Project Name: Pediatric Clinic

Project Number: 1

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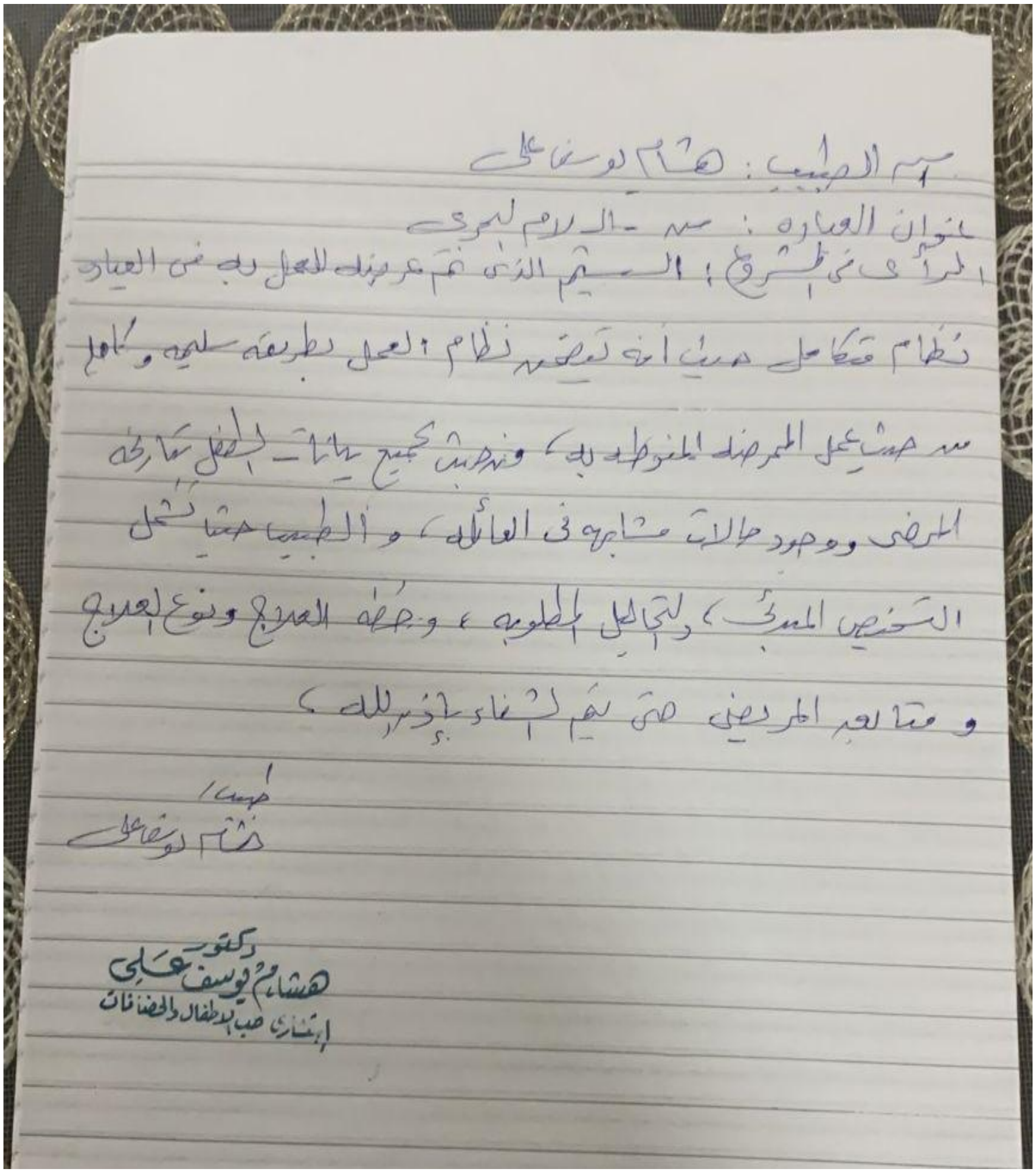
تقرير الدكتور :



اسم الطبيب: هشام يوسف علي

عنوان العيادة: مدينة السلام البحري

الرأي في المشروع: السيستم الذي تم عرضه للعمل به في العيادة نظام متكامل حيث إنه يتضمن نظام العمل بطريقة سليمة وكامل من حيث عمل الممرضة المنوط به، وفحص جميع بيانات الطفل وتاريخه المرضي ووجود حالات مشابهة في العائلة، والطبيب حيث يشمل التشخيص المبدئي، والتحاليل المطلوبة، وجرعة العلاج ونوع العلاج ومتابعة المريض حتى يتم الشفاء بإذن الله،

إمضاء

هشام يوسف علي

دكتور
هشام يوسف علي
استشاري طب الأطفال والحضانات

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- ## Problem definition:

Often the medical problems of children are always the greatest concern for parents, so they turn to pediatricians for better medical and health care and follow-up for their children and the extent of their health development. Therefore, clinics are crowded with children, which causes irregularity in the medical process. Therefore, clinics and medical hospitals resort to managing and organizing patients' files for children to organize appointments for statements, operations, and bills for health care services, operations, medicines, and medical supplies. In addition, most of the existing medical programs do not meet the needs of the pediatrician, and dealing with them is difficult and complex, and does not allow the management of large medical clinics. So, the children's clinic program can make it easier for us to search for the child's name to know all his data, and to book exam dates from him, and the program facilitates many things.

- ## proposed solution:

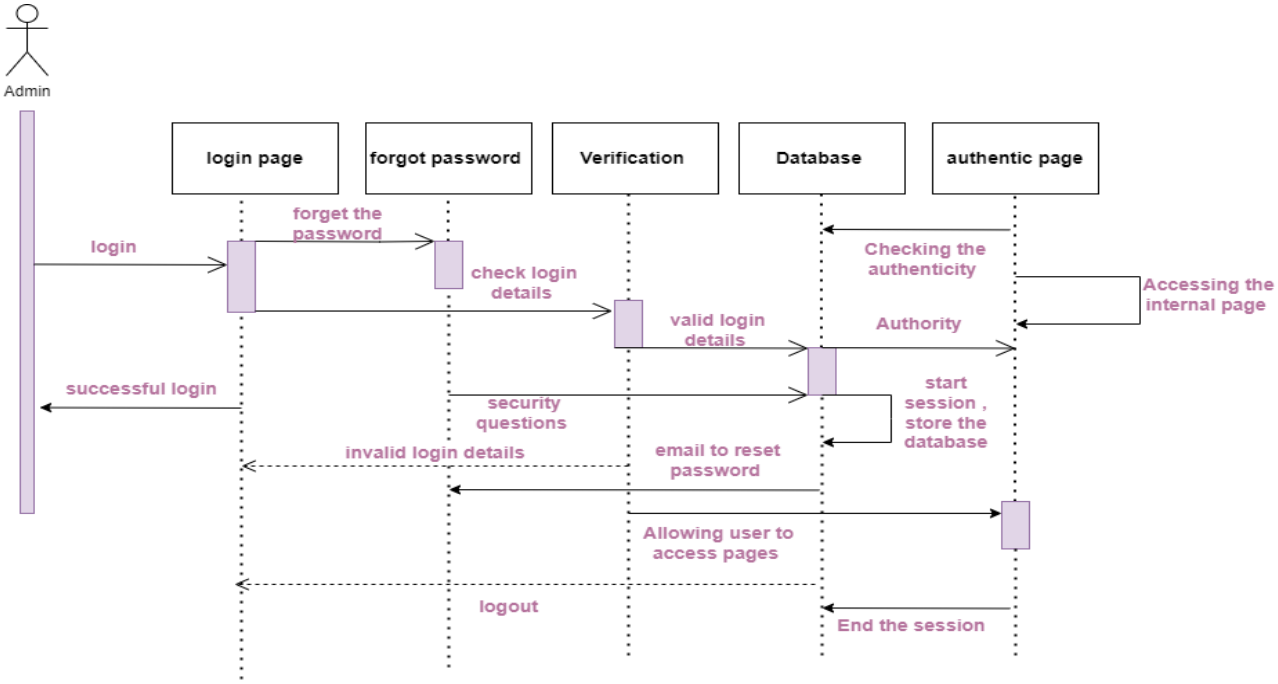
We will create a desktop application in C# language to solve the problems in pediatric clinics represented by overcrowding due to the large number of people and many other problems. We will create a specialized system for pediatricians that is easy to use and has distinctive capabilities, in addition to making it available in Arabic and English. It will also help facilitate the process of managing patient records and the appointment system such as the patient reception and registration screen, screens for statements, radiology and analyzes, patient data of all kinds, a financial accounting system and a complete management of case transfer, appointment system and patient records. In addition to enabling the doctor to view the number of his cases at any time from the list of examinations and the total revenues for all types of his statements in the event that he deals with if there is more than one doctor in the clinic and adding children's data.

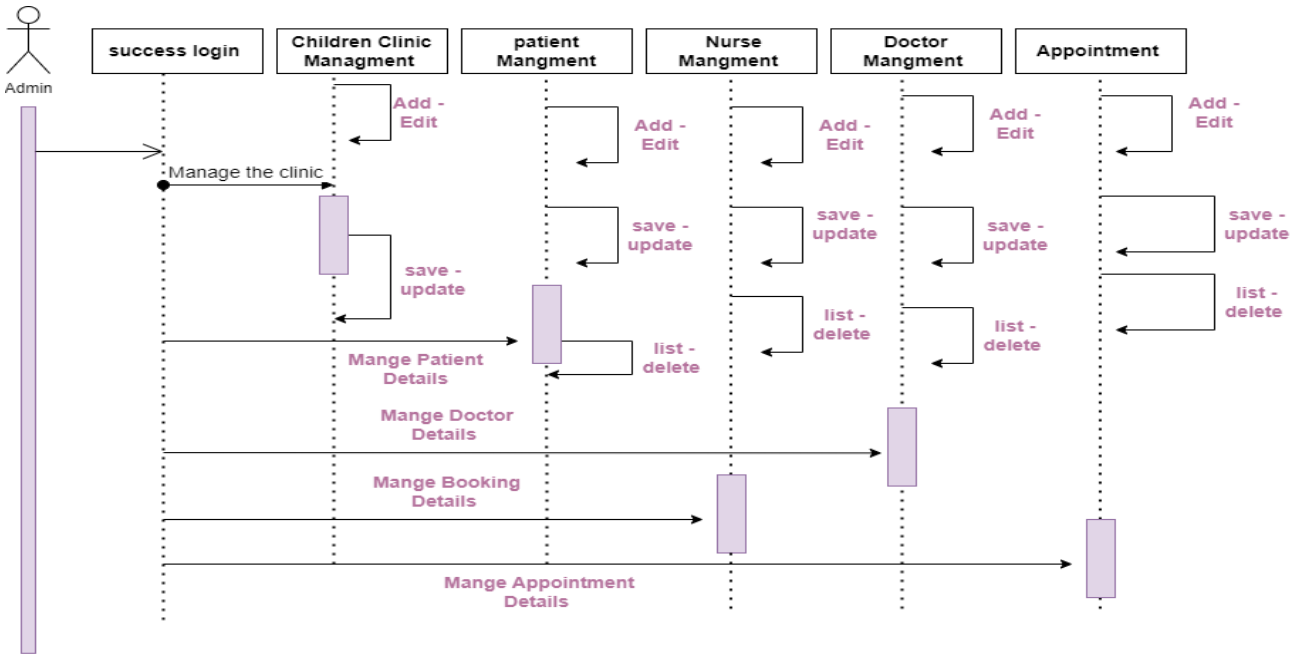
We will also specify the permissions available to each user and doctor. In addition to the possibility of adding or modifying the data at any time, managing reservations and examination dates, and making a treatment prescription in the name of the patient, the name of the treating doctor and the secretariat, etc.

- **key features:**

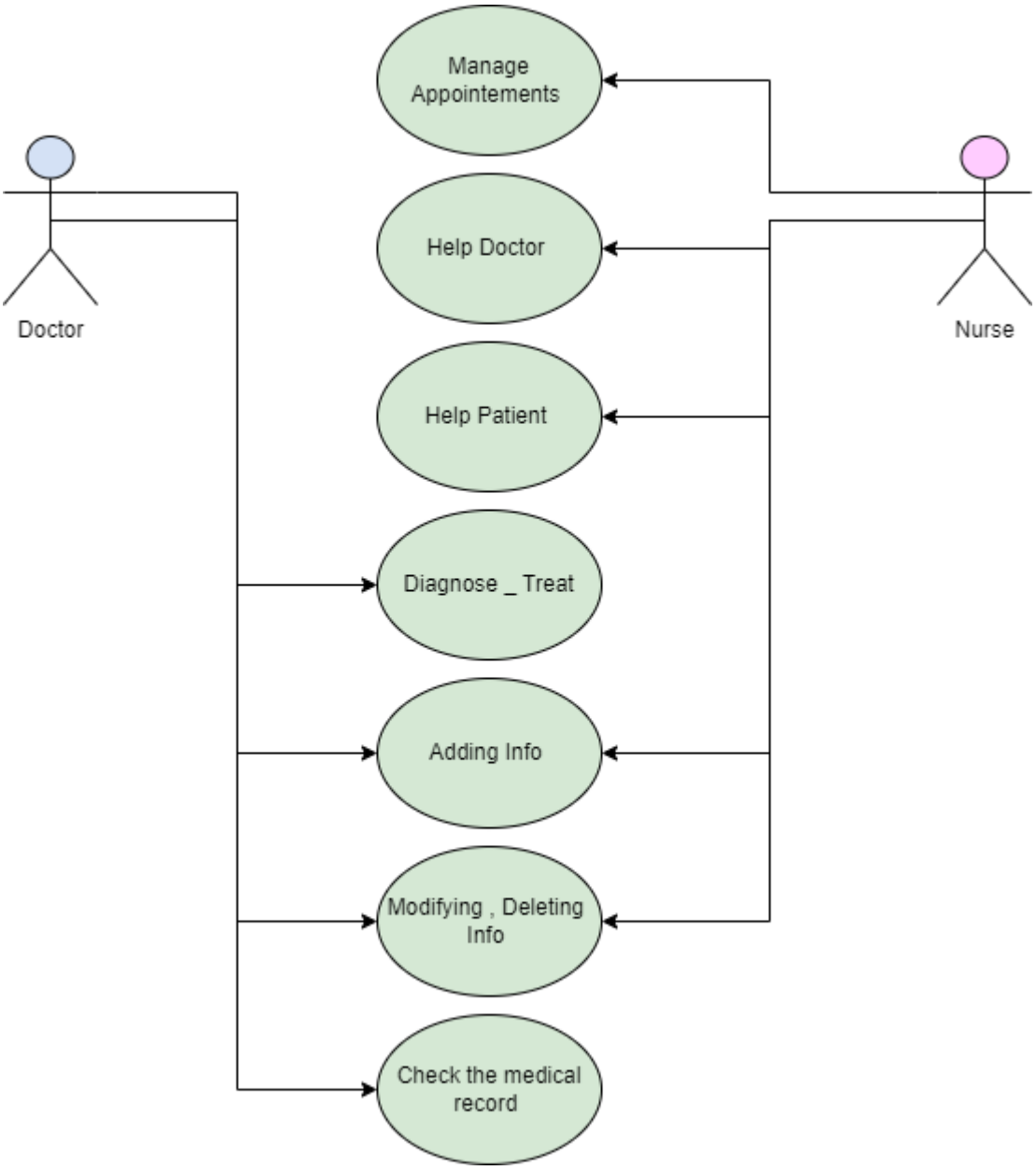
1. Menu that contains sign in (To make the user enter to the system)
2. sign out (To log out of the system)
3. Menu to choose (patient, doctor, secretary, and parents)
4. Recording all the initial data of the patient.
5. Searching for the patient (by id, name, number or address)
6. Adding data at any time.
7. Modifying data at any time.
8. Deleting data at any time.
9. Managing bookings, disclosure, and re-disclosure dates.
10. The child's data as vaccination dates, type of baby, add the type of birth, lactation, allergies, and weight of the baby, etc.
11. Reviewing the return dates for patients with consultation.
12. An integrated and comprehensive patient file for the child and review it at each visit to the patient to be displayed all the history of patients from the dates of previous visits to him and pictures of radiology, medicines, and prescriptions in addition to the follow-up report of the child and vaccinations.

Diagrams:

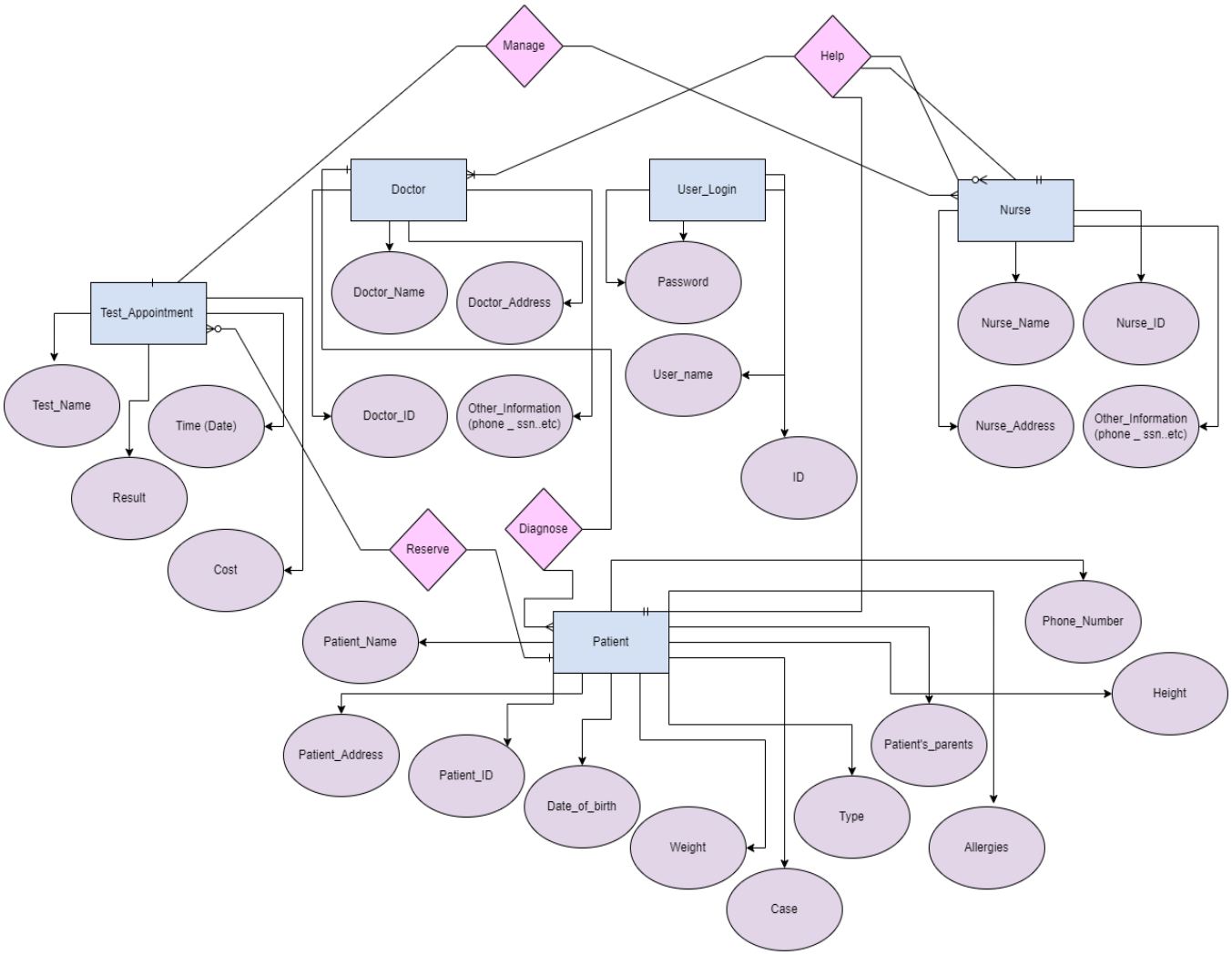

Admin
login page
forgot password
Verification
Database
authentic page
forget the password
login
check login details
Checking the authenticity
Accessing the internal page
valid login details
Authority
successful login
security questions
start session , store the database
invalid login details
email to reset password
Allowing user to access pages
logout
End the session


Admin
success login
Children Clinic Managment
patient Mangment
Nurse Mangment
Doctor Mangment
Appointment
Add - Edit
Manage the clinic
save - update
list - delete
Mange Patient Details
Mange Doctor Details
Mange Booking Details
Mange Appointment Details

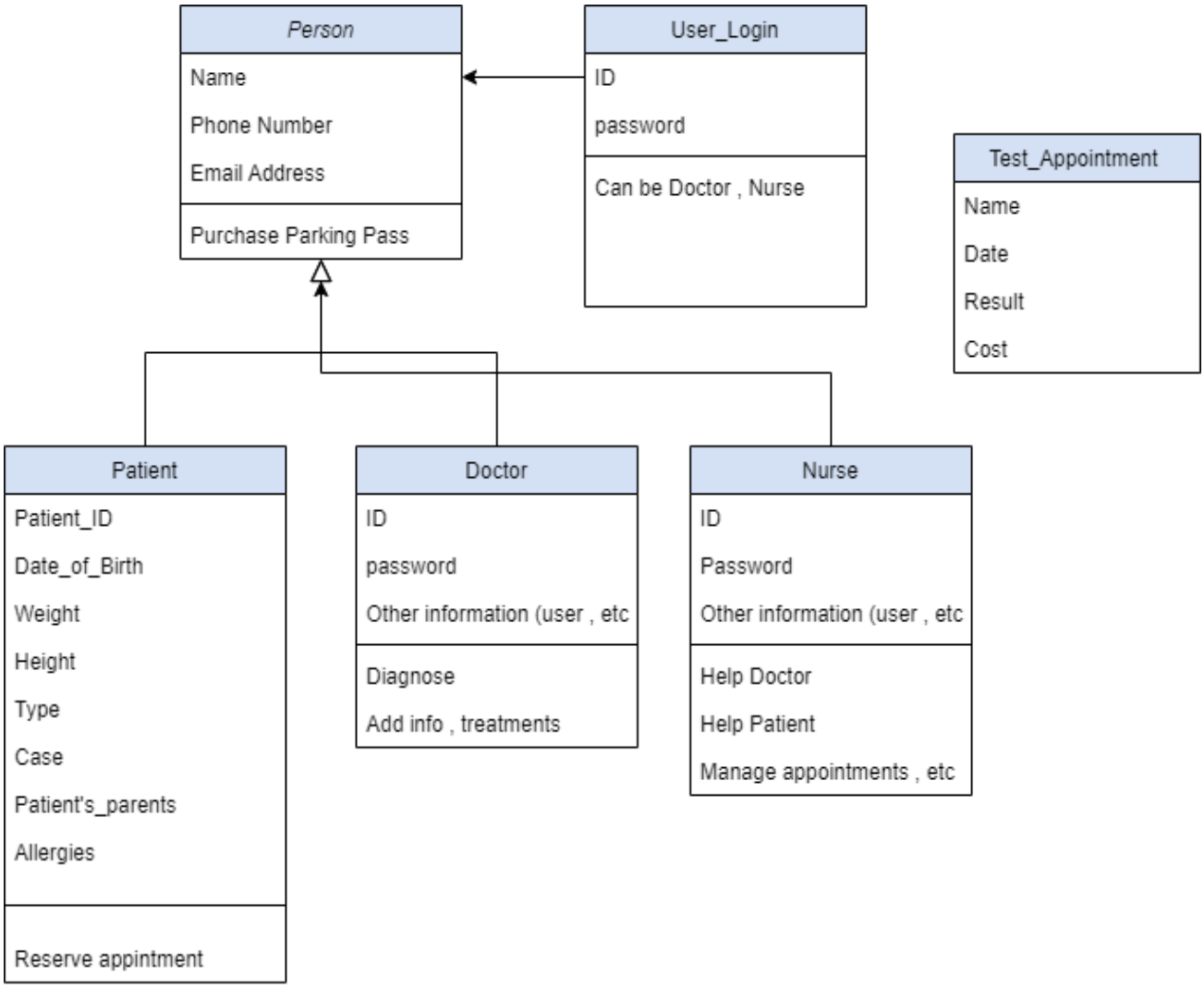
Simple Use case



ERD Diagram:

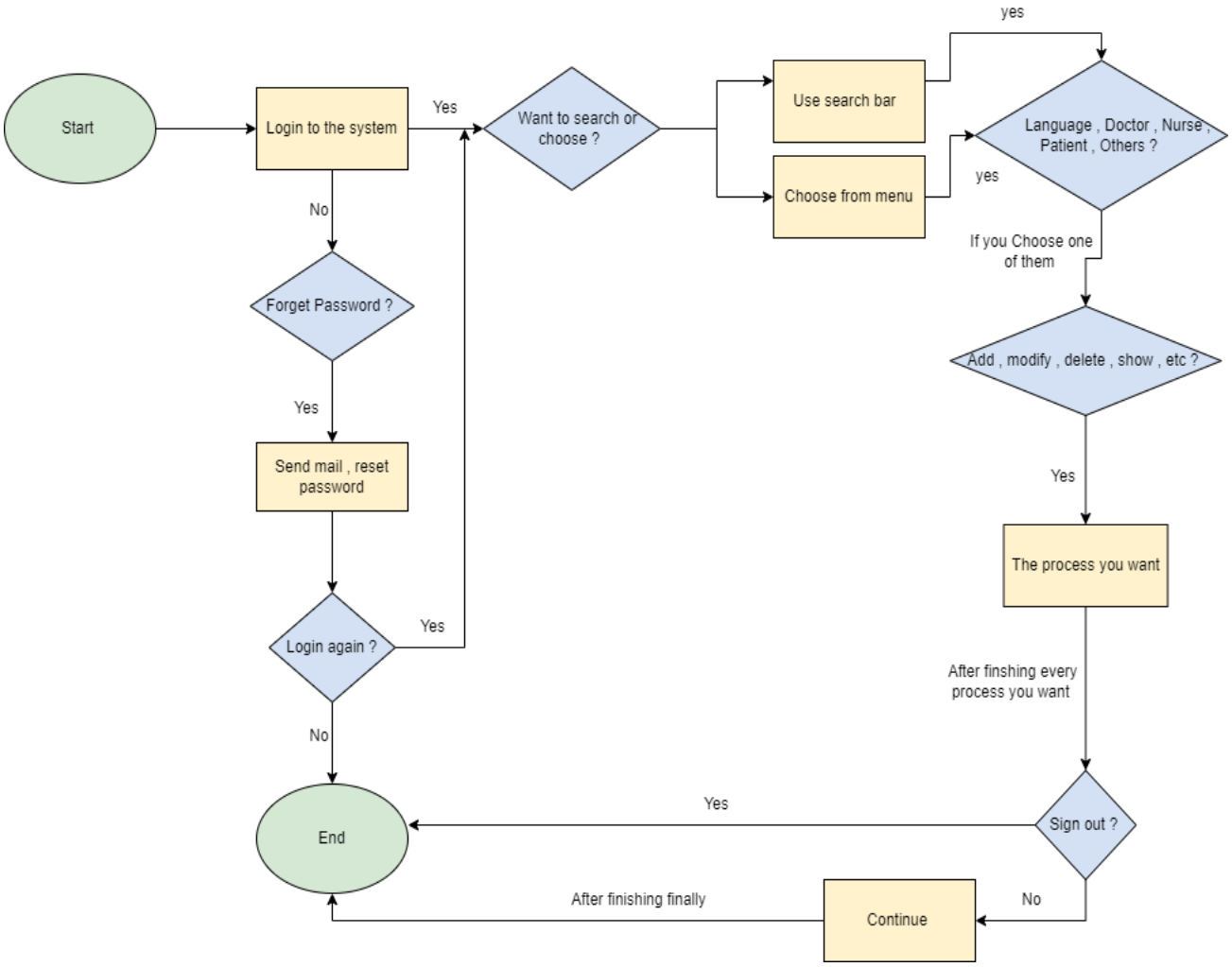

Manage
Help
Doctor
User_Login
Nurse
Doctor_Name
Doctor_Address
Password
Nurse_Name
Nurse_ID
Test_Appointment
User_name
Test_Name
Time (Date)
Doctor_ID
Other_Information (phone _ ssn..etc)
Nurse_Address
Other_Information (phone _ ssn..etc)
ID
Result
Diagnose
Reserve
Cost
Phone_Number
Patient_Name
Patient
Height
Patient_Address
Patient_ID
Date_of_birth
Patient's_parents
Type
Weight
Allergies
Case

Class Diagram:

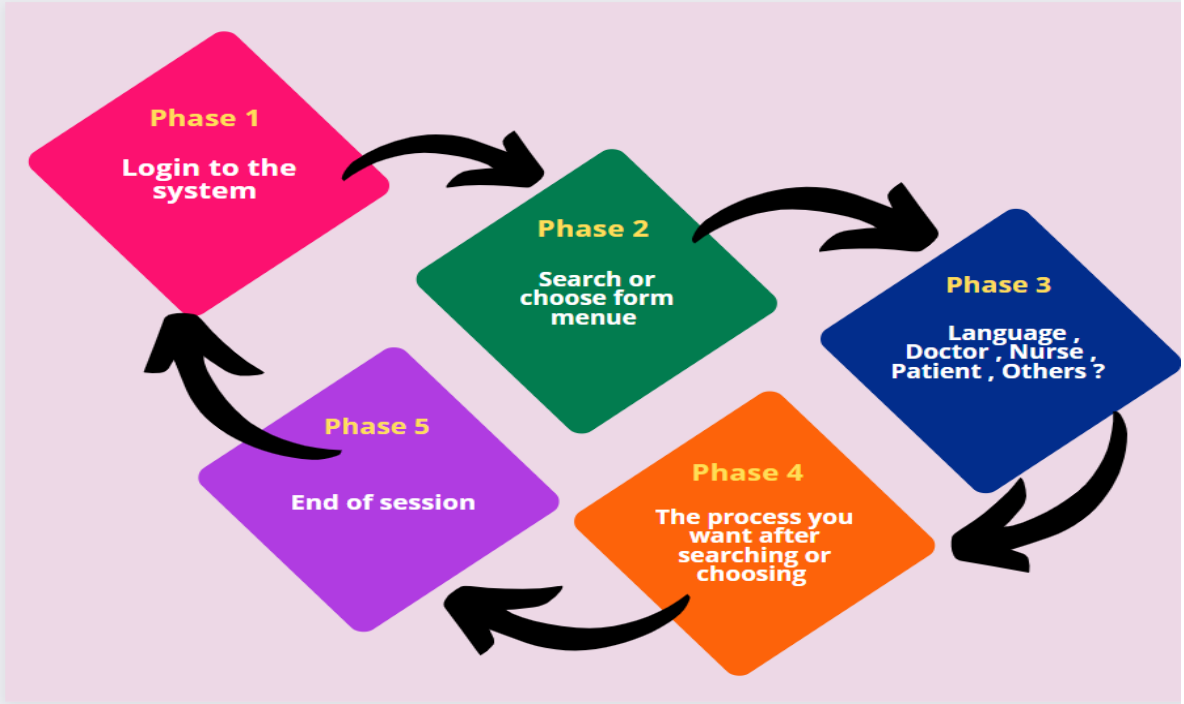


Flowchart:

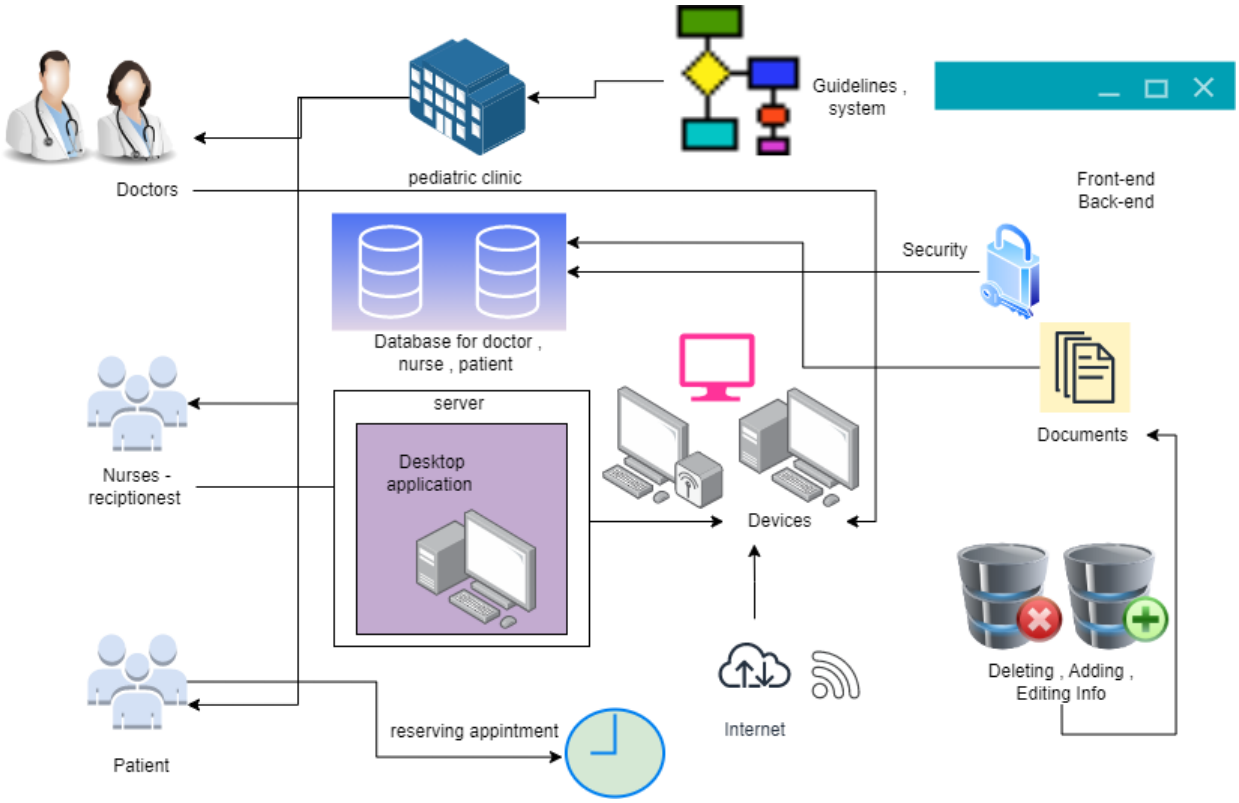
Note: All of this came already after the patient booked an appointment and was diagnosed by the doctor.



Workflow:

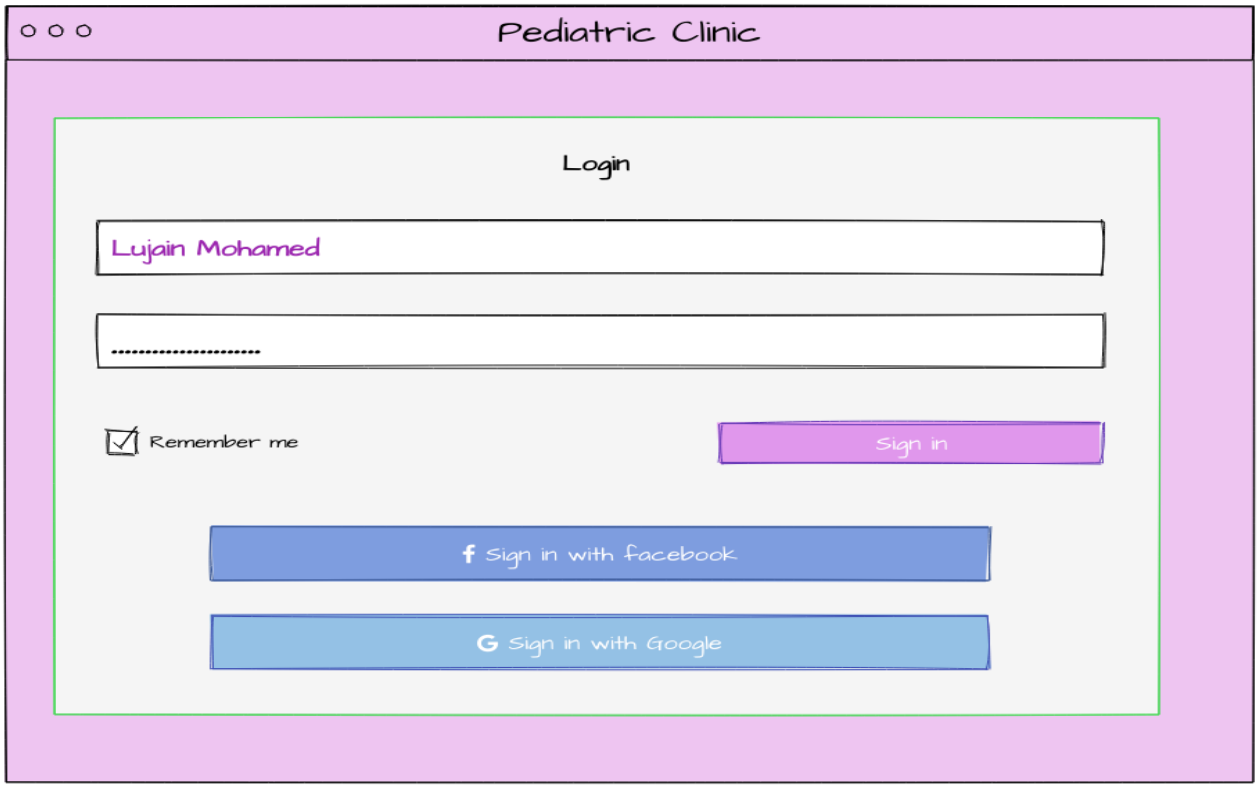


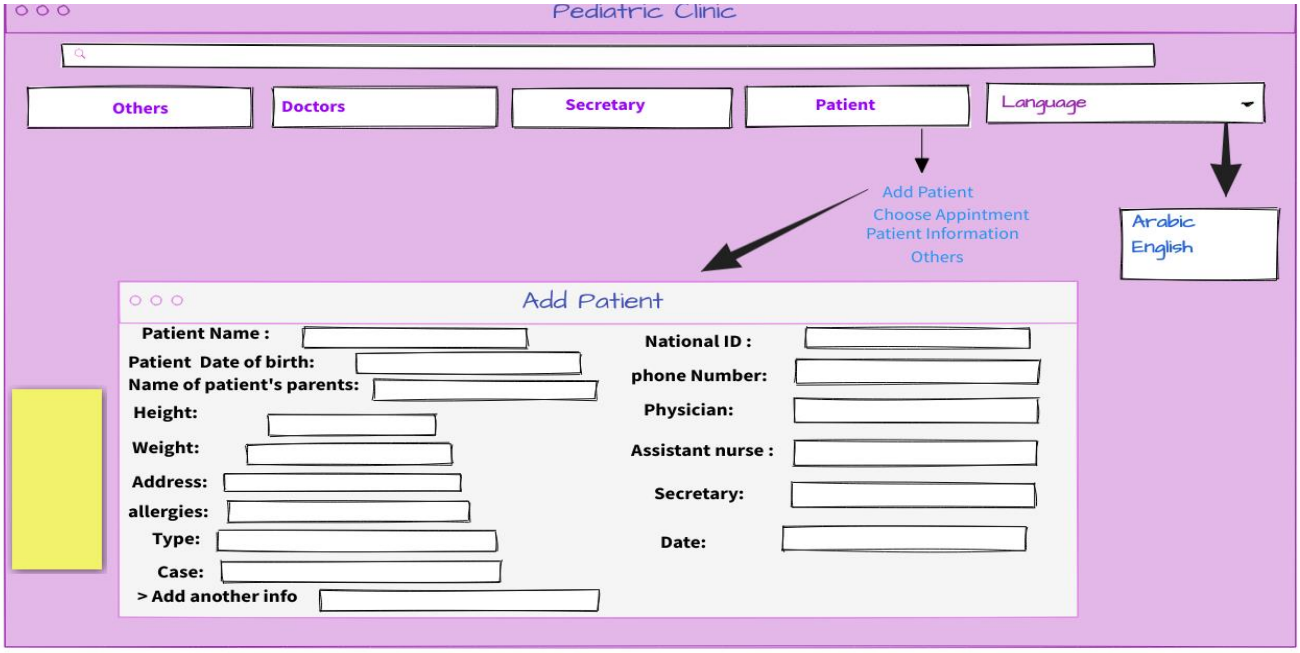
High Level System Architecture Diagram

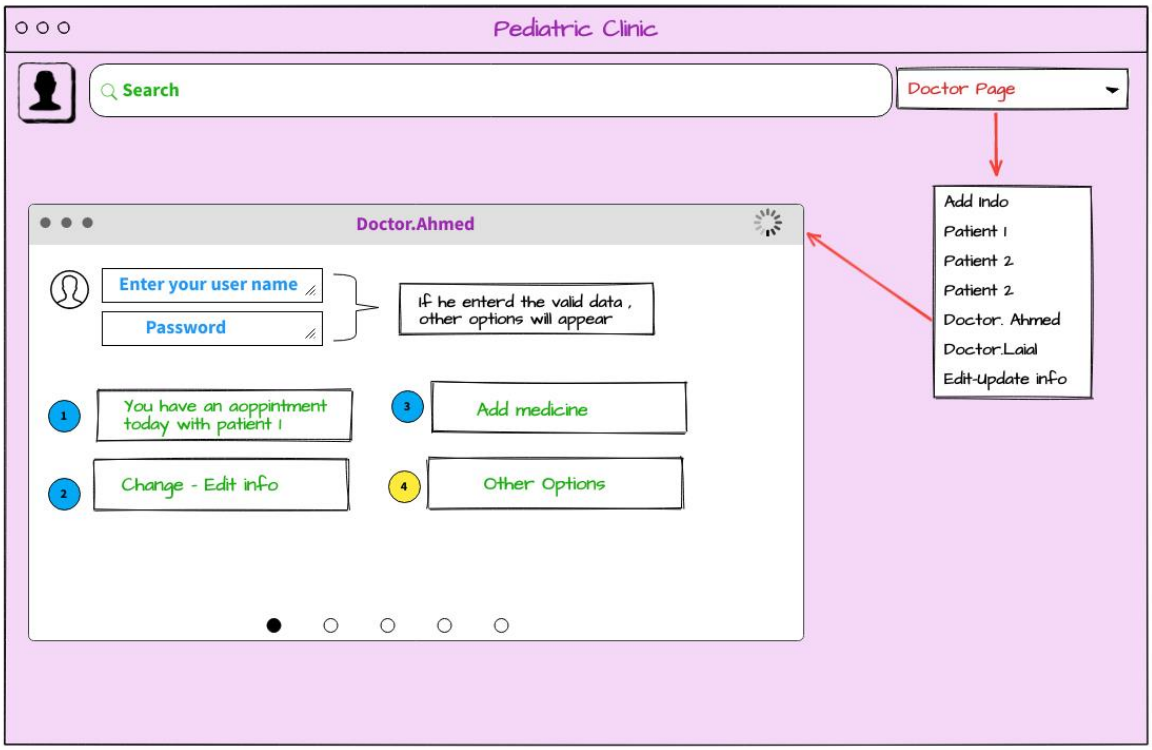


Wireframes:

We used an online wireframe tool called Mock Flow.







Technology used:

1- C# language

a) A programming language developed by Microsoft that runs on the .NET Framework. Also, it is used to develop web apps, desktop apps, mobile apps, games, etc.

2- .Netframe

a) software development framework for building and running applications on Windows.

3- Visual Studio

a) The Visual Studio IDE is a creative launching pad that you can use to edit, debug, and build code, and then publish an app.

Stages:

Stage 1: Brainstorming

Generating ideas to solve the problems so, we tried to design and implement every point in details. We identified the system's features and needs, then separated the challenges into phases, and these stages into discrete jobs. Following that, we inquired as to how we might complete all phases of the project in stages. We brainstormed ideas and connected them to uncover viable solutions for each problem and task at each step. We planned to start by designing the system's user interface, then develop the database, and then combine the database with the UI.

Stage 2: UI Design

Designing the (UI). Looking for the best way to develop an interface that lets the user feel at ease while using the system. Choosing the correct colours, modality, and format so that the system's style is suitable for both the secretary and the doctor. Making (creating) icons, buttons, tabs such as the search tab, cards, photos, notes, calendars, and tables. The design is mostly composed of numerous elements. As:

- Login Screen
- Home Screen
- Dashboard Page
- Appointments
- Patient's page

Stage 3: UI Implementation

Implementing the (UI). Writing the C# code in visual studio.

Stage 4: Database Development

In the UI implementation stage, we had already done the object-oriented design. So, we started in the development of database in C#.

Stage 5: Integration between Frontend and Database

A connection between the database and the front end. This stage allows the app to be able to read, write, and modify data on the database.

Each stage in details:

1. **Stage1. Brainstorming**
    a. Identifying the problem
    b. Finding different solutions and approaches
    c. Comparing between several solutions and problems
    d. Selecting the best solution
    e. Setting a plan for the development
2. **Stage 2. UI Design**
    a. Searching on existing UIs
    b. Selecting the best UI idea
    c. Making an example to imagine as wireframes.
3. **Stage 3. UI Implementation**
    a. Searching about a desktop UI in .NET
    b. Selecting the most proper component
    c. Designing the front pages for the applications
    d. Setting Class diagram

e. Setting ERD & Sequence diagrams

f. Setting the flowcharts & workflow diagrams

g. Start to write the code.

4. **Stage 4. Database Development**

   a. Designing the database

   b. Implementing the database

Functional Requirements

1. **User login**

The App will allow the user to login using e-mail & password.

- Doctor & Nurse

2. **Fetch Patient**

The App will allow the user to fetch the available patient in database.

3. **Reserving Appointments**

The App will allow the user to view reservation dates and patient's data.

Non-Functional Requirements

1. **Accessibility**

   a. The system allows the user the ability to access several functions.

2. **Reliability**

   a. The system allows the user the ability to perform its required functions under static conditions for a specific period.

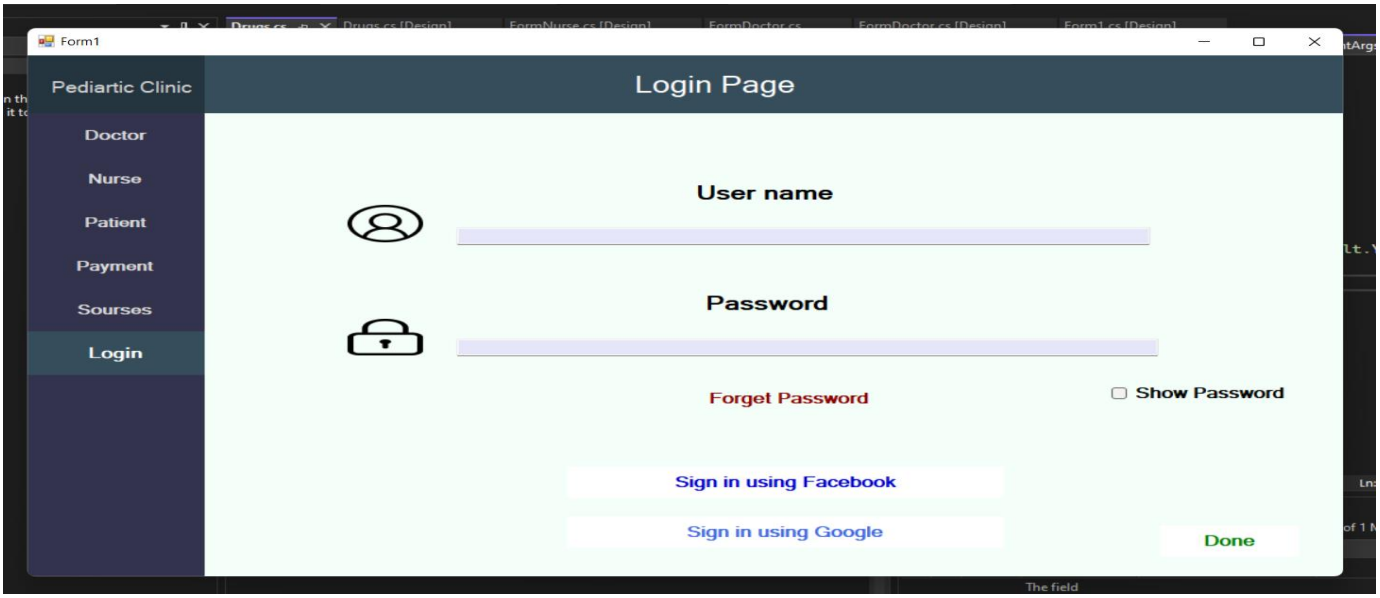
3. **Usability**

    a. The system allows the user the ability to effectively use the system.

Pages:

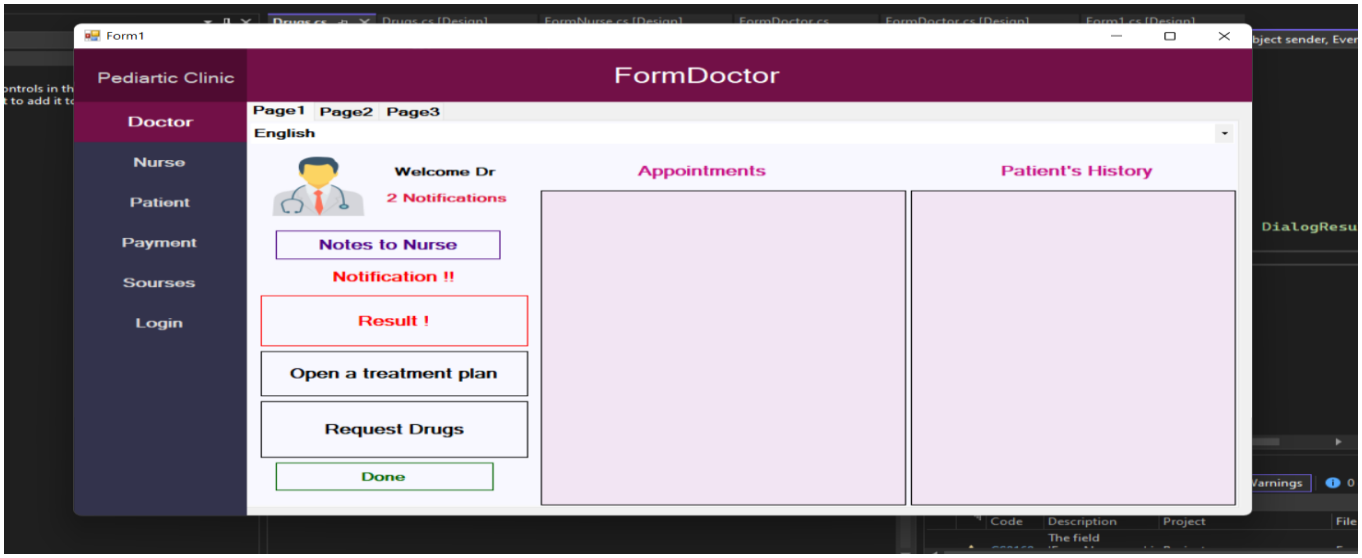
1. Login page

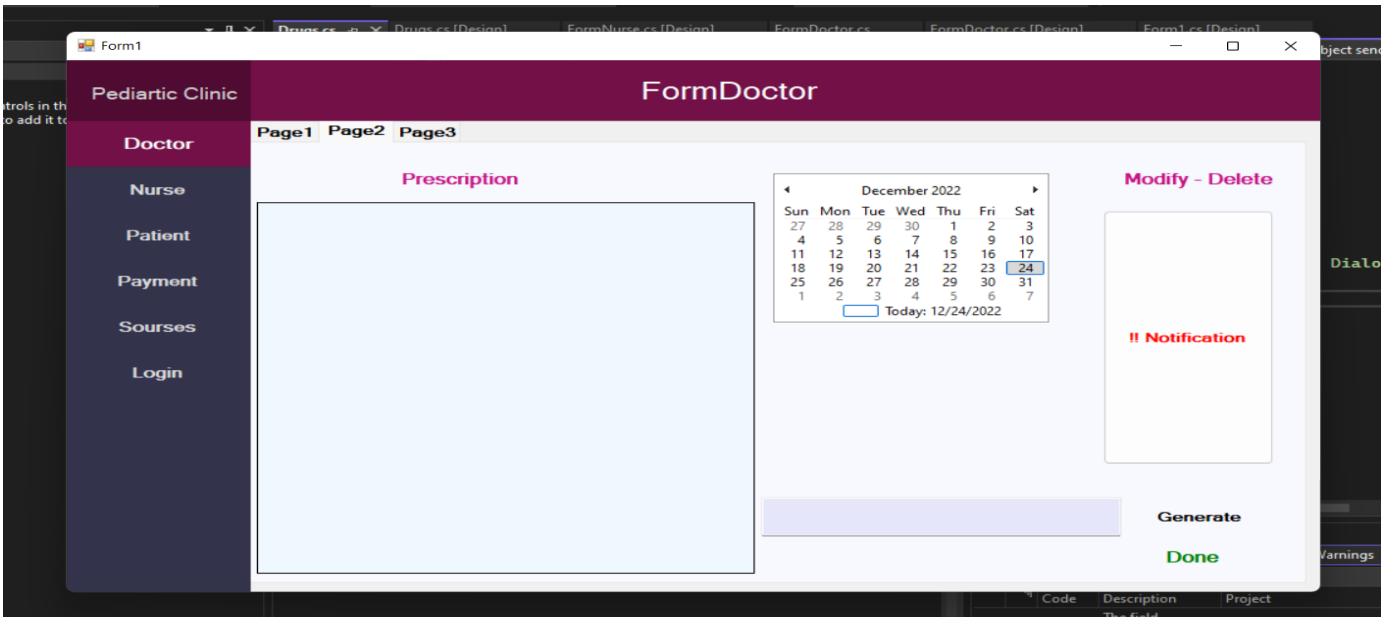
- This page contains 2 labels that include the username and password, 2 textboxes to write in them, 2 buttons to Sing in with Facebook or Google and a button to register



2. Doctor page

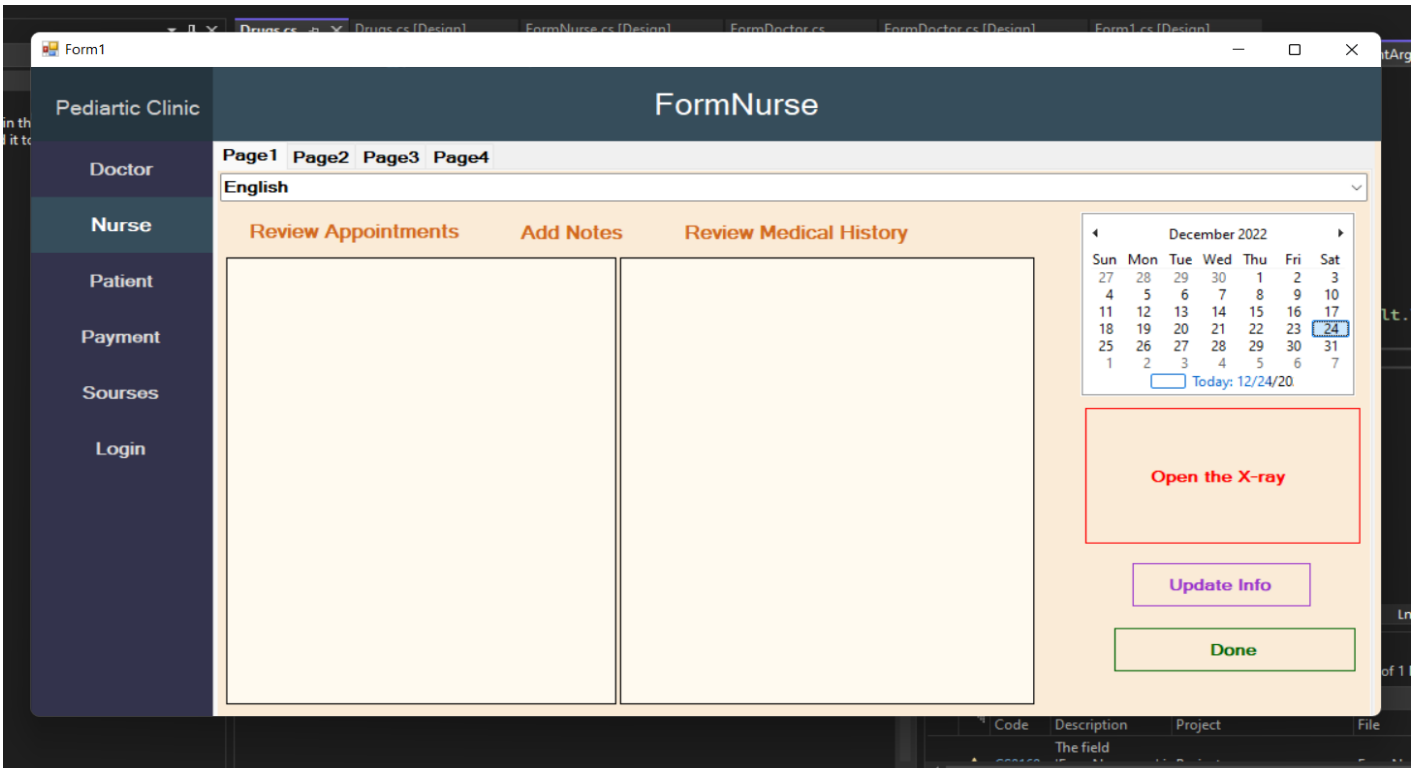
This page includes the doctor's appointments, modifying, updating, reviewing, Adding data, etc. Also, it includes a search icon to be able to search for the data he/she wants. Also, it allows the user to choose the language even if Arabic or English. Also, it includes every process to view the data.

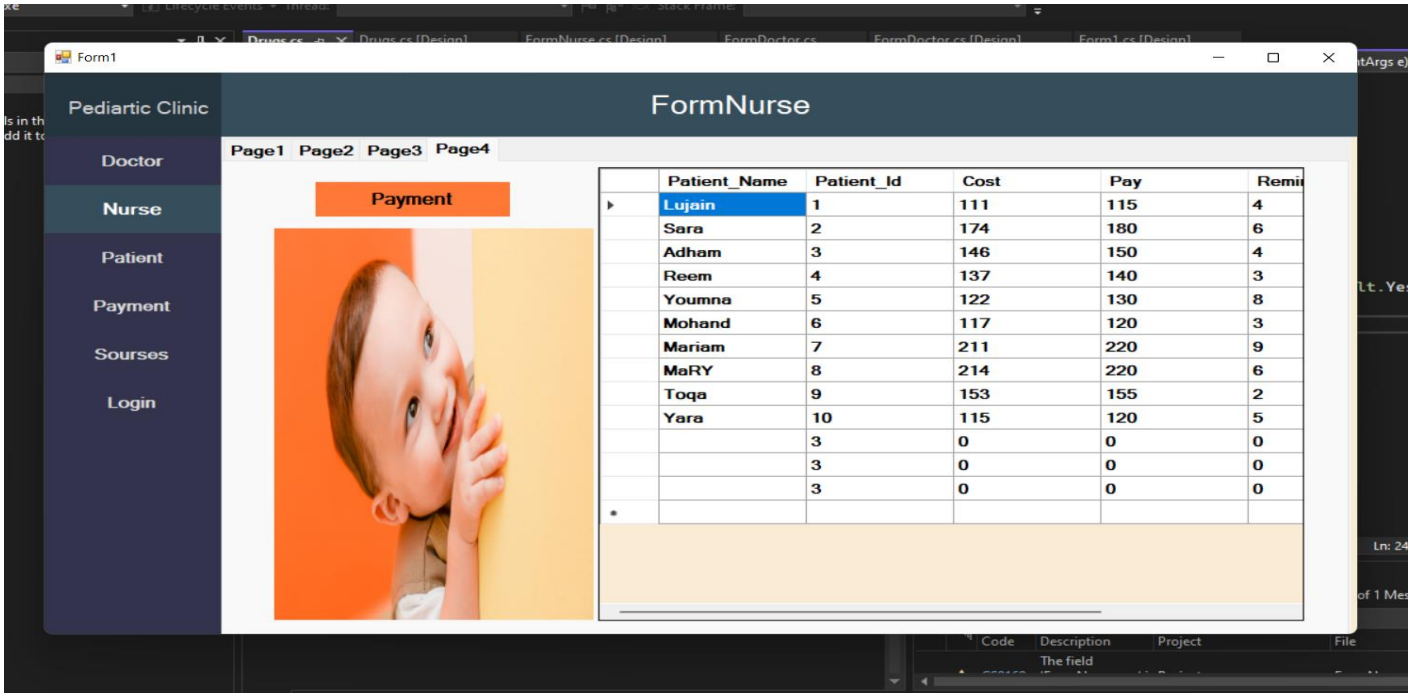




3. Nurse page

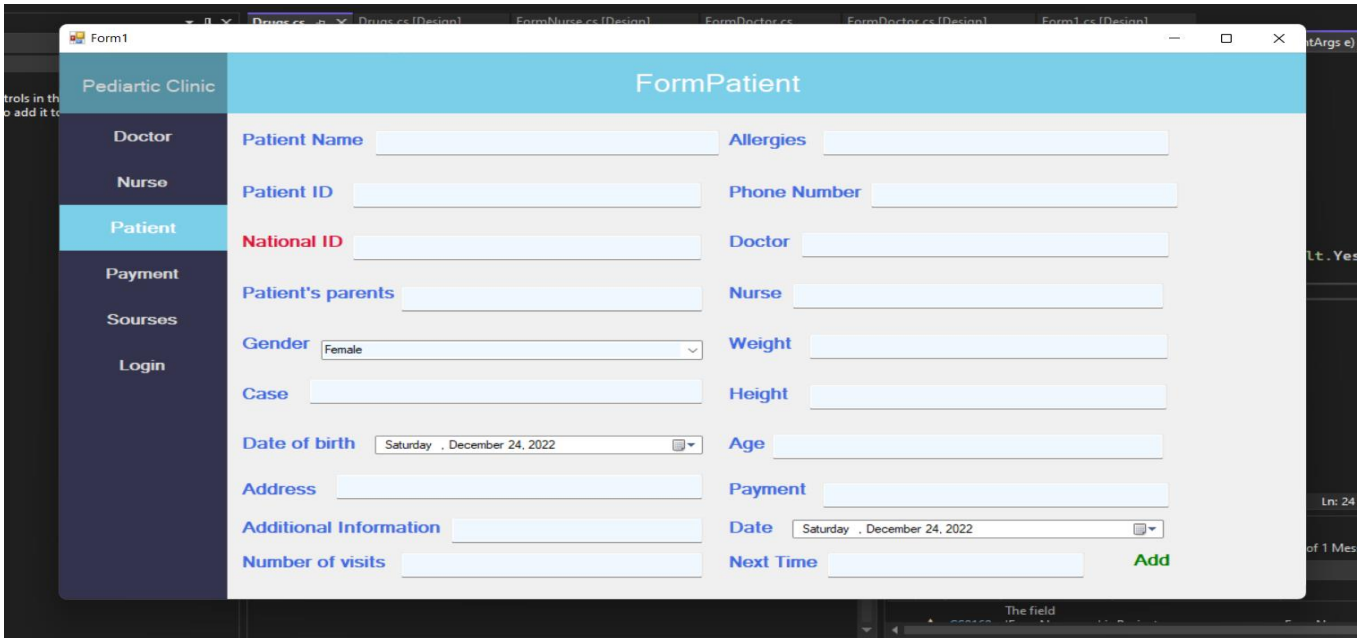
This page includes the nurse's appointments reviewing appointments, modifying, updating, adding data, adding drugs, adding notes to doctor, etc. Also, it includes a search icon to be able to search for the data he/she wants. Also, it allows the user to choose the language even if Arabic or English. Also, it includes every process to view the data.



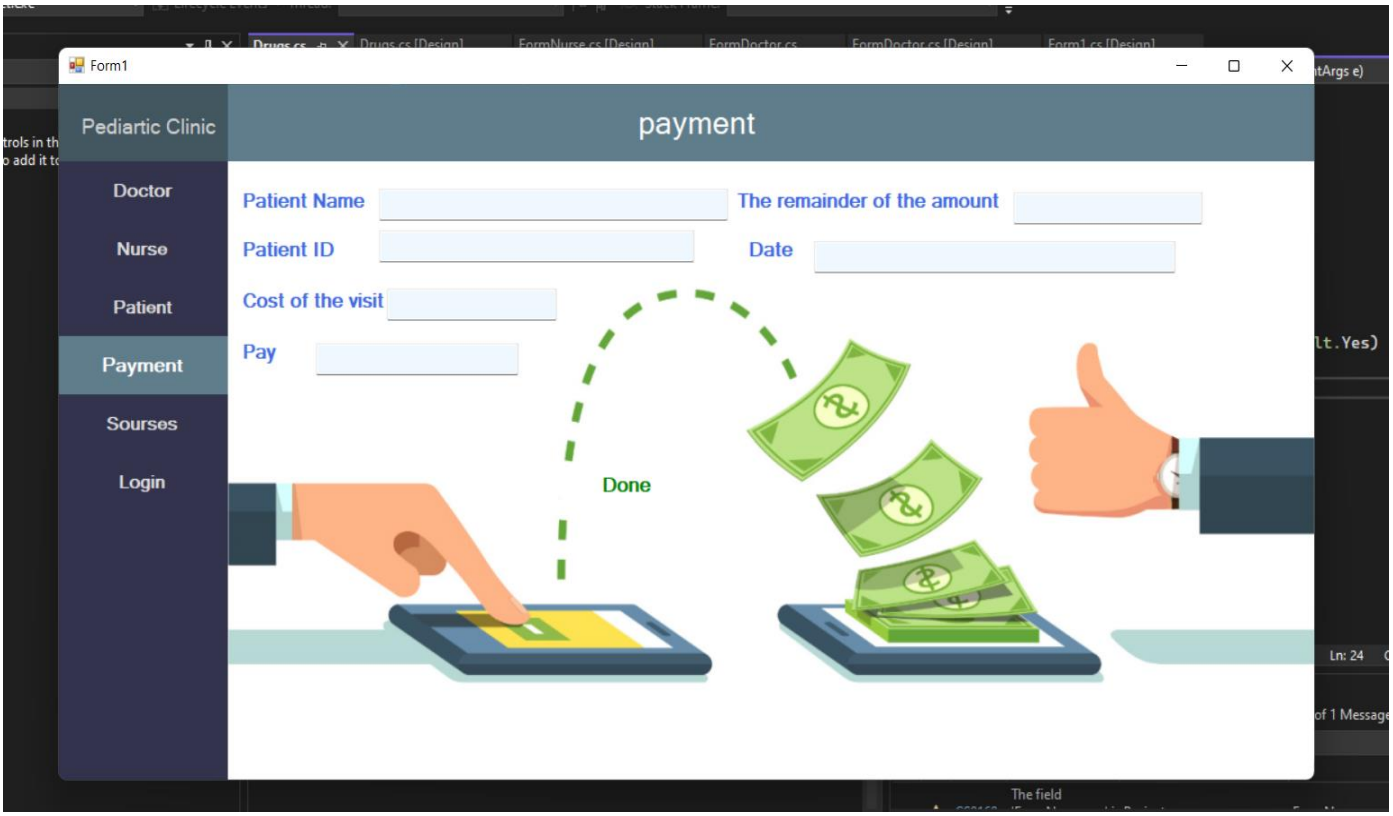


4. Patient page

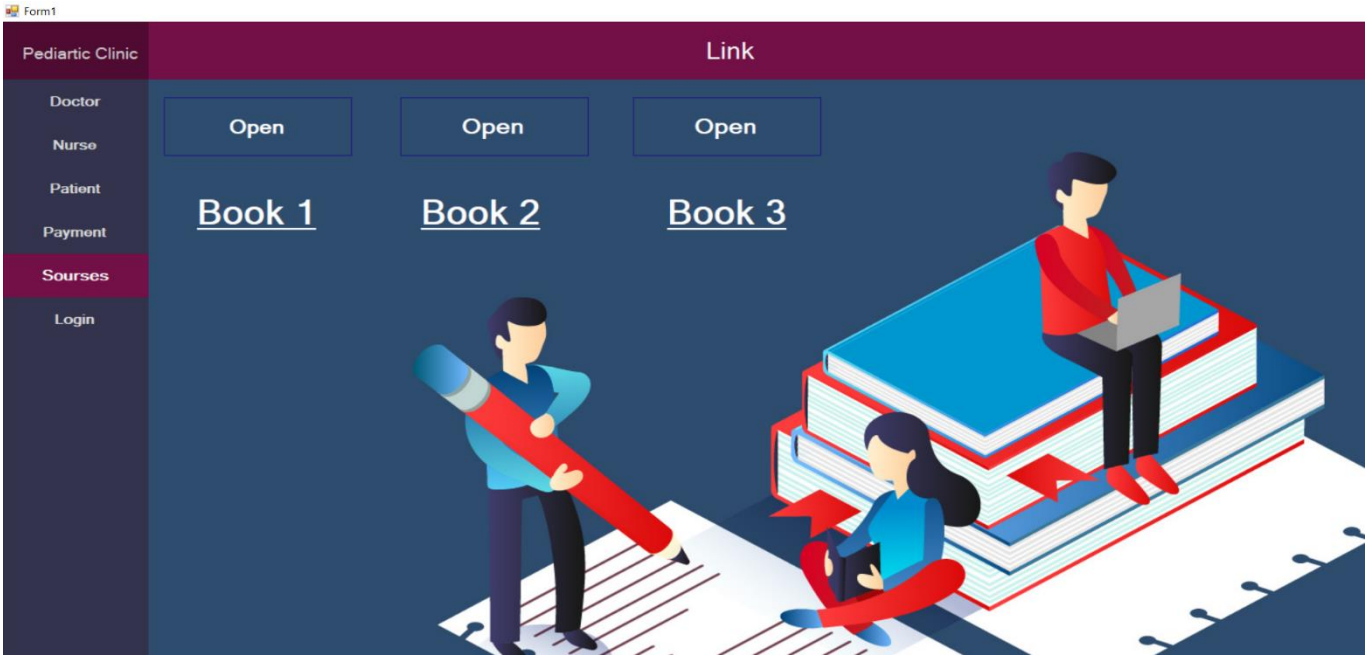
This page is used for writing all the information about the patient as shown as in the figure below.



5. Payment Page



6. References page



7. OCR that converts an image to text (copy , paste , cut ..)