***“Jester’s Tavern”***

**A JAVA BASED MUSIC PLAYER, STANDALONE DESKTOP APPLICATION**

A Project Proposal

submitted as Partial Fulfillment to the Requirements of the course

APPLICATION DEVELOPMENT 1 (IT191)

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1. Background

Music is one of the greatest artistic accomplishments humans ever achieved. It speaks to the soul and helps people unwind and be in the right mood at the right moment just with the power of music.

And so, applications today also have capabilities of streaming and playing music whenever and wherever people want. It helps them to connect within their creative sides as music has never been so much available as today.

Music players can play music or audio files, and these are binary executable files among the well-known music file extensions are .mp3 and .wav files which can be user friendly as it can launched and played into any device regardless of platform.

Developing applications that can play music can be challenge, as developers need to be aware of the proper implementation and techniques of playing audio files, particularly .mp3 or .wav. Furthermore, an interesting and modern UI and UX experience also needs to be considered as one of the major requirements for this project.

1. Purpose and Description of the Project

The major requirement of the project entails that developers should create a music player desktop application using the Java Programming Language. Additionally, there should be an available list of music titles that once played should display the lyrics on the UI.

Furthermore, the users of the program should be able to play and stop/pause the music currently playing in the application. And at least there should be pictures, such as a music album, displayed on a particular music piece.

On the other hand, the project also requires that there should be a UI and UX design which should be elegant, simple, and modern. Along with interactions to the GUI elements that should be handled by custom event handlers.

Database is also required, and it is up to the developers how they may want to use and implement it together with their development workflow. In line with this, MySQL database and MySQL Server should also be implemented as it is one of the most easy-to-deploy database management tool and servers which can be hosted on the localhost machine.

Since this is big project, it requires the use and implementation of MVC Architectural Pattern to allow the independent development of front-end authors and back-end authors. And so, the application will be segmented into the components of Model, View, and Controller.

1. Objectives
   * To create a desktop application that can play and stop/pause music
   * To initialize a ‘default’ music library where there should be at least 5 music titles
   * May allow a user to add their own music files (required with .mp3 or .wav)
   * To render picture albums relevant to the music title
   * To display the lyrics of the song while it is playing
   * To implement MVC architectural pattern
   * To use MySQL Relational Database Management System and MySQL Server to host database on localhost machine

1. Scopes and Limitations

This project is not to be deployed as a web-application, and so there is no need for HTML templates and hosting site pages on a remote server.

There is no need for remote servers or Cloud deployment to host the MySQL database, and this is done to reduce the complexity of the application development.

It is still in plan whether which audio or music file to use. The .mp3 is a compressed making it lighter for load and storing operations. It streams 320kbits/s of audio binary data making it very compatible and featherweight for most applications trying to render and load up .mp3. While, .wav format is much larger as it streams 1411kbits/s of data. Due to its uncompressed method of storing binary making it at least 10 times larger than .mp3. On the other hand, both file audio formats have the same sample rate of 44.1kHz in which both are indeed good and compatible to most systems. The decision to use between the file formats is just a matter of space and time to store and load up binary data in both operations respectively.

Lastly, the use of database may be for storing the file path of the Client application where the music files are stored. Or it can be used with user authentication of the application.

1. Significance

The significance and the time consumed for this project development is for users who want a standalone lightweight desktop music player on their personal computers.

Lastly, this project will help the developers pass one of the major requirements in the course of IT191 – Application Development 1 Specialization Track.