# First Milestone - Design Phase

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**Abstract.** The aim of this report is to give a picture of how customers book a hotel room. Entity-Relationship Diagram shows what Entities our project will have and how they will communicate with each other. And What use-cases will be the focus of our project.

**Keywords:** Customer · Room · Registration · Reservation

## 1 Conceptual Modeling

### 1.1 Business Model Outline

**Project goals?**

– Helping customers book a hotel room without complications and also providing a system that allows hotel management to manage hotel activities and reservations easily.

**Who benefits?**

– The first beneficiary is the customer who will be able to book a room easily without complications in the system. And also the hotel management, which will be able to manage the activities of the hotel and its responsibilities, for example, taking care of customer information.

**How will it work?**

– Our project system first consists of the most important part of it, which is the administrator who will be able to manage the rooms that are provided by the hotel to be booked by customers. There will be one administrator who will head the rest of the administrators in the hotel, but they will have the same functions and tasks as well. For each job there is a first name, last name, birthday, email, password and a unique ID number.
Each room in the hotel will have unique ID-number, the room number, and availability that if it is available for reservation or not. Each room will have a category with unique ID-number, name, capacity and description.

Each customer will have a unique ID-number after being registered in the hotel. the customer will need to enter his first name, last name, email address, birthday and a password. A list of his reservations will be provided to him and what the cost of those reservations will be. The customer will be able to write a review of the rooms they book. Each review will be a text and will show when it was written.

### 1.2 Entity-Relationship Diagram

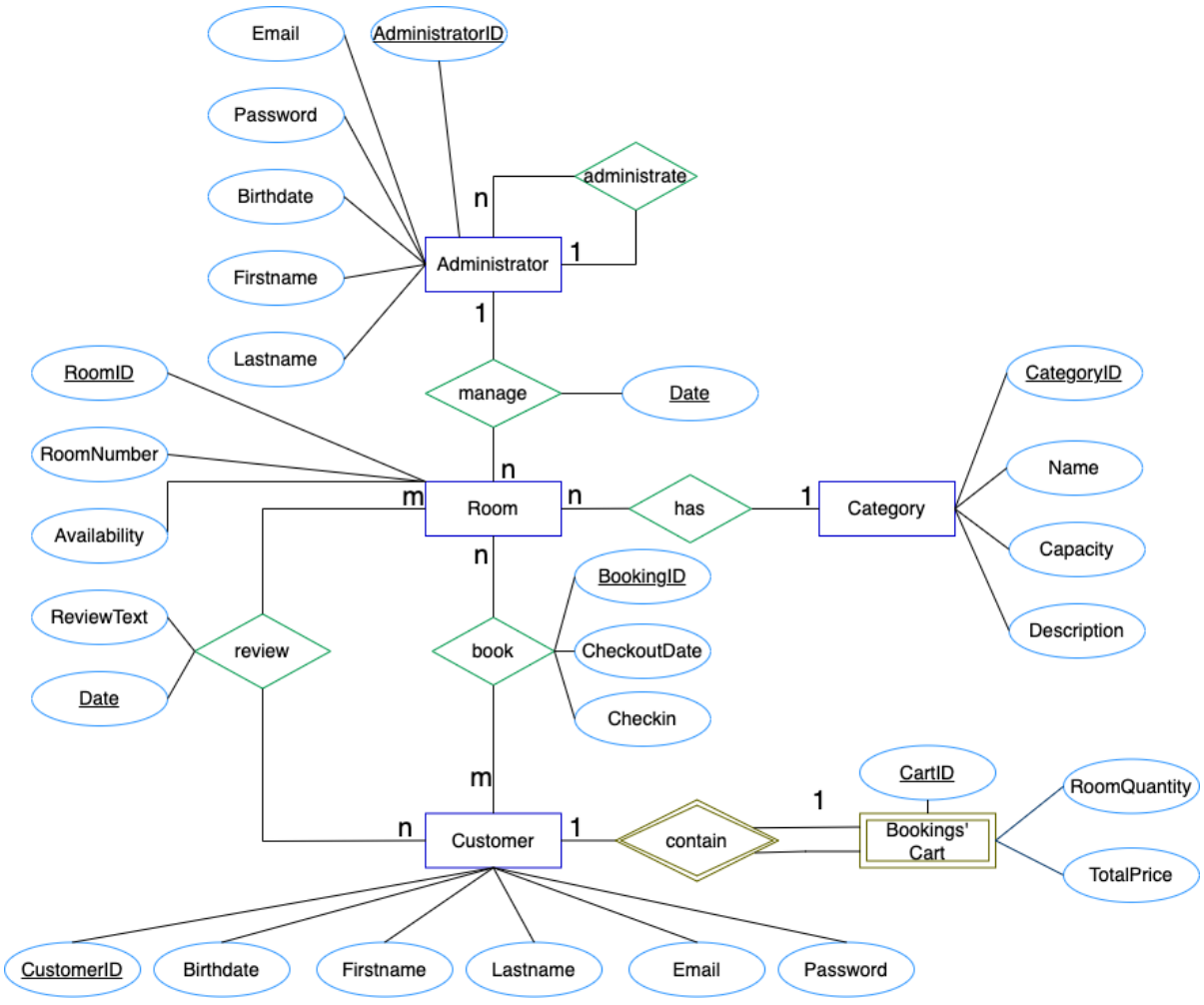


**Fig. 1.** ER Diagram for the hotel project

# 2 Use-Case Design

## 2.1 Customer Registration (Nabiyev Ramazan)

**Objective:**

- The customer registers himself

**Short Description:**

- Customer registers in website to be able to reserve an accommodation in the hotel.

**Preconditions:**

- the customer needs to have valid information for the registration

**Expected execution:**

- The customer navigates to the registration field of the website. In the option "register as customer" the user enters all the required personal information and press the button "Complete registration".

**Post-condition Success:**

- the customer will get a message about the completed registration. After that user can log in his/her account to use the hotel services.

**Post-condition Fail:**

- The customer must enter the valid information. Otherwise he/she will get error message.

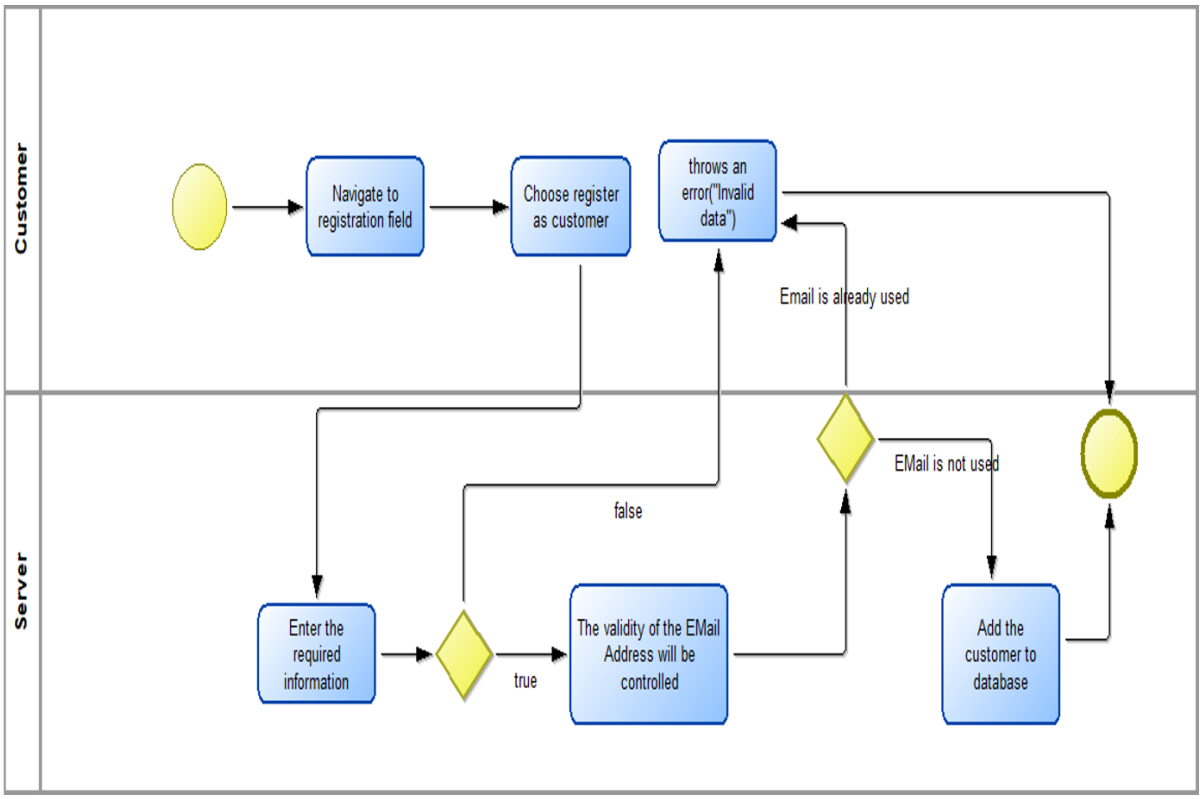


**Fig. 2.** registration Use-Case

### 2.2 Login (Alhamzah Wael)

**Objective:**

– User gets to login into web-page.

**Short Description:**

– After being registered, the user is able to login into the web-page using the same data from the registration.

**Preconditions:**

– The user must have valid data in order to be able to log in to the web-page successfully.

**Expected execution:**

– The user clicks on "login" in the web-page and enters his data. in the back-end it must be checked whether the user really exists or not. That is, whether his data is valid or not. If yes, the user goes into the web-page. If not, a message error will be written and the process finishes.

**Post-condition Success:**

– The user goes to the main web-page successfully

**Post-condition Fail:**

– The user has invalid data or does not exist in the database

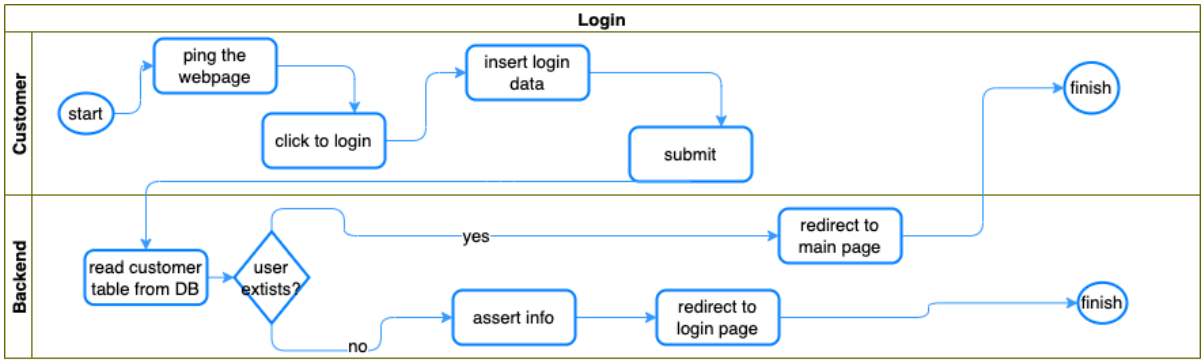


**Fig. 3.** Login Use-Case

### 2.3 First Main Use-Case: Room reservation (Nabiyev Ramazan)

**Objective:**

- the customer books a room

**Short Description:**

- The customer wants to book a room in the hotel for his trip.

**Preconditions:**

- The customer is already logged into the website.

**Expected execution:**

- The customer selects the "Hotels" section on the website and then navigates to "book a room" section. In that section customer selects the room category (single or double) and then the number of the room which he/she wants to book and press on the "book" button.

**Post-condition Success:**

- The customer can see the booked room in the "reserved rooms" section.

**Post-condition Fail:**

- The customer receives an error message that their booking couldn't be performed successfully.

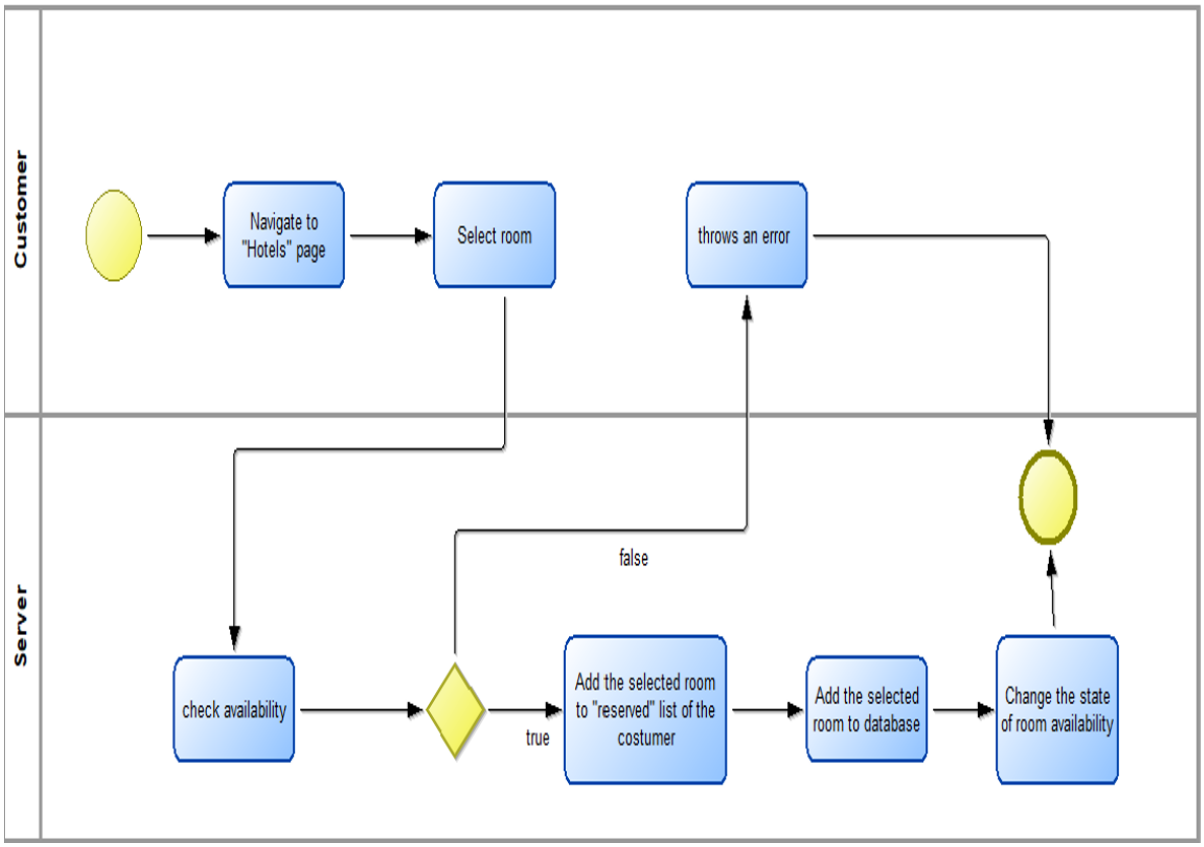


**Fig. 4.** Room booking Use-Case

### 2.4 Second Main Use-Case: Review (Alhamzah Wael)

**Objective:**

- User gets writes a review and submits it successfully.

**Short Description:**

- After being logged in, a user reviews a room he has booked.

**Preconditions:**

- The user must have booked the room before.

**Expected execution:**

- The user logs in, gets the list of bookings he has, then selects the room he would like to review. Writes a text for the review. The system has to make sure that the user has booked the room at least once in order for the user to be able to review it. If it is the case, then the review will be saved. Otherwise a message error will be sent to the user.

**Post-condition Success:**

- The review will be saved, the user and other customers can see the review for the exact room.

**Post-condition Fail:**

- The user is in the system but hasn't even booked the room he wants to write a review for. A error pops on the users screen.

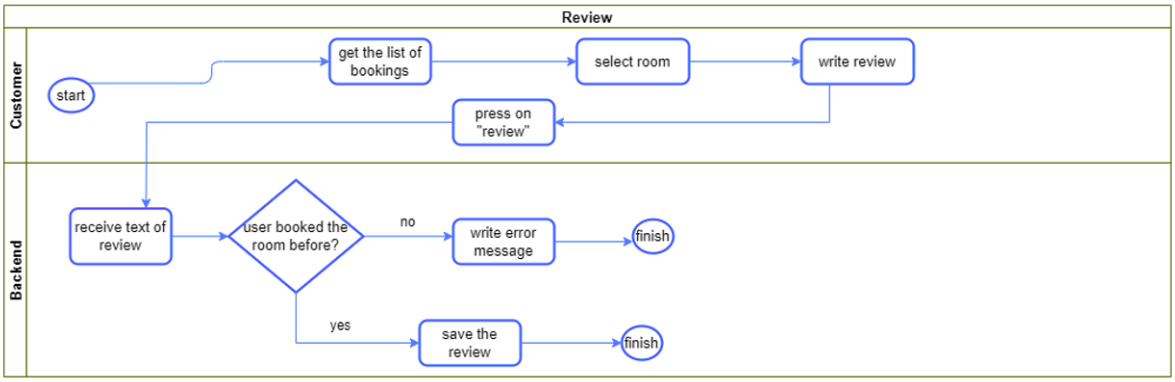


**Fig. 5.** Review Use-Case

# 3 Data Analytics

## 3.1 First Report: (Nabiyev Ramazan)

- This report reveals the information about the room which has been booked more often than other rooms. It will be found out here by checking which category of rooms have been preferred over the others and it will give an valuable information to hotel management to make the appropriate adjustments in the future.

- Use Entities: Customer, Room, Category.
- Filtered by: Room.
- Sorted by: numbers of the room's reservations.

## 3.2 Second Report: Most reviewed Room according Category (Alhamzah Wael)

- This report will help the hotel to know which room with which category has the most reviews. It is about the classification of rooms, which category of room has how many reviews from the customers.

- Use Entities: Customer, Room, Category.
- Filtered by: Room.
- Sorted by: numbers of the room's reviews.