

Wordle - UserManual

Introduction:

Our project draws inspiration from the New York Times' Wordle Game, seeking to not only make an unlimited wordle clone with more word length choices but also combine entertainment with solvers that can automatically solve the wordle game. Wordle challenges players to guess a hidden word within a set number of attempts. Our wordle combines gameplay with intelligent solvers capable of automatically solving the game, elevating the gameplay experience.

Problem Statement:

Wordle addresses the classical challenge of guessing a hidden word within a limited number of attempts. What sets Wordle apart from other games is that it can help the players memorize more vocabulary, meanwhile bringing a strategic and algorithmic dimension to guess the word in the smallest steps.

Background:

The Wordle game on the New York Times has limited attempts allowed each day, and the unlimited ones have tons of ads to watch. The core of Wordle is a pen-and-paper game where one player tries to guess a five-length word that the other player has chosen. After each guess, the player is given feedback in the form of color-coded pegs notating if a letter is in the word and if it is in the correct position. The player usually gets five tries to guess a word and if they are

unable, they fail. Because the New York Times only allows one play per day, we felt that this game should have a version that is free and unlimited.

Motivation:

To play Wordle freely, we embarked on developing a Wordle Project that provides players with unlimited attempts and an expansive range of word length choices. We want to offer a seamless and enjoyable Wordle experience, free from limitations and interruptions, meanwhile diving deeper to see if we can make some solvers that will automatically take some strategy to solve the game - within the smallest steps. With Wordle being one of the most popular games of last year, we knew that there was a high demand for more of it. Many players would love to have multiple chances to practice per day as well as be more in control of the game. This is why we set out to not only have an unlimited number of replays and solvers but also allow the user to view the word dictionaries and pick the word length.

Instructions-How to run it:

1. Clone the repository
2. Run the WordleMain method in the Wordle.java file. There will be a console-driven game only, we tried to build up a GUI for it, but due to a lack of human resources sadly we are unable to finish it and incorporate it with the current classes.
3. For the console-driven game, follow the instructions on the console.

4. It will ask the user to select the length of the word they want to guess. Currently, we provided words of length 4, 5, and 6.

```
Please choose a word length [4, 5, 6]:
```

```
4
```

5. Then it will provide 4 options: play yourself, random solver, optimal solver, and player solver.

```
How would you like to Solve the Wordle
```

```
Play Yourself [1]
```

```
RandomSolver [2]
```

```
Better Solver [3]
```

```
Optimal Solver [4]
```

```
1
```

6. Play yourself is the typical wordle game, where users have 6 chances to guess the word. Every time they guess, they will get a response string of numbers: 0 means the letter in that position is not in the word, 1 means the letter is in the word but not in the right position, 2 means the letter is in the word and in the right position.

```
Type a 4 letter word:
```

```
Game
```

```
0200
```

In this example, there is no 'g', 'a', or 'e' in the word; 'a' is in the word at the second position.

7. For the solvers, just select the solver mode you want to run, and it will automatically solve wordle in your desired rounds. The random solver just keeps playing and violently guesses the words until it gets the word; the optimal solver is the best of the solvers, it takes every possible guess and compares to the possible answers, removes the ones that couldn't happen, and keeps guessing the ones that can still be an answer.

```

Wordle was played 100 times
The answer was correctly found 99.0% of the time
When it was solved:
The Mean was: 3.79
The Median was: 4.0
The Standard Deviation was: 0.9156

```

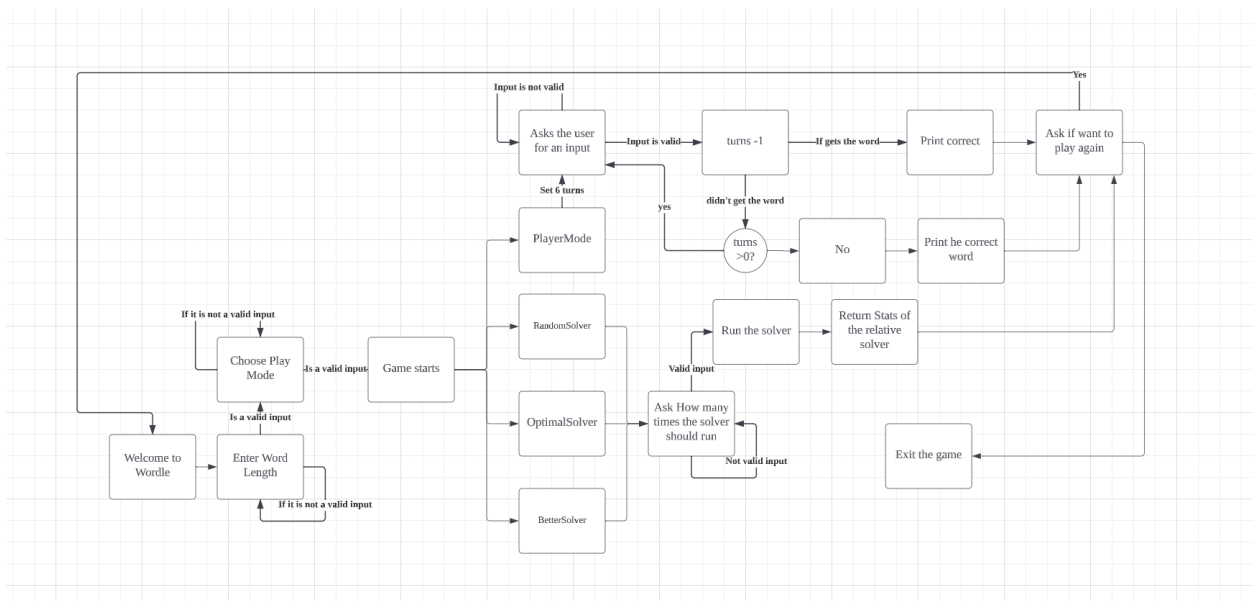
8. After the game is over, it will ask the user if they want to play again. If yes, it will ask the user to select the length of the word they want to guess again. If no, it will exit the game.

```

Do you want to play again [Y|N]
Y
Please choose a word length [4, 5, 6]:

```

Use Case diagram:



Contributors:

Students of CSCI 205 - Software Engineering and Design, Titus Weng, Walker Allen, and Berty Levi, presenting this creation as part of their fall 2023 final project coursework under the guidance of Prof. Brian King, Prof. Joshua Stough, Prof. Lily, and all the teaching assistants.