Functional specification

Project name: Arcane Arcade

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1 Introduction

The project is called *Arcane Arcade*, which references the esoteric language users will have to use, as well as the gamification approach to try and make it as fun as possible. It revolves around building a platform that can be used to gauge the programming aptitude and capabilities of existing or future software developers using a custom esoteric programming language. The platform which is to be available on both mobile and online is thus required to test prospective employees while keeping the tests fun by using gamification principles. The tests should also indicate in which area the user is likely to be better suited, by looking at how the user completed the challenges, such as whether the user used any hints and the badges that the user earned.

2 Functional Requirements and Application Design

This section outlines the required functionalities from the system.

2.1 Use Case Prioritization

Priorities of the system's use cases.

2.1.1 Critical

- **User Authentication** - This is critical as it limits the system's access only to people who have been authorized. Only registered users are then able to complete the challenges and/or modify the challenges together with authorizing more users. No one can then access any part of the system unless they have been registered and authorized to request such services.

- **Player Interaction** - Interaction is critical as the whole system's core functionality revolves around it. The players have to be able to view and take challenges that are open to them at that time.

- **Code Compilation** - Code compilation is a critical use case as other instances of Player Interaction revolve around it. Where a Player interacts by typing code the system needs to be able to compile that code.

2.1.2 Important

- **Challenge Management** - This is considered important because this is where users who have management privileges will configure the structure of the challenges such as the number of levels and questions. The managers will also be able to set hints and other items related to the challenges.

- **User Management** - This use case is important as it deals with adding and removing users to the system.

2.2 System Modules

2.2.1 Arcane Arcade High Level Diagram

Insert the Arcane Arcade System use case diagram here.
The core of the Arcane Arcade system. It provides various functionalities to different types of users but the sub-systems offer high level use cases are shown in the diagram.

2.2.2   Authentication Module

2.2.3   User Management Module

2.2.4   Challenge Management Module

2.2.5   Compiler Module

2.2.6   Player Interaction Module

3   Open Issues