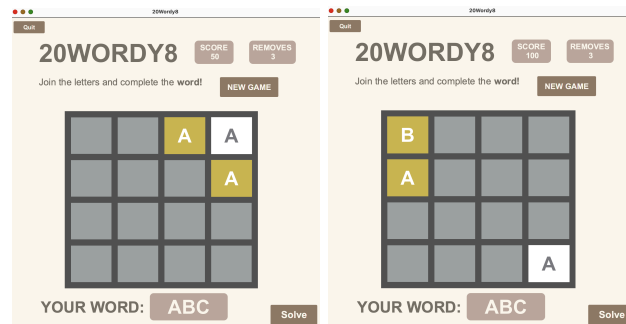# User Guide for 20Wordy8 Game

Overview

20Wordy8 is a word puzzle game that combines the mechanics of sliding tiles, like in **2048**, with word formation. The goal is to move the tiles around to spell a target word using the available letters. Players have to combine letters and strategically use features such as blank tiles, locking tiles, and removal mechanics to solve the puzzle.
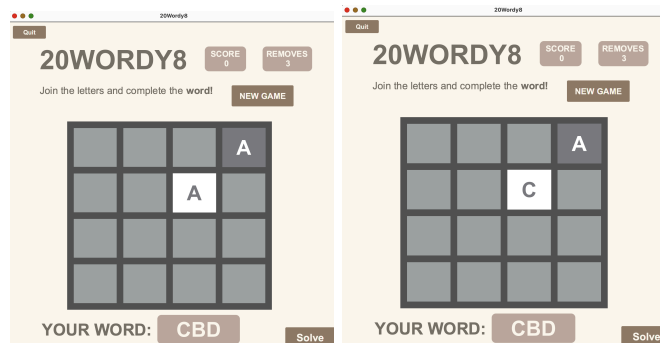
Game Interface Description

- **Main Board**: The board consists of a 4x4 grid where tiles are placed. Each tile contains a letter, and you can move tiles around to create the target word.

- **Tiles**: Each tile represents a letter from the alphabet. The tiles move around the grid in a manner similar to the 2048 game, where you slide tiles in a specific direction to merge matching tiles and form the target word. You can slide tiles in any of the four directions (up, down, left, right). When two tiles with the same letter collide, they combine into one tile displaying the corresponding letter. If a tile letter is a letter in the target word it will appear yellow. Once you have successfully spelled the target word all the winning tiles will turn green.

- **Blank Tile**: There is one special blank tile that can be used to change the letter by clicking on it. The blank tile is important for strategy, as it allows flexibility in forming words. If you merge a blank tile into another tile a new blank tile will generate ensuring that you have one blank tile on your board at all times

- **Tile Removal**: You can right-click any tile to remove it from the grid, but you are limited to a total of **three removals** during a game session. After three tiles are removed, you cannot remove any more tiles.

- **Tile Locking**:
    - **Single Lock**: Right-clicking on a tile will **lock** it, preventing you from changing its letter until clicked again to unlock.
    - **Double Lock**: Double-clicking on a tile will **double-lock** it, which not only locks the tile's letter but also prevents it movement until double-clicked again to unlock.
    -
- **Solve Button**: If you find yourself stuck and unable to form a word or solve the puzzle, you can click the **Solve** button. The game will animate the quickest path to solving the puzzle, showing you the steps and tile movements needed to reach the goal.

- **Game End**: The game ends when the target word is formed using the letters available or when the board is full with no possible moves left. You can restart the game at anytime
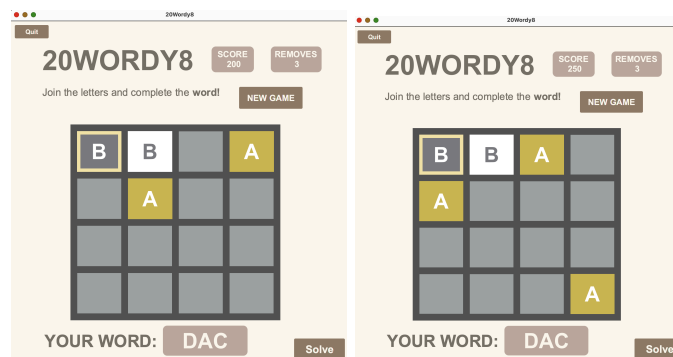
Sample Input/Output and Example Screens

1. **Input**: Move the tile containing the letter "A" to the left.
   - **Action**: The "A" tile slides to the left, merging with another "A" tile to form "B".
   - **Output**: The board now displays the tile with "B", and the word formation progresses.
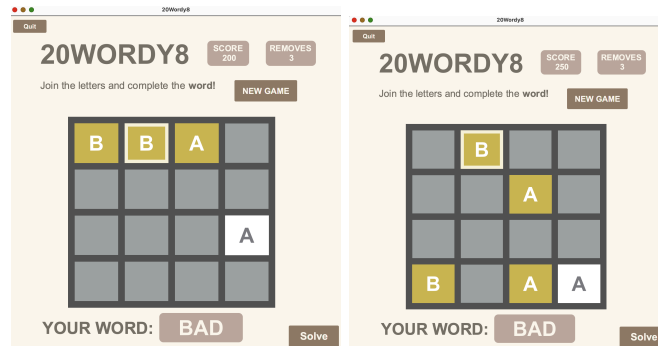

2. **Input**: Click the blank tile to change its letter to "E".
   - **Action**: The blank tile changes its letter to "E".**Output**: The board updates to show the letter "E" in place of the blank tile.
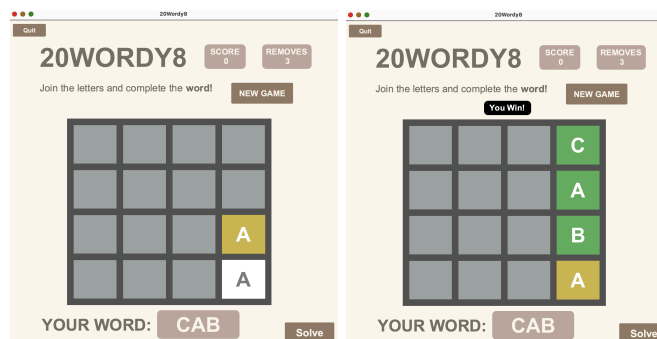

3. **Input**: Right-click a tile to lock it.
   - **Action**: The tile is now locked, and you cannot change its letter my merging.
   - **Output**: The tile remains stationary, and its letter isn't altered.

4. **Input**: Double-click a locked tile to double-lock it.
   ○ **Action**: The tile is now double-locked, preventing both letter changes and movement.
   ○ **Output**: The tile becomes double-locked, and it remains immovable and unchangeable.

5. **Input**: Press the **Solve** button.
   ○ **Action**: The game animates the quickest path to a solution, moving tiles in the necessary directions and forming words.
   ○ **Output**: A sequence of tile movements is displayed, finding the target word for you

Game Limitations

● **Word Length**: The game does not impose a strict length on the words you can form only including 3 letter "words". Likewise because the solve feature requires BFS search no target word includes a letter past D in the alphabet as this requires too many possible combinations of moves for the creator's laptop to handle.

Conclusion

20Wordy8 offers a unique and challenging puzzle experience by combining elements from the classic 2048 game with word formation mechanics. By using the blank tile for letter changes, locking and removing tiles strategically, and utilizing the solve feature when stuck, players can engage in a fun and rewarding puzzle-solving experience.