Text Twist Clone

Final Project - CS521

Sean Rawson

[seancc8@bu.edu](mailto:seancc8@bu.edu)

For my final project, I chose to implement Text Twist, a timed word game that can be found online in various formats. The user is given six letters and must enter all three, four, five, and six-letter words that can be made from those letters. Interaction with the user interface is accomplished through the keyboard, with the exception of starting a level and/or resetting the game, which are accessible via the mouse.

This game can be considered useful from several points of view. Number one, it serves to help develop the user’s vocabulary and pattern recognition skills. Number two, it provides many opportunities for the exploration of python concepts covered in class. These concepts include user-defined classes, private and public instance variables and methods, built-in python data structures, control structures, and use of python’s standard library modules. Additionally, there are the added challenges of processing user input, updating the user interface accordingly, and maintaining the current state of the game. These requirements necessitate the proper use of encapsulation to keep game elements separate from each other but communicating effectively.

The code base of the project is separated into four main functional areas, each with its own module. These areas are the user interface, the game logic, word file access and word utility functions (i.e. find a new six letter word from the given dictionary), and a utility class for the game clock. Additionally, the dictionaries/word lists used by the game can be found in the ‘wordlists’ sub-directory, and tests can be found in the ‘tests’ sub-directory.

The word lists used for the program were generated by processing the file ‘/usr/share/dict/words’ from Linux Mint in several stages. This original file has been included for reference. All words with punctuation were removed, along with all words containing uppercase letters (proper nouns, acronyms, etc…). Next, two files were generated containing all six-letter words (“6letterwords.txt”) and all words of length three to six (“allwords.txt”). Finally, both of the aforementioned files were converted to uppercase for easier processing and word matching within the game.