

PROJECT DOCUMENTATION

HOSPITAL MANAGEMENT SYSTEM

1. Technical Spesification

- Backend:
 - FastAPI (Python web framework)
 - SQLAlchemy (ORM)
 - PostgreSQL (Database)
 - JWT Authentication
 - Uvicorn (ASGI server)
- Frontend:
 - Jinja2 Templates
 - Tailwind CSS
 - HTML5/CSS3
- Dependencies:
 - fastapi==0.104.1
 - sqlalchemy==2.0.23
 - psycopg2-binary==2.9.9
 - python-jose[cryptography]==3.3.0
 - openpyxl==3.1.2

2. Installation

1. Clone repository

```
git clone https://github.com/masithamf/hospital-management-system.git
```

2. Install dependencies

```
pip install -r requirements.txt
```

3. Setup database

```
# Create PostgreSQL database
```

4. Run application

```
uvicorn main:app --reload --host 127.0.0.1 --port 8006
```

3. User Manual

3.1.Login Page

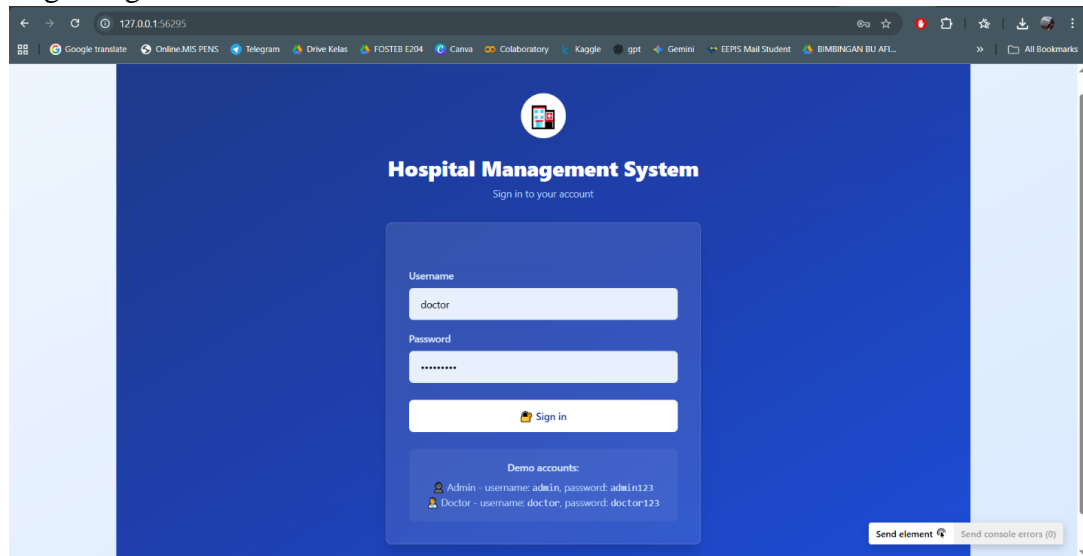


Figure 1 Login Page

The system implements a dual-access login mechanism for both doctors and administrators, ensuring that each role has the appropriate level of access and functionality.

3.2.Dashboard

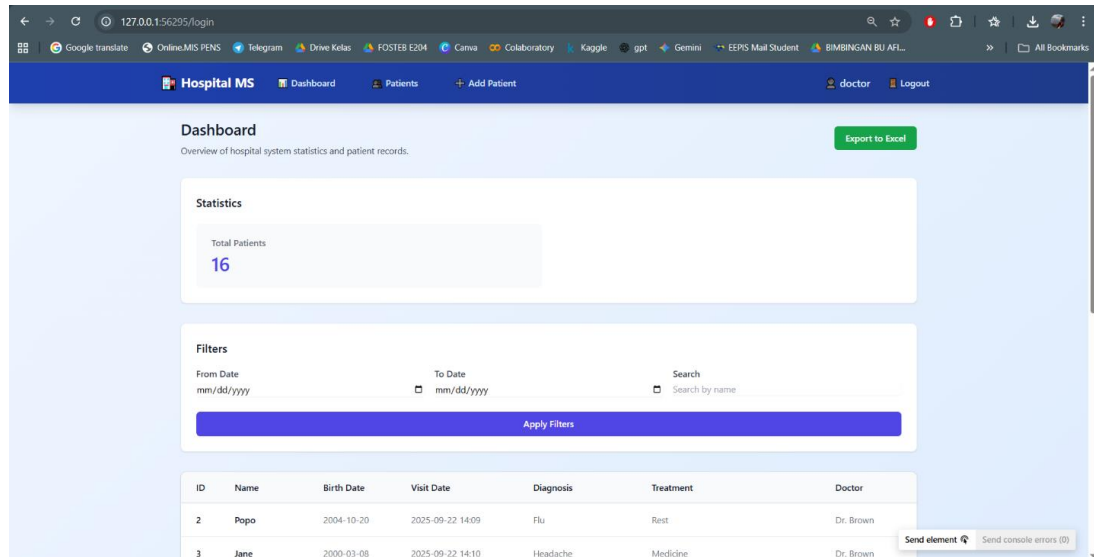


Figure 2 Dashboard as Doctor

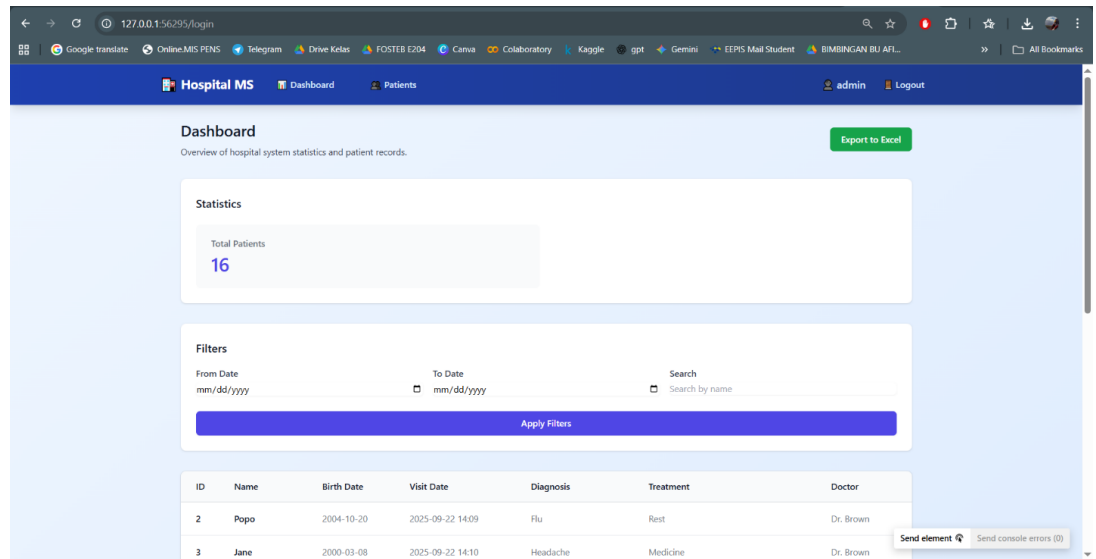


Figure 3 Dashboard as Admin

The system dashboard displays patient statistics in a summarized form, incorporates filtering features to refine search results, and presents a complete list of patients with details such as visit date, diagnosis, and treatment.

3.3.Patient List

Patients
A list of all patients in the hospital system.

ID	Name	Birth Date	Visit Date	Diagnosis	Treatment	Doctor
2	Popo	2004-10-20	2025-09-22 14:09	Flu	Rest	Dr. Brown
3	Jane	2000-03-08	2025-09-22 14:10	Headache	Medicine	Dr. Brown
4	John Doe	2025-09-22	2025-09-22 14:38	Flu	Medication	Dr. Smith
5	Jane Doe	2025-09-22	2025-09-22 14:38	Fever	Rest	Dr. Johnson
6	John Doe	2025-09-22	2025-09-22 14:39	Flu	Medication	Dr. Smith
7	Jane Doe	2025-09-22	2025-09-22 14:39	Fever	Rest	Dr. Johnson
8	John Doe	2025-09-22	2025-09-22 14:43	Flu	Medication	Dr. Smith
9	Jane Doe	2025-09-22	2025-09-22 14:43	Fever	Rest	Dr. Johnson
10	Alice	2025-09-22	2024-01-25 08:00	General Checkup	Consultation	Dr. Johnson

Figure 4 Patient List

The system provides a patient list displayed in the form of a table, which includes columns for ID, Name, Birth Date, Visit Date, Diagnosis, Treatment, and Doctor to ensure clear and structured presentation of patient data.

3.4. Add Patient Form

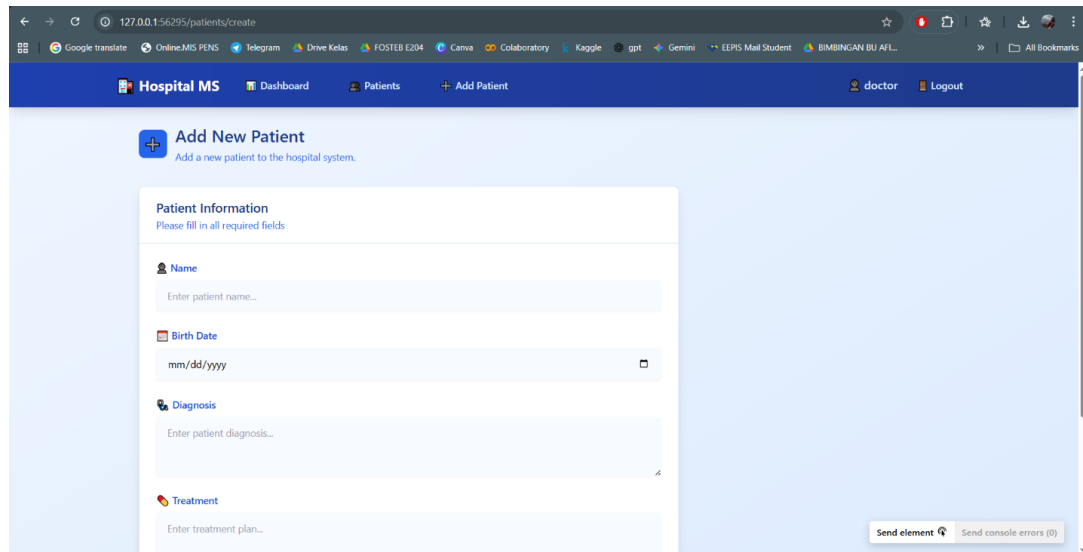
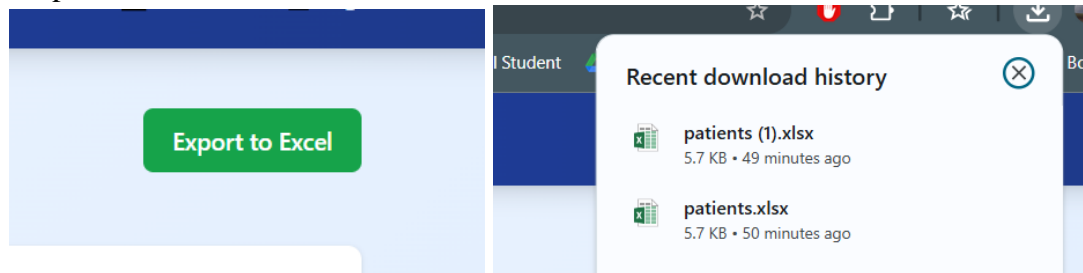
The screenshot shows a web browser window with the URL 127.0.0.1:56295/patients/create. The browser's address bar and tabs are visible at the top. The application's navigation bar includes 'Hospital MS', 'Dashboard', 'Patients', and '+ Add Patient'. The user is logged in as 'doctor' and can click 'Logout'. The main content area is titled 'Add New Patient' with a sub-header 'Add a new patient to the hospital system.' Below this is a form titled 'Patient Information' with a note 'Please fill in all required fields'. The form contains four input fields: 'Name' (with a person icon), 'Birth Date' (with a calendar icon and a date format hint 'mm/dd/yyyy'), 'Diagnosis' (with a medical icon), and 'Treatment' (with a pill icon). Each field has a placeholder text 'Enter patient name...', 'Enter patient birth date...', 'Enter patient diagnosis...', and 'Enter treatment plan...' respectively. At the bottom right of the form, there are two buttons: 'Send element' and 'Send console errors (0)'.

Figure 5 Add Patient Form

The system provides an Add patient form feature that can only be accessed by users assigned the doctor role, ensuring that the process of entering and managing patient information is restricted to authorized medical personnel.

3.5. Export Excel



The system provides an export to Excel button, which allows patient data to be exported and stored as an Excel file on the user's computer for further analysis or reporting purposes.