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Documentation of the Oriented Programming Project – CA1

The OOP project for the Hospital Management was built in C# using Windows Forms, no front-end framework, and SQL Server Database. It's based on 7 pages starting from the Login page and then once logged in, the user has access to Doctors, Nurses, Patients, Consultations, Consultation details, and Admin page. It is important to mention that the users have a role 'admin' or 'user', and the page Admin is only visible and accessible for 'admin' users, which means this project has different levels of login.

For the Doctors page, 5 Stored Procedures were implemented for keeping the entity on the Database including Doctors Paged Results, delete doctors, update doctors, create doctors and search doctors by first name paged. For the Nurses page, 6 Stored Procedures were implemented. The same as in the Doctors page and the addition of Male Nurses Paged. The Patients have 6 Stored Procedures. The same as doctors page and the addition of patients above 25 years old. The Consultation page also has all the stored procedures of the doctor's page and the additional stored procedure of Consultations Today Paged. The Consultation Details has the same 5 Stored procedures on the doctor's page. The admin page includes Create, Delete, Update, Update Password and show results of paged logins. In total, this project implements 29 Stored Procedures. All of which is documented on the Database Script document.

On the back end, Entity Framework is used to connect with the databases on the Repository layer of the project. A framework that allows for an easy and clean connection with databases.

The whole project was divided into Layers. The main forms are the first layer the user has access to (login and Main Forms). Each page mentioned above was developed in the User Controls layer and called by the Main Form. The User Controls call Services and Repositories that update the database and the front end with the new information persisted. All the Models, Enums, and DTOs are also separated into another folder. Services were implemented so that the code could be reused to avoid duplication.

All the passwords are encrypted before saved on Databases, and the Hash match is made on the Validate Login process.