Project name: SCABBLE WORD

Prepared by

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***Level: 1, Term: 2***

Language used: The C Programming Language

Header file: igraphics.h

How to compile source code: Compile source code “Scrabble Word.cpp” by using Microsoft Visual C++.

Features of the Project:

1. New Game: Start playing a new scrabble game anytime you want by clicking on “New Game” from main menu.
2. Load Game: Play the previously unfinished saved game by clicking on “Load Game” from main menu.
3. Manual: Learn how to play the game by clicking on “Manual” from main menu.
4. Quit: Exit from the game by clicking on “Quit” from main menu.
5. Save: save current game to play next time by clicking on “Save” from option menu of Game Board screen.
6. Back: You can end the game by force and see the final result and back in the main menu anytime by clicking on “Back” on option menu of Game board screen or pressing “End key” from keyboard.
7. Contains Scrabble dictionary of 10000 words.
8. Pass the turn.
9. Exchange some tiles of the rack.
10. See the updated score on right-up corner.
11. See who is current placing on right-up corner.
12. See the remaining tiles in tiles bag on right-middle corner.
13. See the tiles rack of current player on left-down corner.

Rules of the Game:

**The Scrabble Board**

A Scrabble game board is made of up cells in a square grid. The Scrabble board is 15 cells wide by 15 cells high. The Scrabble tiles fit within these cells one to a cell.

**Scrabble Tiles**

Scrabble is played with exactly 100 tiles.

**Tile Values**

Here are the point values for each letter in Scrabble.

1 Point - A, E, I, L, N, O, R, S, T and U.

2 Points - D and G.

3 Points - B, C, M and P.

4 Points - F, H, V, W and Y.

5 Points - K.

8 Points - J and X.

10 Points - Q and Z.

**Extra Point Values**

Some squares on the Scrabble board represent multipliers. If a tile is placed on this square, then the tile's value is multiplied by a factor or either 2x or 3x. Certain tiles multiply the point value of an entire word and not simply the tile on that space.

**Double Letter Scores** - Light blue cells are found isolated on the board. When a tile is placed on this space, that tile's point value is multiplied by two.

**Triple Letter Score** - This is a dark blue cell on the Scrabble. The tile placed on this square has its points multiplied by three.

**Double Word Score** - Light red cells are found running diagonally towards the four corners of the board. When a player plays a word on one of these squares, the point value of the entire word is multiplied by two.

**Triple Word Score** - This is a dark red square on the Scrabble board. These are found on the four sides of the board equidistant from the four corners of the board. When a word is played using this square, then the points for the word are multiplied by three.

**One Single Use** - Note that extra point squares are only usable once. If one player plays a word using this cells, then the next time that space is used to make a word, the point value is not multiplied.

**Player rack**

Both Player racks contain 15 Tiles.

**Placing tiles**

Player1 moves the tiles by clicking on mouse left button and Player2 moves the tiles by typing the letters from his rack on the square where he wants to move it. After moving the tiles Player1 clicks on the “Place” to ensure placing and Player2 presses “Enter key” .

**The First Word Score**

A player begins the game by placing a word on the square at the center of the board. This square acts as a double word score. The center cell does not act as a double word score for subsequent players playing off the center square.

If a player do not place letter on center square, a notification “Invalid placing” is seen on the right-down corner. Player1 clicks on “ok” to try again and Player2 presses “Backspace key”.

**Validity of word**

The letter which is placed, with its sorrounded letters must be a valid dictionary word in a direction left to right and up to down. A player can place tiles in a row or column. If a word is not found in the Scrabble dictionary, a notification is seen on the right-down corner. Player1 clicks on “ok” to continue and Player2 presses “Enter key”. After confirming “ok” turn will be changed.

**Replacing Scrabble Tiles**

When a player plays valid play then turn is changed and his tiles rack is filled with tiles from tiles bag if tiles are available on the bag.

**Passing the turn**

Player1 can pass the turn by clicking on “Pass” and Player2 can pass pressing “Page Down key”.

**Exchange tiles of the rack**

Player1 can exchange some tiles of the rack clicking on “Exchange” and Player2 pressing “Page Up key”. After exchanging tiles turn will be changed.

**The End of a Scrabble Game**

When Player1 clicks on “Back” from option menu or Player2 press “End key” or both players pass their turn twice in a row or all of the tiles have been taken from the bag and one player has used all of the tiles on their rack, then the game ends and final score is seen on the screen.

**Tallying Scrabble Scores**

Once the game has ended, each player counts the points on the tiles left remaining in their rack. Each player has that number deducted from their final score.

The player who ended the game and who therefore has no more tiles remaining is given an added bonus. Add the total of all points of all remaining players with tiles left on their racks. This number is added to the final score of the player who is "out" of tiles.

The Scrabble player with the highest score after all final scores are tallied wins.

**Accepted Scrabble Words**

Players may place any word which can be found in a standard English language dictionary.

Future improvements:

1. Players name instead of Player1 or Player2
2. 98 letter tiles and 2 blank tiles
3. More words in dictionary
4. More player capacity
5. Highest score statistics
6. CPU as a player
7. Exchange what letters are needed to change
8. Save all the games individually
9. More beautiful graphics
10. Nice looking.