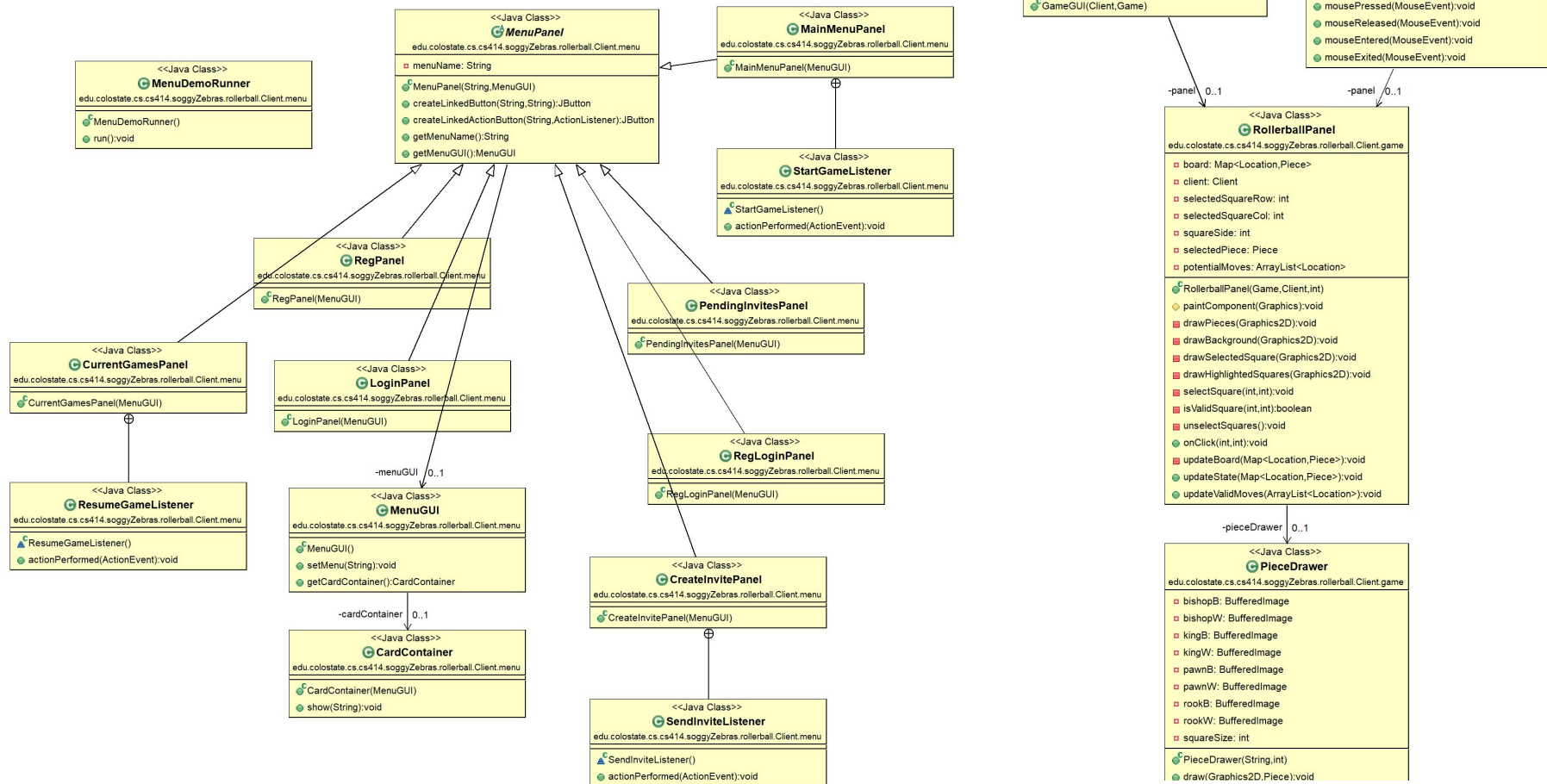
Class Diagram(s)



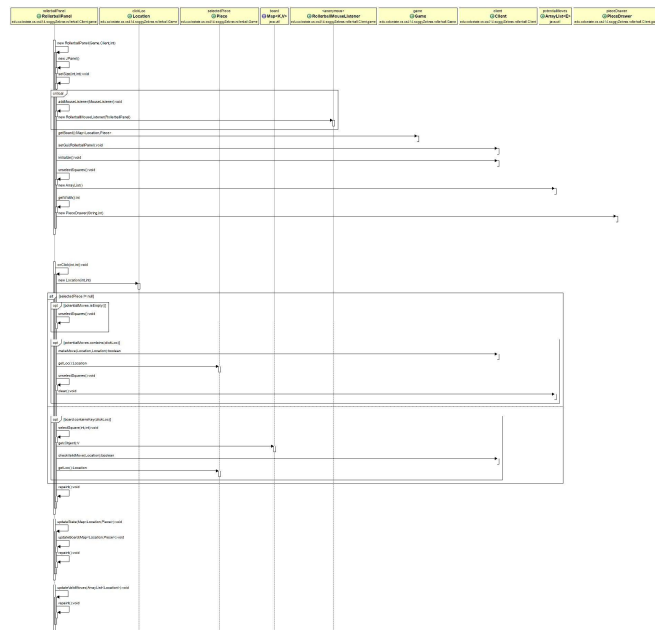
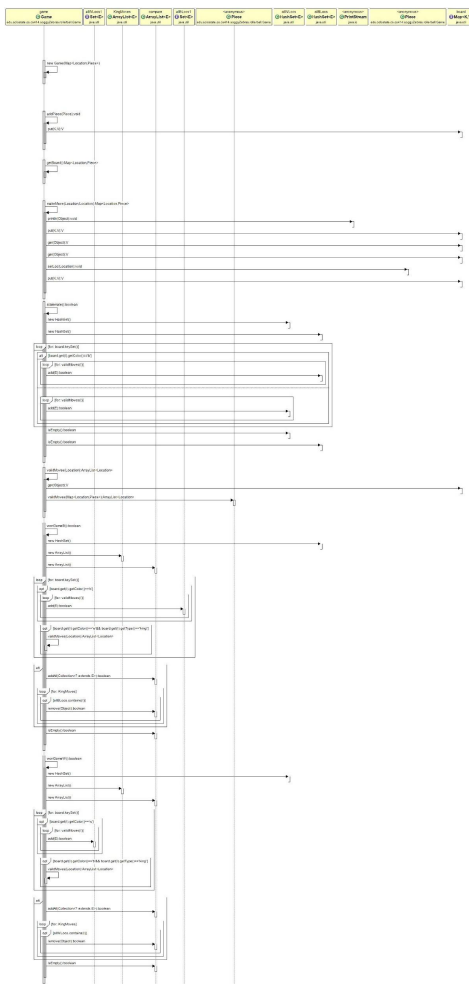
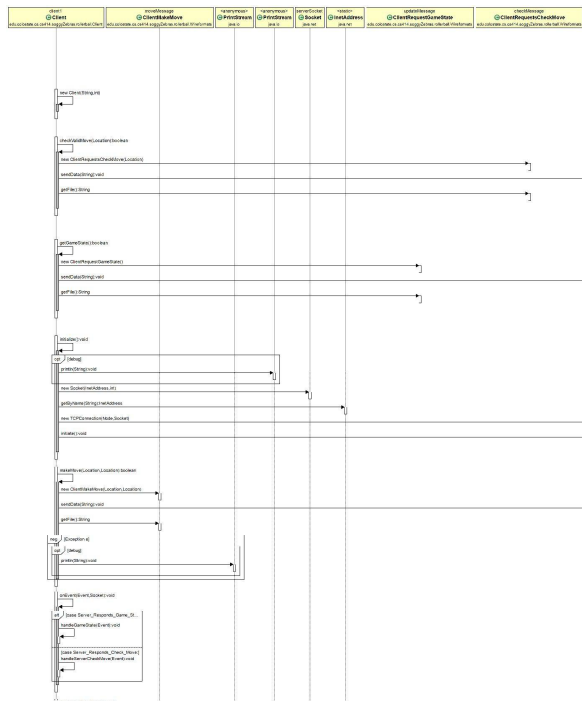
Class Diagram(s)



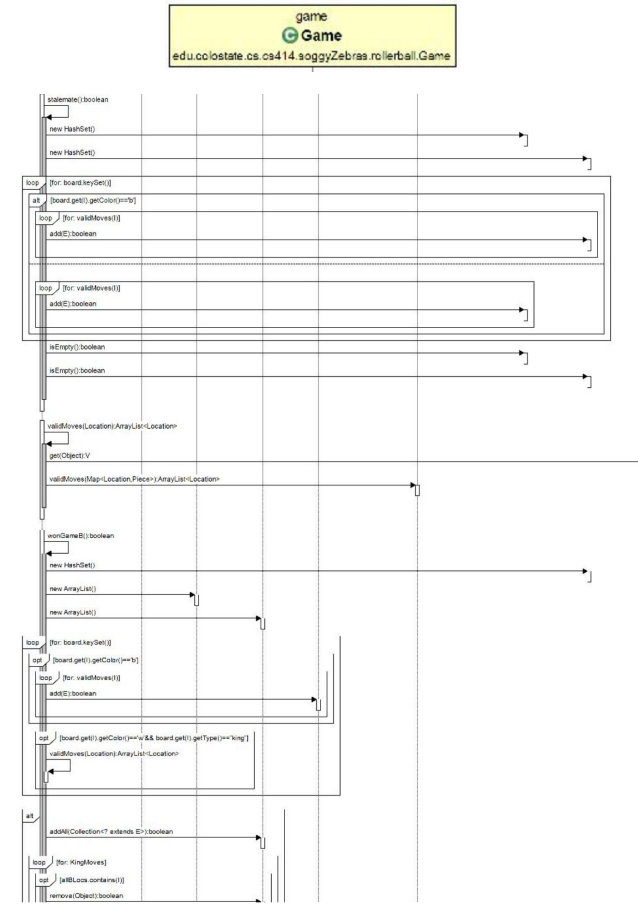
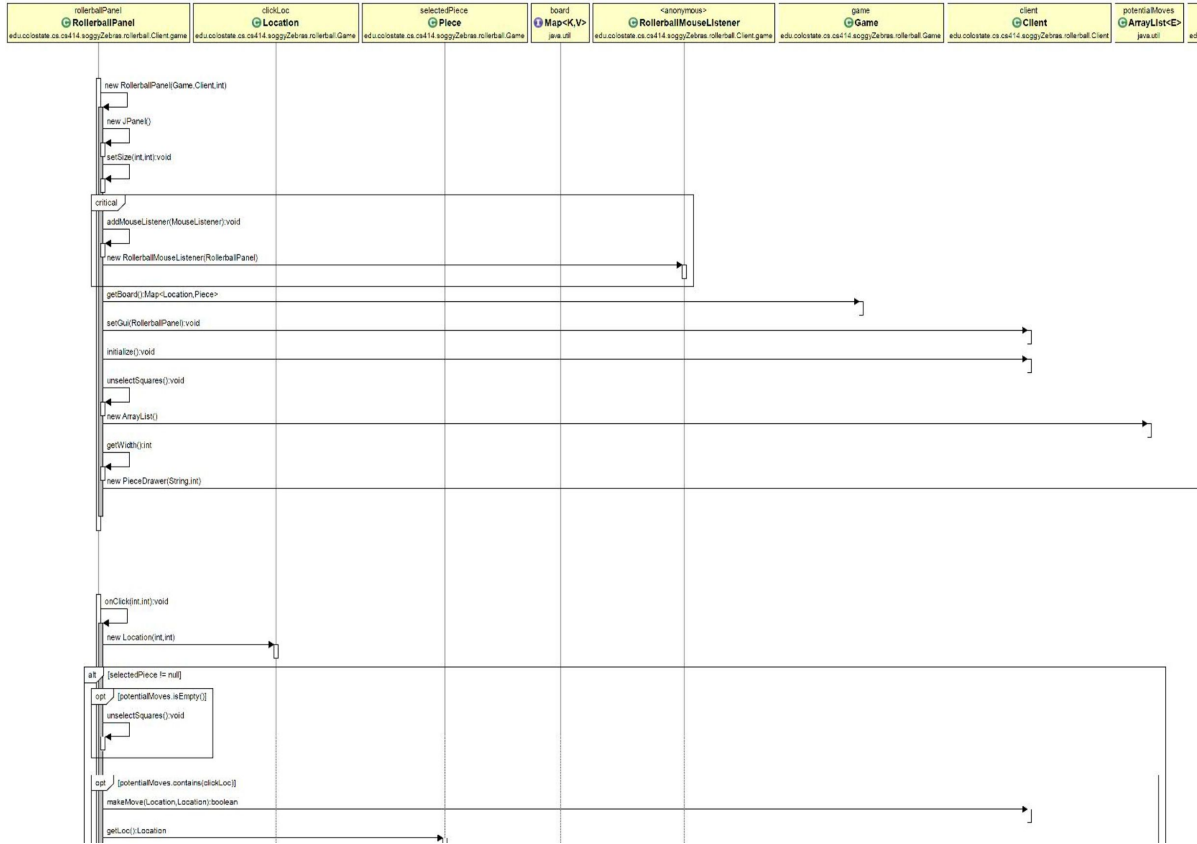
Class Diagram(s)



Sequence Diagram(s)



Sequence Diagram(s)



Tools used:

- IntelliJ
- Java 1.8
- Git/Github
- AWS for the server
- Swing
- mySQL database
- groupMe

Patterns:

- Model View Presenter
- Observer for the GUI

Extra features

- Ability to play against an AI/Bot
- Hashing password SHA512
- Ready to release and be played with only running 1 command

Refactoring

- Single game to multiple games
- Server sends messages directly to a RollerballPanel instance -> Server sends messages to MenuGUI which sends messages to all open RollerballPanels (allowing multiple games to be open)
- Human Users to AI player
- Move winCondition method
- Migrating code from single system to distributed

Challenges and Lessons learned

- **Object Serializability**
- **Databases**
- **Code Design**
- **Time Conflicts**
- **GUI programming**
- **Migration from single instance to distributed system**
- **Code compartmentalization and debugging**