



# **Engineering Fundamentals**

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**NRC: 28434**

## **01 Definition**

### **Team Members**

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**Team 06 Paradigm**

**Topic:** Clinic Management System

**Leader:** Thais Santórum

**Clinic:** Toamedical

**Customer:** Julia Zapata (co-owner)

**Problem.**

The problem we propose to solve with this project is that of a clinic that serves several clients and records them in a notebook. Over time, they realize that the notebook is not the optimal way to record clients. They began to experience problems such as lost notebook pages or duplicate written data. Therefore, we developed an application that includes a database for patients.

**Overview.**

When requiring the services of a clinic, patients need the clinic to have good organization. The clinic must provide each patient with proper management of their appointments and personal and medical information, so they can understand the treatments they need to receive. Therefore, with the help of a clinic management system, all these processes become much simpler and clearer. This tool will allow patients to maintain efficient control over their treatments, making the experience within the clinic more practical, organized, and reliable.

**Background.**

Historically, the clinic has handled appointment booking in a very simple way: by using a physical notebook. Although this method has been used for years, it has become highly inefficient today. This system is no longer adequate for managing the growing number of patients and the complexity of the clinic's daily operations.

Relying on a manual, paper-based system brings several serious issues.

First, it is very easy to make human errors, this means that patients are sometimes scheduled for the same time, incorrect times are recorded, or critical information is simply lost or difficult to read. these mistakes immediately cause patient frustration and result in longer wait times, which negatively affects the quality of their experience.

Second, this process is a huge time drain for the team, spends too much time searching for available slots, writing down information, trying to decipher other people's handwriting, and coordinating changes. This time detracts the important tasks, such as direct patient care.

Recognizing that these problems are limiting efficiency and affecting patient satisfaction, it is clear that a complete change is needed. To overcome the constant issues of errors, slowness, and poor resource management associated with the paper method, the clinic has made the decision to modernize the way it operates.

## **System Analysis.**

The proposed system will serve as a digital platform to manage all the clinic's key operations in an organized and efficient way. Its main goal will be to replace manual, paper-based methods with an automated and centralized solution.

From the patient's perspective, the system will allow each user to register their personal data and medical information. Patients will be able to request, modify, or cancel appointments through an intuitive interface. They will also be able to check the availability of specialists, select preferred times, and receive confirmation or notifications of changes. In addition, each patient will have access to a personal record showing their treatment history, prescriptions, and upcoming appointments, which will make the process more transparent and convenient.

From the specialist's perspective, the system will provide secure access to patient medical records. Doctors will be able to review each patient's clinical history, record new treatments, and track progress over time. This access will improve diagnosis accuracy and

help maintain continuity of care. Specialists will also be able to manage their own schedules, verify patient appointments, and make updates directly in the system.

In general, once implemented, the system will simplify communication between patients and doctors. It will help maintain accurate and up-to-date information, optimize time management, and improve the overall organization of the clinic. This will lead to a more efficient workflow and a better experience for everyone.