Medi-Caps Institute of Technology and Management, Indore

AUTOMODE

A Minor Project Report Submitted to

Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal

In partial fulfillment of the degree

of

Bachelor of Engineering

In

Computer Science & Engineering

<table>
<tr><td>Submitted To :</td><td>Submitted By :</td></tr>
<tr><td>Mr. Hitesh Kag</td><td>Swapnil Kuwar (0812CS141103)</td></tr>
<tr><td>Assistant Professor (CSE)</td><td>Suyash Jain (0812CS141102)</td></tr>
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Department of Computer Science and Engineering

June, 2017

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CERTIFICATE

This is to certify that **Suyash Jain (0812cs141102), Yash Gupta (0812cs141118) & Swapnil Kuwar (0812cs141103)** have completed their Minor project work titled **"AutoMode"** as per the curriculum and submitted a satisfactory report on this project as a part of fulfillment towards the degree of **Bachelor of Engineering (Computer Science & Engineering)** from **Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal.**

Signature: _____   **Signature:** _____

Name: _____   **Name:** _____

   (Project Guide)   **(Internal Examiner)**

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Signature: _____

Name: _____

(External Examiner)

ACKNOWLEDGEMENT

CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABSTRACT

Accounting for more than half of the presently used hand-held devices, Android, as an operating system, has provided users with great opportunity to innovate and get things done in a mobile device. People have started developing apps for every other need.

In today's world, mobile phones have become an inseparable part of our lives. Despite all the advantages it does have a problem of ringing anytime and anywhere! To overcome this and many other minor problems we present our project 'AutoMode' which is a profile changer. In our system we are going to change the profile of our Smartphone by using GPS. With the help of app AutoMode and its services, you can tell Android to modify its behaviour automatically based on where you happen to be.

The first part of the project involves development of a GPS service based application which would help us in locating the exact geo-position of people depending upon their current location/whereabouts and updates the profile to a desired mode based on location.

The second part of the project involves College data management onto Android enabled devices. The students won't have to double up the work as to take search for time tables and recent event list in campus. Instead a single swipe would take care of everything. Even the intuitive interface is easy to understand so that students can easily adapt themselves to use it.

1. Introduction

The App "AutoMode" is a GPS service based application which would help us in locating the exact geo-position of people depending upon their current location/whereabouts and updates the profile to a desired mode based on location. Geo-position would be displayed on the map-view on our android set and display functioning can analogue to the current usage of Google Maps. AutoMode is a mobile application that is dependent on the location of a mobile device.

Through this application, system updates the profile automatically after entering to a restricted zone. It updates the profile to a desired mode on a particular location.

"AutoMode" app feature allows user such as student in a college to get details of all events happening in college and go through timetable of every day in a single swipe rather than going through everywhere around campus. All the details of various events on that specific day will also be displayed on AutoMode.

Users can also create their user profiles through which they will be able to access services of AutoMode and get a systematic way of profile changing according to the GPS coordinates and view College information.

1.1.   Objective

Mobile phones have become an inseparable part of our lives. Despite all the advantages it does have a problem of ringing anytime and anywhere.You no doubt spend much of your day switching between locations, from home to work to the home, and reconfiguring your device each time can be a chore. On other hand students always have to double up the work as to search for searching daily schedules in college and to be in touch with recent happenings in campus. Our app AutoMode provide a systematic way of profile changing according to the location based services using GPS and also provide student best way to go through information related to college and reducing man hours in search for data in campus.

Objective of AutoMode app are:

- To provide a systematic way of profile changing according to the location based services provided via GPS and Google API.
- To provide student best way to go through information related to college and reducing man hours in search for data in campus.
- By usage of this app user can focus on his daily activities without worrying to monitor his mobile device.
- By reducing time taken in setting profile in a restricted area which user frequently visits by using app service.

In this project we can also manage the

- Fully customizable sound profiles
- Street View on map
- Getting Address from the Map
- Edit saved location mode
- Download images of event/timetable.

This system has multiple users. It may be,

- Student
- Staff
- Work Employees and home users

1.2. Scope

This "AutoMode" software is an android based mobile application which is a GPS service based application which would help us in locating the exact geo-position of people depending upon their current location/whereabouts and updates the profile to a desired mode based on entering to a restricted zone already saved.

"AutoMode" app feature allows user such as student in a college to get details of all events happening in college and go through timetable of every day in a single swipe rather than going through everywhere around campus. This app can be used at any location which is available on google map.

The administrator shall register the users on the app for use. The users shall set the location via input location where they want a desired profile. The details of login will be stored on a database which the admin can access after correct login and rest information would be stored on mobile system database.

The database is stored on a server for shared access by user and admin. The application should be provided permissions to use the internet connectivity and to access your device location using GPS turned ON.

1.3. Problem Domain

In today's world, mobile phones have become an inseparable part of our lives. Despite all the advantages it does have a problem of ringing anytime and anywhere!. You no doubt spend much of your day switching between locations, from home to work to the home, and reconfiguring your device each time can be a chore. On other hand students always have to double up the work as to search for searching daily schedules in college and to be in touch with recent happenings in campus.

We aim to create an application that would help us in locating the exact geo-position of people depending upon their current location/whereabouts and updates the profile to a desired mode based on location. Through this application, system updates the profile automatically after entering to a restricted zone. It updates the profile to a desired mode on a particular location.

This application would also help a student in a college to get details of all events happening in college and go through timetable of every day in a single swipe rather than going through everywhere around campus. All the details of various events on that specific day will also be displayed on AutoMode.

1.4. Solution Domain

AutoMode is an applications that exploit the knowledge of the geographical position of a mobile device in order to provide services based on that information. This application allows user to input locations by typing in the addresses or by selecting location from Google maps then saving it. Then the purpose of this app would be capable of taking decision on profile setting to be changed depending on the location in which the mobile would be operating and send an alert accordingly to a mobile and occasionally updates in ringtone profile. User can also edit saved locations and change mode for particular.

AutoMode also ease the access of information related to college for a student by providing a systematic way to access daily timetables of lectures and recent events happening in college. User is allowed to download documents and images of recent happenings by simple click and can later be viewed and shared among friends.

1.5. Platform Specification

In our application we have use Android Studio. It provides the fastest tools for building apps on every type of Android device. World-class code editing, debugging, performance tooling, a flexible build system, and an instant build/deploy system all allow you to focus on building unique and high quality apps.

In our application, we have used Map Views as supported by Google APIs 10 or higher which would allow the use of app in devices starting from Kitkat We have used an Apache Tomcat software & MySQL support for remote database use. The data transaction from or to the database occurs with the help of servlets (Used for synchronizing data stored in database and provides accessibility in front end).

 The android end of the app handles this call through HTTP clients. Map controllers are enabled. Locations are extracted from the device with the help of the GPS module available.

1.5.1 Hardware

HARDWARE SPECIFICATIONS :	
Device	Any Android Enabled Handheld
Disk Space Requirement	Application's need of memory on secondary storage Disk space required: 25 Mb. Unit: Mb (Megabyte)
Application memory usage	The amount of Operate System memory occupied by the application Disk space required: 200 Mb Unit: Mb (Megabyte)
Android OS Version	Kitkat & Above
Google Maps API	Google Maps API Compatible

Since the mobile application does not have any designated hardware, it does not have any direct hardware interfaces. The physical GPS is managed by the GPS application in the mobile phone and the hardware connection to the database server is managed by the underlying operating system on the mobile phone.

1.5.2 Software

As it has been stated earlier, AutoMode runs on any android device so it does not need any specific software from the user end. But it does make use of native android libraries which are included in the app package itself.

SOFTWARE SPECIFICATIONS :	
Server Side	Web Server – Apache Tomcat software
Server Side	Database Server – MySQL 4.1 or higher
Client End	Android
Client End Database	SQLite Database

The following dependencies are required by the app in android build gradle file :

- com.android.support:appcompat-v7:22.1.0
- com.android.support:support-v4:22.0.1
- com.google.android.gms:play-services-maps:8.4.0
- com.google.android.gms:play-services-location:8.4.0
- com.google.android.gms:play-services-gcm:8.4.0
- com.squareup.okhttp3:okhttp:3.6.0

TOOLS USED:	
Android Studio	The Official IDE for Android
Net Beans IDE	Used for providing integrated environment and for database connectivity.
Adobe Illustrator	Used for designing basic structure and design of website.
MySQL	Used for storing data and various updates in structured form in databases.

2. System Requirement Analysis

2.1 Information Gathering

Information gathering refers to gathering information about the issue you're facing and the ways other organisations and communities have addressed it. The more information you have about the issue itself and the ways it has been approached, the more likely you are to be able to devise an effective program or intervention of your own.

2.1.1 Functional Requirement

These are the statements of services the system should provide, how the system should react to a particular inputs and how the system should behave in a particular situation.

- User registration

Given that a user has downloaded the mobile application, then the user should be able to register through the mobile application. The user must provide required details such as name, email, password and confirm password.

- User Log-in

Given that a user has registered, then the user should be able to login in to the mobile application. The login information will be stored on the phone and in the future the user should be logged in automatically.

- Location Tab

Given that a user downloaded the mobile application, then the first page that is shown should be the Location tab. The user should be able to use the main services of app (related to changing profile based on location) from this page.

- Places Tab

Given that a user has log in successfully, then this page is obtain by swiping right to main page which results in Places tab. The user should be able to use the services related to retrieving college information from this page.

- Current Mode

The user once on location tab, can set Current Mode of mobile using this page. Profile can be set as Sound, Vibrate, Silent.

- Input Location

User can input desired location in search bar (using text or voice) and would be navigated to that location on map using Google map service. Further entered input location will direct to specified location on map and would be set by a marker which can be saved.

- Location match found

If no match is found for entered location, the user should be informed but kept on the search page in order to get the possibility of new search.

- Saved Location

User can view the saved location (saved previously in input location). The list view for each saved location will contain location id, complete address, latitude and longitude of location and mode set at that location. User here will be able to change mode of particular saved location and delete that location also from the list view.

- College Information

User can view college information like daily timetable and events which can downloaded from internet in pdf format.

- GPS check

When user log in successfully, on first page user will be asked to enable mobile GPS so as to use Google map services.

2.1.2 Non Functional Requirement

In requirement engineering, a non functional requirement is a requirement that specifies criteria that can be used to judge the operation of a system rather than specific behaviours.

The performance requirements are as follows:

- System login/logout shall take less than 5 seconds.
- Searches shall return results within 10 seconds.

- Reliability

The reliability of the system will ensure that the system gives the right result on a search. In testing more than 98% of the searches must be reliable.

- Availability:

Application will be available to user 24x7. This will provide flexibility to the user to use services of app at any time.

- GPS Connection:

The app should be connected to the GPS device. In order for the app to get the user's location, the map and to calculate the distance

- Internet Connection:

The app should be connected to the Internet. In order for the app to communicate with the database.

- Security:

We will provide well equipped security features so that authorized user can only login and also our application will be safe from malicious users.

- Maintainability:

  - Application extendibility:

  Our software can easily extended in near future. The code should be written in a way that it favors implementation of new functions. Any updates or defect fixes shall be able to be made on server-side computers only without any patches required by the user.

  - Application testability:

  Test environments should be built for the application to allow testing of the application's different functions.

- Portability:

Our application can be run on android enabled phones having android OS (SDK 17 to SDK 23)

2.2 System Feasibility

System feasibility aim to objectively and rationally uncover the strengths and weaknesses of an existing business or proposed venture, opportunities and threats present in the environment, the resources required to carry through, and ultimately the prospects for success.

The feasibility study activity involves the analysis of the problem and collection of the relevant information relating to the project. The main aim of the feasibility study is to determine whether it would be financially and technically feasible to develop the product.

2.2.1 Operational Feasibility

Operational feasibility is the measure of how well the project will support the customer and the service provider during the operational phase. It is dependent on human resources available for the project and involves projecting whether the system will be used if it is developed and implemented.

2.2.2 Technical Feasibility

This assessment is focused on gaining an understanding of the present technical resources of the organization and their applicability to the expected needs of the proposed system. It is an evaluation of the hardware and software and how it meets the needs of the proposed system. The systems project is considered technically feasible if the internal technical capability is sufficient to support the project requirements.

Technical feasibility also performs the following tasks.

- Analyzes the technical skills and capabilities of the software development team members
- Determines whether the relevant technology is stable and established
- Ascertains that the technology chosen for software development has a large number of users so that they can be consulted when problems arise or improvements are required.

2.2.3 Economical Feasibility

This assessment aims to determine the positive economic benefits to the organization that the proposed system will provide. It typically involves a cost/ benefits analysis and it's the most frequently used method for evaluating the effectiveness of a new proposed system. Economic justification is generally the bottom line consideration for most system. Economic justification includes broad range of concerns that includes cost benefit analysis. It involves estimating benefits and costs. These benefits and cost may be tangible or intangible.

3. System Design

3.1 Use Case Diagram

A use case diagram at its simplest is a representation of a user's interaction with the system and depicting the specifications of a use case. A use case diagram can portray the different types of users of a system and the various sways that they interact with the system. This type of diagram is typically used in conjunction with the textual use case and will often be accompanied by other types of diagrams as well.

Actors

The actors, usually individuals involved with the system defined according to their roles.

There are 2 actors:

- User
- Admin

Use Cases

The use cases, are the specific roles played by the actors within and around the system. This subsection extends upon the functional requirements through the presentation of detailed use cases. There are following Use cases in this project:

- Register
- Login
- View College Information
- Update College Information
- Account Details
- Set Location
- View Saved Location
- Check Current Mode

System Boundary

It provides use case containment behaviour. It usually describes the system by grouping the use cases in the rectangle boundary in Visual Paradigm provides use case behaviour.

Use Case diagram

To facilitate an unambiguous and clear view of how the end-users interact, how the actors (end-users) are involved in the use cases, a use case diagram is provided:
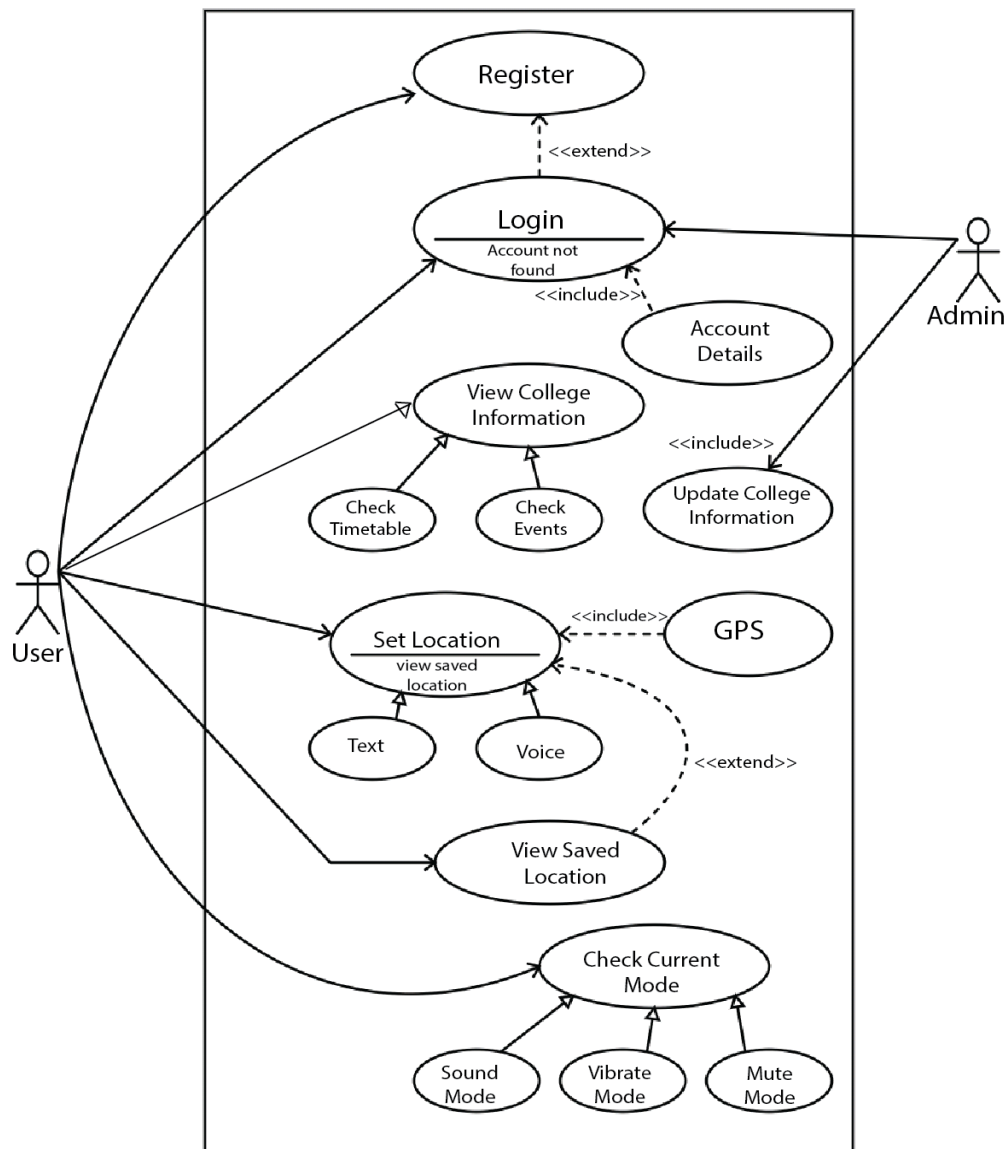
3.2 Class Diagram

A class diagram in the Unified Modeling Language (UML) is a type of static structure diagram that describes the structure of a system by showing the system's classes, their attributes, operations (or methods), and the relationships among objects.

Class diagram is basically a graphical representation of the static view of the system and represents different aspects of the application. So a collection of class diagrams represents the whole system.

Classes

- User
- Automode
- SetLocation
- ViewSavedLocation
- SetCurrentMode
- ViewCollegeInfo
- Admin

Attributes

- User - username, email ,password
- Automode – getemail, getpassword, setgps
- SetLocation – inp_add, lat_loc, lon_loc
- ViewSavedLocation – loc_id, add_detail, add_mode
- SetCurrentMode – curr_mode
- ViewCollegeInfo – tt_detail, event_detail
- Admin – name, details

Generalization shown in:

- Update Timetable and Update Event to Admin
- Visitor and Admin To User

Automode

-getemail
-getpassword
-setgps

+check_gps()
+check_net()
+set_homepage()

User

-username
-email
-password

+register()
+login()
+logout()

1 — 1...*

1   1   1   1

1...*   1...*   1...*   1...*

SetLocation

-inp_add
-lat_loc
-long_loc

+save_data()
+srch_add()
+set_marker()
+save_loc()

View SavedLocation

-loc_id
-add_detail
-add_mode

+change_mode()
+delete_add()

Set Current mode

-curr_mode

+set_mode()

View College info.

-tt_details
-event_details

+view_tt()
+view_event()

Visitor

-name
_user_details

+navi_bar()

Admin

-name
-details

+add_tt()
+add_event()

Update timetable

-tt_details

+add_tt()
+delete_tt()

**Update event**

-event_details

+add_event()
+delete_event(

3.3 Sequence Diagram

A Sequence diagram is an interaction diagram that shows how processes operate with one another and in what order. It is a construct of a Message Sequence Chart. A sequence diagram shows object interactions arranged in time sequence. It depicts the objects and classes involved in the scenario and the sequence of messages exchanged between the objects needed to carry out the functionality of the scenario

A sequence diagram shows, as parallel vertical lines (*lifelines*), different processes or objects that live simultaneously, and, as horizontal arrows, the messages exchanged between them, in the order in which they occur. This allows the specification of simple runtime scenarios in a graphical manner.
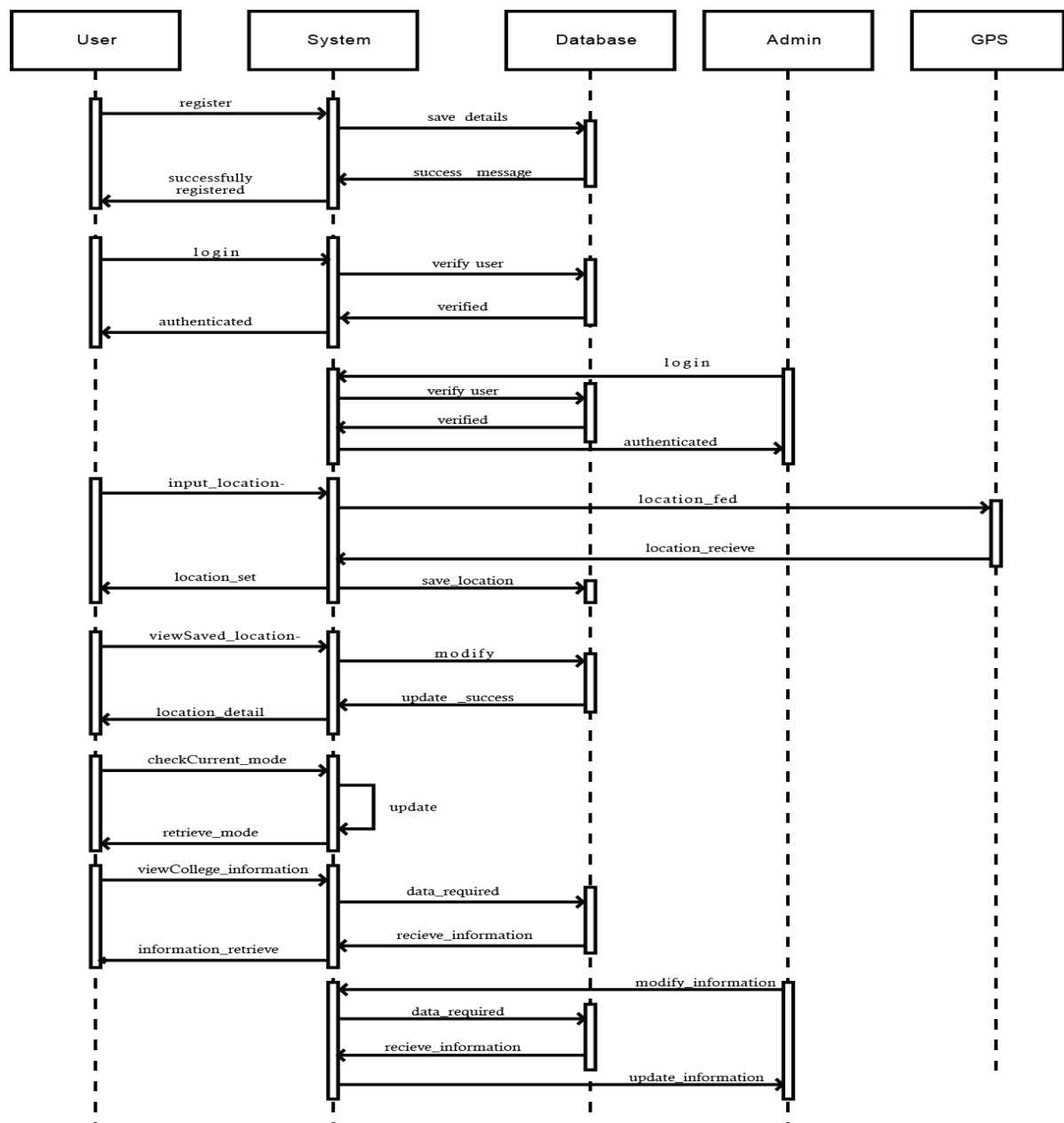
3.4 Activity Diagram

Activity diagrams are graphical representations of workflows of stepwise activities and actions with support for choice, iteration and concurrency. In the Unified Modeling Language, activity diagrams are intended to model both computational and organizational processes (i.e. workflows). Activity diagrams show the overall flow of control. The basic purposes of activity diagrams are similar to other four diagrams. It captures the dynamic behaviour of the system.
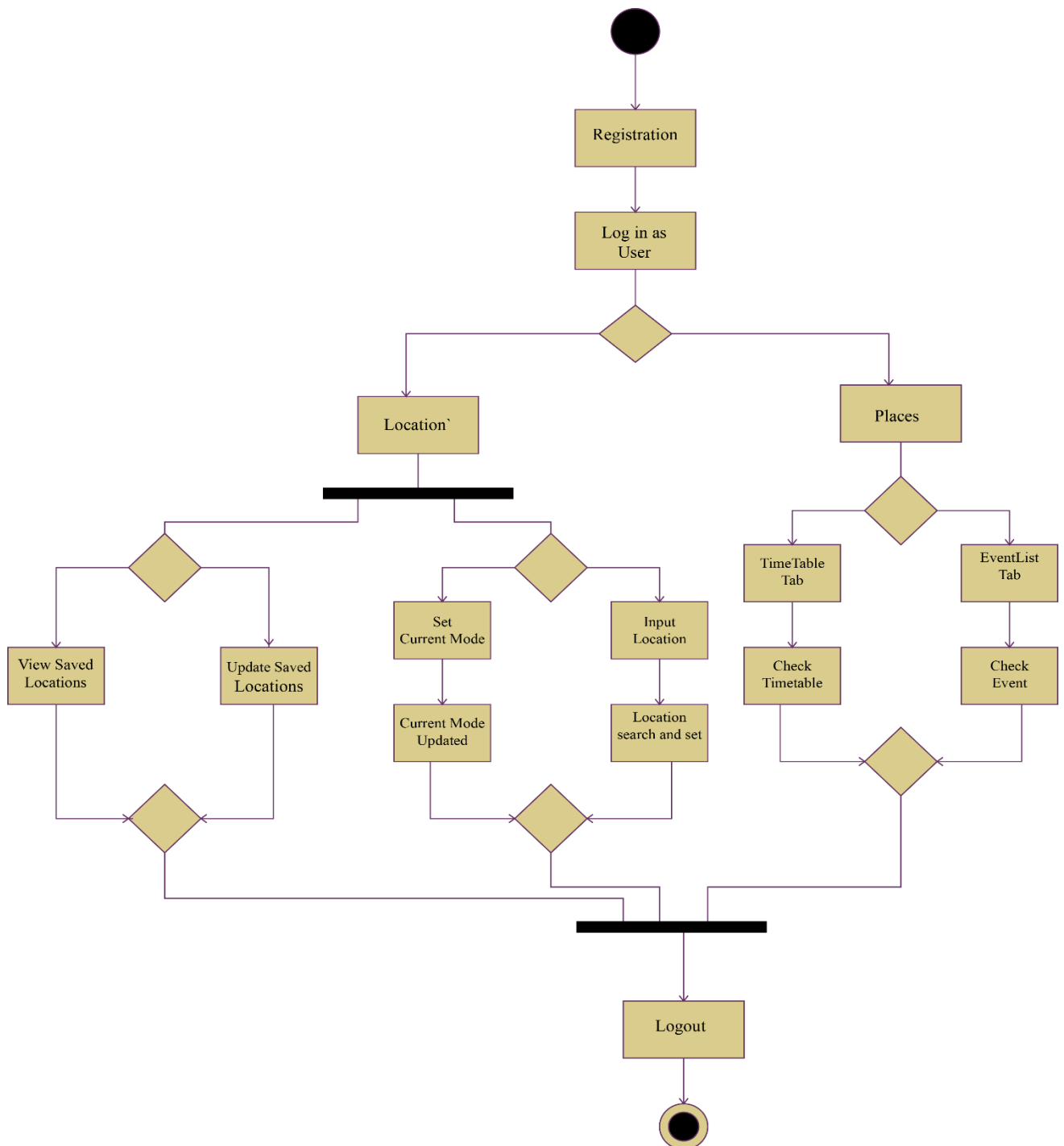
3.5 Data Flow Diagram

A way to model a real world situation. They are the interface between the real world activities and an understanding of how this can be converted into a computer system. It is a way of taking the physical view and converting it into a logical view.

The physical view - all documents involved

The logical view - the data they contain

The main purpose is to communicate with the user, the analyst's understanding the scope of the required system.

The four main elements of DFDs notation

- Data Flows, with a label to indicate what data is flowing
- Processes, that handle the data
- Data stores, within the system (diary, filing or computer file)
- Outside entities, outside sources of data

In DFD of our application elements are:

- Processes :
  - MODIFY COLLEGE INFORMATION
  - VIEWING/MODIFY SAVED LOCATION
  - CHANGING MODE
  - SETTING LOCATION &MODE
  - VIEW COLLEGE INFORMATION
  - REGISTER & LOGIN
- Data stores :
  - Mobile Mode Database
  - Location Stored Database
  - User Login Info Database
  - College Database
- Outside entities :
  - User
  - Admin
  - GPS

DFD Level 0 shows the system's major processes, data flows, and data stores at a high level of abstraction.

`
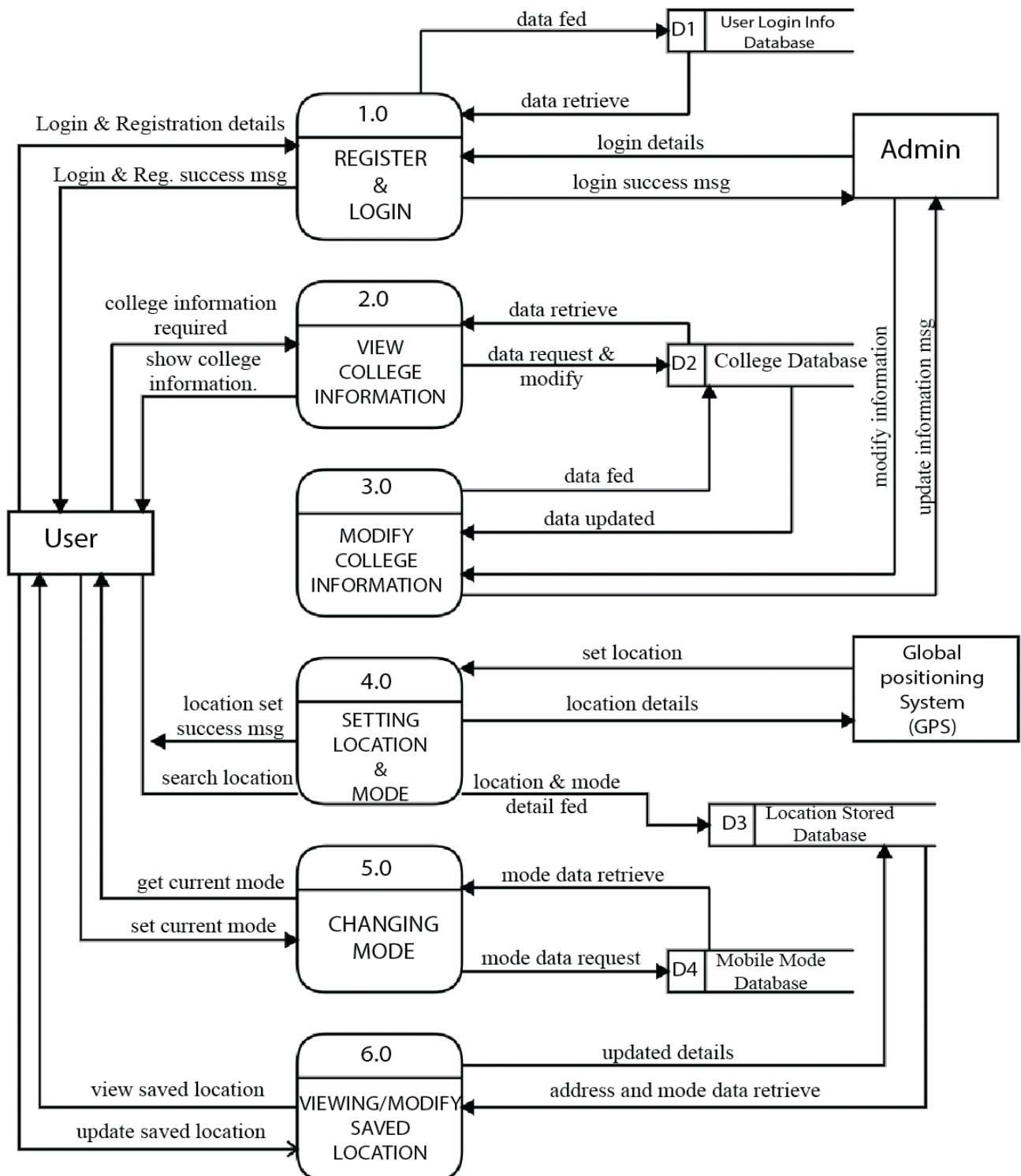
4. Database Design

Designing data is about discovering and completely defining your application's data characteristics and processes. Data design is a process of gradual refinement, from the coarse "What data does your application require?" to the precise data structures and processes that provide it. With a good data design, your application's data access is fast, easily maintained, and can gracefully accept future enhancements.
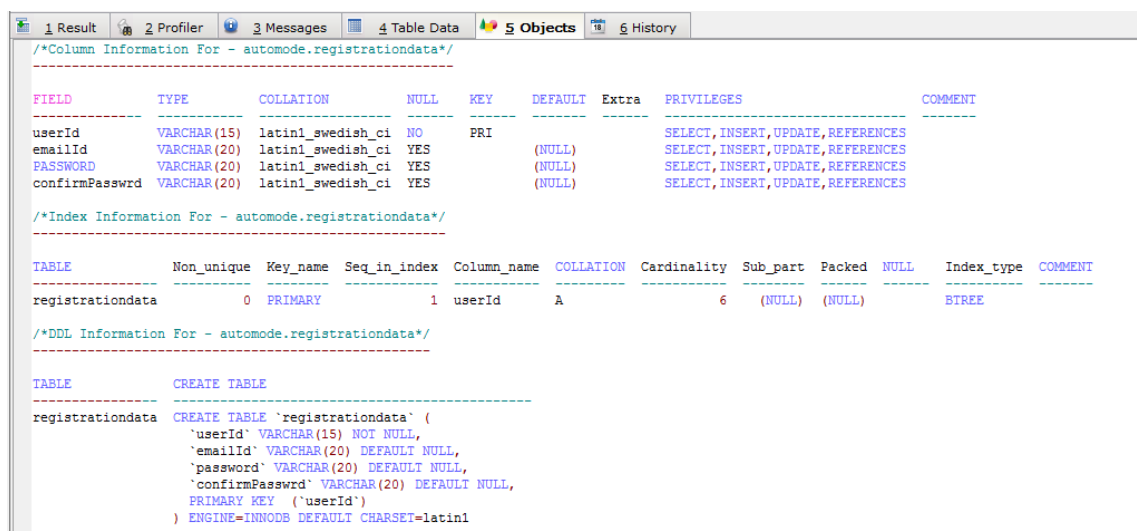
4.1 Data Design

AutoMode app makes use of **three** tables for its working, namely:

- Registrationdata
- Timetable
- EventList

As the name suggests each table holds data about the respective field. The software makes use of the data stored in the database directly and so it needs no database operations to work on. All the primary keys are marked by a golden key opposite to it. It is important to note that at time of login, userId and its corresponding password is check form database of table registrationdata.

- Registrationdata Database Table Structure

- Table data Entries

	userId	emailId	password	confirmPasswrd
☐	sam	sam45@gmail.com	456789	456789
☐	Sanjay121	sanjay67@gmail.com	san123	san123
☐	sidd308	siddharthjain308@gma	12345	12345
☐	suyash	suyashj96@gmail.com	123456	123456
☐	swapnil	swapnil12@gmail.com	swap123	swap123
☐	yashgupta	yashj16@gmail.com	yash123	yash123
*		(NULL)	(NULL)	(NULL)

- Timetable Database Table Structure


```
/*Column Information For - automode.timetable*/
-------------------------------------------

FIELD     TYPE          COLLATION          NULL   KEY     DEFAULT  Extra  PRIVILEGES                            COMMENT
-------   -----------   ---------------    ----   ------  -------  -----  ----------------------------------    -------
dayId     INT(10)       (NULL)             NO     PRI              SELECT,INSERT,UPDATE,REFERENCES
DAYNAME   VARCHAR(15)   latin1_swedish_ci  YES            (NULL)          SELECT,INSERT,UPDATE,REFERENCES
url       VARCHAR(200)  latin1_swedish_ci  YES            (NULL)          SELECT,INSERT,UPDATE,REFERENCES

/*Index Information For - automode.timetable*/
-------------------------------------------

TABLE       Non_unique  Key_name  Seq_in_index  Column_name  COLLATION  Cardinality  Sub_part  Packed  NULL  Index_type  COMMENT
---------   ----------  --------  ------------  -----------  ---------  -----------  --------  ------  ----  ----------  -------
timetable        0      PRIMARY         1       dayId        A                 5      (NULL)   (NULL)        BTREE

/*DDL Information For - automode.timetable*/
-------------------------------------------

TABLE       CREATE TABLE
---------   ---------------------------------------
timetable   CREATE TABLE `timetable` (
              `dayId` INT(10) NOT NULL,
              `dayName` VARCHAR(15) DEFAULT NULL,
              `url` VARCHAR(200) DEFAULT NULL,
              PRIMARY KEY (`dayId`)
            ) ENGINE=INNODB DEFAULT CHARSET=latin1
```

- Table data Entries

	eventId	eventName	url
☐	1	event1	https://lh6.googleusercontent.com/hoIyQ14vkJpyVvB2r1s7SB1H2I4csUOsSm2_jrHJI7oT5qGexxvXhamMqf
☐	2	event2	https://lh5.googleusercontent.com/1F0kdnW__dZi9FKM0T4-13-vF8jx7stBwaUE7D6tZ94Dz5mM2OVADH1e-y
*		(NULL)	(NULL)

- EventList Database Table Structure

```
1 Result    2 Profiler    3 Messages    4 Table Data    5 Objects    6 History
/*Column Information For - automode.eventlist*/
------------------------------------------------

FIELD       TYPE           COLLATION          NULL    KEY    DEFAULT  Extra   PRIVILEGES                        COMMENT
---------   ------------   ------------------ ------  ------ -------  ------  ------------------------------    -------
eventId     INT(10)        (NULL)             NO      PRI                     SELECT,INSERT,UPDATE,REFERENCES
eventName   VARCHAR(50)    latin1_swedish_ci  YES            (NULL)           SELECT,INSERT,UPDATE,REFERENCES
url         VARCHAR(200)   latin1_swedish_ci  YES            (NULL)           SELECT,INSERT,UPDATE,REFERENCES

/*Index Information For - automode.eventlist*/
------------------------------------------------

TABLE       Non_unique  Key_name  Seq_in_index  Column_name  COLLATION  Cardinality  Sub_part  Packed  NULL   Index_type  COMMENT
---------   ----------  --------   ------------  -----------  ---------  -----------  --------  ------  ------ ----------  -------
eventlist           0   PRIMARY             1    eventId      A                    2  (NULL)   (NULL)         BTREE

/*DDL Information For - automode.eventlist*/
------------------------------------------------

TABLE       CREATE TABLE
---------   ------------------------------------------
eventlist   CREATE TABLE `eventlist` (
              `eventId` INT(10) NOT NULL,
              `eventName` VARCHAR(50) DEFAULT NULL,
              `url` VARCHAR(200) DEFAULT NULL,
              PRIMARY KEY  (`eventId`)
            ) ENGINE=INNODB DEFAULT CHARSET=latin1
```
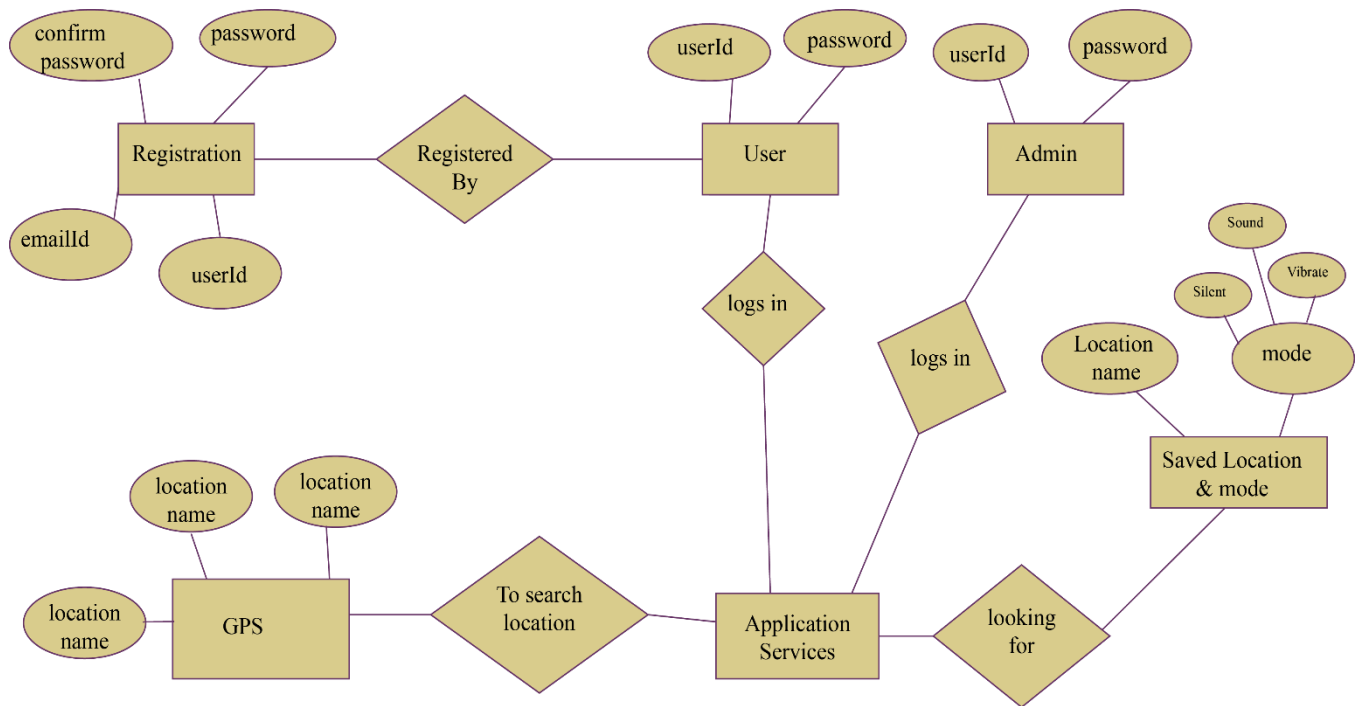
- Table data Entries

```
1 Result    2 Profiler    3 Messages    4 Table Data    5 Objects    6 History
        All Rows   Rows in a Range   First Row: 0      No. of Rows: 50    Refresh
```

	dayId	dayName	url
□	1	monday	https://lh4.googleusercontent.com/geLBqOS7NQigzeR3p8JK_i5-CiwcY55U6aQCo7anHI131_03detJ_X0XgWYE
□	2	tuesday	https://lh3.googleusercontent.com/wM5VHg8NqmyyKk5nShAkQL0SfOsbntDkNTSHzh3IriYB_J4WIkz2jwde_RYZ
□	3	wednesday	https://lh4.googleusercontent.com/4-kocVGbLRU95pFyeNCB86jTVJdbuoqpAzgjIxJ588B3qZpw-LgE9ESCD1sk
□	4	thursday	https://lh6.googleusercontent.com/fvWFKObwFgn-gGts6Hol-fDLDNzLGJvwjt_ZyEFT7cqqAWbynyJECFc9Fdqv
□	5	friday	https://lh6.googleusercontent.com/vLo_CBMGSMBVInzCdcAS8Fs9LS6ScjF6mR8FlD9oJ4OT8DiW6pIug86gpanS
*		(NULL)	(NULL)

4.1.1 ER Diagram

Registered, User, Admin, Saved location & mode, GPS are entities with properties associated with them. Relationships such as registration, log in, looking save location & mode, search location etc. exists among entities.

22

confirm password

password

userId

password

userId

password

Registration

Registered By

User

Admin

emailId

userId

logs in

Sound

Vibrate

Silent

Location name

mode

logs in

Saved Location & mode

location name

location name

location name

GPS

To search location

Application Services

looking for

4.2 System Architecture

The architectural design is the design process for identifying the subsystems making up the system and framework for subsystem control and communication. The goal of architectural design is to establish the overall structure of software system.

A system architecture is the conceptual model that defines the structure, behavior, and more views of a system. An architecture description is a formal description and representation of a system, organized in a way that supports reasoning about the structures of the system.

A system architecture can comprise system components, the externally visible properties of those components, the relationships (e.g. the behavior) between them. It can provide a plan from which products can be procured, and systems developed, that will work together to implement the overall system. There have been efforts to formalize languages to describe system architecture, collectively these are called architecture description languages (ADLs).

A system architecture is primarily concerned with the internal interfaces among the system's components or subsystems, and the interface between the system and its external environment, especially the user.

4.1.2 Structure Chart:
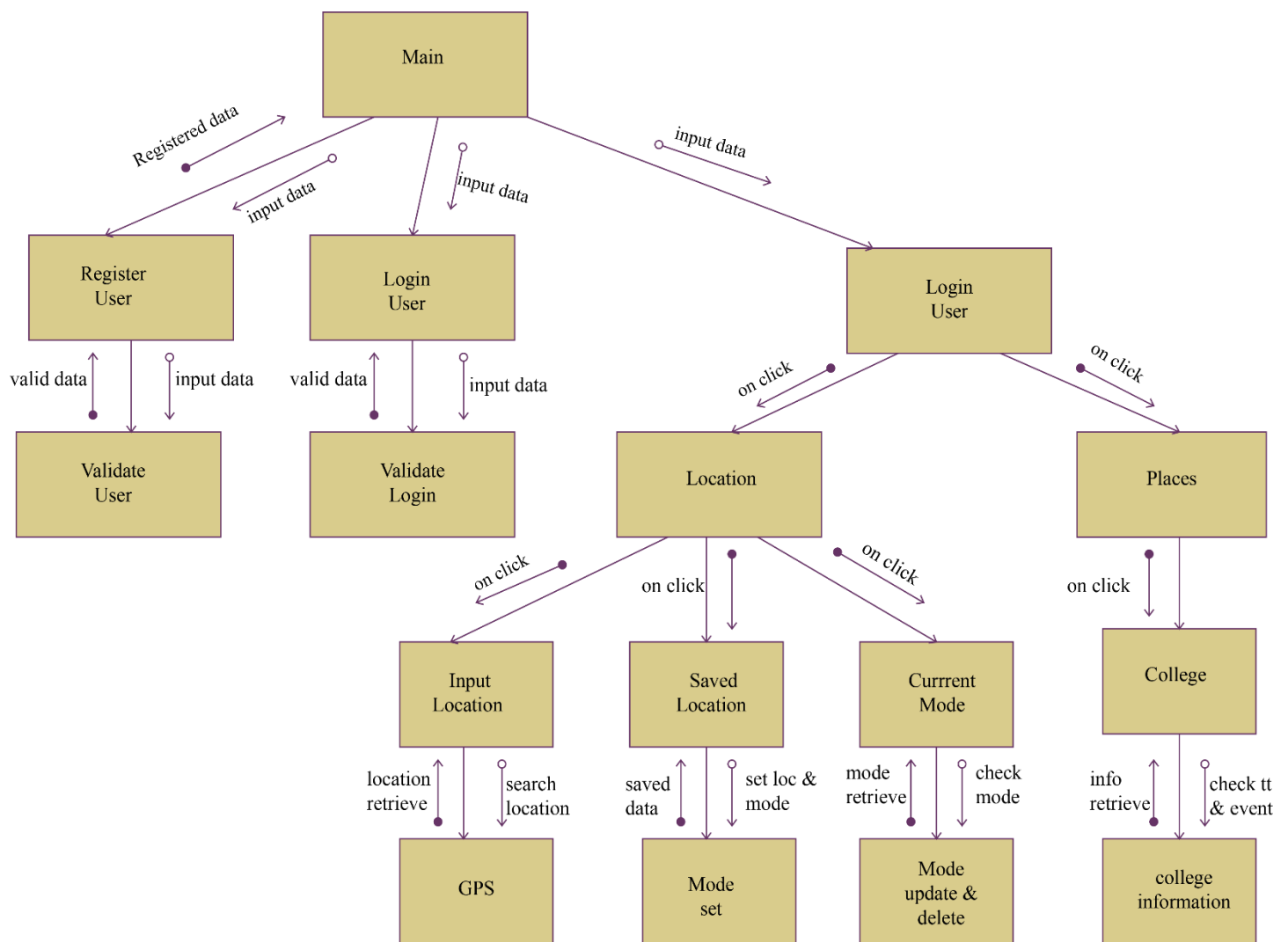
5. Implementation

A module interface expresses the elements that are provided and required by the module. The elements defined in the interface are detectable by other modules. The implementation contains the working code that corresponds to the elements declared in the interface. There are several modules in our project. Software architecture possesses modularity. i.e., software is divided into separately named and addressable components often called modules that are integrated which satisfy problem requirements.

5.1 Implementation of Module

The user interface of AutoMode app is explained through the following System Interface Diagram:
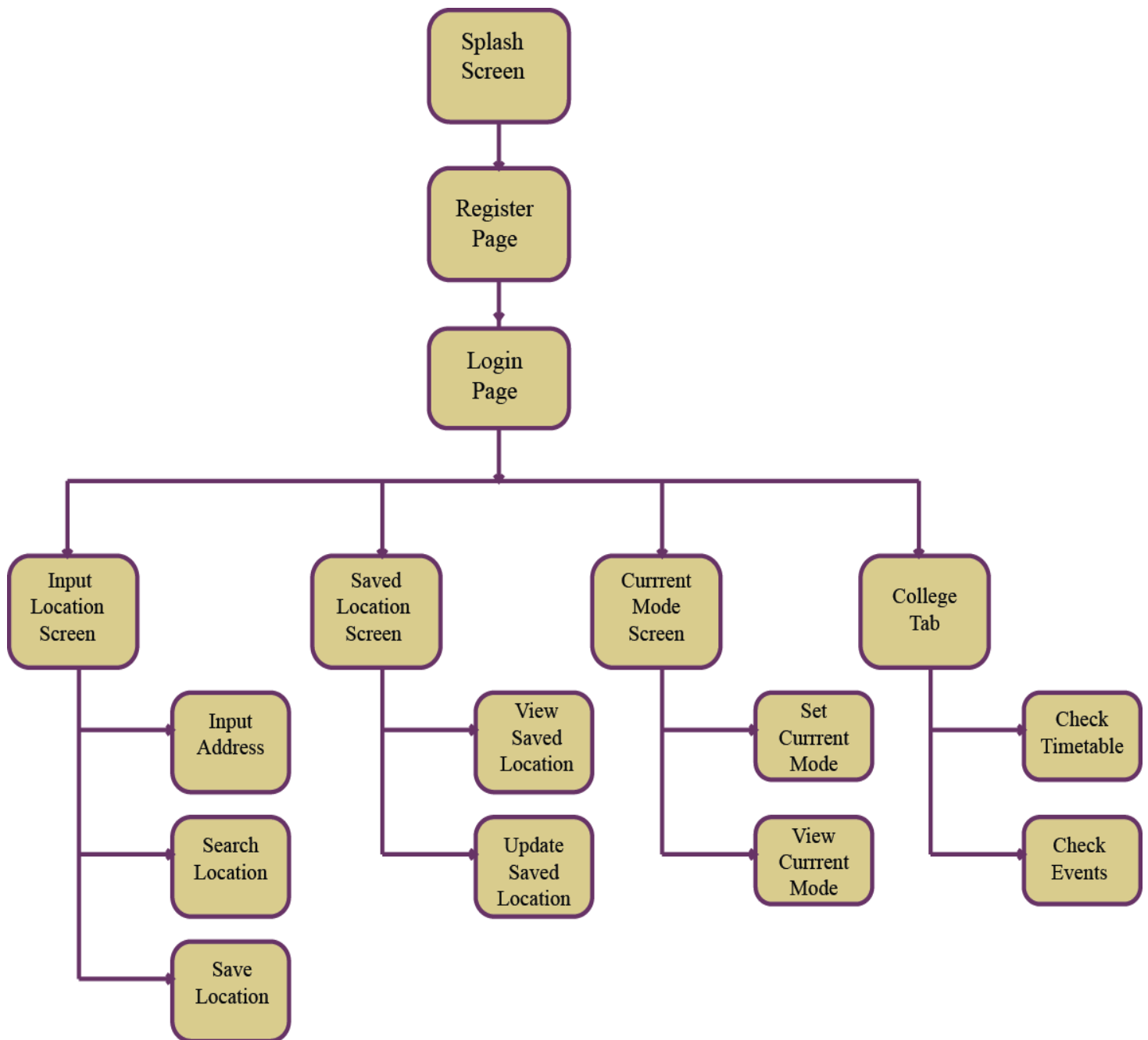
The System interface specifies the different views (pages) that the user will have to use according to their type of usage. To be more specific on how the user interface will be the following screenshots are added to the report.

Screenshots :

1. Splash Screen   **2.** Login Activity Screen   **3.** Register Activity Screen
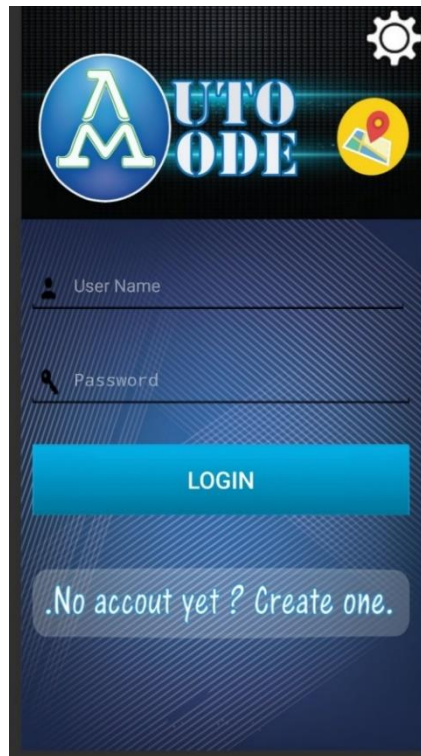
4. IP Address Input Screen   **5.** Location Tab Screen   **6.** Places Tab Screen
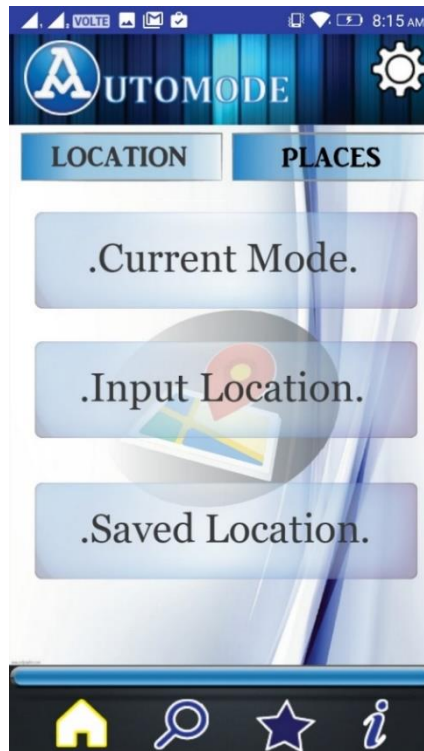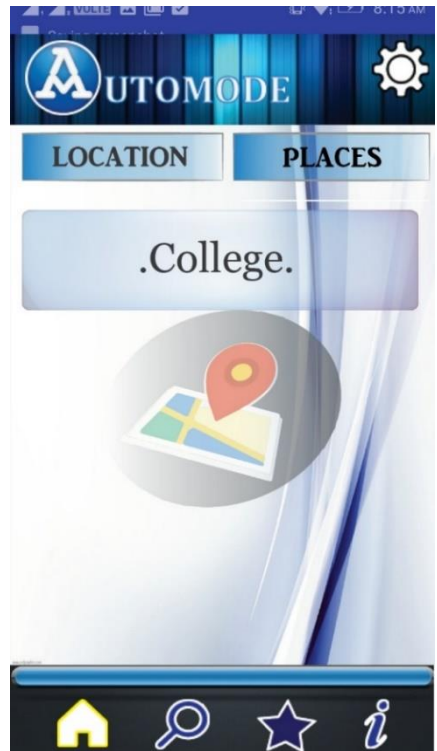
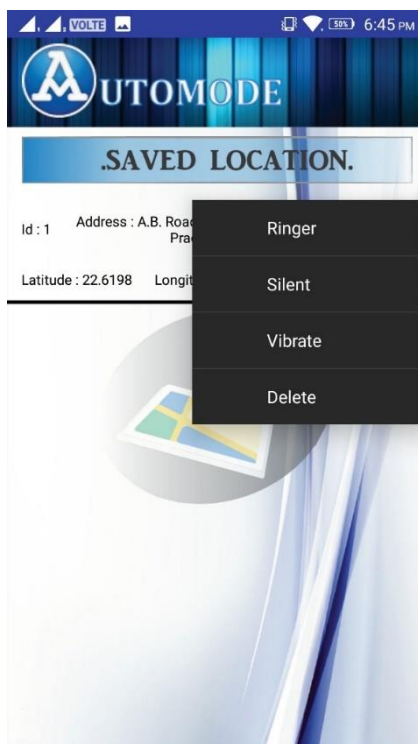**7.** Current Mode Activity Screen
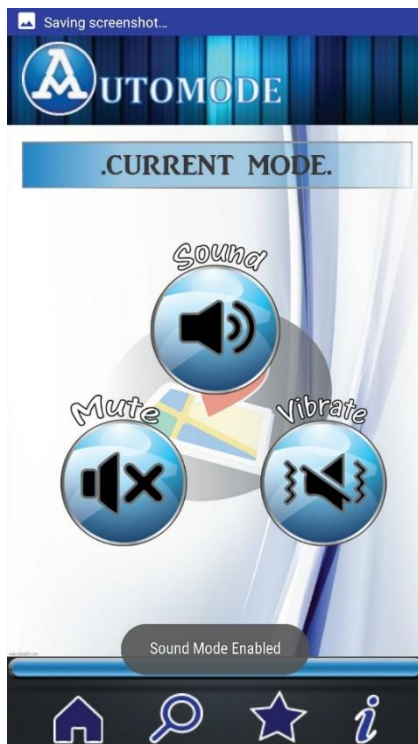
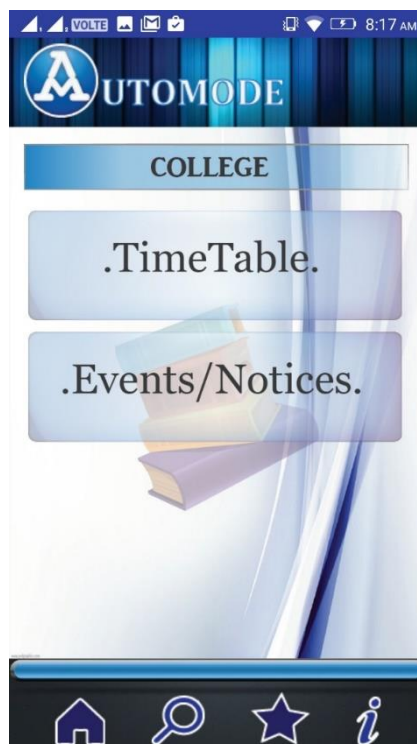**8.** Input Location Activity Screen
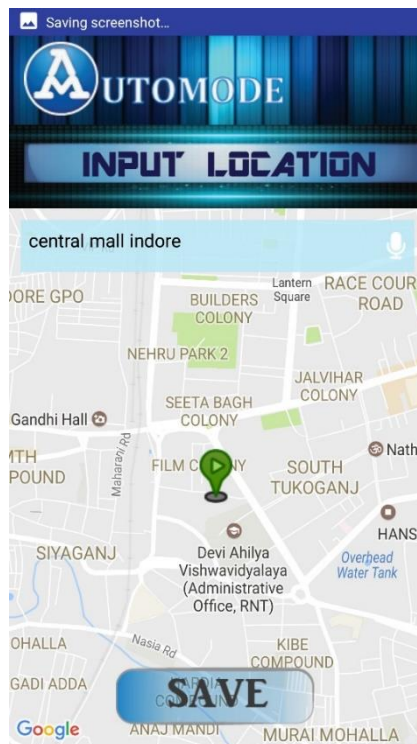
9. Saved Location Activity Screen
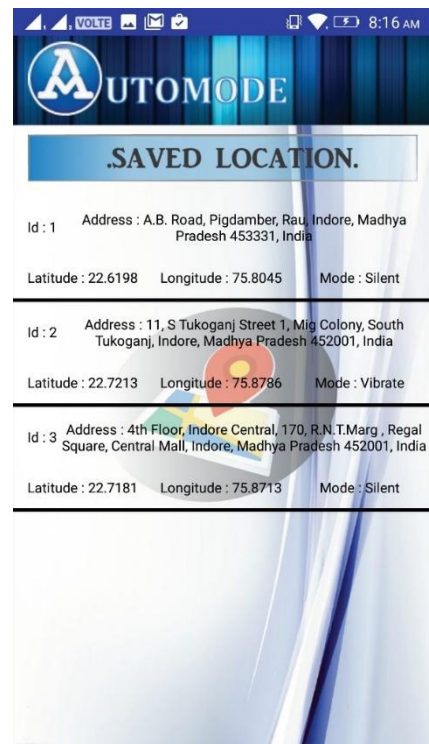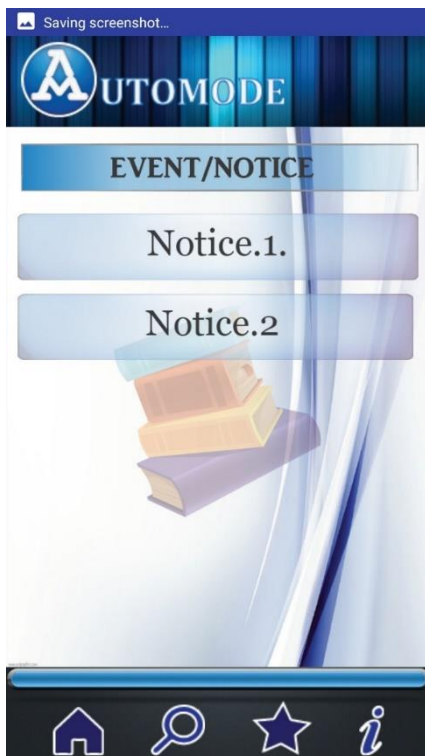

10. Saved Location Activity Screen1

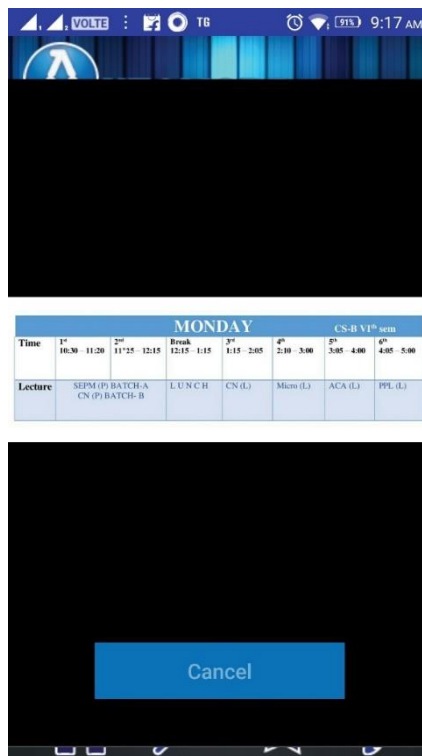**11.** College Tab Screen

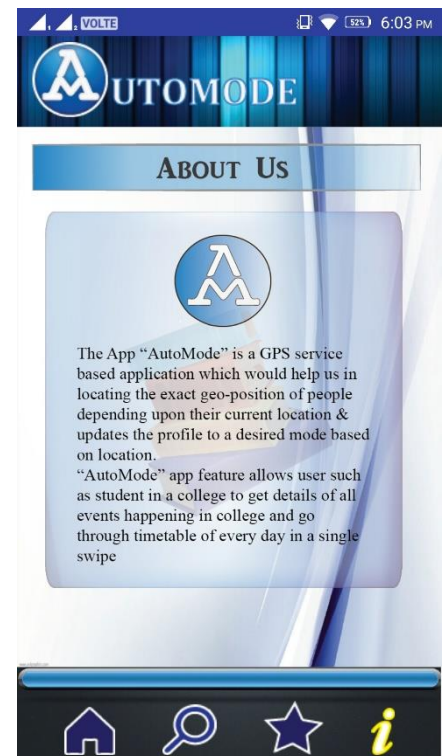**12.** Time Table Activity Screen

27

13. Event Activity Screen   **14.** Monday Time table Popup Menu   **15.** About Us Screen

5.2 Results

In today's fast moving world people tends to reduce their work effort and also save their human efforts. It is an excellent tool that helps us in our daily life. So using this application the user can focus on his daily activities without worrying to monitor his mobile device. GPS Based profile scheduling provides you customizable profile scheduling. You can switch them manually or automatically based on location successfully. Also now one can manage information related to college easily and without wasting human hours in searching anywhere. In this ways AutoMode provided a systematic way of profile changing according to the GPS coordinates and manage college information and also reminds us about it and makes the use of mobile to the user more convient.

Future Scope:

The prevalence of mobile phones and the pervasiveness of their networks makes them a promising platform for personal ubiquitous computing. Tracker can be modified so as to implement Google Maps V2 APIs. They are more advanced & support 3D projections.

Deployment of College Information management throughout the institute requires scripting for connecting the database to main Medicaps University college server. There would be addition of library books management deployed in project and student attendance management too. The UI can definitely be improved by using Action Bars & other new end graphics introduced in new versions of Android.

DECLARATION

We hereby declare that the project work entitled "AutoMode" submitted to Rajiv Gandhi Proudyogiki Vishwavidyalaya, Bhopal, is a record of an original work done by us under the guidance of **Ms. Nupur Dongariya, Assistant Professor (CSE)**, Medi-Caps Institute of Technology & Management, and this project work is submitted in the partial fulfillment of the requirements for the award of the degree of Bachelor of Engineering in Computer Science & Engineering.

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