PROJECT DOCUMENTATION

of "MELODY MUZIK"

College: Dinabandhu Andrews Institute Of Technology And Management

BCA 6th Semester Year: 2015-2018



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ACKNOWLEDGEMENT

The satisfaction and euphoria that accompany the successful completion of the project would be incomplete without the emotion of the people who made it possible.

First of all, we would like to thank the supreme power the Almighty God who is obviously the one has always guided us to work on the right path of life. Without his grace this project could not become a reality. Next to him are our parents, whom we are greatly indebted for us brought up with love and encouragement to this stage. We are feeling oblige in taking the opportunity to sincerely thanks to our H.O.D A.D.P Sir, and special thanks to our training teacher Imtiaz Ali Sir. Moreover, We are highly obliged in taking the opportunity to sincerely thanks to all the staff members of computer department for their generous attitude and friends who have always helping and encouraging us though out the year.

We have no valuable words to express our thanks everyone for the valuable advice and suggestions for the corrections, modification and improvement did enhance the perfection in performing our job well.

PREFACE

Summer training is the vital part of a BCA course, both as a link between theory and actual industrial practices as well as an opportunity for hands o experience in corporate environment. Yet the opportunity could not have been utilized without the guidance and support of many individuals who although held varied positions, but were equally instrument for although completion of my summer training.

However, we accept the sole responsibility errors of omission and would be extremely grateful to readers of this project documentation if they bring such mistake to our notice.

DECLARATION

I Sukant Sharma, along with my group members Apurwa Sinha and Monika Halder, students of Dinabandhu Andrews Institute Of Technology And Management, Kolkata here by solemnly declare that the project titled "MELODY MUZIK' is our original as all the informative facts and figures in this documentation is based on our own experience and study during our summer training procedures.

Date: 10.05.2018

Place: Kolkata, West Bengal



• INTRODUCTION

- ✓ BUILD DEVELOPING ENVIRONMENT OF ANDROID
- ✓ THE DESIGN PRINCIPLE OF ANDROID APPLICATION
- ✓ FUNCTION AND SRUCTURE DESIGN OF ANDROID SYSTEM

• **REQUREMENT ANALYSIS OF SYSTEM**

- ✓ THE FEASIBILITY ANALYSIS
- ✓ ECONOMIC FEASIBILITY
- ✓ TECHNICAL FEASIBILITY
- ✓ SOCIAL FEASIBILITY
- ✓ SATURATION OVERVIEW
- SYSTEM DESIGN
 - ✓ INTRODUCTION OF PLAYER PROJECT
 - ✓ PART OF FUNCTION DESIGN
 - ✓ DATA STORAGE
- FLOWCHART
- MELODY MUZIK UI
- CONCLUSION
- **REFERENCES**

INTRODUCTION

Android is open source code mobile phone operating system that comes out by Google. Music player in this project is application software based on Google Android. Music is one of the best ways to relieve pressure in stressful modern society life. The purpose of this project is to develop a player which can play the mainstream file format. To browse and query the storage space as well as operation of playing can be realised. Meanwhile, this software can play, pause and select songs with latest button and next button according to sets requirement as well as set up songs.

BUILD DEVELOPING ENEVIRONMENT OF ANDROID

The application of android need to run based on Android environment. The following is the configuration requirement and installation steps of Android development environment:

The required software of the developing environment

- Operation system: Windows 10,Linux
- Software: Android SDK(Software Development Kit)、 ADT(Android Development Tool)
- JDK: Java Runtime Environment virtual machine, Java Development Kit(JDK)

Installation steps of the developing environment

- Step 1: install the Java virtual machine JDK version 7
- Step 2: install the Android SDK: first download the Android SDK
- Download address: http://developer-android-com/sdk/index-html
- Input SDK tools path in the SDK location: D: \ android \ software \ android
 SDK- Windows and click OK.
- The Android environment is set up successfully.

Hardware Requirements to Run the APP

- This APP meets minimum hardware Requirements:
- >1 GHz Processor
- >512MB of RAM
- >50MB of Internal Storage

THE DESIGN PRINCIPLE OF ANDROID APPLICATION

Twice the result with half the effort will get if an overall study of the principles done before the design and follow them in the operation. The principle of software design mainly includes the following points:

(1) Reliability

The reliability of the software design must be determined. The reliability of the software system refers to the ability to avoid fault occurred in the process of system running, as well as the ability to remedy troubles once the fault occurs.

(2) Reusability

Look for commonness of similar codes, and come out new method abstractly and reasonably. Pay attention to the generic design.

(3) Understandability

The understandability of software not only require clear and readable document, but the simplified structure of software itself, which requires the designer possess keen insight and creativity, and know well about the design objects.

(4) Simple program

To keep the program simple and clear, good programmers can use simple program to solve complex problems.

(5) Testability

Testability means that the created system has a proper data collection to conduct a comprehensive test of the entire system.

(6) The Open-Closed Principal

Module is extensible but cannot be modified. That is to say, extension is open to the existing code in order to adapt to the new requirements. While modify is closed to the categories. Once the design is completed, the categories cannot be modified.

FUNCTION AND STRUCTURE DESIGN OF ANDROID SYSTEM

This system adopts the modularized program design, and system function is correspondingly divided into function modules, the main modules include:

(1)UI function module design of mobile terminal:

The index screen, play screen, music adding page, file management page are realized.

(2) Backstage function module design of mobile terminal:

The specific function, music file data storage function and other function are implemented.

REQUIREMENT ANALYSIS OF SYSTEM

The feasibility analysis:

This section verified that it is feasible to add music player on the Android system from the aspects of economic, technical and social feasibility.

Economic feasibility:

To design Android mobile phone music player as long as a computer has the Android development and the application development of Android is free. In addition, mobile phone music player is basic needs for public. The information that which functions are necessary form all the consumers , which functions are needed for some people, and which features are seldom to use is easy to understand. And a lot of research is eliminated, thus saved the spending. Therefore, the whole process of development doesn't need to spend any money that is economic feasibility.

Technical feasibility:

To design a music player which meets the basic requirements, a deep understand of JAVA language, the Android system architecture, application of framework and other technical knowledge are needed.(framework is the core of the application, and rules that all the programmers participating in the development must abide by). Based on the related technology information and resources for Android on the market, and equipped with technical personnel of technology and the spirit of willing to learn, the technology is feasible.

Social Feasibility

With the rapid development of the mobile phone market, all kinds of audio and video resources are widely circulated on the Internet. These resources seem ordinary, but have gradually become an indispensable part of people life, which derived the development of all kinds of mobile phone player. But a lot of players devoted to fancy appearance, strong function causing a lot of wasted resources to the user's mobile phone and bringing a lot of inconvenience to the user as multitasking operation is needed. Some functions are useless to ordinary people. Powerful player is a good thing, but a lot of functions are actually useless for most users. Aimed at these problems, developing multiplied audio player which owns the features of simplified functions, common play function, meeting the needs of most users, less required memory and high quality of playing music, maximizes the optimization in performance.

Saturation Overview:

This section describes requirements of the system based on basic control functions of players, and system setup function of the player according to research results of the project demand.

According to the research results of project demand, the basic requirements of project system and its function structure are presented. And describe the demand of the system through the different angles. The project is divided into the following parts by using diagram: the basic control functions of the player, the playlist management function of the player and system setting function of the player. The player interface requires rational layout, comfortable color, friendly control buttons and concise and beautiful images. According to the Android system requires, the non- response time is 5 seconds.

The following is requirements in the music player development application: Application response time shall not exceed 5 seconds in music playing. Application response time shall not exceed 5 seconds as the music is suspended.

Application response time shall not exceed 5 seconds as the music is stopped. Application response time shall not exceed 5 seconds as Move Next/Move Previous music.

Application response time shall not exceed 5 seconds as system listing is required.

System design

The App Starting module of the player in the project is introduced, as well as the Android engineering program structure, etc.

Any AppStarting needs AndroidManifest. XML file to start. And any new project content will automatically generate an AndroidManifest. XML file. Configuration files are the core of the whole program, which contains the Android SDK version, and the default Activity in program running. The systems will automatically looking for a logo in AndroidManifest to react the corresponding operation when any component of the program triggers events.

To define the system, the first thing is launching the Activity: Android Activity. There are properties such as action and category in < intent - filter >. Most of these are the default values of the system. Setting the action and category realize the switch between different Activities. When any components of the program is about to use, declaration must be in the Android Manifest. Xml files. To be clear that authorities must be illustrated as the statement of provider. Each component has a lot of attributes; the program will define different attributes according to different needs.

The basic structure content of Android project includes: the SRC (source code), gen (constant that Android system automatically generates), res (resource file), and the layout of file and pictures in the main storage program interface.

Part of the function design:

The main play interface design.

Convenience and practical should be fully considered in the design of the main interface. Every Android interface is a visual interface, which has its unique layout configuration files. We can configure various layout and resources files according to the requirements, such as images, text and color reference, which can form different visual interface and glaring effect.

Interface design of adding songs.

There are no corresponding songs for the first time login entering the program; users need to add songs to play. Therefore, you need to enter the adding songs' interface. The empty playlist needs to add songs which can choose from the SD card to add.

Function design of play and Next/Move Previous music

- i. When need to use the player to play appropriate music, click the play button to realize the function.
- ii. When need to use the player to switch to the previous song, click on "Move Previous music" button to realize the function.
- iii. When need to use the player to play the next song, click on "the next music" button to realize the function.

FLOWCHART



Melody Muzik UI (User Interface)

Start Splash Screen





Storage Permissions are Required to Read External SD card for Music files



Main APP Layout with List view for Music selection



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 realized the basic function of player: play, pause, rewind and fastforward a, volume adjustment is performed through the Android System Itself, play mode, song search, seekbar, 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 realized 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

OTHER REQUIREMENTS

• Maintain ability

The design will be updated based on any changes, which are done during coding stage to maintain proper trace ability.

• Availability Available for minimum API level 22 (Android Lollipop 5.1)

REFERENCES

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