Easy Music

A Project Report

Seminar Report submitted in partial fulfilment of the requirements for the award of the degree of BCA

by

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CERTIFICATE

This is to certify that the Seminar entitled Easy Music presented by Krishant Chauhan bearing   **Registration No. 1921085** of **GEHU,Dehradun** has been completed successfully.

This is in partial fulfilment of the requirements of Bachelor's Degree in **GEHU, Dehradun**.

I wish her/ him success in all future endeavours.

(Asst./Asso./Prof., SOC)

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Abstract

This project is about the music player application development using Android. The biggest difference between the music player and existing applications is that it is completely free for users to use. It will integrate the advantages of existing music players on the market, as far as possible to mining out the existing music players' function, and then do the filtering in order to eliminate function that not practical or low cost-effective. Also, it will be keep improved based on user feedback.

In addition, depending on the user's usage scenario, the music player will also add some modes, such as driving mode and night mode, to allow users to use the application in any situation or environment. Moreover, the music player will have audio trim features, allowing users to trim the best part of their favourite song into phone ringtone or alarm. On the other hand, the existing music players pay less attention to the control of gestures. Therefore, the music player will solve the limitation by adding more gestures and shake the phone feature for media control to make it more user-friendly and humanity.

In a nutshell, the methodology for developing the music application used in this project is the agile development cycle. The agile development cycle consists of six phases, which is requirements analysis, planning, design, implementation or development, testing, and deployment. Due to the iterative and flexible nature of this approach, it is able to effectively adapt to users with changing requirements.

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Chapter 1: Introduction

Music has always been a means of entertaining people even from the earliest ages of the civilisation. Historically it was produced by musicians and only available during life concerts. The technological evolution made it possible to save the music on vinyl plates, later electromagnetic charged stripes, CDs until the technology brought us to saving tracks digitally. When dealing with a huge collection of tracks, people encounter management problems they did not have before.So they have to develop new ways of using the music collection for their entertainment. Playlists are a good approach for saving successions of tracks that one likes.

The most dominant problem of existing playlist generation mechanisms is, however, their lack of flexibility: new tracks are not automatically added, they don't adapt to the user's current mood etc. A new approach in dynamically organising tracks into playlists is on its way: companies like last.fm already suggest an algorithm of mapping songs one to each other based on their "similarities"; but how to compute these similarities? One way, that did not prove to be very productive, is to analyse the audio content of the track – its audio frequencies. This way, tracks are split in categories like "Heavy Metal" and "Blues", but people do not like all tracks of a certain gender and these genders might be inaccurate.

Another way, which is given more and more attention by researchers and companies worldwide, is computing similarities between tracks based on user input. As an example: if two users add the same two tracks to their playlists, one can deduce that these tracks are similar and so, also other people that pick one of them are likely to enjoy the other one as well.

The music player allows a user to play various media file formats. It can be used to play audio as well as video files. The music player is a software project supporting all known media files and has the ability to play them with ease

Chapter 2 : Literature Review

Nowadays, smartphone has already to replace the normal mobile phone device. Mobile phone device is no longer only just can act as communication tool but also one of the daily needs for most of the people. Android system, one of the mobile operating system which also known as open-source platform are now getting more and more popular, especially in the smartphone market. Because of the open-source platform, there are a lot of applications had generated. [1] .

Music is what feelings sound like and because of music are so inspiring people, it's so important to get a music player application that can work well for the user. [2] With the rising of the smartphone, the natural that now the one mobile device we carry with us is also our primary media player. Over the years music fans have gradually changed how they listen to their music and what they listen to it on. Therefore, music application has been being one of the important part for the mobile device.

Timer is the specialised type of clock for measuring time intervals. Timer usually used for counts down from a specified time interval. Many timers are now implemented in software. Sleeping timer is one of the countdown timer that used for counting down the time which applied in the software. Sleeping timer as the featuring function for the music player that allow the user fall asleep to their favourite song [3]. User simply start the songs and set the countdown timer. At the end of the countdown, sleep timer features will stops your music out and allow the user get back precious sleep. This is also one of the features that can help user to save their mobile device's battery from draining.

Chapter 3 - Proposed Work

- The application is a simple Android based APK file that you open in your Android Devices.

- You will have to open it through a locally running Android Devices like Android 8+(Oreo).

- The app listens for Java drag and drop events.

- When you drop a mp3 file, it extracts information like song and artist name, if they are available, from the file's ID tags.

- Each song is placed in an array, which represents our playlist.

- The application then initialises the SeekBar audio player.

- From there on we can do everything you would expect from a native audio player - play next/ previous, pause, pick songs and so on.

- Our playlist section also gives users the option to remove songs from the player or search for a particular track, album or artist.

Hardware and Software Requirements

Software Requirements

Languages:

Java

Java's history is very interesting. It is a programming language created in 1991. James Gosling, Mike Sheridan, and Patrick Naughton, a team of Sun engineers known as the **Green team** initiated the Java language in 1991. **Sun Microsystems** released its first public implementation in 1996 as **Java 1.0**. It provides no-cost -run-times on popular platforms. Java1.0 compiler was re-written in Java by Arthur Van Hoff to strictly comply with its specifications. With the arrival of Java 2, new versions had multiple configurations built for different types of platforms.

JAVA was developed by James Gosling at **Sun Microsystems** Inc in the year **1995**, later acquired by Oracle Corporation. It is a simple programming language. Java makes writing, compiling, and debugging programming easy. It helps to create reusable code and modular programs.

Java is a class-based, object-oriented programming language and is designed to have as few implementation dependencies as possible. A general-purpose programming language made for developers to *write once run anywhere* that is compiled Java code can run on all platforms that support Java. Java applications are compiled to byte code that can run on any Java Virtual Machine. The syntax of Java is similar to c/c++.

Xml

XML (Extensible Markup Language) is a markup language similar to HTML, but without predefined tags to use. Instead, you define your own tags designed specifically for your needs. This is a powerful way to store data in a format that can be stored, searched, and shared. Most importantly, since the fundamental format of XML is standardized, if you share or transmit XML across systems or platforms, either locally or over the internet, the recipient can still parse the data due to the standardized XML syntax.

Each layout file must contain one (and only one!) root element. Linear Layouts, Relative Layouts, and Frame Layouts (see Root Views section below) may all be root elements. Other layouts may not be. All other XML elements will reside within this root object.

A View is simply an object from Android's built-in View class. It represents a rectangular area of the screen, and is responsible for displaying information or content, and event handling. Text, images, and buttons are all Views in Android.

Software/Tools:

Android Studio:

Android Studio is the official Integrated Development Environment (IDE) for android application development. Android Studio provides more features that enhance our productivity while building Android apps.

Android Studio was announced on 16th May 2013 at the Google I/O conference as an official IDE for Android app development. It started its early access preview from version 0.1 in May 2013. The first stable built version was released in December 2014, starts from version 1.0.

Since 7th May 2019, Kotlin is Google's preferred language for Android application development. Besides this, other programming languages are supported by Android Studio.

Features of Android Studio:-
• It has a flexible Grade-based build system.
• It has a fast and feature-rich emulator for app testing.
• Android Studio has a consolidated environment where we can develop for all Android devices.
• Apply changes to the resource code of our running app without restarting the app.
• Android Studio provides extensive testing tools and frameworks.
• It supports C++ and NDK.
• It provides build-in supports for Google Cloud Platform. It makes it easy to integrate Google Cloud Messaging and App Engine.

Hardware Requirements

In order to implement a new system the choice of processor with maximum possible speed is made. There should be sufficient memory to store data and software tools for efficient processing.

System	: Android Devices
Processor	: Any 64-Bit or 32-Bit
Speed	: 2.0 GHz
Memory	: 2 GB RAM
Hard Disk Drive	: 100 MB+
Version	: 5.0 + (Lollipop)

Chapter 4

Result & Discussion
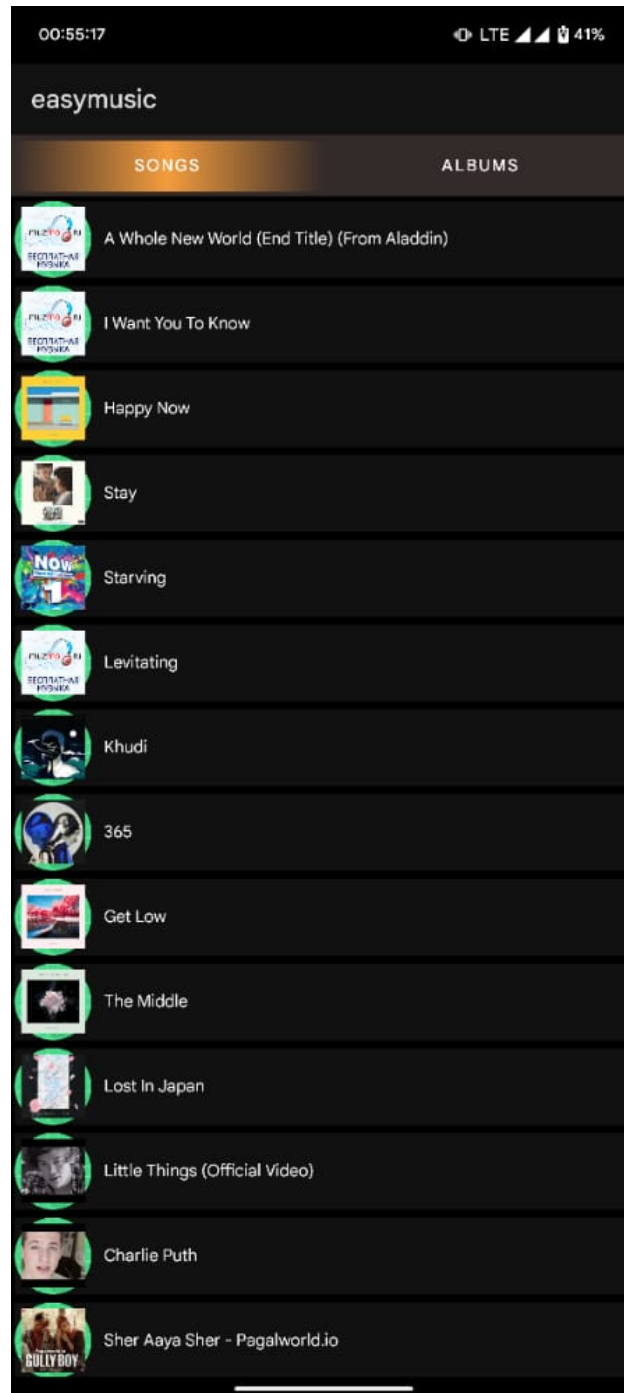
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Chapter 5 : Conclusion

Through the development of music player on Android platform, we get a clear understanding of overall process of the system. The core part of the music player is mainly composed of main interface, file browsing and song listing, Grasping the development of the music player has had the preliminary scale small features.

Music player system realised the basic function of player: play, pause, rewind a, volume adjustment is performed through the Android System Itself, play mode, song search, seek-bar, This development implicated the popular mobile terminal development technology. This is the combination management of Java language in the open source mobile platform based on Linux system configuration file. The system realised the music player programming.

This design of music player based on Android system requires elaborate design of the music player framework, by adopting ANDROID STUDIO 3.1.2 + Java language as technical support of this system, with the Android plug-in tools, and combination of Latest Android SDK version lead to the comprehensive and smoothly design and development of the mobile terminal.

In addition, the specific song is overwhelmed by a large number of songs and cause information overload, users can only spend more energy and time to find it. For example, searching for a book in the library, and realise that there is no library catalog is mean to looking for a needle in a haystack.

The application solves the basic needs of music listeners without troubling them as existing applications do: it uses technology to increase the interaction of the system with the user in many ways. It eases the work of the end-user by capturing the image using a camera, determining their emotion, and suggesting a customised play-list through a more advanced and interactive system. The user will also be notified of songs that are not being played, to help them free up storage space .

Chapter 6 :References

1. Li Ma, Lei Gu and Jin Wang, "Research and Development of Mobile Application for Android Platform", Software, pp 1-3

2. Virginia Hughes, Website: http://phenomena.nationalgeographic.com/2013/04/11/why-does-music-feel-so-good/

3. Matt Klein, Website http://www.howtogeek.com/220307/how-to-set-up-music-sleep-timers-on-your-phone/