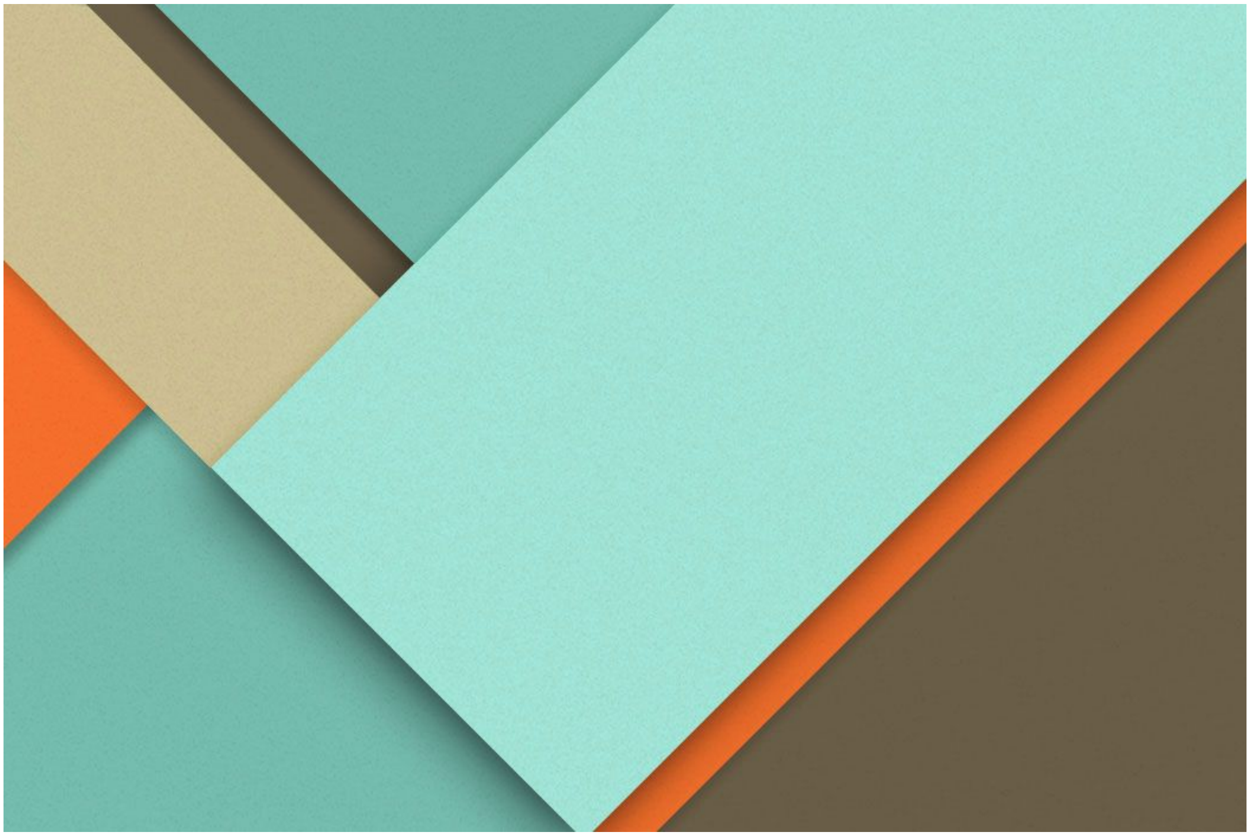

Report on

Office Visitors Log Application

Final project - Python for programmers

06.10.2016

By

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Introduction

Office Visitors Log is a web based application for tracking and managing visitors coming into any office. In an office, where visitors have to register at the front desk, the visitor will use this program at the frontdesk to provide his/her name, email address, phone number and the person he/she is visiting and his/her details will be stored in database.

The application is also used by the security personnel or system administrator to view all the visitors in the system, filter the visitor information based on a date range and to download the filtered set of data.

To understand the code written for this application, knowledge of Python language and Django framework is a required. Understand the following flow is a must - The flow of a http request originated from a template to getting the right url from the urls mapping to getting to the right view function to rendering another HTTP response template.

Goals

1. Visitors should able to register their details.
2. Any validation errors in the registration form should be notified to the user, upon correction should be saved to the database.
3. Security personnel or frontdesk receptionist should be able to view the list of visitors.
4. The list should be filterable based on a from and to date.
5. The filtered list should be download as an excel file

Technologies used

Programming Language	: Python 2.7
Database	: SQLite3
Framework	: Django (1.9.7)
IDE	: PyCharm IDE 2016.1.4
FrontEnd	: Bootstrap 3.3.6 (just imported as one css file)

Requirements

I have learned Django framework to understand how to implement an end-to-end web application that follows MVC framework. To run this application, first we need to migrate the db sqls, then run the server.

The following commands help in doing so,

1. python manage.py makemigrations (i.e, make the migration sqls)
2. python manage.py migrate registration (i.e., registration is the name of the app inside visitorsLog project that takes care of visitor's registration)
3. Python manage.py runserver (i.e., run server)

Apart from the Django modules that come pre-installed with the framework, the general python modules like XLWT, re are needed to run the server.

List of modules is here:

- from django.shortcuts import render
- from django.http import Http404
- from .models import Visitor
- from django.views.generic.edit import CreateView
- from django import forms
- import xlwt
- import re

Concepts used in building the application

1. Data structures like list, dictionary

2. List comprehension

3. Dictionary comprehension

4. Functions

5. Classes

6. User created iterators

7. Importing external modules

8. Error checks using try-except

9. File input and output

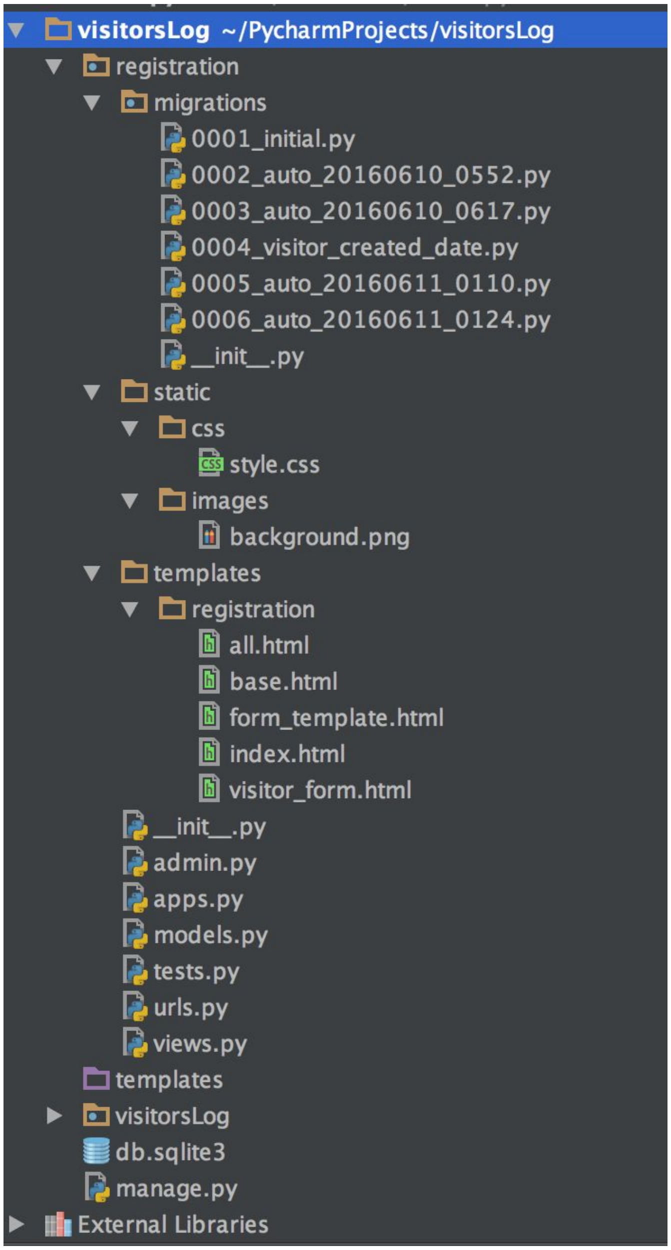
10. Regular expression

11. Itertools

Description of the Python Programs

All the python programs are well documented with inline comments to make it easily understandable for the person understanding the code, hence here I will give a outline of what each python file does.

The file viewer for the project is like this



```
▼ visitorsLog ~/PycharmProjects/visitorsLog
    ▼ registration
        ▼ migrations
              0001_initial.py
              0002_auto_20160610_0552.py
              0003_auto_20160610_0617.py
              0004_visitor_created_date.py
              0005_auto_20160611_0110.py
              0006_auto_20160611_0124.py
              __init__.py
        ▼ static
            ▼ css
                  style.css
            ▼ images
                  background.png
        ▼ templates
            ▼ registration
                  all.html
                  base.html
                  form_template.html
                  index.html
                  visitor_form.html
          __init__.py
          admin.py
          apps.py
          models.py
          tests.py
          urls.py
          views.py
      templates
    ▶ visitorsLog
      db.sqlite3
      manage.py
▶ External Libraries
```

appName is registration.

Model: models.py - There is only one model in the system i.e., Visitor. This file stores the Visitor Objects's fields and the behaviors of the data I am storing Visitor's table

View : Views.py: Contains all the functions that take HTTPRequest and gives HTTPResponse. The following are the functions in the file

- def index(request): function that returns the homepage (index.html) of the registration app
- def detail(request, pk): function that takes the id of the visitor and returns the all.html template with only that visitor record
- def showallvisitors(request): function that returns all.html template with all the visitors in the system
- class RegisterView(CreateView): function that returns the register form for a visitor to register
- def filtervisitors(request): function that reads the dates passed from filter form and returns the visitor objects whose created_at datetime falls between the from and to dates specified in the form.
- def exporttoexcel(request): function that reads the querySet data from {{all_visitors}} in filtered results page, converts to lists, strips unnecessary information using regex, iterates through objects and writes the fields to an excel sheet named 'VisitorsData.xls'

Templates: contains the html code to present render the web pages

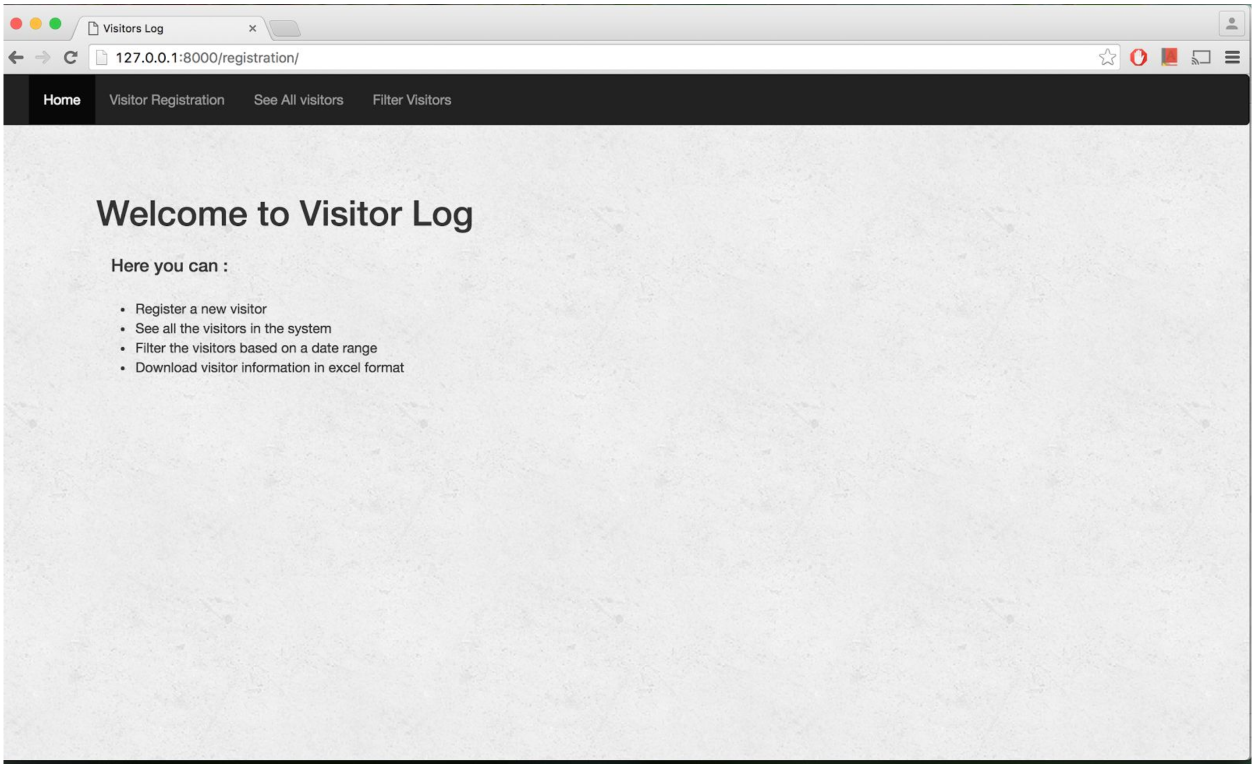
- base.html - contains the navbar. This html is extended in the rest of the html pages
- index.html - home page of the registration app
- all.html - the main template that is responsible for showing all results, filtered results and giving the option to export the results
- visitor_form.html - registration page of the visitor
- Form_template.html - helper form that iterates through form fields and renders the form along with error messages

Migrations- Database migration files that get created upon changes to models. Apply these migrations to keep the models in sync with the database

Static- contains the css and images that beautify the web application

Screenshots

Welcome page

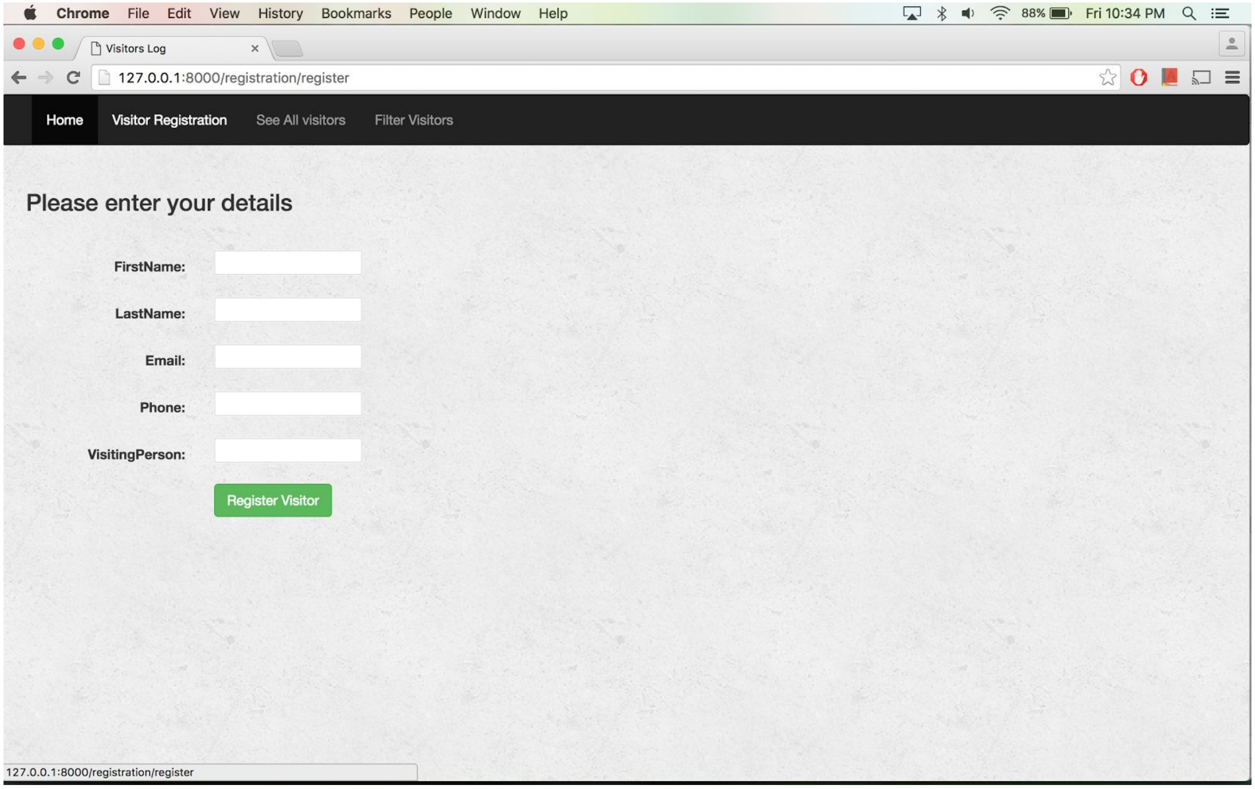


Welcome to Visitor Log

Here you can :

- Register a new visitor
- See all the visitors in the system
- Filter the visitors based on a date range
- Download visitor information in excel format

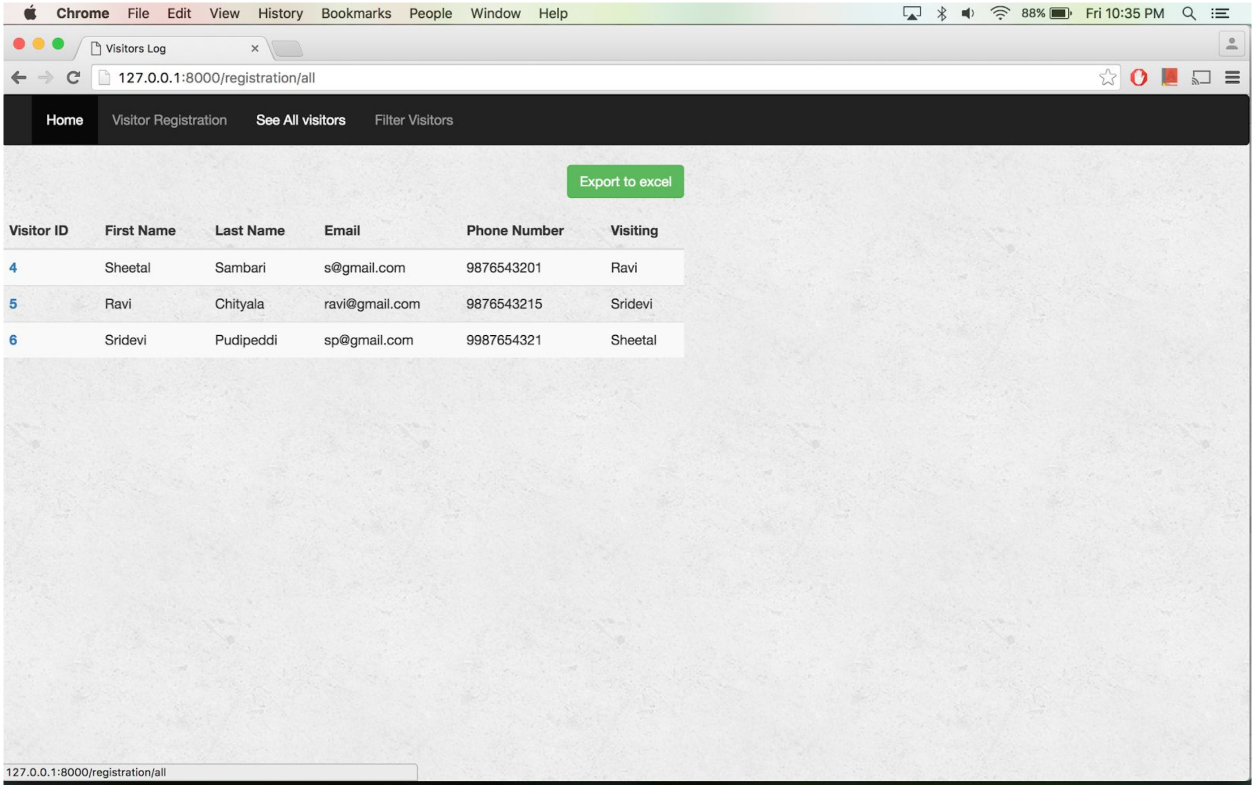
Register a visitor page


Chrome File Edit View History Bookmarks People Window Help
88% Fri 10:34 PM
Visitors Log
127.0.0.1:8000/registration/register
Home
Visitor Registration
See All visitors
Filter Visitors
Register Visitor
127.0.0.1:8000/registration/register

Please enter your details

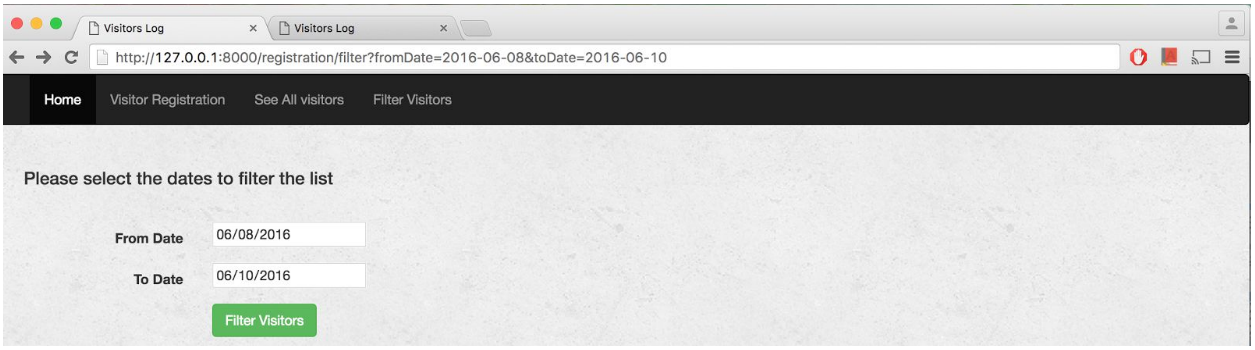
FirstName:	
LastName:	
Email:	
Phone:	
VisitingPerson:	

See all visitors page


Chrome File Edit View History Bookmarks People Window Help
88% Fri 10:35 PM
Visitors Log
127.0.0.1:8000/registration/all
Home
Visitor Registration
See All visitors
Filter Visitors
Export to excel
127.0.0.1:8000/registration/all

Visitor ID	First Name	Last Name	Email	Phone Number	Visiting
4	Sheetal	Sambari	s@gmail.com	9876543201	Ravi
5	Ravi	Chityala	ravi@gmail.com	9876543215	Sridevi
6	Sridevi	Pudipeddi	sp@gmail.com	9987654321	Sheetal

Filter visitors based on a range of dates

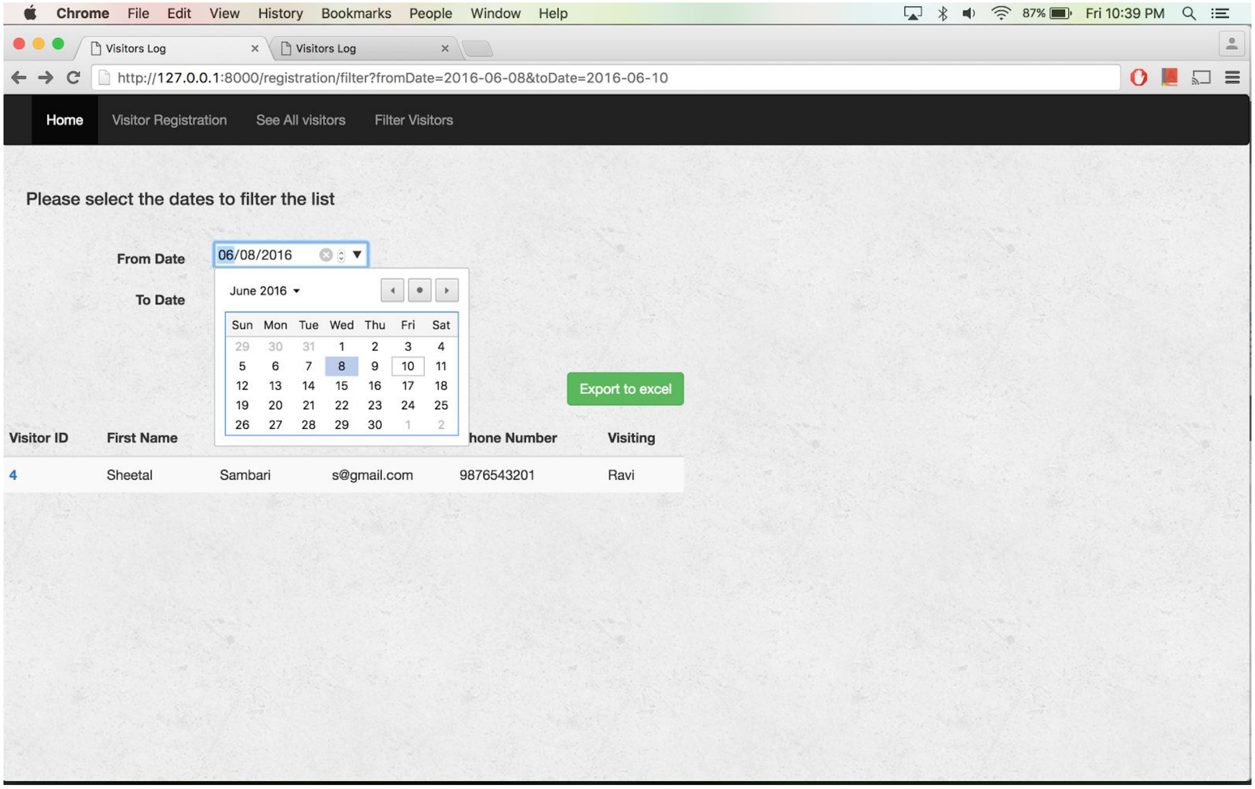


http://127.0.0.1:8000/registration/filter?fromDate=2016-06-08&toDate=2016-06-10

Please select the dates to filter the list

From Date 06/08/2016

To Date 06/10/2016



http://127.0.0.1:8000/registration/filter?fromDate=2016-06-08&toDate=2016-06-10

Please select the dates to filter the list

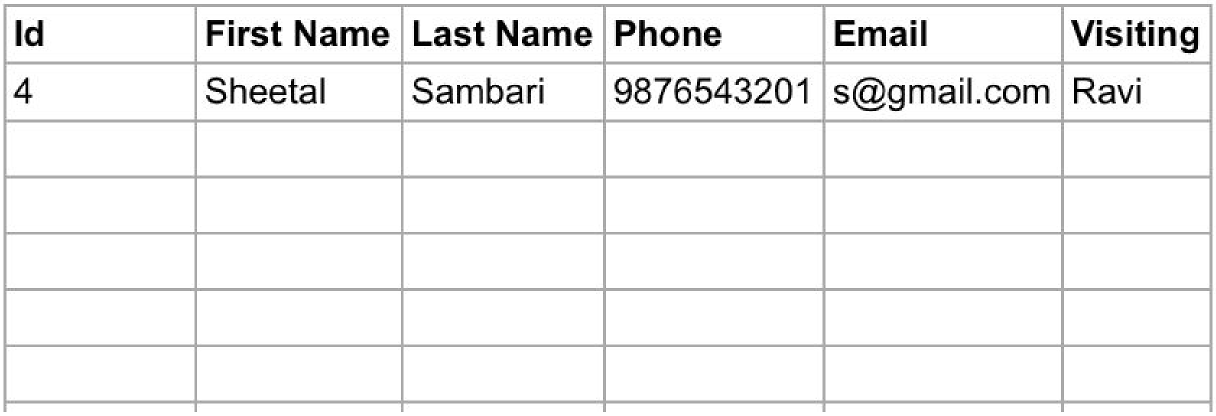
From Date 06/08/2016

To Date

Sun	Mon	Tue	Wed	Thu	Fri	Sat
29	30	31	1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	1	2

Visitor ID	First Name			hone Number	Visiting
4	Sheetal	Sambari	s@gmail.com	9876543201	Ravi

Export to excel



Id	First Name	Last Name	Phone	Email	Visiting
4	Sheetal	Sambari	9876543201	s@gmail.com	Ravi

Conclusion

The main aim of the project is to implement the concepts learned in class and learn a new framework (Django) to further improve the learning experience. The visitorsLog project has one app - registration, which takes care of visitors and their registration. The program allows visitors to register their details to get access to the person they are visiting. Security personnel or front desk receptionist or system administrator can track, filter and manage the visitors and download their information into excel format.