Nile University

Title
Hospital Management System

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Introduction

Hospital management system enables hospitals to be able to manage the data and information to ensure the efficient and successful completion of operations and processes.

The hospital system helps to provide a better patient experience, to provide a several functions and to manage every department of the hospital. A hospital management system database is a digital platform that helps healthcare providers manage their operations effectively. The system provides tools for patient registration, appointment scheduling, electronic medical records (EMR), billing, and inventory management. With the help of this database, hospitals can streamline their processes, reduce errors, and improve patient care.

- The hospital management system database is designed to be user-friendly and customizable to meet the unique needs of different healthcare providers. It can be accessed from any device with an internet connection, making it easy for doctors, nurses, and administrators to collaborate and share information.

Business Rules

i. One receptionist deals with many patients, and one patient interacts with only one receptionist.
ii. One doctor diagnosis only one patient and one patient can only have one doctor checked up at a time.
iii. One can be admitted in many rooms and one room can have many patients.
iv. One nurse treats many patients and one patient treated by only one nurse.

Entity

i. **Admission**:
   - A patient can have multiple admissions, but each admission is associated with only one patient.
   - An admission must have a unique admission ID.

- Admission must have a date.

ii. **Appointment:**

- An appointment can be scheduled for a specific patient.
- Each appointment is associated with only one patient.
- An appointment must have a unique appointment ID.
- An appointment must have a date.

iii. **Beds:**

- Each bed belongs to a specific department.
- A bed must have a unique bed ID.
- The availability of a bed can be tracked.

iv. **Department:**

- Each department can have multiple beds.
- A department must have a unique department ID.
- Each department has a name.

v. **Invoices:**

- An invoice is associated with a specific admission.
- Each admission can have only one invoice.
- An invoice must have a unique invoice ID.
- An invoice must include an amount.

vi. **Lab Results:**

- Lab results are associated with a specific patient.
- Each patient can have multiple lab results.
- Each lab result must have a unique result ID.
- Lab results include the test name and the result date.

vii. **Medical Report:**

- A medical report is associated with a specific patient.
- Each patient can have only one medical report.
- A medical report must have a unique report ID.
- The report includes the report's text.

viii. **Pharmaceutical:**

- Each prescription can be associated with a pharmaceutical drug.
- Multiple prescriptions can be associated with the same drug.

- Each drug has a unique drug ID and a name.

ix. Nurses:

- Each nurse can be assigned to multiple departments.
- Each department can have multiple nurses.
- Each nurse has a unique nurse ID and a name.

x. Patient:

- Each patient can have multiple admissions, appointments, lab results, prescriptions, and payments.
- Each patient has a unique patient ID and a name.

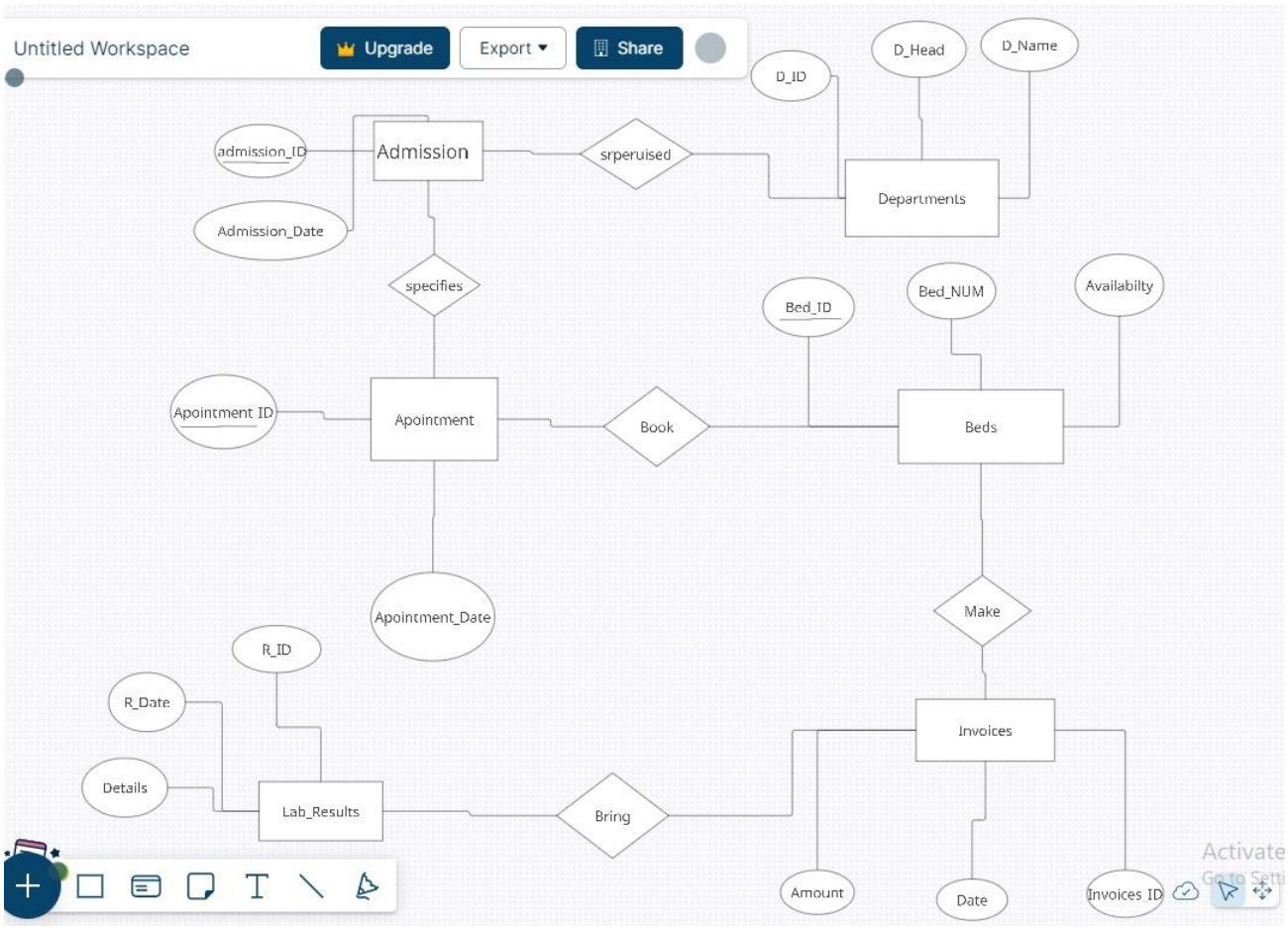
xi. Payment:

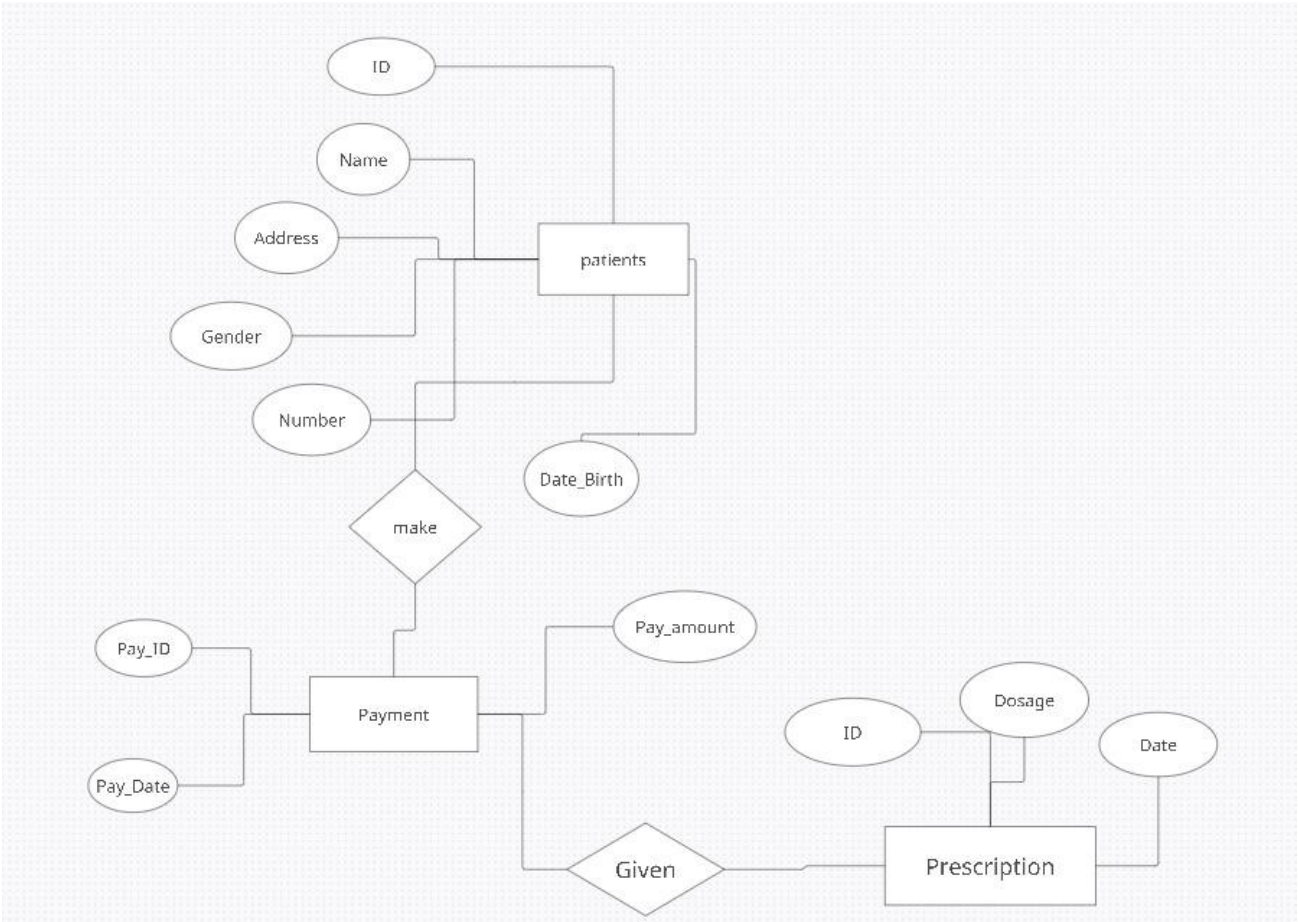
- Each payment is associated with a specific invoice.
- Each invoice can have multiple payments.
- Each payment has a unique payment ID.
- Payments include the payment amount and the payment date.

xii. Prescription:

- Each prescription is associated with a specific patient and a specific pharmaceutical drug.
- Each patient can have multiple prescriptions.
- Each prescription has a unique prescription ID and includes the drug quantity.

Entity Relation Diagram

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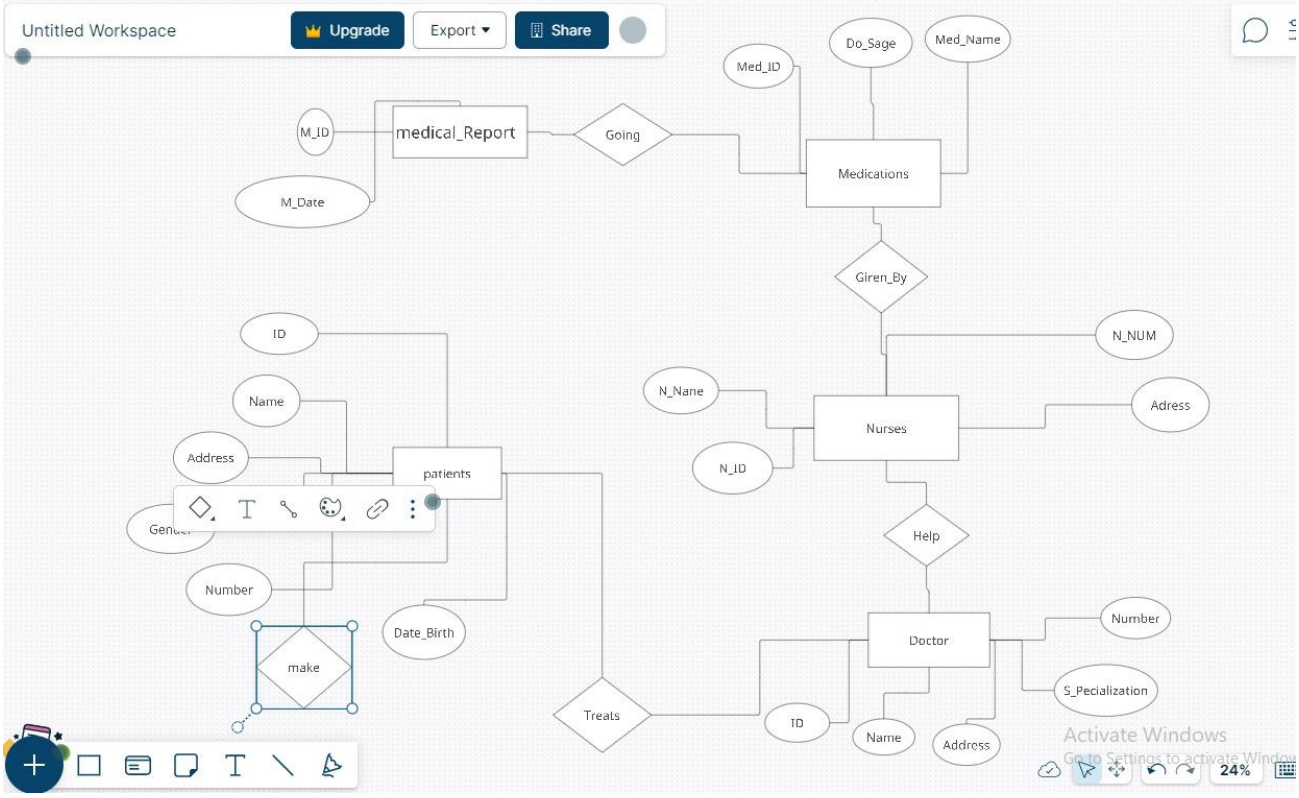
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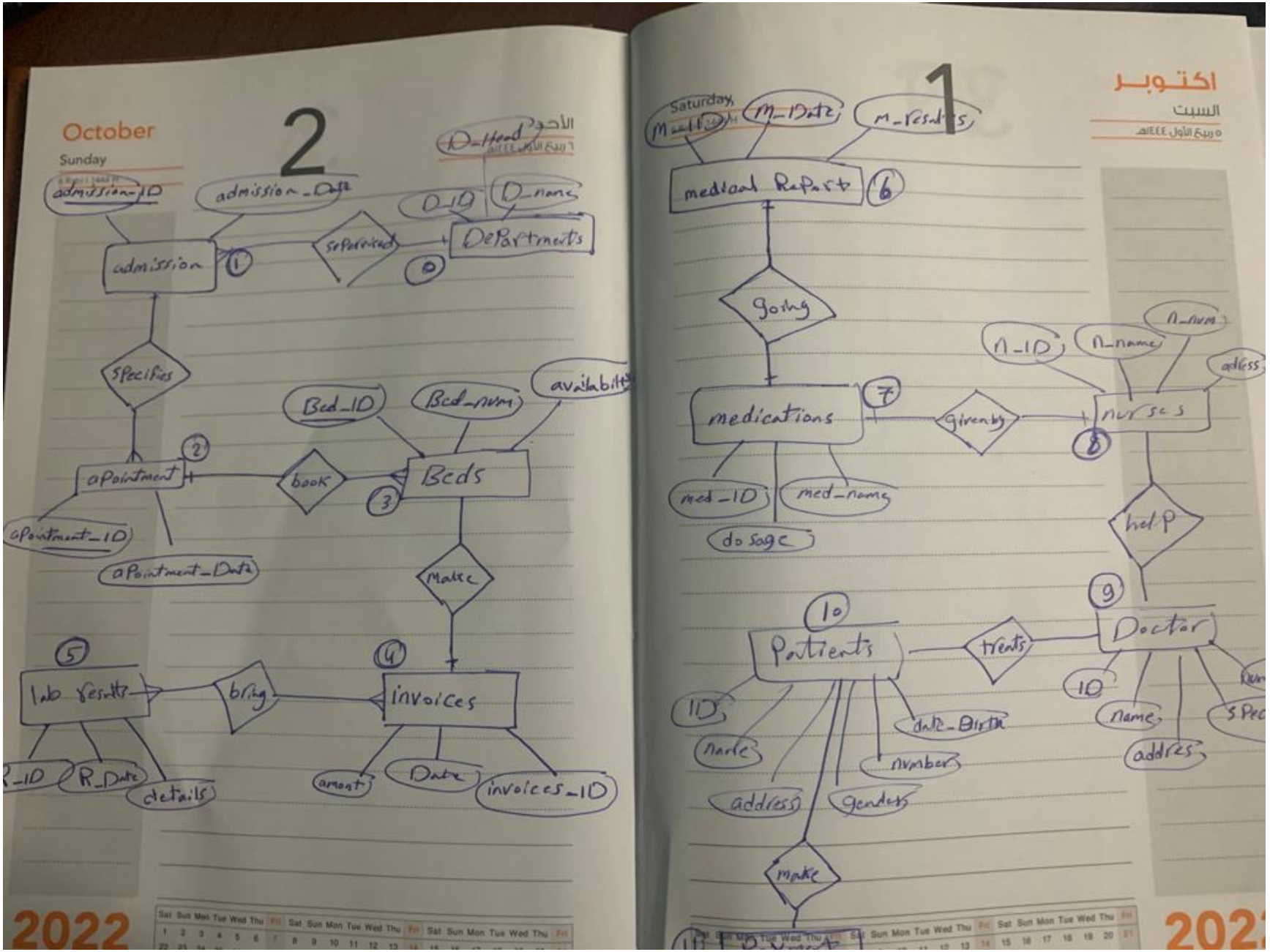
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Conclusion

In conclusion, the hospital management system described above provides an efficient and organized approach to managing patient information and treatment plans. The system ensures that each patient is assigned a unique identifier and medical record and is assigned to a doctor and room within a hospital. The system also includes features such as appointment scheduling and billing, as well as recommendations for the nearest hospital.

The business rules outlined for patients, doctors, medical records, hospitals, rooms, and appointments are comprehensive and cover all essential aspects of hospital management. Implementing this system can help hospitals increase their efficiency, improve patient care, and reduce the risk of errors or mismanagement.

Overall, this hospital management system can benefit healthcare providers and patients alike, by streamlining the hospital workflow and ensuring that patients receive the best possible care.