Team Project Sprint #1

Instructions

Please read the instructions carefully. All members of your team should discuss the instructions together to ensure that everyone is on the same page.

Objectives

Create a brief project description, specify all requirements (i.e., all user stories and acceptance criteria) of the target software that allows a human player to play against either a human or a computer opponent, and implement the primitive functions (i.e., board object and visualization, and piece placement for both players). Each team should meet at least once a week. One meeting may serve multiple purposes in the Scrum process.

Deliverables and Grading Policy

1. Project Report (**20 points**)

   The project report should include the following sections:

   I. Project description (micro-charter), which should result from group discussion **(1 point)**.

   II. User stories using the template discussed in class. **(2 points)**
   Provide a complete list of user stories and estimated efforts for the target software that allows a human player to play against either a human or a computer opponent. The planning poker approach to the effort estimation should be performed by the entire team.

   III. Acceptance criteria using the template discussed in class. **(10 points)**
   Provide complete acceptance criteria for each of the user stories related to all the functions for a human player to play a complete game either a human or a computer opponent. Note that, although some of the user stories will be implemented in the future sprints, their acceptance criteria need to be defined in the first sprint. You may continue to improve the user stories and acceptance criteria in the next sprint.

   IV. Implementation tasks **(5 points)**
   Describe the production code, automated test code or manual test case for each user story and acceptance criterion related to the implementation of the primitive functions, i.e., board object and visualization, and piece placement for both players. For each acceptance criterion of every user story for the primitive functions, you need to implement at least one test (either test code or manual test case).

   V. Minutes of ALL meetings, including, but not limited to: project/sprint planning meeting, stand-up meeting, backlog grooming, retrospective meeting, and pair programming (or development) session. **(2 points)**

   VI. A table of buddy ratings. Individual members may email their buddy ratings to the instructor or teaching assistant.

   Each team only needs to submit one report. For an individual member to receive the credit for this part of the project, the team's project report must include explicit evidence of his/her contribution (e.g., his/her name is listed as a developer).

2. Demonstration **(5 points)**

   Submit a 5-minute video, clearly demonstrating that:

a) your project has implemented the working software for the primitive functions, i.e., board object and visualization, and piece placement for both players.
b) for each acceptance criterion of every user story for the primitive functions, your project has implemented either an automated test method or performed an acceptance test manually.
c) your project has some unique features or enhancements (optional).

Grading of the demonstration is based on completion of the required functions (**2 points**), and overall presentation (**3 points**) using the following evaluation rubric:

	Poor	Fair	Good	Very Good	Excellent
Was the demonstration logically organized					
Were points made clearly and concisely					
Were the instructor’s questions, if any, answered satisfactorily					

Team Project Sprint #1

Report Template

Team Name: Forgetful Wanderers
Team Members: Zach Gharst, Thomas Yang, Ken Dozier, Joe Soria, Thomas Tran

I. Project Micro-Charter (no more than one page)

Our project name is "M-3" which stands for "Milling Milking Milkmen". We use software methodologies such as Scrum, testing, and version control to create and deliver finished products in a reasonable timeline. Through this project, we aim to create a fun and unique take on the well-known game "Nine Men's Morris" as a product; players will have the choice of playing against a friend on the same device or against a computer opponent using a point-and-click (or touch) interface. This entertainment product will get exposure in the games marketplace and create an online presence for the project customer. Our project customer could release this game on the mobile, console, or PC marketplaces to attract an online customer base. We will measure the success of the product through metrics such as daily active users, daily active minutes, releasing-early-and-often, and customer engagement. We have several milestones: (1) functional primitive functions, (2) usable product with all logic functions, and (3) polish and unique-ness. To achieve these milestones, we will have to avoid certain risks. There is a risk that the value of our product backlog becomes too low to justify continuing with our project. There is also a risk that the lower experience of our team could result in a slower timeline. We can mitigate these risks by are usage of software methodologies.

Authors: Thomas Tran, Zach Gharst

II. User Stories

ID	User Story Name	User Story Description	Priority	Estimated effort (hours)	Actual effort (if completed)	Status (completed, toDo, inProgress)	Developer names
1	Game menu	**As a player, I need a menu that allows me to start a new game or exit the program	Low	1		To do	Thomas Tran
2	Opponent	As a player, I need a choice between a computer opponent or another player.	Low	5		To do	TBD
3	Player ordering	One player will be assigned white pieces and the other player will be assigned black pieces.	Med	1		In Progress	Zach Gharst
4	Starting Board	As a player, I need an empty board and an opponent to start playing the game.	Very High	2	2	Completed	Zach Gharst
5	Player's first turn	To play the game, we need to determine which player goes first (first player is white pieces).	Med	1	1	Completed	Zach Gharst
6	Phase 1 (placement)	As players, we need to alternate placing 9 pieces (each) on the board per player.	Very High	3	2	In Progress	Zach Gharst, Thomas Tran
7	Valid placement of piece	To make a move, as a player, I need a board that indicates which spots are open and available to click on.	Very High	3	1	In Progress	Ken Dozier, Joe Soria
8	Mill Rule	As a player, when I have a mill (three pieces in a row), I can eliminate an	High	3		In Progress	Zach Gharst,

		opponent’s piece that is not in a mill unless the opponent only has pieces that are part of a mill.					Thomas Tran
9	Phase 2 (Play)	After all pieces have been placed, the board state should switch to the second (play) phase.	High	1		To do	Ken Dozier, Joe Soria
10	Movement	During phase two, if it is my turn, I want to select one of my pieces and move it to an adjacent vacant spot. (then #18 check for mill)	High	3		To do	Thomas Yang
11	Phase 3 (flying)	Once a player has three pieces left, that player enters phase 3 and can fly (move 1 piece per turn to any open spaces on the board).	High	3		To do	Thomas Yang
12	Exit the game	As a player, I want an option to forfeit the game early (forfeit button)	Low	2		To do	Ken Dozier, Joe Soria
13	UI turn check	As a player, I would like an indicator of whose turn it is currently.	Low	1		To do	Thomas Tran
14	Score display	As a player, I would like to know what my current score is.	Low	1		To do	Thomas Tran
15	Undo button	As a player, I want an undo button to go back one turn (AI only).	Low	2		To do	Joe Soria
16	Board changes	As a player, I want different boards to play on (different board design)	Very Low	4		To do	Joe Soria
17	Request draw	As a player, I would want a to request a “draw” when pieces are on stalemate condition.	Very Low	1		To do	Joe Soria
18	Reset	As a player, I would like to easily reset the board and start a new game.	Med	1	0.5	Completed	Zach Gharst
19	History	As a player, I would like a tab or section to show recent moves made	Very Low	2		To do	Zach Gharst
20	UI polish	As a player, I would like a “highlight”/glowing light for vacant spaces.	Low	1		To do	Thomas Tran
21	Win Condition 1	After each player’s turn, if the opponent has 2 pieces remaining, the player wins.	High	2		To do	Zach Gharst
22	Win Condition 2	After each player’s turn, if the opponent cannot make a valid move, the player wins	High	2		To do	TBD

III. Acceptance Criteria (AC)

User Story ID and Name	AC ID	Description of Acceptance Criterion	Status (completed, toDo, inProgress)	Developer Names
1 Game Menu	1.1	GIVEN the program is initiated to run THEN a menu should open AND have a selection to exit or enter game.	To do	Thomas Tran

	1.2	Given the menu has start game button, When the start button is pressed, Then the menu will proceed to choosing and human or computer opponent.	To do	Thomas Tran
2 Opponent	2.1	GIVEN the program has initiated THEN the menu will ask for an enemy option AND I can select whether to play human or computer.	To do	Thomas Tran
	2.2	GIVEN the user made a choice for compute opponent THEN another menu should open for computer difficulty AND have a selection for "EASY, INTERMEDIATE, HARD"	To do	Thomas Tran
3 Player ordering	3.1	GIVEN that there's only 2 valid players AND a white piece always goes first THEN a random factor will decide which color the players will be.	In Progress	Zach Gharst, Ken Dozier
	3.2	GIVEN that players have been assigned a color WHEN the game has started THEN no two player should be assigned the same color.	In Progress	Zach Gharst, Ken Dozier
	3.3	GIVEN that the players are chosen randomly to be white WHEN the game has started THEN there should be an equal chance for either player to be assigned white.	In Progress	Zach Gharst, Ken Dozier
4 Starting Board	4.1	GIVEN that the game has started THEN the board should be empty AND appropriate players with selected color is ready.	Completed	Zach Gharst, Ken Dozier
5 Player's first turn	5.1	GIVEN that the game has started, WHEN the board is ready, THEN an it is white's turn to place a piece.	Completed	Zach Gharst
	5.2	Given that the game has started, When the player has placed a piece, the other player will have a turn to place a piece	Complete	Zach Gharst
6 Phase 1 (placement)	6.1	GIVEN that the game has started WHEN a player makes a move THEN only the appropriate player's turn can put a piece in the board.	Completed	Zach Gharst, Thomas Tran
	6.2	GIVEN that a player clicks on the board WHEN it is not that player's turn THEN it should ask them to wait for their turn.	To do	Zach Gharst, Thomas Tran
7 Valid placements of piece	7.1	GIVEN that the player clicks on a vacant space WHEN it is that player's turn AND it is phase 1 THEN a man should be removed from their pool AND placed on the vacant space.	Completed	Ken Dozier
	7.2	GIVEN that the player clicks on an occupied space WHEN it is that player's turn AND it is phase 1 THEN the player should be alerted that they must place a man on a vacant space.	In Progress	Ken Dozier
	7.3	GIVEN that the player clicks on a vacant space WHEN it is that player's turn AND it is phase 2 THEN the player should be alerted that they are out of unplaced men AND should instead click on a man to move.	To Do	Ken Dozier, Joe Soria
8 Mill Rule	8.1	GIVEN that a player completes a mill (three men in a continuous vertical or horizontal line) WHEN they have completed a vital move THEN they should be presented with the option to click on a piece to be eliminated.	In Progress	Zach Gharst, Thomas Tran

	8.2	GIVEN that a player has clicked on an opposing man in a mill WHEN they have formed a mill THEN the game should check to see if there are any men not in a mill that can be removed first.	In Progress	Zach Gharst, Thomas Tran
	8.3	GIVEN that a player has clicked on an opposing man in a mill WHEN they have formed a mill AND all of the opposing men are in a mill THEN that man should be removed from the board.	In Progress	Zach Gharst, Thomas Tran
9 Phase 2 (Play)	9.1	GIVEN that the black player has ran out of pieces WHEN it is first phase THEN second phase should be enabled.	Completed	Ken Dozier
10 Movement	10.1	GIVEN that a player makes a valid move WHEN it is second phase and the player has finished their move THEN that players turn is ended and the other player's turn starts.	To do	Thomas Yang
	10.2	GIVEN that a player makes a valid move WHEN the player moves a piece to an empty intersection space THEN the piece will move to that empty intersection space.	To do	Thomas Yang, Joe Soria
	10.3	GIVEN that a player makes an invalid move WHEN the player tries to make that invalid move the game will say no, stop, don't do that (not literally) THEN the player will continue to make that invalid move until they give up and make a valid move.	To do	Thomas Yang, Zach Gharst
11 Phase 3 (flying)	11.1	GIVEN a player has only three men remaining, AND desperate measures are called for. THEN player's men are allowed to 'fly' to any vacant cell, not just adjacent ones.	To do	Thomas Yang
	11.2	GIVEN if one player is down to three men AND the other player still has more than three THEN only the player with three men is allowed to fly.	To do	Thomas Yang
12 Exit the game	12.1	GIVEN a player wins, if his opponent AND cannot move, or is down to two men THEN the game announces winner.	To do	Ken Dozier, Joe Soria
	12.2	GIVEN that both players are down to three men AND neither player can capture anything in specific set of moves THEN the game ends in draw.	To do	Ken Dozier
13 UI turn check	13.1	GIVEN that the player's turn THEN an indicator should alert player for turn AND initiate action.	To do	Joe Soria
14 Score Display	14.1	GIVEN that a piece is eliminated THEN a score system should be shown AND inform who's winning	To do	Joe Soria
	14.2	GIVEN a tally of remaining pieces WHEN a player makes a move AND the number of pieces remaining on the bag used THEN it should prompt how many pieces I have left.	Completed	Zach Gharst
	14.3	GIVEN that no pieces are being eliminated WHEN a player makes a move THEN the score should not change.	To do	
15 Undo (Cheaters) Button	15.1	GIVEN that a user is playing against the computer WHEN user places regrets placing a piece THEN user should have an undo button to make better decisions in life.	To do	Joe Soria
16 Board changes	16.1	GIVEN that a user is tired of playing on same boring board THEN user should have other selection board theme AND it changes the board.	To do	Joe Soria
17 Request a draw	17.1	GIVEN that both players are down to three men AND neither player can capture anything in specific set of moves THEN the game ends in draw.	To do	TBD

18 Reset	18.1	GIVEN that a player wants to reset the game WHEN the player is playing against a computer THEN the player should be able to press a button AND the game restarts.	Completed	Zach Gharst
	18.2	GIVEN that a player wants to reset the game WHEN the player is playing multiplayer THEN the game should ask him to forfeit first.	To do	Zach Gharst
	18.3	GIVEN that a player does not wish to reset the game WHEN they are playing THEN the game should retain the state of the game and not reset.	In progress	Zach Gharst
	18.4	Given that the reset button is pressed, When all players agree, Then the board should reset to be empty.	In progress	Zach Gharst, Th
19 History	19.1	GIVEN that a player makes a valid move WHEN it is their turn THEN that turn(move) should be shown in the history tab AND recent moves is displayed.	To do	Zach Gharst
	19.2	GIVEN that a player does an undo WHEN the game is going THEN the history should remove undone actions.	To do	Zach Gharst
	19.3	GIVEN that a player makes an invalid move WHEN it is their turn THEN the history should not add that move to the history tab.	To do	Zach Gharst
	19.4	GIVEN that a player makes an invalid move WHEN it is not their turn THEN the history should not add that move to the history tab.	To do	Zach Gharst
20 UI polish	20.1	GIVEN that a player's turn with highlighted (vacant) spaces WHEN a player attempts to place a piece on unhighlighted space THEN player should be notified for illegal move or nothing happens.	To do	Joe Soria
21 Win Condition (1)	21.1	GIVEN that a player has fewer than two pieces remaining WHEN a player makes a mill THEN the game ends and the other player wins.	To do	Zach Gharst
	21.2	GIVEN that there are more than two pieces for both players WHEN a turn ends THEN the game should continue and not end.	To do	Zach Gharst
	21.3	GIVEN that a player has fewer than two pieces remaining WHEN a player makes a mill THEN the game should ask a player what they want to do: new game or quit.	To do	Zach Gharst
22 Win Condition (2)	22.1	GIVEN that the player's turn ends, WHEN the game checks if the opponent has 2 pieces remaining and/or cannot make any more valid moves THEN the game ends and the player wins.	To do	TBD
	22.2	GIVEN that the player can make a valid move WHEN their turn begins THEN the game should not end.	To do	TBD

IV. Implementation Tasks

Summary of production code

User Story ID and Name	**AC ID**	**Class Name(s)**	**Method Name(s)**	**Developer Name(s)**	**Status**	**Notes (optional)**
4	4.1	Board/BoardManager	Start(), InitGame(), CreateIntersections()	Zach Gharst, Ken Dozier	Completed	
5	5.1	BoardManager	InitGame()	Zach Gharst	Completed	
6	6.1, 6.2	BoardManager/Intersection	Phase1(), OnMouseDown()	Zach Gharst, Thomas Tran	Completed	Currently showing remaining

						pieces in plaintext
18	18.1	BoardManager	ResetBoard()	Zach Gharst	Completed	Currently the button R is to reset; there could be a button in the future if requested.
10	10.110.210.3	BoardManger/Intersection	Phase2(), PieceMovement()	Thomas Yang, Zach Gharst	To do	
11	11.111.2	BoardManger/Intersection	Phase3(), Flying()	Thomas Yang	To do	
13 UI turn check	13.1	TextManager	Update()	Zach Gharst	In Progress	Will be added upon

Summary of automated test code (directly corresponding to some acceptance criteria)

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)

Summary of manual test cases (directly corresponding to some acceptance criteria)

User Story ID and Name	Acceptance Criterion ID	Test Case Input	Test Oracle (Expected Output)	Status	Notes	Developer Name(s)
4	4.1	Start program	The board sprite, empty intersection points, and nine pieces available for each player.	Completed		Zach Gharst
5	5.1	Start program	By default, as a business decision, the white pieces always go first. If a different player wants to go first, they should choose white pieces.	Completed	Shows in plaintext on the left the current player's turn.	Zach Gharst
6	6.1	Mouse click on vacant intersection points while pieces are waiting to be played and it is that player's turn	A man is added as appropriate	Completed		Zach Gharst
6	6.2	Mouse click on vacant intersection points while pieces are waiting to be played and it is that player's turn	Men are no longer allowed to be clicked and phase 2 is initiated.	Completed	Phase 2 is initiated, but phase 2 itself isn't implemented.	Zach Gharst
7	7.1	Mouse click on vacant intersection points while pieces are waiting to be	A man is placed and the remaining pieces is reduced by 1.	Completed		Zach Gharst

		played, and it is that player's turn				
18	18.1	Keyboard press R	All men are removed from the board, it is now white's turn, both players have 9 pieces again, and it's currently phase 1.	Completed; Found Bug	Bug found at end of sprint; bugfix at start of sprint 2.	Zach Gharst
	18.4	Placing pieces after resetting.	After the board resets, every cell becomes vacant.	In Progress Bug found.	Cannot place men after resetting board	Thomas Tran
10	10.1	Player makes a valid move, then the player turn will end	Player's piece will move to a valid intersection point and then the player's turn will end	To do		Thomas Yang
10	10.2	Mouse click to move to an empty adjacent intersection point on the board, and it is that player's turn	The piece will move to that empty adjacent intersection point on the board, and it's currently phase 2	To do		Thomas Yang
10	10.3	Mouse click to move a piece to an invalid intersection point will not work	The piece will not move to that invalid intersection point and the player will have to pick a valid intersection point	Completed	Sorta done, it's only a small implementation that needs to be done.	Thomas Yang, Zach Gharst
11	11.1	When player has only three pieces remaining, phase three will be enabled for player	The player with flying enabled will be able to move their piece to any empty intersection point on the board, and it's currently phase 3 for the player	To do		Thomas Yang
11	11.2	If a player has three pieces and the opponent has more than three pieces flying is enabled for only the player with three pieces.	Player with three pieces will have flying enabled, opponent with more than			

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)**

V. 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**
9/29/2020	9:50pm, 100 mins	Discord server	All	GitHub repo, Unity setup, User Stories	Worked on creating a repo. Worked on getting Unity and GitHub integrated. Created User Stories
10/6/2020	10:00pm, 90 mins	Discord server	All	Sprint 1 report	More User Stories Acceptance criteria More GitHub integration.
10/13/2020	9:45pm	Discord server	All	Sprint 1 report	Acceptance criteria

VI. Buddy Ratings

If you don't feel comfortable to include your ratings in this report, you may email your ratings to the instructor or grader.

Rating receiver

Rating giver

	Ken Dozier	Zach Gharst	Joseph Soria	Thomas Tran	Thomas Yang
Ken Dozier	X	1.0	1.0	1.0	1.0
Zach Gharst	1.0	X	1.0	1.0	1.0
Joseph Soria	1.0	1.0	X	1.0	1.0
Thomas Tran	1.0	1.0	1.0	X	1.0
Thomas Yang	1.0	1.0	1.0	1.0	X
Average					