MUSIC PLAYER USING LINKED LIST

DATA STRUCTURES AND ALGORITHMS

(15B11CI518)

PROJECT SYNOPSIS

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PROBLEM STATEMENT

The purpose of this project is to develop a player which has basic player functions to play, skip, and repeat a song. These songs are stored in different albums from which individual playlists have been created. The player also provides functionality to search for different songs in an individual's playlist. One can also delete a particular song based on his/her liking. The music player will provide a highly personalized experience for the user such as login authentication can be secure depending on how much security a user wants and the layout can be of any color as per user's choice. It will have an age feature which will play songs according to the factor of age where a user tends to. Listening to music should be more interactive so it will have a build shuffling or the timings like at what time a user want to listen the song .

Moreover, we also intend to make a user interface for this music player application. Like a push notification which will inform the user about the latest music news or the favorite artist release. As the user cannot listen to the app all day so the most important news after a certain interval of time will be popped to keep the user interacted to the app. The most common feature which many other music apps missed out is the pre save option which let you save the album or the song before the release so it will notify the user just after the release by saying "your pre-save is now ready to listen". A simple integration of lyrics with the ongoing fan song can really make the user intractable to the app . The app will be having a content uploading feature which let the user share its own content on the app which is shareable to anyone with the content link.

METHODOLOGY

To develop the albums and playlists in this project we'll be using the implementation of the LinkedList data structure. The whole project has been developed in Java. The platform used is IntelliJ Idea. We will be using the Abstract Window Toolkit(AWS) and swing packages which are standard graphical user interface to render the graphics of the app.

J layer library is a prerequisite in the app which provides the fundamental features such as play, pause , resume stop. J layer is an open source we need to download from the internet.

Figurative steps for the implementation of the music app in java are:

1. Import the packages or the open source libraries from the internet .
2. Initializing the user interface as per the features of the app justified.
3. Adding action to button.
4. Performing action of the button.

The main user interface of the app is most important and we have used the four components inside it .

1. The Image view – to show the given image of the song
2. Buttons for play, pause, resume ,shuffle.
3. Vertical layout- It consist of image view component and the linear layout.
4. Horizontal layout- It consist of the features of the app such as the lyrics and all the action buttons present.

TECHNOLOGIES USED

In this project we will be using the JFRAME and the JBUTTON for the front-end of the media app. So, to implement this in the app we need to import the java media framework and extract the required files and the lib folder which contains addjar ,projects and libraries needed.

While making the app from the scratch we need to specify what a particular button is doing.

Moreover, to deploy the whole app like a web application, we'll use the following technologies:

FRONTEND: React.js, HTML, CSS, Bootstrap

BACKEND: Node.js, Express, MongoDB