

**CIE203**

**Software Engineering**

Project Name: BookIt

Software Design Document

Team Name: BugBusters

Team Leader: Mahmoud ElSayed

November 25, 2016

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# Team

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# Document Purpose and Audience

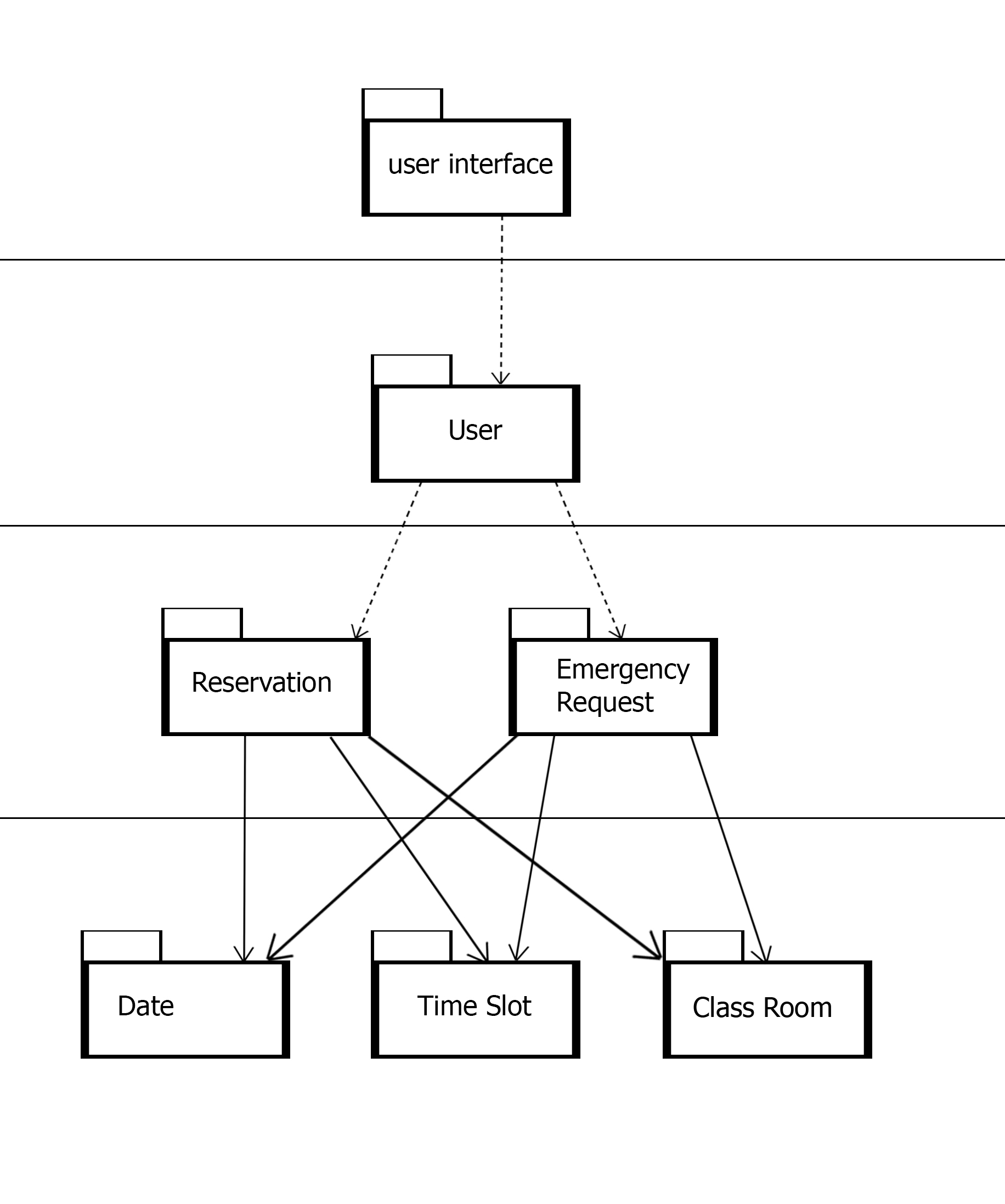
The purpose of this document is to describe the software design of the BookIt software, as detailed as possible to make life easy upon implementation and to make it easy for anyone to understand the system and its mechanisms.

The document includes system decomposition which is a breakdown of the system into main components, Class diagram and responsibilities which is a representation of the class model with their responsibilities and the relations among them, Database design which is an ER diagram showing entities, attributes and relations and keys along with any necessary description and finally this document includes Algorithm design which includes a flowchart of the used non trivial algorithms.

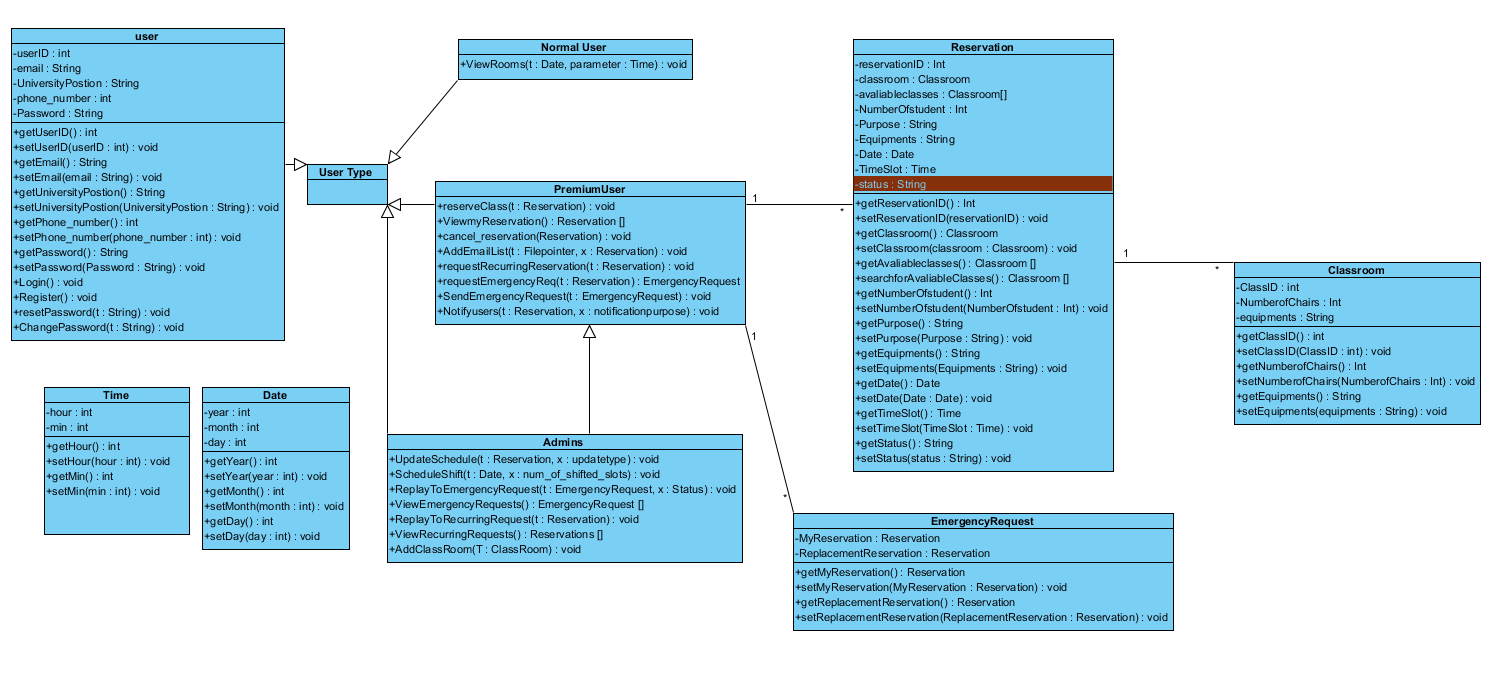
The target audience: software developers and software designers.

# System Models

## I. System Decomposition



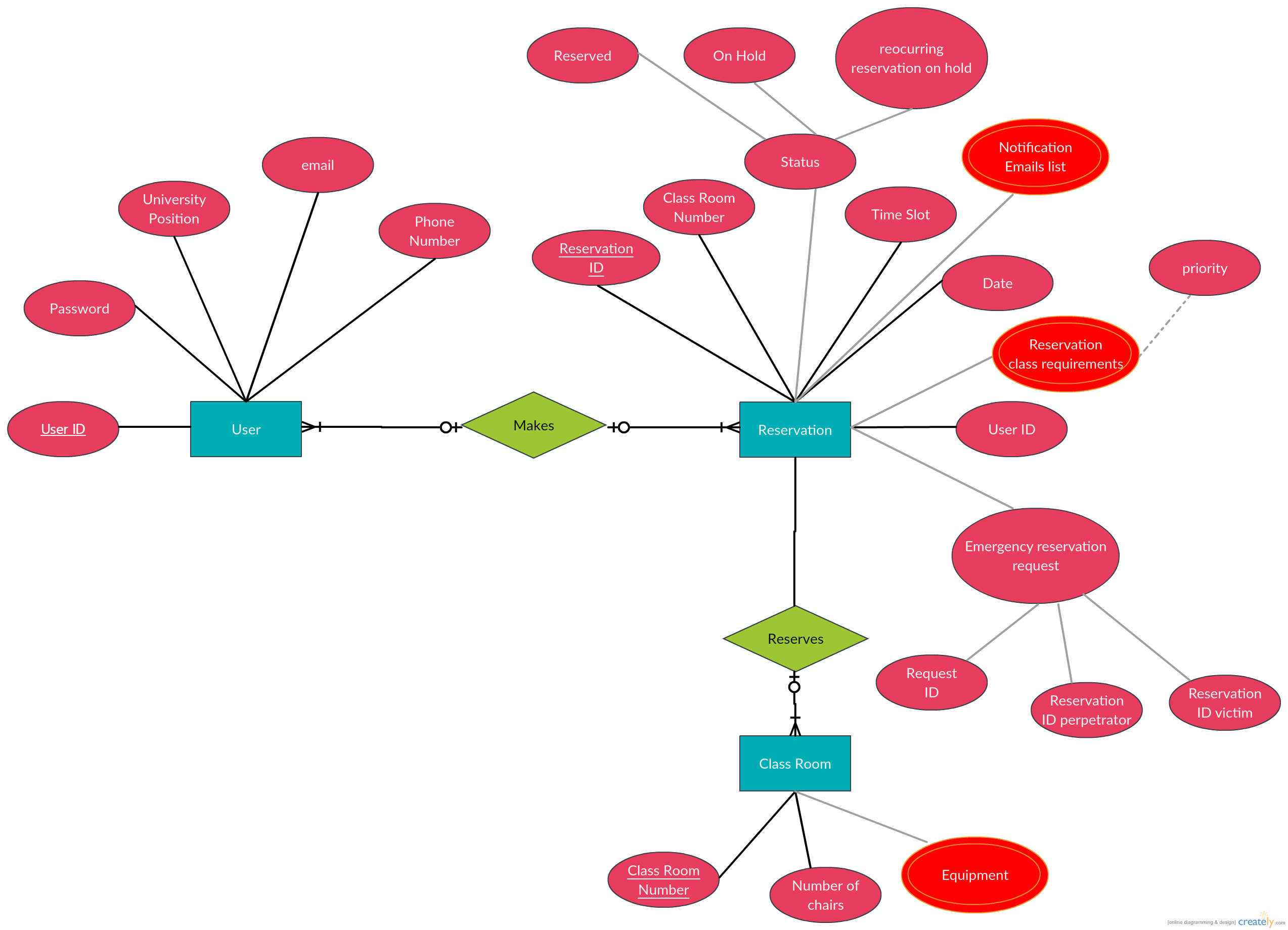
## II. Class diagrams (See the attached file)



**List down your classes and describe them**

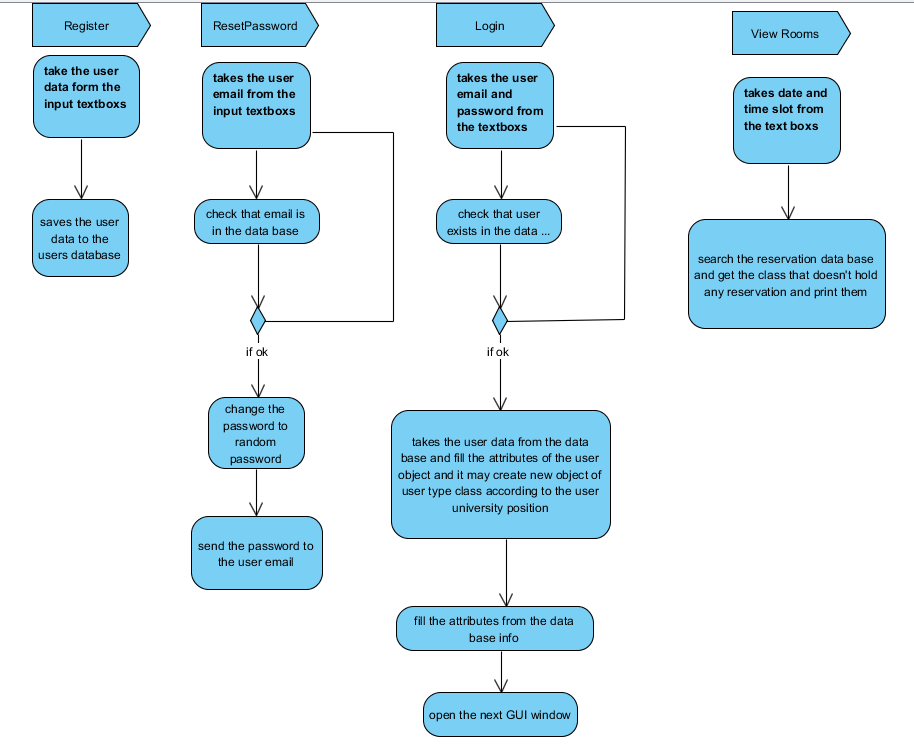
| **Class ID** | **Class Name** | **Subsystem ID** | **Description & Responsibility** |
| --- | --- | --- | --- |
| 1 | User | 2 | This is the generic user class from which we create an object to register,login and do the primitive tasks before determining the user type. It also hold the user attributes |
| 2 | User type | 2 | This is an an abstract class which can change role to one of the user types after login |
| 3 | Normal User | 2 | Hold the functions which can be done by this Normal user. |
| 4 | Premium User | 2 | Hold the functions which can be done by this premium user |
| 5 | Admin | 2 | Hold the functions which can be done by the admin. |
| 6 | Reservation | 3 | Hold the reservation specification and requirements. It also hold a function to search for the available class which meets the reservation requirements and hold a list of these avaliable classes and the status of reservation.  The object created here can be used as a parameter to add/cancel a reservation by the premium user or to update schedule by the Admin |
| 7 | EmergencyRequest | 3 | Used to create an emergeny request object which will be send by the Preimium user and replied to by the Admin |
| 8 | Class room | 4 | To Create a class room Object which is used to hold the classes attributes when we need to process a get the list of the avaliable classes from the data base or when we need to add a new class to the system |
| 9 | Date | 4 | An object to hold the date in the needed format |
| 10 | Time | 4 | An object to hold the Time slot in the needed format |

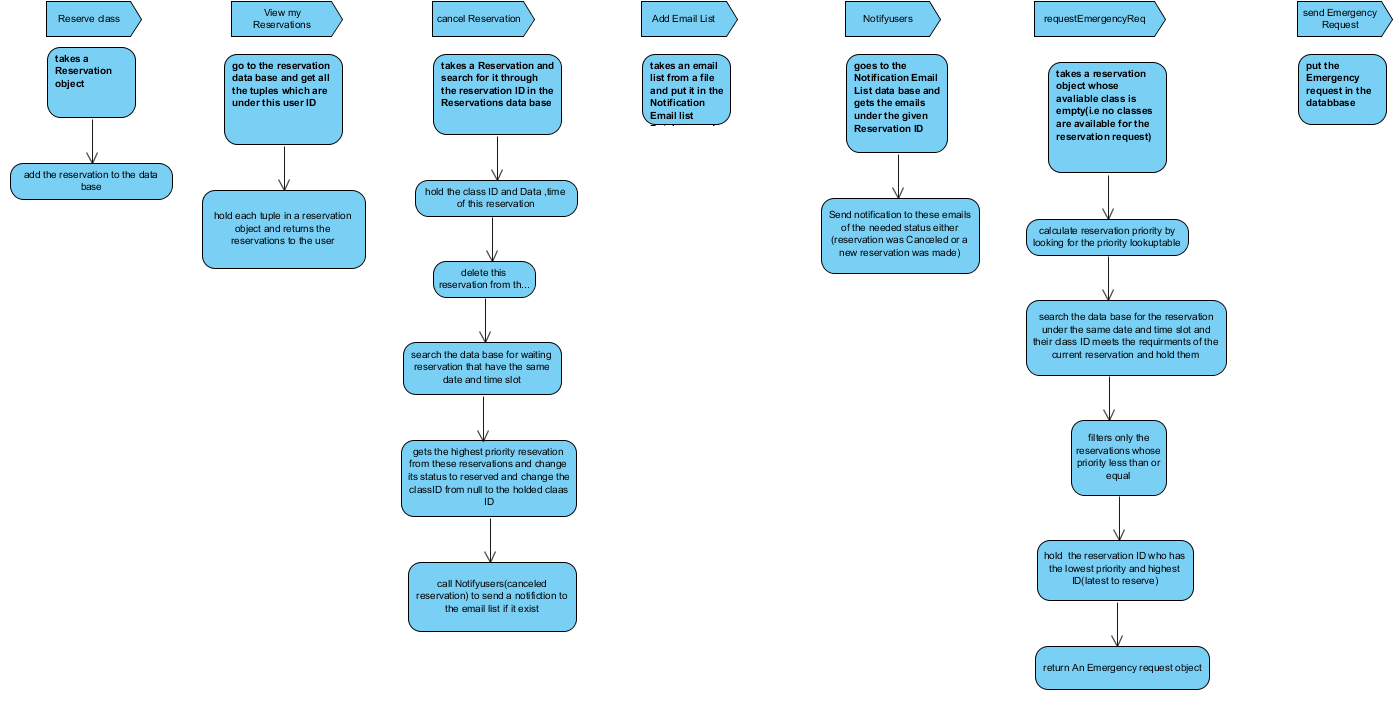
## IV. Physical Entity-Relationship Diagram

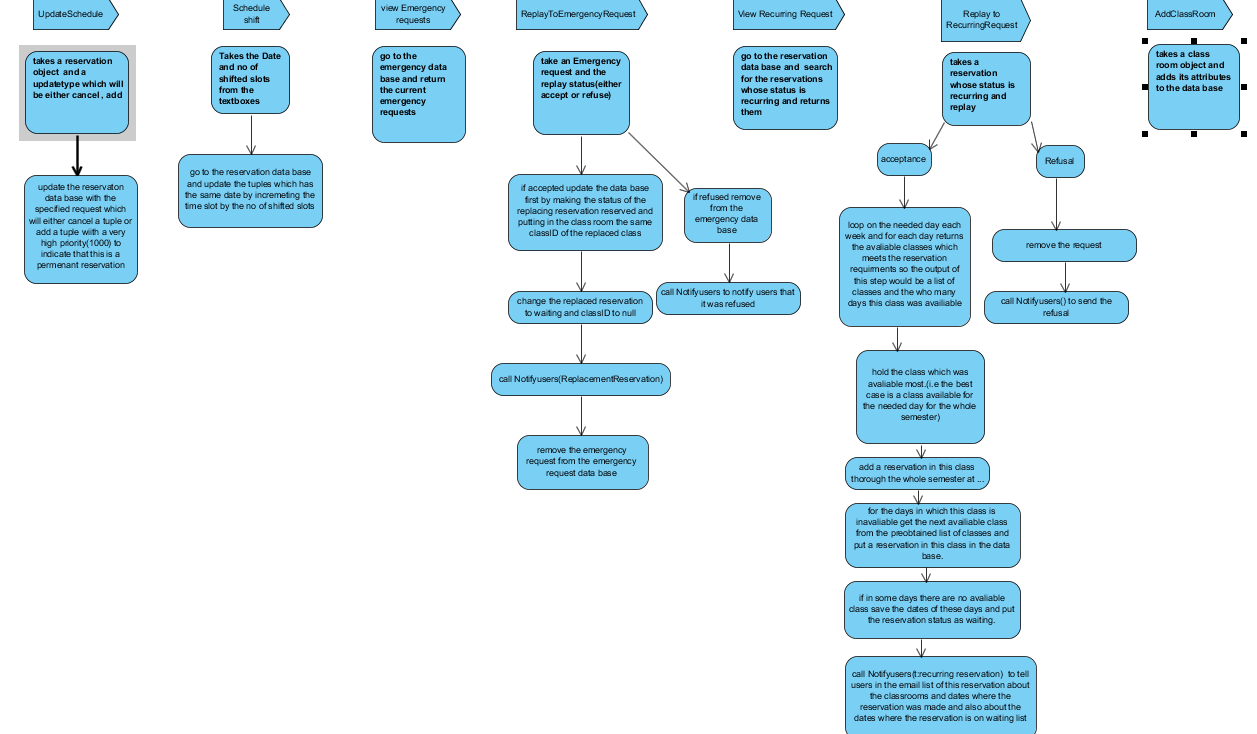


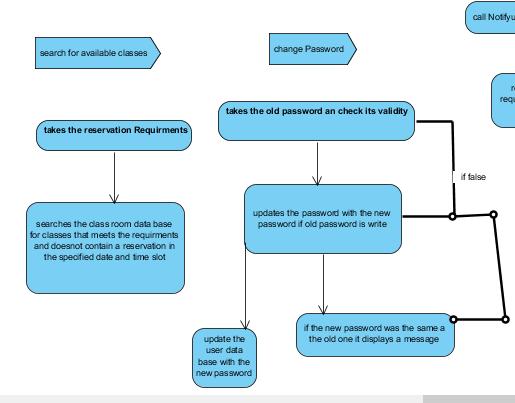
## 

## VI. Algorithms and Data Structures (see the attached file )









# Ownership Report

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| **Item** | **Owners** |
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