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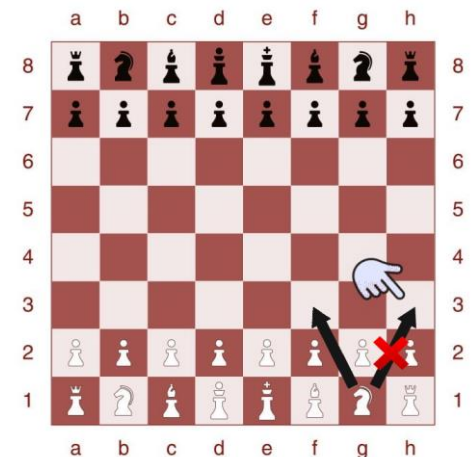
ENGINEERING
TEXAS A&M UNIVERSITY

Team 15: Rogue Chess App Status Update 5

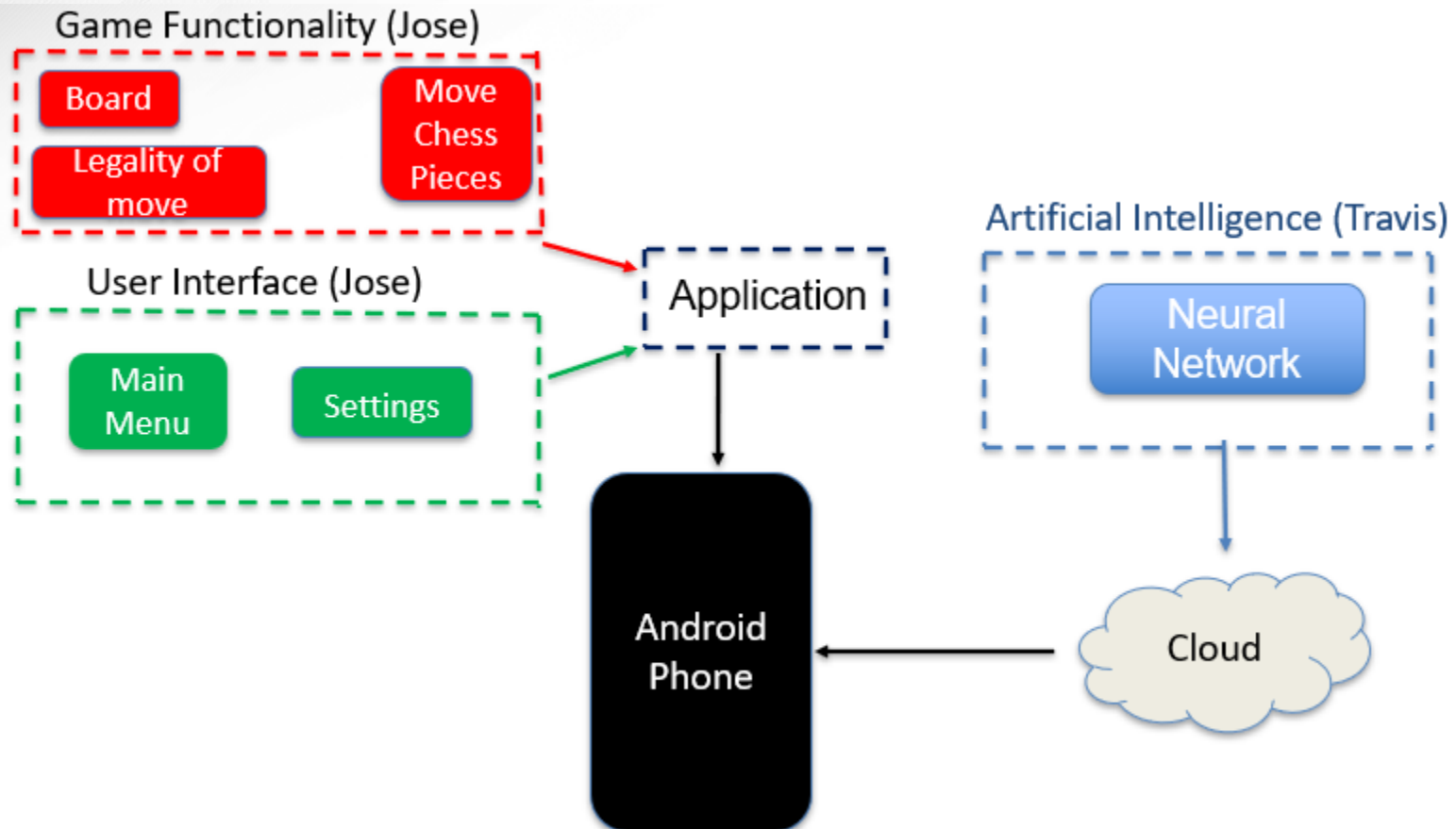
Jose Herrera, Travis Head
Sponsor: Pranav Dhulipala
TA: Eric Robles

Project Summary

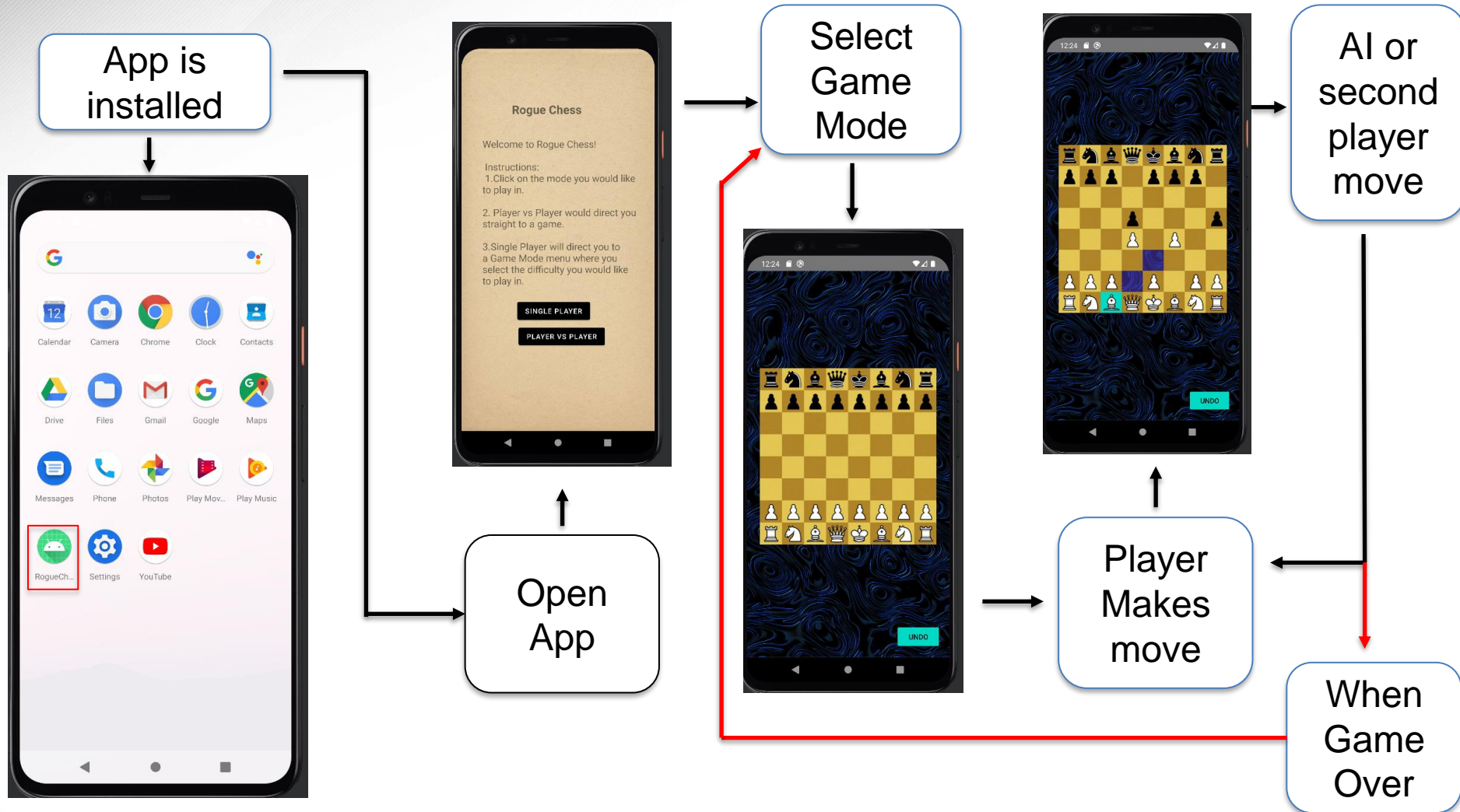
- Problem: There are many variations of the game of chess; however, after a while it can be predictable or lack of excitement.
- Proposed Solution: Develop an app of a new chess variation with a randomization factor for Android products.
 - Develop an AI for Single Player Mode
 - Create a randomization factor
 - Create a User Interface for the players interaction
 - Highlighted boxes to assist the player in making the next move legally
 - Create different difficulty levels
 - Upload the contents to the cloud



Project Overview



Integrated System Diagram





Project Timeline

Subsystem Corrections (to complete by 9/19)	Research for Server Integration (completed 9/12)	Connection of Game App to Server (to complete by 9/20)	Connection of AI & App (to complete by 9/26)	Final Integration (to complete by 10/31)	Validation (to complete by 11/16)	Demo and Report (to complete by 11/28)
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 - Completed

 - In Progress

 - Not Started



Team Integration Progress

Jose Herrera and Travis Head

Accomplishments since last presentation 30 hrs of effort	Ongoing progress/problems and plans until the next presentation
<ul style="list-style-type: none">• App data outputs for piece movement• Gathered Reviews of App in 2-Player Mode• Board data pre-processing	<ul style="list-style-type: none">• Finalize integration with A.I. for post-processing• Finish all validation testing

Team Integration

Piece Pre-Processed Data

```

[[[0, 1, 0, 0, 0, 0, -1, 0], 2,
 [0, 1, 0, 0, 0, 0, -1, 0], 2,
 [0, 1, 0, 0, 0, 0, -1, 0], 2,
 [0, 1, 0, 0, -1, 0, 0, 0], 2,
 [0, 1, 0, 0, 0, 0, -1, 0], 2,
 [0, 1, 0, 0, 0, 0, -1, 0], 2,
 [0, 1, 0, 0, 0, 0, -1, 0], 2,
 [0, 1, 0, 0, 0, 0, -1, 0], 2,
 [0, 1, 0, 0, 0, 0, -1, 0], 2,
 [0, 0, 0, 0, 0, 0, 0, 0], 2,
 [2, 0, 0, 0, 0, 0, 0, -2], 2,
 [0, 0, 0, 0, 0, 0, 0, 0], 2,
 [0, 0, 0, 0, 0, 0, 0, 0], 2,
 [0, 0, 0, 0, 0, 0, 0, 0], 2,
 [0, 0, 0, 0, 0, 0, 0, 0], 2,
 [2, 0, 0, 0, 0, 0, 0, -2], 2,
 [0, 0, 0, 0, 0, 0, 0, 0], 2,
 [[0, 0, 0, 0, 0, 0, 0, 0], 2,
 [0, 0, 0, 0, 0, 0, 0, 0], 2,
 [3, 0, 0, 0, 0, 0, 0, -3], 2,
 [0, 0, 0, 0, 0, 0, 0, 0], 2]]

```

```

[3, 0, 0, 0, 0, 0, 0, -3], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[[4, 0, 0, 0, 0, 0, 0, -4], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[4, 0, 0, 0, 0, 0, 0, -4], 2,
[[0, 0, 0, 0, 0, 0, 0, 0], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[5, 0, 0, 0, 0, 0, 0, -5], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[[0, 0, 0, 0, 0, 0, 0, 0], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[6, 0, 0, 0, 0, 0, 0, -6], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[0, 0, 0, 0, 0, 0, 0, 0], 2,
[0, 0, 0, 0, 0, 0, 0, 0]]]

```

Key:

- 1: White Pawn
- 2: White Knight
- 3: White Bishop
- 4: White Rook
- 5: White Queen
- 6: White King

- 1: Black Pawn
- 2: Black Knight
- 3: Black Bishop
- 4: Black Rook
- 5: Black Queen
- 6: Black King



Team Validation Plans

Jose Herrera and Travis Head

Accomplishments since last presentation 7 hrs of effort	Ongoing progress/problems and plans until the next presentation
<ul style="list-style-type: none">Developed validation scenarios for Single Player Mode	<ul style="list-style-type: none">Test play in Single Player ModeRequest feedback of A.I. gameplay



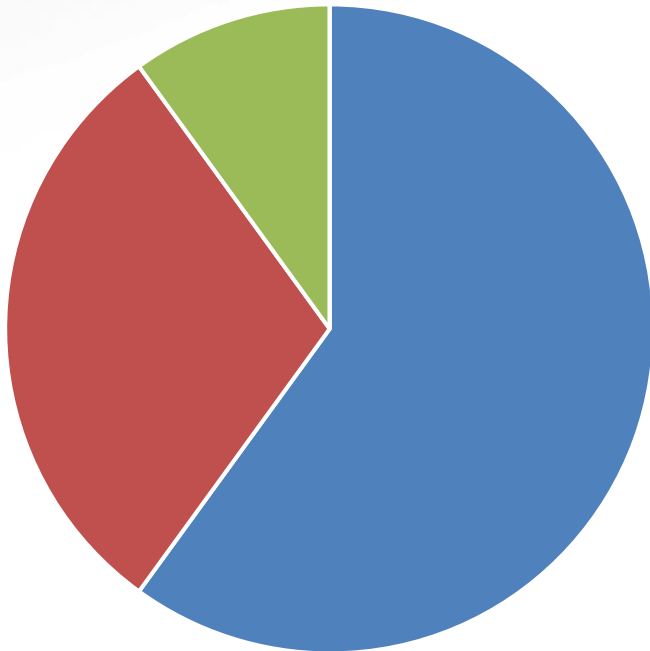
Scenario & Validation Plans

Jose Herrera and Travis Head

Scenario	Validation Plan
A.I. moves all pieces in 1P	Play games in 1P and record
A.I. captures in 1P	Prompt A.I. with positioning
1P Mode stability	Similar checks from subsystem
Wait between user's moves	Use phone timer

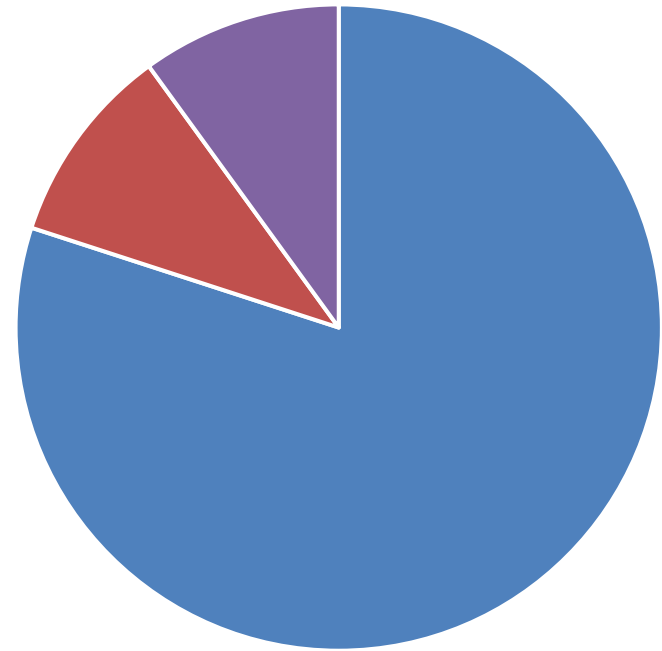
Reviews

Graphics



■ Great ■ Good ■ Needs Improvement ■ Distracting

Gameplay



■ Fun ■ Not Fun ■ Frustrating

Execution Timeline

	5-Sep	12-Sep	19-Sep	26-Sep	3-Oct	10-Oct	17-Oct	24-Oct	31-Oct	7-Nov	14-Nov	Date
Game Functionality	🟢	🟢	🟢	⬜️	⬜️	⬜️	⬜️	⬜️	⬜️	⬜️	🟢	Completed
A.I Improvements	🟢	🟢	🟢	⬜️	⬜️	⬜️	⬜️	⬜️	⬜️	⬜️	🔴	Behind Schedule
App Server Connection	⬜️	⬜️	🟢	🟢	⬜️	⬜️	⬜️	⬜️	⬜️	⬜️	⚫️	Not Started
AI Server Connction	⬜️	⬜️	🟢	🟢	⬜️	⬜️	⬜️	⬜️	⬜️	⬜️	🟡	In Progress
Full Server Integration	⬜️	⬜️	⬜️	⬜️	🟡	🟡	🟡	🟡	⬜️	⬜️	⬜️	



Execution & Validation Plan

Test Name	Success Criteria	Status	Responsible Engineer
Data Size Requirements	Application is under 20Mb.	TESTED	Jose
Randomization Difficulty	90%, 70%, or 50% obedience rate corresponding to Easy, Medium, Hard.	Untested	Jose
Chess Piece Movement	Each type of Piece moves only to respective ruleset.	TESTED	Jose
App Menu Functionality	Main Menu is visible, and each option is selectable. Selecting a game mode starts a match. Difficulty option opens a new menu that saves selected setting.	TESTED	Jose
App Graphics	Menus, board, pieces, and highlighted tiles are all visible when needed.	TESTED	Jose



Execution & Validation Plan

Test Name		Status	Responsible Engineer
A.I. Rating	Elo Rating of at least 1300.	Untested	Travis
A.I. Movement	Artificial Intelligence can input a valid move on its turn.	TESTED	Travis
App Connection	Single Player game shows A.I. making moves.	Untested	Jose & Travis
Response Time	A.I. moves a piece in app within 2 seconds of User making a move in Single Player.	Untested	Jose & Travis



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Questions?