



UNIVERSIDAD DE LAS FUERZAS ARMADAS ESPE

DEPARTMENT OF COMPUTER SCIENCE SOFTWARE ENGINEERING OBJECT ORIENTED PROGRAMMING

NRC: 23217

Team: 3

Paca Ganan Angel Fernando
Paillacho Guerrero Carlos Adrian
Palacios Gallardo Daniel Eduardo
Quiroz Herrera Maria Laura

Date: 28/04/25

Workshop 1

Project: Medication reminder and vital signs monitoring system for elderly caregivers

Problem

We need a system that helps elderly caregivers monitor in a better way several medications daily that elder people take and also records their vital signs such as blood pressure, glucose levels, and oxygen saturation.

Overview

We will create a mobile application designed for caregivers, where they can:

- Receive medication reminders (time, dose, and patient name).
- Record whether the medication was administered or not.
- Register and maintain a historical record of daily vital signs measurements such as:
 - Blood pressure.
 - Blood glucose levels.

- Oxygen saturation.

Background

To develop this system, we need to know:

- Mobile application development (Android/iOS).
- Database management to store records of medications, administration times, and vital signs based on information given for caregivers.
- Push notification systems.
- Basic medical knowledge to understand which data is important to collect, for example, correct levels of blood pressure, glucose, and oxygen saturation.

Analyst comparison

Scenario: I am taking care of my grandma, Teresa. She needs to take:

- Eutirox: 50 mg at 7:00 AM, before breakfast.
- Enalapril: 20 mg at 8:00 AM
- Quetiapina: 100 mg at 7:00 PM

Additional her doctor asked to record:

- Blood pressure: three times a day (morning, afternoon, and evening)
- Glucose levels before lunch
- Oxygen saturation only if Teresa feels dizzy.

Once the app gives the reminders, I will record whether medication was administered or not, and it will save in her health record.

The project name will be HealthKeeper and our team group is bugBusters.