PokerCast (Team #3)

Incremental & **Regression** Testing

Yongsun Hong

Joe Koncel

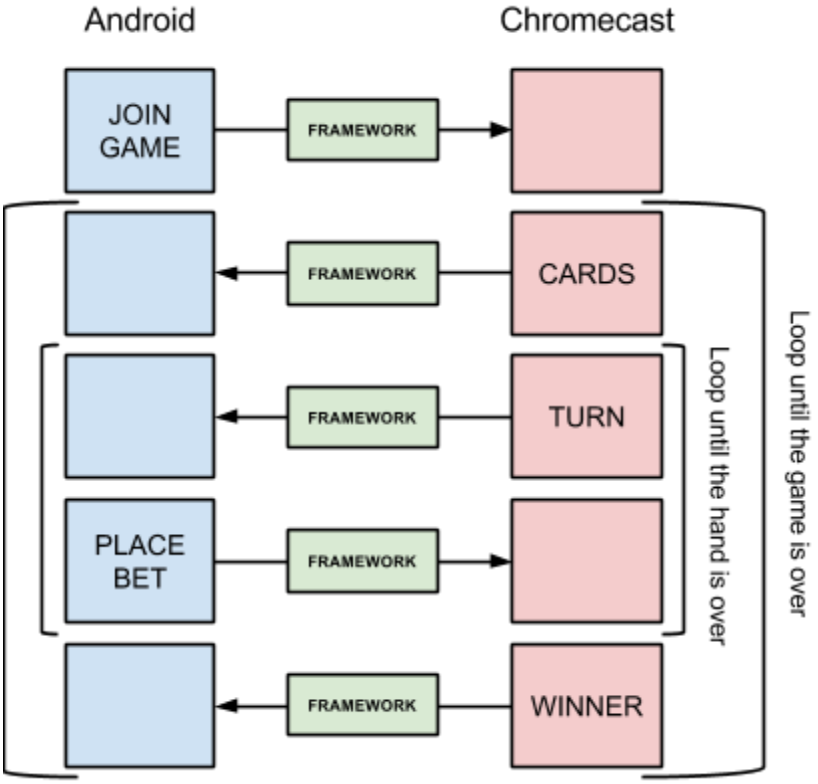
Inhwan Lee

Anthony Natoli

Brandon Porter

Ben Wencke

Coordinator: Mingyuan Wang

1. Components
    a. Android application
    b. Chromecast receiver
    c. Interaction between Android application and Chromecast receiver
        i. The Android and Chromecast receiver components interact with each other using an open source Chromecast framework (https://github.com/cast-framework)
        ii. Players join the game and place bets from the Android application, which send JSON messages to the Chromecast receiver.
        iii. The Chromecast sends cards, turn information, and the winner to the Android application.
        iv. 

2. We chose to test using the **bottom-up method**. This way we can test components as soon as they are finished instead of waiting on the UI to get finished.
3. Expected I/O
    a. Android application
    b. Chromecast receiver
    c. Interaction

Android application	Chromecast receiver
When the app starts: {	Responds with: {

‘command’: ‘join’,
‘content’: {
‘name’: string
}
}
	‘command’: ‘join’,
	‘content’: {
	‘success’: boolean,
	‘host’: boolean,
	‘player_id’: string,
	‘name’: string
	}
	}

When the Host presses “start”:
{
‘command’: ‘start_hand’,
‘content’: {
‘aiPlayers’: int,
‘chipsPerPlayer’: int
}
}
	Respond by sending everyone his/her hand.

Respond by displaying the cards on screen. Starts betting loop.	Send a hand to each player:
	{
	‘command’: ‘hand’,
	‘content’: {
	‘card1’: string,
	‘card2’: string,
	‘chips’: int
	}
	}

Respond by checking if it is his/her turn, and if so allows them to bet.	Notify the players of whose turn it is:
	{
	‘command’: ‘turn’,
	‘content’: {
	‘last_bet’: int,
	‘player_id’: string
	}
	}

When a player bets:
{
‘command’: ‘my_turn’,
‘content’: {
‘bet’: int
}
}
	Respond by sending out the next turn command.

Respond by waiting for the next hand.	When a hand is over: {

	‘command’: ‘end_hand’,
	‘content’: {
	‘winner_id’: string,
	‘pot_value’: int
	}
	}

4. Incremental Testing

Android, Defect 1, Severity 1
Description: Players were always in a state of waiting for players after players had joined.
Solution: Change handling of json message for ‘start’ command so that it no longer handles the message since it is unnecessary.

Chromecast, Defect 2, Severity 2
Description: At the end of a hand, the pot would not reset it’s value to zero.
Solution: Implement a function that resets the pot value and returns the value it held.

Chromecast, Defect 3, Severity 2
Description: When cards are dealt, they are not removed from the deck so repeats are possible.
Solution: Use the splice function on the deck array so it removes the card from the deck.

Both devices, Defect 4, Severity 1
Description: The ‘hand’ command encounters an issue on the Android device because it is expecting the cards to be dealt as individual key value pairs rather than a single array.
Solution: Adjusted the ‘hand’ content on the server end to meet these expectations.

Android, Defect 5, Severity 1
Description: The android application crashed when trying to access shared preferences.
Solution: Read shared preferences in onCreate rather than in onClicked listener.

Android, Defect 6, Severity 2
Description: When fragments switched, loading dialog still present.
Solution: Add dismiss dialog code.

Android, Defect 7, Severity 2
Description: Changing fragment doesn’t queue previous fragment.
Solution: Kill JoinFragment using CastManager.

Android, Defect 8, Severity 1
Description: Not receiving a turn message.
Solution: Handling message incorrectly, fixed it so fragment properly handled message.

Chromecast, Defect 18, Severity 2
Description: The winner of the hand is always the first player in the order.
Solution: Implement a system for comparing hands to determine a winner.

5. Regression Testing

Chromecast, Defect 9, Severity 1
Description: Players aren't receiving cards.
Solution: Since we had changed the cards array to an observable array, we should have updated existing references to use knockout syntax.

Android, Defect 10, Severity 1
Description: AI Players aren't being added and the betting loop isn't starting.
Solution: The Android device was sending the "start_hand" command with "aiPlayer" instead of "aiPlayers" and it caused the receiver to throw an exception.

Android, Defect 11, Severity 1
Description: The betting buttons aren't activating when the device receives a "turn" command.
Solution: The hand fragment needed to become the new onMessageReceivedListener for the CastManager.

Android, Defect 12, Severity 2
Description: For larger chip counts, the number doesn't display correctly on smaller screens.
Solution: The text size of Linear layout that shows the chip counts were too big for small screen devices. Text size is now reasonably sized.

Chromecast, Defect 13, Severity 3
Description: The AI players play too fast to keep up with whose turn it is.
Solution: The AI players wait 2 seconds before they bet.

Chromecast, Defect 14, Severity 1
Description: The receiver can't tell the difference between AI and human players and tries to send messages to AI players, which causes the app to crash!
Solution: Player objects have a field "type" that is either "Player" or "AIPlayer" and the receiver won't try to send messages to AI players.

Chromecast, Defect 15, Severity 2

Description: At the end of a hand, the winner object is being sent instead of the winner id and the winner name.
Solution: Send the winner id and winner name instead of the winner object.

Chromecast, Defect 16, Severity 1
Description: If a player bets instead of folds, then the app crashes.
Solution: We were overwriting the function stored in player.chips with a number.

Chromecast, Defect 17, Severity 2
Description: If one of the Android clients is on the Host Fragment when the app sends out a "turn" command, the Android app will crash because it is expected a "hand" command.
Solution: The onMessageReceived method needs to check the command to ensure it is what the app is expecting.

Chromecast, Defect 19, Severity 2
Description: The chip count on the android device does not match the chip count on the server.
Solution: Server was not including the amount of chips of the player in the 'Hand' message. The hand message is corrected to include the chips.

Chromecast, Defect 20, Severity 2
Description: Always returns that the round is over after a player's turn.
Solution: Fix structure of for-each from a callback function to a for loop.

Chromecast, Defect 21, Severity 2
Description: The players can bet more chips than they have.
Solution: Change the betting restrictions to limit betting amounts.

Android, Defect 22, Severity 1
Description: In betting sequence, when the user cancels the betting dialog or bets less than the last bet, all the buttons are disabled, and everyone gets stuck.
Solution: Buttons were being disabled after the whole dialog sequence is over. Therefore, canceling or getting error dialog will also end up having disabled button. Now, disabling function is being triggered when the betting is successfully completed.