# Medical Appointment Booking System Report

## 1. General Idea:

This system provides appointment booking for patients, whether within a clinic or a hospital. It manages appointments between doctors and patients, allowing staff to schedule appointments and doctors to view their schedules.

## 2. Functional Analysis:

Users:

- System Administrator: Has full access to the data.
- Receptionist: Can add and edit appointments.
- Patient: Can view and book their appointments.

Entities:

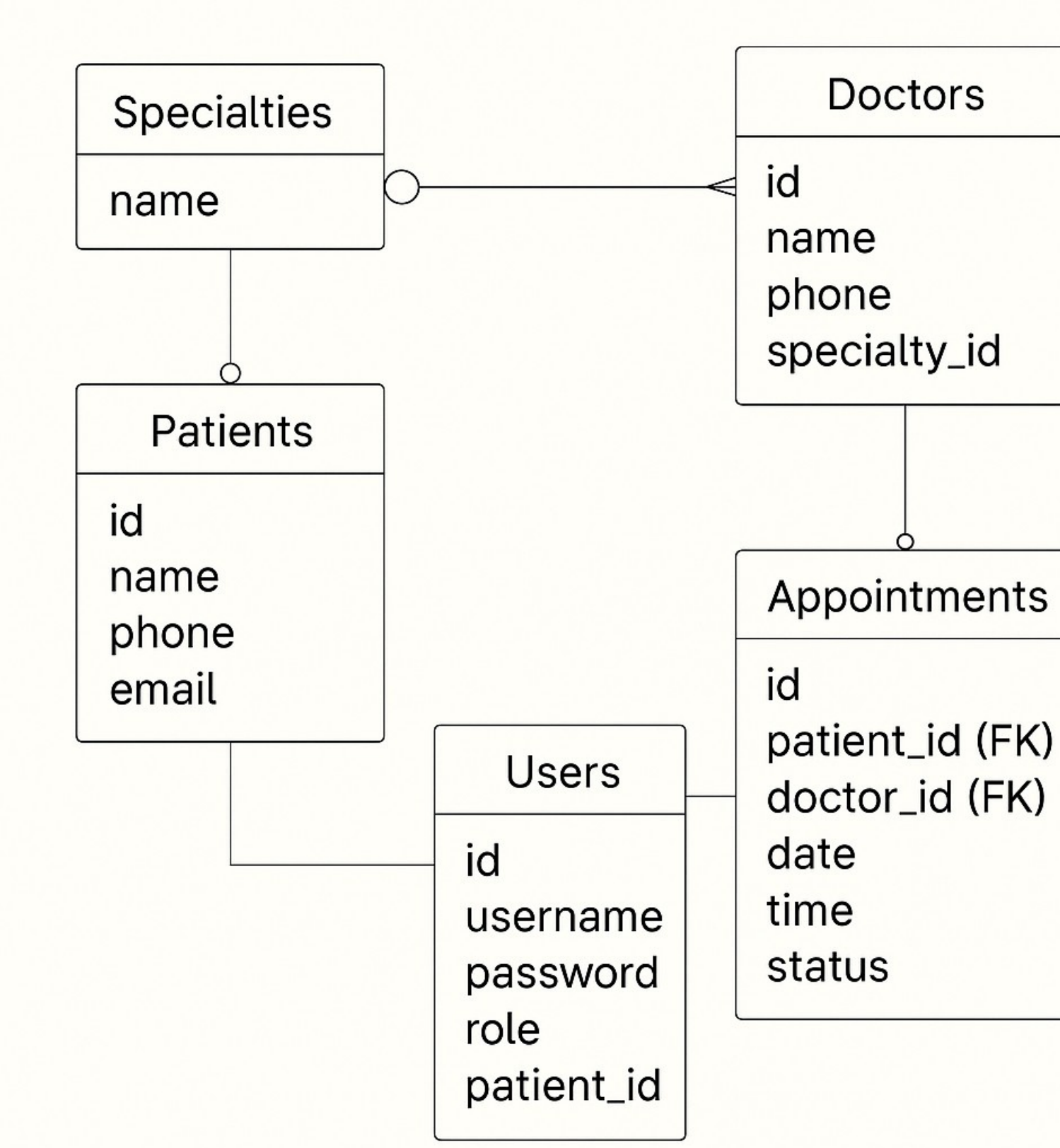
- Patient: Name, phone number, email.
- Doctor: Name, phone number, specialty.
- Specialty: Such as dermatology, pediatrics, internal medicine.
- Appointment: Patient, doctor, date, time, notes.
- Users: To manage access and authentication.

## 3. Database Design:

An ER diagram was created to clarify the relationships between entities, followed by conversion into tables:

- Patients table
- Doctors table
- Specialties table
- Appointments table

**3. Database Design:**



- Users table

4. Normalization Process:

- 1NF: Each table contains atomic (indivisible) values.

- 2NF: All non-key attributes depend on the whole primary key.

- 3NF: No transitive dependencies.

5. SQL Code:

All table creation, key constraints, and relationships are defined in the attached file (clinic_project.sql).

6. Data Insertion:

Initial data includes:

- 10 patients

- 5 doctors

- 5 specialties

- 15 appointments

- 4 users

7. SQL Queries Used:

- View appointments for a specific patient.

- Count of appointments per doctor using GROUP BY.

- Search for doctors by specialty.

- Sort appointments by time and date in ascending order.

- Search for a patient by name using LIKE.

8. Access Rights:

- Administrator: Full access to the system.

- Receptionist: Can perform INSERT, SELECT, UPDATE on appointments.

- Doctor: Can only SELECT their own appointments.