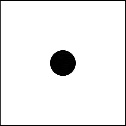
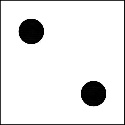
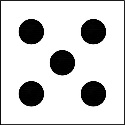
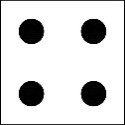
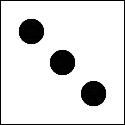
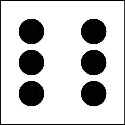
|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Y | A | H | - | D | U | - | O | T |



Functional Requirements

Erik Fox, Max McKee, Will Fraisl

Play a two-player game of Yah-du-ot

Start a new game

Display the board and play-space

Prompt players to roll and determine who goes first

Set up the scorecard

Player takes a turn

Create a die for the player to roll

Display the face up for the player

Prompt user to place die on the board

Determine if the slot on the board is occupied

Confirm placement with user

Place the die in the first free space selected by player

Score the round

Determine if the game is completed

Check how many turns have been taken

End game when board is completed

Score a round

Determine how many groupings the last played die completed

Check the die’s column for completeness

Check the die’s row for completeness

Check the die’s cluster for completeness

Display the list of completed groupings to the player

Prompt player to choose which completed grouping to score

Display the list of possible scorings to the player for the selected group

Prompt the player to select what they would like to score the grouping as

Add selection to the player’s scorecard

Repeat the process until all possible groupings have been scored

Alternate which player scores the round

Finish a game

Add all of a players points to generate a grand total for the player

Determine which player has the higher grand total

Display victory message for winning player

Display both players’ scorecards and grand totals

Turning a business function into a functional requirements narrative

Starting a new game

To start a new game of Yah-du-ot, first the board will be displayed along with the play-space for the game. The game will then ask the players to both take a turn rolling to see who will go first. The player with the highest roll will go first, ties will result in a reroll. After it is known who is going first, the scorecard can be set up.

Player is taking a turn

When it is time for a player to take a turn, first they must roll a die. Once they have a die value, they get to decide where on the board they would like to place their die. As long as the space isn’t already taken, it is a valid move.

Scoring a round

When a player scores, there may be multiple possible scorings for a grouping. A player is presented with the option to choose a possible score for each column, row, or cluster that they complete according to Yah-du-ot rules. When the user selects a score, it is added to the scoreboard. The remainder of the dice, not used by the previous scoring, are checked for possible scoring. The other player is given the option to score from this remainder

Finishing the game

When there are no spaces left on the board, then the game is complete. The total scores for both players is added up, and whichever player has the greater total score will be declared the winner.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Y | A | H | - | D | U | - | O | T |

System Test Plan

Max McKee, Will Fraisl, Erik Fox



|  |  |  |
| --- | --- | --- |
| Requirement ID | Requirement | Verified by |
| 1.0 | Starting a new game |  |
| 1.1 | To start a new game of Yah-du-ot, first the board will be displayed along with the play-space for the game. | Test case 1, Step 1-2 |
| 1.2 | The game will then ask the players to both take a turn rolling to see who will go first. | Test case 1, Step 3-6  Test case 2-4 |
| 1.3 | After it is known who is going first, the scorecard can be set up. | Teat case 1, Step 7-8 |
| 2.0 | Player is taking a turn |  |
| 2.1 | When it is time for a player to take a turn, first they must roll a die. | Test case 5, Step 1 |
| 2.2 | Once they have a die value, they get to decide where on the board they would like to place their die | Test case 5, Step 2 |
| 2.3 | As long as the space isn’t already taken, it is a valid move. | Test case 5, 3-4 |
| 3.0 | Scoring a round |  |
| 3.1 | When a player scores, there may be multiple possible scorings for a grouping. A player is presented with the option to choose a possible score for each column, row, or cluster that they complete according to Yah-du-ot rules. | Test case 6, Step 1 |
| 3.2 | When the user selects a score, it is added to the scoreboard. | Test case 6, Step 4 |
| 3.3 | The remainder of the dice, not used by the previous scoring, are checked for possible scoring. The other player is given the option to score from this remainder | Test case 6, Step 2  Test case 6, Step 3 |
| 4.0 | Finishing the game |  |
| 4.1 | When there are no spaces left on the board, then the game is complete. | Test case 5, Step 7 |
| 4.2 | The total scores for both players is added up, and whichever player has the greater total score will be declared the winner. | Test case 5, Step 8 |

Test case 1 – Starting a game

Step 1 – Press the new game button

Step 2 – Players should see the main play space with a blank board, score, and die slot

Step 3 – Player 1 is prompted to roll the die

Step 4 – Press the “roll die” button

Step 5 – Player should see the result of the roll

Step 6 – Repeat for player 2

Step 7 – Winner of role is determined

Step 8 – View scorecard

Test case 2 – Player 1 wins the first roll

Step 1 – Ensure that player 1 is prompted to take the first turn

Step 2 – Player is given the ability to roll the die first

Test case 3 – Player 2 wins the first roll

Step 1 – Ensure that player 2 is prompted to take the first turn

Step 2 – Player is given the ability to roll the die first

Test case 4 – First roll ends in a tie

Step 1 – Players are given a prompt to reroll to resolve tie

Step 2 – Return to Test case 1, Step 3

Test case 5 – Play a game

Step 1 – First player to roll is prompted to place their die on the board

Step 2 – Player clicks on the board where they would like to place their die

Step 3 – If the spot is occupied by another die, the user is prompted to place their die

in another location

Step 4 – The players die appears on the board in the slot they clicked

Step 5 – If the die does not complete a row, column, or cluster, the turn ends.

Return to Step 1 for the other player.

Step 6 – A row, column, and/or grouping is completed, and is scored

Step 7 – The board is checked for completeness, if not, the turn ends. Return to Step 1

for the other player

Step 8 – The board is complete. In the case of a tie, a “tie” message is displayed.

Otherwise, a congratulatory message is given to the player with the highest

total score.

Test case 6 – Score a grouping

Step 1 – The player that completed the grouping is prompted to select a line to score

that grouping with all possible scorings.

Step 2 – The remainder of the grouping, not used for the selected score, is checked for any

more possible scorings. The other player is prompted to select a score from this list.

Step 3 – The process is repeated until no possible scorings or unused dice remain.

Step 4 – Check that the scorecard has been updated

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Y | A | H | - | D | U | - | O | T |

Design Alternative Analysis

Max McKee, Will Fraisl, Erik Fox