Software Requirements Specification

for

Study & Play Trivia Maze

Version 1.0

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Team java.lang.NullPointerException

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Revision History

Name	Date	Reason For Changes	Version
Stefan Bostain, Stacy Carlson, and Dan Watt	5/15/14	Initial Draft	1.0 draft 1
Stefan Bostain, Stacy Carlson, and Dan Watt	6/8/14	Updating to reflect changes	1.0 final

1. Introduction

1.1 Purpose

This SRS describes the functional and nonfunctional requirements for the Study & Play Trivia Maze software version 1.0. This document is intended to be used by members of the project team to implement and test the software. All specifications listed in this document are assumed high priority and required for the 1.0 release to the client.

1.2 Intended Audience and Reading Suggestions

This document is intended for the developers. The rest of this SRS defines the features of the software, the GUI, and the requirements from the client. The developer should read the SRS in the order provided with particular care being given to the System Features and the External Interface Requirements.

1.3 Project Scope

The Study & Play Trivia Maze will test the knowledge of users by asking Java related computer science questions or entertain the users by asking movie trivia questions in order to navigate through a maze.

2. Overall Description

2.1 Product Perspective

The Study & Play Trivia Maze is a remake of the classic game of answering questions while navigating a maze. Users may choose to study for a quiz or test using the Computer Science category or play with the Movies category.

2.2 Product Features

The Study & Play Trivia Maze features questions in the form of short answer, true or false, and multiple choice. Users can play in standard mode or sudden death mode, with the option to record the top ten high scores on a leader board.

2.3 User Classes and Characteristics

Player (favored)	A Player is anyone who wishes to use the Study & Play Trivia Maze. All Players have the basic computer skills necessary to install an .exe and interact with the software via a keyboard and mouse. Players will have a

more enjoyable experience using the Computer Science category if they have some knowledge of Computer Science, but it is not required.

2.4 Operating Environment

OE-1: The Trivia Maze shall operate on the following operating systems: Windows

2.5 Design and Implementation Constraints

CO-1: All code will be written in Java and the developers will utilize the Eclipse IDE.
CO-2: The GUI will be developed using WindowBuilder and SWT.
CO-3: A SQLite database must be used with the JDBC driver.

2.6 User Documentation

UD-1: The game will include a pop up screen with instructions on how to play that will be accessed via a help menu.

3. System Features

3.1 Standard Game Play

3.1.1 Description and Priority

A Player answers Computer Science Questions or Movie Trivia Questions to navigate through the maze. Priority: High

3.1.2 Stimulus/Response Sequences

Stimulus: Player selects a direction to move (up, down, left, right).
Response: If the direction is invalid due to out-of-bounds or locked door, the game is unresponsive. Otherwise a question is displayed with answer options and a text box to enter a response.

Stimulus: Player answers the question correctly.
Response: Door is unlocked and Player's current location is updated. If the game has been won, the Player is informed.

Stimulus: Player answers the question incorrectly.
Response: Door is permanently locked and Player remains in the same location. Player is informed if winning the game is no longer possible.

3.1.3 Functional Requirements

Maze Display: The Player will be able to see their location in the maze via a blue square and the possible directions to move. The goal will be indicated with a yellow square. Unvisited doors will be

	black, locked doors will be red, and open doors will be green.
Movement Options:	The Player will be able to use the keyboard arrows in order to move (up, down, left, right).
Question and Answer Database:	The SQLite database will be loaded with Computer Science and Movie questions and their answers.
Question and Answer Display:	The GUI will display the question and answers. The Player will be able to type in their answer. The answer will be retrieved with the question in order to minimize query time and the potential for SQL injection.

3.2 Sudden Death Game Play

3.2.1 Description and Priority

A Player answers questions from the Computer Science and Movie categories until an incorrect answer is entered. Ten high scores are recorded on a leader board.
Priority: Medium

3.2.2 Stimulus/Response Sequences

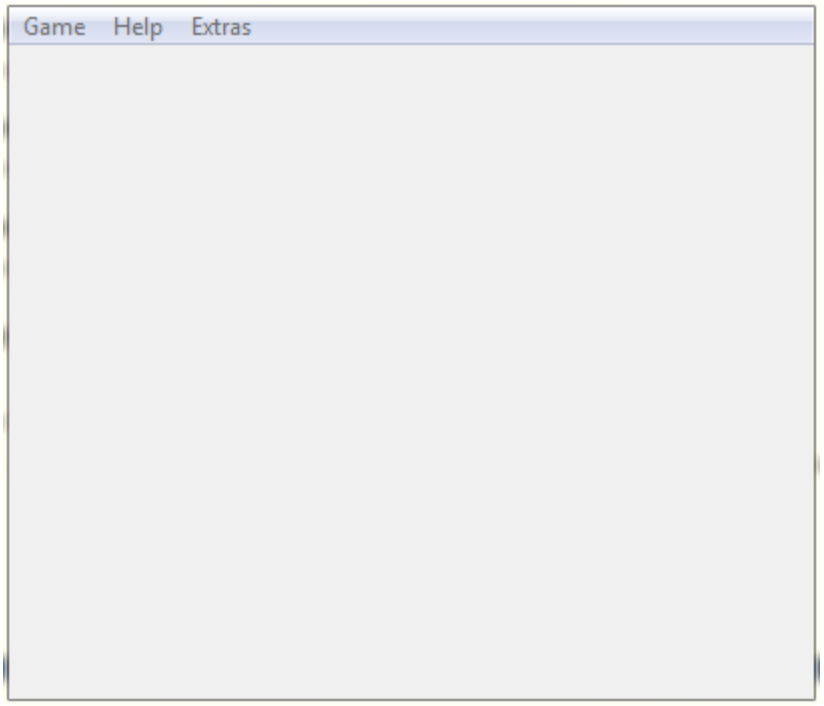
Stimulus:	Player answers the question correctly.
Response:	The next question is presented.
Stimulus:	Player answers the question incorrectly.
Response:	The game is terminated. If the score is larger than the ones on the leader board, the Player is invited to enter their name and then invited to play again. If the score is smaller than the ones on the leader board, the Player is invited to try again.

3.2.3 Functional Requirements

Question and Answer Database:	The SQLite database will be loaded with Computer Science and Movie questions and their answers. If a Player completes all of the questions correctly they will automatically be entered on the leader board.
Question and Answer Display:	The GUI will display the question and answers. The Player will be able to type in their answer. The answer will be retrieved with the question in order to minimize query time and the potential for SQL injection.
Leader Board Entry:	The leader board will be stored as a text file in the resources folder. The Player will be able to type in their name in a pop-up window.

4. External Interface Requirements

4.1 User Interfaces



UI-1: The Study & Play Trivia Maze will always provide a menu bar that provides the Player the option to start a game in standard mode with the Computer Science or Movies category, start a game in sudden death mode, exit the program, get help with playing the game, view information about the software, view question source information, and view the leader board.

4.2 Hardware Interfaces

No hardware interfaces have been identified.

4.3 Software Interfaces

SI-1: Computer Science Database

SI-1.1: The Computer Science Database will store the preloaded questions and answers.

SI-1.2: The Study & Play Trivia Maze will programmatically access the database in order to display questions and answers. The correct answer to a question will be stored simultaneously in order to reduce the number of queries and prevent SQL injection.

SI-2: Movies Database

SI-2.1: The Movies Database will store the preloaded trivia questions and answers.
SI-2.2: The Study & Play Trivia Maze will programmatically access the database in order to display questions and answers. The correct answer to a question will be stored simultaneously in order to reduce the number of queries and prevent SQL injection.

4.4 Communications Interfaces

No communications interfaces have been identified.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

No performance requirements have been identified.

5.2 Safety Requirements

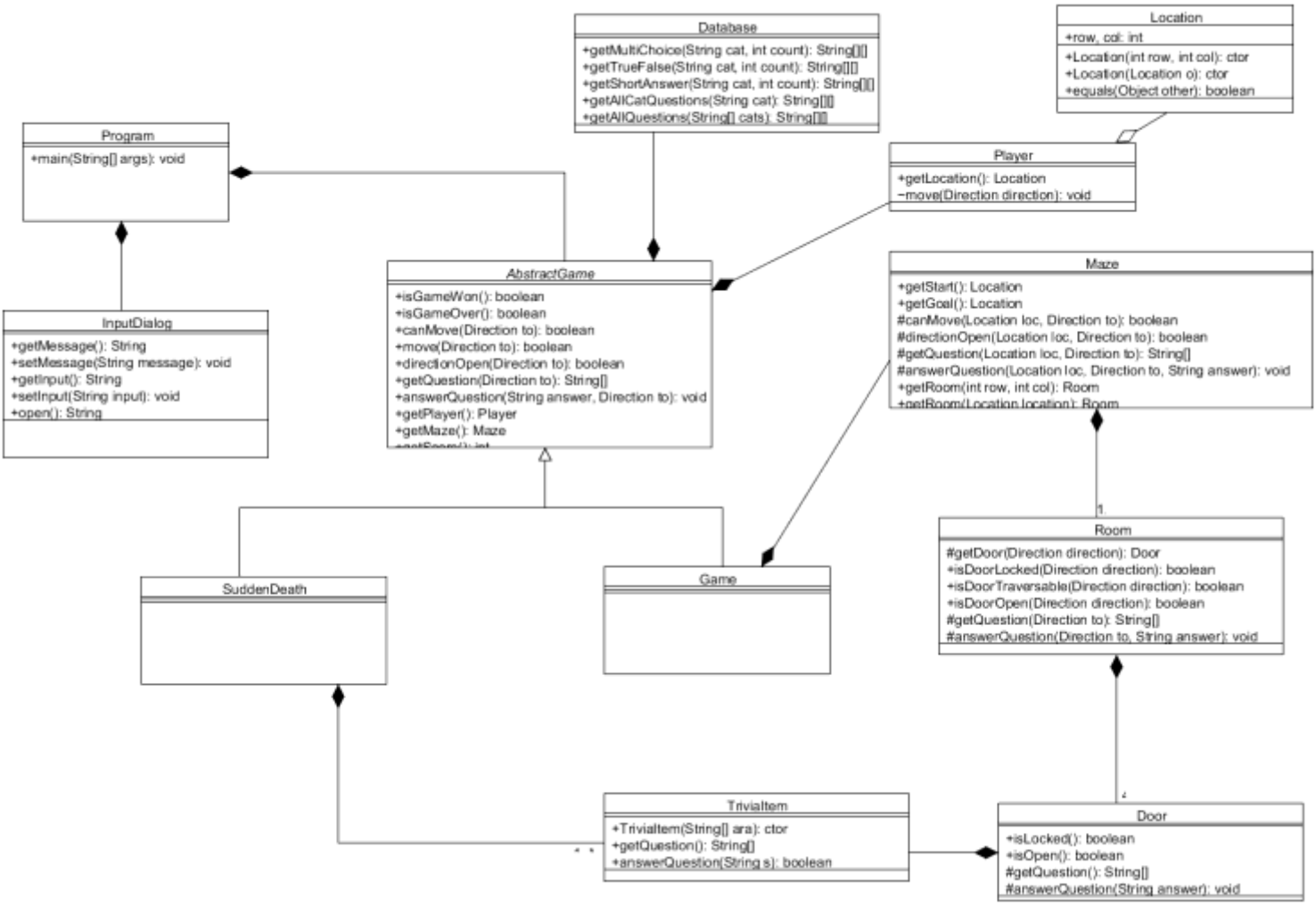
SR-1: The Player will be warned that preloaded question and answers have been compiled by the developers with every attempt at accuracy, but errors still may exist.

5.3 Software Quality Attributes

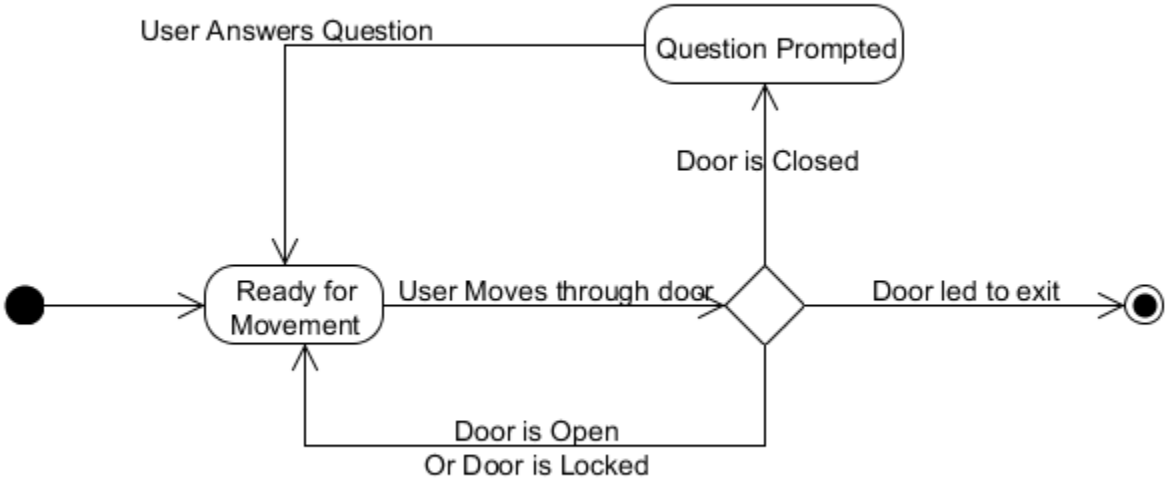
Correctness-1: The Study & Play Trivia Maze should contain 100% correct content.
Usability-1: The Study & Play Trivia Maze must function 100% correctly in Standard Game Play for release 1.0.

Appendix A: Analysis Models

Class Diagram



State Diagram



Sequence Diagram