HOSPITAL MANAGEMENT SYSTEM

**PROBLEM STAEMENT:**

Design and implement a Hospital Management System to streamline patient registration, appointment booking, and doctor selection process.

**DESCRIPTION OVERVIEW:**

A Hospital Management System (HMS) is a comprehensive software solution designed to streamline and automate various administrative, clinical, and operational tasks within a healthcare facility.

**TECHNOLOGY USE:**

Here we will be using Google Colab **to perform HMS.**

**WORKFLOW DIAGRAM**

1.SIGNUP AND LOGIN

HOSPITAL MANAGEMENT

2. REGISTER PATIENT

3.SELECT PROBLEM

5. SELECT LANGUAGE AND DOCTOR

4. CHOOSE LOCATION

6.VIEW APPOINTMENT

7. QUIT

**IMPLEMENTATION :-**

**SIGNUP AND LOGIN:**

# Function for user sign up1233

def sign\_up():

    print("\nSign Up")

    while True:

        username = input("Enter Username: ")

        if not username:

            print("Username cannot be empty. Please enter a valid username.")

            continue

        password = input("Enter Password: ")

        if not password:

            print("Password cannot be empty. Please enter a valid password.")

            continue

        if username in user\_accounts:

            print("Username already exists. Please choose a different username.")

        else:

            user\_accounts[username] = password

            print("Sign up successful. You can now login.")

            break

# Function for user login

def login():

    print("\nLogin")

    while True:

        username = input("Enter Username: ")

        password = input("Enter Password: ")

        if username in user\_accounts and user\_accounts[username] == password:

            print("Login successful.")

            return True

        else:

            print("Invalid username or password. Please try again.")

            choice = input("Do you want to sign up? (yes/no): ").lower()

            if choice == 'yes':

                sign\_up()

            elif choice == 'no':

                return False

**Data structure:**

import datetime

patients = []

doctors = {

'English': ["Dr.Sujith,contact NO:-885676545,Ratings:-(3/5)", "Dr.Raju,contact NO:-8653456987,Ratings:-(4/5)", "Dr.Raju,contact NO:-8653456987,Ratings:-(4/5)"],

'Hindi': ["Dr.Kiran,contact NO:-213345678,Ratings:-(3.5/5)", "Dr.Naveen,contact NO:-754569878,Ratings:-(4.3/5)", "Dr.Jerina,contact NO:-63587458,Ratings:-(4.5/5)"],

'Telugu':["Dr.Kajal,contact NO:-345678998,Ratings:-(4.5/5)","Dr.Nithish,contact NO:-754569878,Ratings:-(4.3/5)","Dr.Vaishnavi,contact NO:-63587458,Ratings:-(4.5/5)"],

'Kannada':["Dr.Ramu,contact NO:-34567985,Ratings:-(3/5)","Dr.Varshini,contact NO:-345656987,Ratings:-(4/5)","Dr.Anuja,contact NO:-456780987,Ratings:-(3.5/5)"],

'Tamil':["Dr.Manjunath,contact NO:-456780987,Ratings:-(4.3/5)","Dr.John,contact NO:--0987655689,Ratings:-(4.5/5)","Dr.John,contact NO:--0987655689,Ratings:-(4.5/5)"]

}

appointments = []

**Function to Register patients:**

def register\_patient():

print("\nPatient Registration:")

name = input("Enter Your Name: ")

age = input("Enter Your Age: ")

gender = input("Enter Your Gender: ")

phone = input("Enter Your Phone Number: ")

patient = {'Name': name, 'Age': age, 'Gender': gender, 'Phone': phone}

patients.append(patient)

print("Patient registered successfully!")

**Function to choose location:**

def location():

while True:

print("\nChoose Hospital location")

print("1. HAL")

print("2. MARATHAHALLI")

print("3. KR PURA")

choice = input("Enter your choice (1/2/3): ")

if choice == '1':

print("Your location is HAL")

break

elif choice == '2':

print("Your location is MARATHAHALLI")

break

elif choice == '3':

print("Your location is KR PURA")

break

else:

print("Invalid choice. Please enter a valid option.")

**Function to choose problems faced by the Patient:**

def problem():

while True:

print("\nChoose your problem")

print("1. Skin Diseases")

print("2. Respiratory Issues")

print("3. Heart Diseases")

print("4. Thyroid Disorders")

print("5. Diabetes")

choice = input("Enter your choice (1/2/3/4/5): ")

if choice == '1':

print("I am Facing problem from Skin Diseases")

break

elif choice == '2':

print("I am Facing problem Respiratory Issues")

break

elif choice == '3':

print("I am Facing problem Heart Diseases")

break

elif choice == '4':

print("I am Facing problem Thyroid Disorders")

break

elif choice == '5':

print("I am Facing problem Diabetes")

break

else:

print("Invalid choice. Please enter a valid option.")

**Function to display available doctors based on language:**

def display\_doctors(language):

if language in doctors:

print(f"\nAvailable {language} Doctors:")

for i, doctor in enumerate(doctors[language], start=1):

print(f"{i}. {doctor}")

else:

print(f"No doctors available for {language}.")

**Function to book an appointment:**

def book\_appointment(patient, language, doctor\_index):

if language in doctors and 0 <= doctor\_index < len(doctors[language]):

doctor\_name = doctors[language][doctor\_index]

appointment = {'Patient': patient, 'Doctor': doctor\_name, 'Time': datetime.datetime.now()}

appointments.append(appointment)

print(f"Appointment booked with {doctor\_name} at {appointment['Time']}")

else:

print("Invalid doctor selection.")

**Main function for the Hospital Management System:**

def hospital\_management():

while True:

print("\nHospital Management System")

print("1. Register Patient")

print("2. Choose the Location")

print("3. Select your problem")

print("4. Select Language and Doctor")

print("5. View Appointments")

print("6. Quit")

choice = input("Enter your choice (1/2/3/4/5): ")

if choice == '1':

register\_patient()

elif choice == '2':

location()

elif choice == '3':

problem()

elif choice == '4':

language = input("Select Language (English/Hindi/Telugu/Kannada/Tamil): ").capitalize()

display\_doctors(language)

doctor\_index = int(input("Enter the number of the doctor you want to consult: ")) - 1

if 0 <= doctor\_index < len(doctors[language]):

patient = patients[-1] if patients else None # Get the latest registered patient

book\_appointment(patient, language, doctor\_index)

else:

print("Invalid doctor selection.")

elif choice == '5':

print("\nAppointments:")

for appointment in appointments:

print(f"Time: {appointment['Time']}, Patient: {appointment['Patient']}, Doctor: {appointment['Doctor']}")

elif choice == '6':

print("Thank you for using the Hospital Management System. Goodbye!")

break

else:

print("Invalid choice. Please enter a valid option.")

hospital\_management()

**CONCLUSION:-**

The code is structured into functions for better organization and modularity. It utilizes dictionaries to store information about doctors and appointments and lists to store patient information

# Hospital Management System

# List to store patient information

patients = []

# Function to add a new patient to the system

def add\_patient():

name = input("Enter patient name: ")

age = input("Enter patient age: ")

gender = input("Enter patient gender: ")

phoneno = input("Enter the Phone number: ")

patient = {"Name": name, "Age": age, "Gender": gender, "PhoneNo": phoneno}

patients.append(patient)

print("Patient added successfully!")

# Function to remove a patient from the system

def remove\_patient():

name\_to\_remove = input("Enter the name of the patient to remove: ")

removed = False

for patient in patients:

if patient["Name"].lower() == name\_to\_remove.lower():

patients.remove(patient)

print(f"{name\_to\_remove} has been removed from the system.")

removed = True

break

if not removed:

print(f"No patient with the name {name\_to\_remove} found.")

# Function to allow users to choose a location

def location():

while True:

print("\nChoose the location")

print("1. HAL")

print("2. MARATHAHALLI")

print("3. KR PURA")

choice = input("Enter your choice (1/2/3): ")

if choice == '1':

print("Your location is HAL")

break

elif choice == '2':

print("Your location is MARATHAHALLI")

break

elif choice == '3':

print("Your location is KR PURA")

break

else:

print("Invalid choice. Please enter a valid option.")

# Function to display the information of all patients in the system

def display\_patients():

if not patients:

print("No patients in the system.")

else:

print("\nPatient Information:")

for index, patient in enumerate(patients, 1):

print(f"{index}. Name: {patient['Name']}, Age: {patient['Age']}, Gender: {patient['Gender']}, PhoneNo: {patient['PhoneNo']}")

print()

# Main function for the Hospital Management System

def hospital\_management():

while True:

print("\nHospital Management System")

print("1. Add Patient")

print("2. Remove Patient")

print("3. Choose Location")

print("4. Display Patients")

print("5. Quit")

# Get user choice

choice = input("Enter your choice (1/2/3/4/5): ")

# Perform actions based on user choice

if choice == '1':

add\_patient()

elif choice == '2':

remove\_patient()

elif choice == '3':

location()

elif choice == '4':

display\_patients()

elif choice == '5':

print("Exiting Hospital Management System. Goodbye!")

break

else:

print("Invalid choice. Please enter a valid option.")

# Entry point to the program

if \_\_name\_\_ == "\_\_main\_\_":

hospital\_management()