STAR pims | project Documentation

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# INTRODUCTION

**Project Name:** STAR Patient Management System (PIMS)

**Purpose**: Manages patient records, billing, and medical history of healthcare providers

Scope**:** This program is designed to efficiently manage patient records, medical history, billing information, and prescriptions for healthcare providers. Its key features include:

* **Patient registration** – Allows doctors to create new patient records.
* **Patient Search** – Enables quick lookup of patients details using name an date of birth
* **Medical history Management** – Doctors can update and view diagnosis and treatments
* **Billing System** – Displays payment details, billing history, and due dates for patients
* **Prescription Management** – Handles medication prescriptions assigned by doctors.
* **Encrypted passwords** – ensures secure access to accounts of healthcare providers

**Users involved:**

* **Doctors** – to view, update, and create new patient records and billing administration

# Technology Stack

|  |  |
| --- | --- |
| **Technology used** | **Purpose** |
| C# (.NET Framework) | Used for front-end design and business logic handling |
| Windows Forms(WinForms) | Provides user interface elements for the application |
| MS SQL Server | Stores login information, patient records, medical history, and billing details |
| SSMS | Manages database interactions and queries |

# Data Flow Diagram

A diagram of a medical procedure

AI-generated content may be incorrect.

# Flow Chart Diagrams

**View Patient**

**A flowchart of a patient

AI-generated content may be incorrect.**

**Billing**

A diagram of a bill

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**Prescription**

A diagram of a medical procedure

AI-generated content may be incorrect.

**Patient Medical Records**

**A diagram of a patient

AI-generated content may be incorrect.**

### Pseudocode

#### Patient Registration

|  |
| --- |
| BEGIN  DISPLAY "Enter Patient Information"  INPUT patient\_name, dob, contact\_info  VALIDATE input\_fields  IF all\_fields\_valid THEN  INSERT INTO Patients (name, dob, contact\_info) VALUES (patient\_name, dob, contact\_info)  DISPLAY "Patient Registered Successfully"  ELSE  DISPLAY "Error: Missing or Invalid Input"  ENDIF  END |

#### Search Patient

|  |
| --- |
| BEGIN  DISPLAY "Enter Patient Name or ID"  INPUT search\_query  QUERY Database WHERE name LIKE search\_query OR id = search\_query  IF records\_found THEN  DISPLAY patient\_information  ELSE  DISPLAY "No patient found with these details"  ENDIF  END |

#### View Patient

|  |
| --- |
| BEGIN  DISPLAY "Enter Patient ID"  INPUT patient\_id  QUERY Database WHERE id = patient\_id  IF record\_exists THEN  DISPLAY diagnosis, treatment, medical\_history  ELSE  DISPLAY "No medical history found"  ENDIF  END |

#### Update Patient records

|  |
| --- |
| BEGIN  DISPLAY "Enter Patient ID"  INPUT patient\_id  QUERY Database WHERE id = patient\_id  IF record\_exists THEN  DISPLAY "Enter New Diagnosis, Treatment, Medical History"  INPUT new\_diagnosis, new\_treatment, new\_history  UPDATE Patients SET diagnosis = new\_diagnosis, treatment = new\_treatment, medical\_history = new\_history WHERE id = patient\_id  DISPLAY "Patient Records Updated Successfully"  ELSE  DISPLAY "Error: Patient Not Found"  ENDIF  END |

#### Generate Bill

|  |
| --- |
| BEGIN  DISPLAY "Enter Patient ID"  INPUT patient\_id  DISPLAY "Enter Bill Amount"  INPUT bill\_amount  DISPLAY "Enter Bill Description"  INPUT bill\_description  DISPLAY "Enter Due Date"  INPUT due\_date  INSERT INTO Billing (patient\_id, total\_amount, status, description, due\_date) VALUES (patient\_id, bill\_amount, 'Pending', bill\_description, due\_date)  DISPLAY "Bill Generated Successfully"  END |

#### Prescriptions

|  |
| --- |
| BEGIN  DISPLAY "Enter Patient ID"  INPUT patient\_id  DISPLAY "Enter Medication Name, Dosage, Frequency"  INPUT medication\_name, dosage, frequency  INSERT INTO Prescriptions (patient\_id, medication\_name, dosage, frequency) VALUES (patient\_id, medication\_name, dosage, frequency)  DISPLAY "Prescription Added Successfully"  END |

### Data Dictionary

**Users**

**A screenshot of a computer

AI-generated content may be incorrect.**

Username: allows the user to create their own username to login with

Password\_hash: hashes the password to ensure security

Email: used when recovering password

User\_role: ensures that accounts are only from doctors, no other type of user

Recovery\_question: assigns a selected recovery question to the account to reset password

Recovery\_answer: assigns an answer to the recovery question

**Patients**

A screenshot of a computer

AI-generated content may be incorrect.

Name: assigns full name to the record of the patient

DOB: assigns date of birth to the patient

Age: assigns age of the patient

Height: assigns height of the patient

Weight: assigns weight of the patient

Diagnosis: assigns diagnosis to the patient

Treatment: assigns treatments to the patient

Medical\_history: assigns a list of previous medical history of the patient

**Medical Records**

A screenshot of a computer

AI-generated content may be incorrect.

Patient\_id: creates a patient ID for the patient

Medication: assigns medication to the patient

Dosage: assigns a medication dosage to patient

Refill\_available: tells whether there is refills available for the patient

Doctor\_notes: allows doctor to create notes on the medications

Requested\_date: shows when the medication was requested

**Billing**

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Patient\_id: assigns a patient id to the patient

Total\_amount: assigns the total amount/cost of services to the patient’s account

Status: shows what is the payment status of the patient

Payment\_date: shows when the patient made the payment

Description: allows the doctor to input a description of the billing for the services

Due\_date: displays the date the payment is due