Project Micro-Charter

Project Name:
American Checkers Game

Vision:
To host the American Checker's game on the public platform and make it accessible to everyone around the globe.

Project purpose:
To enable two players to play American checker's game such that at the end either a player can win or lose or make a draw with opponent player.

Elevator pitch:
This application contains a unique and user-friendly GUI design which will make you feel comfortable while playing. It also allows users to use either drag and drop option or touch and place for making a move. And a selected piece gets highlighted based on selection.

Business value:
We implemented the project based on Object-Oriented Programming principles using Java Latest Version and Java Swing which makes this application sustain for a long run. We are implementing the design to handle heavy traffic to reduce crashes.

Customers and users:
Users – Players who wants to play Online American Checkers Game irrespective of age.
Customers – Anyone who is interested in hosting our application online (e.g : a website owner to host the game for users, professor for students, etc)

Metrics:
The success of this application will be measured using average numbers of games played per month.

Milestones:
Human playing American checkers with another human
Human playing American checkers with computer

Risks:
Competitive Risks (Having many competitors outside for American Checkers Game)
Operational Risks (IT System Risk by having poor internet connection)

User Stories

Describe all user stories using the following template: As a <role>, I want <goal> [so that <benefit>]

ID	User Story Name	User Story Description	Priority	Estimated effort (hours)	Actual effort (if completed)	Status (completed, toDo, inProgress)	Developer names
1	User Starting Checkers Game	The user starts the Application of the game then the board with checker's pieces placed in correct positions is displayed.	High	10	11	completed	Eeshwara Sai Tota, Sai Kishore Reddy Surabhi, Venkata Subba Rao Inti
2	Player Moving Piece	The player makes a legal move.	High	10		inProgress	Sai Mukesh Parvathaneni, Hemanth Bandi
3	King promotion	When player's piece reaches last row, it promotes to king piece	Medium	10		toDo	
4	Capturing piece	When a player's piece hops over the opponent player's piece, he captures the opponent player's piece	High	10		toDo	
5	End of the game	When a player captures the opponent's last piece or when there is not valid move for the player or the players agree to a draw by mutual agreement, then the game should end	High	10		toDo	

Acceptance Criteria (AC)

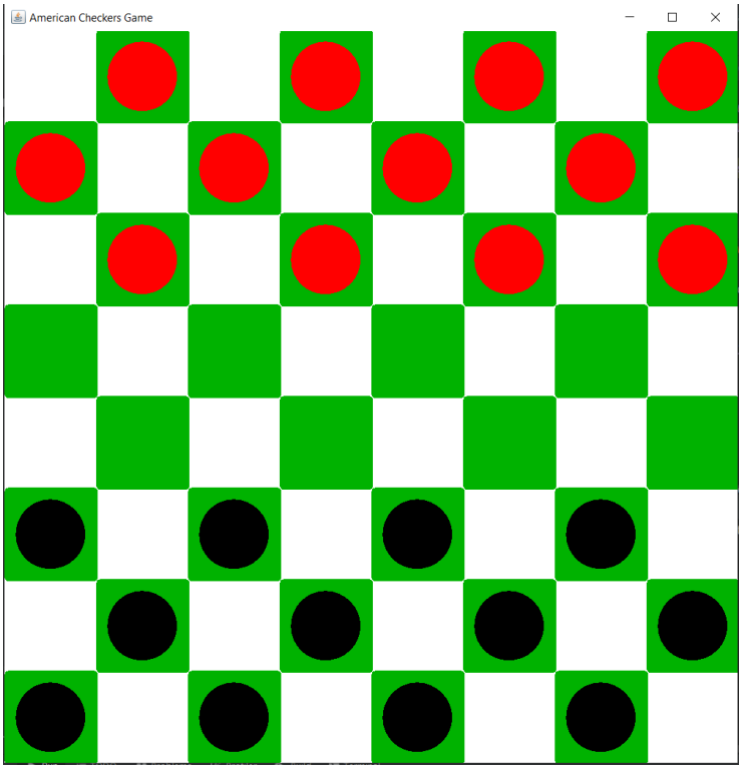
Describe all acceptance criteria using the Given-When-Then template.

User Story ID and Name	AC ID	Description of Acceptance Criterion	Status (completed, toDo, inProgress)	Developer Names
1 User Starting Checkers Game	1.1	**AC 1.1** Start of the game **Given** the game application **When** the user runs the application **Then** a checkers board is displayed with alternate white and green squares	Completed	Eeshwara Sai Tota, Sai Kishore Reddy Surabhi, Venkata Subba Rao Inti
	1.2	**AC 1.1** Checkers piece placement on board **Given** the user runs the application **When** the checkers board is loaded **Then** the checkers pieces must be arranged in their correct position	Completed	Eeshwara Sai Tota, Venkata Subba Rao Inti

2 Players Moving Piece	2.1	**AC 2.1** First Move by Black **Given** a checkers board with checker pieces **When** the black player tries to make the first move of the game **Then** the player black should be able move his piece to desired position	In Progress	Eeshwara Sai Tota, Sai Kishore Reddy Surabhi
	2.2	**AC 2.2** Invalid first move by red **Given** a checkerboard with checker pieces **When** player red tries to make the move **Then** player should not be able to move his piece to desired position	In Progress	Eeshwara Sai Tota, Sai Kishore Reddy Surabhi, Venkata Subba Rao Inti
	2.3	**AC 2.3** Making a Valid Move **Given** a player's turn to make a move **When** a player tries to make a valid move **Then** the player should be able to make a valid move.	In Progress	Sai Mukesh Parvathaneni, Hemanth Bandi
	2.4	**AC 2.4** Making Invalid Move **Given** a player's turn to make a move **When** a player tries to make an invalid move **Then** the player should not be able to make an invalid move.	In Progress	Sai Mukesh Parvathaneni, Hemanth Bandi
	2.5	**AC 2.5** Making Valid Move by king piece **Given** a player's turn to make a move **When** a player tries to make a valid move using king piece **Then** the player should be able to make a valid move.	To Do	
	2.6	**AC 2.6** Making an Invalid move by king piece **Given** a player's turn to make a move **When** a player tries to an invalid move by king piece **Then** the player should not be able to make an invalid move.	To Do	
3. King Promotion	3.1	**AC 3.1** Promoting a normal piece to king piece **Given** a player's turn to move **When** the player's piece reaches last row **Then** the piece should be promoted to king piece	To Do	
	3.2	**AC 3.2** Unsuccessful promotion of king **Given** a player's turn to move **When** the player's piece did not reach the last row **Then** the player's piece should not be promoted to king piece	To Do	
4. Capturing a Piece	4.1	**AC 4.1** Making a Hop over opponents' piece **Given** a player's turn to move **When** a player makes a valid hop over opponent's piece **Then** the player should be able to make the valid hop and capture the opponent's piece.	To Do	
	4.2	**AC 4.2** Making an unsuccessful Hop over same color piece **Given** a player's turn to move **When** a player makes an invalid hop over same colored piece **Then** the player should not be able to make the invalid hop and capture the piece	To Do	

5. End of the Game	5.1	**AC 5.1** Winning the Game **Given** a player's turn to move **When** the player captures opponent's last piece **Then** the player wins the game and win message appears on the screen.	To Do	
	5.2	**AC 5.2** Drawing the Game **Given** a player's turn to move **When** neither player captures the opponent's piece in last 40 moves **Then** the game ends in draw and draw appears on the screen.	To Do	
	5.3	**AC 5.3** Winning the Game with no legal moves left **Given** a player's turn to move **When** a player has no legal move to make **Then** the opponent wins and win message appears on the screen.	To Do	

Initial User Interface Design



Description:

- The above American Checkers Game Board contains 8x8 square board which includes 64 small grids.
- It contains 32 white grids and 32 green grids.
- It includes 12 Black pieces on one side of the board and 12 Red pieces on the other side of the board.
- All pieces should be placed in the dark green grids initially before starting the game.

Implementation Tasks

1. Summary of production code

Summarize how each user story/acceptance criterion is implemented in your production code (class name and method name etc.)

User Story ID and Name	AC ID	Class Name(s)	Method Name(s)	Status (complete or not)	Developer Name(s)	Notes (optional)
1 User Starting Checkers Game	1.1	AmericanCheckersGame	testCheckersBoard()	Completed	Eeshwara Sai Tota, Sai Kishore Reddy Surabhi, Venkata Subba Rao Inti	Checks if board is visible or not
User Starting Checkers Game	1.2	AmericanCheckersGame	testCheckersoardPiecePlacement()	Completed	Eeshwara Sai Tota, Sai Kishore Reddy Surabhi, Venkata Subba Rao Inti	Checks if pieces are placed in correct position

Summary of automated test code directly corresponding to some acceptance criteria

Summarize how user stories/acceptance criterion are tested by your test code (class name and method name).

User Story ID and Name	Acceptance Criterion ID	Class Name (s) of the Test Code	Method Name(s) of the Test Code	Description of the Test Case (input & expected output)	Status	Developer Name(s)
1 User Starting Checkers Game	1.1	CheckersBoardTest	testCheckersBoard()	Checks if board is visible or not	PASS	Eeshwara Sai Tota
	1.2	CheckersBoardTest	testCheckersBoardPiecePlacement()	Checks if pieces are placed in correct position	PASS	Sai Kishore Reddy Surabhi

2. Summary of manual test cases directly corresponding to some acceptance criteria

Summarize how user stories/acceptance criterion are tested manually

User Story ID and Name	Acceptance Criterion ID	Test Case Input	Test Oracle (Expected Output)	Status	Notes	Developer Name(s)
1	1.1	-	Checkers board	PASS	Checkers board should be display	Venkata Subba Rao Inti
	1.2	-	Piece arrangement	PASS	Checkers piece should be arranged correctly	Sai Mukesh Parvathaneni, Hemanth Bandi

3. Summary of other automated or manual tests not corresponding to the acceptance criteria

Number	Test Input	Expected Result	Class Name of the Test Code	Method Name of the Test Code	Status	Developer Name(s)
1	RED, BLACK	RED, BLACK	CheckersPiecePositionTest	testCheckersPieceColor()	PASS	Eeshwara Sai Tota, Venkata Subba Rao Inti
2	-	false, true	CheckersPiecePositionTest	testCheckersKingPiece()	PASS	Sai Kishore Reddy Surabhi, Hemanth Bandi

Meeting Minutes

Report the minutes of all meetings, including, but not limited to: project/sprint planning meeting, stand-up meeting, backlog grooming, retrospective meeting, and pair programming session.

Date	Time and Duration	Place	Participant Names	Purpose of the Meeting	Specific Action Items
09-25-2021	5:30 PM, 3 Hours	Zoom Video Meeting	Sai Kishore Reddy Surabhi, Eeshwara Sai Tota, Venkata Subba Rao Inti, Sai Mukesh Parvathaneni, Hemanth Bandi	Discuss User Stories and Acceptance Criteria for the project.	• Implement user stories, document user stories properly. • Implement Acceptance Criteria for each user story and document them properly.
09-30-2021	5:30 PM, 4 Hours	520 E Study Room	Sai Kishore Reddy Surabhi, Eeshwara Sai Tota, Venkata Subba Rao Inti, Sai Mukesh Parvathaneni, Hemanth Bandi	Implement the production code in java and prepared one page description of the project.	• Implement the production code for the documented user stories and acceptance criteria. • Implement graphical user interface (GUI) for the game with board and pieces.
10-07-2021	5:30 PM, 4 Hours	Zoom Video Meeting	Sai Kishore Reddy Surabhi, Eeshwara Sai Tota, Venkata Subba Rao Inti, Sai Mukesh Parvathaneni, Hemanth Bandi	Implement test code and rectify any errors in the code.	• Implement test code for the production code. • Rectify the errors in the production code using test code. • Prepare video description for the project.

Buddy Ratings

Rating receiver

Rating giver	Eeshwara Sai Tota	Inti Venkata Subba Rao	Sai Kishore Reddy Surabhi	Sai Mukesh Parvathaneni	Hemanth Bandi
Eeshwara Sai Tota	X	1	1	1	1
Inti Venkata Subba Rao	1	X	1	1	1
Sai Kishore Reddy Surabhi	1	1	X	1	1
Sai Mukesh Parvathaneni	1	1	1	X	1
Hemanth Bandi	1	1	1	1	X
Average	1	1	1	1	1