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NATIONAL INSTITUTE OF BUSINESS MANAGEMENT
M.I.S DIVISION

PROJECT REPORT

LEARNING MANAGEMENT SYSTEM

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LEARNING MANAGEMENT SYSTEM

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Date-

The project is submitted in partial fulfillment of the requirement of the Diploma of Software Engineering of National Institute of Business Management.

Declaration

I certify that this project does not incorporate without acknowledgement, any material previously submitted for a Higher Diploma in any institution and to the best of my knowledge and belief, it does not contain any material previously published or written by another person or myself except where due reference is made in the text. I also hereby give consent for my project report, if accepted, to be made available for photocopying and for interlibrary loans, and for the title and summary to be made available to outside organizations.

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Signature

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~~Signature-~~

Abstract

In modern world , with the development of technology people migrated into various methods of studying from traditional concepts. Concept of learning management system emerged few years before , but this concept became more common with the situation of COVID-19 in the world.

Students of the modern world face some difficulties when connecting to their LMS. ‘ user interface is more complex, difficulty to access , platform can’t integrate with third party appliances, features are inflexible are some of the problems faced by the modern students when working with LMS.

Our LMS is a solution to some of above mentioned problems with more newly implemented features including LMS can be connected to external third party apps, QR code generation method, alarm to manage time efficiency , ability to send email and Whatsapp messages , Facebook authentication , etc.

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Keywords used in Learning Management System

Keywords	First Found In
ER model- Entity Relationship Model	04 (Under Analysis)

List of acronyms and abbreviations

Acronyms	First Found In
LMS-Learning Management System	01 (Under Introduction)
COVID-19 – Corona Virus Disease 2019	01 (Under Introduction)

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Acknowledgement

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Introduction

Due to the current situation of COVID-19 in Sri Lanka concept of LMS emerged. But, in most instances most LMS are not working and they are with number of problems. Therefore in our project we hope to implement a new LMS to minimize errors and introduce new features to overcome identified difficulties.

Problem Definition

There are some weaknesses of the traditional online LMS such as limitations in connectivity. At sometimes automatic disconnection of LMS can be seen .

Another problem with current LMS is users are given only a limited storage. Then in most instances users should find a better way to store and share their files. Sometimes they should use external resources to share their files and submit their assignments.

More problems with traditional LMS.

User interface is more complex

Difficulty to access LMS

Platform can't integrate with third party tools and applications

Features are inflexible

Inexperienced users may not capable to access the LMS

Diminishes user experience due to outdated technology

Aims And Objectives

Aim- To introduce a multitasking LMS that suits global market

Objectives 1) Provide better user experience with modern tools

2) Introduce ability to register courses , course administration , skill level analysis of students .


3) Support student and academic staff with advanced communication tools



4) Reduce stress of students and lectures through number of entertainment activities embedded in LMS

Proposed Solution

For get rid of problems that arise with traditional LMS , we decided to implement a new LMS using android studio with many new implemented features. This proposed solution may solve many problems that faced by students and academic staff of educational institutes when they are working with traditional LMS.

By signing into our LMS users can communicate with their lectures and students easily than any other LMS.

Traditional LMS	Introducing LMS
Can communicate with only few students at once	Can communicate with large number of students
Can't integrate with Social Media and external email	Can integrate with social media including Facebook Whatsapp and any mail that user want to send messages 

Traditional LMS	Introduced LMS
No resources such as embedded library, embedded calculator	Embedded library and calculator were implemented
No password encryption method	If users wish to encrypt their password their password
No QR code generation method	QR code generation method introduced 
Inability to check internet connection	Ability to check internet connection
Less user experience	High user experience
No entertainment (Stress Management)	Entertainment methods are introduced including play music , calculator , chat application in order to minimize stress.
No recent updates about current situation	LMS is connected to external news app to get recent updates
Session Expired after sometime	No session Expiration
Lecture can't add a memo through LMS	Lecture can add a memo through LMS using google Calendar 

Expected Outcome

The scope of the project is to implement the quality of existing learning management systems and provide a better user experience to users of LMS. The next scope is to provide a better user experience to users with minimum requirements. If this project is successful, we hope to introduce our project to number of educational institutes in Sri Lanka

Analysis

Diagram Number : 01

Diagram Name : ER diagram of Student(Online mode)

Description :This ER diagram shows activities of a student in online mode.

Diagram Number : 02

Diagram Name : ER diagram of Lecture(Online mode)

Description :This ER diagram shows activities of a lecture in online mode

Diagram Number : 03

Diagram Name : ER diagram of Admin (Online mode)

Description : This ER diagram shows activities of an admin in online mode

Diagram Number : 04

Diagram Name : ER diagram of Entertainment(Online mode)

Description :This ER diagram shows activities of entertainment user in online mode

Diagram Number : 05

Diagram Name : ER diagram of Lecture(Offline mode)

Description : This ER diagram shows activities of a lecture in offline mode

Diagram Number : 06

Diagram Name : ER diagram of Admin(Offline mode)

Description :This ER diagram shows activities of a admin in offline mode

Diagram Number : 07

Diagram Name : use case diagram of Student(Online mode)

Description :This use case diagram shows activities of a student in online mode

Diagram Number : 08

Diagram Name : use case diagram of Lecture (Online mode)

Description : This use case diagram shows activities of a lecture in online mode

Diagram Number : 09

Diagram Name : use case diagram of offline

Description :This use case diagram shows activities of offline mode (all activities in offline mode)

Design

Database Number :01

Database Name : LMS_NIBM

Role-Admin

Description : This diagram illustrates the relationships of admin table with other tables in the database

Database Number :02

Database Name : LMS_NIBM

Role-Course

Description : This diagram illustrates all the relationships of 'Course' Table.

Database Number :03

Database Name : LMS_NIBM

Role-Email

Description : This diagram illustrates all the relationships of 'Email' Table of LMS_NIBM database

Database Number :04

Database Name : LMS_NIBM

Role-Student

Description : This diagram shows relationships of Students inside database LMS_NIBM

Database Number :05

Database Name : LMS_NIBM

Role-Lecture

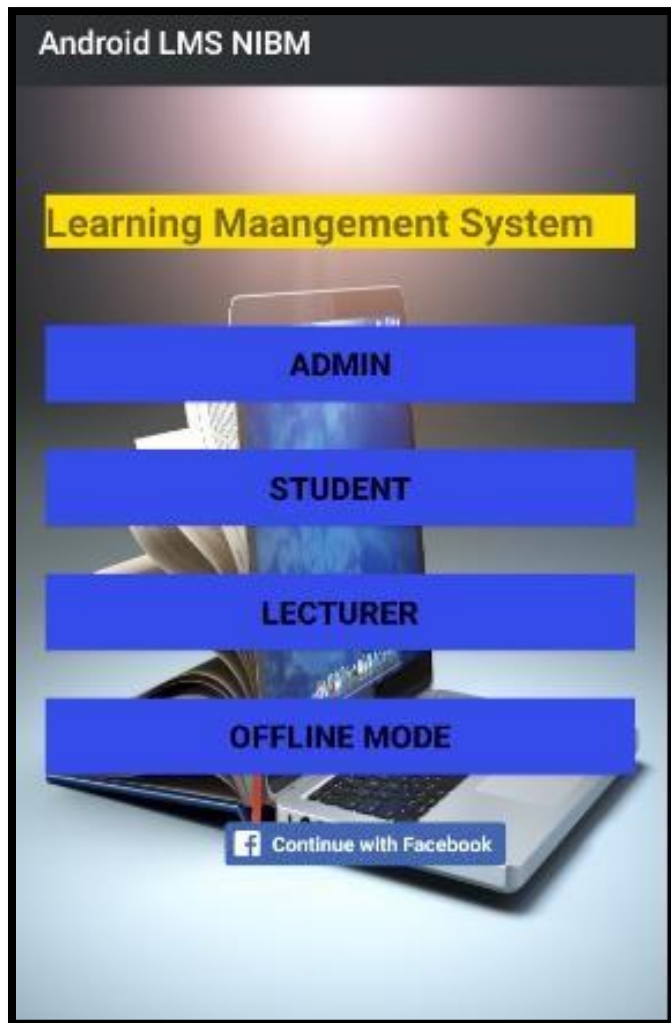
Description : This diagram shows all the relationships including key relationships of Lecture table of database ' LMS_NIBM'

Interface Design

Interface Number :01

Interface Name : Front Page (Main Page)

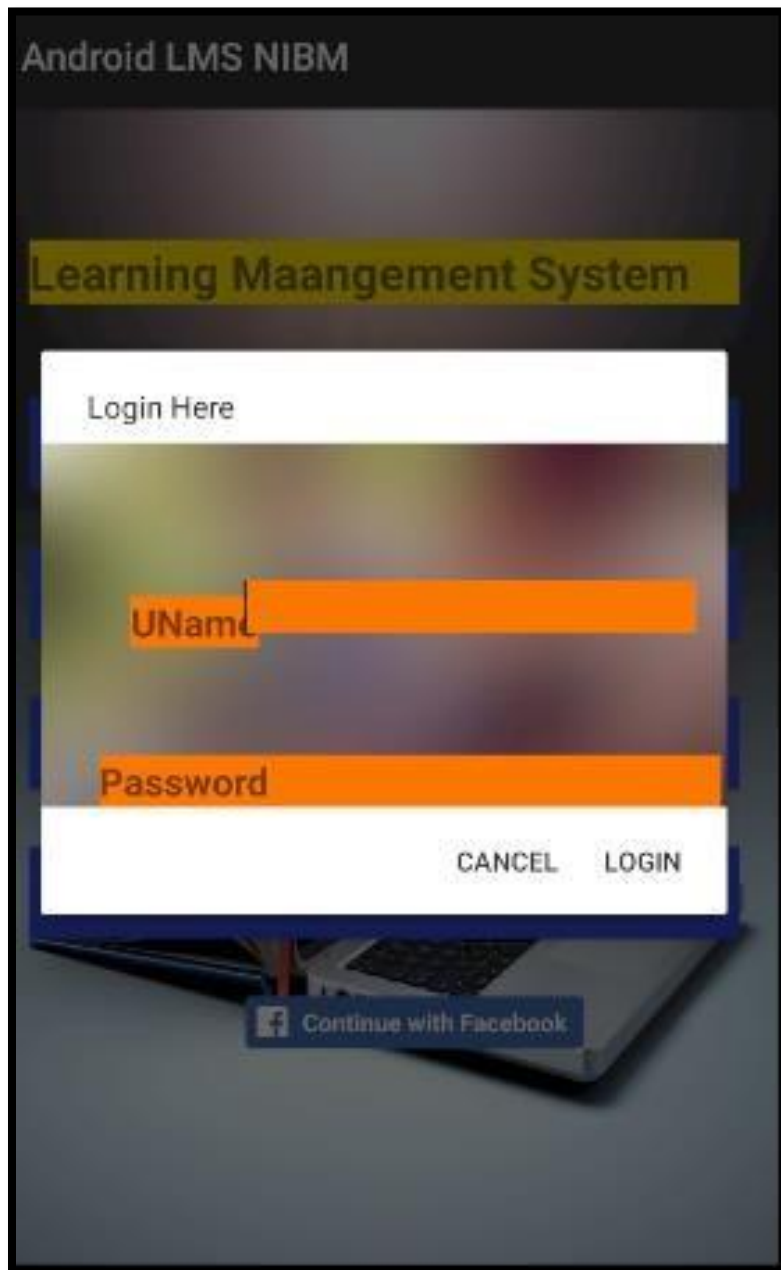
Description : This is the front page (interface) of the designed learning management system. User can choose his / her option in order to access the learning management system. Consider that offline mode is only for lectures and administrators



Interface Number :02

Interface Name : Admin Login Window

Description : Administrator should fill the required fields in order to continue



Interface Number :04



Interface Name : Student and lecture Login Window

Description :Students and lectures should give the required credentials in order to continue.
They can authenticate using firebase authentication method.

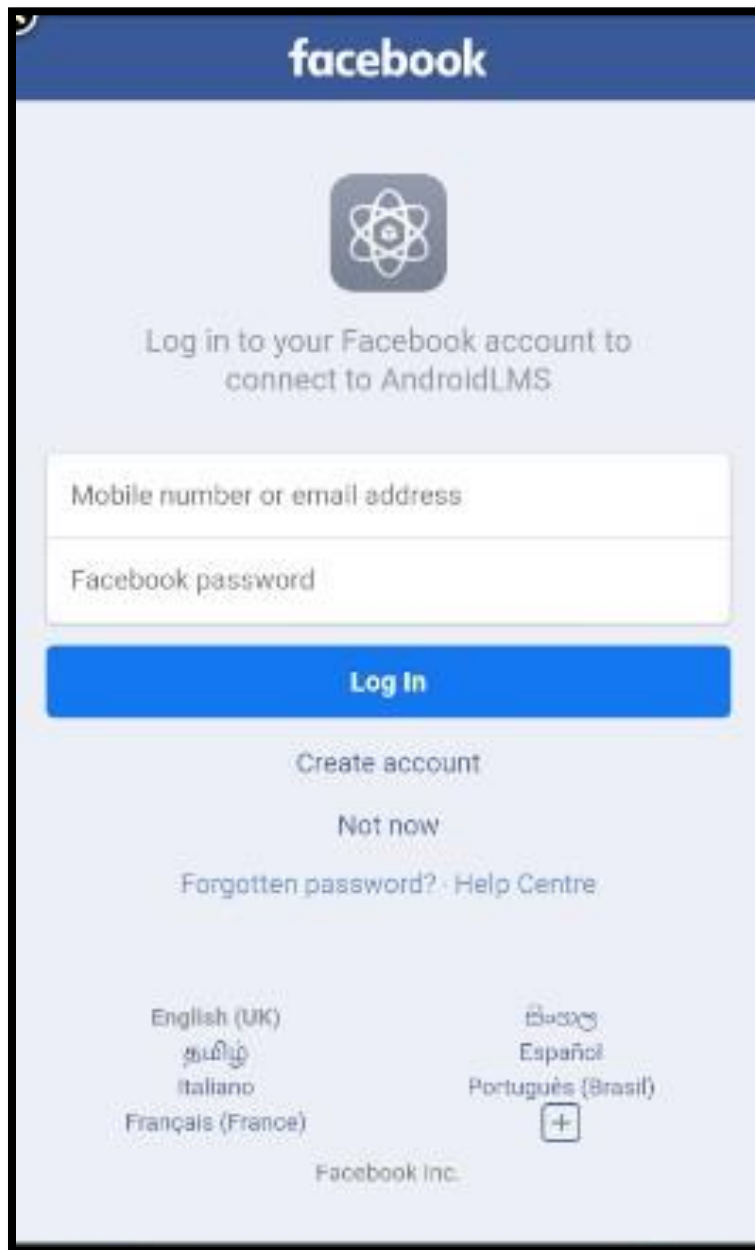


Interface Number :05



Interface Name : Continue With Facebook Option

Description :Users can acquire the resources by sign in through Facebook. Only registered users are permitted . (LMS is in development mode)



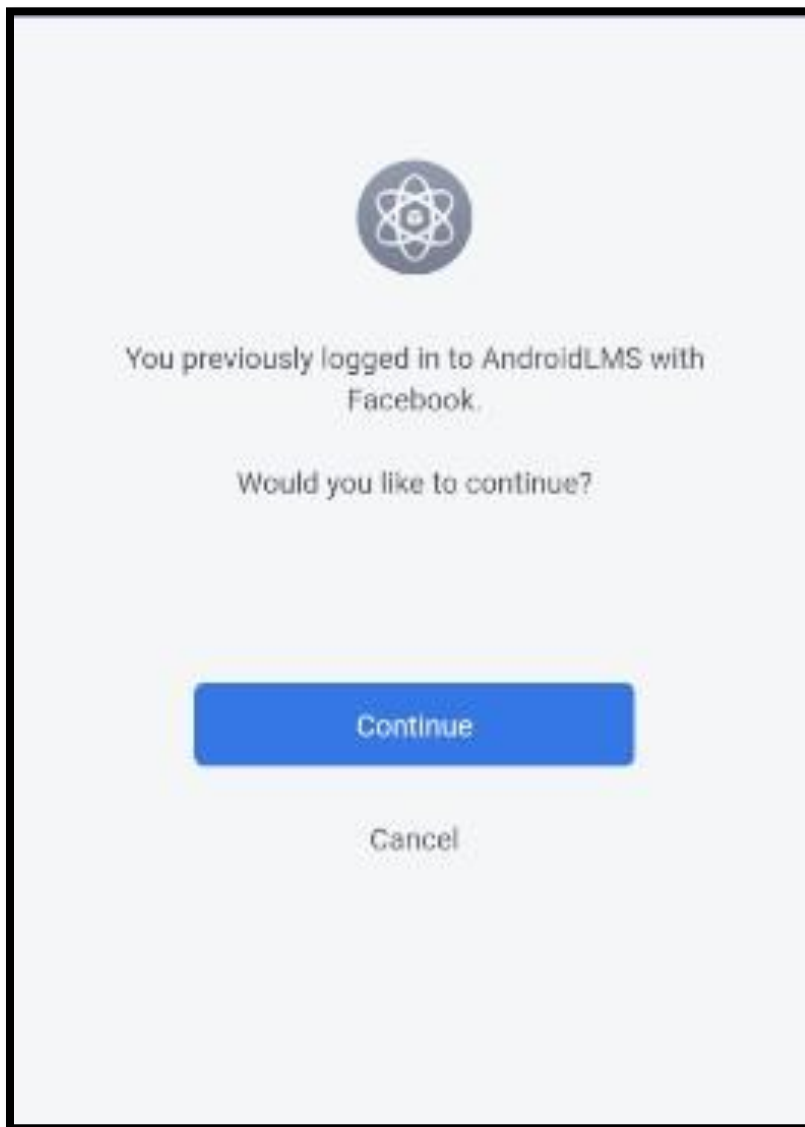
The image shows a Facebook login interface. At the top is the Facebook logo. Below it is a grey square icon with a white atom-like symbol. The text "Log in to your Facebook account to connect to AndroidLMS" is centered. There are two input fields: "Mobile number or email address" and "Facebook password". Below these is a blue "Log In" button. Under the button are links for "Create account", "Not now", and "Forgotten password? · Help Centre". At the bottom, there are language options: "English (UK)", "தமிழ்", "Italiano", "Français (France)", "தமிழ்", "Español", "Português (Brasil)", and a "+" icon. The footer says "Facebook Inc."

Interface Number :04



Interface Name : Facebook Login Successful Form

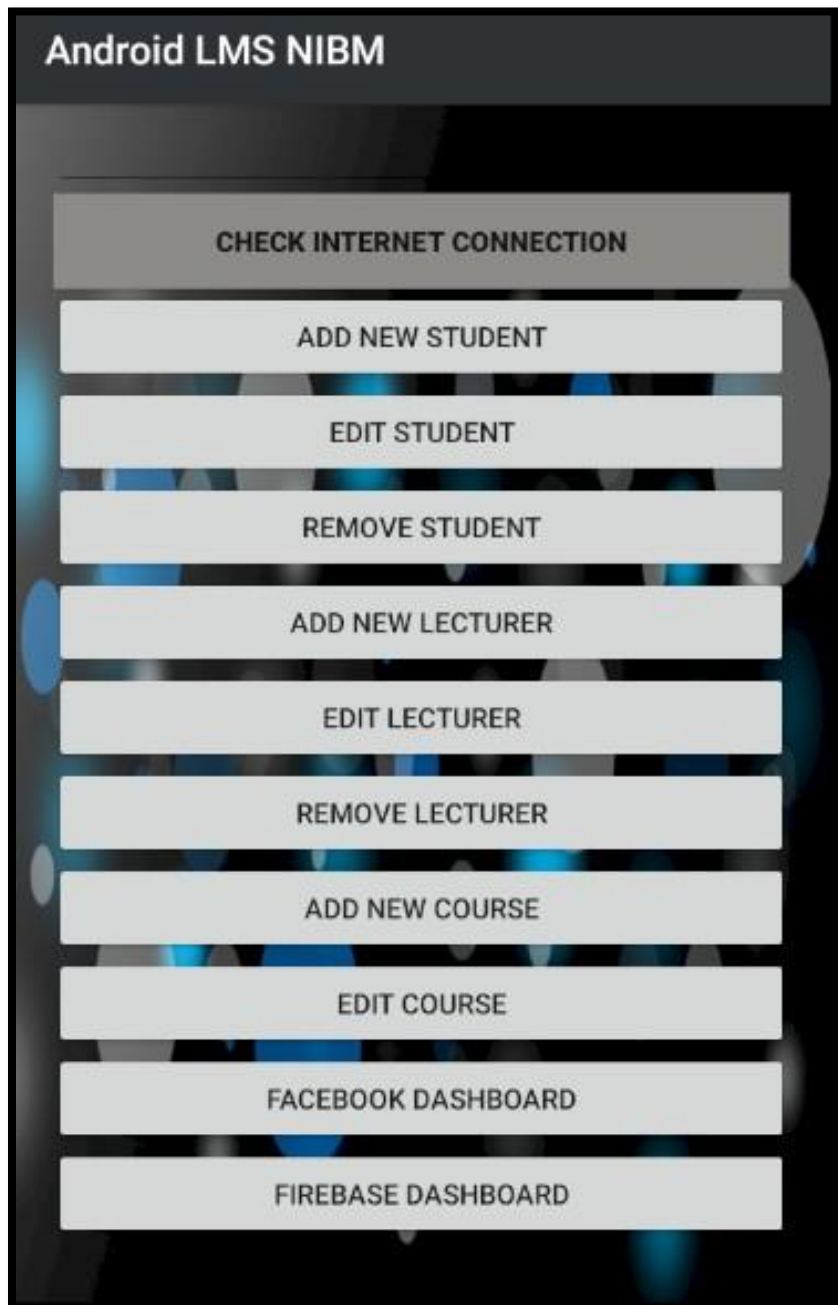
Description- If the user already sign in (Previously sign in) press continue button in order to continue



Interface Number :05

Interface Name : Admin Form

Description : Admin can view tasks that he / she can perform



Interface Number :06

Interface Name : Student Page

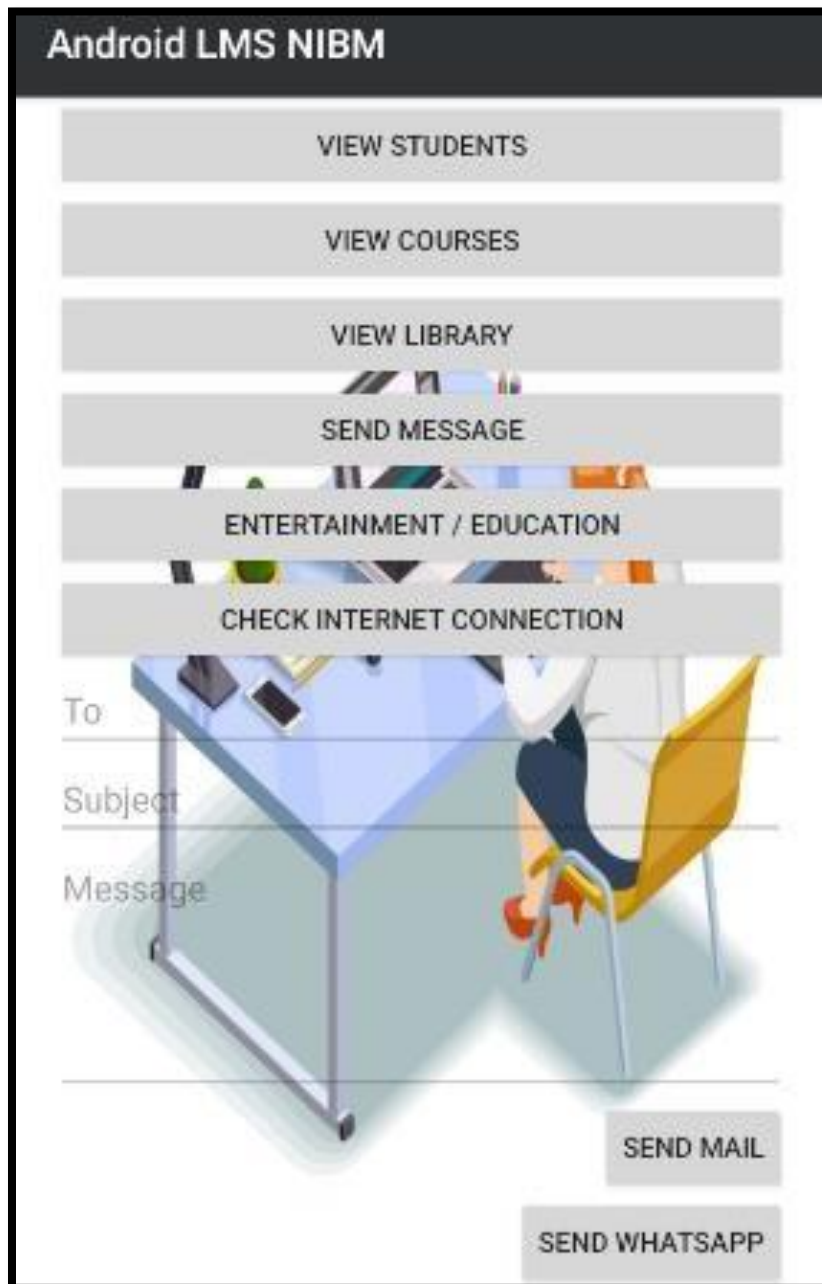
Description : Student can performed tasks that is issued by the LMS



Interface Number :07

Interface Name : Lecture Page

Description : Lecturer can perform tasks using this window.



Interface Number :08

Interface Name : Offline Mode Main Page

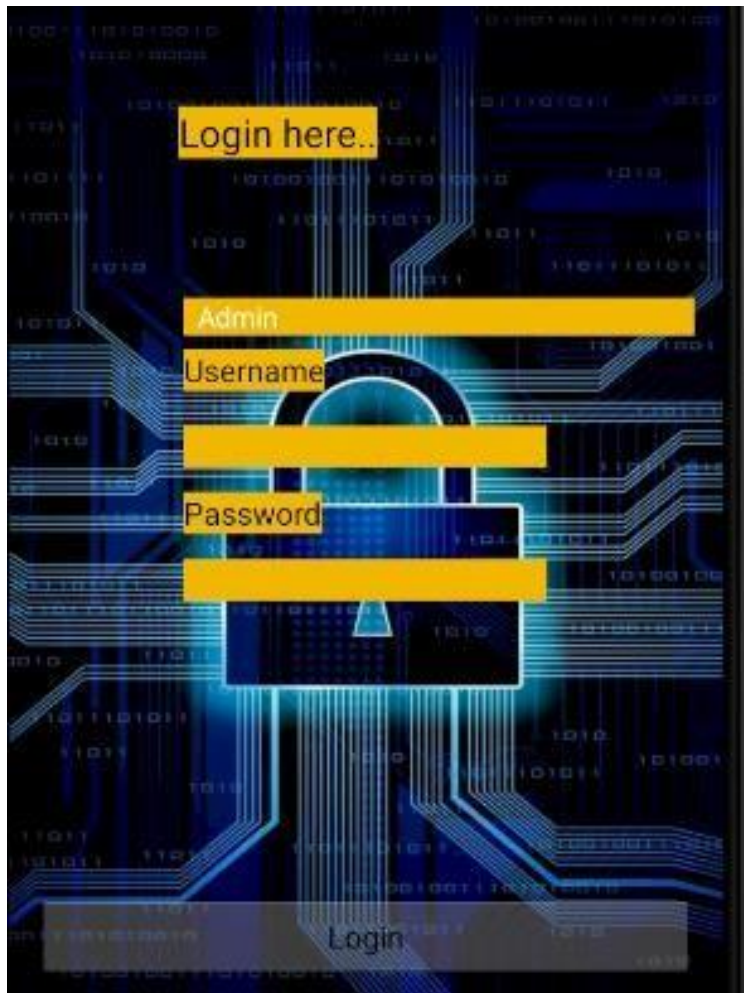
Description : This is the front page of 'Offline mode'. User should click on 'Start' in order to continue



Interface Number :09

Interface Name : Offline Mode Login Page

Description : User should fill the required fields in order to continue



Interface Number :10

Interface Name : Courses (online)

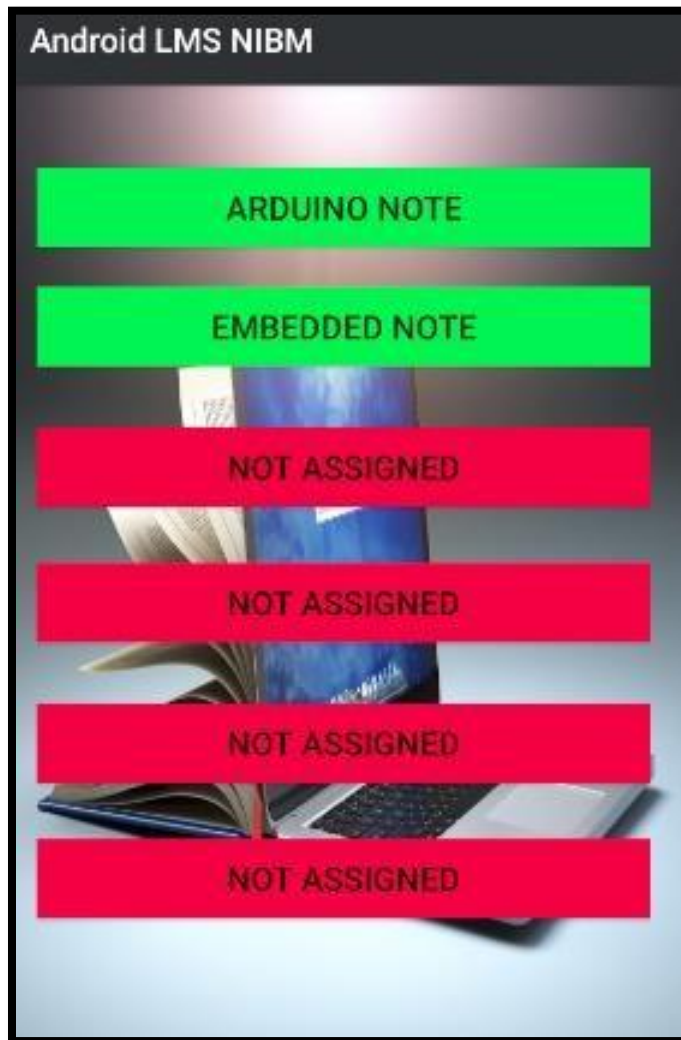
Description : Lecturer and student can view the available courses



Interface Number :11

Interface Name : Embedded Library

Description : Lecturer and Student can access the embedded library. More pdf files can be added with the requirement.



Interface Number :12

Interface Name : Embedded Pdf

Description : This is the interface of the pdf viewer (embedded library)



Interface Number :13

Interface Name : View Students

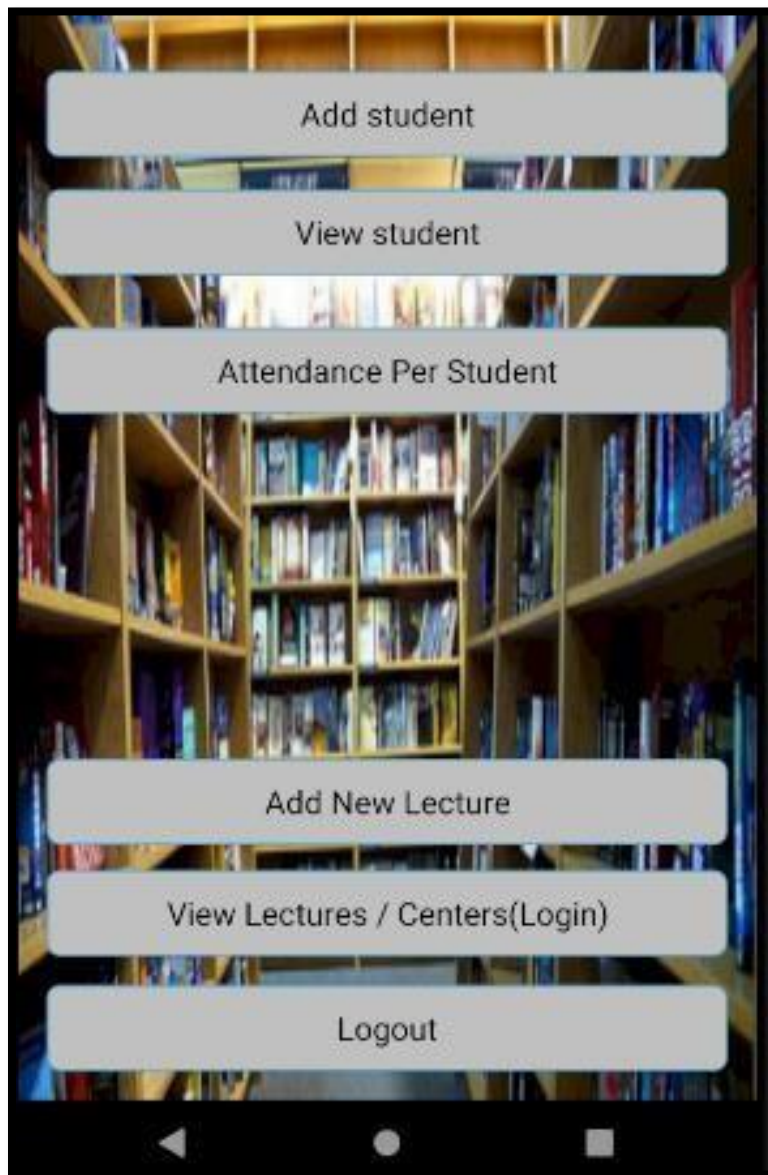
Description : Lecturer can view registered students.



Interface Number :14

Interface Name : Offline Mode Activities

Description : These are the activities of the offline mode.



Interface Number :15



Interface Name : Offline Mode Registration

Description : Admin can register new lecturers and students using this form

A screenshot of a web-based registration form titled "registration". The form is set against a dark, blurred background. It contains several input fields: "firstname" with a placeholder "firstname", "lastname" with a placeholder "lastname", "Contact" with a placeholder "phone", and "Address" with a placeholder "address". Below these are two dropdown menus: "Select dept" with "Colombo" selected, and "Select year" with "First Year" selected. At the bottom are two buttons: "submit" and "cancel".

registration

firstname
firstname

lastname
lastname

Contact
phone

Address
address

Select dept
Colombo

Select year
First Year

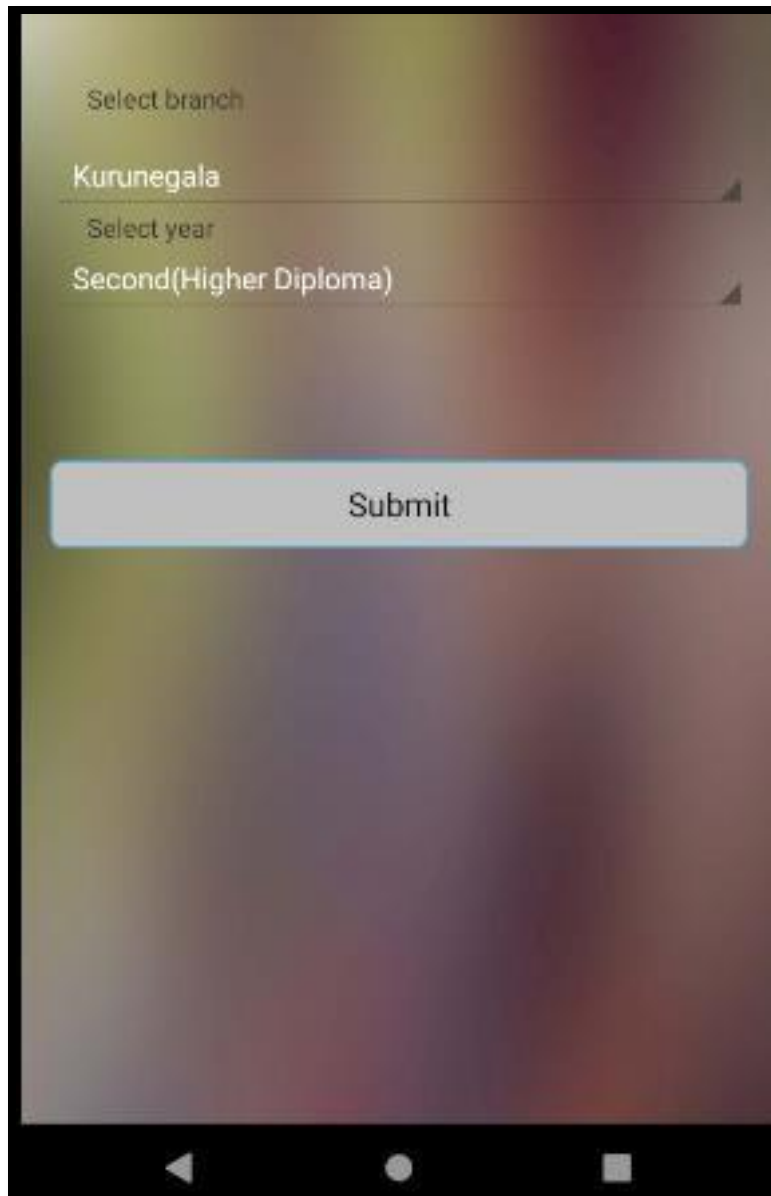
submit cancel

Interface Number :16



Interface Name : Offline Mode View Students

Description : Admin can view students who are enrolled in courses. Admin should select branch and the year they study.

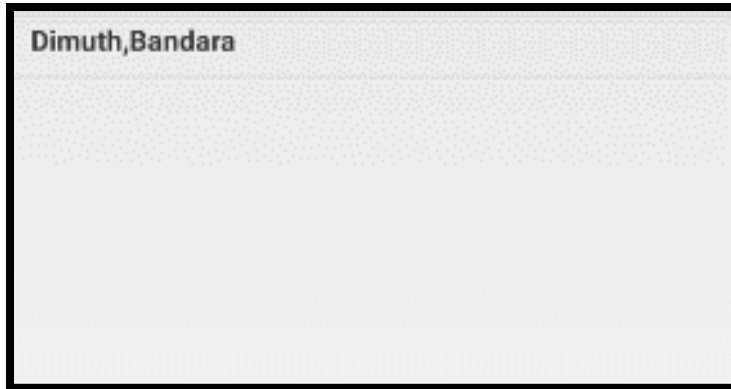
A screenshot of a mobile application interface. It features two dropdown menus. The first dropdown is labeled "Select branch" and has "Kurunegala" selected. The second dropdown is labeled "Select year" and has "Second(Higher Diploma)" selected. Below these menus is a light blue "Submit" button. The background is a blurred image of a person. At the bottom, there is a black navigation bar with three white icons: a back arrow, a circle, and a square.

Interface Number :17



Interface Name : Offline Mode User Viewer

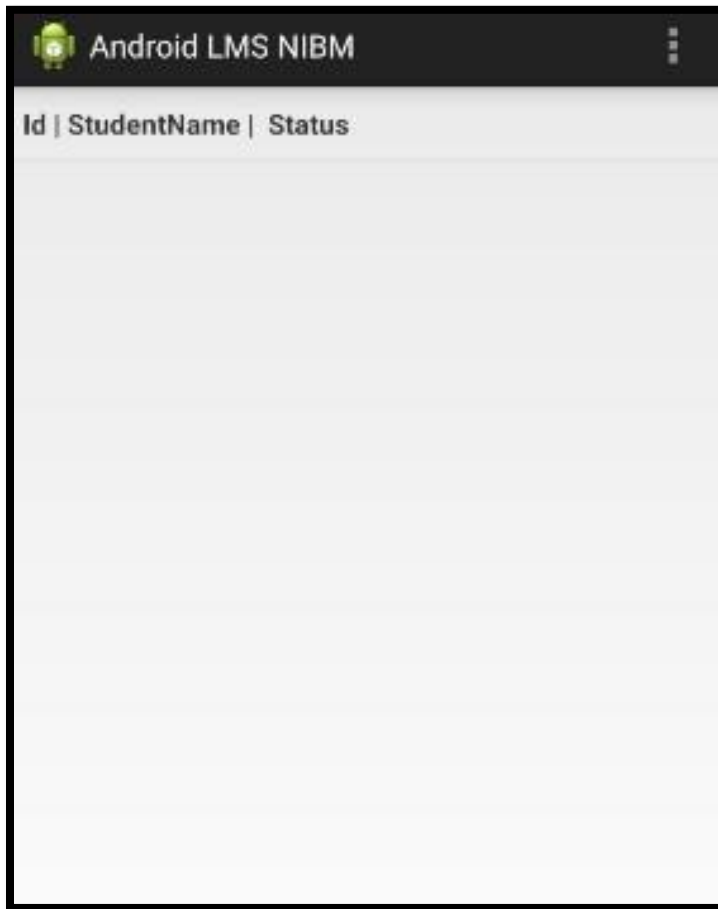
Description : User can view details of all students enrolled at once, after filling the fields correctly



Interface Number :17



Interface Name : Offline Mode View Attendance



Interface Number :18



Interface Name : Admin Add Users (firebase)

Description :Admin can add users to the system

Android LMS NIBM

Student ID	03
First Name	Dimuth C
Last Name	Bandara
Email	kudse182f005@student.n
Country	Sri Lanka
Password

SIGN UP



Interface Number :19



Interface Name : Admin Modify Users (firebase)

Description :Admin can modify existing users

A screenshot of an Android application titled "Android LMS NIBM". The interface features a dark background with orange text and input fields. The fields are labeled "Student ID", "First Name", "Last Name", "Email", "Country", and "Password". The values entered are "03", "Dimuth C", "Bandara", "kuhdse192f05@student.n", "Sri Lanka", and "....." respectively. Below the fields is an orange "APPLY" button. In the bottom right corner, there is a QR code.

Student ID	03
First Name	Dimuth C
Last Name	Bandara
Email	kuhdse192f05@student.n
Country	Sri Lanka
Password

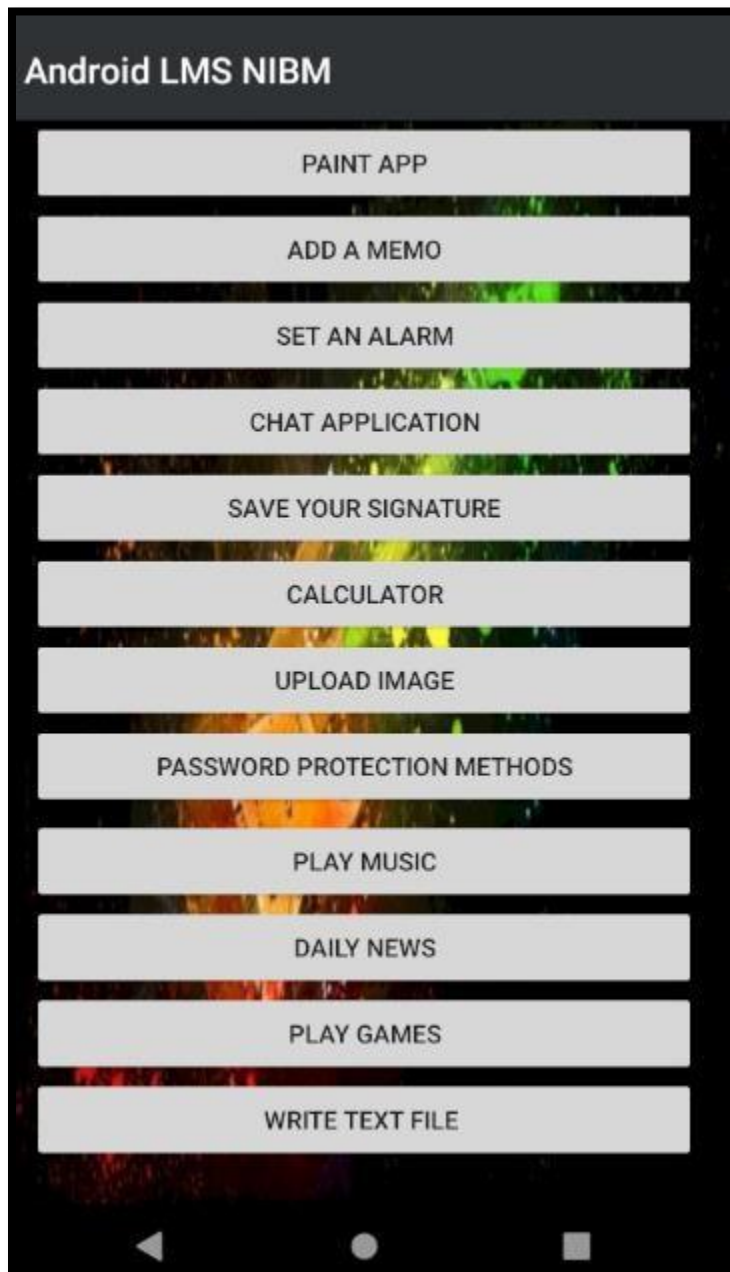
APPLY



Interface Number :20

Interface Name : Entertainment / Education

Description : Login user can engage in various entertainment activities.



Interface Number :21

Interface Name : Paint App





Interface Number :22

Interface Name : Add A Memo

Description : User can add a memo into google calendar. If he / she wants he/ she can add more users into that memo.

A screenshot of a mobile application interface titled 'Android LMS NIBM'. The interface is dark-themed with a background of colorful, semi-transparent circles. It contains a form with four text input fields: 'Event Form', 'Event Title', 'Event Location', and 'Event Description'. Below these fields is a large blue button labeled 'ADD EVENT'.

Interface Number :23

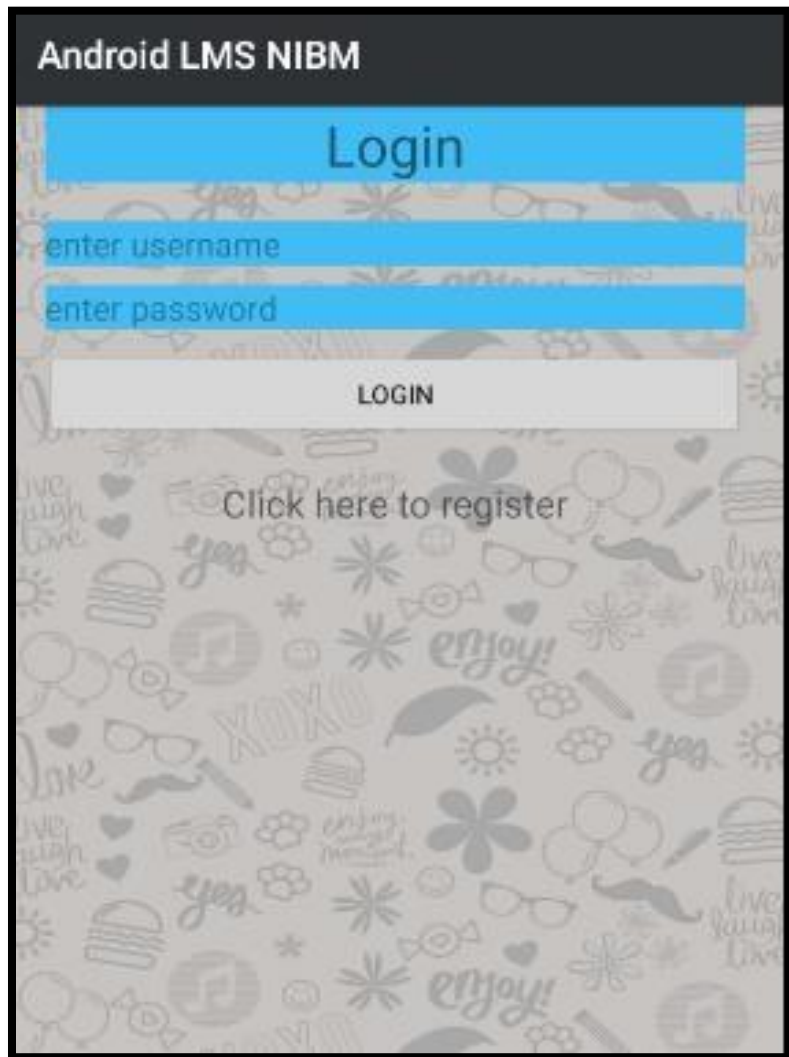
Interface Name : Add An Alarm



Interface Number :24

Interface Name : Chat Application

Description : Chat application is used to communicate between registered users (internal communication)



Interface Number :25

Interface Name : Save Signature

Description : Users can save their signatures by using this form



Interface Number :26

Interface Name : Simple Calculator

Description : Users can use the embedded calculator for their educational purposes



Interface Number :27



Interface Name : Upload Image

Description : User can upload image into a firebase database.



Interface Number :28

Interface Name : Play Music

Description : User can play mind relaxing music that are embedded inside the LMS



Interface Number :30

Interface Name : Write Text Files

Description : User can Write / Read text files using this application



Interface Number :32

Interface Name : Password Encrypting Methods

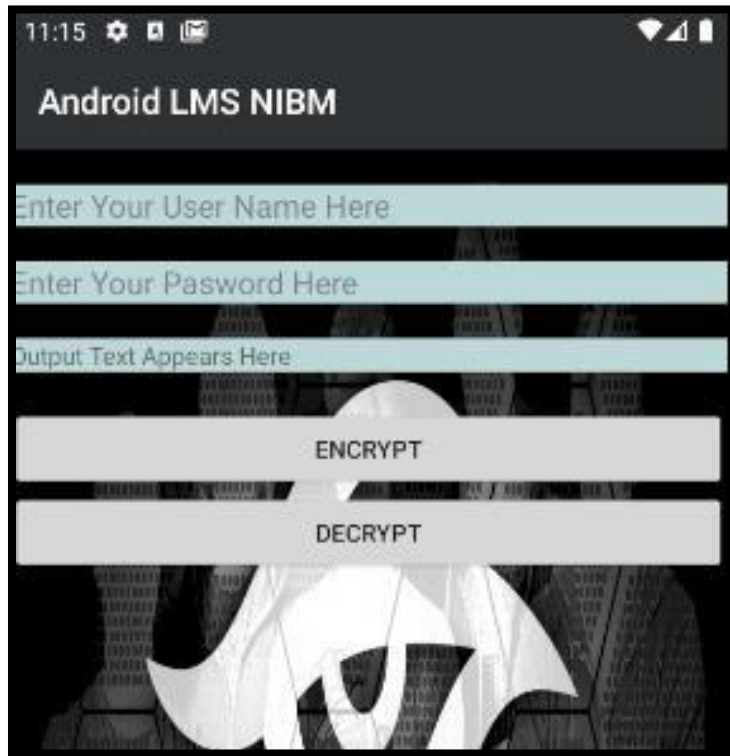
Description : This method is introduced to protect the account from unauthorized access.

If the user want he / she can use this process



Interface Number :33

Interface Name : Encrypting Methods



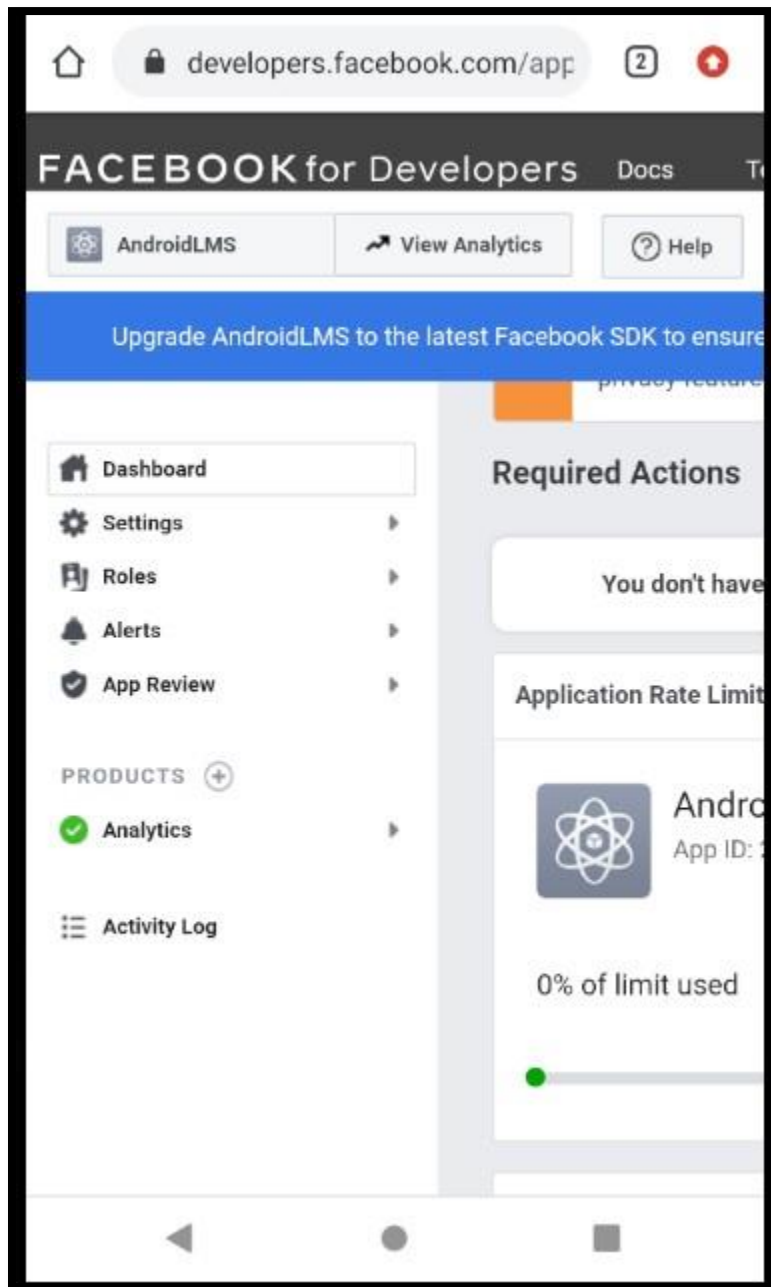
Other Interfaces

Interface Number :01

Interface Name : Interface of Facebook dashboard

Description :Admin can view facebook dashboard by clicking 'Facebook Dashboard'

button **FACEBOOK DASHBOARD** in Admin form




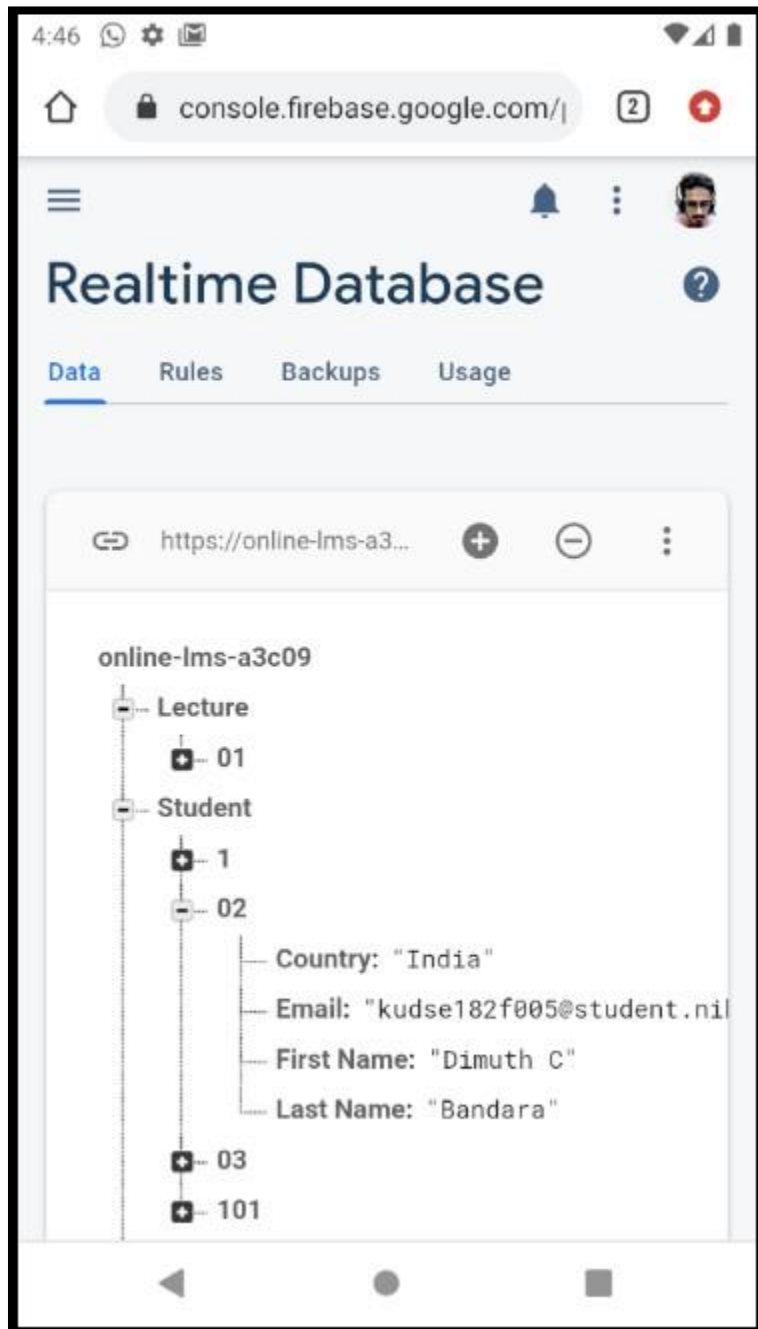
Interface Number :02



Interface Name : Interface of Firebase dashboard

Description : Admin can view Facebook dashboard by clicking 'Firebase Dashboard'

button  in Admin form

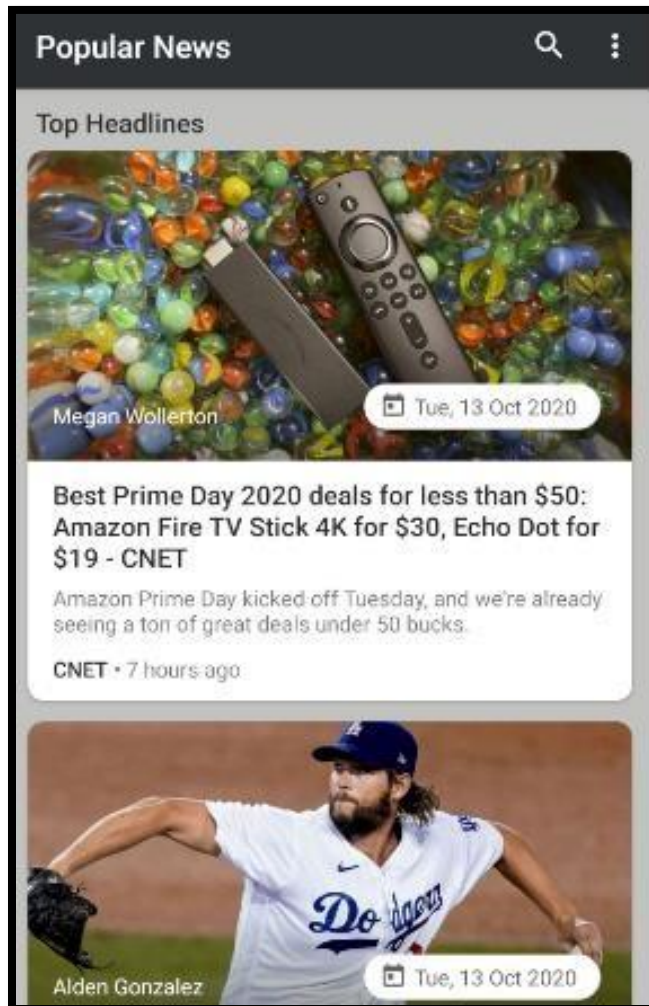




Interface Number :3

Interface Name : Daily Alerts

Description : This interface is connected to external app in order to obtain current updates.
(This is introduced due to prevailing situation of COVID-19)



Conclusion and future scope

Conclusion

This project is a solution for current existing LMS with more implemented features. Our new features include attendance calculating method, automatic refreshing mechanism , embedded calculator , embedded entertainment methods , embedded library , social media integration , offline mode , password encryption and many other new implemented features.

To Access more features of the introduced LMS user must have an active internet connection. As entertainment methods were introduced there will be attraction to introduced LMS.

Future Scope

To tap the global market and make this LMS as world's NO1 academic LMS

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Appendices

User Guide

- Users must have an active internet connection to work with online mode
- Users must have a compatible device that runs with android operating system
- First user must sign in to acquire the resources (If they are not a registered user they can sign in using their facebook account details. But,only authenticated users mentioned by the admin will be permitted to access.
- After sign in user should select the tasks that he / she expected to do.
- Offline mode is only for lectures and admins

Note-Refer the video attached with the documentation for more details