

# IDEA-2016-IT-01- LECTURE REMINDER (OFFLINE)

Submitted By

**Prit Ladani (13BIT027)**

**Jay Patel (13BIT037)**



**DEPARTMENT OF INFORMATION TECHNOLOGY**

**INSTITUTE OF TECHNOLOGY**

**NIRMA UNIVERSITY**

**AHMEDABAD-382481**

**MAY- 2017**

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# IDEA-2016-IT-01– LECTURE REMINDER (OFFLINE)

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## Idea Lab Project

Submitted By

**Prit Ladani (13BIT027)**

**Jay Patel (13BIT037)**

Under the mentorship of

**Prof. Anitha Modi**



**DEPARTMENT OF INFORMATION TECHNOLOGY  
INSTITUTE OF TECHNOLOGY  
NIRMA UNIVERSITY  
AHMEDABAD-382481**

# Declaration

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We do hereby declare that the technical project report submitted is original, and is the outcome of the independent research carried out by us and contains no plagiarism. The research is leading to the discovery of new techniques of scientific facts already known. This work has not been submitted to or supported by any other University or funding agency.

We do hereby further declare that the text, diagrams or any other material taken from other sources (including but not limited to books, journals and web) have been acknowledged, referred and cited to the best of our knowledge and understanding.

Date:

Place:

-----  
Signature of Student1

Prit (13BIT027)

-----  
Signature of Student2

Jay (13BIT037)

-----  
Signature of Mentor

Anitha Modi

**NIRMA UNIVERSITY**  
**INSTITUTE OF TECHNOLOGY**  
**IDEA LAB**  
**DEPARTMENT OF INFORMATION TECHNOLOGY**

**Annual/Final Report of the work done on the Idea Lab Project.**

**(Report to be submitted within 3 weeks after completion of the project)**

1. Idea Lab Project ID: IDEA-2016-IT-01
2. Project Title: Lecture Reminder (offline)
3. Period of Project: 28/03/2016 to 28/09/2016
4. (a) Name of Student (Roll No.): Prit Ladani (13BIT027)  
Department: Information Technology
- (b) Name of Student (Roll No.): Jay Patel (13BIT037)  
Department: Information Technology
- (c) Name of Mentor: Prof. Anitha Modi
5. Project Start Date: 28/03/2016
6. (a) Total Amount Approved: Rs. 25000/(b) Total Expenditure: Rs. 2300/  
(c) Report of the work done:
  - i. Brief objective of the project: To provide faculties and students, the facility of accessing the timetable offline and remind them by notifications.
  - ii. Work done: An android app was made to fulfill the objective of the project. App was connected with a cloud platform and necessary functions were added in the app.

iii. Results achieved from the work: Final working android application was made which had all the important functions and they all were the part of the objective of the app.

iv. Has all the objectives been achieved as per plan. If not, state reasons:  
Most of the objectives were achieved except for one module in app notification.

v. Please indicate the technical difficulties, if any, experienced in implementing the project: We faced some technical difficulties as Google Firebase cloud platform doesn't provide "Upstream cloud messaging" directly.

vi. If the project has been completed, please enclose a summary of the findings of the study: The app is up and running and it is working as it was proposed.

Signature of Student1

Prit Ladani  
(13BIT027)

Signature of Student2

Jay Patel  
(13BIT037)

Signature of Mentor

Prof. Anitha Modi  
Assistant Professor,  
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Signature of Idea Lab Co-ordinator  
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Dr. Madhuri Bhavsar,  
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Signature of Director  
Dr. Alka Mahajan,  
Director,  
Institute of Technology,  
Nirma University, Ahmedabad.

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## **1.1 INTRODUCTION:-**

This project is about providing the faculties and the students all the facilities of the time table. So previously, they only had only one resource to look for information related to the time table and that was on campus computer having intranet.

We provided an alternative, easier and time saving approach to know about the information related to time table. We made an android mobile application which will help the faculties and the students to get the details of time table through the app.

Thus, making their life easier as they don't have to go through the difficulties they had to go through previously.

## **1.2 Literature Survey:-**

We first analyzed the difficulties which the faculties and students were facing while accessing the time table. So, we researched for the solution to make their life easier. We decided to make a mobile app as it was waste of time for the faculties and students to go the computer lab every time and access the information using the intranet of the campus.

We also decided to make the app on android platform as we surveyed and found out that most of the users use android smartphone. Thus, our app will reach to maximum number of people. Also, we found out that, students don't have mobile access in the campus. Thus, we made the app in offline mode and provided all the data offline to the users barring the signing in part.



## 1.3 Major Objectives Proposed:-

### Following are the objectives proposed:

- Providing email-id and password for registering for the first time. And by adding some few other basic details, registration will be initiated.
- Here, security is our priority. So, Only Nirma students and faculty can register as the email verification will be done via the nirmauni.ac.in domain. All your data is secured with your password. No one can view your account unless and until you share your password.
- Forgot password option is there. So an email password reset link be sent to the registered email.
- Change password option is also available. For that, just provide your old password and the new password and hence, password will be changed.
- Just one tap and your whole week's timetable is in your hands, anywhere, anytime.
- Timetable of any faculty of any branch is available and can be viewed in the app.
- User can view the timetable of any class as well.
- This app will give you a notification before 15 minutes of your next lecture if the notification option is turned on.
- Proxy allocation can be done. For that, just select a day and a time slot and the list of the faculties who are free on that time will be populated. Just select a name of the faculty, edit the draft message and select how you want to communicate with and the application will take care of it.

## 1.4 TECHNICAL DETAILS:

### 1.4.1 Signup Module:

#### ✚ Requirements:-

- For Signup module, you require an Android Device with an internet connection.
- You require a Nirma University Domain Email-id for registration.
- Firebase handles all the cloud database communication from the app.

#### ✚ Design:

- The designing of this module is done as such that it will adjust itself to the Android mobile handset of the users.
- Required information is asked in the easiest way possible.

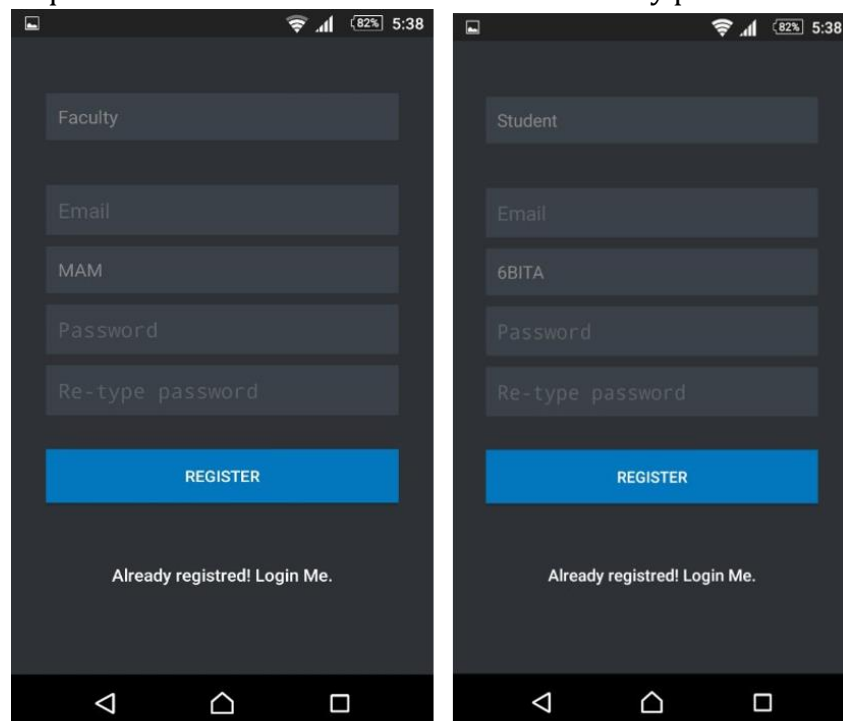


Figure 5. Sign up for faculties and students

#### ✚ Implementation:

- When user enters the detail, they are stored in the firebase cloud database which will be used further for login purpose.

- All the data on the database will be stored with the help of encryption key for security purpose.

#### ✚ Testing:

- If user tries to signup with email id other than Nirma domain, proper error message will be displayed.
- Once a user is registered, same email-id can't be used again for registration.

### **1.4.2 LOGIN MODULE:**

#### ✚ Requirements:-

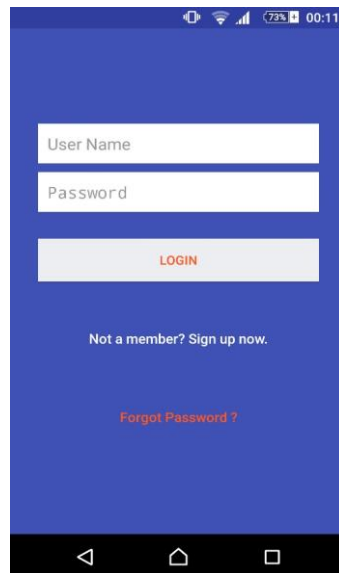
- User must be registered in the database.
- Android Device with Internet Connection

#### ✚ Implementation:

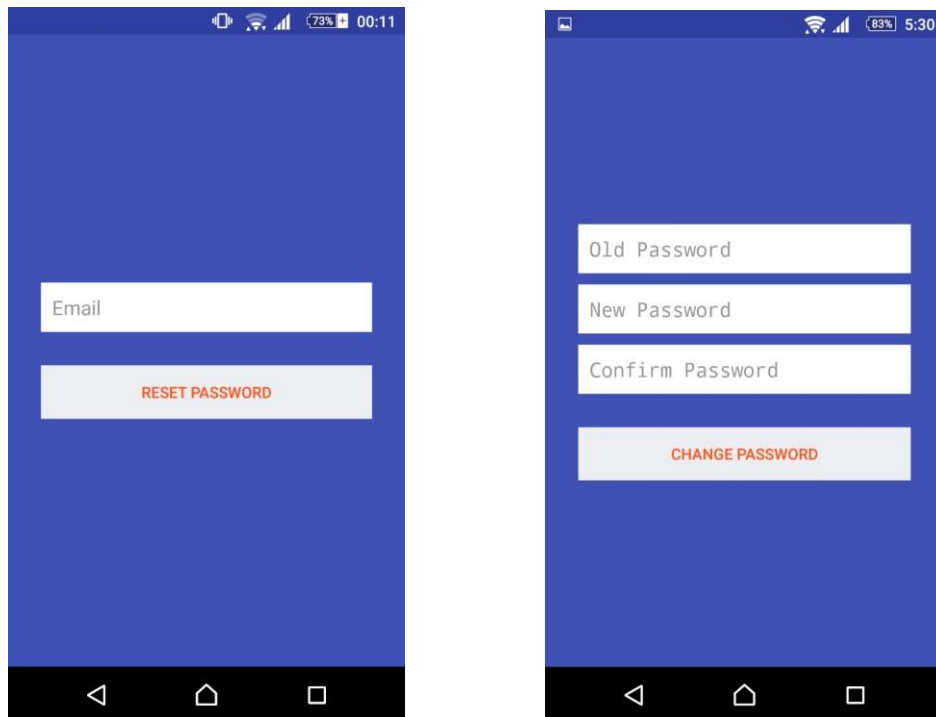
- When user enters the details, the app checks with the online cloud firebase database, if it matches, then user is logged in.
- Only one time login is required, so proper storage of information is done with security.

#### ✚ Testing:

- If user is not registered, error message will be generated
- If password or email doesn't match, error will be displayed.



*Figure 6: Login Activity*



*Figure 7: Forgot and Change Password Activity*

Here the email entered during the signup is used to reset the password. So an email will be sent to the email-id which will be re-directed to parse website from that you can reset/change your password for the further use.

And in change password, you can change your password by giving your email address and providing old password and new password. You must be logged in to change your password otherwise you have to go for reset password option.

### 1.4.3 View Your Time Table Module:-

#### Requirement:

- Whenever someone logs in to the system, his/her login credentials will be stored temporarily in the device.
- Whenever the user selects 'View your Time-table', the system will show the timetable of that particular user.

#### Testing:

- Here I have logged into the system using Prof. Anitha Modi's ID. As I select 'View your Time-table' option. It gives me the following result.

Monday		
Time Slot	Subject	Room
8:45-9:45	NULL	
9:45-10:45	NULL	
11:15-12:15	AP 2BEEH A1042 H2	A104
12:15-1:15	AP 2BEEH A1042 H2	A104
2:00-3:00	EL3-ADS . 6BITA B214EL3-ADS . 6BCEB B214EL3-ADS . 6BCEA B214	B214
3:00-4:00	EL2-CC . 6BITA B213EL2- CC . 6BCEB B213EL2- CC . 6BCEA B213	B213
4:15-5:15	NULL	
5:15-6:15	NULL	
Tuesday		
Time Slot	Subject	Room
8:45-9:45	EL2-CC . 6BITA B213EL2- CC . 6BCEB B213EL2- CC . 6BCEA B213	B213
9:45-10:45	EL3-ADS . 6BITA B206EL3-ADS . 6BCEB	B206

Figure 9: View your timetable test case

### 1.4.4 View other's Time Table:

#### Requirement:

- User can select any branch and can see the list of faculties from that particular branch.
- After clicking on the faculty name, time table of that particular faculty will be displayed on the screen.

#### Testing:

- Here I am selecting the 'Electrical' branch and it gives me the list of all the faculties working in Electrical branch. Time table of Prof. Ami Vora has been displayed in the following Screen shot.

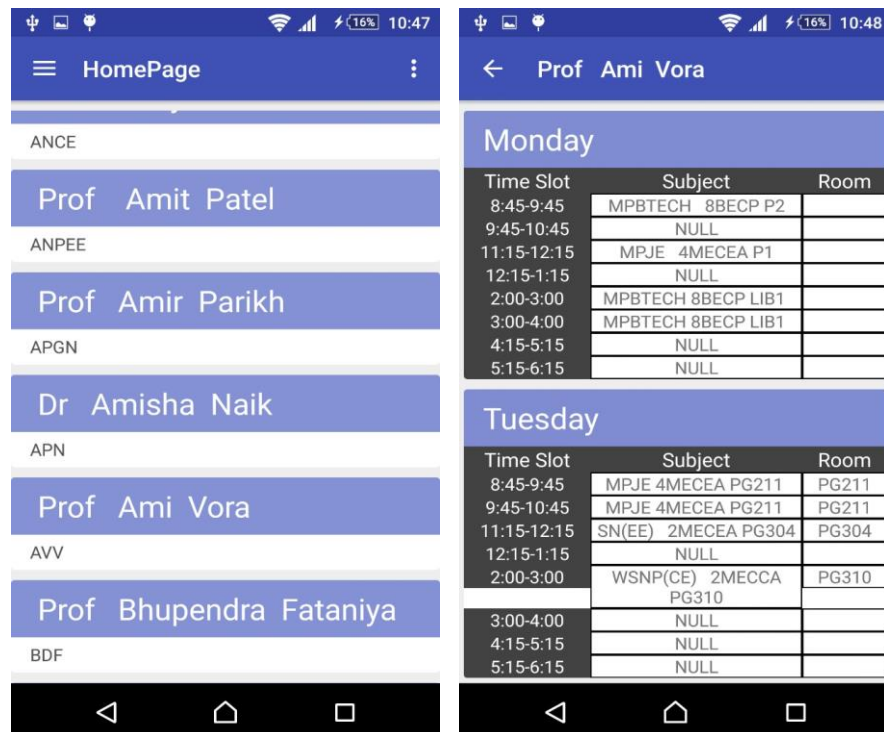


Figure 10. Electrical branch and Ami ma'am TT

### 1.4.5 Notification module:

#### ✚ Requirements:-

- User must be logged into the app.
- Their timetable should be visible in the app.

#### ✚ Implementation:

- Broadcast Service is used for notification.
- Notification Compat, Search Manager and Alarm Manager is used for notifying at specific time.

#### ✚ Testing:

- Following is the example, once you set the notification switch to on, notification at specific time before lecture will appear on your device.

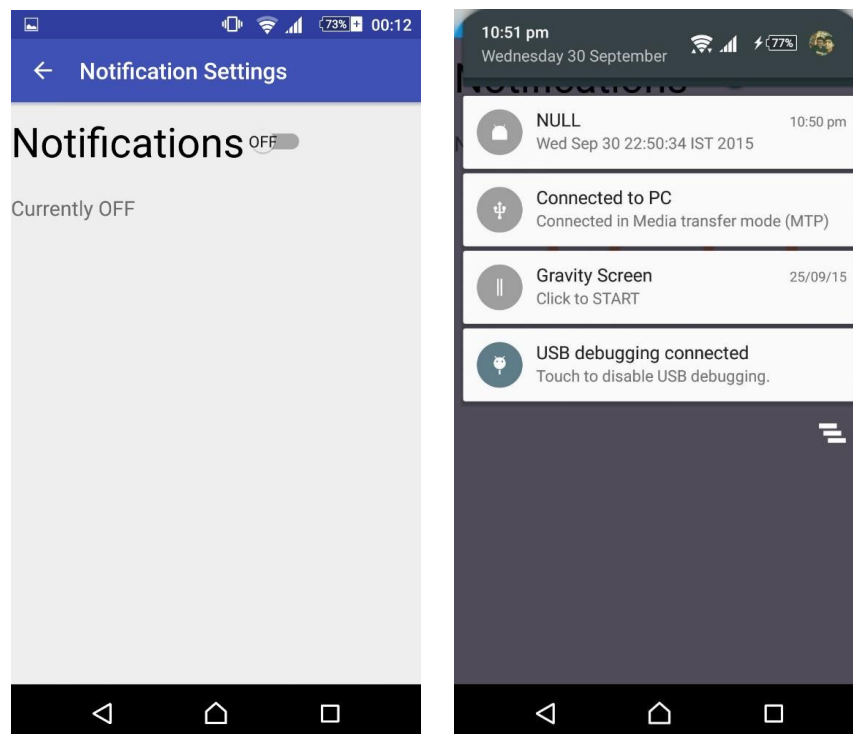


Figure 11: Notification Activity

### 1.4.6 Free Slot Module:

#### 🚦 Requirements:

- If a faculty want to assign a proxy lecture to some another faculty, but don't know who all faculties are free during that time.
- Just go to 'Free Slots' section and select the day and the time slot for which you want to assign a proxy lecture.
- All the data of time table from the database.

#### 🚦 Workflow:

- You only need to select the day and the slot from the list as shown below.

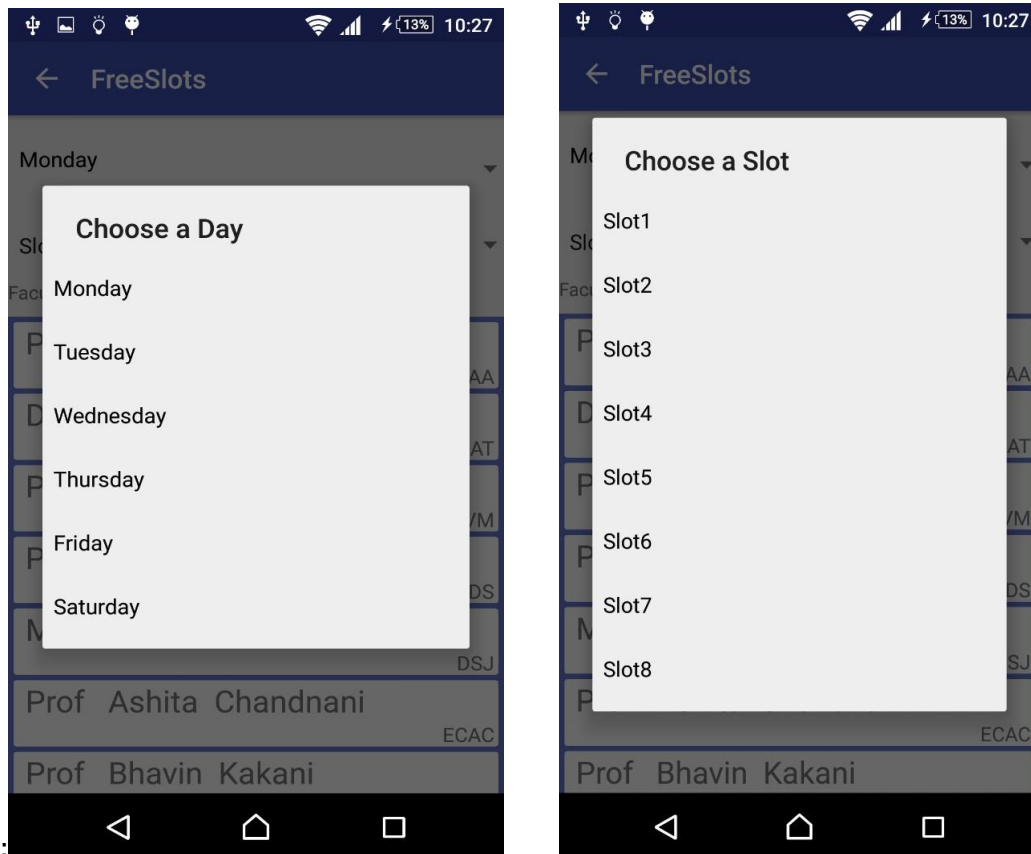


Figure 12: Choose a Day and Slot



**Testing:**

- The following Screen shot show the list of faculties who are free on Wednesday- slot 4.
- We can check Prof. Dvijesh Bhatt's time table to verify whether he is free on that time or not.

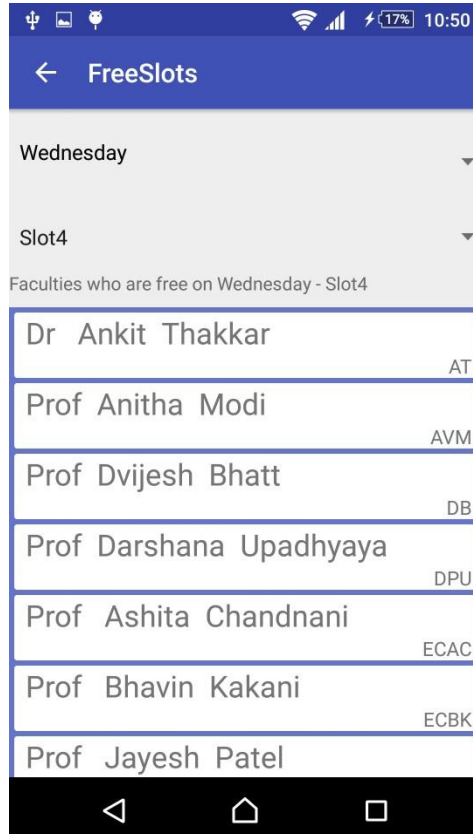


Figure 13. Free slots test case and Dvijesh Sir's TT

## **1.5 OBJECTIVES ACHIEVED:-**

Most of the major objectives proposed at time of project assignment are completed till now. The application is up and running on most of the Android versions (above Android v5.0). Login, sign up, forgot password, reset password, view your timetable, view other faculty's timetable, class wise timetable are the modules which are working fine. The application also reminds you before start of your lecture if you have set the reminder turned on. User can also set proxy lecture and send email and/ or SMS to the other faculty using the application only.

## **1.6 OBJECTIVES NOT ACHIEVED:-**

Though we have been working on this project since last few months, we are still facing some issues with the feature called 'App Notification'. Right now, user can only send the email and/or SMS to notify another faculty to assign the proxy lecture. We will add other easier options in the future for notifying users and this feature will be updated in new version of this app.

## 1.7 TECHNICAL DIFFICULTIES FACED:-

Google Firebase only provides downstream cloud messaging service. But for the 'App Notification' feature, we needed to send the upstream cloud messages. To send the upstream messages, we needed an online web hosting server which is up all the time. We have developed a PHP script which will GET the notifications sent from the mobiles devices and send them to the Firebase server. The Firebase server will finally send these notifications to the designated mobile devices.

## 1.8 BUDGET ANALYSIS:-

1. Budget sanctioned: Rs. 25000 /-
2. Budget utilized: Rs. 2300 /-
3. Budget unutilized: Rs. 21700 /-

<b>Serial No.</b>	<b>Name of Product</b>	<b>Amount (Rs.)</b>	<b>Bill No.</b>	<b>Date</b>	<b>Consumable/ Nonconsumable</b>	<b>Dead Stock Number (if any)</b>
<b>1</b>	<b>J-info 100 mb linux server</b>	<b>Rs.2300</b>	<b>-</b>	<b>24/10/16</b>	<b>Non-consumable</b>	<b>0</b>

## **1.9 CONCLUSION AND FUTURE WORK:-**

As discussed above, most of the proposed objectives are completed. We are working on the final feature of the application and it will be completed very soon. As soon as this feature is up and running, we will upload the final application on the Google Play Store and the download link will be shared with the faculties as well as students, after taking prior permissions from the university. Also, the usage of this application can further be extended to book an appointment with the faculty and faculty can approve or reject the appointment. Faculties can also send announcements to the specified group of students. Also, chat rooms will be added to the application through which faculties can chat with an individual or with a group.

# Bibliography:-

- <http://developer.android.com/guide/index.html>
- <https://www.firebase.com/docs/>
- <https://github.com/>
- <http://www.vogella.com/tutorials/android.html>
- <http://www.androidhive.info/>