REQUIREMENT DOCUMENT

Project information	
Project Name	Sight reading app
Project owners	Jean Michel Mugabe, Ogheneovo Grant-Oyeye, Lucas Arsenault
Date	21st October, 2024

Overview

This requirement document gives an overview of the development of a sightreading app that is to be employed to improve sightreading skills. It includes an introduction that discusses the sightreading app's product scope, functional requirements, technical requirements, and usability requirements. This document is meant to serve as a guide to reviewing the requirements surrounding the sightreading app.

Contents

Introduction

Sight reading is an essential skill in music which helps musicians play a piece of music they have not played before by reading it off on the music sheet. To develop sight-reading skills, it is important to practice them in the right manner. There are various means of practicing and improving sight reading skills. One of them is through technology particularly using software to improve the skill of sight reading. This is where the development of this sight-reading skill app comes in. The purpose of the sight-reading app is to improve the user's sight-reading skill regardless of the user's sight-reading skill level and background. Though the sight-reading skill app is meant for everyone, its main target audience is those in the field of music, particularly music students. This comes about as the client, Dr. Stephen Runge, wants to use the app to improve the sight-reading skill of the students and from the survey where most of the respondents were music students. The usage of the app is simplified in this case, the user would play the music notes that appear on the screen with the MIDI keyboard or choose the correct key on a digital keyboard on the screen in the case where the MIDI keyboard is absent.

The benefit of this app is that using the app would be simple compared to other existing sight-reading apps. The simplicity in this case is the simplified interaction and navigation of the app. Most of the sight-reading apps that are already on the market have complex interactions which make it hard for the user to practice and improve their sight-reading skill thus in the end, those apps do not help the user achieve their end goal which is to improve their sight-reading skill. Thus, in the case of this app, the interaction has been simplified as mentioned above by requiring only a device and an instrument which most of the focus of our app would be a MIDI keyboard or just a device when an instrument is absent. The other benefit of the app would be its accessibility features such as the dark theme and ability to use it without an instrument. These features make it easier for the users to use the app in different situations such as when the user wants to practice in an environment where light themed background is not suitable or when the user does not have access to an instrument.

The goal of the app is to improve the sight-reading skill of the user. To achieve this goal, multiple objectives have been put in place in the app. These objectives include users being able to answer most of the questions at the levels, users being able to play the piece of the music that appears on the screen on the instrument which in this case would be the MIDI keyboard thus improving their sight-reading skill and meeting most of the user’s needs regarding improving their sight-reading skills.

To meet the app's goal, its requirements, including functionality, technicality, and usability, must be engineered to achieve the goal and objectives of the sight-reading app. The following are the discussions of those requirements, starting with the functional requirements.

Requirements

Functional requirements

Primary:

1. Users can start the app.
2. Users can access any level and adjust level settings within the app
3. Users would play with interactive music sheets on the app.
4. Users can answer questions using the keyboard or by clicking the screen to select the right answer from the multiple options given.
5. Users can toggle between the keyboard and multiple-choice mode.
6. Users can exit the app at any time.
7. Users can navigate back to the start page.
8. The app displays questions for users.
9. The app would evaluate the user's answer.

Secondary:

1. Users can access tips, across any level of the app, for assistance.
2. Users can change the size of the text font for readability.
3. Users can view the results of their completed levels to see their performance.

Technical requirements

Primary:

1. The app will be developed for Windows platforms.
2. The system will process the input from the MIDI keyboard with a setup guide and DAW (Digital Audio Workstation) integration of that keyboard.
3. Users can set up the MIDI keyboard to use for practice.
4. The system should be compatible with DAW integration for enhanced musical input processing.

Secondary:

1. The application should be built using an application framework to account for the difference in the app's mechanics depending on a given operating system.
2. The app will be developed for MacOS platforms.
3. The app will not keep the user's data.
4. The app will synchronize audio playback with the sheet music, allowing users to hear the piece they are practicing.

Usability Requirements

Primary:

1. The interface would prioritize ease of navigation and be simplified to help beginners.
2. Large, labelled buttons and simple navigation will make it easy for users to select levels. Toggle settings, and complete activities.
3. The system should be open for extension and be updated when required.
4. Users can access the setup MIDI keyboard function for guidance in setting up their MIDI keyboard.
5. The app will be optimized for performance, with a responsive and error-free interface, to help improve sight-reading skills.

Secondary:

1. First-time users can access a tutorial level that introduces core functionalities and provides hands-on guidance.
2. Users can change the theme of the background layout.
3. The app will include customizable fonts, colours, and themes that will be available for visually impaired users and those with specific preferences.