

MRoom

Project Number: 8

SE 305 – Software Specification and Design
Term Project Design Document

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1. Introduction

Our project is a meeting room application. It allows employees to reserve meeting rooms in companies/workplaces (especially in crowded companies with multiple departments). Apart from this main feature, the application also provides an option that allows the user to order drinks/food in the meeting room.

2. Problem Definition

The reason why we think this is a problem is that arranging meeting rooms can be a problem, especially in crowded workplaces. Considering that there is one or more meeting rooms in a crowded company, when a person wants to use any meeting room at any date and time, a great burden is placed on the person responsible for maintaining this order and course. In order to prevent this, we decided to establish a meeting room reservation system that works with an appointment system. This system provides a clearer and simpler usage by showing the occupancy/vacancy status of the meeting rooms to other users by taking the features such as date, time and meeting room after receiving the meeting information. The fact that the user can find and reserve the suitable room by looking directly at the system instead of going and talking to someone provides great convenience and speeds up the work. The system also avoids complexities that can occur (like different people booking a room for the same time slot).

3. Proposed System Design

3.1. Requirements

3.1.1. Functional Requirements:

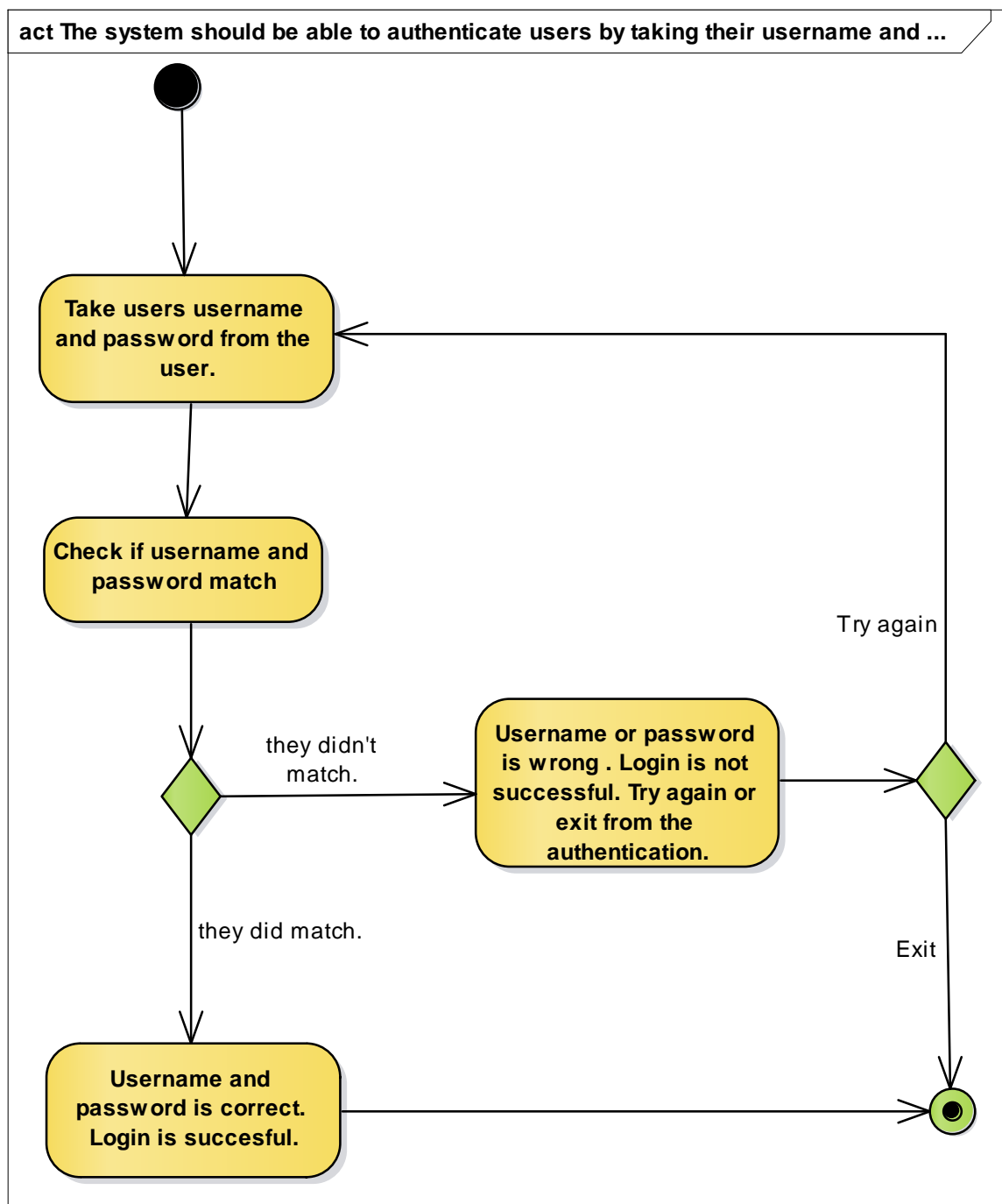
1. The system should be able to authenticate users by taking their username and password when they login to the system
2. The system should ask the users to enter the date and time with the number of attendants of the meeting they try to plan and show available rooms which user could select.
3. The system should store and show all the details about rooms if user want to see them (capacity, features for disabled people, advantages of the room etc.).
4. The system should enable the admin to mark some rooms as special rooms. This rooms will be available to book only when admin allow them to be.
5. The system should know if the meeting have the chance to last longer than expected and suggest rooms accordingly. (By checking if there is an upcoming meeting in that room in 1 hour)
6. While booking, the system should ask for the service needed during meetings. (foods, drinks or technological equipment etc.)

3.1.2. Non-Functional Requirements:

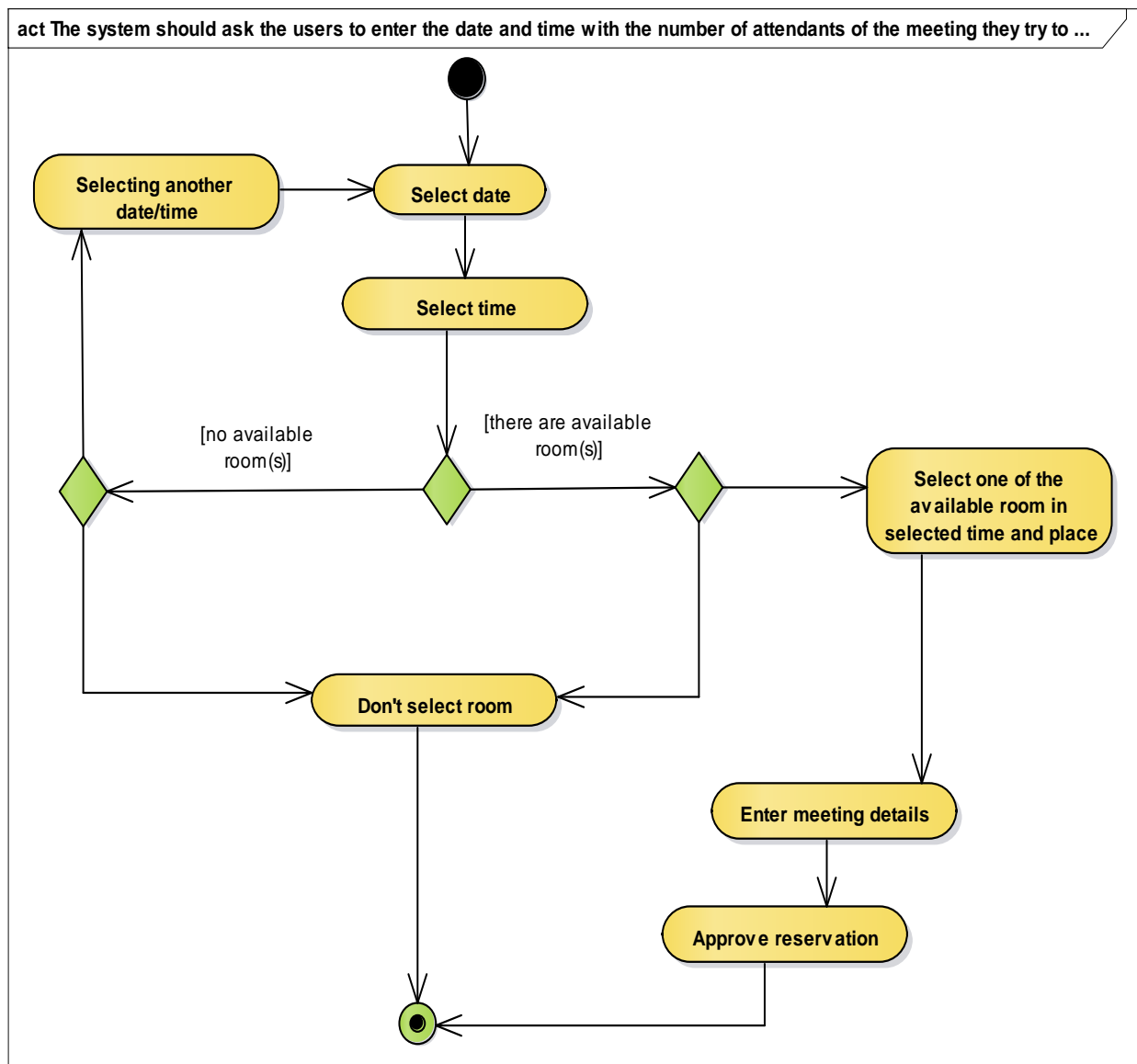
1. The system should be available for everyone in a company.
(Including managers and service staff)
2. The system should be available 24/7.
3. The system should protect the information of people who will use the room.
4. The system should be able to be used by both mobile and desktop devices
5. The system should be compatible to be used by different companies at the same time (one company with a 100 or less users and another company with 1000 or more users. up to 500 companies.).

3.2. Activity Diagrams

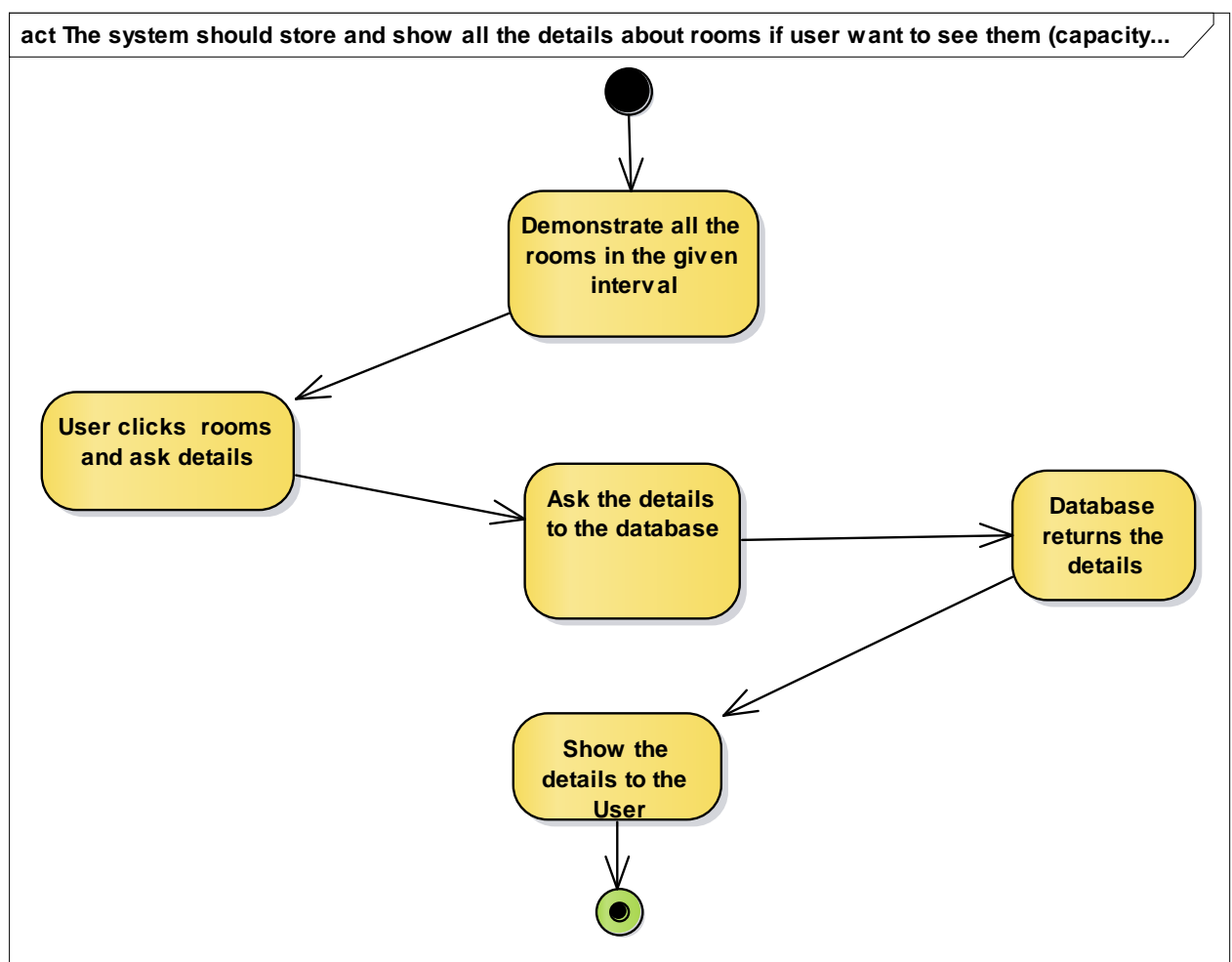
3.2.1. Activity Diagram 1: *AUTHENTICATING USERS*



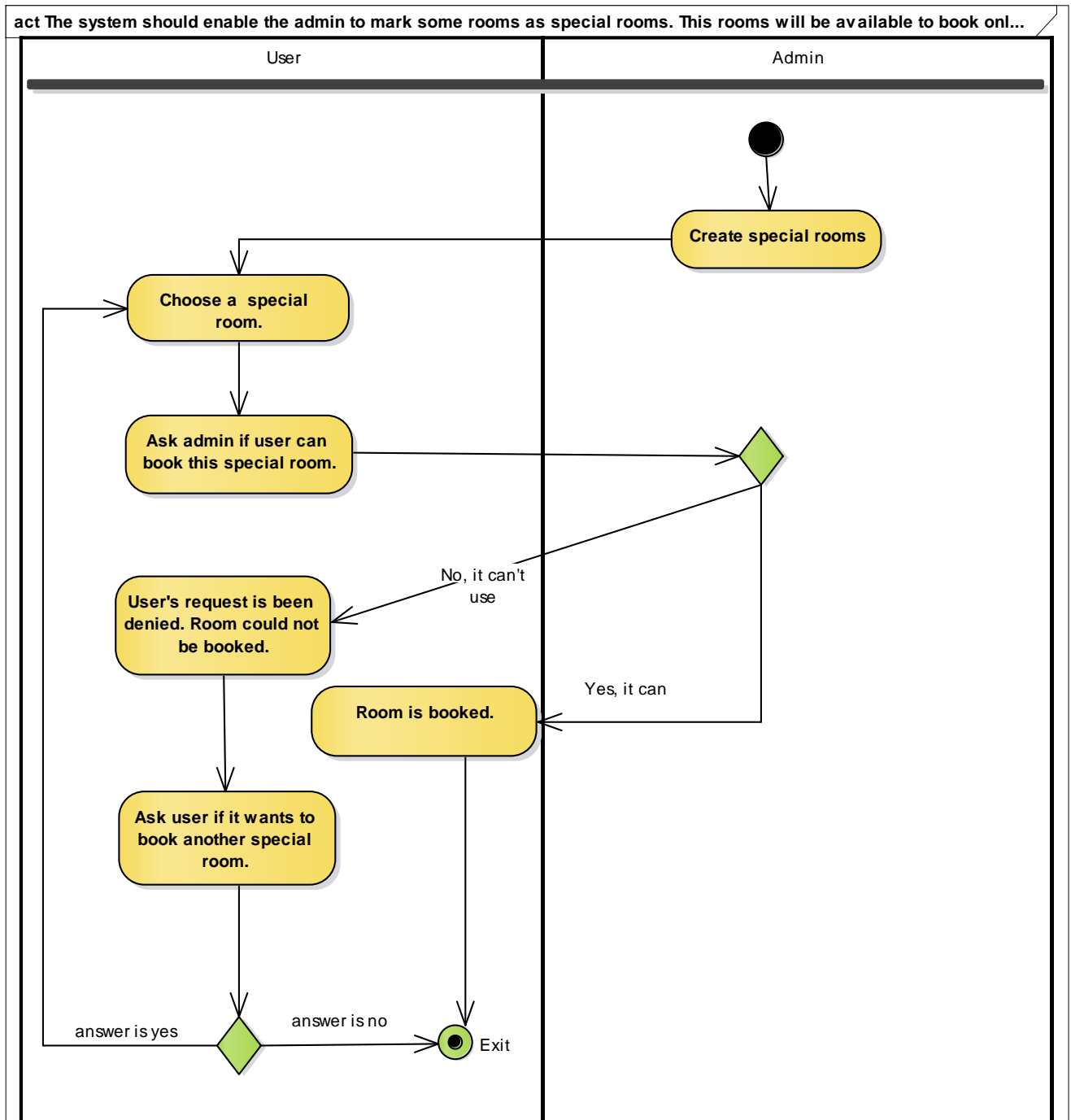
3.2.2. Activity Diagram 3: *SETTING DATE AND TIME*



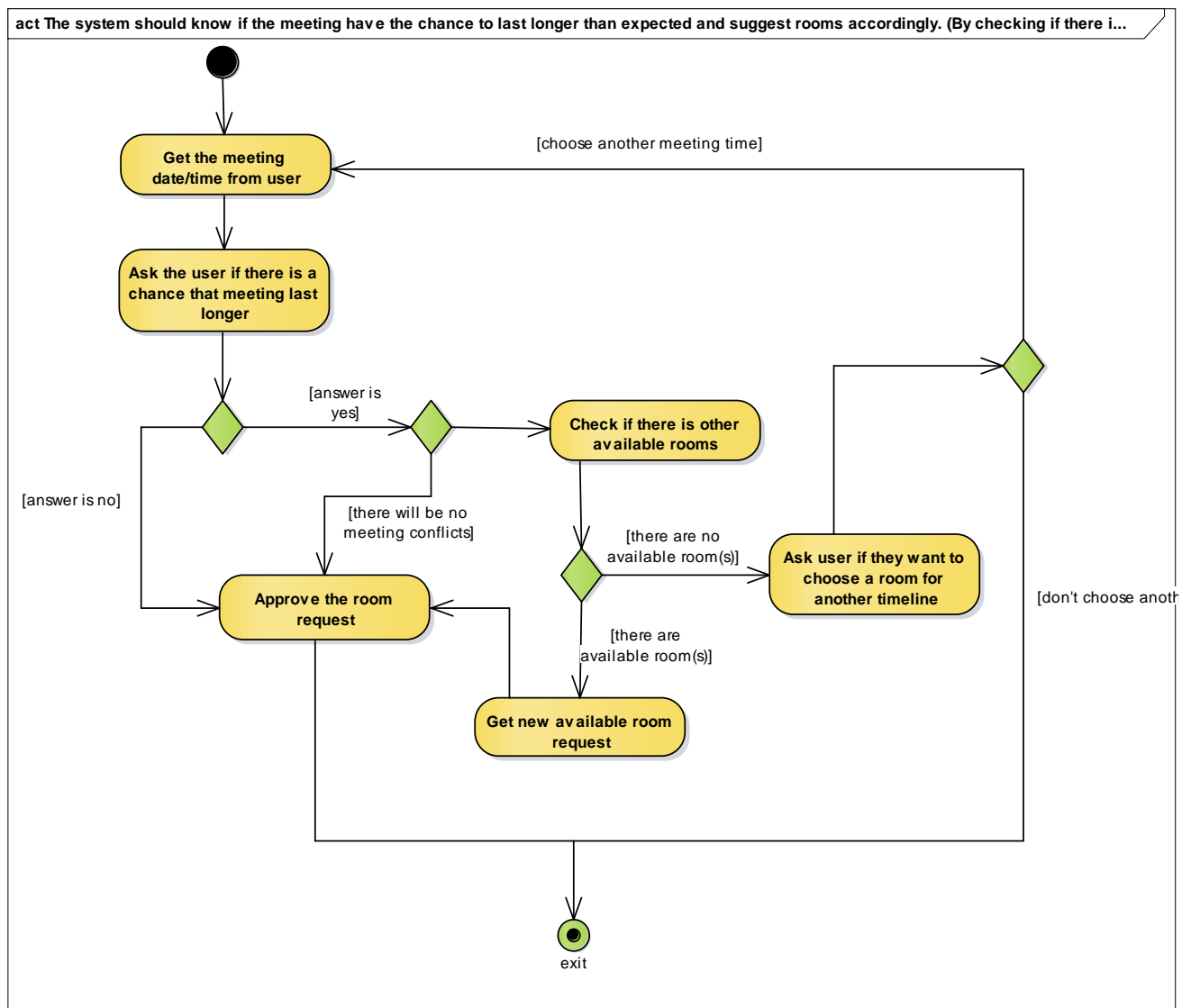
3.2.3. Activity Diagram 3: *STORING DETAILS*



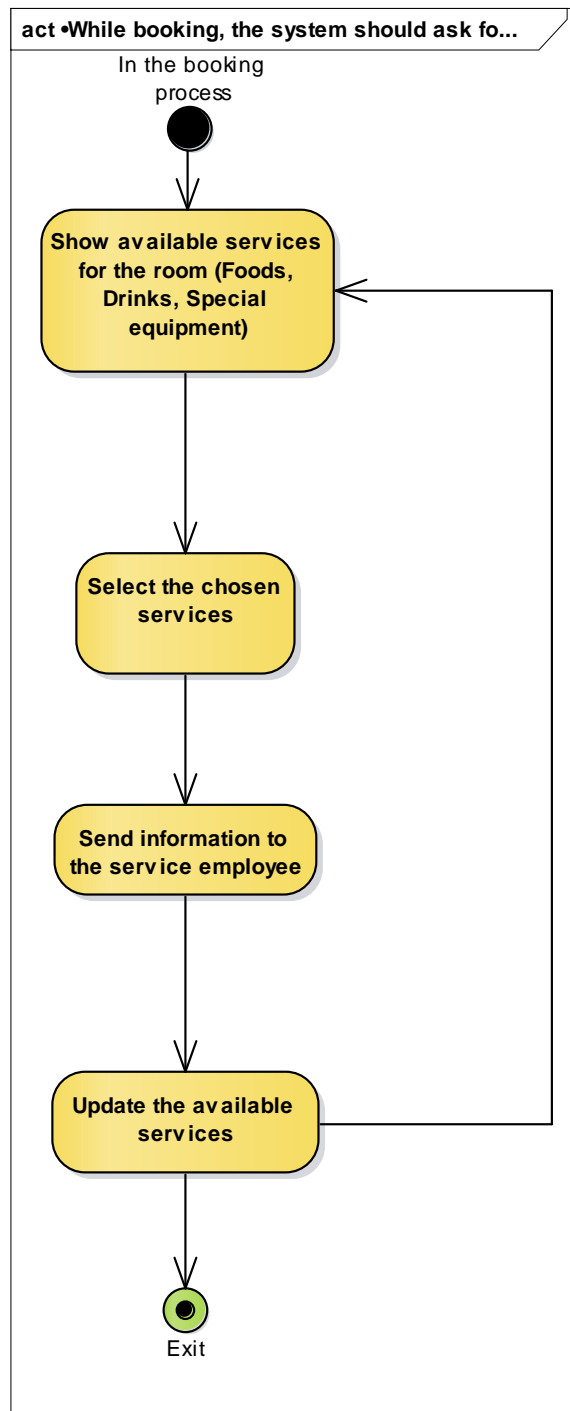
3.2.4. Activity Diagram 4: *SPECIAL ROOMS*



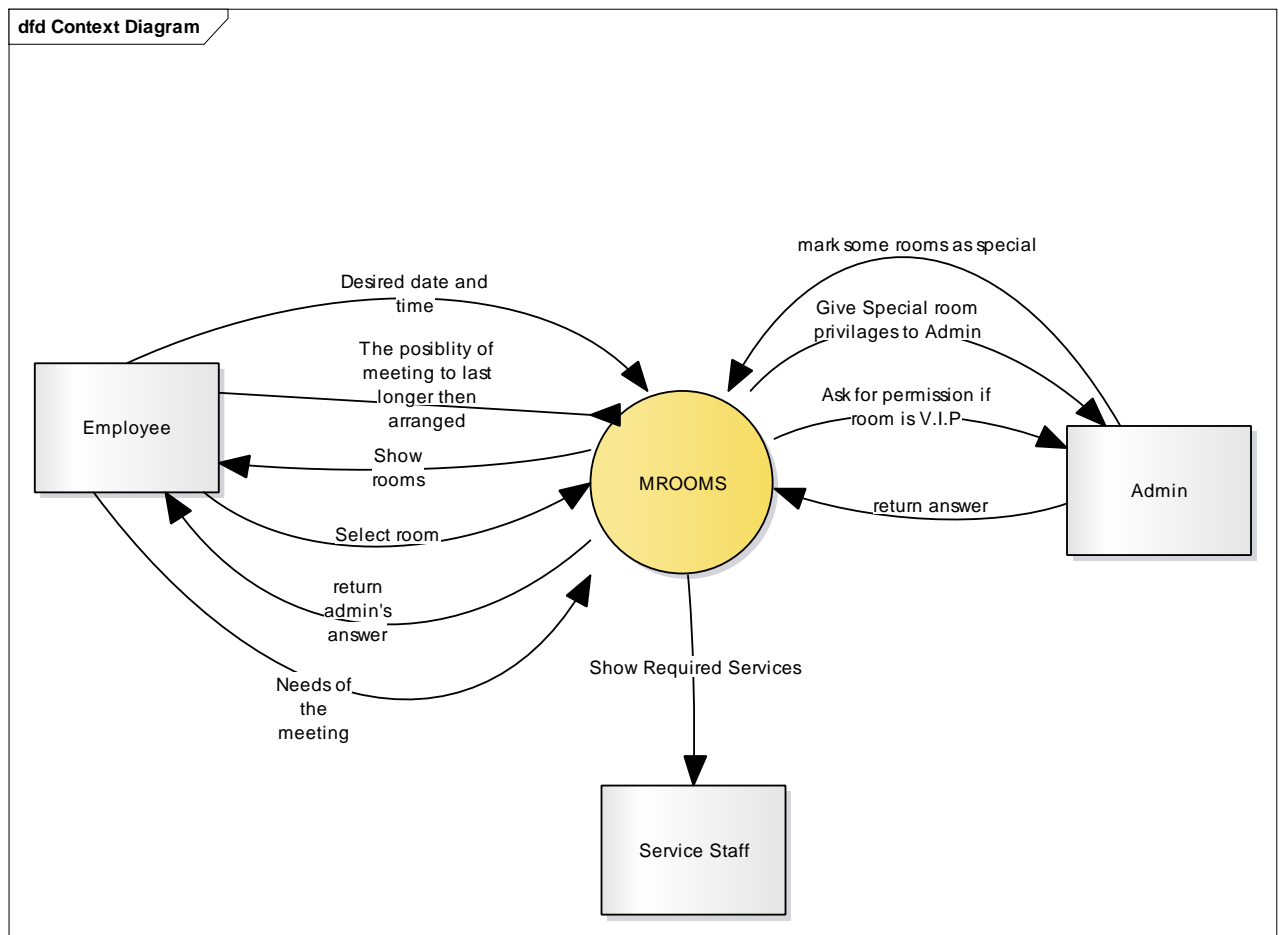
3.2.5. Activity Diagram 5: *LONGER MEETING*



3.2.6. Activity Diagram 6: *SERVICE NEEDS*



3.3. Context Model



3.4. Data Flow Diagrams

Diagram: DFD 0

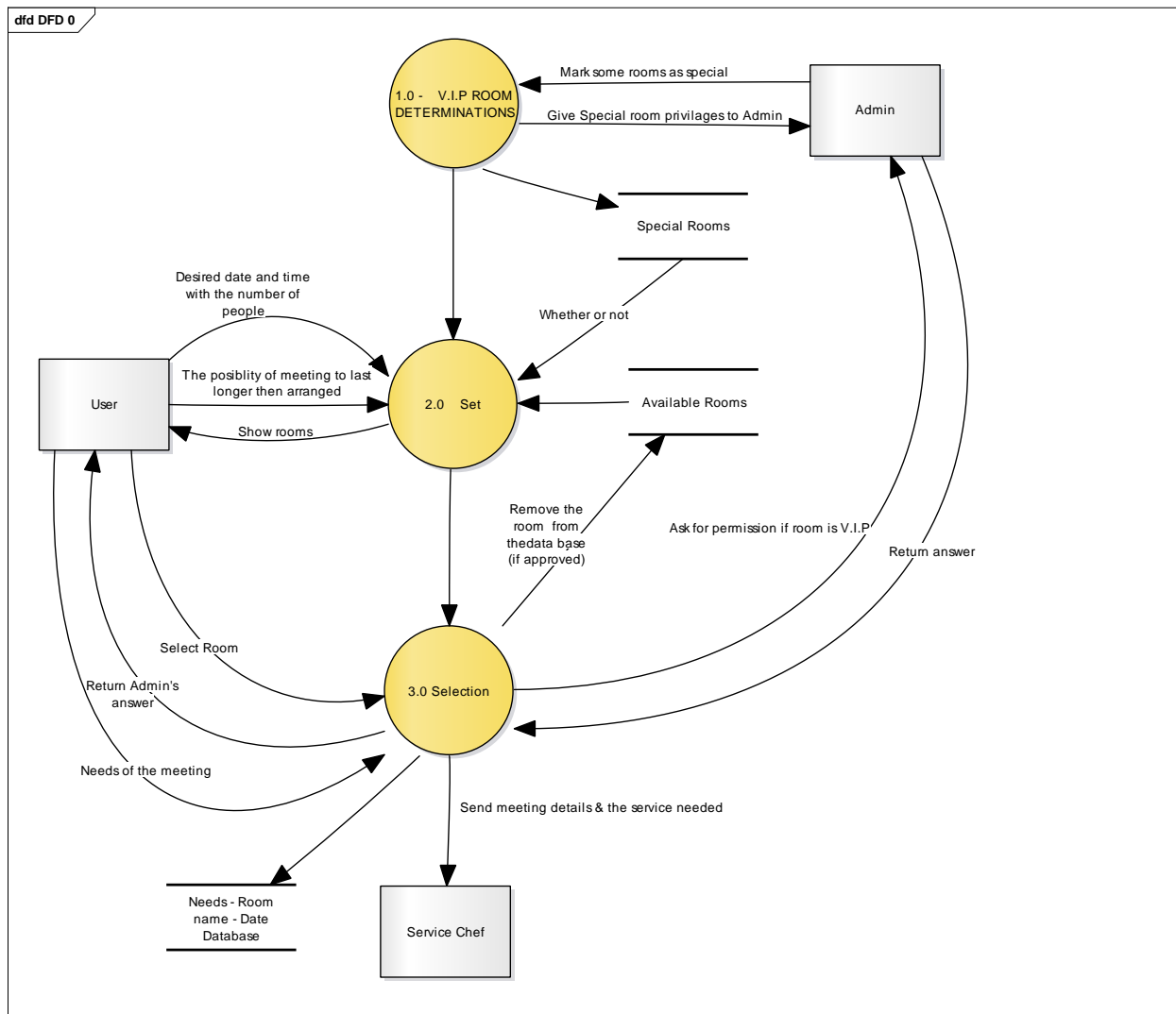


Diagram: DFD 1 1.0

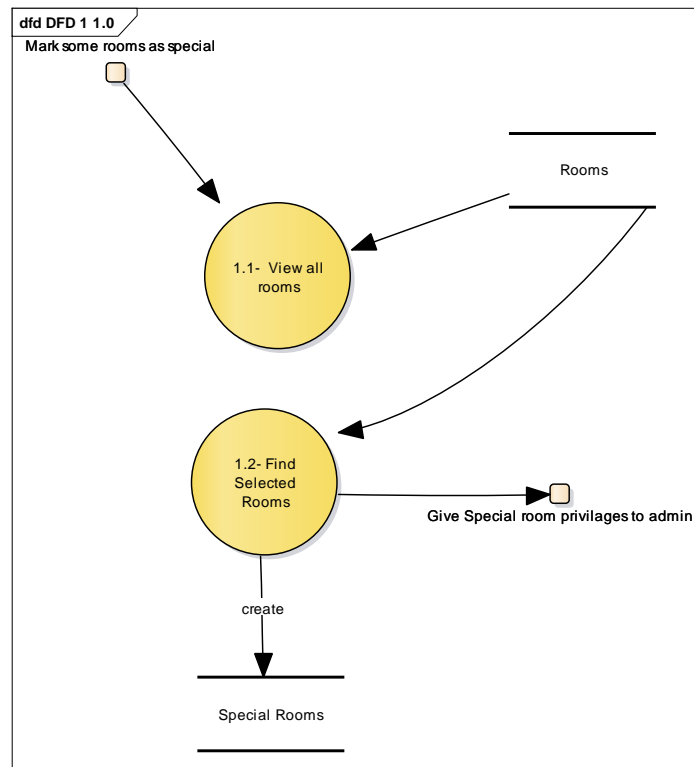


Diagram: DFD 1 2.0

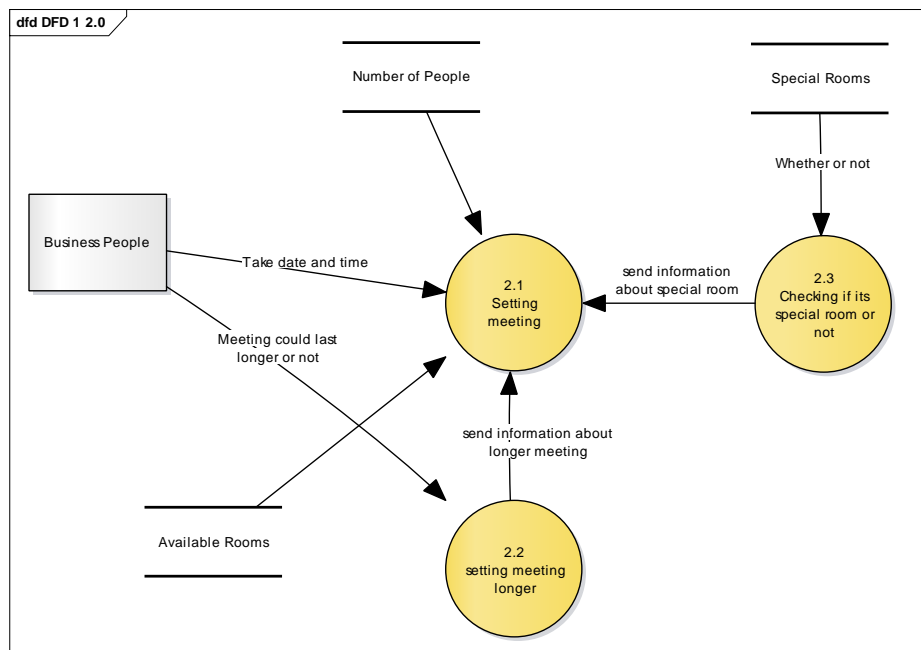
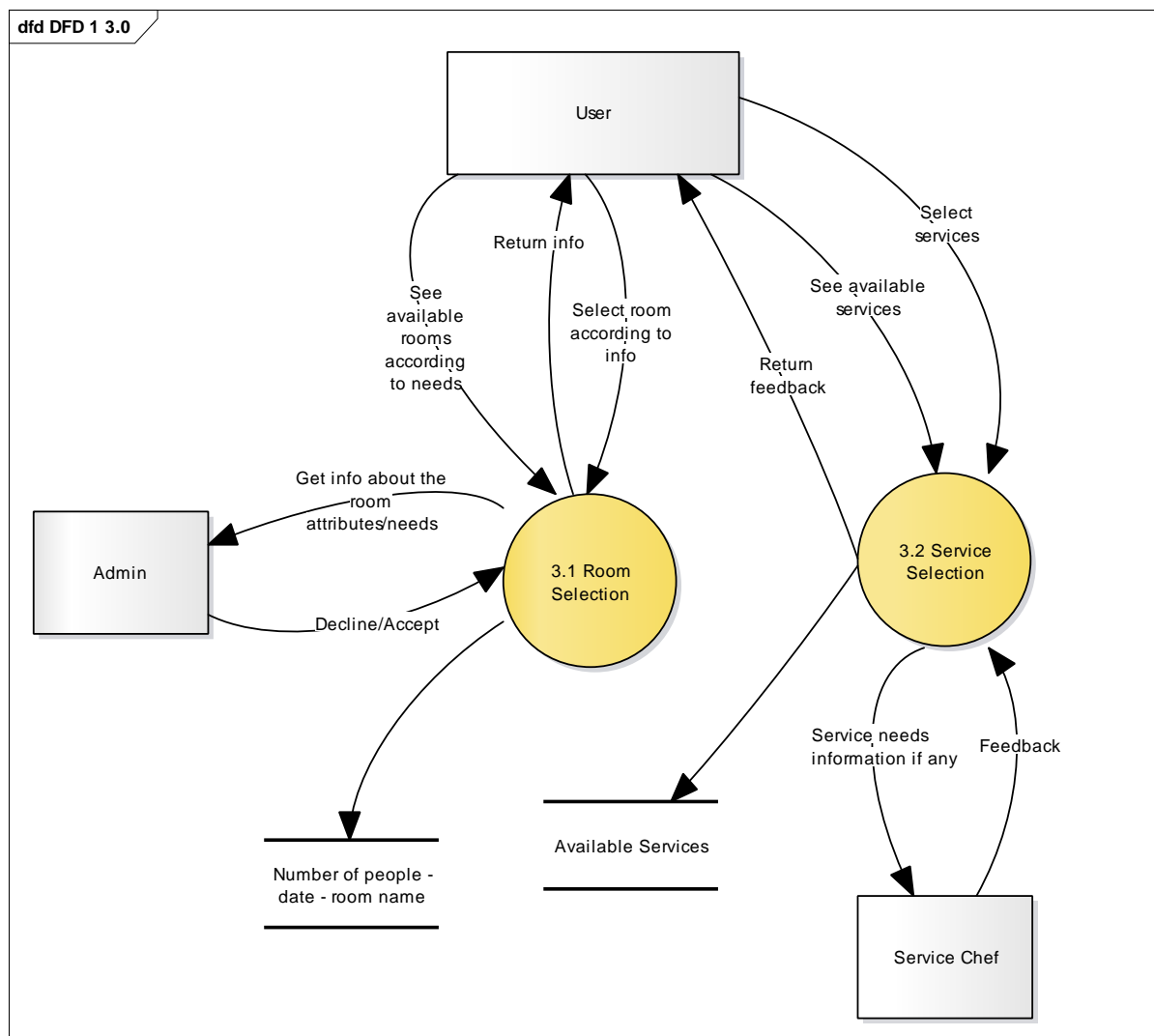
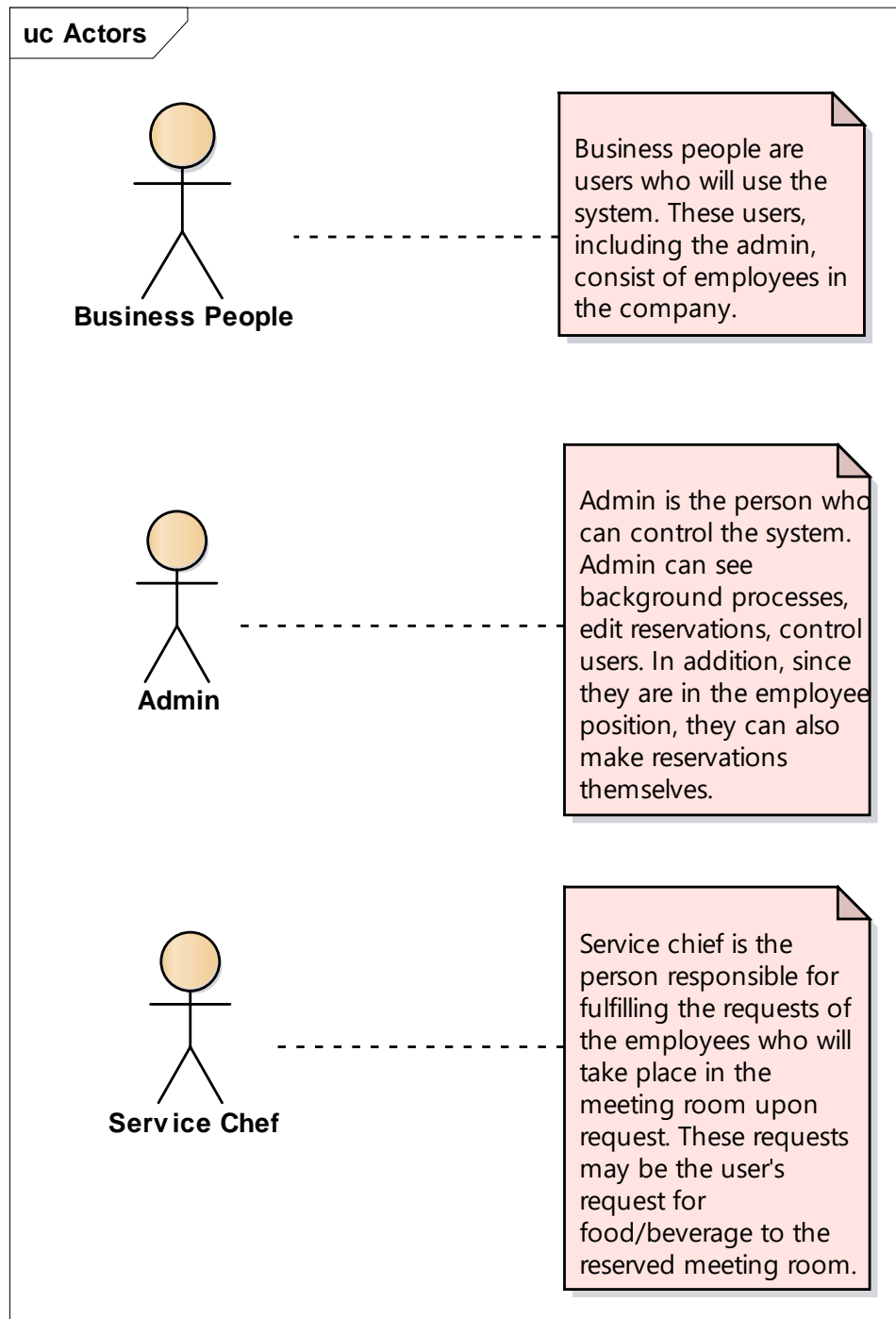


Diagram: DFD 1 3.0

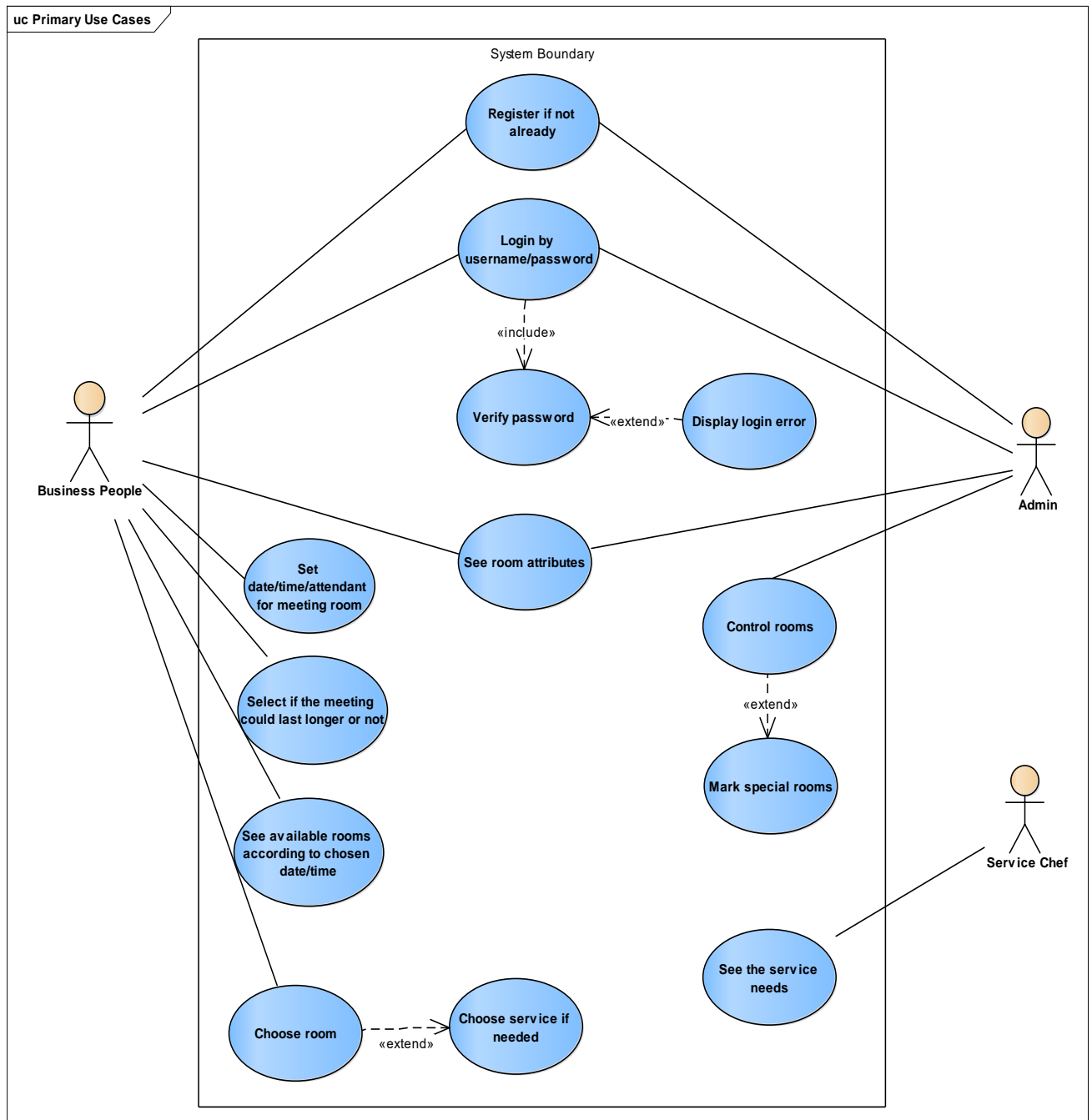


3.5. Use Cases

3.5.1. Actors:

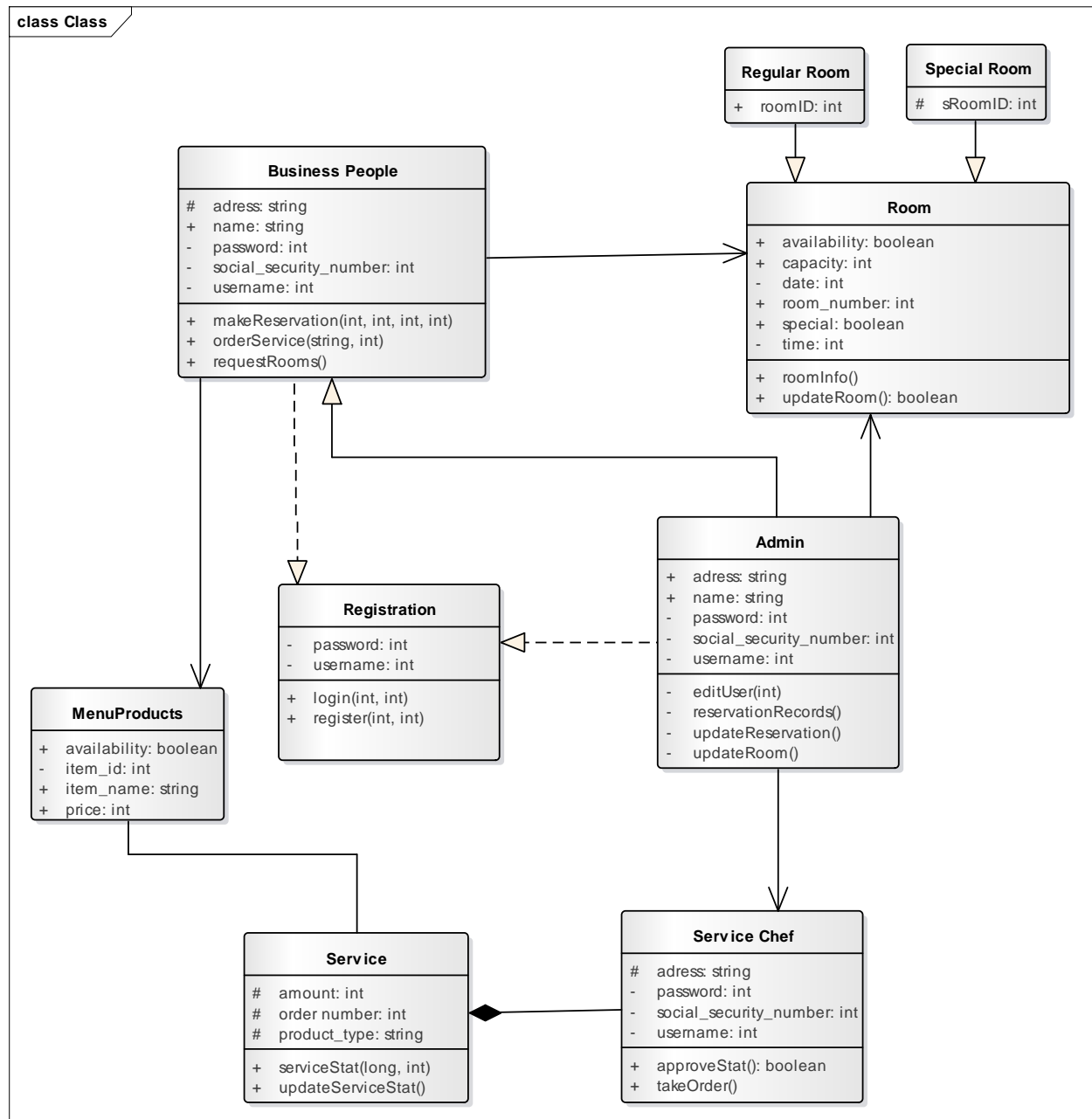


3.5.2. Use Case Diagrams



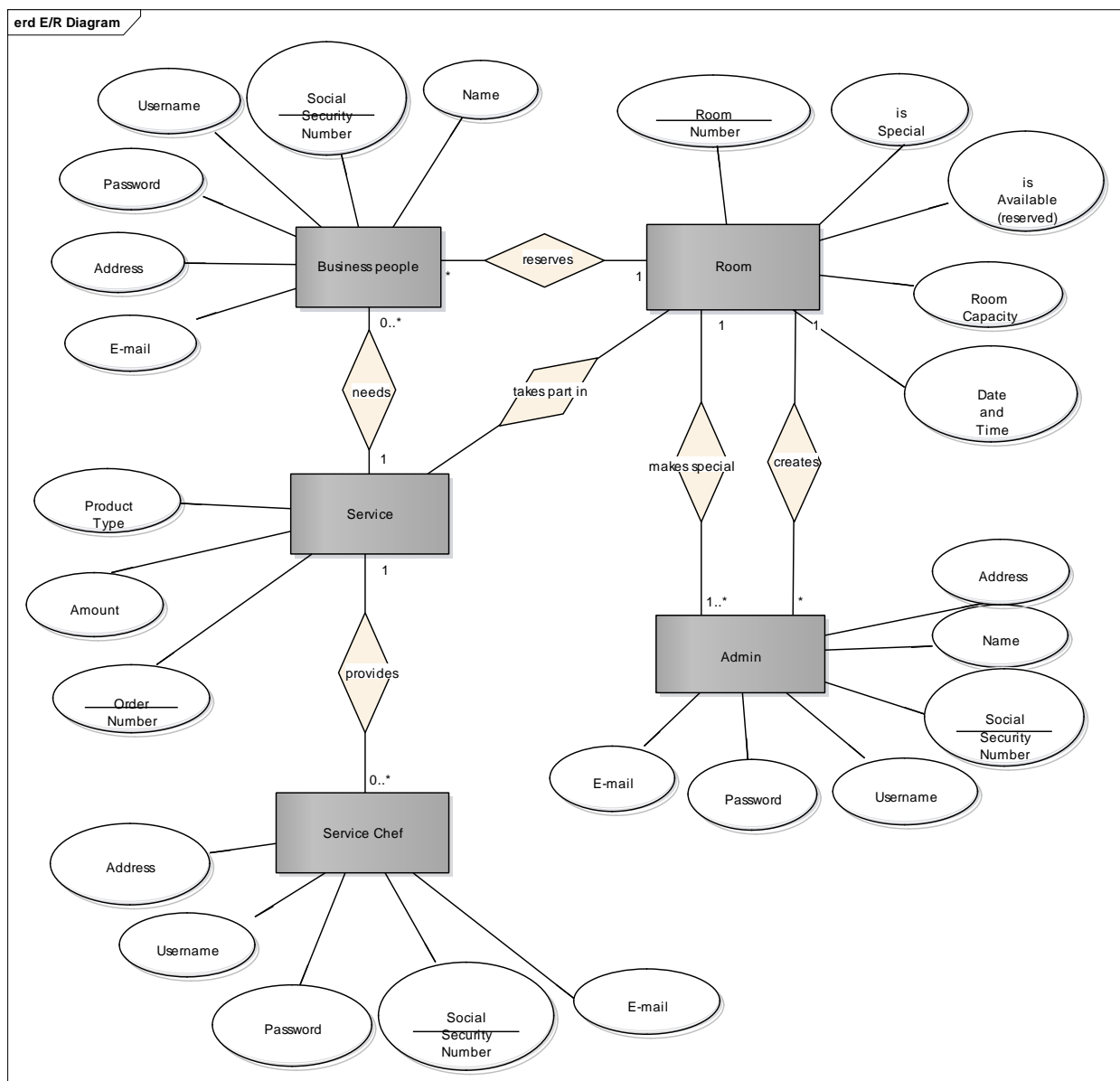
3.6. Class Diagrams

3.6.1. Class Diagram 1: *CLASS DIAGRAM*



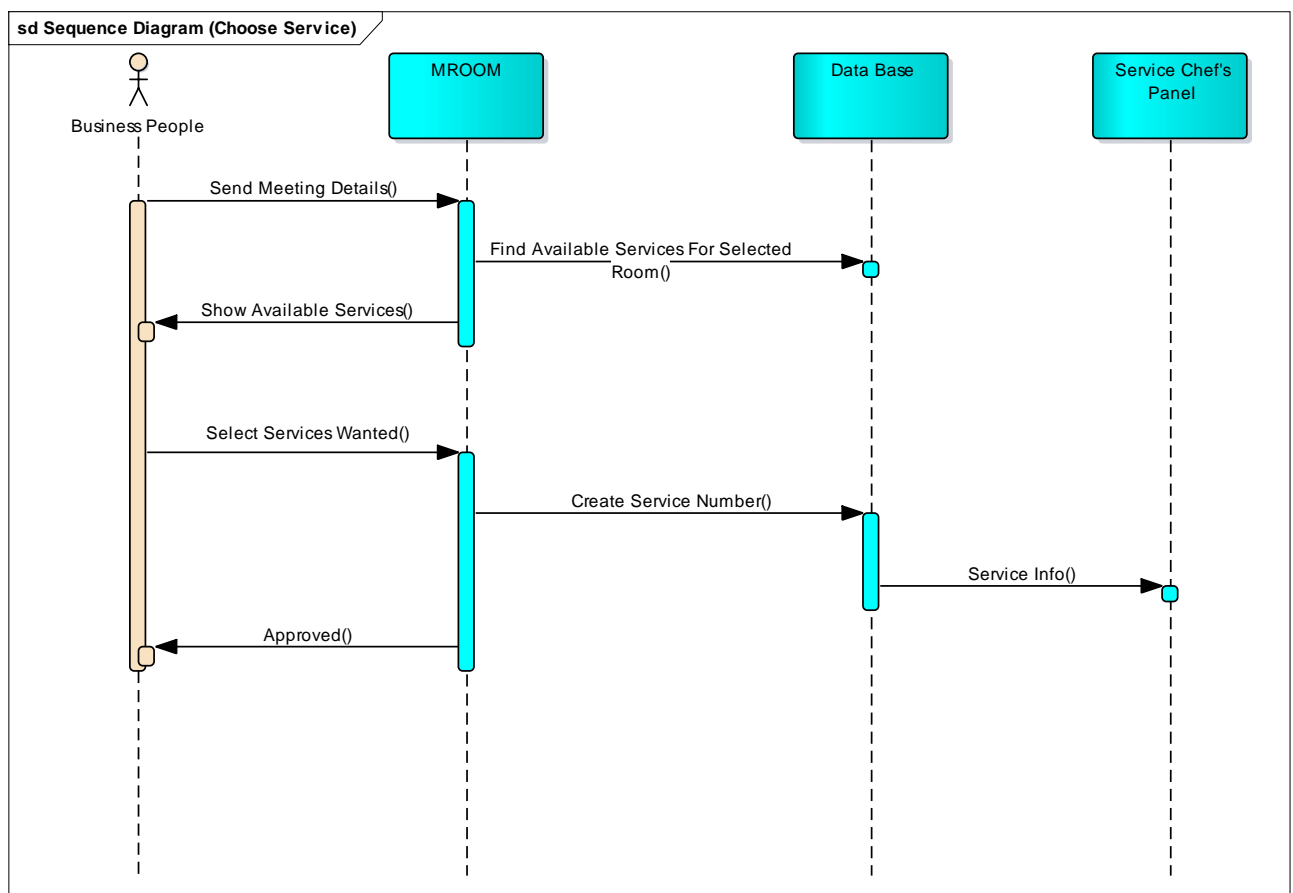
3.7. E/R Diagrams

3.7.1. E/R Diagram 1: *E/R DIAGRAM*

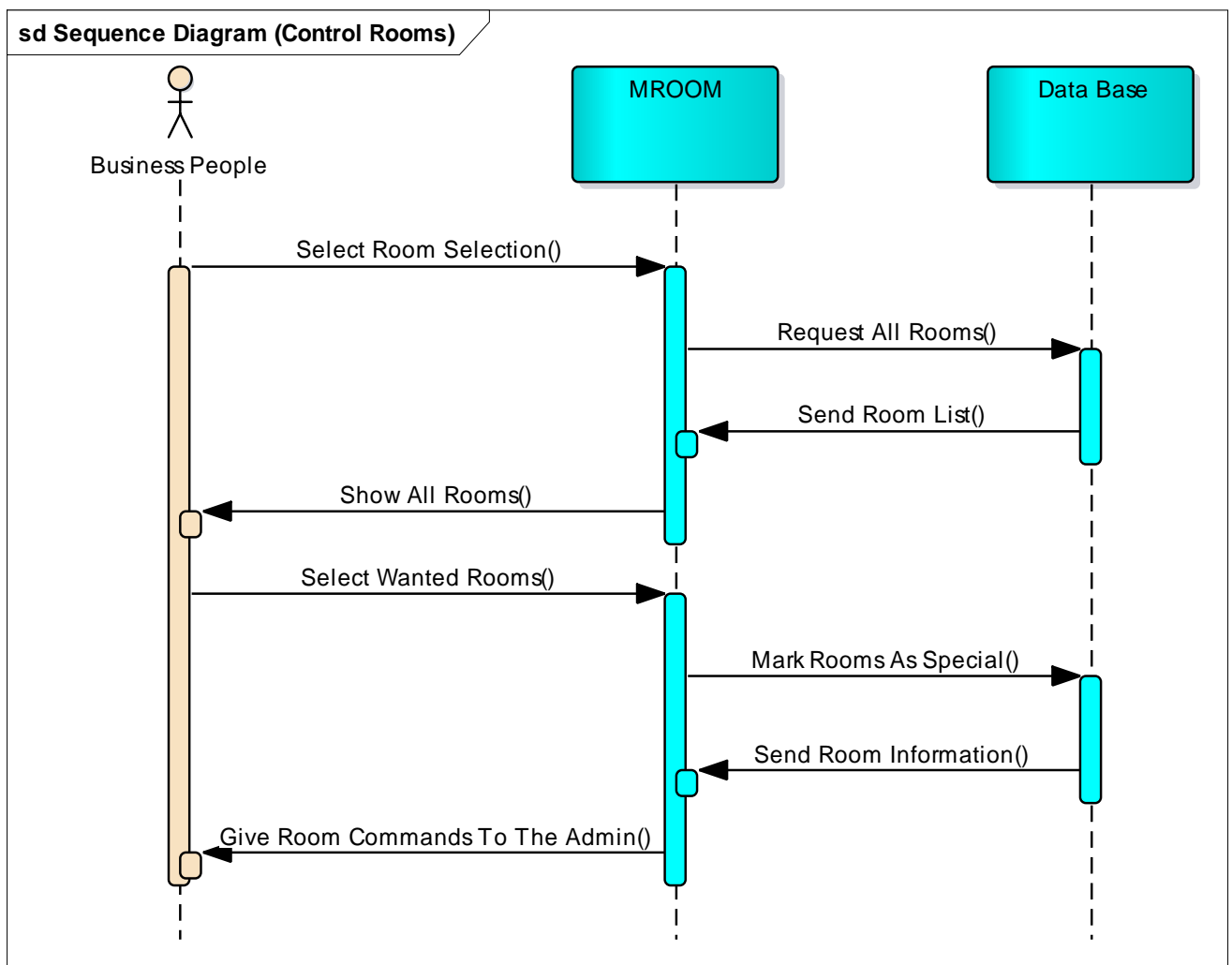


3.8 Sequence Diagrams

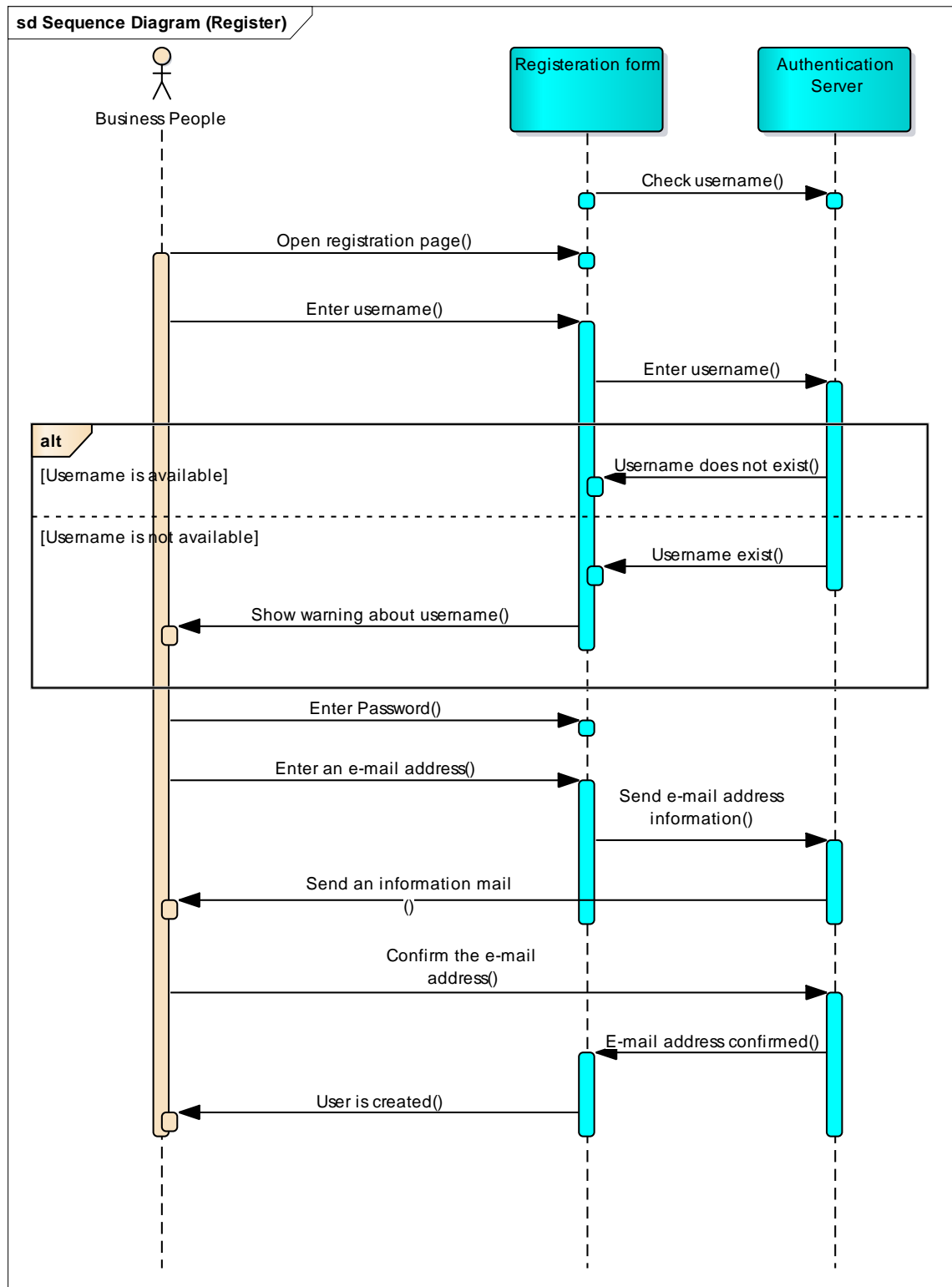
3.8.1. Sequence Diagram 1: *CHOOSE SERVICE*



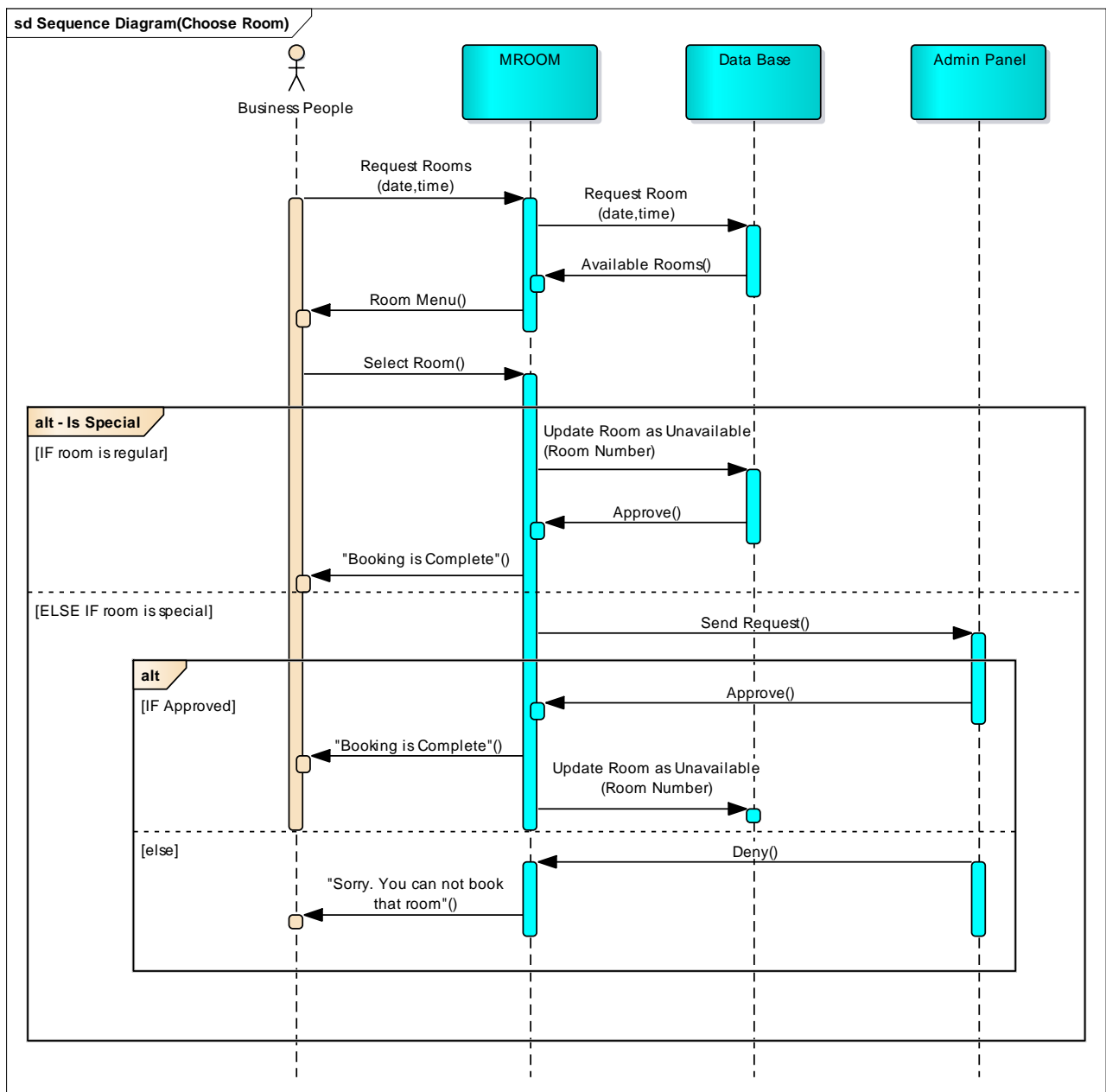
3.8.2. Sequence Diagram 2: *CONTROL ROOMS*



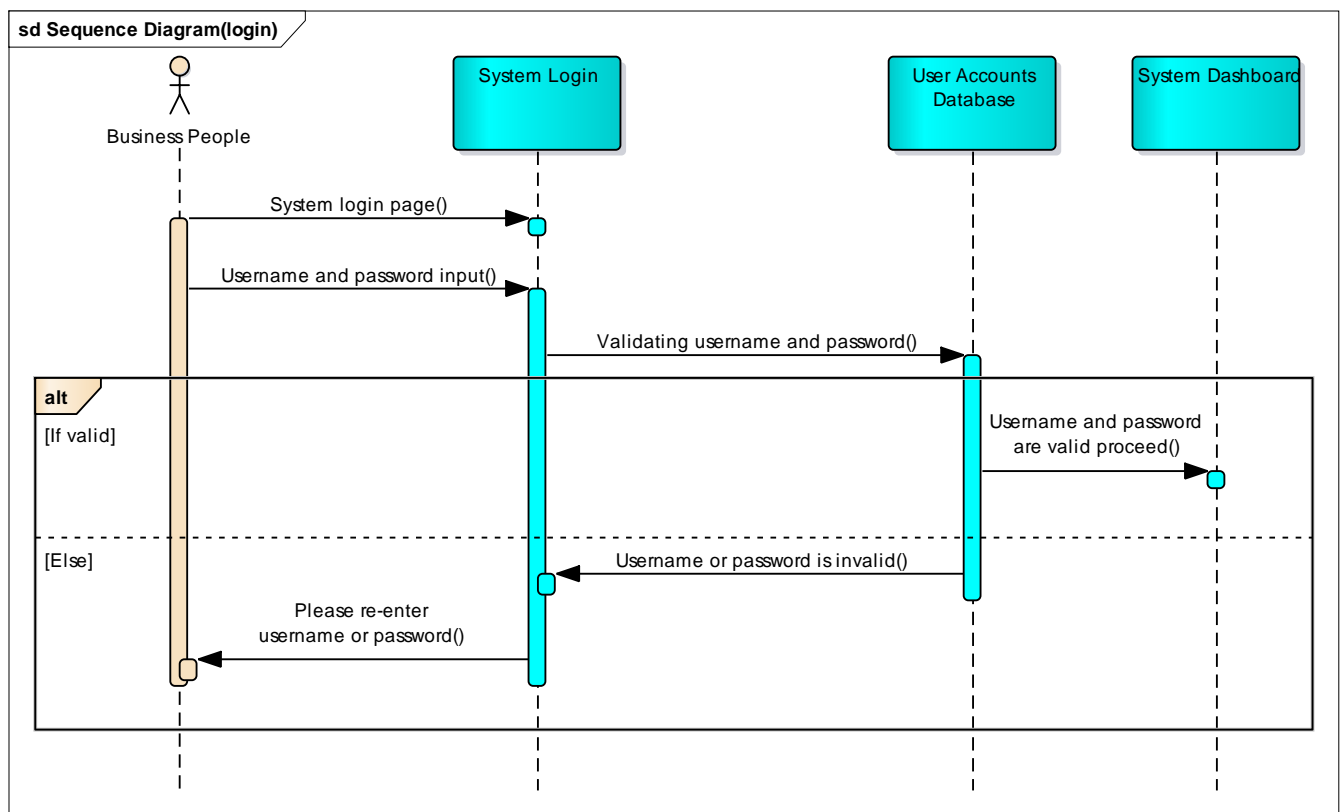
3.8.3. Sequence Diagram 3: *REGISTER*



3.8.4. Sequence Diagram 4: *CHOOSE ROOM*

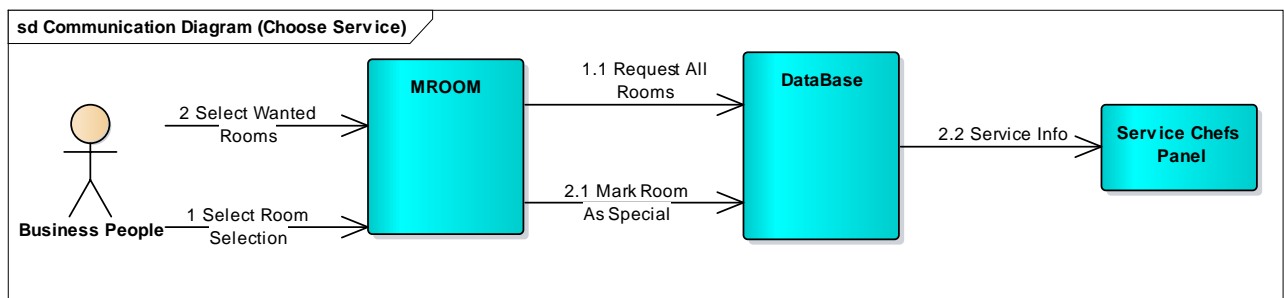


3.8.5. Sequence Diagram 5: *LOGIN*

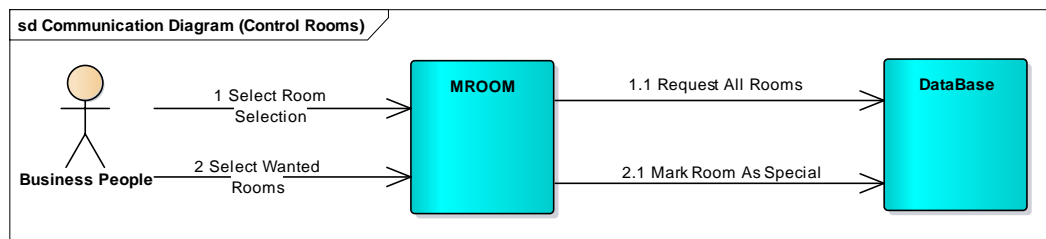


3.9. Communication Diagrams

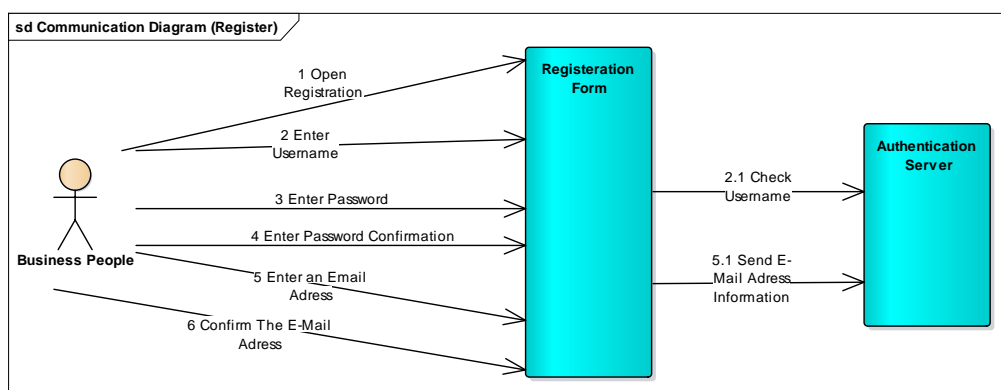
3.9.1. Communication Diagram 1: *CHOOSE SERVICE*



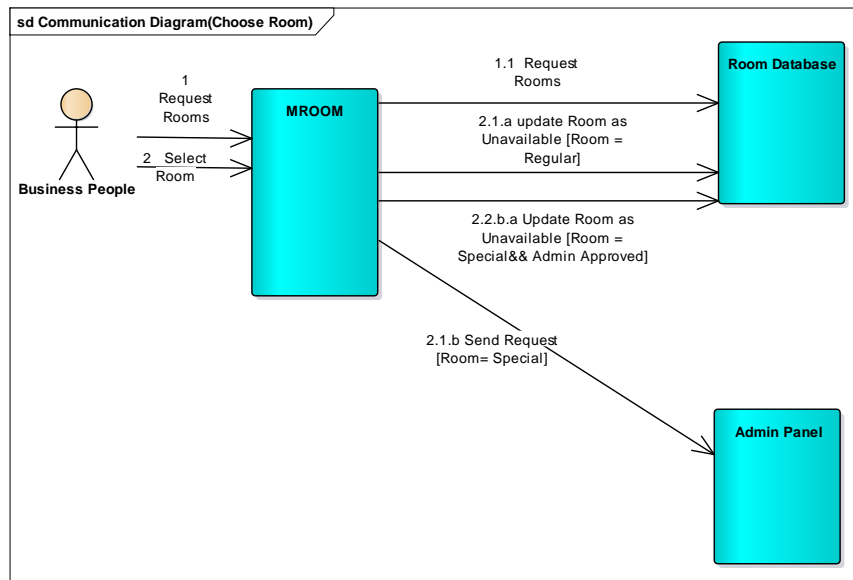
3.9.1. Communication Diagram 1: *CONTROL ROOMS*



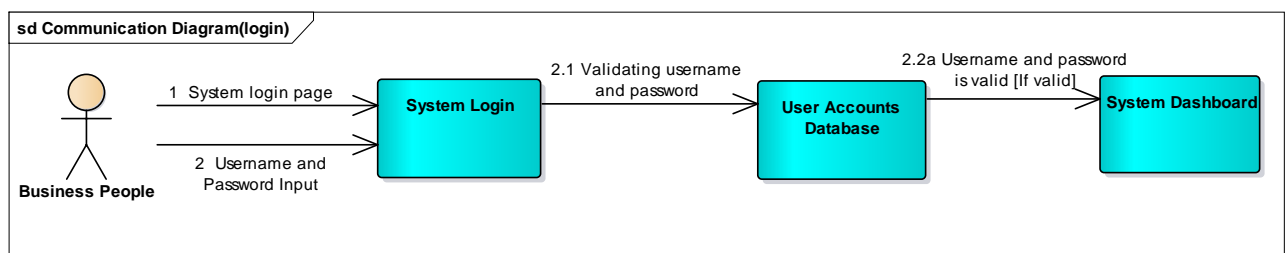
3.9.1. Communication Diagram 1: *REGISTER*



3.9.1. Communication Diagram 1: *CHOOSE ROOM*



3.9.1. Communication Diagram 1: *CHOOSE SERVICE*



4. Conclusion

As a result, we think that our project will work especially in companies with crowded and different departments and many employees, prevent confusion, speed up work and make things easier. In addition, being able to easily control the entrances and exits to the meeting rooms provides a plus.