Software Requirements Specification

for the “Guess What!?” Game

Revision B

28th April 2021

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1. Introduction

1.1 Scope

This specification establishes functional, performance, and development requirements for the first iteration of the “Guess What?!” game app.

1.2 Purpose

The purpose of this project is to build an interactive computer game with a graphical user interface that is both entertaining and educational for grade school kids. The game is a way for kids to have fun while learning about new things using hints in an attempt to guess the word that was randomly selected within a category.

1.3 Intended Audience & Use

This project is intended for use by kids in grade school. Aiming to provide a study tool that can also be an entertaining game.

2. Overall Description

2.1 Product Perspective

Play has always been a central and integral part to growing up. These days tablets and computers are in nearly every student's hand at home and in the classroom. The gamification of education has been on the steady rise in the 21st century but has especially boomed in the last decade. The whole education system has basically become a game as schools, teachers and students compete with their peers and themselves to be the highest ranked. This virtual gamification of education is increasingly used as children get older and have their own devices at younger ages. We see games now that even infants are able to use on parents tablets and computers.

Because of this trend we set out to make a game that kids can use to learn while having fun. The specifications are a re-implementation of other word guessing games available for younger children while giving more incentive for competition and freedom in the game. Many educational games available to children are heavily guided and come across more often as a lesson than a game. Our goal is to make a game that children want to play and learn while doing so without pushing a lesson.

2.2 Product Functions

These are the main functional areas of the software.

Gameplay: Each game is 4 rounds where the player can select a category at the beginning of every round. The game will then randomly select a word from that category and display all the possible words the player can guess from. Along with the words the game will give a short hint of the word it randomly selected. The player is then tasked with either guessing or asking for another hint. The player is only able to ask for 2 additional hints per round and for every hint that is asked for points are deducted from the potential score for the round. If the player guesses wrong 0 points will be awarded for the round.

Category Selection Management: The game uses a graphical user interface where the user can input different types of information. When the game is started the user is prompted to choose a category. The player interaction through player inputs is done through key presses on a keyboard or numpad. The game reacts to these inputs accordingly

Score Management: The score for each round will be added to a stored score for the game, building up the games score round by round and then reporting it to the player and comparing it to the highest score for the game so far. If a new high score is achieved the new high score is displayed on the main menu.

Feedback Management: This will depend on the input. After selecting a category the player is prompted with making a guess or asking for another hint. These forms of feedback help the player through the game while giving updates on wrong/right answers, and on points scored per round/game.

The game stores the following information:

Game State: Category selected, software random selection of the word, and hints that belong to that word

Game Stats: Score of the current game, highscore,

2.3 User Characteristics

Any user should be capable of using the app, as its graphical user interface is simple to use. No special skill should be assumed on part of the users. The difficulty of the game is not variable and so some people will find the game to be difficult and others will say it's easy. It depends on the person's knowledge of the words/things in the categories. The game is built as a study tool intended for grade school aged kids.

2.4 Constraints

No special constraints have been identified

2.5 Assumptions and Dependencies

No special assumptions or dependencies have been identified.

3. Overview

3.1 External Interface Requirements

3.1.1 User Interfaces

All interaction with the user will be via the graphical user interface using keyboard or Numpad as input methods. Once the game has started the user is prompted to pick a category. If the input for the category or for a guess is invalid the system will not react to invalid input and await valid input.

3.1.2 Hardware Interfaces

None

3.1.3 Software Interfaces

The game is capable of running on any version of the UNIX system, including Linux.

3.1.4 Communication Interfaces

None

3.2 Performance Requirements

The game should respond to user input within a second. No other performance requirements are present.

3.3 Design Constraints

3.3.1 Standards Compliance

All language used in the game should comply with Boston University guidelines In the Academic Conduct Code.

3.4 Software System Attributes

3.4.1 Reliability

The game should not crash or hang, unless it is a result of an operating system error.

3.4.2 Security and Privacy

No specific security or privacy requirements are specified nor needed.

3.4.3 Maintainability

All code will be fully documented. The functions will have comments with pre-conditions. All program files will include comments with authorship and date of last change. The code will be flexible to allow for further improvements.

3.5 Further Improvements

3.5.1 Features

Because the game is intended as a study tool the team envisioned being able to update the categories, words and hints to other subjects or things in order to be able to study for different subjects. As of right now the implementation of new material has to be done on the back end. With more time the team would have liked to make a way to populate the categories with new words and hints on the front end so that users can take full advantage of the game as a study tool. This would allow for a wider audience as well because younger and older students could cater the material to their needs.

3.5.2 Graphical User Interface

The team discussed the possibility of populating the game window with images instead of words and having the hints describe the image that belongs to the word that was chosen. This would allow for more of an image recognition game to be played by even younger children. The team also would like to include the possibility of using the mouse as an input method for the user so that they are not bound to the keyboard.