SOFTWARE DESIGN DOCUMENT

for

PROPERTY MANAGEMENT

Version 1.0
Project Number : P010

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Contents

1 Introduction

1.1 Purpose

The purpose of this document is to describe the implementation of the PROPERTY MANAGEMENT Software described in the Property Management Software Requirements Specification.The "Property Management" website is designed to provide the facility to a user to buy or sell/rent his properties such as apartments and rooms also to add project.

1.2 Project Scope

This portal is designed to provide the facility, where a customer can easily buy or sell-/rent their properties such as apartments and rooms and add their projects.
The user can be a buyer or seller or builder. In all cases, the user has to register on this website by filling a registration form. The user will be redirected to the "USER DASHBOARD " where he/she can see all the notifications on successful login. If the user wants to register a property for selling or renting or wants to build a project, he/she can do so by filling an application form, which will be different for apartment, room and projects. The user can also see all the properties he/she has registered on the details page. They can edit or delete properties registered by them. The owner can also approve or reject the application related to his property. Also, the owner and user can book a meeting for a particular property. The user can see other properties also which are registered in the system on the home page and can provide ratings to it.
A search filter is provided which will search based on different parameters like city/state, price range and property type. The search results will contain the details for each property along with four buttons: Apply, Complaints, Book Meeting and Save for Later. The owner cannot apply or register complaints about his/her property. Users can buy the property or can make the complaint regarding any property or book a meeting with the owner or can save that property for later.
The admin after a successful login will be redirected to the "Admin Dashboard". The admin can view the list of all registered users as well as registered properties. The admin manages all the complaints and he/she can also warn the owner if he finds the complaint is valid. Also, the admin can delete the account of any user. Anyone can reach the admin for conveying their messages through the contact us page. There will also be a guide manual page on the website.

2 Design Overview

2.1 Description of Problem

Traditional methods to secure tenants or buyers for real estate are often limited to individuals or groups with greater social connections and often, are quite cumbersome and cause unnecessary hassle due to time - taking procedures of applications, approval systems and a chain of middle-men. This website aims to reduce these issues by introducing technology and computerizing the processes involved.

2.2 Technologies Used

The website will be operated in any Operating Environment - Mac, Windows, Linux etc. The system is designed to function within a web browser in different sizes of screen i.e Laptops, PCs, Tablet and mobile phones. To implement this cross-platform portability, the system is built using HTML5, CSS 3, Bootstrap4 and JavaScript rather than a native language of a particular platform.
This simply means that the web browser must support HTML5,CSS 3, Bootstrap4 and JavaScript to run this software. The system should be able to detect the screen size of the device and optimize the user interface for that specific screen size. MySQL will be used to communicate with the backend servers that store and deal with the data. This platform will use flask for the backend.

2.3 System Architecture

Figure 1 depicts the high-level system architecture. The system will be constructed from multiple distinct components:

- **User Interface** - This interface enables the user to register property and projects for sale or renting, view all registered property and projects, apply for the same, book meetings, save property to view later, register complaints etc.
- **Admin Interface** - This interface allows the admin to view the list of all registered users as well as registered properties, warning users and deleting accounts.
- **Data Storage/ Database** - The interface for storing, importing and exporting the data model and raw collected data.

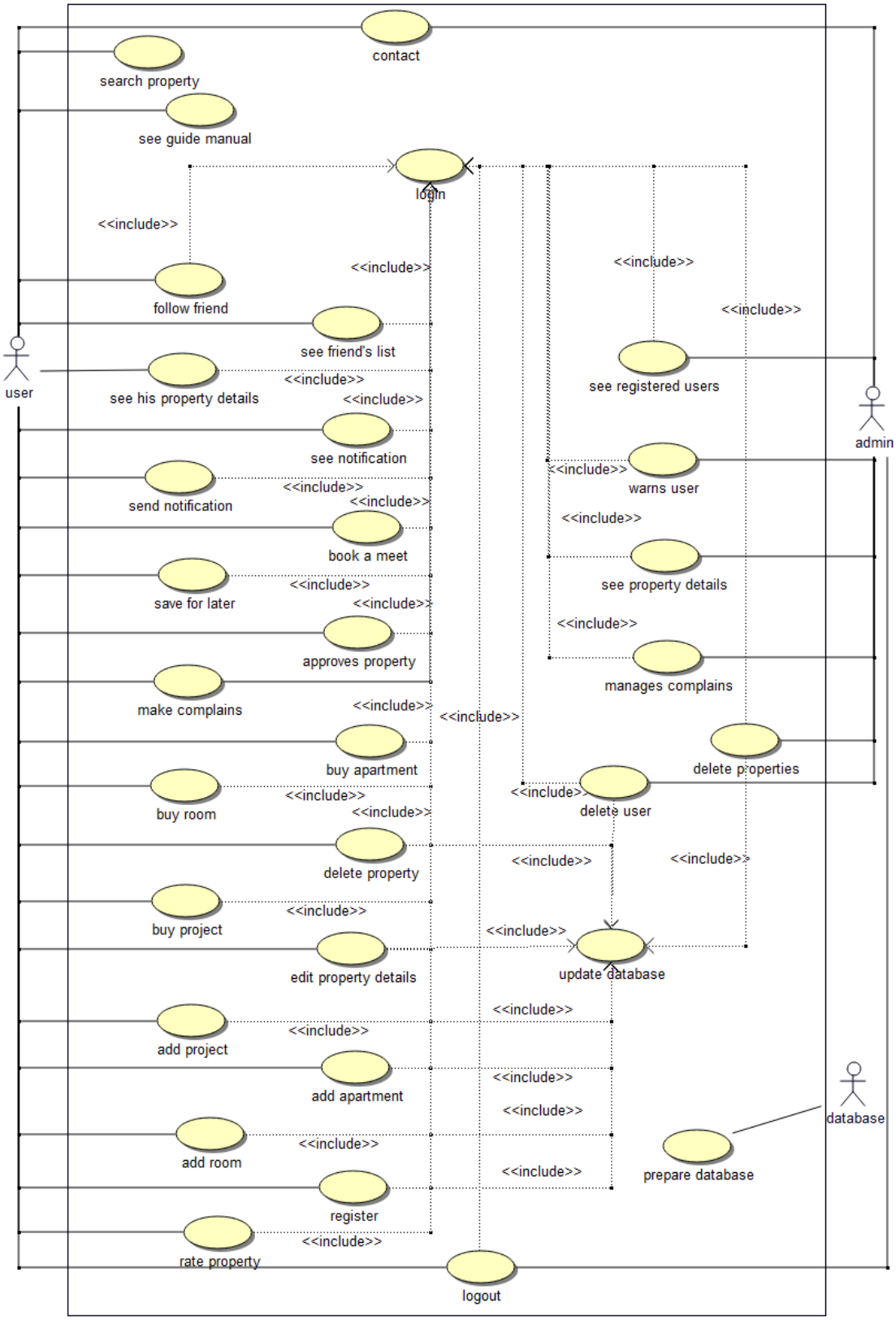

Figure 2.1: System Architecture - Usecase Diagram

3 System Operation

Following figures are the sequence of events that occur during a session of the website.

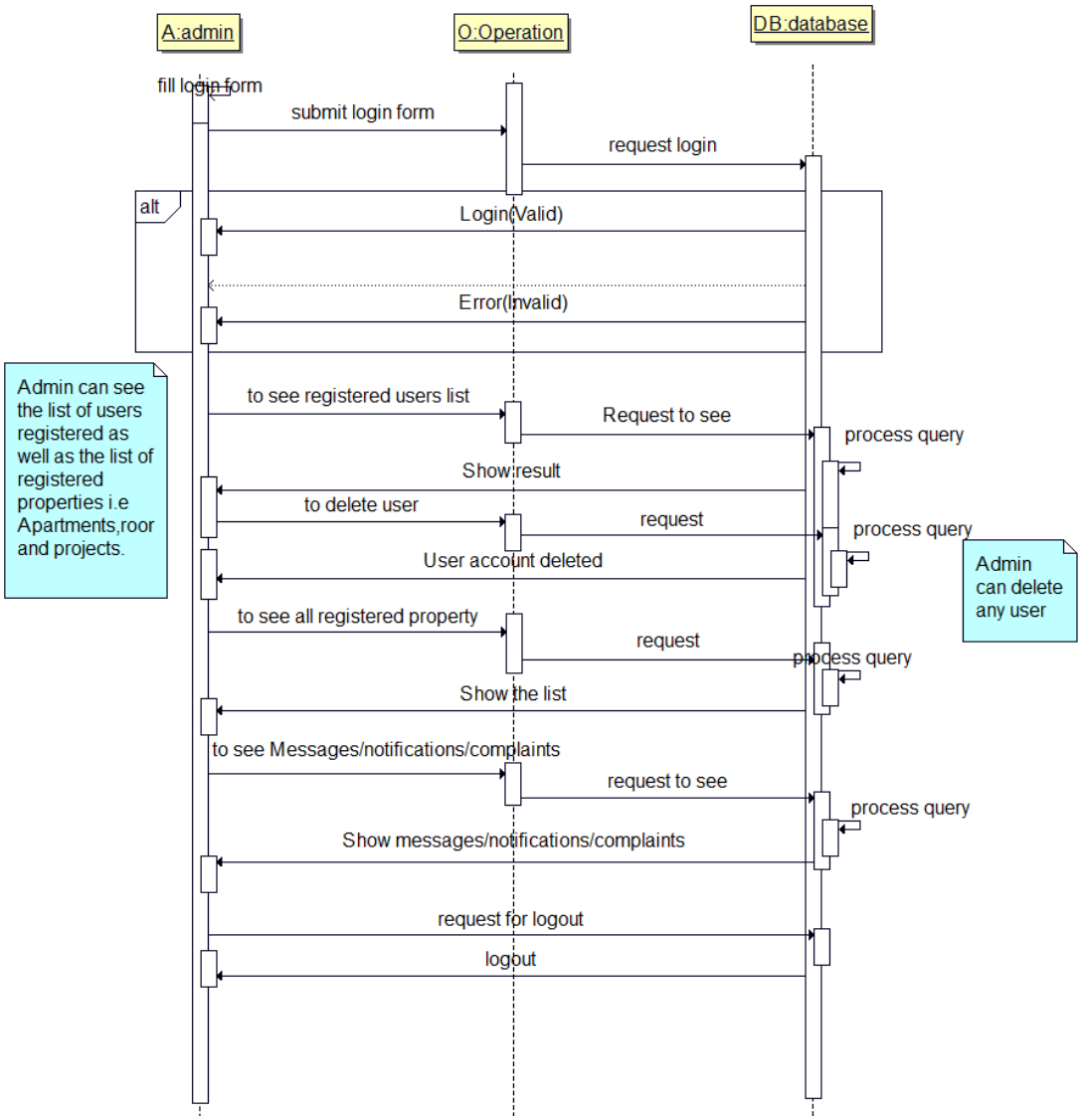

Figure 3.1: Admin Sequence Diagram

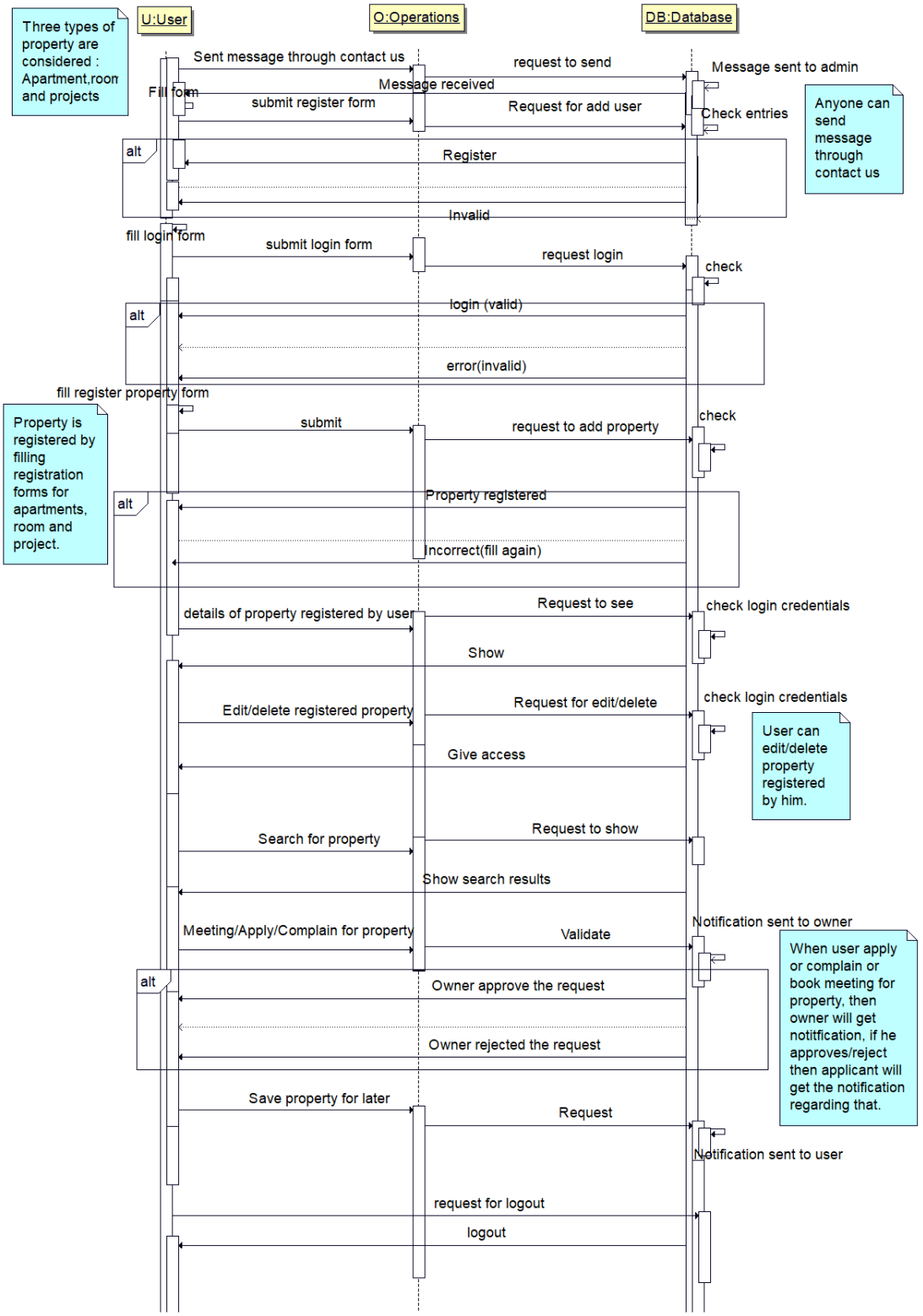

Figure 3.2: User Sequence Diagram

4 Activity Diagrams

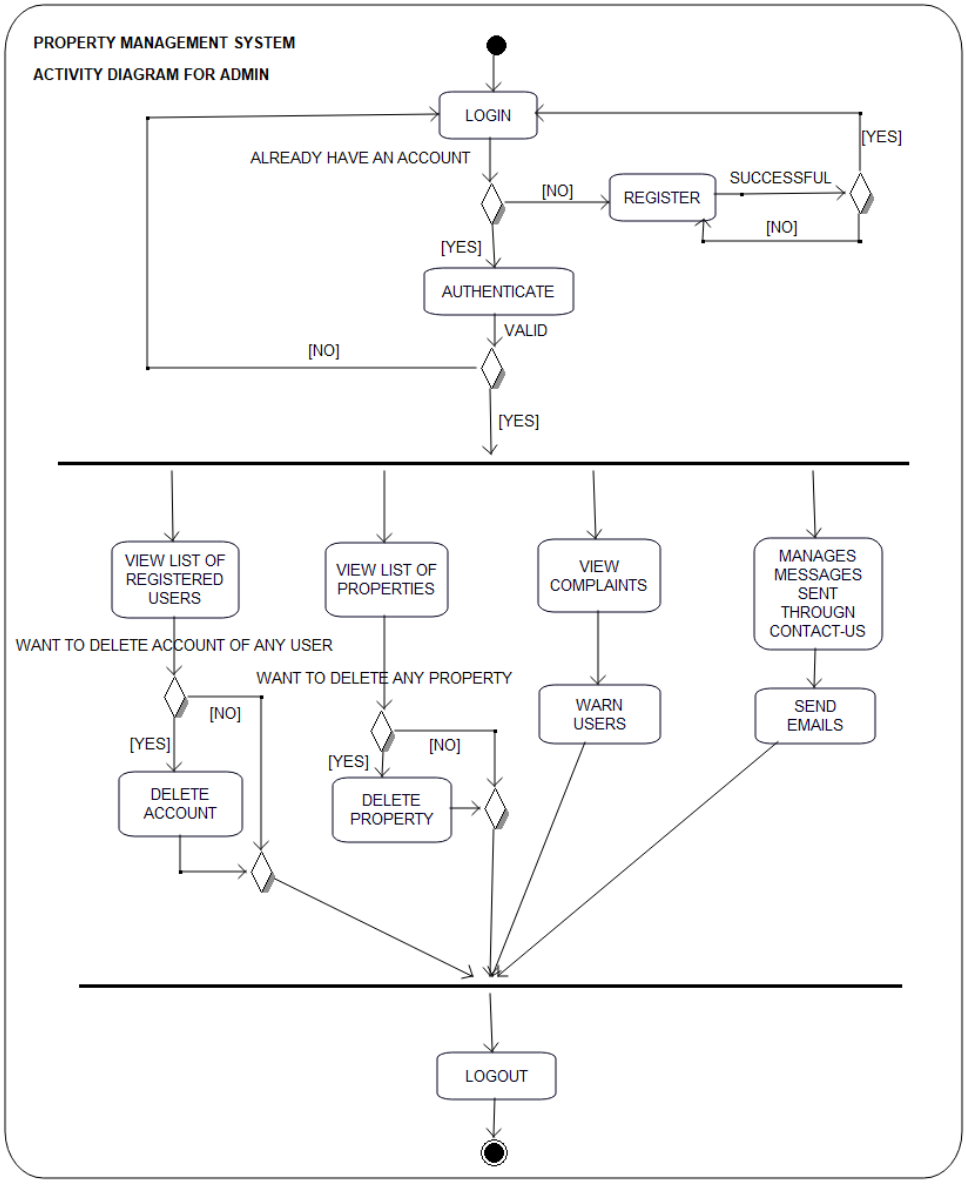

Figure 4.1: Activity Diagram for Admin

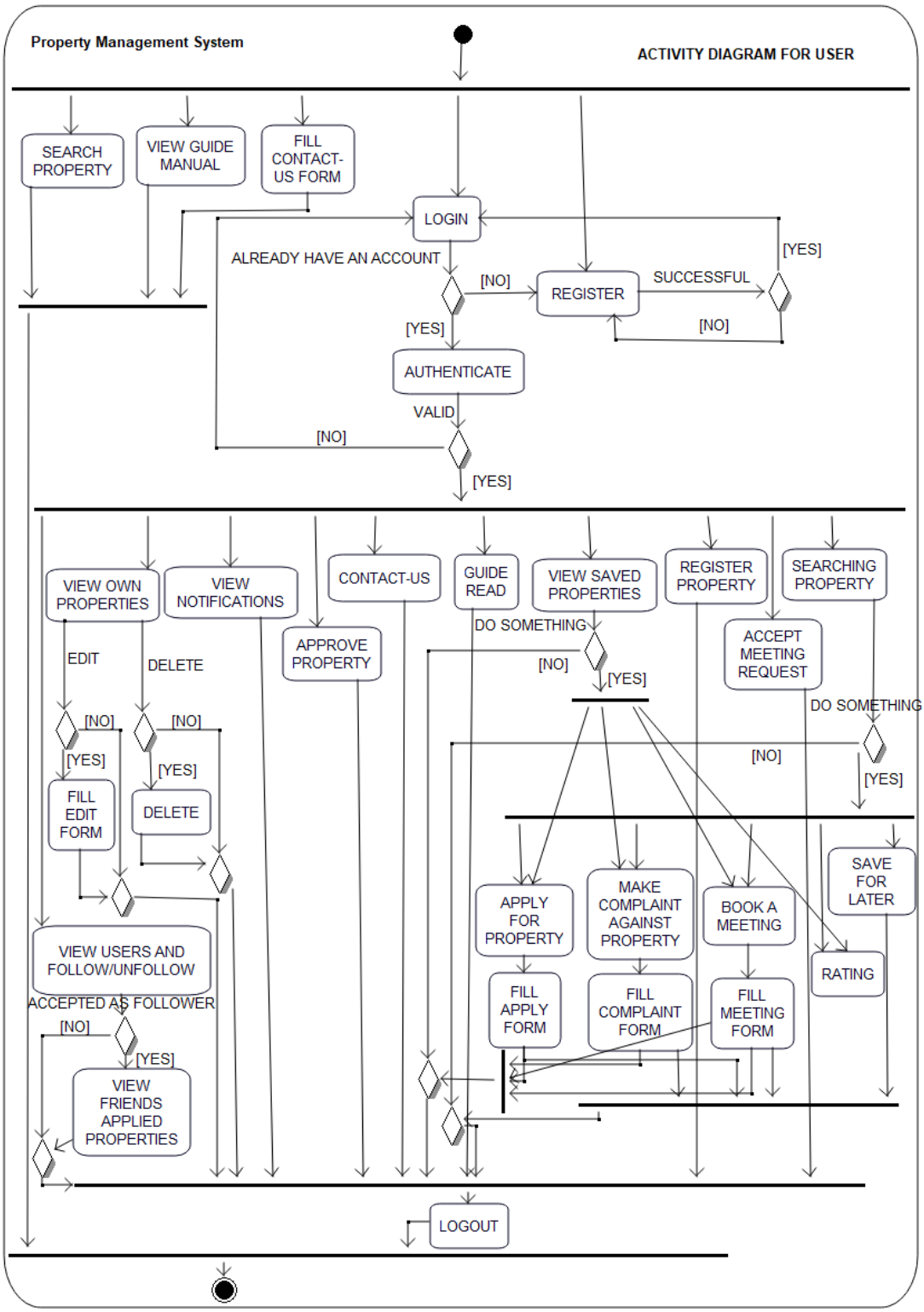

Figure 4.2: Activity Diagram for User

5 ER Diagram for all Entities

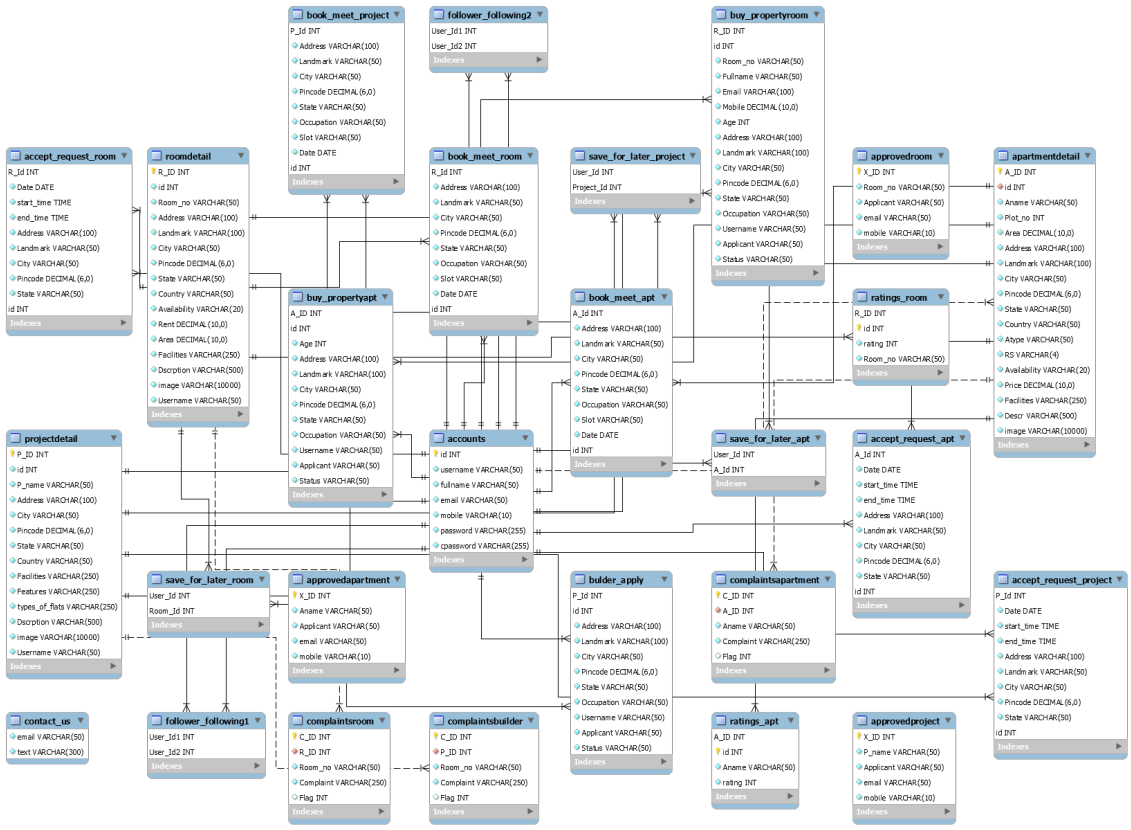

Figure 5.1: Entity- Relation Diagram

6 Class Diagram for Property Management

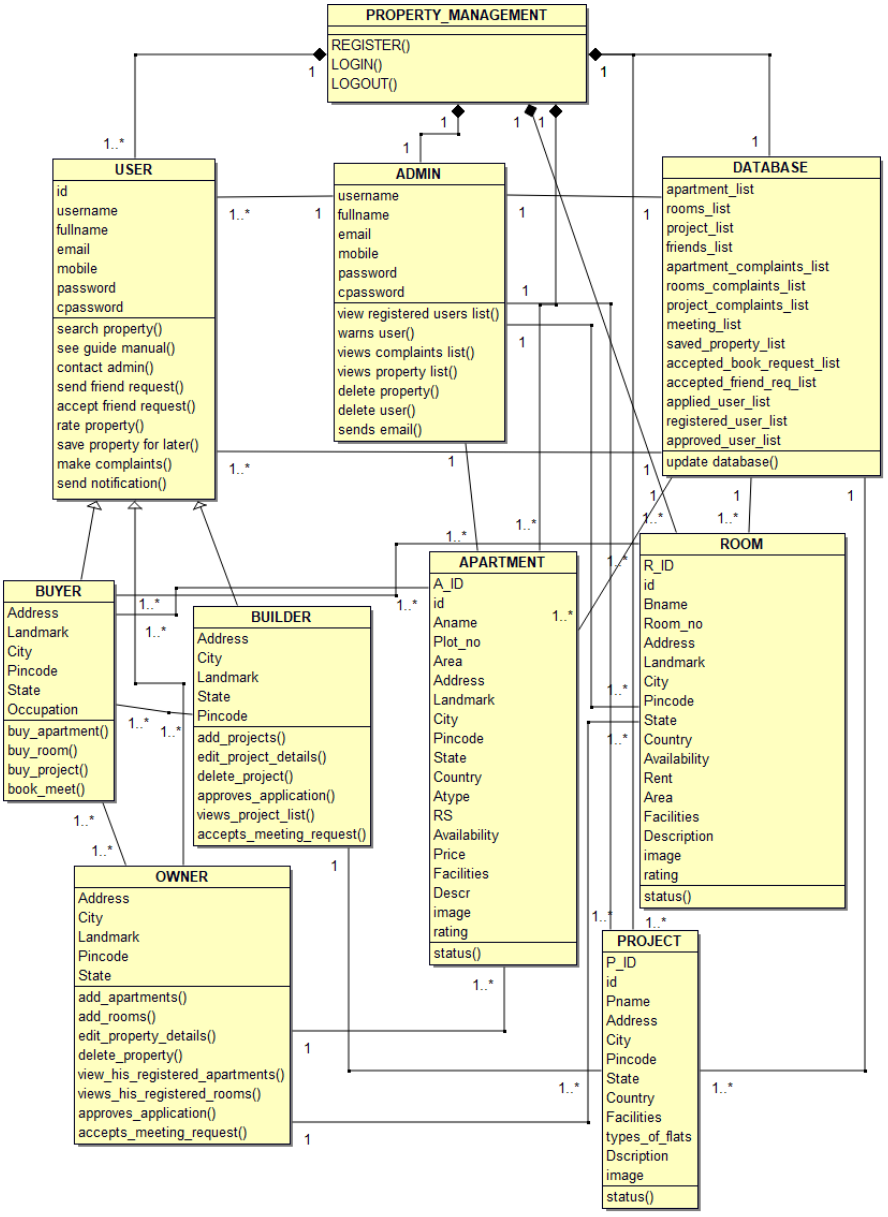

Figure 6.1: Class Diagram