

## **Python Mid-Term Project Documentation**

**By**

**Pratik Sanjay Belhekar**

For your midterm I would like for you to think about a final project and give a description in a document file about your project. The document must contain the following information

1. What is your program? Give a brief description of what your program is going to do.
2. How is it going to work? Describe how you expect the program to perform its operations.
3. What modules are you going to use? Describe how these modules will fit into the program.
4. Describe any problems you may experience and how you plan on handling it. It is good to think about what might happen so you are prepared to handle it.

### **1. What is your program? Give a brief description of what your program is going to do.**

- The project will be a web based program for Bus reservation. This program will allow user (Travels) to book/cancel a bus for their desired journey. This will also provide a UI for admin to add/update the Bus time table. The functionalities of my project will be as follows

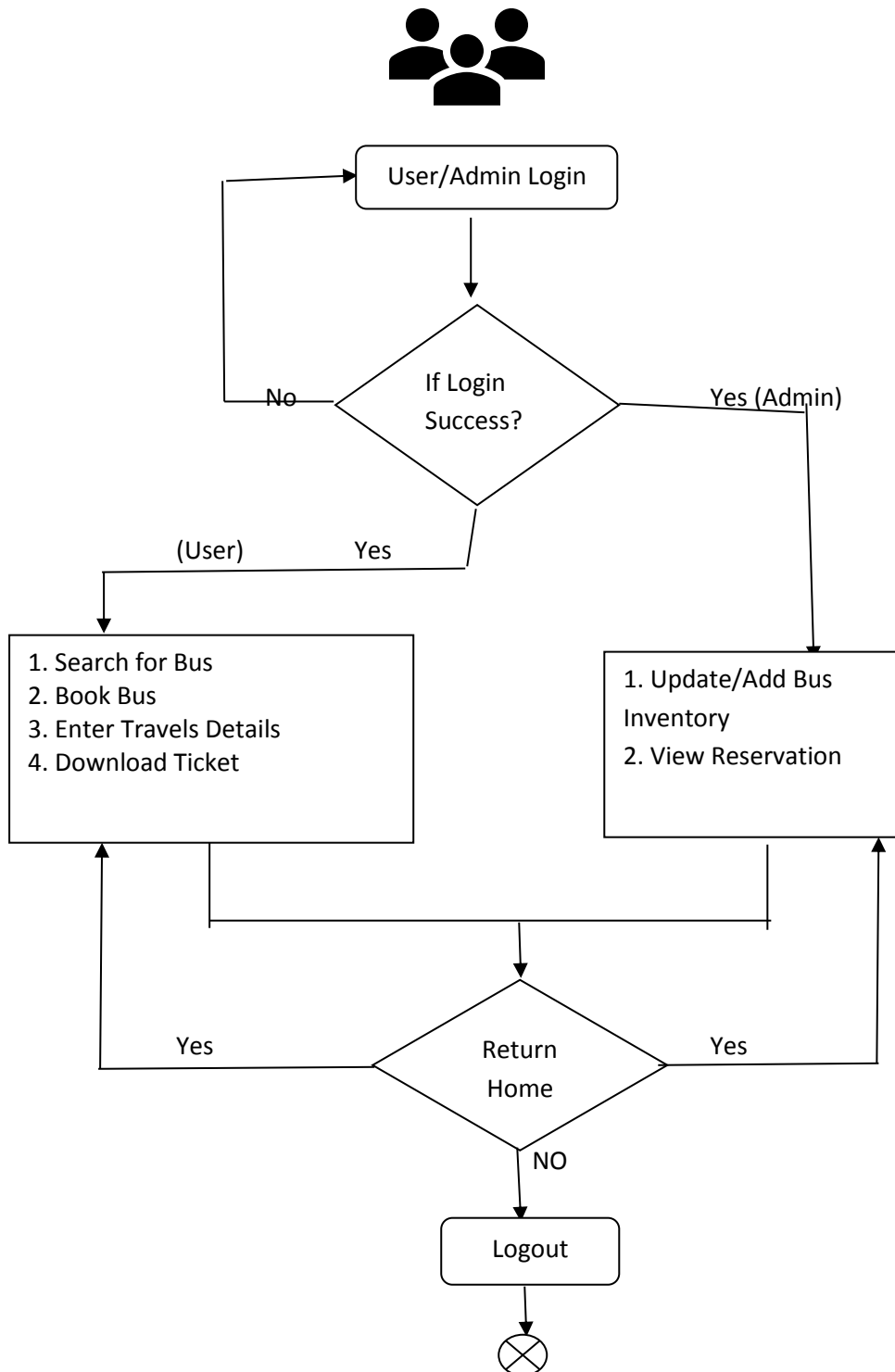
#### **Book bus Functionalities**

- **Login Admin**
  - update bus inventory (depart/arrival location, Time, Cost, No of Seats)
  - View Reservation (For bus)
- **Login User**
  - Enter desired date of travel and select number of seats Location of departure and arrival
  - Book bus from displayed List of bus for given Desired location and Date
  - Enter Travels details. Show total amount to be paid at departure
  - Download Ticket
  - Cancel Ticket
- **System**
  - Generate ticket
  - Update Available seats after travels makes booking/cancelation

## 2. How is it going to work? Describe how you expect the program to perform its operations

- Below is the Flowchart depicting the working and flow of program and operation performed

### Bus Reservation Flowchart



### 3. What modules are you going to use? Describe how these modules will fit into the program.

- Modules that I will be using are Django and sqlite3

#### Django –

Django is a high-level Python open -source Web framework that encourages rapid development and clean, pragmatic design. Django follows Model-View-Template (MVT) architectural pattern.

The core Django framework can be considered as MVC architecture consisting of Object Relational mapper (ORM) which mediates between Data Models(Def. Python Class ) and relational Database (**MODEL**) a system for processing HTTP request with a web templating system (**VIEW**) and a regular-expression-based URL dispatcher (**CONTROLLER**).

Django comes with Object Relational mapper (ORM)in which I will describe my database layout in python code using data model syntax and then generate the table by running a command line utility \$python manage.py migrate, the migrate command will look at my all available models and create tables in database which will be sqlite3 as it comes with Django installation and it is synch with Django.

Following will be my data Models or database schema for said project

- BusTimetable (Bus\_no, depart\_date, depart\_location, depart\_time, arrival\_location, cost, total\_seats)
- Reservation (Bus\_no, passenger\_id, no\_seats)
- Passenger (passenger\_id, Name, contact, email\_id)
- Login (login\_id, password)

### 4. Describe any problems you may experience and how you plan on handling it. It is good to think about what might happen so you are prepared to handle it.

- I have already started learning Django and yes upon completing it I can solve few problems that I don't know(syntax) how to implement in Django. Problems like complex queries like updating the total seats remaining in bustimetable db after a passenger makes reservation or cancel the reservation. Other are displaying the detail list of passenger reservation made to admin for bus