

INB201: Final Documentation



June 6, 2014

Tutor:

Practical: friday 10 – 12 @ B225

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# Part 1 – Product Overview

The Project is to design and implement a digital hospital management system. Thus it must contain feature that enhance the ability of hospital staff to do their job. The product will be user friendly and simple to use.

## Part 1.1 Features

Speed of lookup:

Able to lookup results and patient results in an immediate fashion.

Up to date Results:

The system enables near instantaneous distribution of data across the hospital infrastructure.

Security:

Strict user control and sha256 hashing of passwords with their user name as the salt.

## Part 1.2 Risks

Technical:

One of the risks is assuming that the hospital is running windows with the required .net framework installed.

Concurrency for any database system is always a challenge an there was no tests to indicate how this will affect the user base.

# Part 2 – Contribution

## Joseph Salmond:

Created MidleWare and the code required to traverse the forms, recreated database week 12 due to inefficiencies in the original database, created the pdf’s using PdfSharp, created the logic for authentication and registration, Source Control management and updating and documentation.

## Kaan Osmanagaoglu:

Data-Access Layer:

Design and creation of the database, later moved onto creation and testing of the sql needed for the interaction of the forms.

## Saud Jehani:

Presentation Layer:

Creation of the user interface.

## Abdullah Abdulaziz:

Data-Access Layer:

Design and creation of the database, later moved onto user interface and creation of the user interaction diagram.

## Syed Ali:

Presentation Layer:

Creation of the user interface.

Signed:

# Part 3 - Functional Requirements

This defines what the system does. This includes user roles, typical and significant user stories, and may include prototype layouts of essential user interfaces.

## Part 3.1 Function

The system is designed to manage and manipulate patient data for a digital hospital system.

## Part 3.2 Primary Users

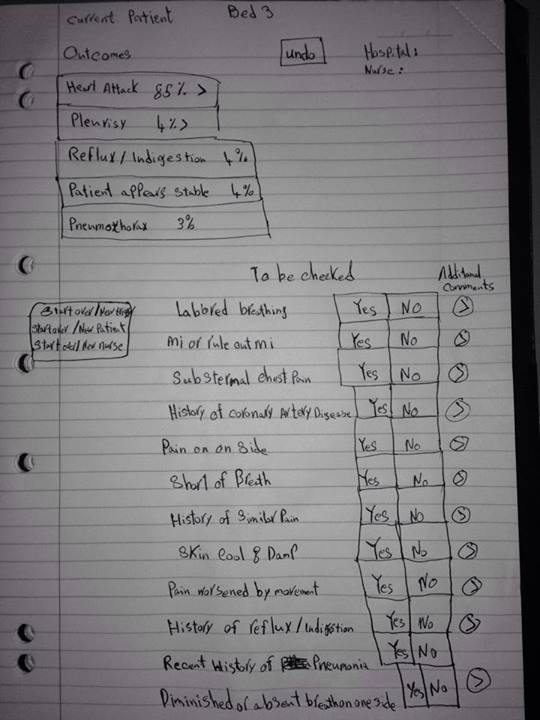
Hospital Staff

* Doctors
* Nurses
* Hospital/System Administrators
* Medical Technicians

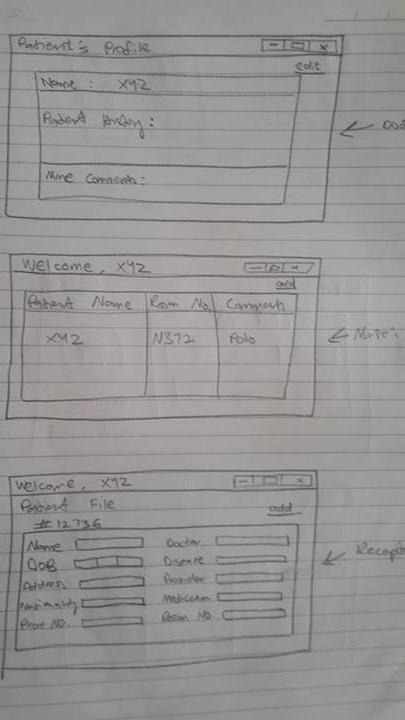
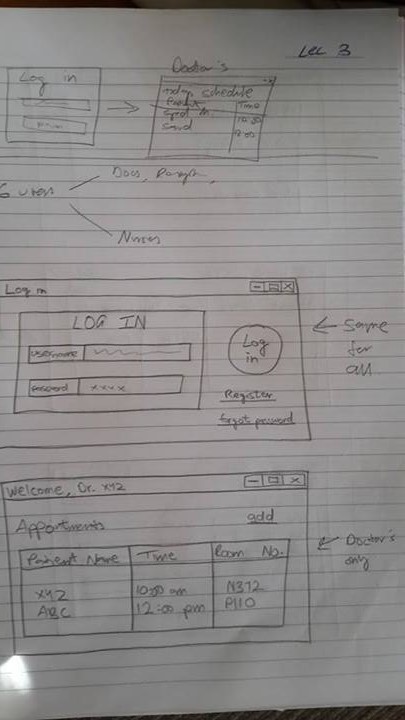
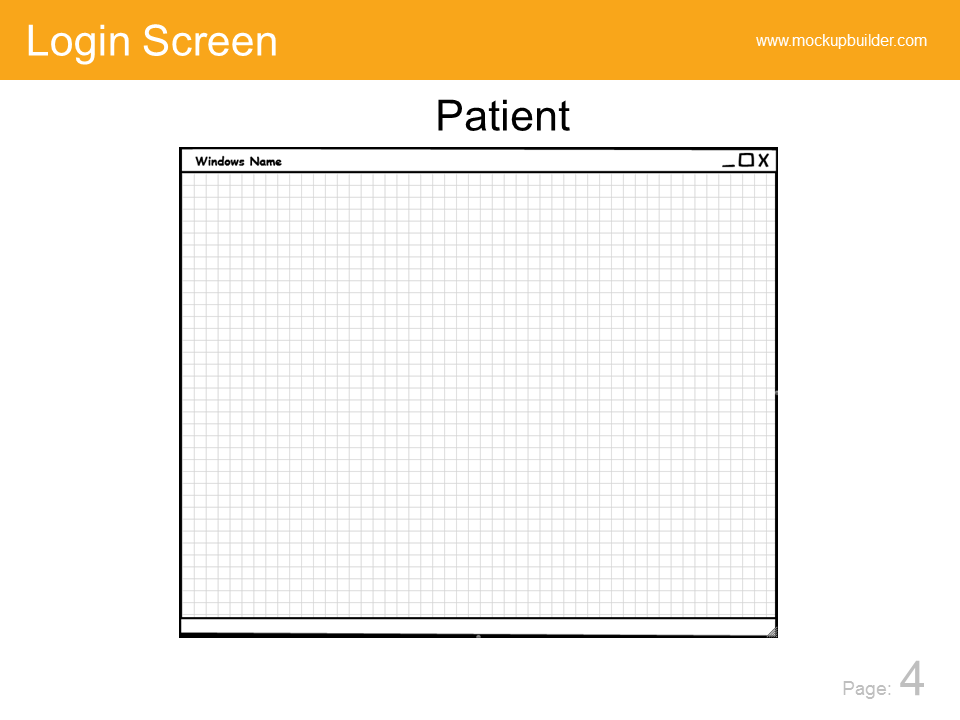
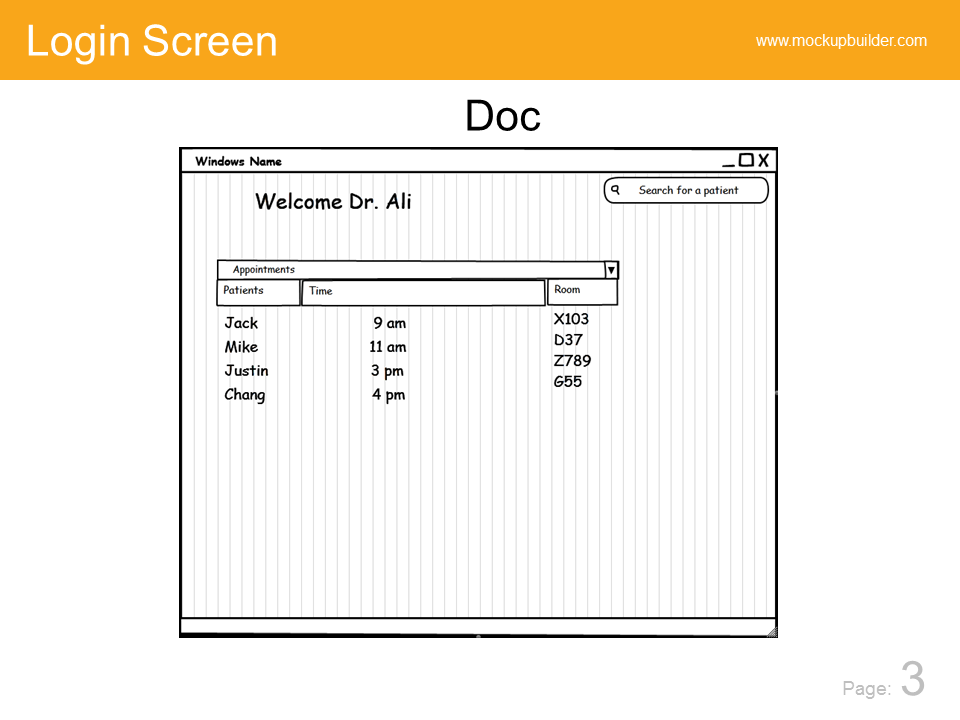
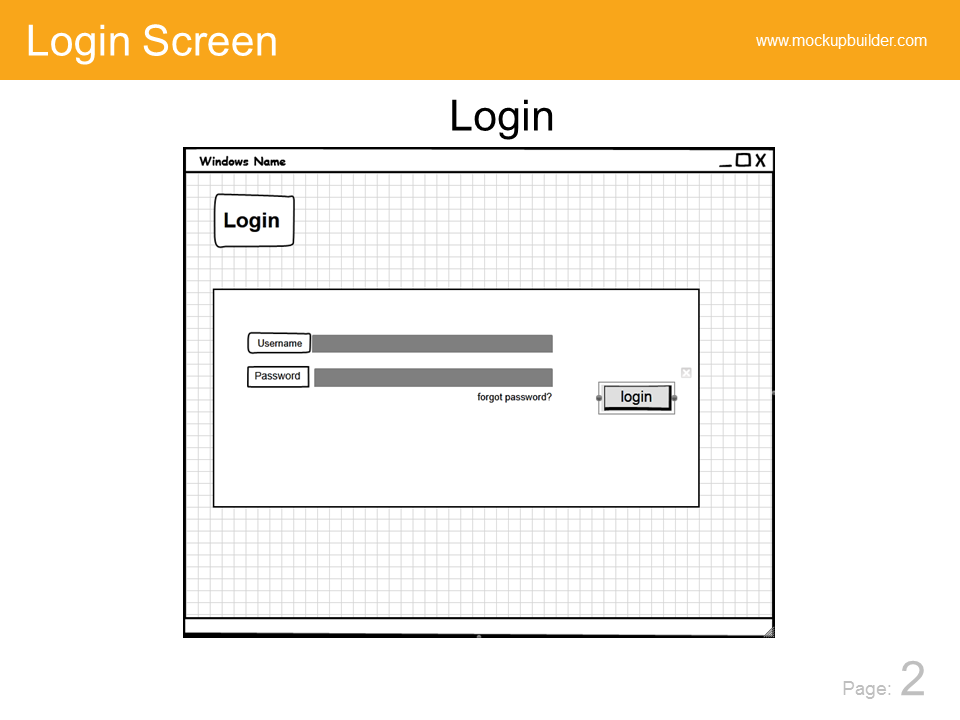
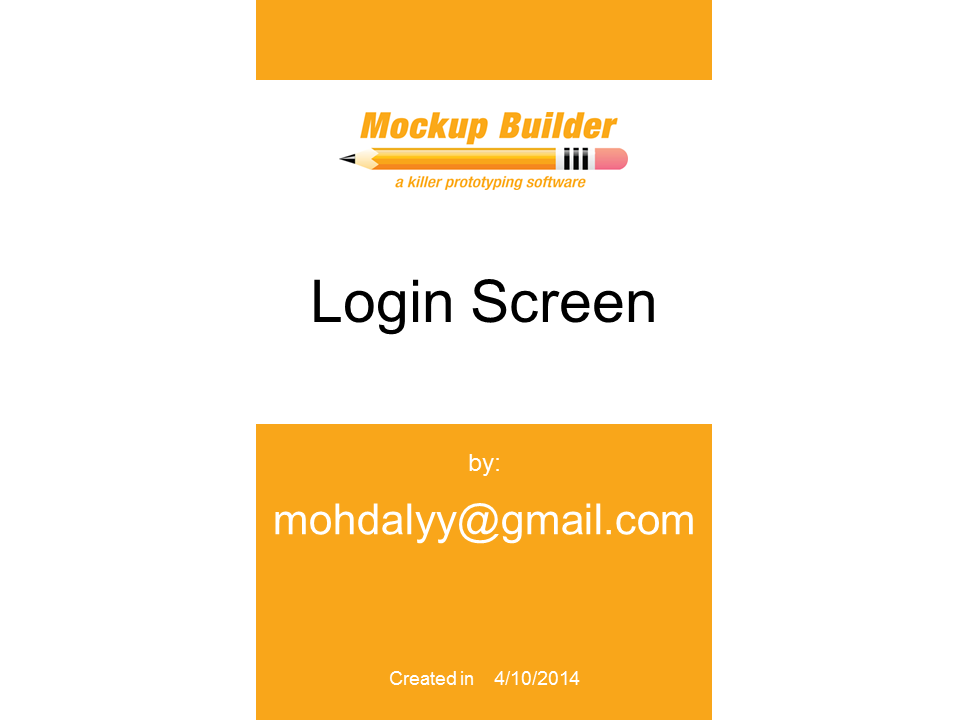
## Part 3.3 Prototype Layout of User Interface

User interface Designed by Saud and Syed, prototypes designs delivered by.

### Part 3.3.1 Saud Jehani



### Part 3.3.2 Syed Ali



# Part 4 – System Documentation / Design Specification

## Part 4.1 Technologies and Tools

The Technologies that were used are:

Visual Studio 2012: Coding and User Interface Creation.

Microsoft Sql Server 2012: For the database creation.

NOTE: due to the fact that initially only two members and eventually only one had Sql server installed the database was added to Visual studio and interaction was done on Visual Studio’s cut down version of Sql server.

PdfSharp : was a 3rd party assembly that managed the creation of pdf’s

## Part 4.2 Developers

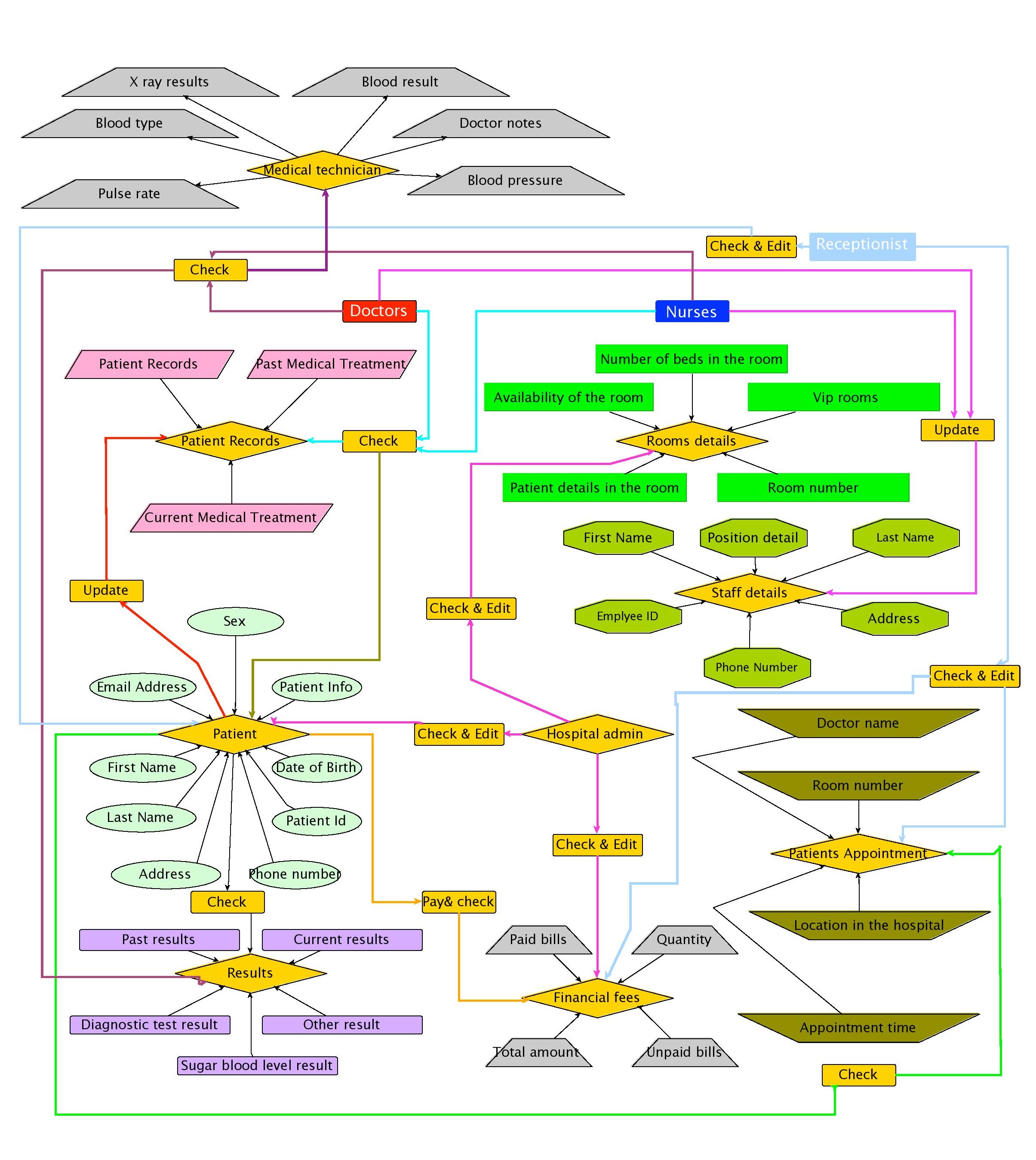
The team will consist of One Member Working on the Business Layer (Middle Ware), Two Members Working on the Presentation Layer and Two Members Working on the Data-Access Layer.

Should provide an overview of the system

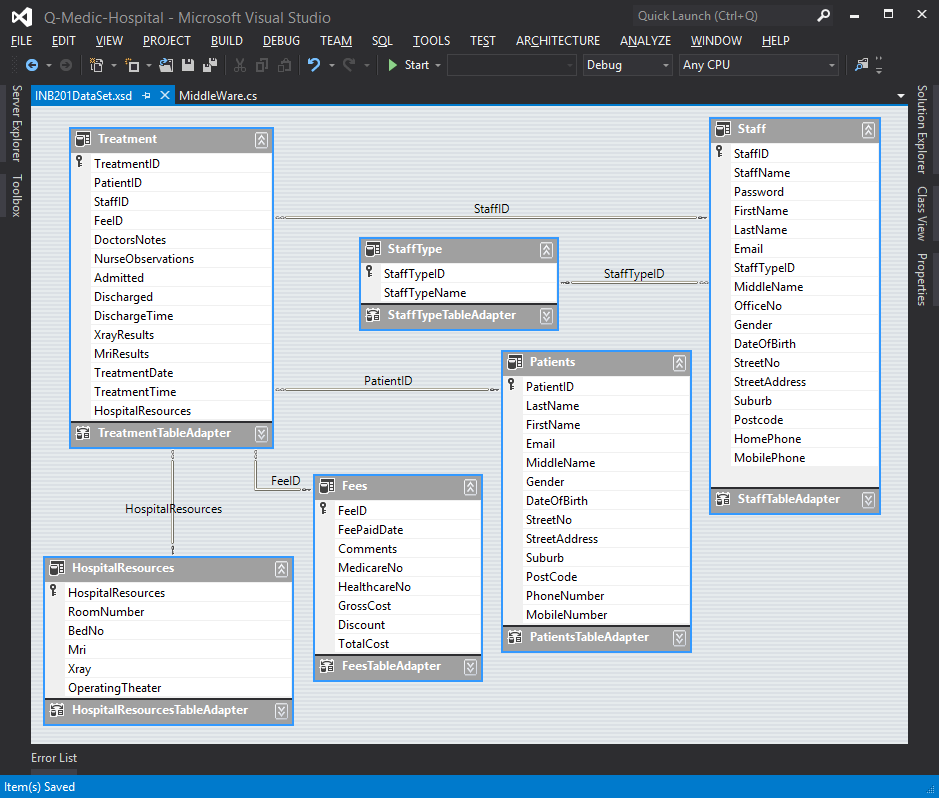
Describe the technologies and tools used to build the system

## 4.3 Use Cases

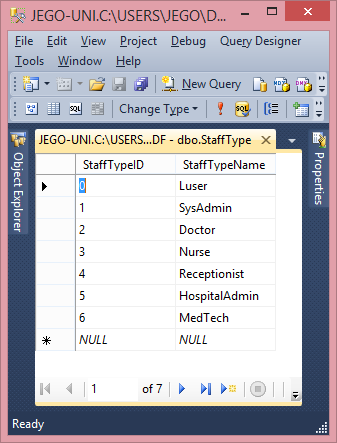
@Author Abdullah



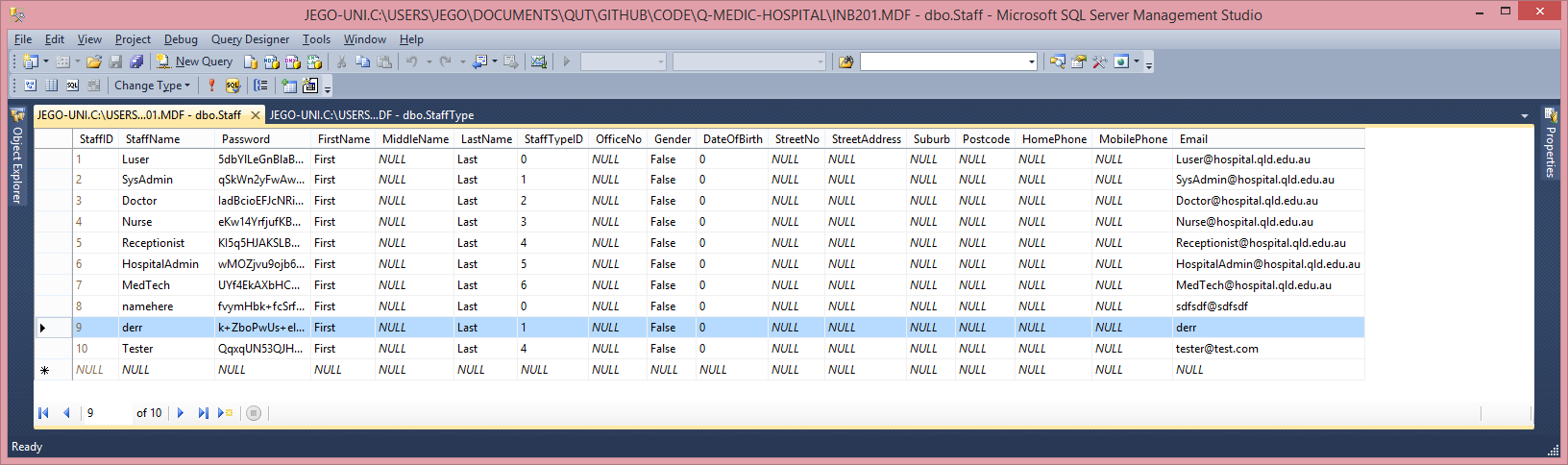
# Part 5 – Database Design



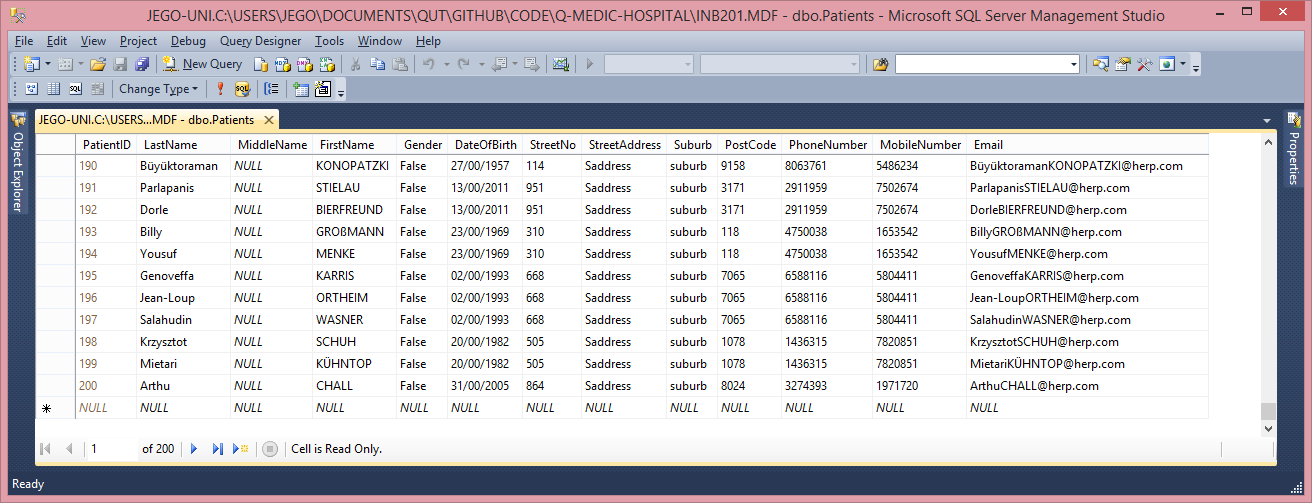
Relationships in the Database



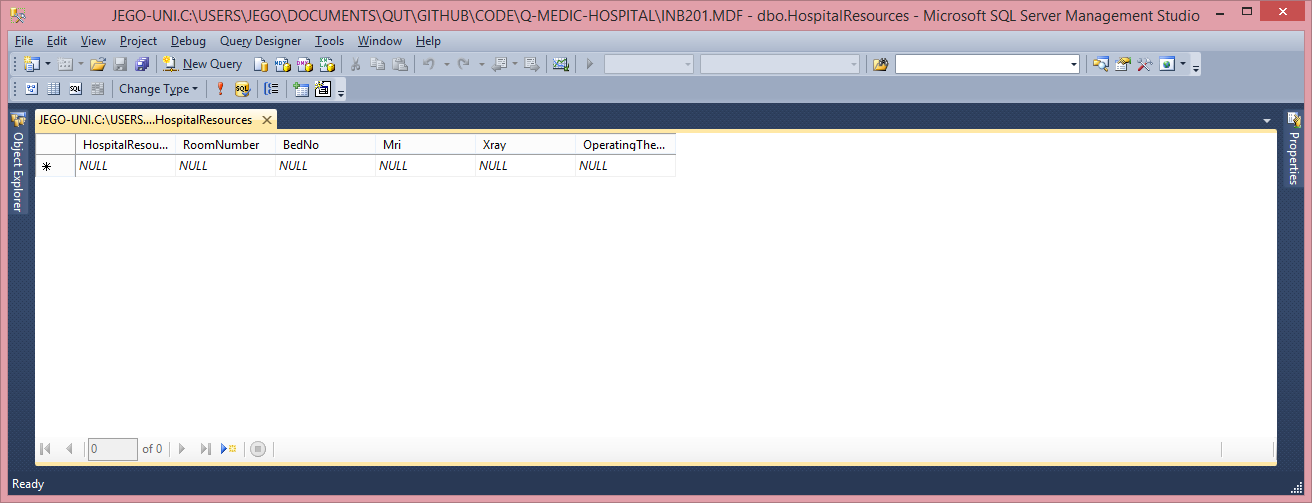
StaffType : used in mapping the user to a particular user type thus enabling separation of duties.



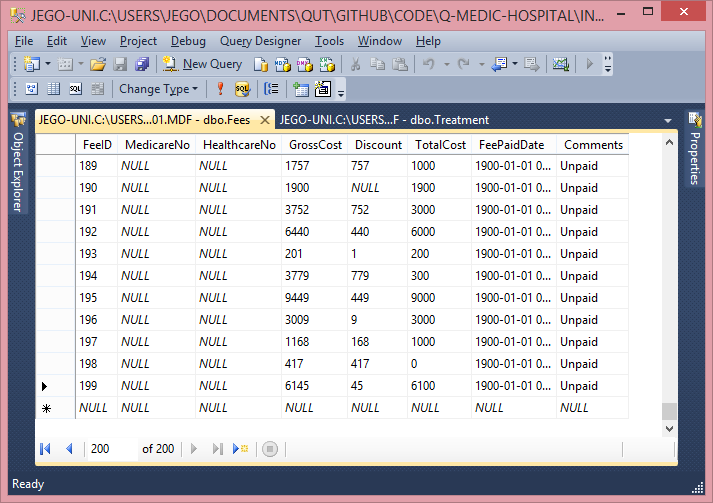
Staff : holds the information about the staff, which staff class they belong to.



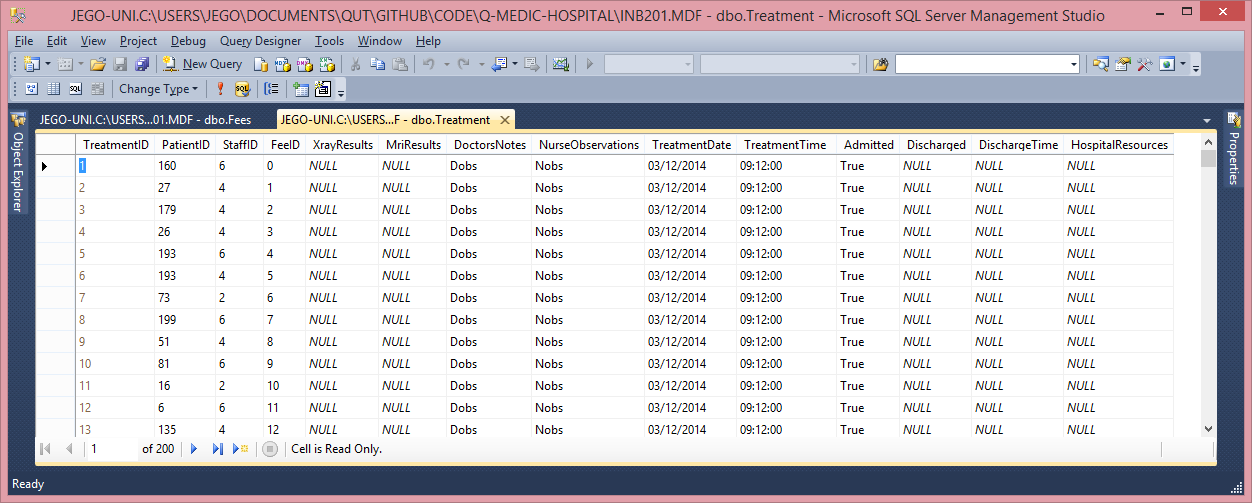
Patients : used for managing the patient data.



HospitalResources : used for managing the resources of the hospital. Examples are hospital bed allocation and operating theatre times. NOTE: not yet implemented or tested due to forms being incomplete.



Fees : this is the “money” table where all the financials are stored.



Treatment : the most critical of the table this is the table that joins all the others together. It manages which treatment it is what patient is having the treatment which staff member is overseeing the treatment which fee is associated with the treatment the doctors and nurse notes, and which Hospital resources are used via the HospitalResource table.

# Part 6 – Code Quality Assurance

The Coding standard was the one INB270 used in its course. The Majority of the coding and code reviews where done by Joseph Salmond.

# Part 7 – Acceptance Test Plans

## Part 7.1 User Interface Acceptance Tests

User interface was poorly designed and implemented, the interface is incomplete and sometimes counter intuitive. Thus the interface would fail to be easy to use by the user base. The testing was done “by eye” and troubleshooting various issues.

## Part 7.2 Functional Requirements Acceptance Test

The project did not arrive at completion due to the fact that the interaction with the database (SQL) was not implemented. The functions that where implemented was user registration and login as well as exporting to pdf’s all three complete by Joseph. And able to view some patient details in the patient details form completed by Kaan.

The tests for the User registration and login where that the use can only login with their username and password. The pdf’s where tested by exporting many different datasets and viewing them within adobe reader and Foxit reader.

# Part 8 – Operations documentation

Within the install directory, you may run the program from the primary executable (Q-Medic GUI.exe) or install it as an application (Q-Medic GUI.application). Also there is a sql script to recreate/create the database if required (Hospital DataBase Creation.sql).

# Part 9 – User Guides

@Author Kaan

These describe how to use the system from an end-user’s perspective, including screenshots.

May decide to have different User Guides. E.g. Medical techs.

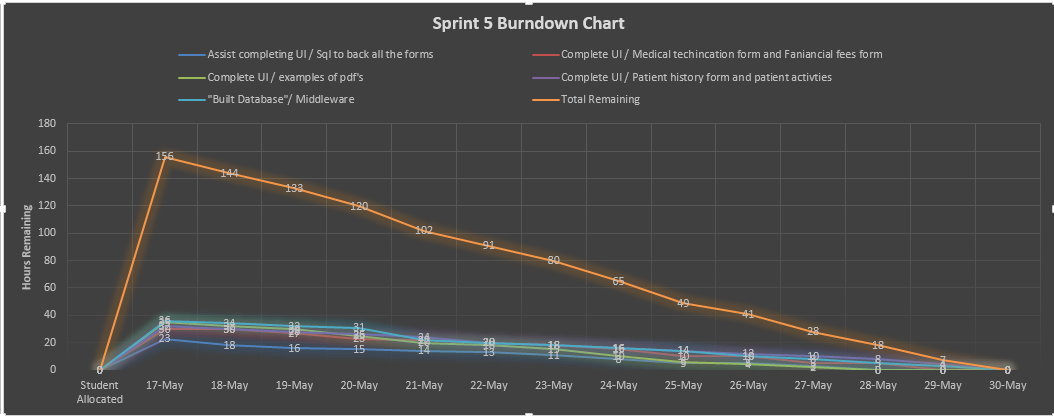
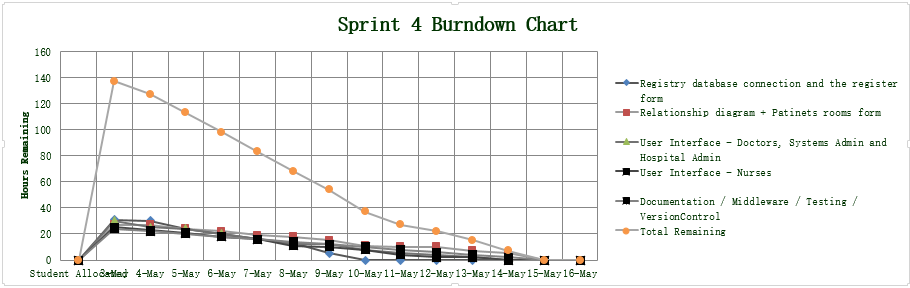
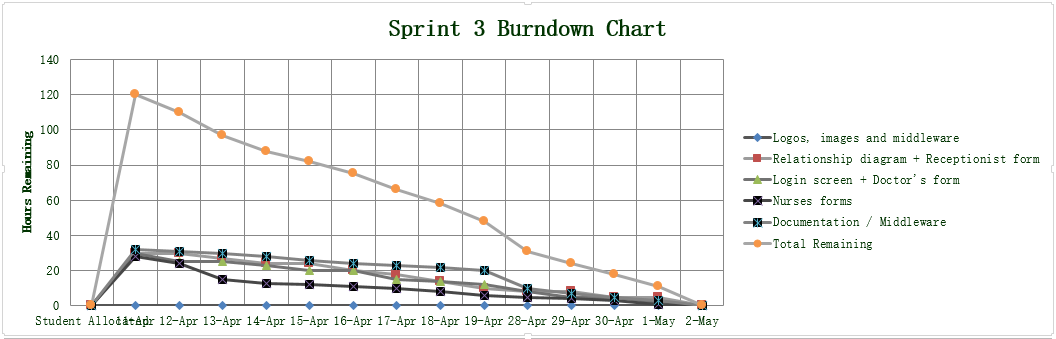
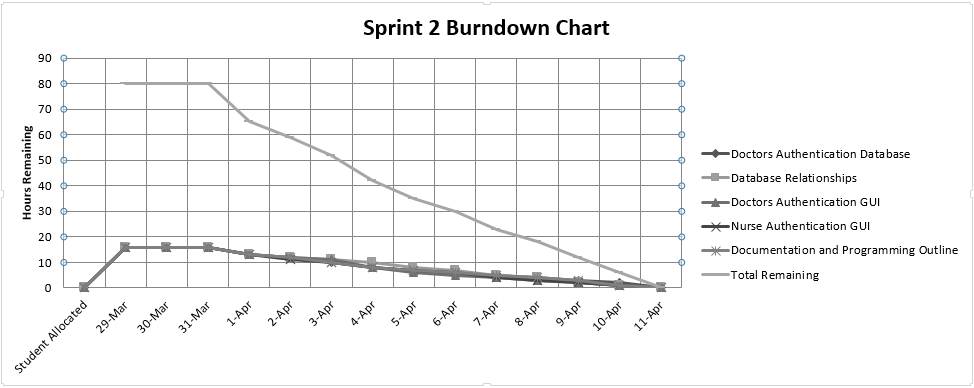
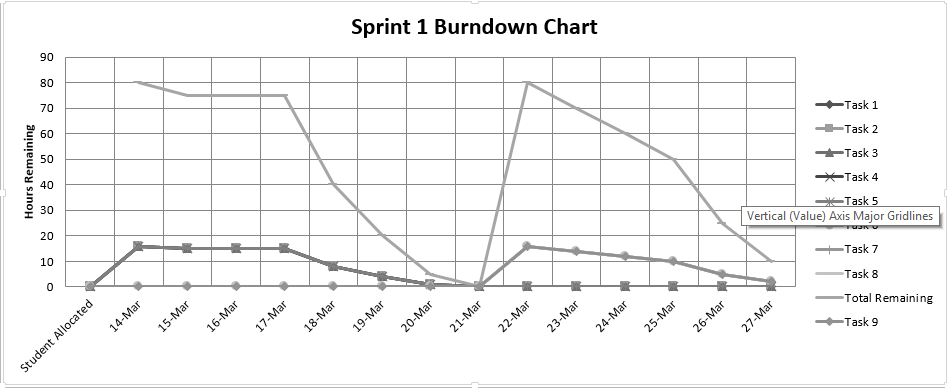
Must be easy to use by someone who has never seen your system before.

Instructions should be ***task-oriented.***

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# Part 10 – Sprint backlogs, burn down charts.

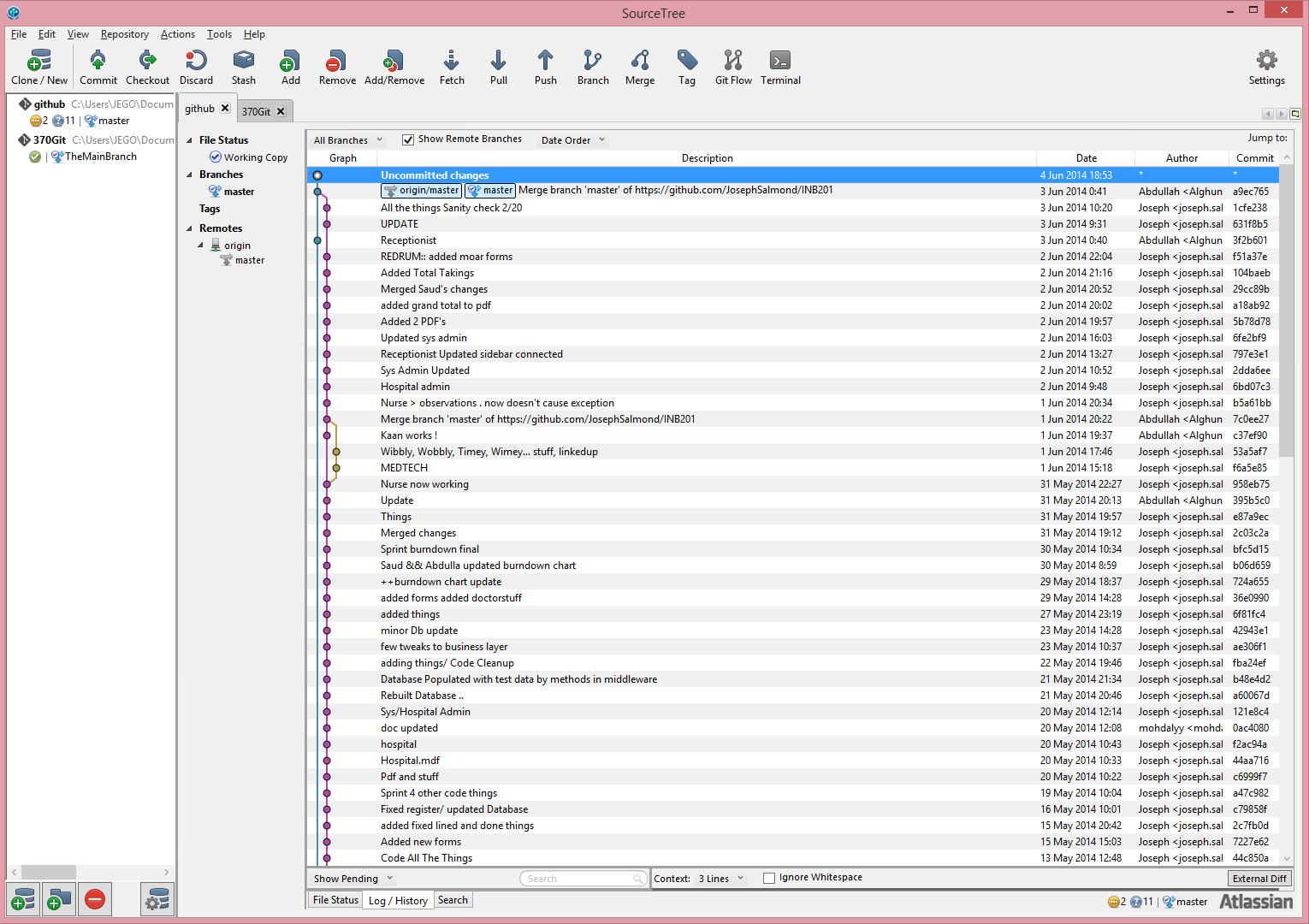
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| --- | --- | --- | --- | --- | --- |
| Sprints | UserStory: Tasks Assigned | | | | |
| Member: | Kaan Osmanagaoglu | Saud Jehani | Abdullah Abdulaziz | Syed Ali | Joseph Salmond |
| 1 | Database:  Schema Tables | User Interface:  Design Draft/ reports/forms | Database: Relationships | User Interface:  Design Draft/forms/reports | Documentation: |
| 2 | Doctors Authentication/Database | Nurse Authentication/Gui | Database Relationships | Nurse Authentication/GUI | Documentation/ Programming |
| 3 | Logos, images and middleware | Nurse forms | Relationship diagram / Receptionist form | Login screen / Doctors Form | Documentation / Middleware |
| 4 | Registry database connection and the register form | Relationship diagram + Patients rooms form | User Interface - Doctors, Systems Admin and Hospital Admin | User Interface - Nurses | Documentation / Middleware / Testing / Version Control |
| 5 | Assist completing UI / Sql to back all the forms | Complete UI / Patient history form and patient activties | Complete UI / Medical techincation form and Faniancial fees form | Complete UI / examples of pdf's | "Built Database"/ Middleware |



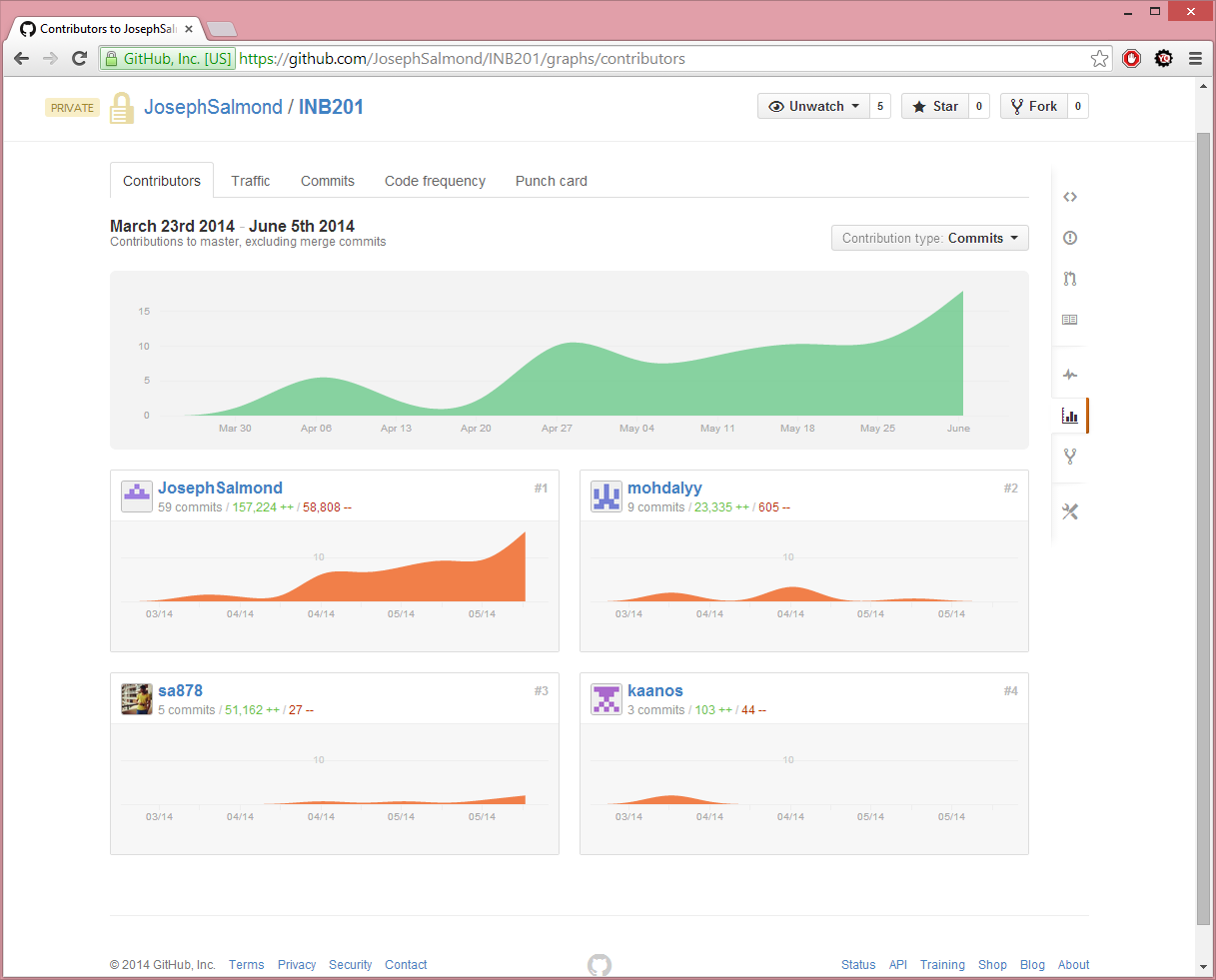
# Part 11 – Misc.

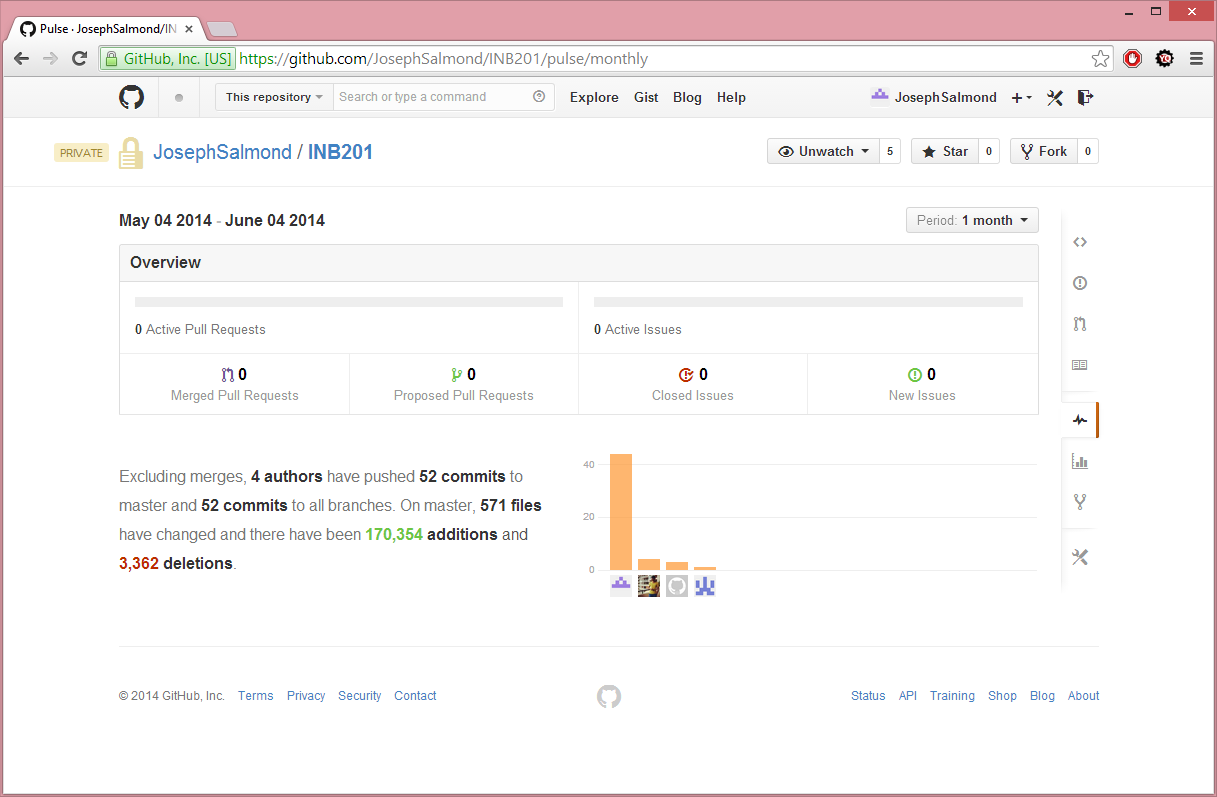
Things that don’t fit into other categories/haven’t been sorted into proper categories.

## Part 11.1: Source tree, Primary Git Management Software.



## Part 11.2 Github Contribution Chart





## Part 11.3 Git Log

Observe file within Documentation/SourceLogs.txt