DANCE STUDIO APPLICATION

A PROJECT REPORT

Submitted by :
Pratik Joshi
171290107024

In fulfillment for the award of the
degree Of

Bachelor of Engineering
In
Computer Engineering

Gyanmanjari Institute of Technology
Survey No. 30, Sidsar Road,
Near Iscon Eleven, Bhavnagar-364001

Gujarat Technological University, Ahmedabad
April-2021

CERTIFICATE

This is to certify that the project entitled Dance Studio is a bonafide report of the work carried out by Pratik Joshi under the guidance and supervision for the award of the degree of Bachelor of Computer Engineering at Gyanmanjari Institute of Technology - Bhavnagar, Gujarat To the best of my knowledge and belief, this work embodies the work of candidate himself, has duly been completed, fulfills the requirement of the ordinance relating to the Bachelor degree of the university and is up to the standard in respect of content, presentation and language for being referred to the examiner.

DATE: 2nd APRIL, 2021
PLACE: BHAVNAGAR

SIGNATURE
PROF. AMIT MARU
HEAD OF DEPARTMENT
COMPUTER DEPARTMENT

SIGNATURE
PROF. UMESH LAKHTARIYA
ASSISTANT PROFESSOR
COMPUTER DEPARTMENT

SIGNATURE OF PRINCIPAL

SEAL OF INSTITUTE

CANDIDATE'S DECLARATION

We hereby certify that we are the author of this report and that neither any part of this work nor the whole of the work has been submitted for a degree to any other University or Institution.

We certify that, to the best of our knowledge, our work does not infringe upon anyone's copyright nor violate any proprietary rights and that any ideas, techniques, quotations, or any other material from the work of other people included in our report, published or otherwise, are fully acknowledged in accordance with the standard referencing practices. Furthermore, to the extent that we have included copyrighted material that surpasses the bounds of fair dealing within the meaning of the Indian Copyright Act, we certify that we have obtained a written permission from the copyright owners to include such materials in our work and have included copies of such copyright clearances to our appendix.

We declare that this is a true copy of our report, including any final revisions, as approved by our supervisor.

DATE: 2nd APRIL, 2021
PLACE: BHAVNAGAR

Pratik Joshi

ACKNOWLEDGEMENT

Knowledge in itself is a continuous process. At this moment of our substantial enhancement we rarely find words to express our gratitude towards those who were constantly involved with us.

We would like to extend our sincere thanks to Prof. Umesh Lakhtariya (Project Guide) for her constant guidance and suggestion which helped us in development of the project. Our gratitude and special thanks to the rest of the faculties for their constant encouragement throughout the year which has been a source of inspiration for us.

We would also like to thank our parents and friends who have helped us indirectly throughout the project and always have been a source of encouragement.

By.
Pratik Joshi

TABLE OF CONTENTS

LIST OF FIGURES

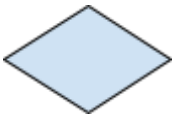
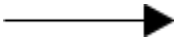
LIST OF TABLES

LIST OF SYMBOLS AND NOMENCLATURE

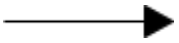
❖ NOTATIONS FOR USE-CASE

Actor	
Use Case	
Include	------->

❖ NOTATIONS FOR ACTIVITY DIAGRAM

Start	
Activity	
Decision	
Control Flow	
Stop	

❖ NOTATIONS FOR DATA FLOW DIAGRAM

Process Name	
Entity Name	
Data Flow	

ABSTRACT

Android is a mobile operating system based on a modified version of the Linux kernel and other open source software, designed primarily for touchscreen mobile devices such as smartphones and tablets.

We introduce one android application for those who have to learn dance at home and for those who are interested to train people for dance. Our application is a platform for learning various types of dance like waltz, rumba, night club, party etc.

Trainees will post their video through our application and they will earn money depending on their performance and according to various criteria.

User will get a subscription and watch videos related to his paid subscription and learn dance and they can like videos, dislike, add to list, watch later, offline videos and many more.

This application is fully secured and the user would have end to end encryption and the user cannot play video in other 3rd party applications like MX player, VLC player or other else.

1.
INTRODUCTION

1.1 Project Summary

1.2 Purpose

1.3 Scope

1.4 Objective

1.5 Technology and Literature Review

1. INTRODUCTION

Information is the thing on which the world pivots on today. For many computer organizations, systems are now at the heart of daily activities and a major consideration in corporate decision making. Without computerized assistance, organizations will grind to a halt, for the sheer volume of activities would overwhelm workers and managers. The development of information systems have played a dominant role in the evolution of the information economy. **Dance Studio** App has been implemented for the people who want to learn dance. Dance Studio App is basically an android application which will cover all the basic functions and features of the learning for the Dance.

1.1 Project Summary

Dance Studio application is a mobile application which covers all the basic and main functionality to make user friendly and well designed and well functionalized for the people and it will be very useful for those who want to learn dance for specific purposes like for the reception, party, wedding.

Dance Studio App also includes the other important activities as listed below:

- Admin can
  - Handle Trainer
  - Handle User
  - Insert Users
  - Insert Trainers
  - Delete Users

- ➢ Delete Trainers

❖ User can

- ➢ Login, Logout
- ➢ Subscribe plans
- ➢ Watch Category Based Videos
- ➢ See Category wise Videos
- ➢ Watch Videos
- ➢ Like Videos
- ➢ Download/ Offline Videos
- ➢ Add Videos to list
- ➢ Add Videos to watch later
- ➢ Watch Recent Videos
- ➢ Watch total likes
- ➢ Watch total dislikes
- ➢ Watch total views
- ➢ Watch Videos offline
- ➢ Delete Videos offline
- ➢ View notifications
- ➢ Add Videos to favourites

1.2 Purpose

Dance Studio App is produced to hit today's increasing market of android applications. **Dance Studio** App will be a great benefit for the people who want to learn dance. Dance Studio App is basically an android application which will cover all the basic functions and features of the learning for the Dance.

1.3 Scope

The scope of Dance Studio App focuses on providing best and accurate information to people who want to learn various types of dances like waltz, rumba, nightclub.

1.4 Objective

- To increase demand for dance on online platforms.
- To provide a platform to learn dance in mobile application.
- Avoid extra traffic.
- To provide the best and accurate technique for learning dance on a visual platform.

1.5 Technology and Literature Review

1.5.1 Front-End: Android Studio

- **Justification**

The technology or tool used to develop **Dance Studio** App is **Android Studio** as a Front-End and **MSSQL** Database as the Back-End. The main reason behind using this language (Android) instead of any other technology is that we have to develop the application that can be run on any mobile phone having low configuration. As this system is going to be run on smartphones having only 1GB of RAM, if the application was developed in high configuration wanted technology then it will slow down the efficiency of the system of generating the output.

Android is an **OS** created by **Google™** for use on mobile devices, such as smartphones and tablets. It's an OS that's available on devices made by a variety of manufacturers, giving you more choices of device style and pricing. Also, with the Android OS, you can customize your device in many ways.

- **Interface**

Android's default user interface is mainly based on direct manipulation using touch inputs that loosely correspond to real world actions, like swiping, tapping, pinching, and reverse pinching to manipulate on-screen objects, along with a virtual keyboard. Game Controllers and full-size physical keyboard are supported via Bluetooth or USB. The response to user input is designed to be immediate and provides a fluid touch interface, often using the vibration capabilities of the device to provide haptic feedback to the user. Internal hardware, such as accelerometers, gyroscopes and proximity sensors are used by some applications to respond to additional user actions, for example adjusting the screen from portrait to landscape depending on how the device is oriented, or allowing the user to steer a vehicle in a racing game by rotating the device, simulating control of a steering wheel.

- **Features**

These are some features of Visual Basic to be understood:

1. **Messaging:**

   SMS and MMS are available forms of messaging, including threaded text messaging and Android Cloud to Device Messaging (C2DM) and now enhanced version of C2DM, Android Google Cloud Messaging (GCM) is also a part of Android Push Messaging services.

2. **Web browser:**

   The web browser available in Android is based on the open-source Blink (previously Webkit) layout engine, coupled with Chrome's V8 JavaScript Engine. Then the WebKit-using Android Browser scored 100/100 on the Acid3 test on Android 4.0 ICS; the Blink-based browser currently has better standards support. The browser is variably known as 'Android Browser', 'AOSP browser', 'stock browser', 'native browser', and 'default browser'. Starting with Android KitKat, Google has mandated that the default browser for Android proper be Google Chrome. Since Android 5.0 Lollipop, the WebView browser that apps can use to display web content without leaving the app has been separated from the rest of the Android firmware in order to facilitate separate security updates by Google.

3. **Multi-touch:**

   Android has native support for multi-touch which was initially made available in handsets such as the HTC Hero. The feature was originally disabled

at the kernel level (possibly to avoid infringing Apple's patents on touch-screen technology at the time). Google has since released an update for the Nexus One and the Motorola Droid which enables multi-touch natively.

4. **Screen capture:**

Android supports capturing a screenshot by pressing the power and home-screen buttons at the same time. Prior to Android 4.0, the only methods of capturing a screenshot were through manufacturer and third-party customizations (apps), or otherwise by using a PC connection (DDMS developer's tool). These alternative methods are still available with the latest Android.

5. **Multiple language support:**

Android supports multiple languages.

1. **Accessibility:**

Built-in text-to-speech is provided by TalkBack for people with low or no vision. Enhancements for people with hearing difficulties are available, as are other aids.

2. **Video Calling:**

Android does not support native video calling, but some handsets have a customized version of the operating system that supports it, either via the

UMTS network (like the Samsung Galaxy S or over IP. Video calling through Google Talk is available in Android 2.3.4 (Gingerbread) and later. Gingerbread allows Nexus S to place Internet calls with a SIP account. This allows for enhanced VoIP dialing to other SIP accounts and even phone numbers. Skype 2.1 offers video calling in Android 2.3, including front camera support. Users with the Google+ Android App can video chat with other Google+ 23 users through Hangouts.

3. **Connectivity:**

Android supports connectivity technologies including GSM/EDGE, Bluetooth, LTE, CDMA, EC-DO, UMTS, NFC, IDEN and WiMAX.

4. **Bluetooth:**

Supports voice calling and sending contacts between phones, playing music, sending files (OPP), accessing the phone book (PBAP), A2DP and AVRCP. Keyboard, mouse and joystick (HID) support is available in Android 3.1+, and in earlier versions through manufacturer customizations and third-party applications.

5. **Tethering:**

Android supports tethering, which allows a phone to be used as a wireless/wired Wi-Fi hotspot. Before Android 2.2 this was supported by

third-party applications or manufacturer customizations.

6. **Controls:**

Following Controls have been used in developing the application and to make the user interface of the system user-friendly.

- **Button**: A push-button that can be pressed, or clicked, by the user to perform an action.

- **Text field:** An editable text field. You can use the AutoCompleteTextView widget to create a text entry widget that provides auto-complete suggestions.

- **Checkbox:** An on/off switch that can be toggled by the user. You should use checkboxes when presenting users with a group of selectable options that are not mutually exclusive.

- **Radio Button:** Similar to checkboxes, except that only one option can be selected in the group.

- **Toggle button:** An on/off button with a light indicator.

- **Spinner:** A drop-down list that allows users to select one 24 value from a set.

- **Pickers:** A dialog for users to select a single value for a set by using up/down buttons or via a swipe gesture. Use a DatePicker code widget to enter the values for the date (month, day, year) or a TimePicker widget to enter the values for a time (hour, minute, AM/PM), which will be formatted automatically for the user's locale.

7. **The Android Project View:**

To see the actual file structure of the project including all files hidden from the Android view, select Project from the dropdown at the top of the Project window.When you select Project view, you can see a lot more files and directories. The most important of which are the following:

module-name/

build/ : Contains build outputs.

libs/ : Contains private libraries.

src/ : Contains all code and resource files for the module in the following subdirectories:

androidTest/ : Contains code for instrumentation tests that run on an Android device. For more information, see the Android Test documentation.

main/ : Contains the "main" source set files: the Android code and resources shared by all build variants (files for other build variants reside in sibling directories, such as src/debug/ for the debug build type).

AndroidManifest.xml : Describes the nature of the application and each of its components. For more information, see the AndroidManifest.xml documentation.

java/ : Contains Java code sources.

jni/ : Contains native code using the Java Native Interface (JNI). For more information, see the Android NDK documentation.

gen/ : Contains the Java files generated by Android Studio, such as your R.java file and interfaces created from AIDL files.

res/ : Contains application resources, such as drawable files, layout files, and UI string. See Application Resources for more information.

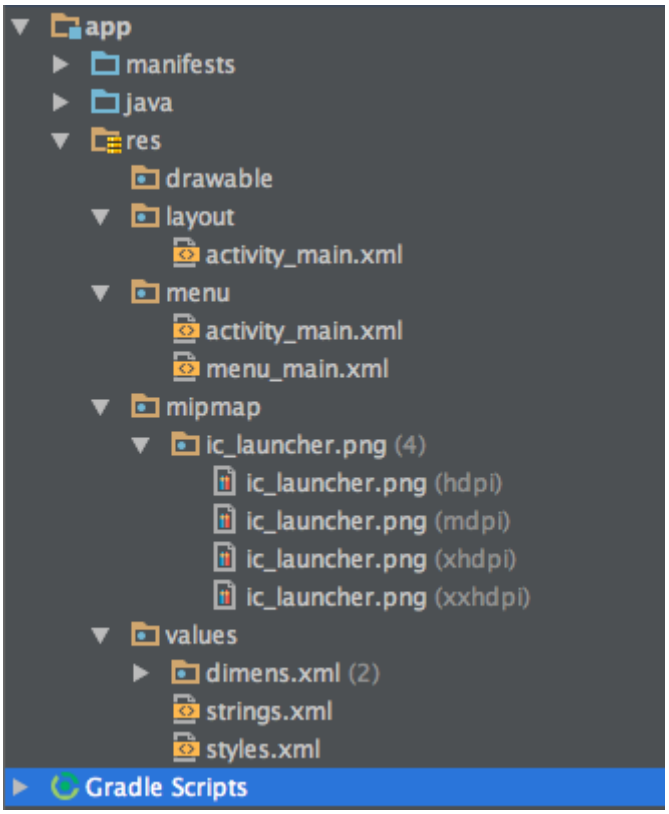
assets/ : Contains file that should be compiled into an .apk file as-is. You can navigate this directory in the same way as a typical file system using URIs and read files as a stream of bytes using the Asset Manager. For example, this is a good location for textures and game data.

test/ : Contains code for local tests that run on your host JVM.

build.gradle (module) : This defines the module-specific build configurations.

build.gradle (project) : This defines your build configuration that applies to all modules. This file is integral to the project, so 26 you should maintain them in revision control with all other source code.

The below figure shows the pictorial view of the whole structure of the android application project:



[Figure 1.1: Android Project View]

1.5.2 Back-End: MS SQL

MSSQL is a suite of database software published by Microsoft and used extensively within our enterprise. Typically, it includes a relational database engine, which stores data in tables, columns and rows, Integration Services (SSIS), which is a data movement tool for importing, exporting and transforming data, Reporting Services (SSRS), which is used to create reports and serve reports to end users, and also Analysis Services (SSAS), which is a multidimensional database used to query data from the main database engine.

There are many products which make up the SQL Server database platform, but there are 4 key services built into MSSQL which define it and make it a popular choice as a database management system (DBMS). These options are available to install when deploying the MSSQL instance. The latest releases of MSSQL are not just compatible with Windows; more recently, Microsoft has offered SQL for Linux (Red hat and SUSE), as well as Docker container platforms.

Database Engine :

The SQL Database engine is the core of the MSSQL product suite. This was the original product which is used to store, process and secure data. The data is stored in one or many database instances.

Some of the key database engine features include storing data in instance tables, and the ability to do XML data import, Blob data management (Binary Large Objects), DB Triggers, transaction logs, data compression, data search and maintenance plans, to name a few.

Integration Services (SSIS) :

SSIS is a data movement tool which can import and export data from a database. It is widely used to design ETL processes (Extract, Transform, Load). You can *extract* data from almost any source (for example, other databases, text files or Excel documents), *transform* it by merging, filtering, sorting fields or aggregating dataiv, and you can *load* this data into a destination, often a shared folder or even another database/application.

Summary :

MSSQL Server is one of the best database solutions available today in the SQL marketplace. If you are looking for a secure, easy to manage and high-performance database management system, then MSSQL should be a serious option to consider. It enables users to analyze data, forecast sales and

even predict customer behaviour using business intelligence analytics.

2.
PROJECT MANAGEMENT

2.1 Project Planning

2.2 Project Scheduling

2.3 Risk Management

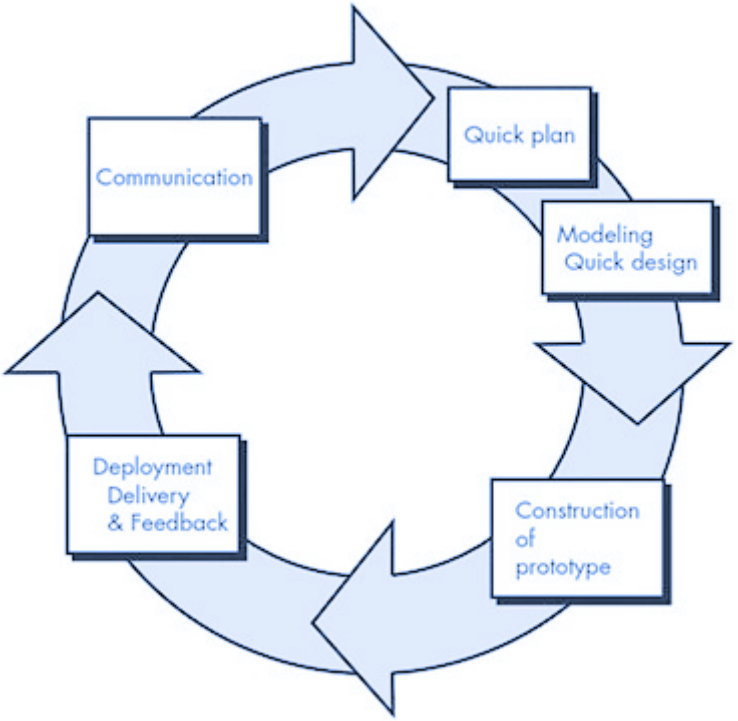
2. PROJECT MANAGEMENT

Project Management uses a systematic and disciplined approach to develop software. Project Management activities include: determining the scope of the project, project planning, implementation of project components in a timely manner, review of project activities, and a listing of lessons learned during the project. These activities follow the typical life cycle of a software project.

2.1 Project Planning

2.1.1 Project Development Approach (Process Paradigm) and Justification :

After understanding the objectives, we decided to use the Evolutionary Prototype model for the development of our application. The entire requirement could not be spelled out in a go. The requirements were emerging with the progress of individual modules. Hence this model has been adopted. The core functionality modules were prioritized. Moreover this model proved efficient in this scenario.



[Figure 2.1: Prototype Model]

1. System is developed in a series of increments.
2. End-users are involved in designing and evaluating each increment.
3. They may propose changes to the software and new requirements which should be implemented in a later version of the system.

2.1.2 Project Plan :

Every new project requires understanding of the science behind the project, the techniques involved and the elements to be handled to give the end result. Hence, the initial period was spent in reading books and surfing a number of sites. We need to do domain study for better understanding of the project and preparing project synopsis. To complete the assigned project we have

assigned a time period to different phases of project development approach.

2.1.3 Milestone and Deliverables :

Milestone means the, during the project planning, at the particular time these much work must be completed and all the work information in a fixed format. For example: at the end of the every week how much work should be completed by the developer.

- In our project at the end of the every week we have to submit the report to the college, how much analysis we have at the end of the every week.

- **First Milestone :** Analysis of the software and the technology which we are using.

- **Second Milestone :** In this milestone we have done the technology analysis and we will fix the software designing approach and which model will be used and what are the basic functionality will be required for the development and analysis.

- **Third Milestone :** In this milestone till decided the project approach 32 and designing (Comparatively) and modules will be there. Which module will be handled by who can decide on this module. And finally the database designing will be done here in this milestone.

- **Fourth Milestone :** In this milestone the database designing is ready so that the time estimation for

coding and developing the modules can be calculated here.

- **Fifth Milestone:** In this milestone the coding will be done.

- **Sixth Milestone:** The testing of the software will be done here.

2.1.4 Role and Milestone and Deliverables :

The different roles like database designer, modules designer and coder or developer like many things will be here during the software development.

- Analysis : Pratik Joshi
- Database designer : Pratik Joshi
- Module designer : Pratik Joshi
- Developer : Pratik Joshi
- Testing : Pratik Joshi

as shown below all the responsibilities will be taken by **Pratik Joshi.** During these all stages the guidance will be provided by our internal guide **Prof. Umesh Lakhtariya.**

2.1.5 Group Dependencies :

- There will not be any kind of group dependencies in our project.
- All the developers can work as they want.
- It means the sequential but not dependent will be there between the users.

2.2 Project Scheduling :

Project scheduling means which process will be done by whom and at which particular time.

	Expected Day	Actual Day
Analysis	30	30
Design	30	30
Coding	60	70
Testing	10	10

[Table 2.1: Project Scheduling]

2.3 Risk Management :

2.3.1 Risk Management:

Risk management is an important task of a project manager that includes anticipation of risks, which might affect the project schedule or the quality of the software being developed, and to take action to avoid these risks.

2.3.2 Risk Identification:

Risks may threaten the project, the software that is being developed or the organization. Risk types include technology risks, people risks, organizational risks, tools risks, requirement risks, estimation risks, project risks and product risks.

2.3.3 Risk Analysis:

During the risk analysis process, each identified risk is considered in turn and a judgment is made about the probability and the seriousness of the risk. Here we have tried to predict the probability of the risk.

2.3.4 Risk Planning:

The risk planning process considers each of the key risks, which have been identified and specifies strategies to manage the risk. The strategy to reduce risk falls into 3 categories viz. Avoidance strategy, minimization strategy and contingency plans. Solutions to the risks identified:

- **Technical risk:** The tools and technology were selected in such a way that these kinds of risks are minimized.

- **Requirement risk:** All the user and domain requirements were understood properly. So there will not be any major changes in requirements.

- **Resource risk:** All the required resources are provided in advance. So, the possibility of this risks Minimized.

- **Schedule risk:** For the solution of this risk, a project execution plan is made in advance, in which each phase is given sufficient timing. So, the chance of this risk is less.

3. SYSTEM REQUIREMENTS STUDY

3.1 User Characteristics

3.2 Hardware and Software Requirement

3.3 Constraints

3.4 Assumptions and Dependencies

3. SYSTEM REQUIREMENTS STUDY

3.1 User Characteristics

Analyzing user characteristics is an important aspect of any project. It allows us to clearly define and focus on who the end users are for the project. Also, it allows us to check the progress of the project to ensure that we are still developing the system for the end users.

The end users for system are:

- **Admin**
- **User**

The users must have following characteristics:

- Users should be comfortable in starting and stopping android Applications.

- Users should have basic knowledge of operating android devices and also basic internet use.

3.2 Hardware and Software Requirement

3.2.1 Hardware Requirements:

- **Computer**

  Minimum required, Pentium IV processor (2 GHZ or higher is recommended), Ram with minimum 512 Mb, Disk space: 1 GB, Mouse and keyboard are needed as input and a monitor.

- **Mobile Phone**

  Getting the information about the different services of the system via SMS alert requires the mobile device for that purpose and also mobile through users also interact with the system.
    - Minimal Hardware Requirements
    - Ram: 1 GB RAM

3.2.2 Software Requirements:

- Platform : Android
- Technology : Android
- Tools : Android Studio , Xampp, Sublime Text Editor
- Database : MySQL
- Versions : Android Studio 4.0.1

3.3 Constraints

- **Design and Implementation Constraints:**

  The solution is envisaged and designed to work in a Mobile Phone environment. It is designed to work with any mobile phone, Also all User interfaces are designed to support all types of mobile phones.

- **Interface to other Applications:**

  There is little bit of dependency and interface restriction between super admin and admin of the application as our application can't communicate directly with any other module of super admin and make changes to the data in

that particular module in accordance to our desired manner.

- **Safety and Security Consideration:**

  Access of the system is strictly restricted by the one time password (OTP) which will be shared to mobile number of admin and super admin respectively in admin and super admin module.

3.4 Assumptions and Dependencies

- **Computer**

  Minimum required, Pentium IV processor (2 GHZ or higher is recommended), RAM with minimum 4GB, Disk space: 1 GB, Mouse and keyboard are needed as input and a monitor.

- **Mobile phone**

  Mobile must have the supporting the internet facility and appropriate setting display or view the different content of the web.

4.
SYSTEM ANALYSIS

4.1 Study of Current System

4.2 Problems and Weaknesses of Current System

4.3 Requirements of New System

4.4 Feasibility Study

4.5 Requirements Validation

4.6 Features of New System

4.7 System Activity

4.8 Data Flow Diagram

4.9 Data Modeling

4. SYSTEM ANALYSIS

4.1 Study of Current System

We studied the current system and other related systems to our project, in conclusion we were aware about the knowledge of what are the things in the system and how one can process it for development. Future more we found some problems, rather changes to be done in the current system. We have better understood about the functionalities and the libraries usage in the current system.

4.2 Problems and Weaknesses of Current System

One of the weaknesses of the current system is that the admin of the city can't see the post uploaded by another admin of the same city.

4.3 Requirements of New System

For developing a new system some requirements were provided by the user. As per the specified requirements, it could be categorized in three different ways:

- **User Requirements:**
    - Admin can Add or Delete the Database of any user.
    - Admin can also view the history of all records of users.
    - Information of all users is saved to the database in respective formats for ease.
    - Admin can insert records.
    - Admin can do the Verification of the videos as per terms and conditions.

- Admin can insert users.
- Admin can watch & delete videos.
- Admin can Add, Update and Delete videos.
- Users can See all the latest videos uploaded by Trainers.

- **Functional Requirement:**

A) ADMIN : In Admin module, we have six options:

1. Generate User : Creating a new user account
Input: One Time Password (OTP)
Output: User added to database.

2. Delete User : Removing a user entry from the database.
Input: User Id deleted from the database.
Output: User entry removed.

3. Show Users : Gives the list of all the users by city of admin
Input: Request to show Users.
Output: List of users by admin's city

4. Insert : Insert videos and users

5. Update : Update videos and users

6. Delete : Delete videos and users

C) USER : In User module, we have four options :

1. Show Posts : Gives the list of all the latest news, meetings, events, publications, etc uploaded by admin. Input: Request to show Posts. Output: List of Posts.

2. Insert : Insert data using application.

3. Update : Update data using application.

4. Delete : Delete data using application

- **System Requirements :**
    - To develop the real time application system requires all the information mentioned above in the user requirement.
    - Requirement of the system is real time modifying of the data and information in the system for use by the end users by the different market on their own responsibilities.
    - System analyzes the user requirement and develops the system.

4.4 Feasibility Study

A feasibility study is a short, focused study, which aims to answer a number of questions.

- Does the system contribute to the overall objectives of the organization ?

- Can the system be implemented using current technology and within given cost and schedule constraints.

- Can the system be integrated with systems which are already in place ?

There are various types of feasibility studies :

1. Operational
2. Technical
3. Scheduling
4. Economical

4.4.1 Operational Feasibility:

The factors concerned in it are :

- How well the solution will work in the caste and how the end-users and administrator feel about the system.

- This people oriented test measures the urgency of a problem or the acceptability of a solution to find: Is the problem worth solving ?

- The Resource Monitoring System is very useful for the organizations, which have more employees and less resources. It is often performed with a working prototype of the proposed system. Test of system's user interfaces and measured in how easy they are to learn and to use and how they support the desired productivity levels of Organization. Easy to learn and use with user satisfaction.

4.4.2 Technical feasibility :

The things we were concerned about were measure of practicability of a specific technical Solution and availability of technical resources and expertise.

- **Is the proposed technology or solution practical ?**
  We had to make sure that the chosen technology is known and easy enough to solve the problems

- **Do we currently possess the necessary technology?**
  Technology would be infeasible and not practical if the organization cannot afford the Technology.

- **Do we possess the necessary technical expertise, and is the schedule reasonable?**
  If there are not enough systems professionals who are familiar with the applied technology, the learning curve for new systems can influence the technical feasibility. It also can impact on the schedule.

4.4.3 Schedule feasibility :

It is the measure of how reasonable the project timetable is. Schedules can be mandatory or desirable. It's better to deliver a properly functioning information system later than to deliver an error-prone. The time we were given was at the maximum 2-3 months to give a robust application, which must be good on functions even if looks are compromised as the final images and color would be decided later while integrating the modules.

4.4.4 Economic feasibility :

- **Is the measure of cost-effectiveness of a project or solution?**
  As soon as specific requirements and solutions have been identified,the 45 analysts can weigh the cost and benefits of each alternative cost-benefit analysis. We don't have to worry about this aspect of feasibility.

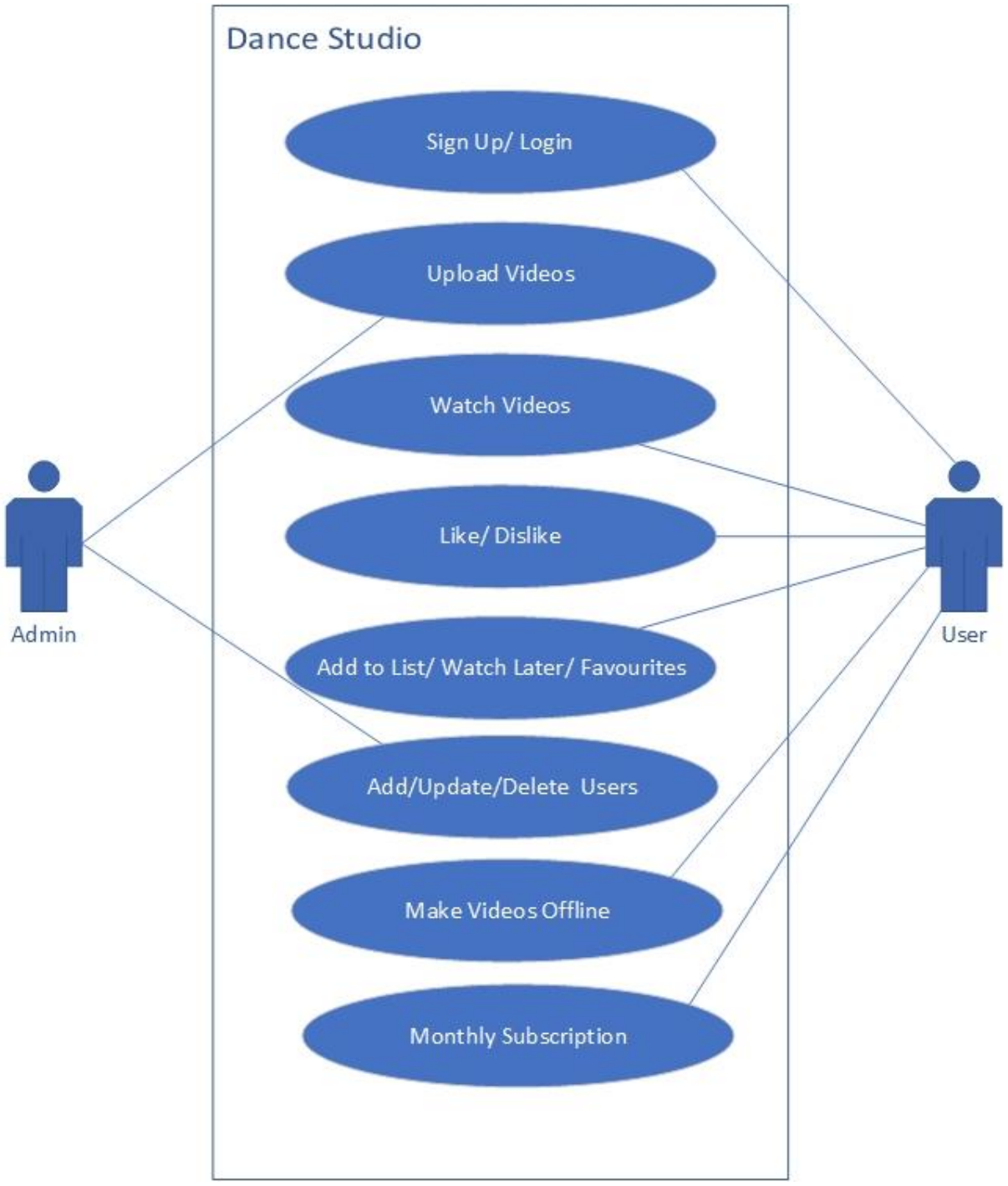
- **Benefits expected from the system :**
  Benefits normally the system provides is to increase profits or decrease costs. With the use of this project the intelligence of the student can be determined. This is the main benefit. The performance and the preparation of the student can be measured using this system. This system also improves the efficiency of the faculty members.

4.5 Requirements Validation

The main validation required for this system is one time password (OTP). This validation is fulfilling for admin. For each field of particular form that we use different validation controls as per requirement such as required field validation control, regular expression, compare validator, validation summary and this all validation controls are working properly. This all validation has been made according to requirement.

4.6 Features of New System

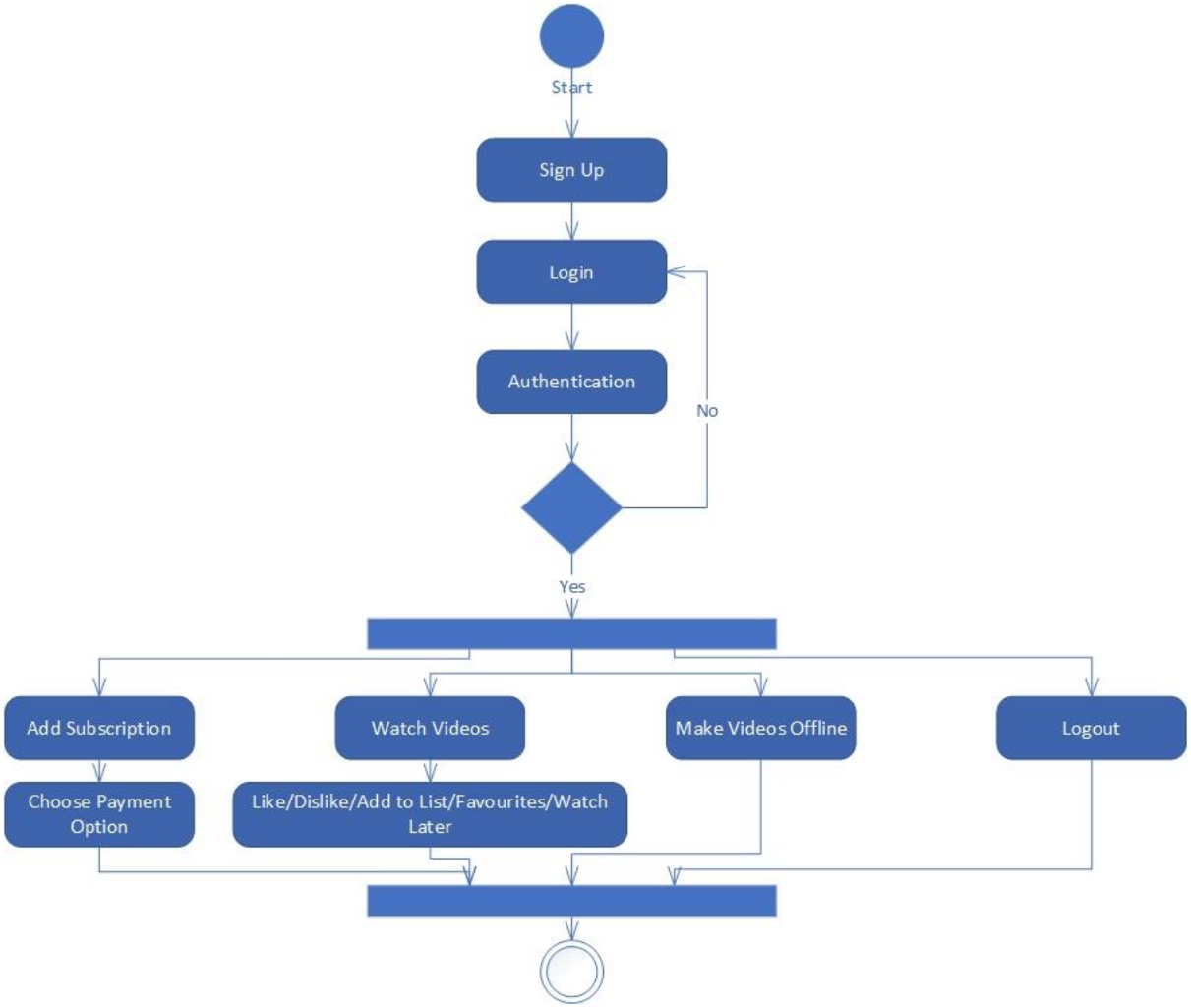
4.6.1 Use Case Diagram :



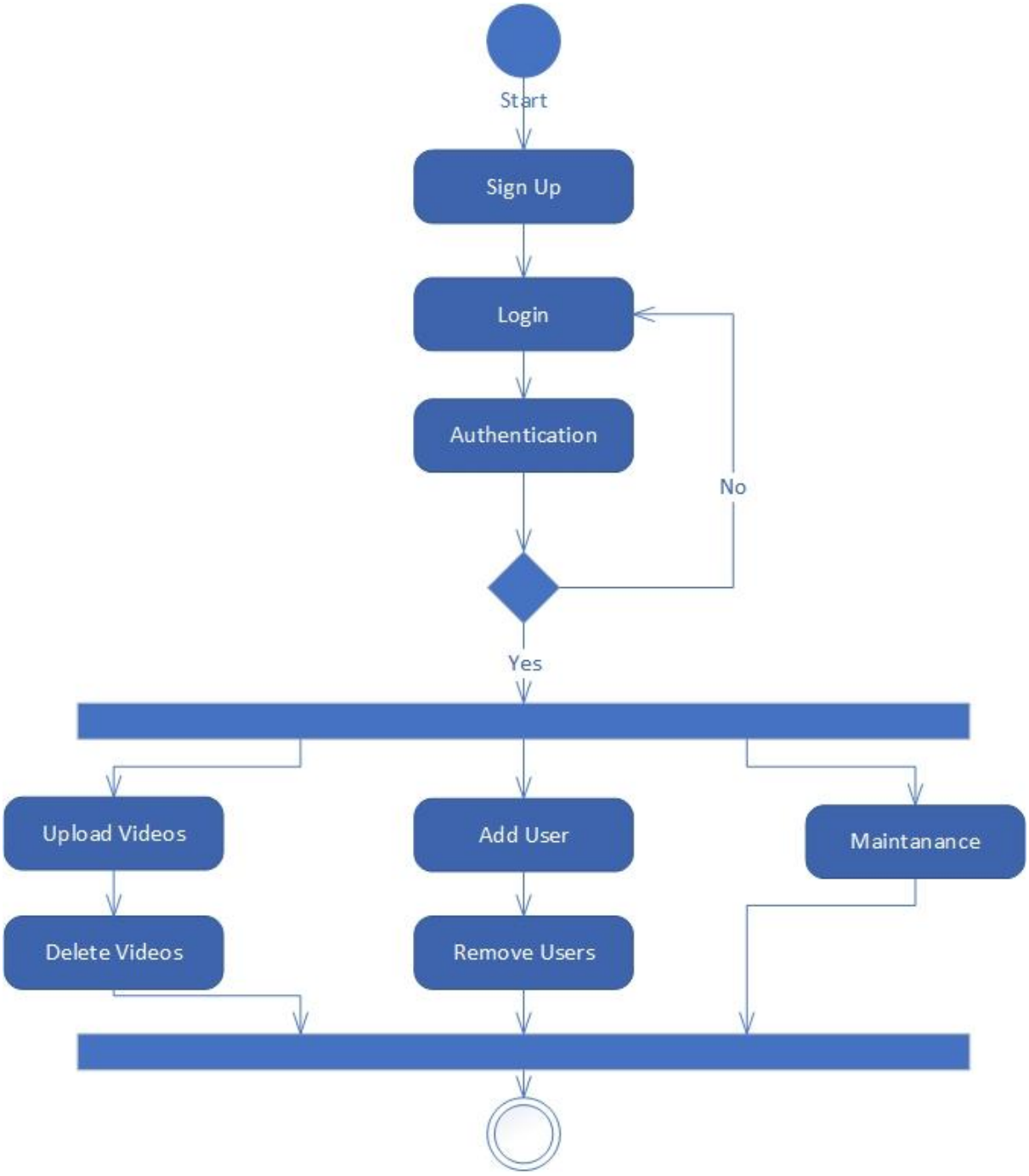
[Figure 4.2: Use Case Diagram]

4.7 System Activity

- An Activity diagram is similar to a flowchart. Activity diagrams and State chart diagrams are related.
- While a State chart diagram focuses attention on an object undergoing a process (or on a process as an object), an Activity diagram focuses on the flow of activities involved in a single process.
- The Activity diagram shows how these single-process activities depend on one another. Activity diagrams can be divided into object swim lanes that determine which object is Responsible for an activity.



[Figure 4.3: Activity Diagram(user)]



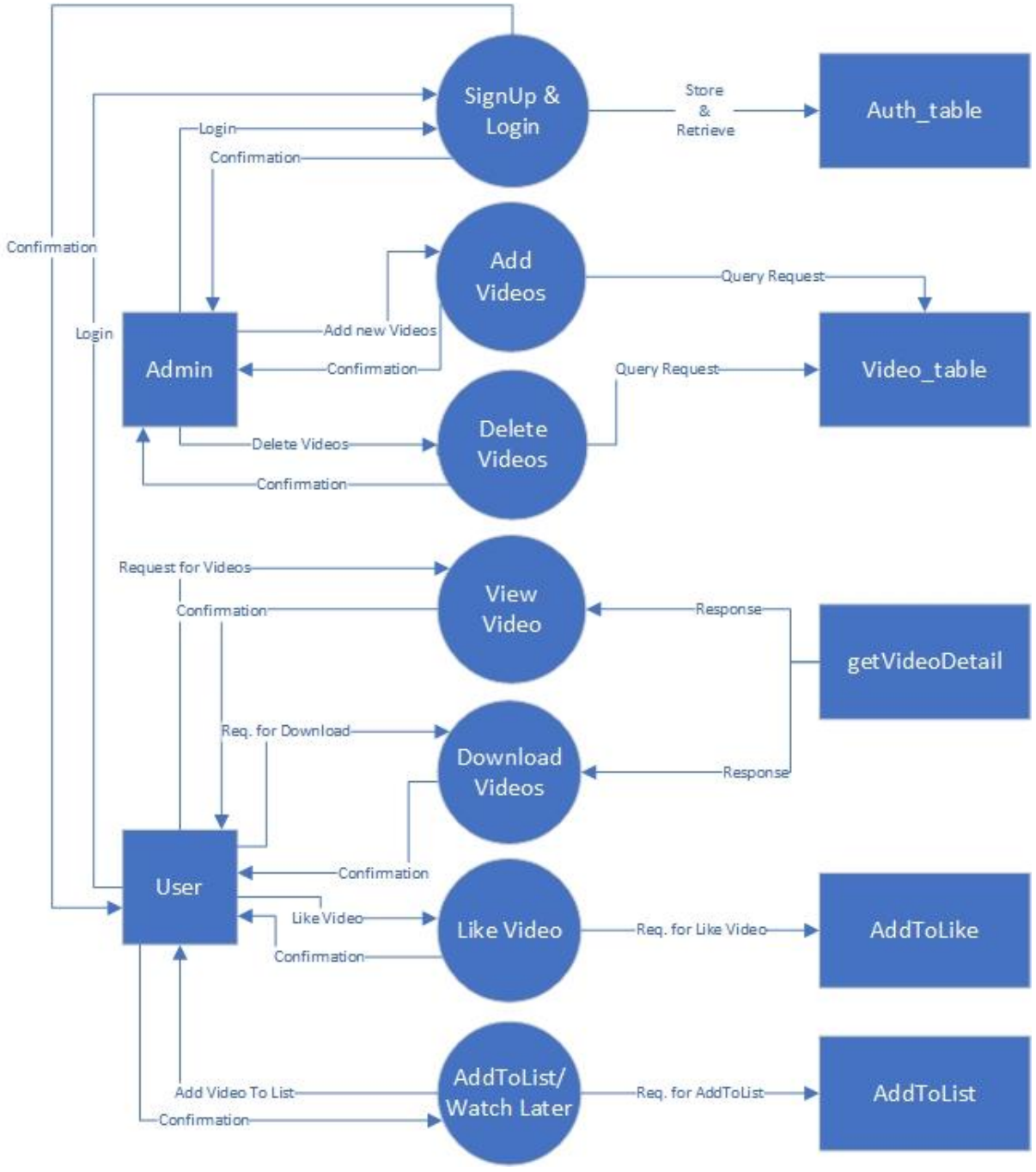
[Figure 4.4: Activity Diagram(admin)]

4.8 Data Flow Diagram

4.8.1 Level 0 DFD:

[Figure 4.6.1: Level 0 DFD]

4.8.2 Level 1 DFD:

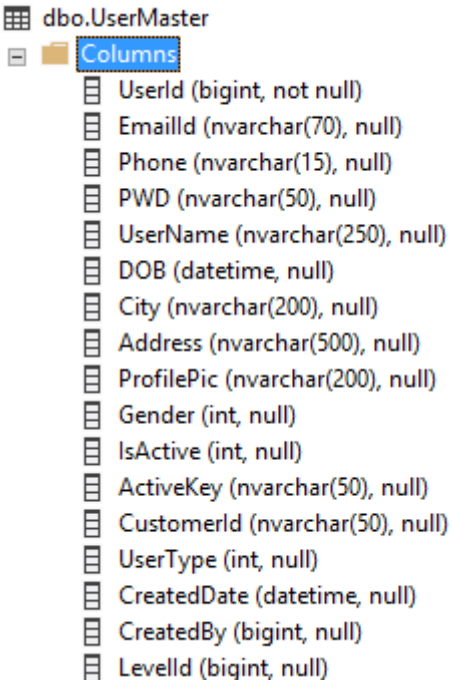


[Figure 4.6.1: Level 1 DFD]

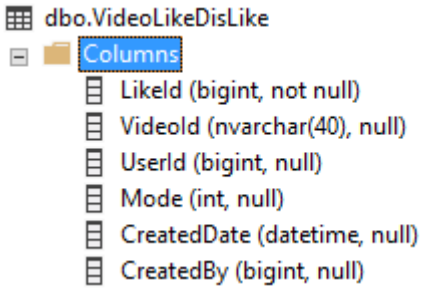
4.9 Data Modeling

- **Data Dictionary :**

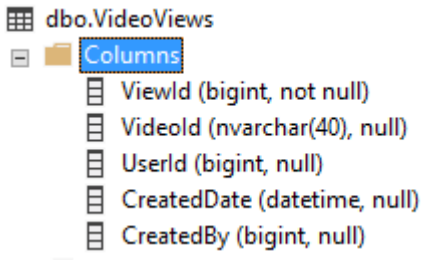
1. UserMaster



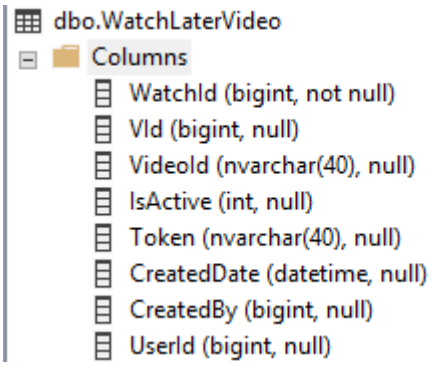
2. VideoLikeDislike



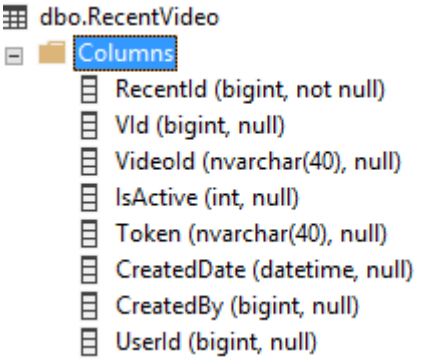
3. VideoViews



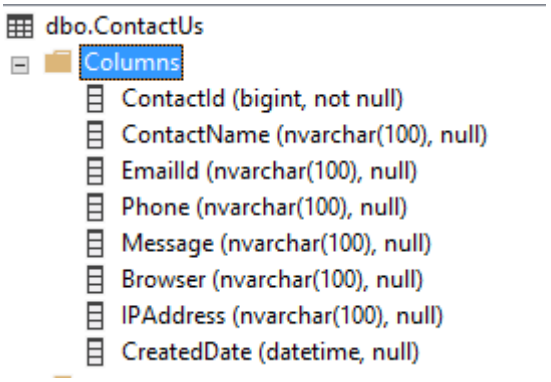
4. WatchLaterVideo



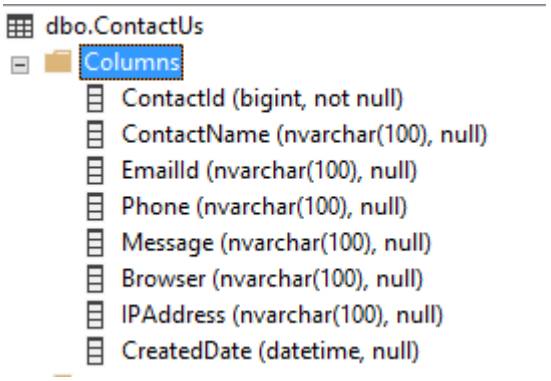
5. RecentVideo



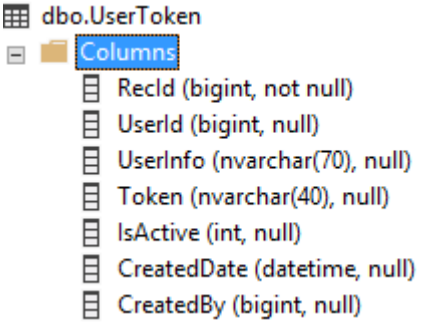
6. ContactUs



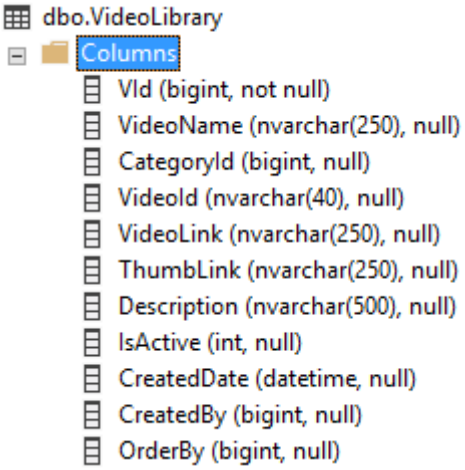
7. UserLog



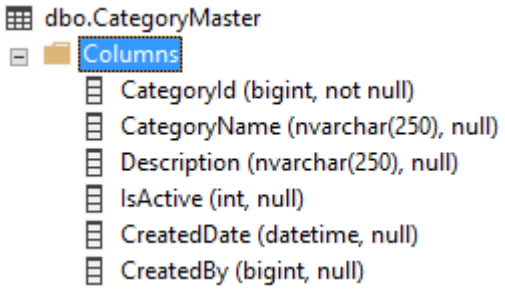
8. UserToken



9. VideoLibrary



10. CategoryMaster



5.
SYSTEM DESIGN

5.1 Component and Deployment Diagram

5.2 Database Design

5.3 Normalization

5.4 Main Modules of New System

5.5 Selection of Hardware and Software

5. SYSTEM DESIGN

5.1 Component and Deployment Diagram

- A component is a structured class representing a modular part of a system with encapsulated content and whose manifestation is replaceable within its environment.

- A component has its behavior defined in terms of provided interfaces and required interfaces (potentially exposed via **ports**).

- Component serves as a type whose conformance is defined by these provided and required interfaces (encompassing both their static as well as dynamic semantics). One component may therefore be substituted by another only if the two are type conformant.

- Larger pieces of a system's functionality may be assembled by reusing components as parts in an encompassing component or assembly of components, and wiring together their required and provided interfaces.

- A component is modeled throughout the development life cycle and successively refined into deployment and run-time. A component may be manifested by one or more artifacts.

- Indirectly instantiated components are defined at design time but do not exist as 36 addressable objects at

execution time. Runtime behavior of the component and its ports is defined by the runtime behavior of classifiers or parts realizing it. Several standard stereotypes assume this attribute, e.g., «specification», «focus», «subsystem».

- Internals of components are hidden and inaccessible other than as provided by its interfaces. Although it may be dependent on other elements in terms of interfaces that are required, a component is encapsulated and its dependencies are designed such that it can be treated as independently as possible. A component is shown as a classifier rectangle with the keyword **«component»**.

5.2 Database Design

5.2.1 Table Description:

5.2.1.1 UserMaster

Field Name	Description
UserId	Id of table
EmailId	Email of user
Phone	Phone number
PWD	Password
UserName	Username of user
DOB	Date of birth
City	City of user
Address	Address of user
ProfilePic	Profile picture of user

Gender	Gender of user
IsActive	User is able or not for login
ActiveKey	Key generate while signup
CustomerId	For payment purpose
UserType	Type of user(e.g user, admin)
CreatedDate	When user created
CreatedBy	Created by(e.g admin)
LevelId	Admin purpose

[Table 5.2.1.1: UserMaster]

5.2.1.2 VideoLikeDislike

Field Name	Description
LikeId	Id of table
VideoId	Video id
UserId	User id
Mode	Mode (true - Like, False - Dislike)
CreatedDate	Date of like or dislike
CreatedBy	Who like video

[Table 5.2.1.2: VideoLikeDislike]

5.2.1.3 VideoViews

Field Name	Description
ViewId	Id of table
VideoId	Video id

UserId	User id
CreatedDate	Date of creation
CreatedBy	Created by

[Table 5.2.1.3: VideoViews]

5.2.1.4 WatchLaterVideo

Field Name	Description
WatchId	Id of table
VId	Id of video library
VideoId	Id of video
IsActive	User is active or not
Token	Token of user
CreatedDate	Created date
CreatedBy	Created by
UserId	Id of user

[Table 5.2.1.4: WatchLaterVideo]

5.2.1.5 RecentVideo

Field Name	Description
RecentId	Id of table
VId	Id of video library
VideoId	Video id
IsActive	User active or not
Token	Token of user

CreatedDate	Created date
CreatedBy	Created by
UserId	Id of user

[Table 5.2.1.5: RecentVideo]

5.2.1.6 ContactUs

Field Name	Description
ContactId	Id of table
ContactName	Contact name
EmailId	Email id
Phone	Phone number
Message	Description of problem
Browser	Backend purpose
IPAddress	Backend purpose
CreatedDate	Date of creation

[Table 5.2.1.6: ContactUs]

5.2.1.7 UserLog

Field Name	Description
UserLogId	Id of table
UserId	User id
UserInfo	User information
Token	Token
LoginDate	Login date
Browser	Backend

IPAddress	IP Address(backend)
Device	Device name
DeviceVersion	Device version
DeviceId	Device id
FCMToken	Token of user
Status	Status of user
CreatedDate	Creation date
CreatedBy	Created by

[Table 5.2.1.8: UserLog]

5.2.1.8 UserToken

Field Name	Description
RecId	Record id
UserId	Id of user
UserInfo	User information
Token	Token of user
IsActive	User is active or not
CreatedDate	Backend purpose
CreatedBy	Backend purpose

[Table 5.2.1.8: UserToken]

5.2.1.9 VideoLibrary

Field Name	Description
VId	Id of table
VideoName	Video name

CategoryId	Category id
VideoId	Video id
VideoLink	Link of video
ThumbLink	Thumblink of video
Description	Description
IsActive	User is active or not
CreatedDate	Creation date
CreatedBy	Created by
OrderBy	Backend purpose

[Table 5.2.1.9: VideoLibrary]

5.2.1.10 CategoryMaster

Field Name	**Description**
CategoryId	Category id
CategoryName	Category name
Description	Description
IsActive	User is active or not
CreatedDate	Created date
CreatedBy	Created by

[Table 5.2.1.10: CategoryMaster]

5.3 Normalization

- Database Normalization is a technique of organizing the data in the database. Normalization is a systematic approach of decomposing tables to eliminate data redundancy and undesirable characteristics like Insertion, Update and Deletion Anomalies. It is a multi-step process that puts data into tabular form by removing duplicated data from the relation tables.
- Normalization is used for mainly two purposes
    - Eliminating redundant (useless) data.
    - Ensuring data dependencies make sense i.e. data is logically stored.
- Normalization rule are divided into following normal form:
    - **First Normal Form :**
      As per First Normal Form, no two Rows of data must contain repeating groups of information i.e. each set of columns must have a unique value, such that multiple columns cannot be used to fetch the same row. Each table should be organized into rows, and each row should have a primary key that distinguishes it as unique.

    - **Second Normal Form :**
      The Primary key is usually a single column, but sometimes more than one column can be combined

to create a single primary key. As per the Second Normal Form there must not be any partial dependency of any column on primary key. It means that for a table that has a concatenated primary key, each column in the table that is not part of the primary key must depend upon the entire concatenated key for its existence. If any column depends only on one part of the concatenated key, then the table fails Second normal form.

- **Third Normal Form :**
  Third Normal form applies that every non-prime attribute of table must be dependent on primary key, or we can say that, there should not be the case that a non-prime attribute is determined by another non-prime attribute. So this transitive functional dependency should be removed from the table and also the table must be in Second Normal form.

- **BCNF :**
  Boyce and Codd Normal Form is a higher version of the Third Normal form. This form deals with a certain type of anomaly that is not handled by 3NF. A 3NF table which does not have multiple overlapping candidate keys is said to be in BCNF.

5.4 Main Modules of New System

- **Client Side :**
    - Users can login.
    - Users can search video, watch category wise list of videos.
    - Users can see category wise all videos.
    - Users can watch videos.
    - Users can like, dislike videos.
    - Users can download videos.
    - Users can add videos to the list.
    - Users can add videos to favourites.

- **Admin Side :**
    - Admin can login
    - Admin can insert, update, delete videos
    - Admin can insert, update, delete users
    - Admin can log or trace all information

5.5 Selection of Hardware and Software

Hardware Selection :

Hardware Items	Requirements (minimum)	Justification
CPU	Intel Pentium IV	It processes faster during the accessing the System/application.
Memory	Minimum 1 GB	It's initial memory size to run the Application after development.
Disk Space	Minimum 20 GB	For the Larger storage of data.

[Table 5.5.1: Hardware Selection]

Software Selection :

Software Items	Requirements	Justification
Operating System	Any windows OS	This system can operate in any windows base OS
Front End	Android	Used for application which needs very low development and lifecycle costs and Rapid development.
Back End	MySQL	It's a Free available Source.
Web Server	XAMPP	It acts as a Container to run the PHP file.

[Table 5.5.2: Software Selection]

6.
SCREENSHOTS

6.1 User Login Screen

6.2 User Registration Screen

6.3 User Home Screen

6.4 User Profile Screen

6.5 User Download Screen

6.6 User Notification Screen

6.7 User More Screen

6.8 User SeeAll Screen

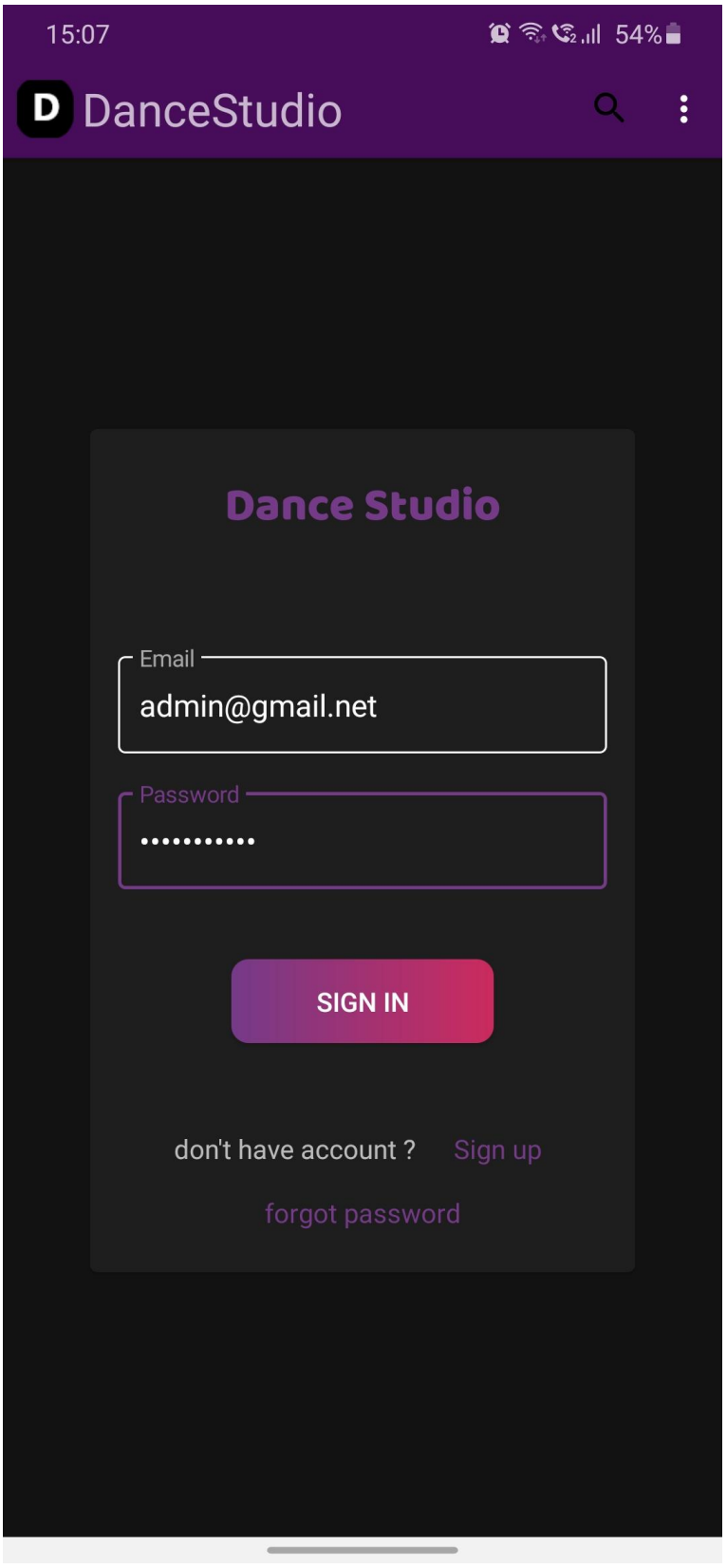
6.9 User Video Screen

6.10 User Subscription Screen

6.11 User is Offline Screen

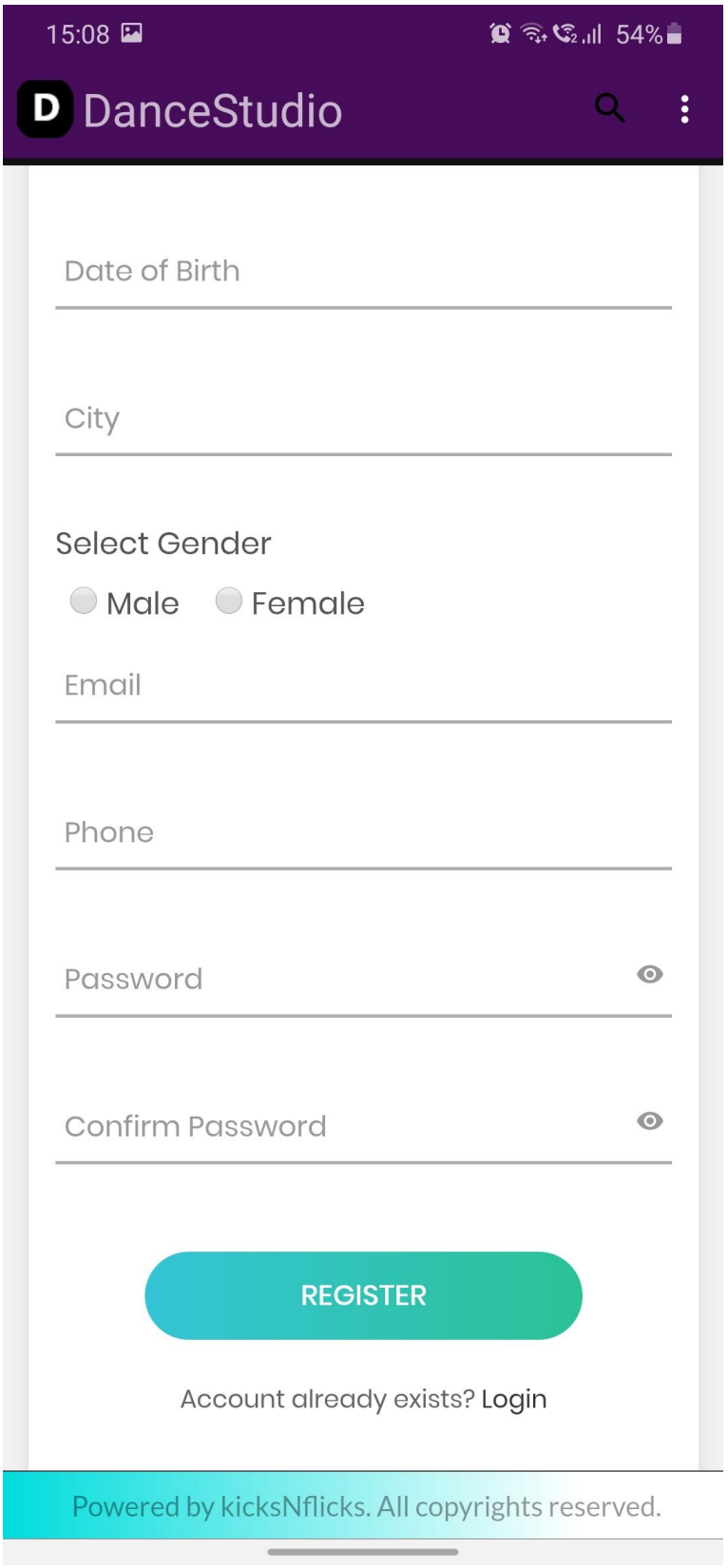
6.12 User LogOut Screen

6.1 User Login Screen



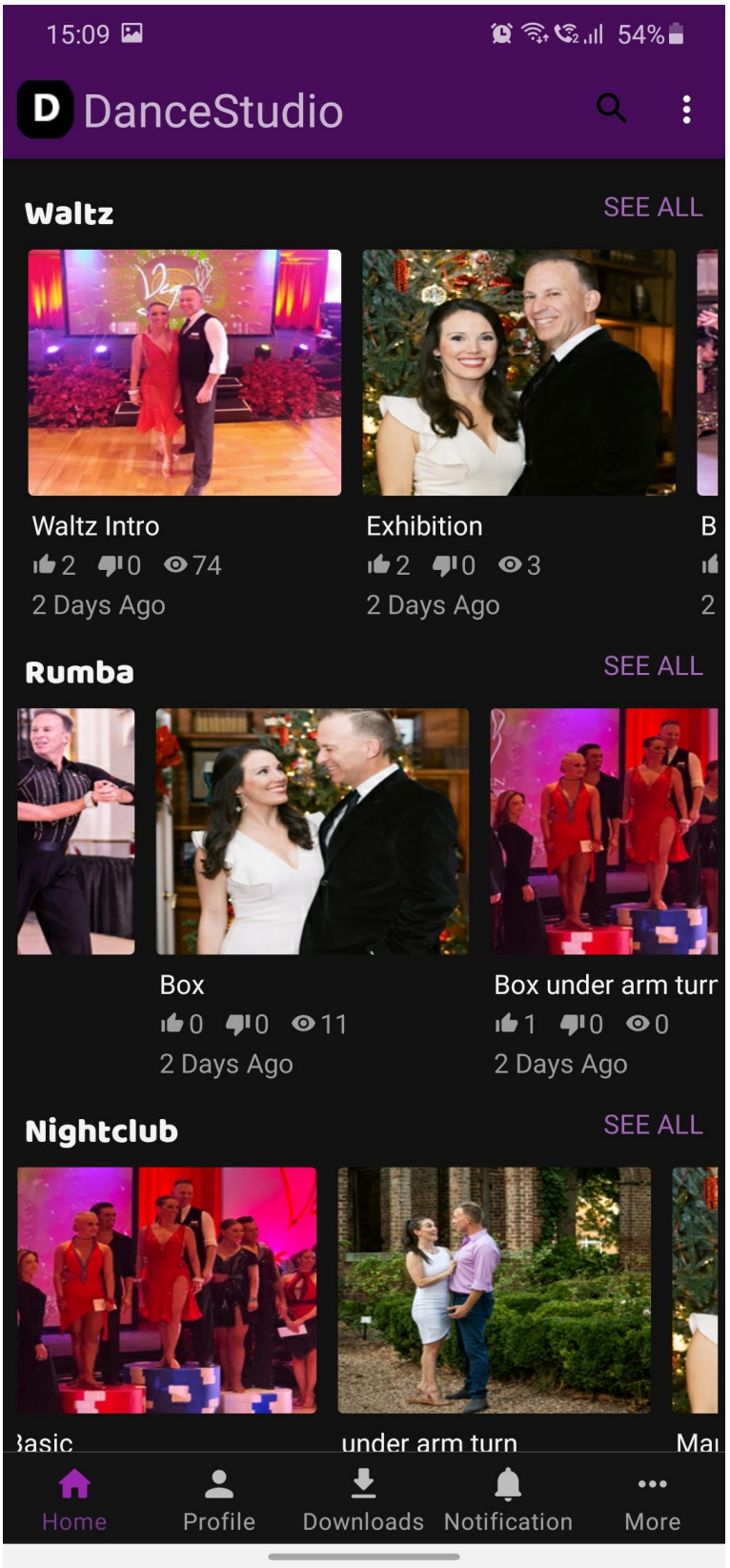
[Figure 6.1: Admin Login Screen]

6.2 User Registration Screen



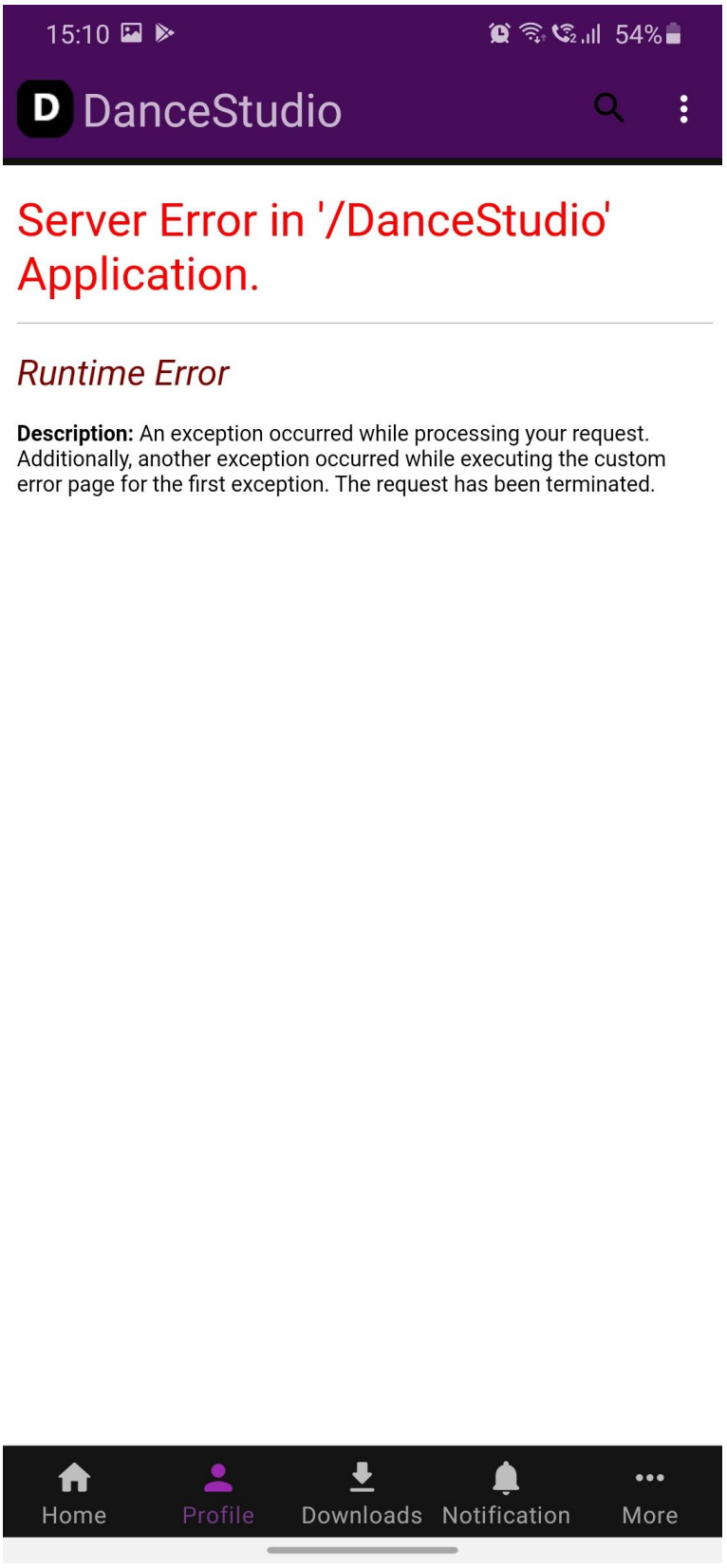
[Figure 6.1: Registration Screen]

6.3 User Home Screen



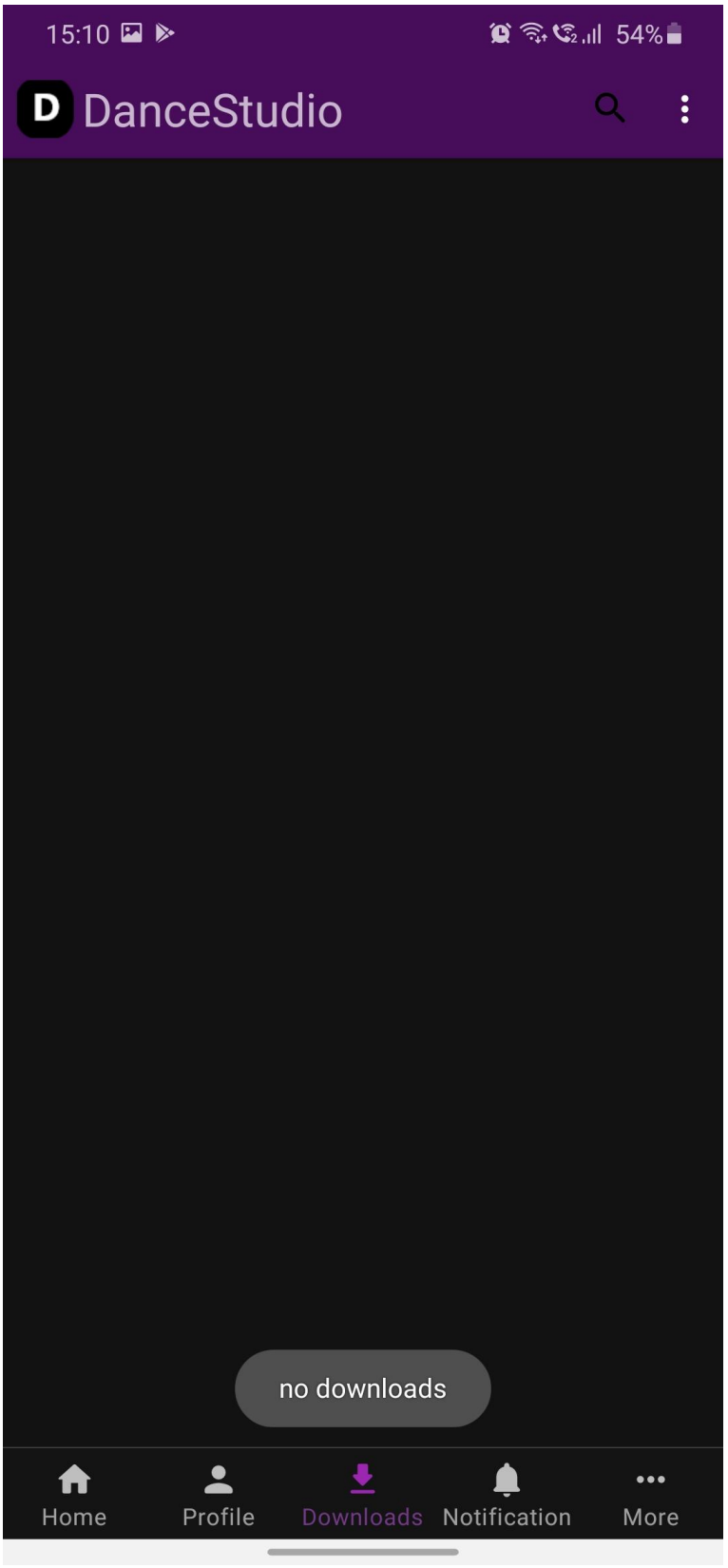
[Figure 6.1: Home Screen]

6.4 User Profile Screen



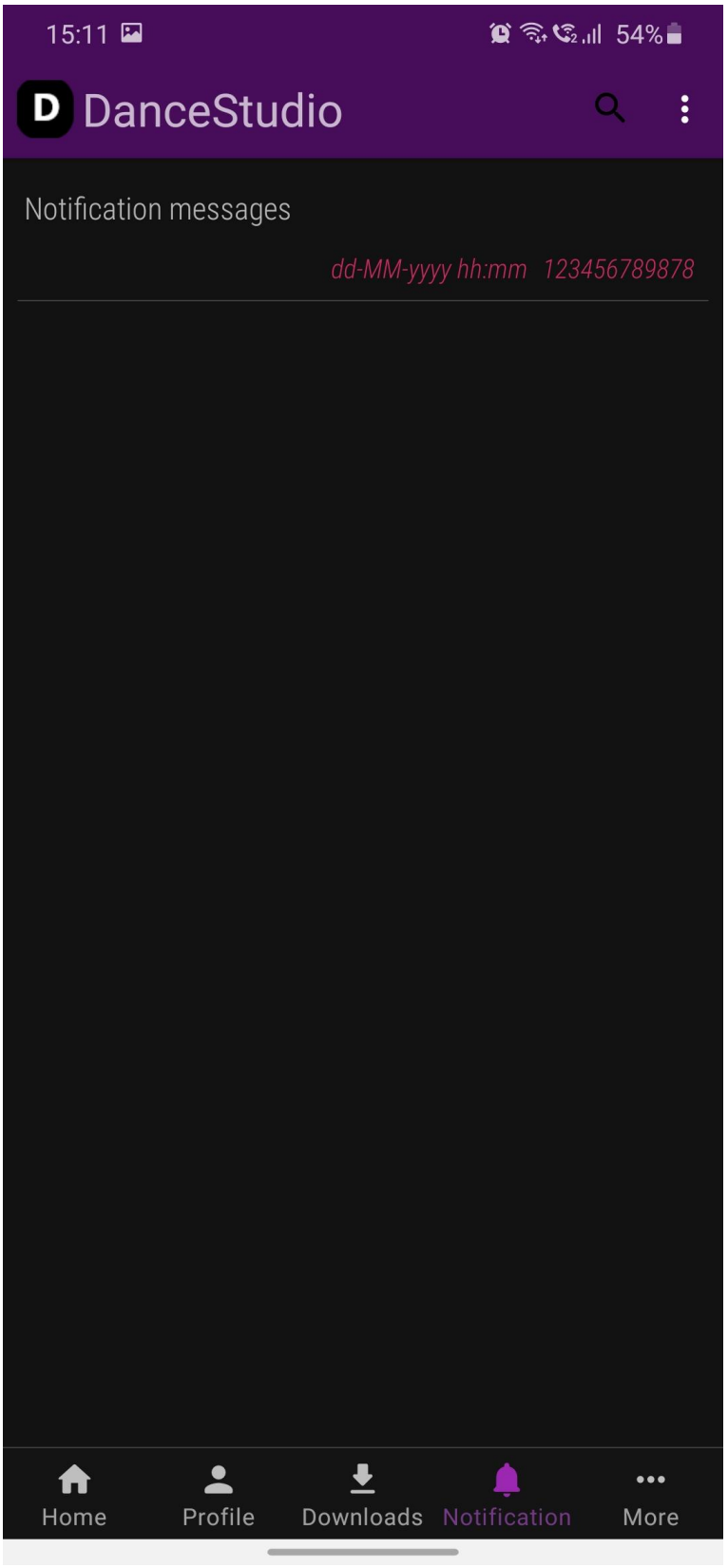
[Figure 6.1: Profile Screen]

6.5 User Download Screen



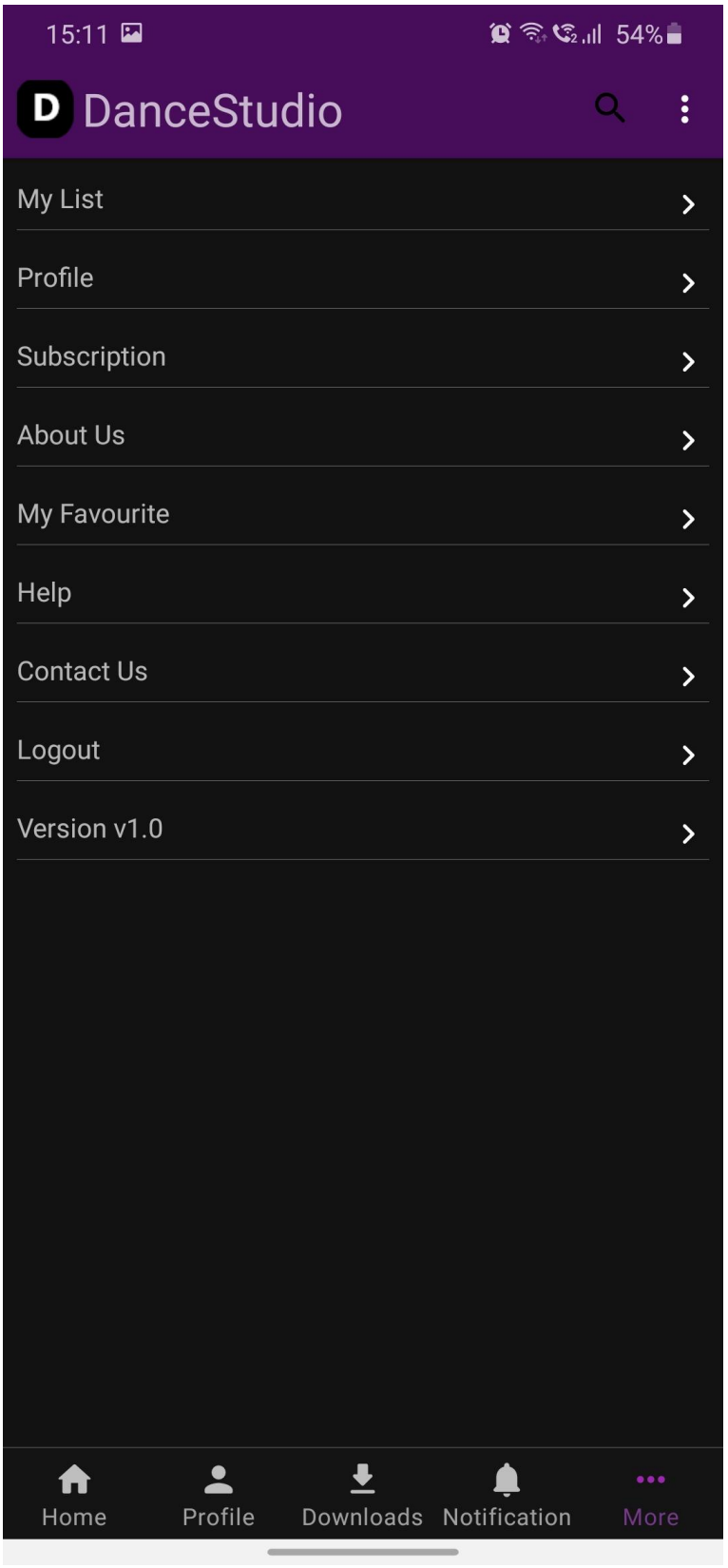
[Figure 6.1: Download Screen]

6.6 User Notification Screen



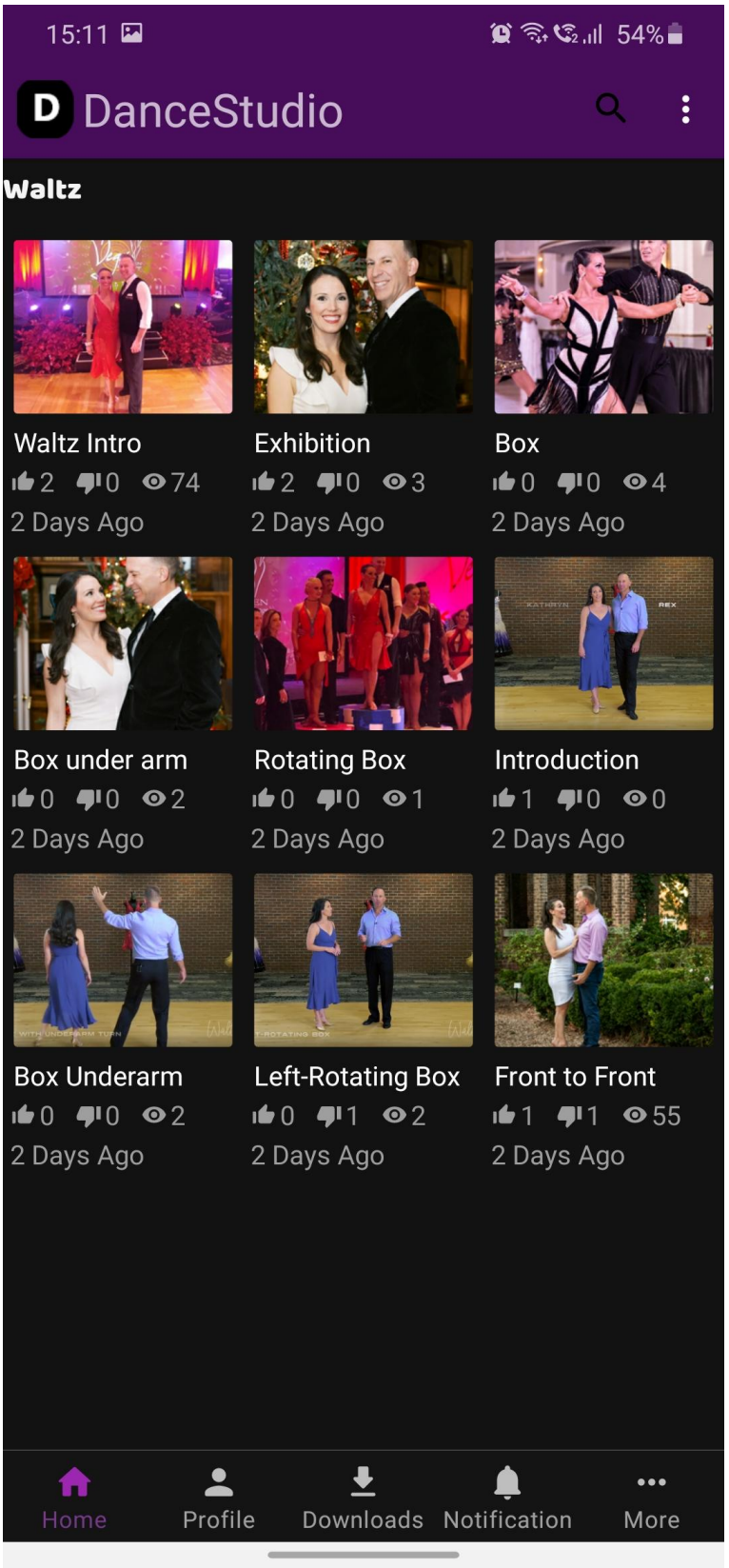
[Figure 6.1: Notification Screen]

6.7 User More Screen



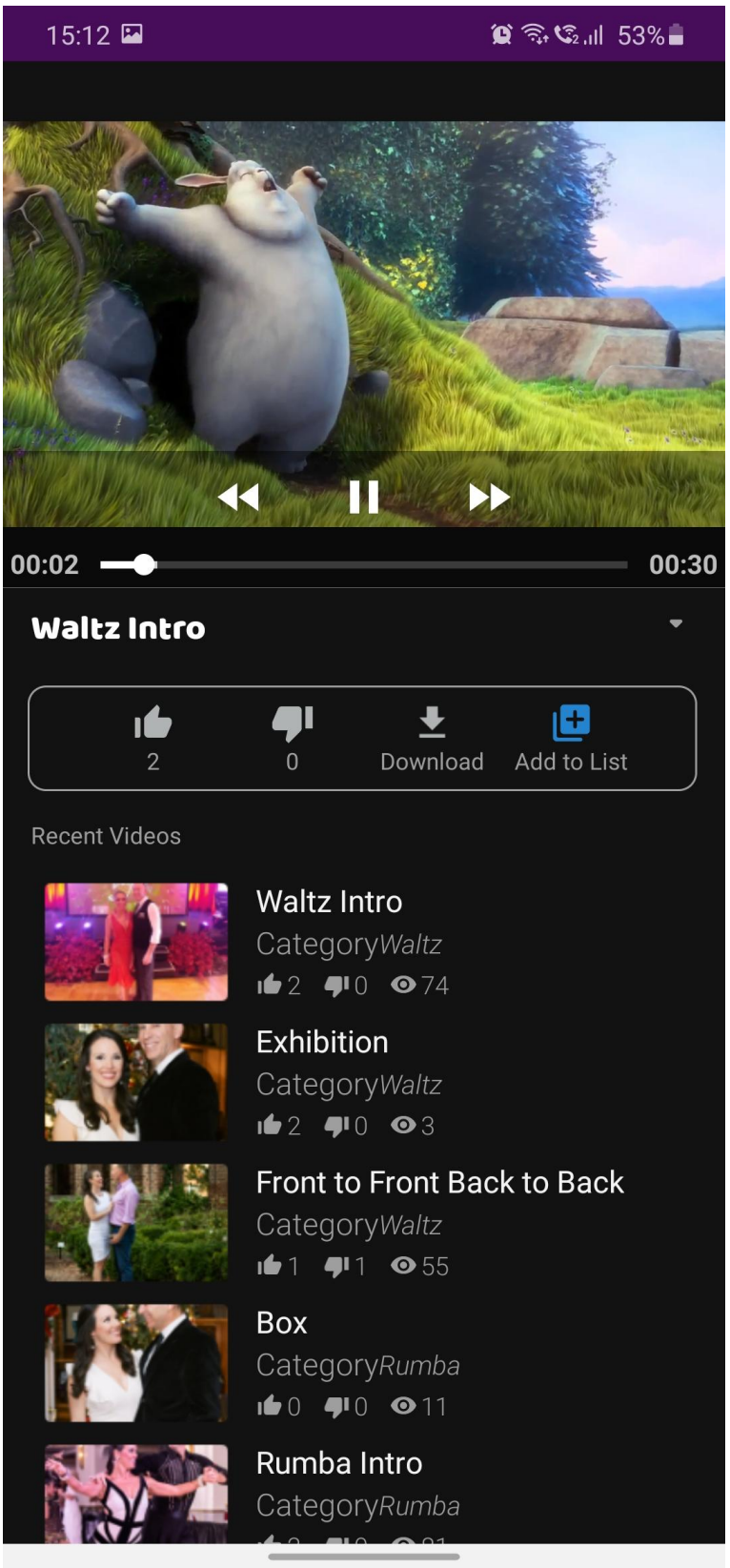
[Figure 6.1: More Screen]

6.8 User SeeAll Screen



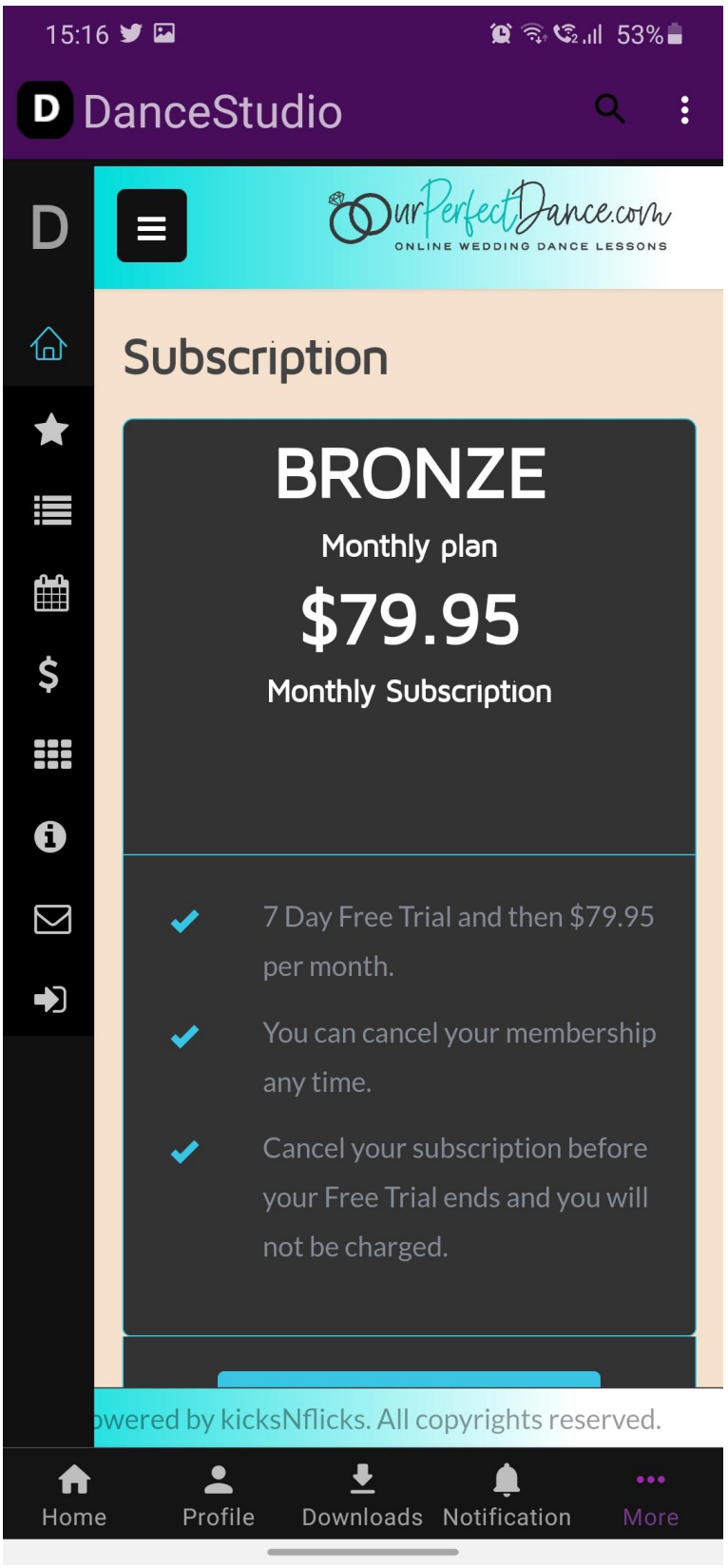
[Figure 6.6: See All Screen]

6.9 User Video Screen



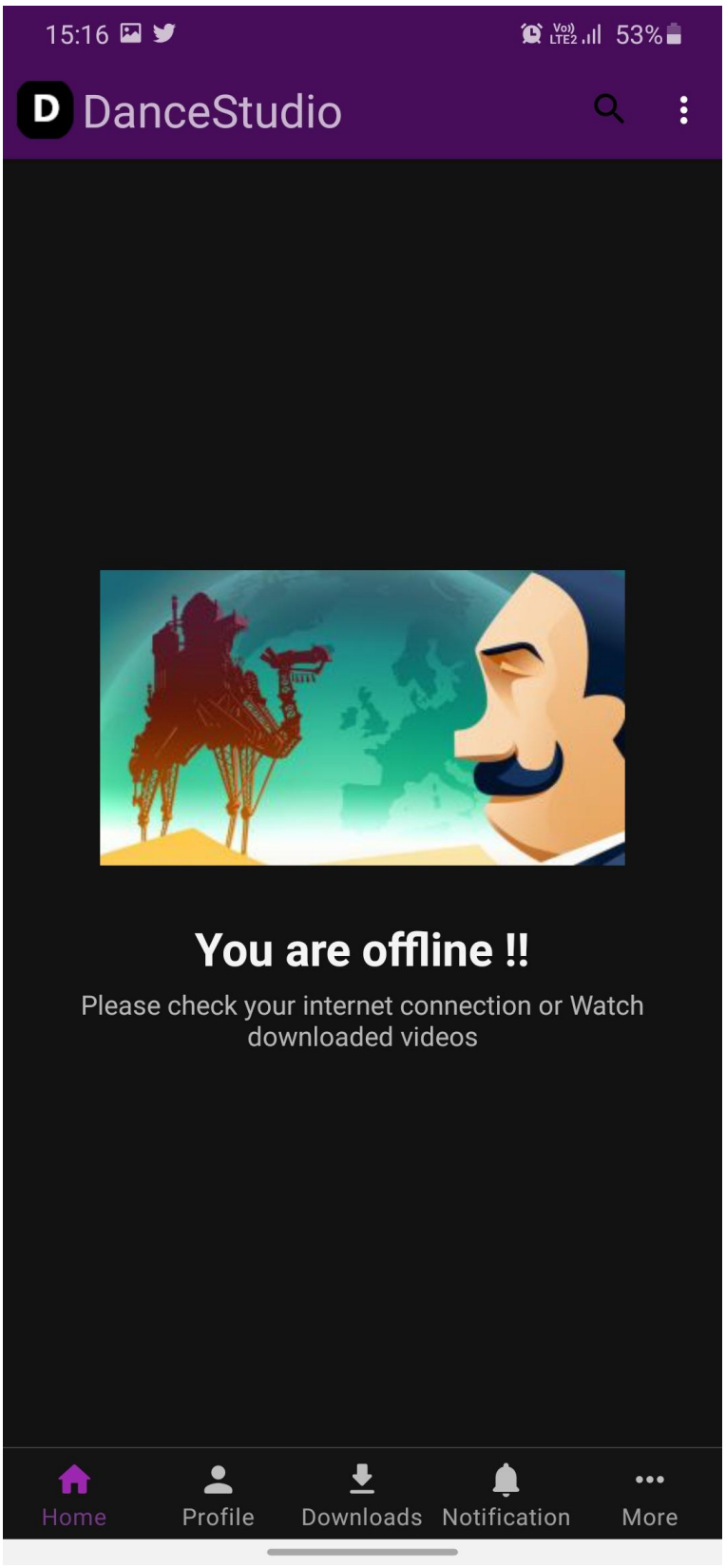
[Figure 6.7: Video Screen]

6.10 User Subscription Screen



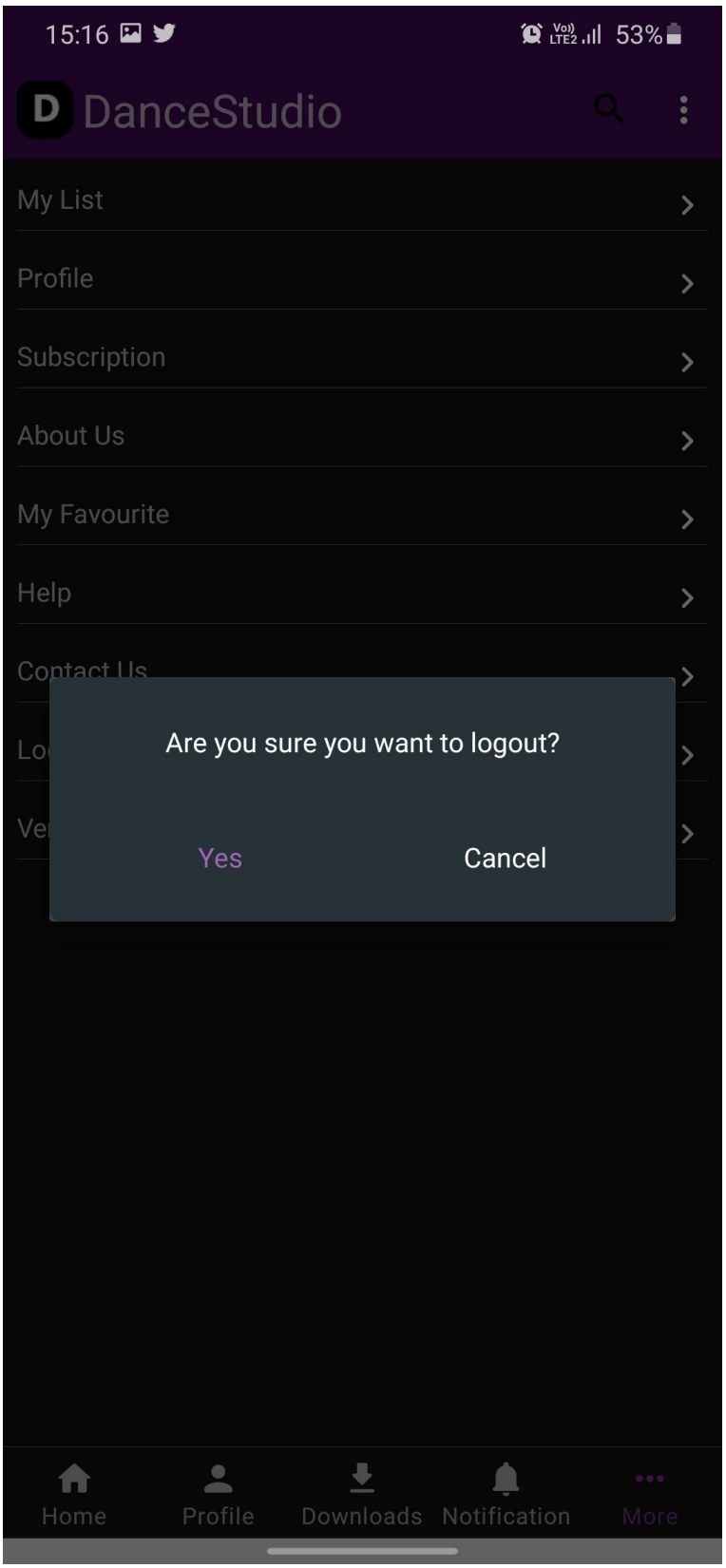
[Figure 6.8: Subscription Screen]

6.11 User is Offline Screen



[Figure 6.9: Offline Screen]

6.12 User LogOut Screen



[Figure 6.10: Logout Screen]

7.
IMPLEMENTATION

7.1 Implementation Environment

7.2 Program/Module Specification

7.3 Security Features

7.4 Coding Standards

7. IMPLEMENTATION

7.1 Implementation Environment

Challenges identified for successful design and implementation of this project are dominated by: complexity, reliability/availability, transparent data access while respecting security. The project was a result of a group consensus. The team was having two members. The team structure depends on the no. of people in the team, their skill levels and the problem difficulty. After the completion of each module, a module testing was performed on each. When the development was completed, System testing was performed to test the system.

7.2 Program/Module Specification

- Three main modules are dealing with the application.
    - Admin
    - User

- **Admin** is the main module of this system. Admin can insert, update, delete users and also can insert, update, delete users. Admin can see all logs of users like when a user login into the app, when error occurs etc. in short admin can trace users while users are using the application.

- **User** is also the main module of this application. Users can login the application. Subscribe a plan as per their convenience or requirement, then watch any type of videos, likes, dislikes, download, add to list, watch later videos as per their requirements.

7.3 Security Features

- This application has high level security.
- Only admin insert, delete, modify users.
- Only trainers and admin insert, update, delete videos
- When users download(offline) videos then only through this application users can play video.
- This application has end to end encryption so users cannot share videos even users will not see videos in file manager or in gallery.

7.4 Coding Standards

- Normally, a good software development organization requires their programmer to add here to some well-defined and standard style of coding called coding standard.

- The Software needs to be updated from time to time according to the changing needs of Users. So some standards are to be maintained in implementation and Coding, so that if the software needs to be modified due to some changes in User needs or some enhancements to be done, then it's easy for the person to find some specific modules, pages, functions, variables or even the tables or stored procedures in the database.

- This type of naming standards is called "Naming Conventions". It is very useful to reduce user errors and also ease the search process to find required information like variable, procedure, etc.

8.
TESTING

8.1 Testing Plan

8.2 Testing Strategies

8.3 Testing Methods

8.4 Test Cases

8. TESTING

Various parameters like implementation environment, program modules and coding standards are explained in the previous chapter while this chapter is aimed to provide a brief account of testing the software.

There are two principal motives of testing the software :
1. To rectify the error in execution
2. To check the viability of software

The testing ensures that the software is according to the required specification standards and performs the task meant for it. The testing is done by us. We test the application with all possible ways to find the bugs and errors as well as check validation.

8.1 Testing Plan

Testing is carried out at the following three stages :

- Design
- Implementation
- Coding

8.1.1 Design Testing :

The design errors are to be rectified at the initial stage. Such errors are very difficult to repair after the execution of software.

8.1.2 Implementation Testing :

The errors occurred at this stage can't be overlooked because such errors do not allow the further process.

8.1.3 Coding Testing :

The coding procedure plays a significant role in software designing. The improper coding of any software can generate inconsistent results. Such errors may occur due to incorrect syntax or false logic. If the errors at coding stage remain unnoticed may give rise to grave failure of the system.

8.2 Testing Strategies

A strategy for software testing integrates software test case design method into a well planned series of steps that result in the successful construction of the software. The strategy provides the roadmap that describes the steps to be conducted as a part of testing, then these steps are planned and then undertaken, and how much effort, time and resource will be required.

- We have tested our whole system using a bottom up testing strategy.

- Bottom up testing involves integrating and testing the modules to the lower levels in the hierarchy, and then working up the hierarchy of modules until the final module is tested.

- Bottom up testing strategy shows how actual testing is to be done with the whole system but it does not show any detail about each module testing.

- For each module testing, we have decided to test each lower level module with white box testing strategy.

- When all modules are tested successfully then I will move to one step up and continue with white box testing strategy.

- When all modules will be tested successfully then I will integrate those modules and try to test the integrated system using black box testing strategy.

❖ **Why Black Box Testing in my Project ?**

In our project whatever we have implemented was going to be tested by internal guide Prof. Umesh Lakhtatiya without knowing our code, so there was a black box testing involved directly.

❖ **Why White Box Testing in my Project ?**

During the project we were making the applications, we knew how it should proceed internally; I needed to do Debugging also for testing our small functionalities.

❖ **Why interface Testing in our Project ?**

We examined the code to be tested and explicitly listed each call to an external component. In the system, standards tests for GUIs have been performed, which are as follow :

- Testing the screen control for its position and side.

- The position and the related labels for all controls were checked.
- Name of the form in the system is given appropriately.
- All menu functions and sub functions were verified for correctness.
- Validations for all input were done.
- Whether the system prompts the user with appropriate messages as and when invalid information is entered.
- All required fields aren't left blank.

8.3 TESTING METHODS

8.3.1 Unit Testing :

The unit testing is meant for testing the smallest unit of software. There are two approaches namely bottom-up and top-down. In the bottom-up approach the last module is tested and then moving towards the first module while top down approach reverses the action. In present work we opt for the first one.

8.3.2 Integration Testing :

The integration testing is meant to test all the modules simultaneously because it is possible that all the modules may function correctly when tested individually. But they may not work altogether and may lead to unexpected outcomes.

8.3.3 Validation Testing :

After the integration testing software is completely assembled as a package, interfacing errors have been uncovered and corrected, and then validation testing may begin. Validation can

be defined in many ways but a simple definition is what a validation succeeds when software functions in a manner that can be reasonably accepted by the user.

8.3.4 Storage Testing :

The database of the system has to be stored on the hard disk. So the storage capacity of the hard disk should be enough to store all the data required for the efficient running of the system.

8.4 Test Cases

8.4.1 Purpose :

The purpose of this application is to make the process of management of the caste very easy. So Users can easily get the various information about all the activities of the cast. So this app will provide a digital platform to people to grow and connect with each other to create strong unity for growth of the caste.

TEST CASE ID: TC_Login_01	**NAME: Login**
TESTING STRATEGY :	Black Box and White Box Testing
PURPOSE :	Checking the authenticity of the admin.
INPUT :	Phone number
TEST DATA :	txtPhone

EXPECTED O/P :	If the phone number is correct then admin is allowed to enter into the system.
UNBEHAVIOURABLE O/P :	N.A
STEPS : 1 After the admin enters Phone number it is going to be verified with the database and allows the admin to access the system if the phone number matches correctly.	

[TABLE 8.4.1.1: TEST CASE TABLE LOGIN]

TEST CASE ID: TC_Login_02	**NAME: Admin Rights**
TESTING STRATEGY :	Black Box and White Box Testing
PURPOSE :	Checking the authenticity of the admin.
INPUT :	Phone number.
TEST DATA :	txtPhone
EXPECTED O/P :	Accessrights are given to admin
UNBEHAVIOURABLE O/P :	N.A.
STEPS : 1. After admin enters the phone number it is going to be verified with database 2. It matches the admin phone number and gets his admin rights 3. As per assigned rights relevant action will be enabled	

[TABLE 8.4.1.2: TEST CASE TABLE ADMIN RIGHTS]

TEST CASE ID : TC_CreateAdmin_01	**NAME: Admin Creation [phone number already exist]**
TESTING STRATEGY :	Black Box and White Box Testing
PURPOSE :	Creating new admin
INPUT :	Admin name, phone number
TEST DATA :	txtAdminName, txtPhone
EXPECTED O/P :	admin is not created if the phone number already exists.
UNBEHAVIOURABLE O/P :	N.A.
STEPS: 1. After the admin enters the phone number it is going to be verified with the database. If already existed then it is redirected to home screen	

[TABLE 8.4.1.3: TEST CASE TABLE ADMIN CREATION]

TEST CASE ID: TC_Gen_01	**NAME: Email Validation**
TESTING STRATEGY :	Black Box and White Box Testing
PURPOSE :	To validate Email Id of the admin
INPUT :	Email
TEST DATA :	a_email
EXPECTED O/P :	Validation occurs and check if email has correct format

UNBEHAVIOURABLE O/P :	N.A.
STEPS : 1. Check whether email is previously inserted or not. 2. Checking for the correct email format.	

[TABLE 8.4.1.4: TEST CASE TABLE EMAIL VALIDATION]

Test Case ID: TC_Gen_02	**Name: Phone Number Validation**
TESTING STRATEGY :	Black Box and White Box Testing
PURPOSE :	To validate Phone number of the admin
INPUT :	Numeric Data
TEST DATA :	a_phone
EXPECTED O/P :	If the correct number is entered then no error will print.
UNBEHAVIOURABLE O/P :	N.A
STEPS : 1. It will only accept numeric value. 2. Entered Number should not be less than 10 digits.	

9. LIMITATION AND FUTURE ENHANCEMENTS

9.1 Limitations

9.2 Future Enhancements

9. LIMITATION AND FUTURE ENHANCEMENTS

9.1 Limitations

This is an online application so users need to have internet connection as well as android supported mobile phones.

9.2 Future Enhancements

Right now we are creating this application for the specific use only that is to schedule events and meetings, upload tribute details, student results, matrimony, etc. In future, the application will be having other features so maximum people can take benefits.

10. CONCLUSION AND DISCUSSION

10.1 Self-Analysis and Project Viabilities

10.2 Problems Encountered and Possible Solutions

10.3 Summary of Project Work

10. CONCLUSION AND DISCUSSION

10.1 Self-Analysis and Project Viabilities

- During making this application we had strictly followed standard application development approach, which allowed us to visualize the theoretical points that we learned.
- We have experienced the energetic and live working environment, norms and ethics.
- That one has to follow, proper business procedures, planned and disciplined approach required for the work and much more.
- This helped to enrich our knowledge and gain confidence to work in such a professional environment and to deal with such corporate world and practical situations.
- While working on this project we got a very friendly environment by our internal guide which was very helpful in building the confidence to develop such a project.
- And most importantly we got the problem solving attitude while developing the project.

10.2 Problems Encountered and Possible Solutions

Problem :

When we started designing an application we faced the design issue like layout should be proper in every page and main problem we faced is layout should be the same in each size of screen whether small or large android device.

Solution :

Solution for above mentioned problem we give a weight sum that equally divides the layout and layout should not change with the screen size.

10.3 Summary of Project Work

- After doing this project, we have learned many things and we would like to thank all the concerned individuals who have contributed to our precious learning.

- We have also understood the importance of naming conventions and coding conventions in the development process. As our nature of the project we were following proper steps of development properly. Though the project was taking too long and we faced many difficulties which had been resolved by effective guidance of professors and our eternal guide.

- In the first phase, we have learned to prepare the requirement catalogue functional specification, design specification, system development life cycle. We went on many websites and applications which are providing the same facilities as our project to understand real case scenarios. In the next phase we have a whole system to develop which should be user friendly and easy to use.

- We are sure that we can perform better and better as we step up on the ladders of the experience.

REFERENCES :

1. https://www.google.com/
2. https://developer.android.com/
3. https://www.simplifiedcoding.net/
4. https://material.io/

and many other websites were visited.

WORK EXPERIENCE :

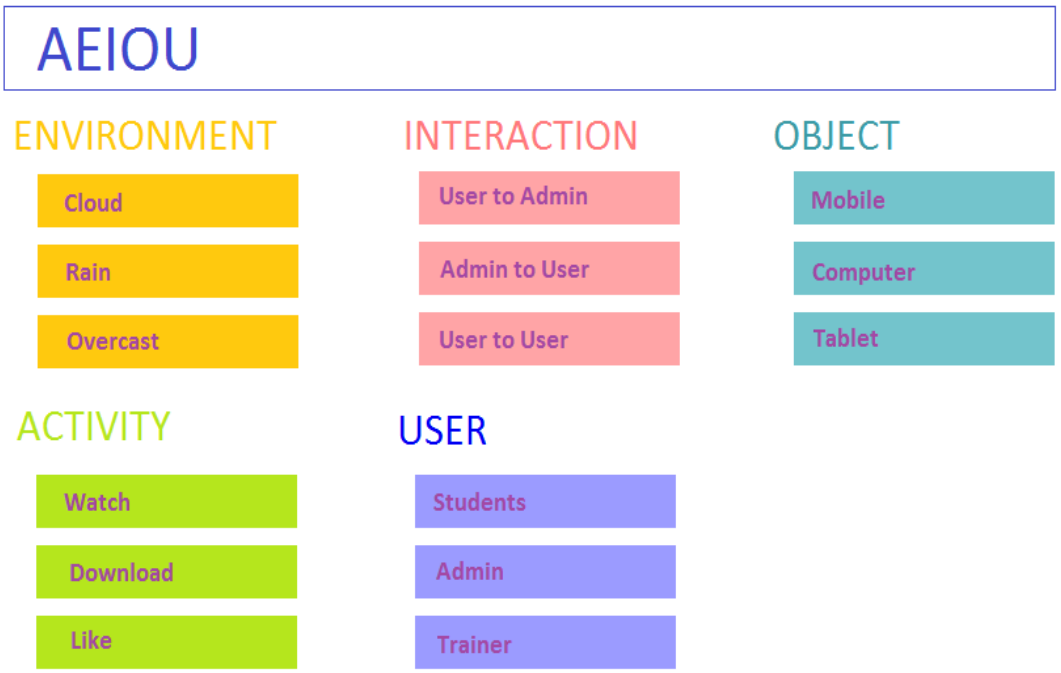
- We had started our work for the report on the “Dance Studio App” in the starting of the semester. The time duration for this report is 2 month of this semester. We have a good experience of the work. This helped us to know about the different things which should be happening in the industry or in the real world.

- In this time duration our faculty member helped us very much to complete this task. Our project guide Prof. Umesh Lakhtariya gave us good knowledge about the topic & about the report .In the end I like to say that this experience gave us great understanding & good knowledge about our topic.

APPENDIX :

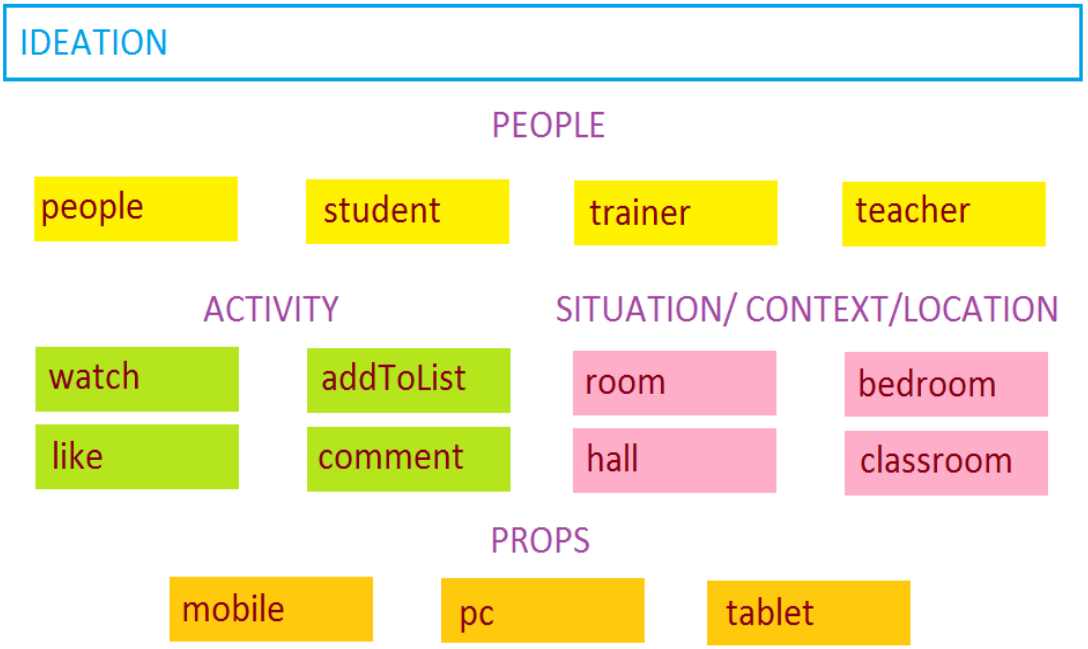
1. AEIOU FRAMEWORK :

AEIOU framework is developed to observe each and every part of the activity done by the users while developing the framework. All the activities which the users do while using the application or the users can use the application while doing other activities. Environment perspective is also important for the project in many conditions our project gets failed. It is essential to be aware of the environment needed for the application. It includes power failure and also in many weather conditions can't be used.



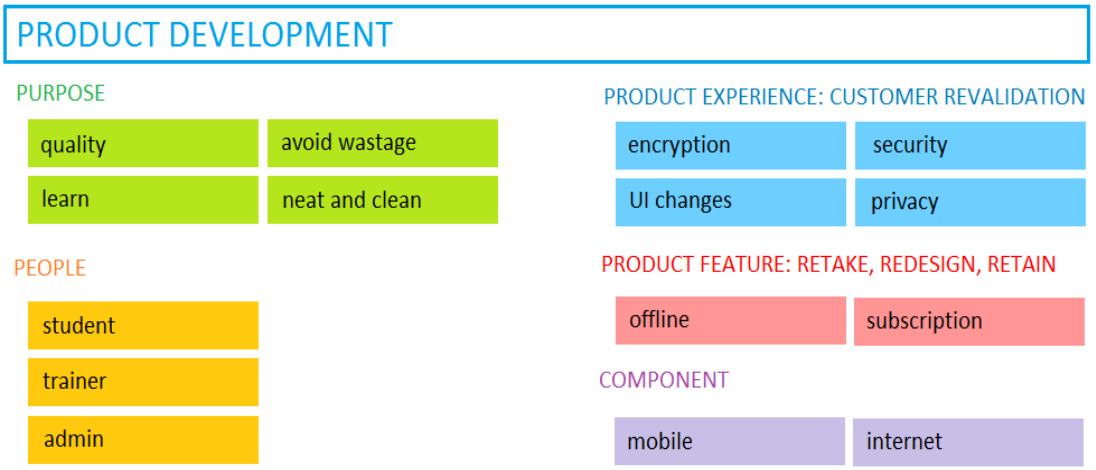
2. IDEATION CANVAS :

In this canvas the activities play the major role. Four possibilities are defined in this which are the people, the activities, the related situation based on the activities, the context or the location based on the activities. The possible solutions are also given or the objects which are used while implementing the project. The basic analysis is done from the ideation canvas and the needs of the users and their requirements are also defined from these sheets the one can easily identify the basic things about the projects which would be useful.



3. PRODUCT DEVELOPMENT CANVAS :

The product development canvas is done for getting the information about the main objective of making the application. In this, the purpose for why the product is developed and how it would be benefited to the people is described. After using the product the experience of using is given by the user. The functions which are applied in the product while making the product. The features which are added by the admin in the product and the components used while developing. After using the product the expected features which are added more for comfort are obtained from the reviews and if the redesigning is possible then that feature is added or else it would be in rejected mode.



4. EMPATHY MAPPING CANVAS :

Empathy summary is used to find various challenges occurring in the project. The given from the AEIOU framework and the activities are also obtained from that framework. The main five challenges which the admin faces while making the project or which would be helpful and needed for the users are taken. Then the exact problem is carried out so by that functionality after adding the users would use the application.