# Hotel Management

### Stage 1:

**Who** uses it?

- Any member of the Hotel Management

**Why** does he use it? What is he trying to accomplish when he uses it?

- To manage all aspects of the hotel such as employees, bookings, general info, etc.
- It is used to help him accomplish his managerial tasks through automation of smaller tasks

**What** functions does your software provide to the user that help him achieve his goal(s)?

- Shift management
- Manage bookings/availability
- Manage room service
- View and change Checkin/checkout times
- View guest information
- Search for a given sized room to view availability/occupancy information

**How** does he use it? What **steps** does he go through in order to achieve his goal(s)? What are the **workflows** he progresses through when using it?

- Shift management
    - Create a shift for any department
    - Assign a department member to that shift
    - Add shift hours to employees total hours worked
- Manage bookings/availability
    - Declare how many total rooms exist
    - Distinguish which rooms are currently available and which are currently occupied
    - Know when rooms will be available and unavailable in the coming dates
- Manage room service
    - When room service is requested add it to a queue
    - Manage/Distinguish different types of request, such as food, cleaning, other stuff
    - Make sure the request goes to the correct department
- View guest information

    - Search by guest
    - Show guest info (Phone #, Total $ spent at the hotel)
- Search for a given sized room to view availability/occupancy information
    - Search by number of beds
    - Show two separate lists of matching rooms
    - One list for available rooms and one for occupied rooms
    - If he wants to view a specific occupied rooms info then use the view guest info tool
- General Accounting (revenue, salaries, overall profits)
    - Total money invested
    - Initial Investment
    - Monthly expenses
        - Employee salaries
        - Bills

## Stage 2: Data Model

**What data** will your system deal with to meet the user's needs? Define this in terms of **data only** - (classes, instance variables, enums) - **no logic yet**

- Hotel class
    - Array of rooms
    - Array of employees
- Employee class
    - String name
    - String position
    - Double hourly rate
- Guest class
    - String Name
    - Int Age
    - Int ID
- Room class
    - Instance of Guest class
    - Boolean isBooked
    - Int roomNum
    - String type

**What data structures should you use to store and access your data?** Decide based on how the user will use the system; pick the data structures that **work best for what the user wants to accomplish**

- List - Employees
- Stack - Different Rooms and different Used rooms (if stack empty then fully booked)
- Trie - (Searching Employee or Guest by Name)
- Heaps - (To see which room is checking out the soonest)