

VISVESVARAYA TECHNOLOGICAL UNIVERSITY, BELGAUM 590014



Programming in Python

“Offline Module for Elective Selection”

By

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Under the Guidance of  
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Programming in Python Self-study Project carried out at



Department of Computer Science and Engineering

BMS College of Engineering

(Autonomous college under VTU)

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Aug-Dec 2018

BMS COLLEGE OF ENGINEERING  
DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING



***CERTIFICATE***

This is to certify that the Programming in Python titled “Project Title” has been carried out by Eleanor Prashamshini (1BM16CS005), Anirudh RV (1BM16CS016), Brundha R (1BM16CS025) and Daksh Gandhi (1BM16CS029) during the academic year Aug – Dec 2018.

Signature of the guide  
Prof. Selva Kumar S  
Assistant Professor  
Department of Computer Science and Engineering  
BMS College of Engineering, Bangalore

**BMS COLLEGE OF ENGINEERING**  
**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING**



***DECLARATION***

We, Eleanor Prashamshini (1BM16CS005), Anirudh RV (1BM16CS016), Brundha R (1BM16CS025) and Daksh Gandhi (1BM16CS029) students of 5th Semester, B.E, Department of Computer Science and Engineering, BMS College of Engineering, Bangalore, hereby declare that, this Programming in Python work entitled "Offline Module for elective selection" has been carried out by us under the guidance of Prof. Selva Kumar S, Assistant Professor, Department of CSE, BMS College of Engineering, Bangalore during the academic semester Aug-Dec 2018

We also declare that to the best of our knowledge and belief, the development reported here is not from part of any other report by any other students.

**Signatures**

Eleanor Prashamshini (1BM16CS005)

Anirudh RV (1BM16CS016)

Brundha R (1BM16CS025)

Daksh Gandhi (1BM16CS029)

## **1. Introduction**

Our project, “Offline Module for Elective Selection” supports the following users:

- a. Student**
- b. CS Office staff**

### **Functionalities under Student login**

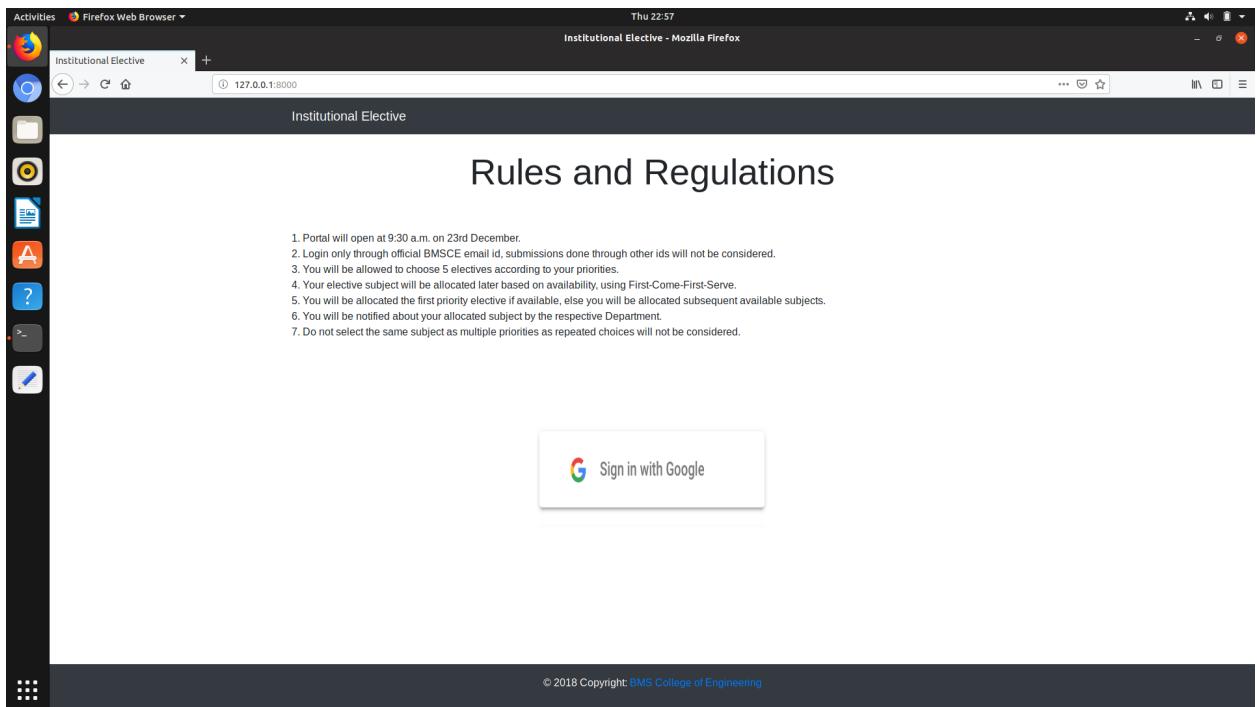
- i. Sign in with Google account
- ii. Select 5 electives as per their priorities
- iii. Prevention of multiple entries by a single student
- iv. View allocated subject after admin uploads results

### **Functionalities under CS office staff**

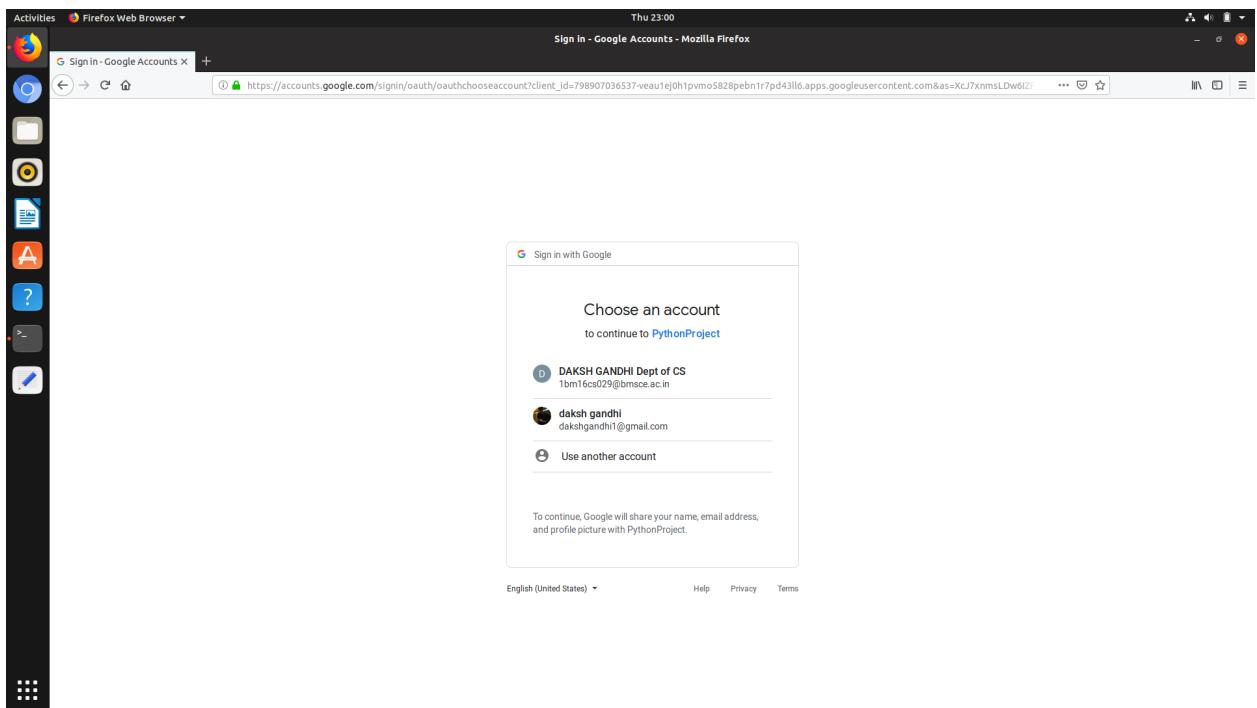
- i. Authentication via login page
- ii. Option to open elective selection portal by specifying starting time
- iii. Download link for raw data of students' choices
- iv. Process raw data with the help of offline module
  - a. Choose file : To choose excel file with raw data
  - b. Allocate : Module allocates electives as per availability and time
  - c. Get excel sheet : Download sheets with allocations done subject wise
  - d. Upload : Upload sheet with allocations to database

## 2. User-Interface screen shots

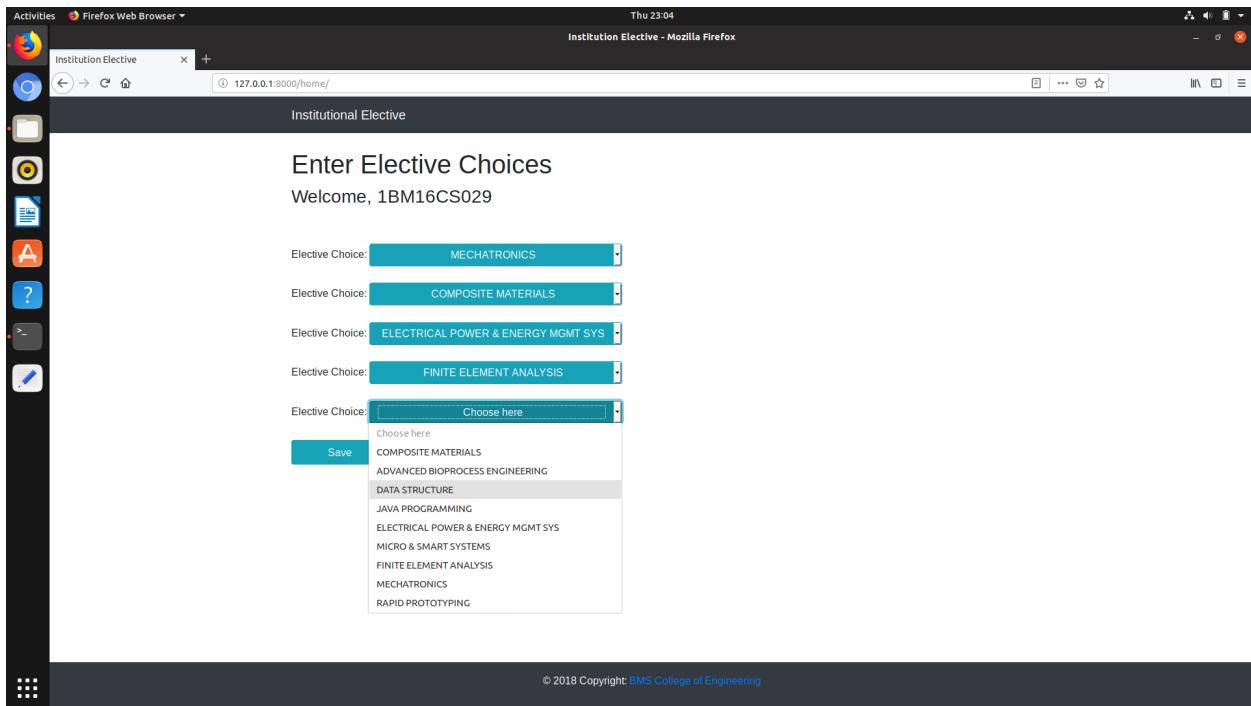
### 2.1 Rules and Regulations page with Google login



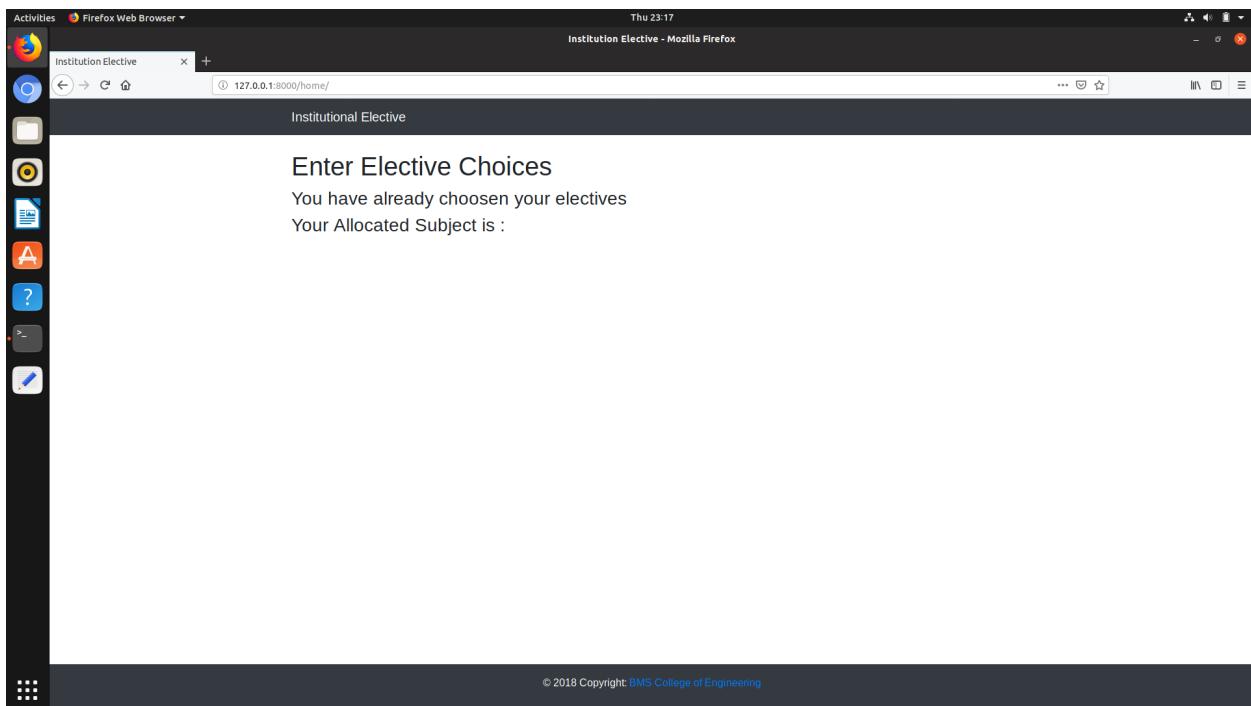
### 2.2 Google login page



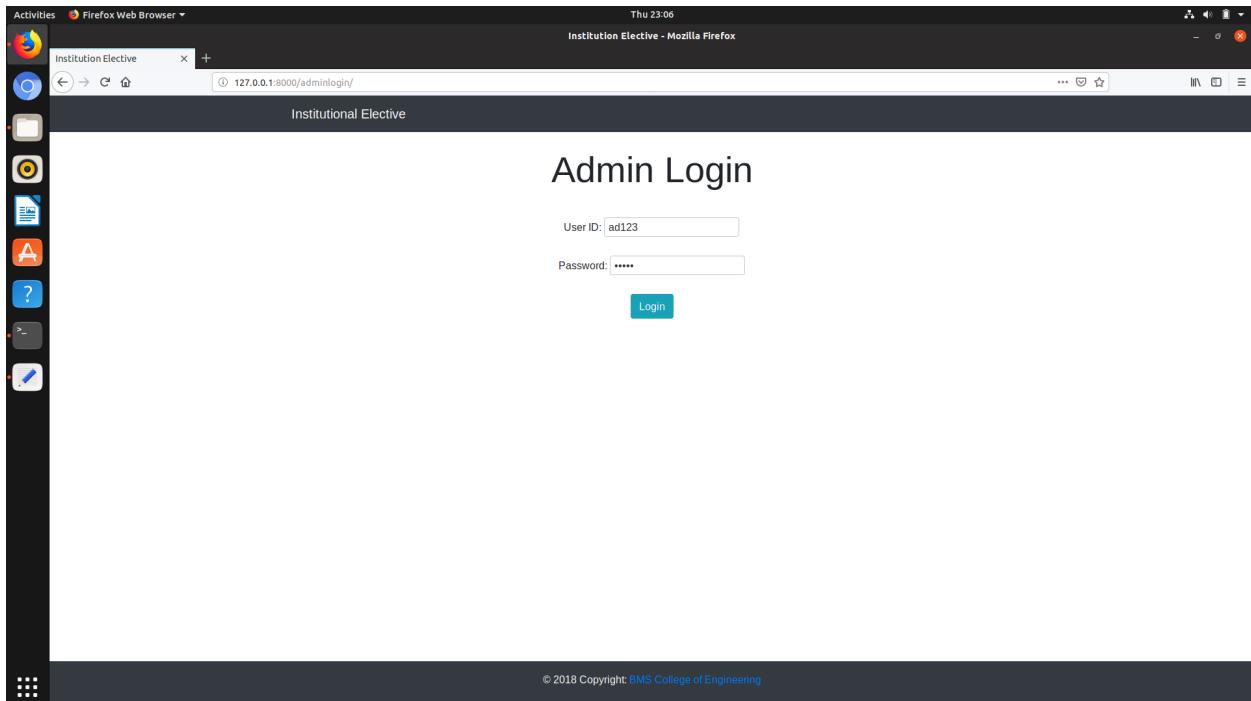
## 2.3 Elective selection page



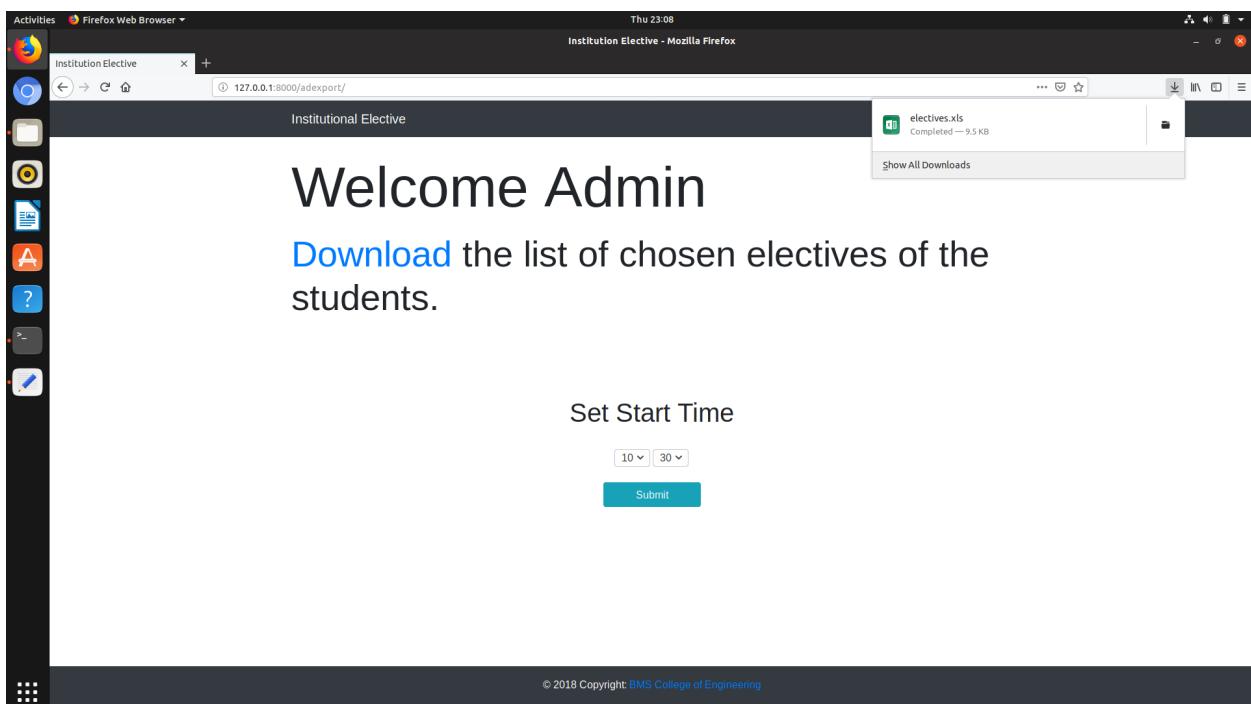
## 2.4 Page shown on logging in more than once (before allocation)



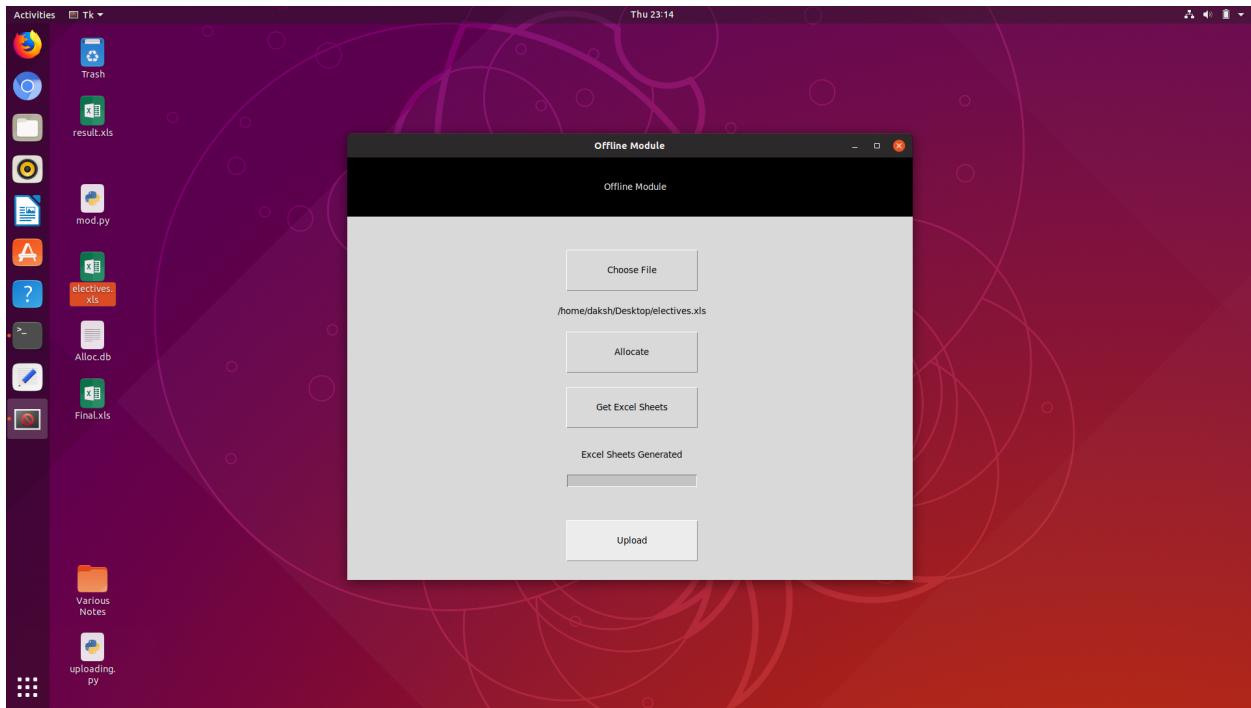
## 2.5 Admin login page



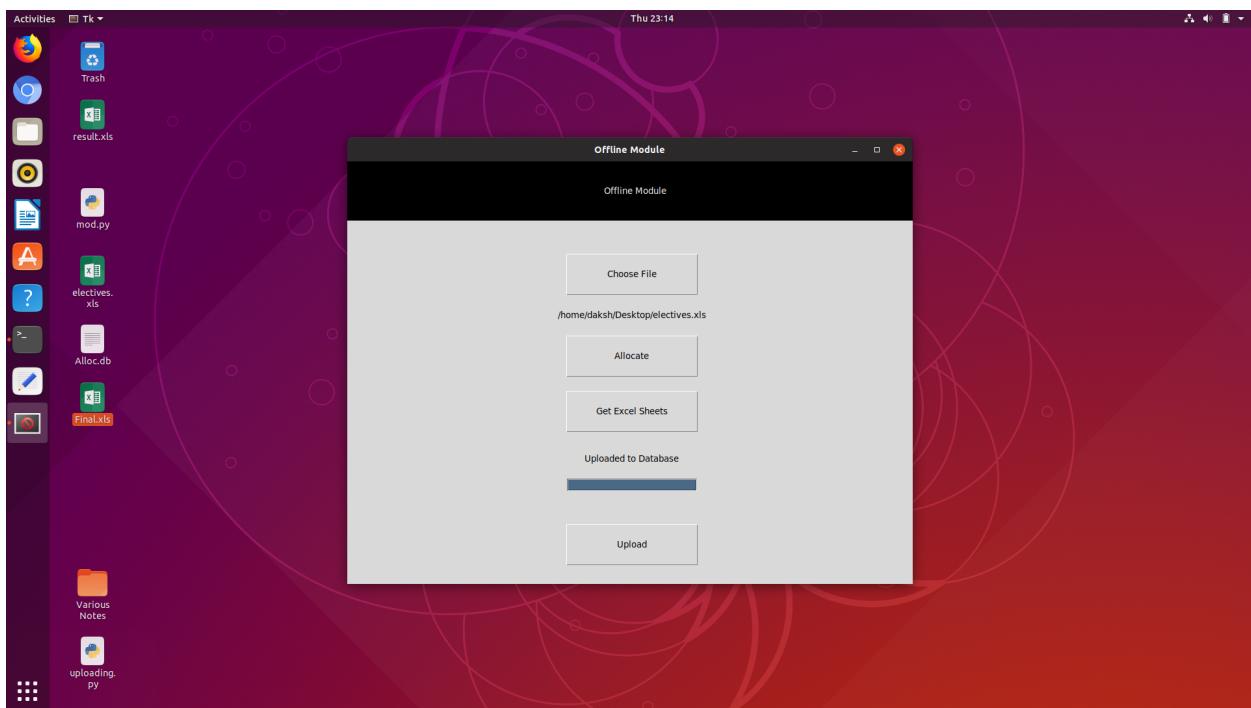
## 2.6 Admin home page (portal for timer and download link for chosen elective)



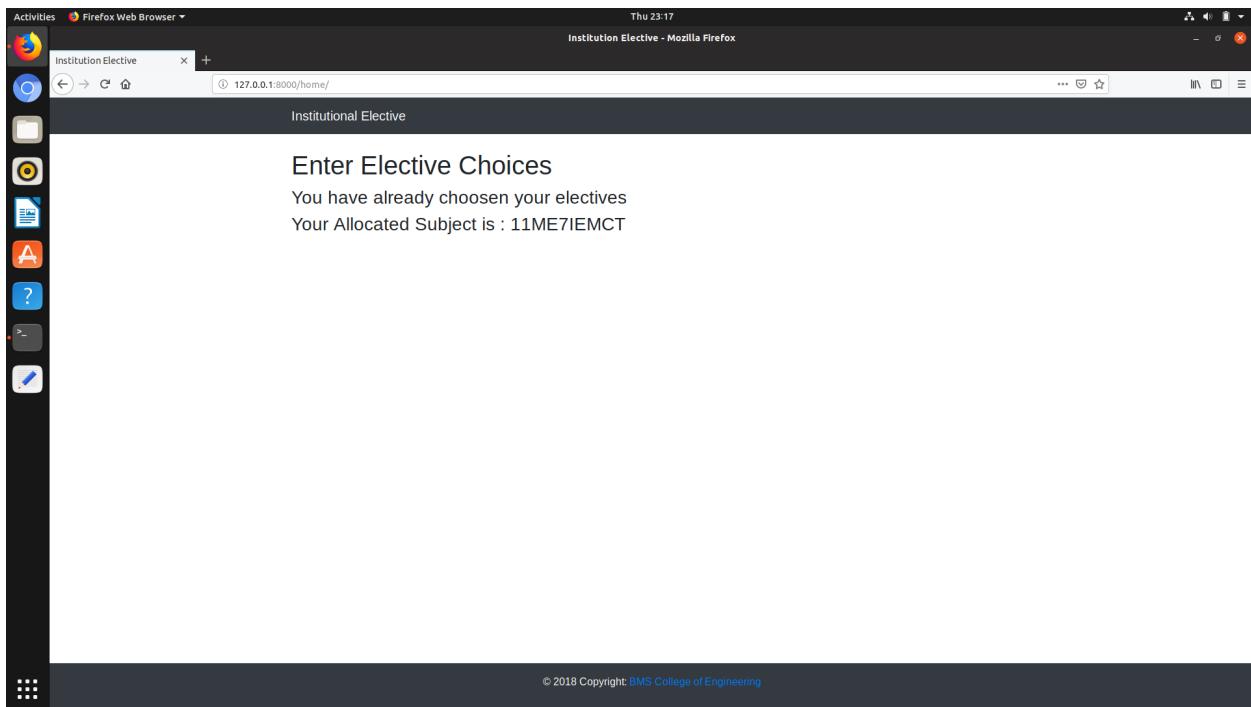
## 2.7 Offline Module (generating excel sheet with allocation)



## 2.8 Offline Module (uploading to database)



## 2.9 Page shown on logging in more than once (after allocation)



### 3. Database screen shots

#### 3.1 Django site administration

The screenshot shows the Django Site administration dashboard. The top navigation bar includes links for 'View site', 'Change password', and 'Log out'. The main content area is titled 'Django administration' and contains three main sections: 'AUTHENTICATION AND AUTHORIZATION', 'ELECTIVES', and 'PYTHON SOCIAL AUTH'. Under 'AUTHENTICATION AND AUTHORIZATION', there are 'Groups' and 'Users' with 'Add' and 'Change' buttons. Under 'ELECTIVES', there are 'Allocateds', 'Choices', 'Options', and 'Timers' with similar buttons. Under 'PYTHON SOCIAL AUTH', there are 'Associations', 'Nonces', and 'User social auths' with 'Add' and 'Change' buttons. A 'Recent actions' sidebar on the right lists recent operations, mostly 'Allocated' objects, each with a timestamp and a link to the object's detail page.

#### 3.2 Elective - Choices

The screenshot shows the 'Select choices to change' page under the 'Electives' section of the Django administration. The top navigation bar is identical to the previous screenshot. The main content area is titled 'Select choices to change' and shows a list of 'CHOICES' objects. There are 39 selected items, indicated by a count at the top of the list. Each item is a checkbox followed by the object name and its ID (e.g., 'Choices object (1bm16cs029)'). A 'Go' button is located next to the count, and a 'ADD CHOICES' button is in the top right corner. The left sidebar shows the breadcrumb path 'Home | Electives | Choices'.

### 3.3 Electives - Choices sample

The screenshot shows the 'Change choices' page in the Django admin interface. The URL is `127.0.0.1:8000/admin/electives/choices/1BM16CS007/change/`. The page title is 'Change choices | Django site admin - Mozilla Firefox'. The main content area is titled 'Change choices' and contains the following fields:

- User: 1BM16CS007
- Choice1: 11EE7IE1EM
- Choice2: 11CH7IECP1
- Choice3: 11CH7IECP2
- Choice4: 11CI7IEJAP
- Choice5: 11CIBIEDSN

Below these fields are date and time inputs:

- Date: 2018-11-26 Today
- Time: 20:50:54 Now

A note below the time input says: "Note: You are 6.5 hours ahead of server time."

At the bottom of the form are three buttons: 'Delete' (red), 'Save and add another' (blue), 'Save and continue editing' (blue), and 'SAVE' (blue).

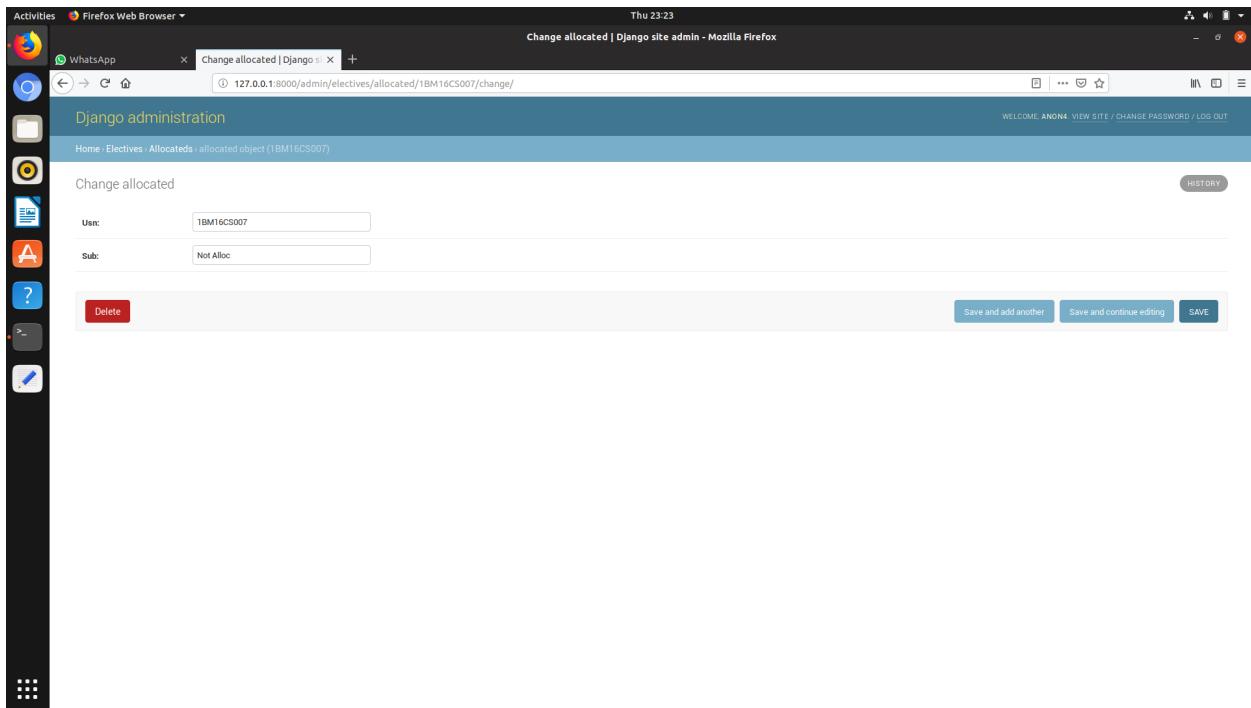
### 3.4 Electives - Choices changes

The screenshot shows the 'Select choices to change' page in the Django admin interface. The URL is `127.0.0.1:8000/admin/electives/choices/`. The page title is 'Select choices to change | Django site admin - Mozilla Firefox'. A green success message at the top states: 'Successfully deleted 1 choices.' The main content area is titled 'Select choices to change' and contains a list of choices:

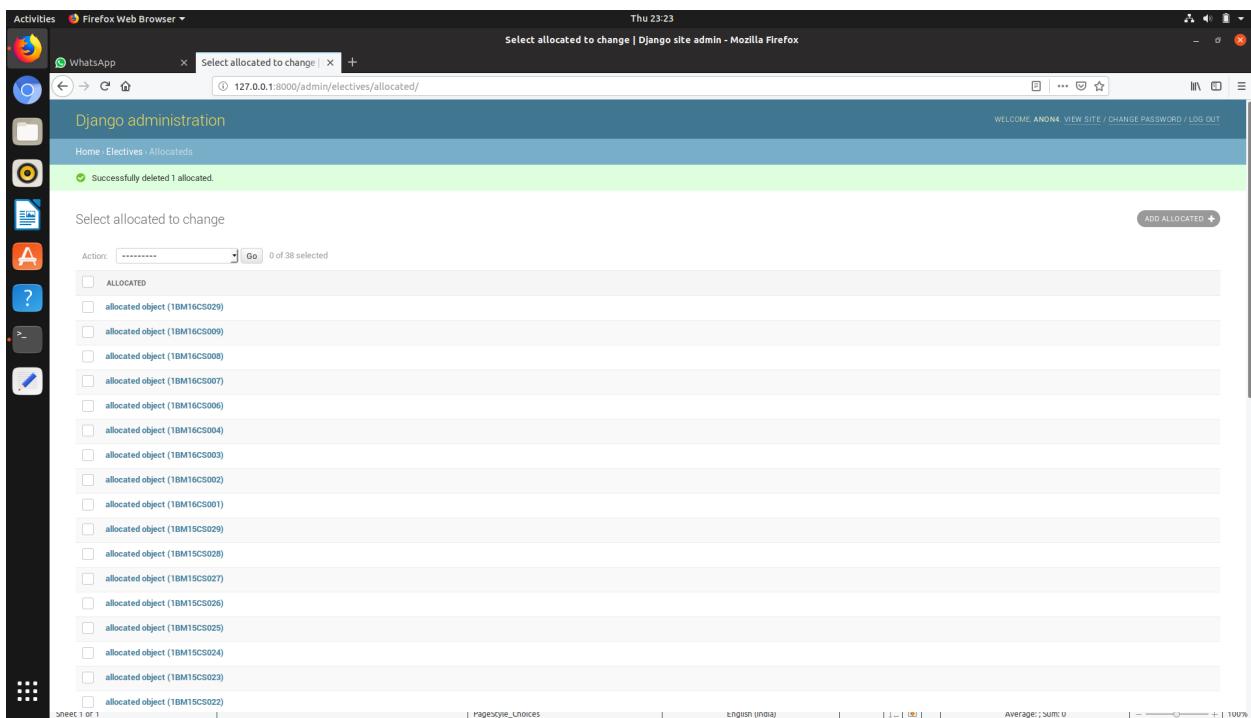
- Action:  Go! 0 of 38 selected
- CHOICES
- Choices object (1BM16CS009)
- Choices object (1BM16CS008)
- Choices object (1BM16CS007)
- Choices object (1BM16CS006)
- Choices object (1BM16CS004)
- Choices object (1BM16CS003)
- Choices object (1BM16CS002)
- Choices object (1BM16CS001)
- Choices object (1BM15CS029)
- Choices object (1BM15CS028)
- Choices object (1BM15CS027)
- Choices object (1BM15CS026)
- Choices object (1BM15CS025)
- Choices object (1BM15CS024)
- Choices object (1BM15CS023)
- Choices object (1BM15CS022)
- Choices object (1BM15CS021)

At the top right is a blue button labeled 'ADD CHOICES +'

## 3.5 Electives - Allocated



## 3.6 Electives - Allocated changes



## 3.7 Authorised users

The screenshot shows the Django administration interface for managing users. The title bar reads "Select user to change | Django site admin - Mozilla Firefox". The main content area is titled "Django administration" and "Home / Authentication and Authorization / Users". It displays a table of users with columns: USERNAME, EMAIL ADDRESS, FIRST NAME, LAST NAME, and STAFF STATUS. The table contains 7 rows of data. To the right of the table is a "FILTER" sidebar with sections for "By staff status" (All, Yes, No), "By superuser status" (All, Yes, No), and "By active" (All, Yes, No). A "ADD USER" button is located at the top right of the main content area.

USERNAME	EMAIL ADDRESS	FIRST NAME	LAST NAME	STAFF STATUS
1bm16cs005	1bm16cs005@bmsce.ac.in	ELEANOR PRASHAMSHINI	Dept of CS	✗
1bm16cs016	1bm16cs016@bmsce.ac.in	ANIRUDH RV	Dept of CS	✗
1bm16cs029	1bm16cs029@bmsce.ac.in	DAKSH GANDHI	Dept of CS	✗
admin		ELEANOR PRASHAMSHINI	Dept of CS	✓
anon4	anon4@gmail.com			✓
dakshgandhi1	dakshgandhi1@gmail.com	daksh	gandhi	✗
prashamshini	prashamshini@gmail.com	Eleanor	Prashamshini	✗

## 3.8 Excel sheet with raw data

The screenshot shows an Excel spreadsheet titled "electives.xls" open in LibreOffice Calc. The spreadsheet has 17 columns labeled A through R. Column A contains "USN" and "Time" headers. Columns B through R contain various entries, mostly consisting of combinations of letters and numbers. The data spans from row 1 to row 45. The bottom of the screen shows the LibreOffice Calc ribbon and various toolbars.

### 3.9 Excel sheets with a different sheet for each subject

The screenshot shows the LibreOffice Calc interface with the following details:

- Title Bar:** Activities LibreOffice Calc, Final.xls - LibreOffice calc, Thu 23:14
- Menu Bar:** File, Edit, View, Insert, Format, Styles, Sheet, Data, Tools, Window, Help
- Toolbar:** Includes icons for file operations (New, Open, Save, Print), search, and various data manipulation tools.
- Cell Selection:** The cell A1:A1048576 is selected.
- Data in Sheet3:**

	Name	Subject
3	1BM1SCS011	11C7HEJAP
4	1BM1SCS012	11C7HEJAP
5	1BM1SCS013	11C7HEJAP
6	1BM1SCS014	11C7HEJAP
7	1BM1SCS015	11C7HEJAP
8		
9		
10		
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- Sheet Tab:** Sheet3 of 7
- Bottom Status Bar:** 1048576 rows, 1 columns selected, PageStyle\_Sheet3, English (India), Average ; Sum: 0

The screenshot shows the LibreOffice Calc interface with the following details:

- Title Bar:** Activities, LibreOffice Calc, Final.xls - LibreOffice Calc, Thu 23:14
- Menu Bar:** File, Edit, View, Insert, Format, Styles, Sheet, Data, Tools, Window, Help
- Toolbar:** Includes icons for file operations (New, Open, Save, Print), search, filter, and various data entry and format tools.
- Font Selection:** Arial, Size 10, with bold and italic options.
- Cell A1:** Contains the formula `=Name`.
- Data in Column B:** Rows 2 through 6 show the formula `=1BMS1CS5001`, and rows 7 through 47 show the formula `=1LCH7IECP2`.
- Sheet Navigation:** Shows tabs for Sheet1, Sheet2, Sheet3, Sheet4, Sheet5, and Sheet7.
- Status Bar:** PageStyle\_Sheet1, English (India), Average: 0 Sum: 0, and zoom controls.

### 3.10 Excel sheet with unallocated students

The screenshot shows the LibreOffice Calc interface with the following details:

- Title Bar:** Activities, LibreOffice Calc, Thu 23.14, Final.xls - LibreOffice Calc
- Toolbar:** File, Edit, View, Insert, Format, Styles, Sheet, Data, Tools, Window, Help.
- Font and Style Buttons:** Arial, 10, bold, italic, underline, etc.
- Cell Address:** F10
- Cell Contents:** The cell contains the formula `=`.
- Data View:** A table with 13 rows and 15 columns. The first column (A) lists row numbers from 1 to 47. The second column (B) lists names starting with '1BM16CS'. The third column (C) is labeled 'Subject' and contains the value 'Not Alloc' for all rows. The fourth column (D) contains the value '1BM16CS004' for row 9.
- Sheet Tabs:** Sheet1, Sheet2, Sheet3, Sheet4, Sheet5, Sheet6 (selected), Sheet7
- Status Bar:** PageStyle\_Sheet6, English (India), Average: ; Sum: 0, 100%