REQUIREMENTS SPECIFICATION:

My ‘problem’ is a word scramble game, where the user tries to solve 10 different word scrambles as fast as they can. The words come from a list on a .txt file, which are read into a vector and selected using srand(). Once a specific word is selected, the program will scramble the letters within the word, and then cout to the user the scrambled version of the word. If the word is either the correct intended word or a correctly spelled word using all of the characters that were scrambled (for example, if “was” is the scrambled word, “was” and “saw” would both be correct answers), the user adds one word to their score, until they reach ten. Once they reach 10 words, the computer will calculate the amount of time taken from when the first word was displayed in order to form that player’s score. The player with the fastest time wins. I would assume that the hardest part of the project will be the validation check on the words (essentially making sure that the answer that the user types in is a real word and doesn’t just use the letters in a random order).

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| Class: Player |
| -name: string – used to store the name of the player, will be inputted by the player before the game. |
| -pNumber: int – used to store the player’s number (for example, the second player to enter their name will be player 2) |
| -score: int – the number of seconds it took a player to unscramble 10 words |
| -wordList: vector <string> - the vector list of words brought in from the .txt file |
| -playerList: vector <Player> - a vector of objects that will store all of the players for the specific game |
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| +getScore(): int – return player score (time) |
| +getPNum(): int – return player’s number |
| +getName(): string – return player name |
| +newPlayer(string& n) – create a new player with name n |
| +getWord(): string – get a random word from the vector filled with words from the .txt file, then mix up the letters of the word and return the scrambled word as a string |
| +fillList(vector<string>& v): void - fill list v with the words from the .txt file |
| +findWinner(vector<Player> & p): Player – return the winner of the game (name and score) |