

ICS3U7 Final Project: Project Functionalities

Title Screen: The player starts off in the Title Screen which contains the project name, students' names, teacher's name, date of completion, and course code. By clicking on the "Next" button, they move onto the Main Menu screen.

Menu Screen: This screen contains a title and 4 buttons: Play, Instructions, Scores, and Exit. Play sends the player to Difficulty Screen, Instructions sends them to Instructions Screen, Scores sends them to Scores Screen, and Exit exits the program.

Difficulty Screen: This screen allows the player to select from 3 different difficulty levels: Easy, Medium, and Hard. They may also choose to return to the Menu.

Easy: In Easy level, the player is loaded into a screen that displays a 3x3 grid of holes as well as their current score (starts at 0), the time remaining (starts at 60 seconds), and a pause button at the top. The game starts immediately with 1 mole already visible in a random hole. Each time the player clicks on a mole, the mole goes down into its hole and another mole pops up at a random location (all moles stay up until they are hit) ensuring that only 1 mole is visible at any given moment. The player also earns 1 point for every mole they click. When the timer finishes, the game ends and the player is moved into the End Game Screen. At any point in the game, the player may click the pause button and be moved to a Pause Screen where they will have the choice to resume or quit.

Medium: In Medium level, the gameplay and display is the same as Easy level, except there is a 3x4 grid of holes instead of 3x3 and 2 moles are present.

Hard: In Hard level, the player is loaded into a screen that displays a 4x4 grid of holes. 3 moles are present at a time. Now, super moles (blue) and sabotage moles (red) appear in addition to normal moles (brown). A clicked normal mole earns the player 1 point, a clicked super mole earns the player 2 points, while a clicked sabotage mole earns the player -2 points. Other game functions and appearances are the same as in the easy and medium levels.

Pause Screen: This screen is displayed when the player pauses a game. It has a "Paused" message and allows the player to resume the game from the paused time or quit the game. Quitting the game leads to the End Game Screen

End Game Screen: This screen is displayed at the end of every game (either when the player quits or when the time runs out). This screen contains an end message, a final score, a Menu button, and a Play Again button. A "New Highscore" message is also displayed if the user achieved a new high score. The Menu button sends the player back to the Main Menu, while the Play Again button sends them to the Difficulty Screen. The player's current score is written into 1 of 3 different text files based on the difficulty level.

Instructions Screen: This screen contains all the information needed to understand and play the game as well as access its utilities. A Menu button allows the player to return to the Main Menu.

Score Screen: This screen displays all the past scores of the player. It contains a heading, 3 tables of scores for each difficulty level, some information about the scores, 3 buttons to clear each score table, and a Menu button. Each table is filled with scores read in from text files and organized in descending order. These scores stay stored even after the player closes the program, so it is important for them to clear the scores if they want to restart. If the player clicks on a Clear button, they will confirm their decision one more time before their scores from that text file are cleared forever. After clearing, the player can return to the Main Menu using the Menu button.

Exit: This button exits the program.