**Case Study:**

In response to the growing complexities of managing a hostel environment efficiently, XYZ Hostel embarked on a journey to implement a comprehensive Hostel Management System (HMS). The system aimed to streamline various aspects of hostel operations including student accommodation, administration, visitor management, complaint handling, and payment management. Central to this system were several key entities and their attributes. Firstly, the Hostel entity where the name of the hostel, address, number of rooms, and students are stored. Each hostel is identified with a unique Hostel ID. The student entity formed the backbone of the system, encompassing crucial details such as student name, phone number, address, age, department name, and a unique Student ID allotted to each student. A hostel can have many students, but each student can be in only one hostel. A hostel has many rooms, and for each room, there is a unique Room ID as well as room type, room status, and capacity. A student can stay in only one room, but a room can contain many students. A room can have many pieces of furniture, each with a unique Furniture ID, and the furniture type is stored. A visitor can visit a student, and for each visitor, there's a unique Visitor ID. Other details are such as visitor name, visiting date, time to enter and leave, as well as the visitor’s phone number and address. Each student can have one visitor, and one visitor can visit one student. Admins played a pivotal role in overseeing the entire hostel management process. Their details, including Admin ID, admin name, phone number, and address, were integrated into the system. Each admin handles one or more complaints raised by students. Each complaint has a unique complaint ID. The other details such as complaint date and details are stored. One or many students can complain. The system also maintained a comprehensive database of employee information, including employee ID, employee name, address, role, date of birth, salary, and phone number. Many employees can work in one hostel as well as many employees can work in multiple hostels. The system also stores payment data, where each payment has a unique payment ID. The other important data such as payment type, date, and total bill are also stored. One or many students can make a payment, but one payment can be made by one student. Multiple payments can be made to a single hostel by different students.