

ÜBER BOGGLE

REQUIREMENTS ANALYSIS DOCUMENT

Team Name
Charles Kaup
Locan McCarthy
Taylor Schrader

INTRODUCTION

PURPOSE

Provide users with a application in which they are able to play the popular game Boggle on their computer.

SCOPE

Boggle is a game in which users are tasked with finding a series of letters that make up a word from the two-dimensional grid of letters. The letter “dice” will randomly change between one of six possible letters for each grid position at the start of each game. The game will be set up so that a single player will compete against a 3-minute timer to locate as many letters as possible. Each word that is located will be checked by a word checking API. The word will then be added to a list for the user to keep score.

OBJECTIVES AND SUCCESS CRITERIA

Success of the application will be dependent on it meeting the following set of objectives:

- I. A start sequence initiates the “rolling” animation of the dice and the start of the timer.
- II. The ability for the user to enter words into a text box.
- III. The implementation of the word checking API.
- IV. A properly working GUI in which a user is able to start a new game or see a “help” section during gameplay.

DEFINITIONS, ACRONYMS, AND ABBREVIATIONS

Gameboard: A 4x4 grid of letter dice that the use will be able to select words from.

Dice: Each tile on the gameboard that will each have 6 options of letters that will be decided randomly at the beginning of every game.

Word Checking API: API used to validate whether the word entered by the user is a legal english language word.

Timer: A 3-minute countdown that designates the start and end of each game played.

Player: A user that is interacting with the application

End of Game: When the timer reaches 0 the player will be unable to enter any more words until the game is restarted

GUI: Graphical User Interface

Boggle: a [word game](#) designed by Bill Cooke, invented by Allan Turoff and originally distributed by [Parker Brothers](#). The game is played using a plastic grid of lettered [dice](#), in which players attempt to find words in sequences of adjacent letters.

Rules: Can be found [HERE](#)(<https://en.wikipedia.org/wiki/Boggle#Rules>)

REFERENCES

- I. <https://www.hasbro.com/common/instruct/boggle.pdf>
- II. <https://en.wikipedia.org/wiki/Boggle#Rules>

OVERVIEW

The game will be designed to allow users to play the game of Boggle on their computer. The game will be single player and each game will last 3-minutes. Words will be checked to make sure they are legal english words and that they do properly appear on the gameboard. The game will keep score of how many words the user finds during the time and presents the score after the timer has expired.

CURRENT SYSTEM

OVERVIEW

This System will be able to allow the user to play the full Boggle pen and paper game on a computer with a keyboard and mouse. All of the original rules of Boggle will be implemented in the system, with the exception of this version will be a single player only version.

FUNCTIONAL REQUIREMENTS

- F1a. The user should be able to start a new game.
- F1b. Show a dice shuffle animation upon new game.
- F2a. A timer should start from 3:00 (180 seconds) upon new game.
- F2b. The timer will countdown time until the end of game.
- F3a. The system will accept keyboard input from the user for the words that only contain letters a-z.

F3b. The system will not accept words over 16 characters

F4a. When the timer reaches 0:00, the system should stop accepting input from the user.

F4b. The system shall display an end-game message once time is up.

F4c. The end-game message should accurately show the user's score in the selected language.

F5a. The system should not tally the score of duplicate words.

F5b. The system should not tally the score of words that are not in the dictionary based on the appropriate language of Boggle they are playing.

F5c. The system should not tally the score of words that are less than three characters.

F6. The system will give the user an option to start a new game after the game is over.

F7. Clicking on the "?" button will bring up an explanation of the rules in the selected language.

NONFUNCTIONAL REQUIREMENTS

N1. The system should be able to calculate the score of a game in under 5 seconds.

N2. The user should be able to quit the game without the system breaking.

N3. System should not crash more than 2 times out of 100 games.

N4. The game should not lag from excessive input

N5. System should not fail to report a correct score more than 2 times out of 100 games.

GLOSSARY

Gameboard: A 4x4 grid of letter dice that the user will be able to select words from.

Dice: Each tile on the gameboard that will each have 6 options of letters that will be decided randomly at the beginning of every game.

Word Checking API: API used to validate whether the word entered by the user is a legal english language word.

Timer: A 3-minute countdown that designates the start and end of each game played.

Player: A user that is interacting with the application

End of Game: When the timer reaches 0 the player will be unable to enter any more words until the game is restarted

GUI: Graphical User Interface

Boggle: a [word game](#) designed by Bill Cooke, invented by Allan Turoff and originally distributed by [Parker Brothers](#). The game is played using a plastic grid of lettered [dice](#), in which players attempt to find words in sequences of adjacent letters.

Rules: Can be found [HERE](https://en.wikipedia.org/wiki/Boggle#Rules)(<https://en.wikipedia.org/wiki/Boggle#Rules>)