"Mood Journal" - An android based mobile application for transforming human mood

BY

MD. FARHAN ISLAM
ID: 151-15-5312
AND

PRONAY KUMAR TARAFDER
ID: 151-15-5119

This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

Supervised By

Masud Rabbani
Lecturer
Department of CSE
Daffodil International University

Co-Supervised By

Anup Majumder
Lecturer
Department of CSE
Daffodil International University

DAFFODIL INTERNATIONAL UNIVERSITY

DHAKA, BANGLADESH

APPROVAL

This Project titled **"Mood Journal" – An android based mobile application for transforming human mood,** submitted by Md. Farhan Islam, ID: 151-15-5312 and Pronay Kumar Tarafder, ID: 151-15-5119 to the Department of Computer Science and Engineering, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of B.Sc. in Computer Science and Engineering (BSc) and approved as to its style and contents. The presentation has been held on 9th December.

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Department of Computer Science and Engineering
Faculty of Science & Information Technology
Daffodil International University

—————————————————
Dr. Mohammad Shorif Uddin   **External Examiner**
Professor
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Jahangirnagar University

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Mr. Masud Rabbani, Lecturer, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for award of any degree or diploma.

Supervised by:

_____

Masud Rabbani
Lecturer
Department of CSE
Daffodil International University

Co-Supervised by:

_____

Anup Majumder
Lecturer
Department of CSE
Daffodil International University

Submitted by:

_____

Md. Farhan Islam
ID: 151-15-5312
Department of CSE
Daffodil International University

_____

Pronay Kumar Tarafder
ID: 151-15-5312
Department of CSE
Daffodil International University

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ABSTRACT

This project is on human mood changing which we have named as "Mood Changer". This is an android based application which needs an android device to run and which will help people to change their mood instantly. By the different category of moods this app provides songs, sounds, videos and suggest movie names also which will help the users to lift their mood. Users also can upload songs and videos if they want. We have also added some features like personal diary and calendar. Here users can track their mood and the application will provide a monthly mood statistics for the users. This application is more user friendly and so that user can easily find out the features what they need by their smart phone. In the development of this application the most essential elements were computer, an android device and an android application development tool. The development of this application is described in the project report. Using this application user will also get lot of facilities. After development session of this application we have tested it by different user and found it to be a well build application which works perfectly.

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CHAPTER 1
INTRODUCTION

1.1 Introduction

Mood is a feeling of mind. Mood and emotion need to be in balance with practical life, otherwise one cannot live a healthy life[1]. Types of human mood includes anger, sad, happy, annoyed, excited, depressed, joyful, and so on. The action which we do depends on the mood of a person. The mood has to be balanced. A person should have mixed feelings according to the situation. A person should never stay always in the same mood. People need to change their mood. Here comes our app. By using this app one can overcome and prevent this problem. Our "Mood Journal" can be a solution for this problem. This is secure, smart, accurate and time consuming solution for changing mood. It also provides some other assistances. And here the users can track their mood easily and can see their monthly mood statistics.

1.2 Motivation

After a bunch of research, we realized that listen to/watch inspirational material one of the best ways to start your day. Instead of reading the paper and getting hammered with negative news and views on the world try watching or listening to one of your personal favorite development products. Reading works too, but listening and seeing creates a more three-dimensional experience with room for the always important body language and voice tonality to be included and adds emotional power to the information.

Listening to music or watching videos while feeling down or bad can provide a relief. What may not be known to most people is that music can also reduce stress, make depression more bearable and help you relax. That's why we decided to make such an app which will provide songs, sounds, videos and lift people's mood.

1.3 Objectives

Find out stuff that makes people happy, joyful, excited or energetic etc and give an option in the homepage. Ask the person about his mood. If he is sad, then put a song that will make him happy. If he is down and depressed, then put another kind of song or video song that will lift his mood. If he is angry, then play soothing sounds of the water along the beach. The themes are limitless. And also everybody has a favorite song that will make them happy etc.

1.4 About Our App

This is basically an android app. Using this app people can select a mood with time and date. The state of mood will be stored. There is a secure and private diary where a user can write about his/her day or can write anything and store them. Users can see their monthly mood chart statistics. By the different category of moods this app provides songs, sounds, videos and suggest movie names also which will help the users to lift their mood. Users also can upload songs and videos if they want.

We try our level best to improve this and this application is beneficial for all types of people. This application is user friendly and that's the main point.

1.5 Expected Outcome

- Select a mood like happy, joyful, loving, excited, sad, annoyed, angry, depressed and more
- Statistics like monthly mood chart
- A secure and private diary
- By the different category of moods we add songs, sounds, videos and suggest movie names also
- Allow the user to upload such songs or videos of their happy memories etc and let them assign it to different mood settings

CHAPTER 2
BACKGROUND

2.1 Introduction

First of all, if anyone writes code what he/she have to do? So if anyone wants do anything first he/she has to wish to do this that means passion. So wishing power is the most powerful weapon below wishing program. Today's programming is the fundamental weapon in technology. Every nation is going ahead by technology. So this is the main part in any country. And android apps are the most popular in today's world.

2.2 Related Work

When we decided to build this app as our final year project, we looked through Play-store and found no such app that is like ours[3]. However, there are apps which has one or two features like us but not like this, that's the main different concept of this app. Our app is totally different and unique. We try our best to improve something which really look like different. We need to learn about human psychology to build this.

2.3 Comparative Studies

We have visited many sources and websites to compare our work with other apps or websites. But there is no similar app like ours. There are some other apps in play store which have one or two common features like ours but our app works completely different purpose. We are sure enough to say that our app is unique and very different.

2.4 Our Project Work

We wanted to build an android entertainment application. With some extra useful features of course which will relax the users and help to change their mood quickly. We wanted our application as a complete package. In our project we tried to focus on human mood. It's an android application that's why we have used Java, SQLite and XML programming language. We have used SQLite database for storing purpose.

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2.5 Scope of the Problem

Android applications have some limitations. They are mostly static. For purposes like database or else they need to depend on other apps. A user might not have all the required apps installed at the same time.

Our application is just only for mobile device not for others. We hope that the user interface is enough user friendly so the users will enjoy using it. It is easy to handle and helpful for the situation.

2.6 Challenges

When any developer wants to make anything different then he/she always faces some different types of challenges, contest, competition and obstacles. As like this situation we also faced some of these. Our project is an entertainment app. It's too popular in today's world but nowadays people are using Facebook, WhatsApp, Viber, Instagram, Netflix and so many others like these. So it will be a tough situation for us to introduce our app to mass users.

And we are trying to give 100% valid information to the users. Wrong information is harmful to people. We tried to make it more user friendly and to do this we have faced some challenges while developing this app. If the users face any kind of problems like scrolling, button then we will try to sort out the problem very fast.

One of the major challenge was to maintain the database. We have to maintain the database regularly. Otherwise it won't be able to keep the objectives of this application. Now for completing our mission, all those things might be challenging for us.

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CHAPTER 3

REQUIREMENT SPECIFICATION

3.1 Business Process Model

Business process modeling (BPM) is the activity of representing the process of an enterprise so the current process can be improved, automated and analyzed. The term 'Business Model' is thus used in very familiar way and for a broad range of informal descriptions to represent core aspects of including purpose, structures, operational process and policies[2].

Better processes produce lower costs, higher revenues, motivated employees, and happier customers. Business process modelling, often called process modelling is the analytical representation or illustration of an organization's business processes. Along with business process discovery, process modelling is widely viewed as a critical component in successful business process model (BPM). The following figure 3.1 shows Business Process Model[5]:
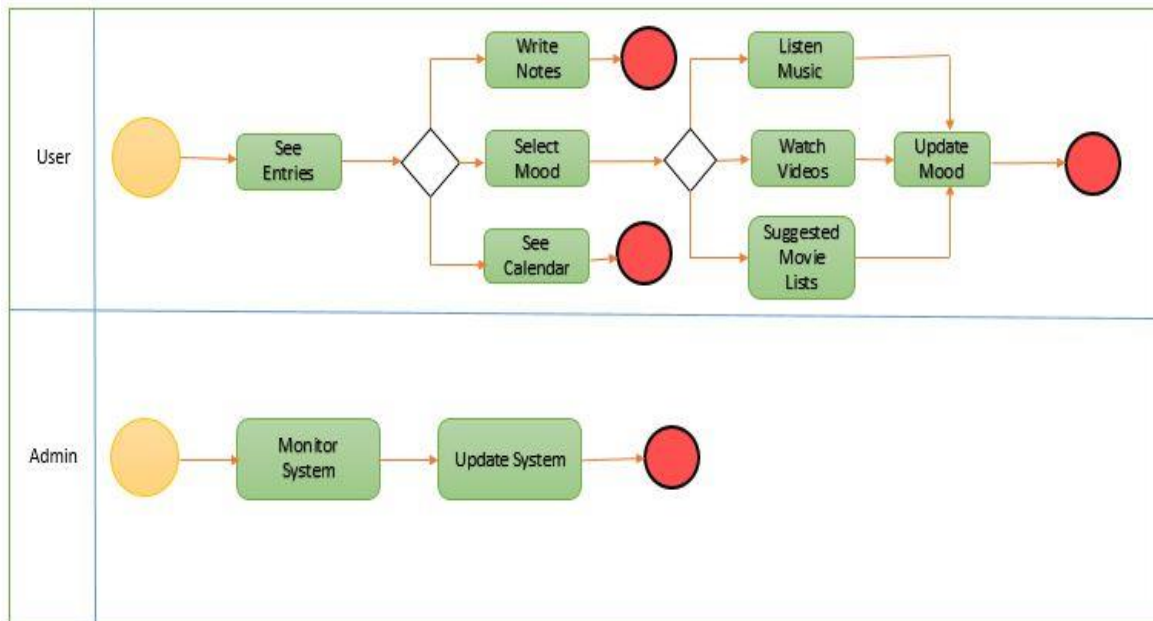

Figure 3.1: The Business Process model of Mood Journal

3.2 Requirement Analysis

Success of a project depends on collecting requirements and analyzing them. It is the most important part cause, the project is totally and actually fully depends on this knowledge. We cannot start building a project without planning the project requirement.

Project fails when we do not have enough requirements or some absolutely wrong requirements gathering. If the team of a project fails to determine and gather all the possible necessary requirement for the solution, the project may not be fail, but it will be at a risk to fall out.

We have found some necessary features after collecting our requirement and analysing them carefully. System details is important for using the system as a user. So, good planning of collecting project requirement provides all the necessary and detailed specification for the system detail of a project.

For the project development process, there are two types of requirements. One of them is user requirement & another is performance requirements-

3.2.1 User Requirements

Since the end clients will utilize the framework, their requirements should be recognized. The principle necessity of the end client is that is anything but difficult to utilize and less tedious.

It was their desire that the inquiries of the end clients included. The fundamental prerequisite of the end client is that the framework is anything but difficult to utilize and less tedious. Notwithstanding this other critical factor, it is important to wipe out the requirement for change and migration of the database which should now be completed. After talking clients, there was a report that was known as programming required particular. This is the most essential record that structures the reason for framework advancement. It ought to be reliable, finished, clear, recognized and interrelated.

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3.2.2 Performance Requirements

This section includes the user's interaction & the functionality of the product studying the existing system of the organization which is called the measurable post & they can be verified during system evaluation phase time. Some of the performances requirements started below:

3.2.3 Development phase

Effective completion of the previous stages is key factor in the success of the Development phase. The Development stand at:

- Detailed requirements and design translations in system components.
- Different components (unit) test for use.
- Preparation for IT system integration & testing.

3.3 Use Case

A use case is a software and system engineering term that describes how a user uses a system to accomplish a particular goal. A use case acts as a software modelling technique that defines the features to be implemented and the resolution of any errors that may be encountered. The system is used by 2types of users. They are Admin and Users. Use-case always use for user understanding and we try our level best for efficiency. The model in Fig 3.3 is usually short yet description.
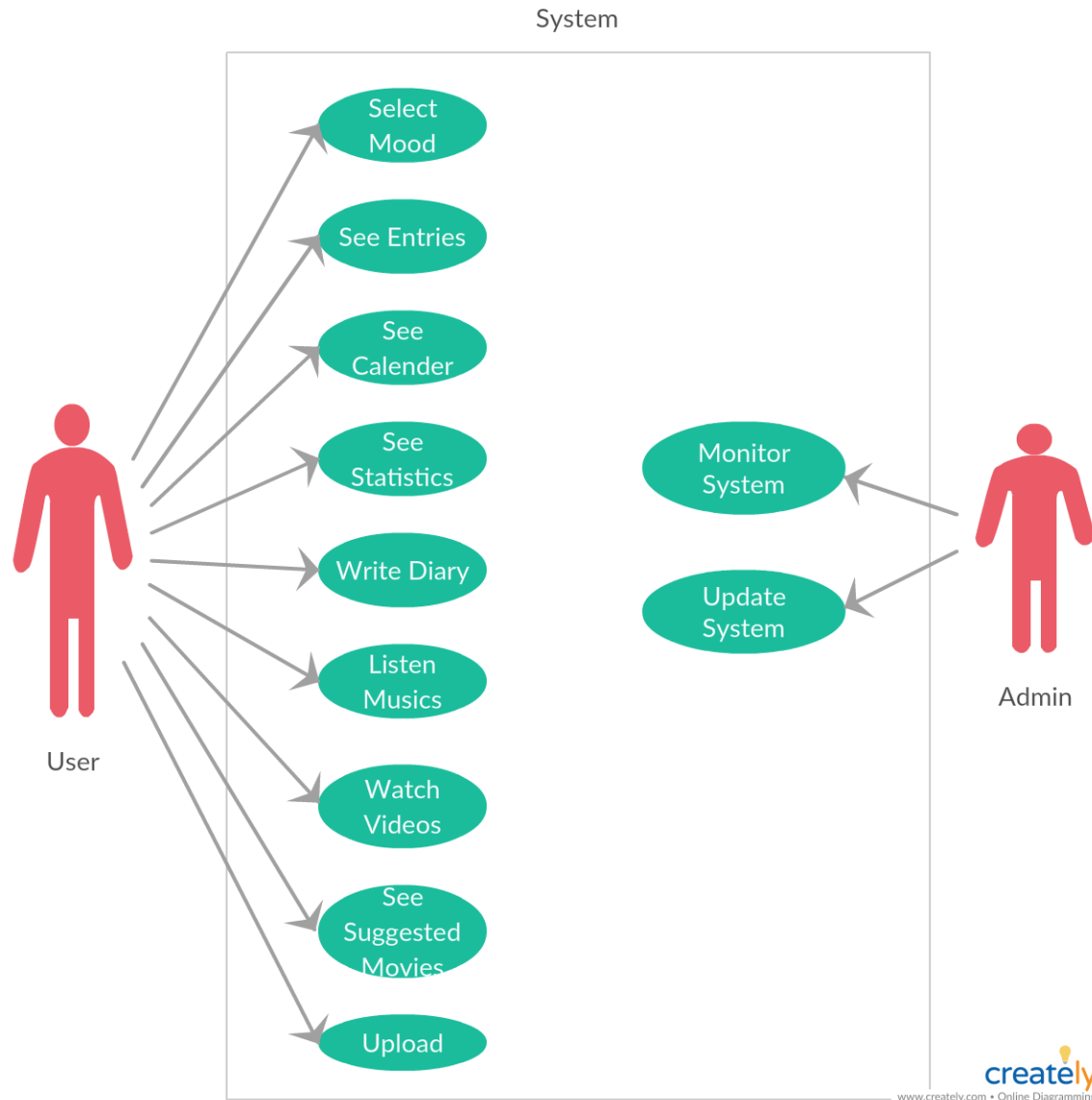
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Figure 3.3: Use Case Model of Mood Journal

3.4 Logical Data Model

Logical data model mainly consisted of few elements like, data entities, attributes and keys and relationship between the entities. By which the organization data and business rules is defined and govern the relationship between them. As a Back-end we use core object oriented and Front-end XML. The following figure 3.4 represents the data flow diagram[6].
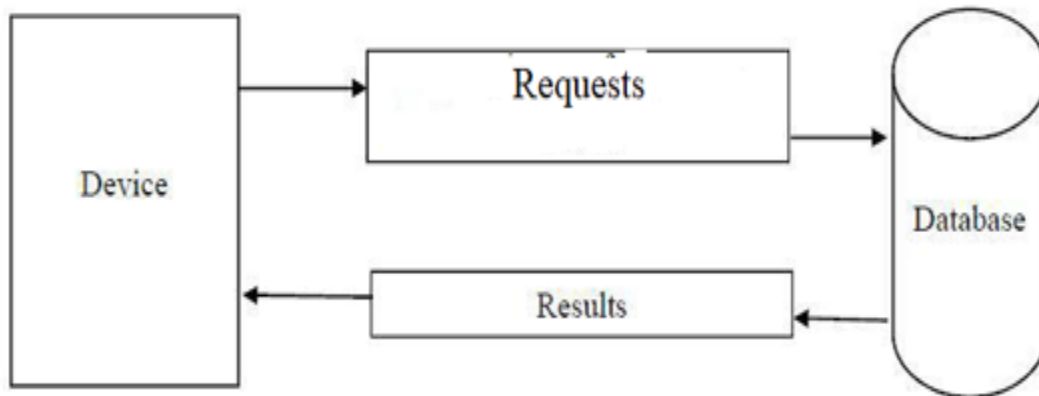
Figure 3.4: Data Flow Diagram of Mood Journal

3.5 Design Requirements

Design requirements state is the important characteristics that our design must meet in order to be successful. It makes an application more users friendly. To make an application straight forward and easy to understand we must need Design requirement. For this project, the following requirements must be addressed to reach our goal.

Design requirements:

- Mood Selection: We have designed different types of moods for users.
- Calendar: We have added calendar.
- Diary: We have designed a personal diary for users where they can write and store notes.
- Mood Statistics: We have designed mood chart using data mining.
- Upload: We uploaded lots of songs and videos for users to change their mood.

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CHAPTER 4
DESIGN SPECIFICATION

4.1 Front-end Design

The front-end is everything involved with what the user sees, including design and some languages. The front-end design is the interface users see when he/she opens the app or website. That means to keep the users interested in the application and website, the most important part of a project is front-end designing. Usually most of the users expect a simple user interface or graphical user interface from the developer. If the front-end design is so complex, the application fails to attract of the user. System architecture shows the structure and behavior of a system, how the system works and how it interacts with users [7].

4.2 Back-end Design

The back-end is also called the server side design. It controls the behavior of the site upon an action is taken. The back-end is the core portion of a website or application from where everything is being controlled whereas the front-end is the visual representation of the back-end. Back-end is the most important part. So the security, structure, content management of it is very much important. The back-end has basically three parts such as server, database and application.

In the back-end of this application we have used Java, SQLite and XML for the user interface and interaction with front-end to database.

4.3 UI Design

User Interface (UI) that allows user to interact with the mobile devices or other electronic devices. UI design usually refers to the design of Graphical User Interface (GUI), but can also refer to others, such as natural and voice user interfaces.

4.3.1 Home Screen

Home screen shows eight different category of moods. Users can select any of them which will be stored in the entries. User can select Happy, Joyful, Loving, Excited, Sad, Angry, Annoyed or Depressed as their mood. There is button for Entries, Calendar, Notes, More to go forward.

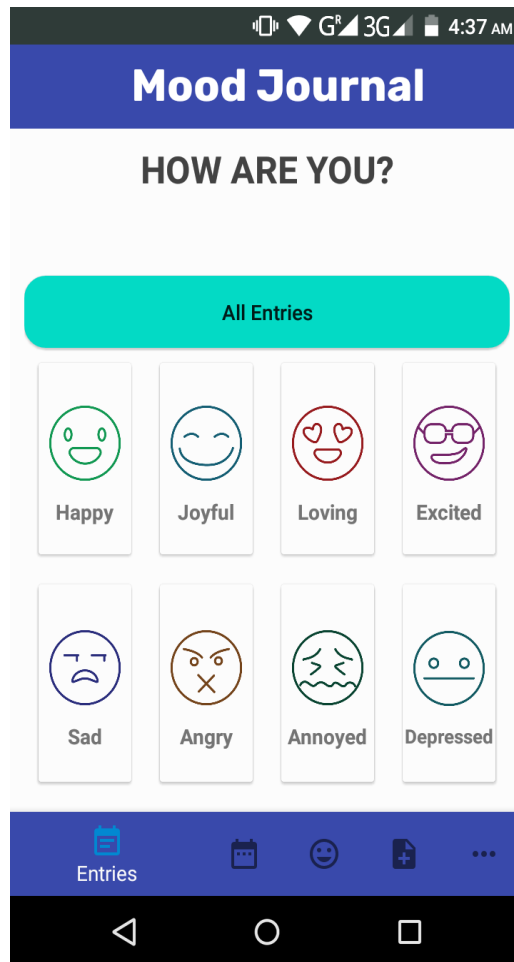The following figure 4.3.1 shows the home page of mood journal application.

Figure 4.3.1: Home page of Mood Journal

4.3.2 Entries

Users selected moods save as entries where users can see and track their mood condition date-wise and time-wise. There is a Reset button if any user want to delete his entries.

The following figure 4.3.2 shows the home page of mood journal application.

Figure 4.3.2: Entries in Mood Journal

4.3.3 Calendar

In calendar a user can see the default calendar and can select any date to make a new entry. This will be saved in the entry section.

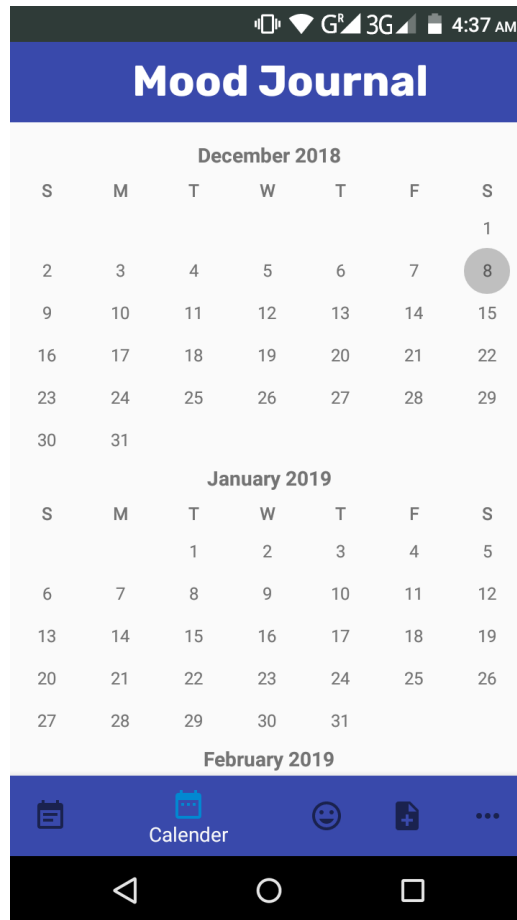The following figure 4.3.3 shows the calendar page of mood journal application.

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Figure 4.3.3: Calendar of Mood Journal

4.3.4 Notes

Here a user can write anything and save their thoughts or personal information. A user can use them when these documents are needed. It's just like a virtual personal diary.

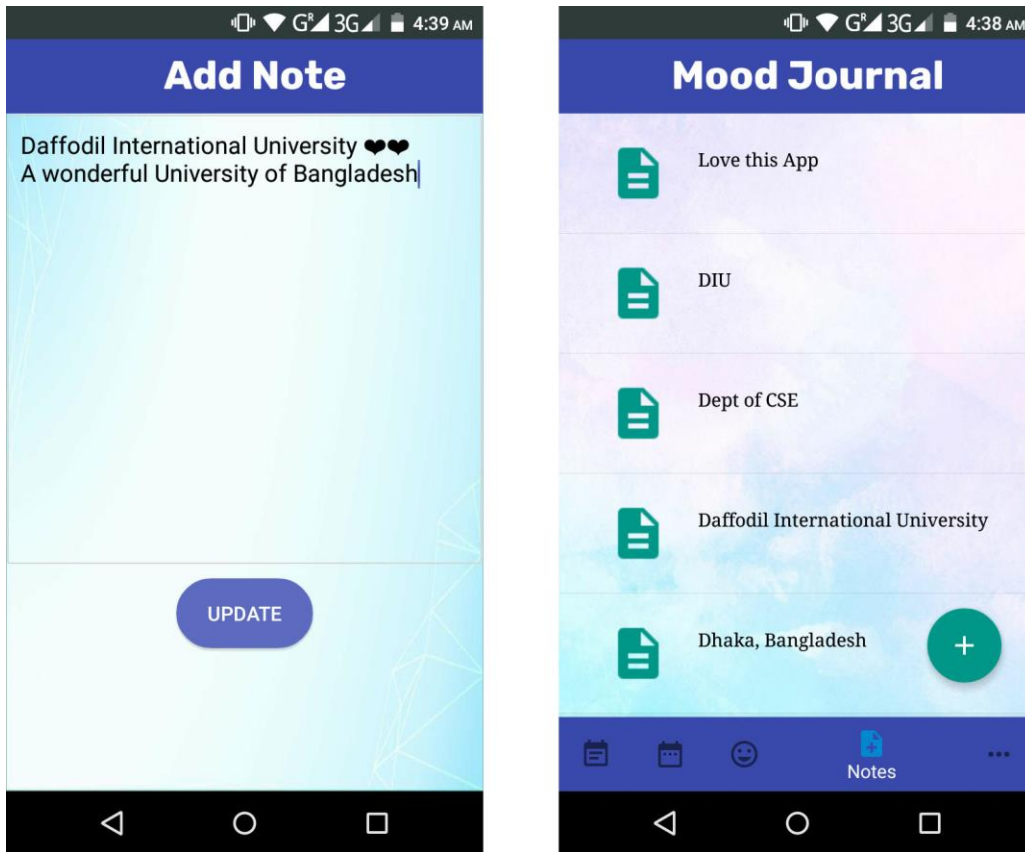The following figure 4.3.4 shows the notes page of mood journal application.

Figure 4.3.4: Notes page of Mood Journal

4.3.5 Mood Selection

When a user selects any mood he/she will see different page for different category of moods. If he/she clicks on the tick mark then the mood saves as entry. If the user in a negative type of mood then there is a button for switch to good mood.

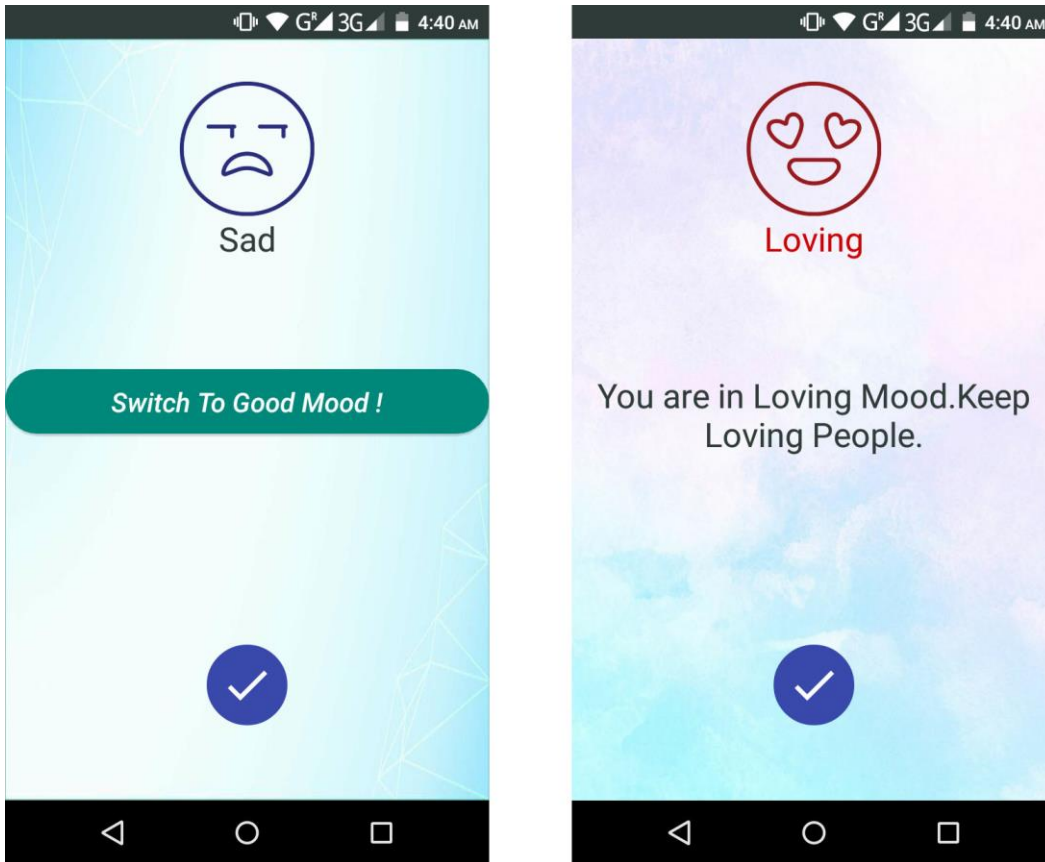The following figure 4.3.5 shows the page after mood selection of mood journal application.

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Figure 4.3.5: Page after selecting a mood in Mood Journal

4.3.6 Lift Mood

Here a user can select songs, videos or movie list. A user can listen to music, watch videos or can take movie suggestion which will help the user to lift his mood. This will make him/her relaxed. A user can upload songs or videos if he/she wants. And also can make a playlist for his/her personal favorite.

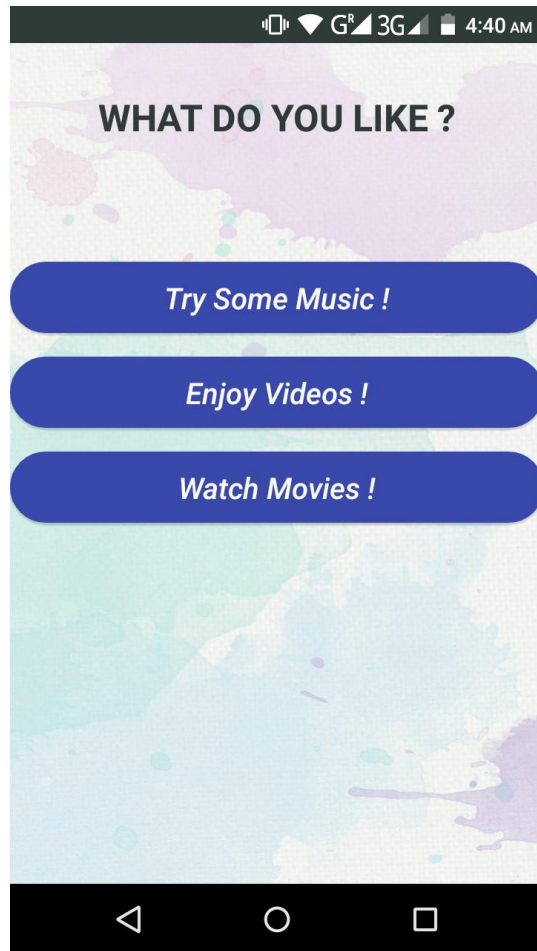The following figure 4.3.6 shows the page of selecting music, videos and movies in mood changer application.

Figure 4.3.6: Page of lifting mood in Mood Journal

4.3.7 Listen to music, Enjoy Videos, Watch movies

The Here users can stream songs and videos if the devise is internet connected, see suggested movie names and their details. The users can contribute songs and videos here which will be stored in database.

The following figure 4.3.7 shows the page of streaming music, videos and suggested movie names in mood journal application.
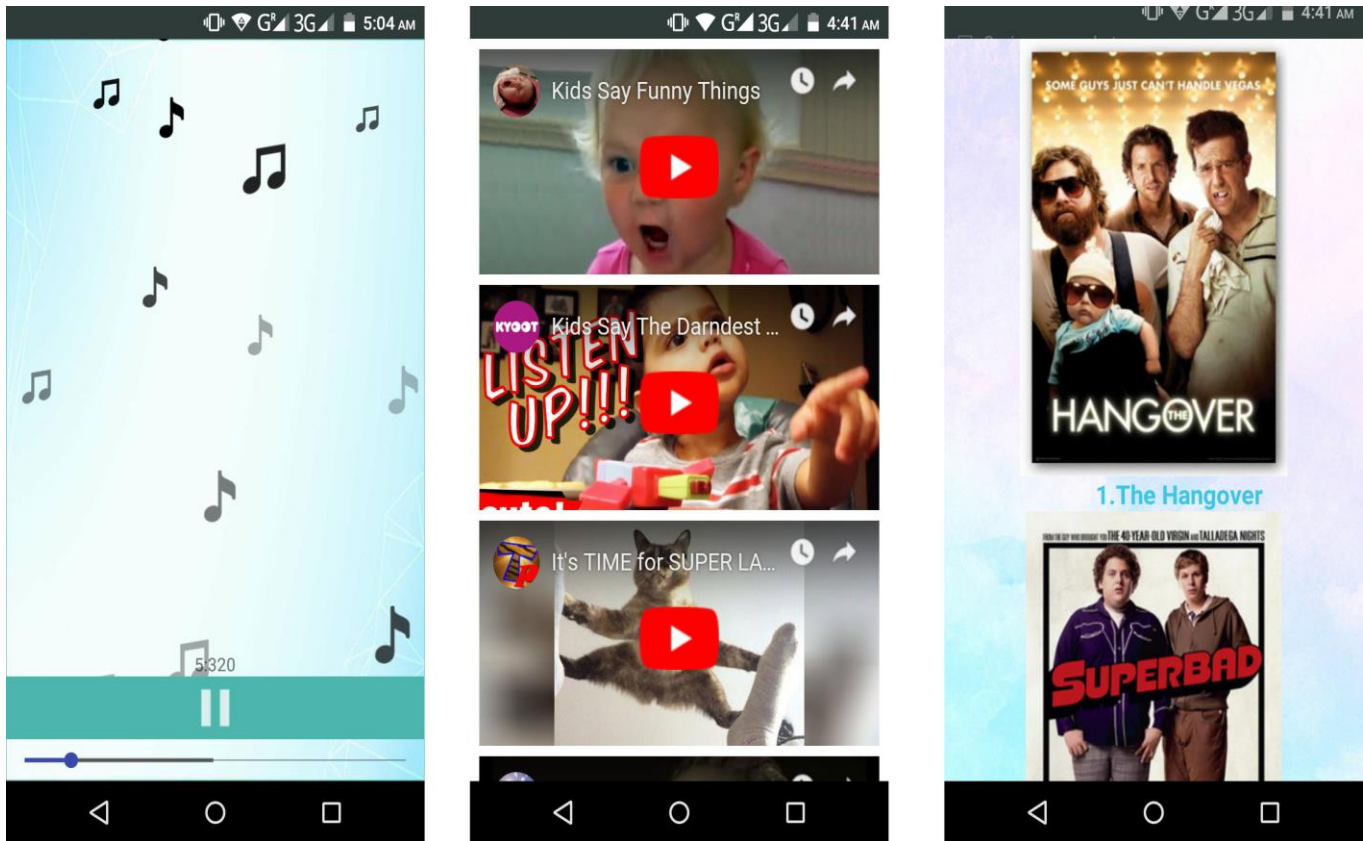
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Figure 4.3.7: Page of songs, videos and suggested movies in Mood Journal

4.4 Implementation Requirement

To build our application, we use different types of implementation tools, attributes and components. Making this application easily accessible and useful to people has become possible with the help of these tools. In this implementation requirement area, we discuss all those tools, attributes and components we used to develop this whole project.

The followings things are required to implement this application.

1. ACCESS_NETWORK_STATE
2. Internet
3. API

This application is a dynamic application. That's why internet is required to syncing data from the database and server.

4.4.1 Android Studio

Android Studio is the IDE (Integrated Development Environment) for android operating system[9]. It designed specifically for android application development. Using android studio, we developed our application.

4.4.2 Android SDK

Android SDK provides the API libraries and developer tools necessary to build, test, and debug android applications[10].

To develop Android application, Android SDK is the essential tool. This SDK is very comprehensive tool that contains not only the library for development, but also includes the simulator to test the application.

4.4.3 Java Development Kit (JDK)

JDK is an implementation of either one of the Java SE, Java EE or Java ME platforms.

CHAPTER 5

IMPLEMENTATION AND TESTING

5.1 Usability Test

In usability testing basically, we as testers tests the ease with which the user interfaces can be used. It is tests that whether the application or the product built is user-friendly or not. We ran a survey among 30 users, aged between 18-35, where 20 of them were male and 10 were female. Few questions were included in this survey which had parameters to ensure the success of this survey. The pattern of the survey form with questions is given in the Appendix.

5.2 Result of Usability Test

So, at the end we can carry out the results as the benefits of usability testing to the end user or the leaner:

- Better quality Application.
- Application is easier to use.
- Application is more readily accepted by users.
- Shortens the information for new users.
- Better UI.
- Innovative idea for the traveling environments.

5.3 Unit Test

Unit testing is used in a details designing and implementing of a project [8]. Unit testing is a process of application development in which the smallest testable parts of an application,

called units, are individually and independently tested and implemented after passing the test. Unit testing involves only those characteristics that are vital to the performance of the unit under test [8]. The Unit test was done in time of implementing the codes of this application and also upon completion of this project.

Test case is a combination of conditions or variables that will determine if a system fulfill or satisfies the requirements or not. We test and implement our app in the real device and found these results.

5.4 Result of Unit Testing Implementation

Table 5.4: Test Case for Project on Mood Journal

Test Case	Test Input	Expected Output	Actual Output	Result	Tested On
1.Install Application	Tested on Various – 1. Jelly Bean (4,1-4.3.1) 2. KitKat (4.4-4.4.4) 3. Lollipop (5.5-5.0.2) 4. Marshmallow (6.0) 5. Nougat (7.0-7.1) 6. Oreo (8.0-8.1)	Successfully install all those versions.	Install successful	Passed	30/10/2018
2.Event Create	Create new event with proper information.	Create new event and show in list.	Show the created event successfully.	Passed	30/10/2018
Compile	Compile successfully all code.	Show the actual result.	Actual output.	Passed	30/10/2018

5.5 Test Results and Reports

Test report is needed to reflect the result of testing the application in a formal way, which gives an opportunity to estimate the result of testing quickly. It is a document that records data obtained from a determine experiment in an organization manner, describe the environment and operating system and shows the comparison of test result with objectives, which are so important for any types of application. In table 5.4, we shown test case, test input, expected output, actual output and finally we find our expected result for our application. The test result is quietly successful. The user satisfies to use our application. Our expectation will be that user can easily use and understand our application. Our expectation will be that user can easily use and understand our application as a better user interface.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Conclusion

Our android based mobile application has been successfully implemented. For implementing our application, we tested the application with many types of smart phones, we saw that our application worked properly and it also gave the required data form our application. This is an online database connected android app. Authentication is not needed for this application. Anyone can use this at any moment to keep notes and to change mood by listening music and sounds and watching different types of videos. In app store there is no other app like this. Just one or two features can be same to very few other apps. All are written in English. So this will be the best for anyone and for understanding also.

The design is very user friendly. The user interface is so simple and not looking like as a complex view. User can easily handle our application. We tried our best to complete all requirements for our application. It is really time and effort consuming. We hope that people will use our application and get proper services. So, we think that, it will give a very effective result. The Project from an individual perspective likewise helped us understanding the accompanying parts of venture advancement.

- The planning that goes into implementing a project.
- The importance of proper planning and an organized methodology.
- The key element of team spirit and coordination in a successful project.

The project also provided us the opportunity of interacting with our teacher and to gain from their best experience. This will help us in the near future to understand and work more in this field.

6.2 Limitations of Our Application

As like all application, our application has also some limitation. We will overcome those limitations in future. Here, we want to mention that some of the main limitations of our application are given below:

- It requires internet connection.
- Database must be updated regularly.
- Artificial intelligence isn't implemented in this system.

6.3 Future Scope

We try our best for developing our application in present time. If we find any scope for developing in future, we want to develop and change something of our application. Our future developments scopes are given below:

- In future, we will try to develop offline and online both types of Android application.
- Also try to develop this application for all types of mobile device operating systems.
- We can develop a website to use this by using any browser.
- This application will be the best application for any user.

APPENDIX

Java Code

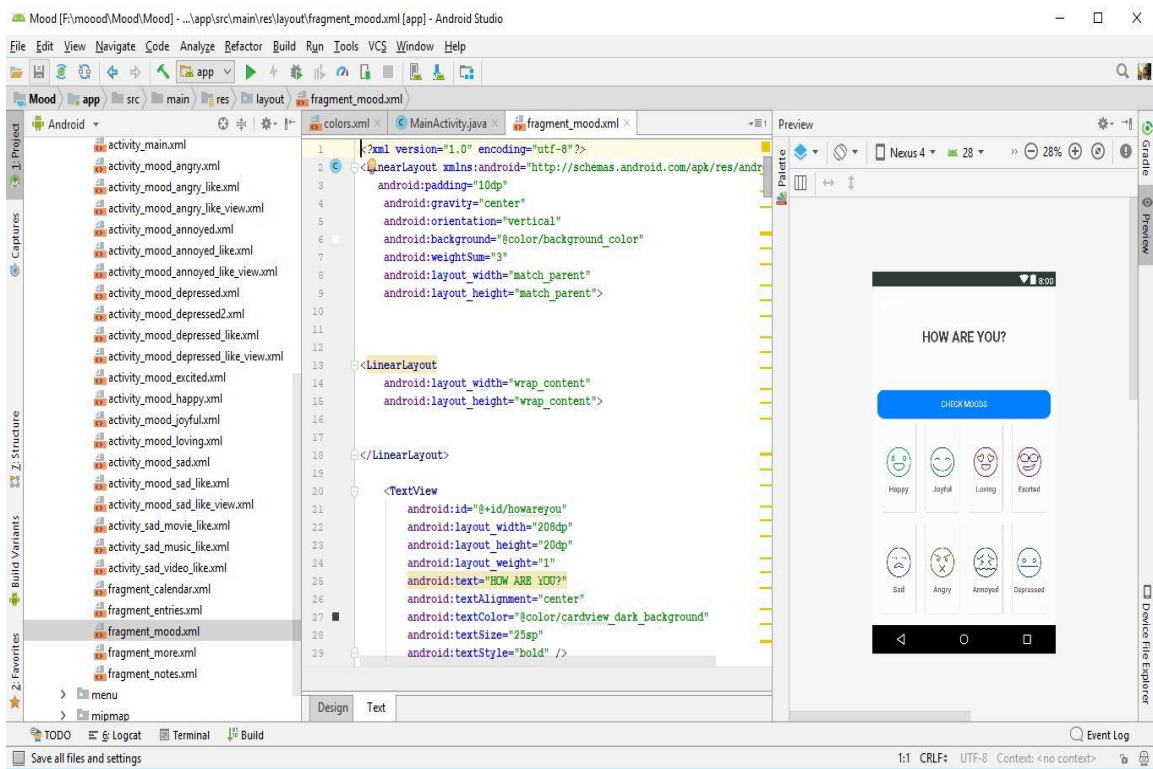Figure 6.2: A Screenshot of Java Code of Mood Journal

XML Code

Figure 6.2: A Screenshot of XML Code of Mood Journal

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[9] Android Studio, available at <<https://developer.android.com/studio/>> last accessed on 21-08-2018 at 6:00pm.

[10] Android SDK, available at <<https://developer.android.com/studio/>> last accessed on 21-08-2018 8:00pm.

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Plagiarism Report:

We submitted our whole project report on https://www.turnitin.com/ to check plagiarism at 30th September, 2018 and the total percentage of plagiarism is 23%.

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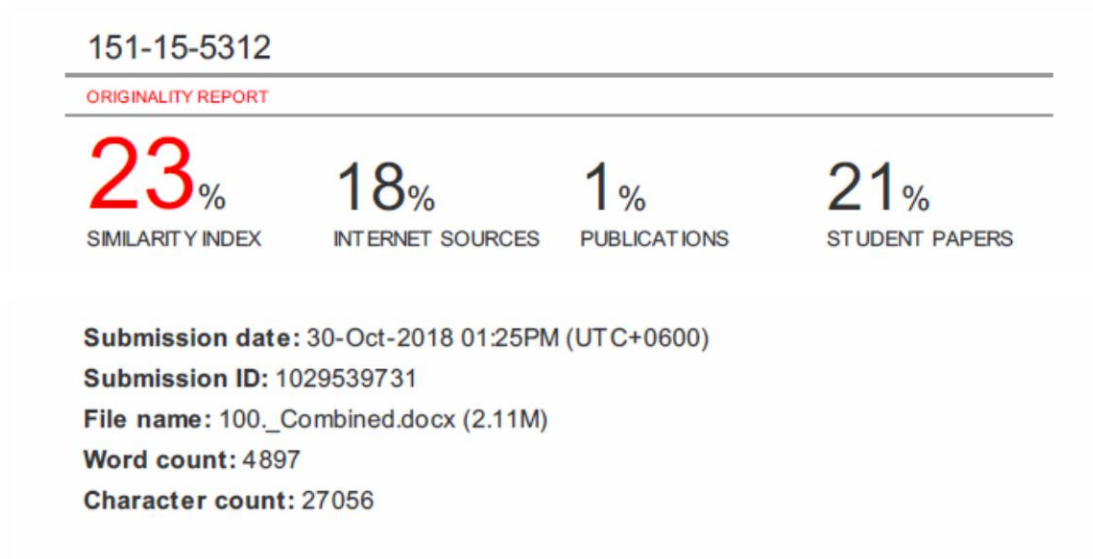File name: 100._Combined.docx (2.11M)
Word count: 4897
Character count: 27056

Figure 6.0: A Screenshot of Plagiarism