

Project Name: Memory Game

Team Number: 6

Samuel Bounds, Julia Pratt, Long Trinh,

Overview

Our project will be a simple one player memory game. The objective of the game is to reveal all the cards by matching two identical cards. The board of the game consists of an even amount of cards face down, and the user may select two at a time to compare them. After being selected, the two cards are revealed face up. If they are a match they remain face up, and if they are not they both return to being face down. Two cards are a match if they contain the same face. Upon matching and revealing all the cards, the player wins.

Score could be kept in the number of moves or time it takes to reveal all the cards.

Players can choose the difficulty level that would determine the total amount of cards on the board. After completing the game, the user can reset to play again.

Functional Requirements

FR1: A high score menu is shown to the user displaying saved high score data.

FR2: After, a menu and blank table are displayed. Options are Easy (x cards), Medium (x cards), Hard (x cards).

FR3: At the start of the game, the appropriate number of cards are distributed across the board. A timer is set for x seconds.

FR4: A player selects one card, revealing its face.

FR5: A player selects a second card, revealing its face. Move count increases by 1.

FR6: The two selected cards remain face side up for three seconds. While both cards are face up, additional cards cannot be selected.

FR7: After the two cards are chosen, their faces are compared. If they match, the cards stay face up. Else, both cards are hidden on the board.

FR8: Player continues selecting pairs of cards until no cards remain on the board, or until time runs out.

FR9: Move count is saved if it is the lowest count for the level, or if there is no count saved.

User Interface Prototype

User Interface Requirements

UIR1:

UIR1: when the user clicks the “Play” button an options menu pops up, when the user clicks any option “Easy”, “Medium”, “Hard” the new round starts with x number of cards. FR1 and FR2 start.

UIR2: A panel that shows the score so far, how much time left and highest score in that difficulty. FR7 start.

UIR3: A “Reset” button to restart the game at the same difficulty. FR2 start.

UIR4 A grid layout of cards that cover-up its image for the user choose to match. Users can only choose 2 cards at once, if 2 cards match the cover is gone and if not match the 2 cards cover up again. FR3, FR4, FR5, FR6 start.

UIR5: At the end of the game, all the cards in the grid layout show their images and result. A new Yes/No option pops up asking if the user wants to play again. If Yes, the difficulty options will appear again to start a new round, if No program exit.