

MedicApp Medications & Appointments

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Abstract. *The project aims to develop a web and mobile application to assist users in managing their medication intake and organizing their healthcare routines. The platform will include features such as reminders for medical appointments and prescription renewals, as well as tracking of medication schedules and dosages. It will also offer the option of reserving medications in nearby pharmacies. The idea arose from the challenges faced by patients undergoing continuous treatment, such as missed doses, expired prescriptions, and medication unavailability. The goal is to provide a practical, accessible, and effective tool that promotes greater safety, autonomy, and organization in healthcare management.*

Resumo. *O projeto tem como objetivo o desenvolvimento de uma aplicação web e mobile para auxiliar os usuários no controle do uso de medicamentos e na organização da rotina de cuidados com a saúde. A plataforma contará com funcionalidades como lembretes para consultas médicas e renovação de receitas, controle de horários e posologia dos medicamentos, além da possibilidade de reservar remédios em farmácias próximas. A ideia surgiu a partir das dificuldades enfrentadas por pacientes em tratamentos contínuos, como esquecimentos, vencimento de receitas e indisponibilidade de medicamentos. O objetivo é oferecer uma ferramenta prática, acessível e eficaz, promovendo mais segurança, autonomia e organização no cuidado com a saúde.*

Palavras-Chave. *Medicação - Remédio - Controle - Instituições - Tecnologias*

1. Introduction

The MedicApp Project intends to solve a prominent issue in a certain area of our society, the usage of medication. aimed at solving the issue that many people have, maintaining themselves organized, following a specific routine, and in this aspect of difficulty, using technology in your favor in your daily life. There is also the challenge some establishments run into, to maintain themselves updated with modernized society, specifically in the methods that tackle the arrangement and automation of tasks. As a link between both of these aspects, the MedicApp project aims to help with the usage and control of medications, focusing on health care institutions and people with special medical needs.

1.1. Situational Problem

The central issue being disorganization at the moment of administration of the medicine, including: usage, dosage and intake time, prescription control for controlled medicine,

and management of stock. New technologies can and should be utilized with the intent of assisting in the execution of such tasks, being crucial the need to turn them into common elements of normal life [Bersch 2008]. However, it's an axiom that there is some resistance in our part in a sense due to natural aversion of higher age, with the new, or even with motor functions and practical comprehension [dos Santos Lolli and Maio 2015].

1.2. Objective

The objective this project aims for is to close the gap between people and institutions that help facilitate technology, through the usage of a simple, intuitive, and easy to use application. With the core idea to include all kinds of people with any kind of necessities cited, from those with higher familiarity with technology to even those with minimal knowledge, further so, to amplify the efficiency of professionals in this area.

1.3. Structure

This article is divided in such a manner: Introduction [1], where the core idea is presented, contextualizing within our society and declaring it's objectives; Theoretical Framework [2], where the references of which the subject was based on are touched upon; Methodological Procedures [3], presenting the methodology and the step by step utilized in the making off of this project and it's results; Results and Discussion [4], where the results attained from this project are presented, questions and answers about the approached themes, and lastly; Conclusion [5], presenting the final results of the project.

2. Theoretical Framework

2.1. Issues of the Area

The difficulty with controlled medicine isn't a recent issue, it's a problem that has always existed. However, within the last few years, people with medical necessities has risen. The rising quantity of people with memory/attention issues end up turning situations like forgetting to buy or take their medicine a common occurrence.

2.2. Why use medicine correctly?

The usage of controlled medicine, following medical orientations, is essential for our health. Studies point that remedies administered correctly have a higher level of efficacy. In some other cases, it's also important that professionals, responsible in the care of patients, any possible help empower their work efficacy and avoid that, with a higher amount of patients, don't make mistakes that may compromise the health of the former [Vieira et al. 2021].

2.3. Accessibility

The importance of encouraging elderly people in their day to day, that are independent in their daily necessities, stems from the need that problems, like the cited prior, happen. Multiple studies point that Assistive Technologies bring various practical benefits to the people in need, significantly boosting the efficiency of such tasks within daily routine [Vieira et al. 2021].

2.4. Results Obtained by Other Authors

In an overview, people that need or are responsible of other people that need special care approve of the usage of applications and software in the aid in managing daily medication, through the method of reminders or even with an automated platform that helps controlling it [Inácio and Ferreira 2014]. Research has pointed out that, beyond the main focus, that applications aimed towards inclusion and accessibility contribute in family and social relations, and to help avoid cases such with depression and isolation [Souza and Silva 2016].

3. Methodological Procedures

The development of the application follows the principles of software engineering, prioritizing usability and accessibility. After implementation, tests were carried out with users to validate the functionality and usability, based on interviews and forms of evaluation. The obtained data were analyzed in a quantified and qualified way, looking to verify the efficacy of the proposed solution.

This study has as an objective the development of a digital application (web and mobile) aimed in the control and organization of medicine and organizing your health needs or users. The project scenario involves the creation of a service of assistance of health, focused to facilitate the adherence in the treatment and providers of medical prescriptions.

The research is classified as applied, with both qualitative and quantitative approaches. It is exploratory and descriptive in nature, utilizing bibliographic research procedures, data collection through questionnaires, and a case study.

The development of the project will be carried out in several stages. Initially, a requirements survey will be conducted through a literature review on medication adherence and the use of technology in healthcare, followed by the application of questionnaires to patients and caregivers to identify the main challenges and needs in medication management and scheduling of medical appointments. This phase will be led by the project team, composed of researchers and developers, with the aim of supporting the proposed solution.

The second stage will involve defining requirements and creating prototypes of the application interface using digital design tools such as Figma. The objective is to test navigation and validate functionalities with users before beginning full development. The design team will be responsible for this phase, focusing on the creation of low- and high-fidelity prototypes that meet user needs.

The third stage will consist of the actual development of the application, which will include features such as medication reminders, appointment scheduling, and prescription renewal tracking. Development will follow software engineering best practices, prioritizing usability, accessibility, and security. The programming team will be responsible for this phase, aiming to transform the prototype into a functional application. During this stage, tools such as VS Code will be used for source code development and editing, BR Modelo for database modeling, and PG Admin for PostgreSQL database management.

In the fourth stage, the application will be validated with a selected group of users. Usability tests will be conducted, accompanied by interviews and evaluation question-

naires. This phase will allow for assessing the solution's acceptance and identifying any necessary adjustments prior to the final implementation. Data collection will be carried out by the research team, focusing on analyzing user perceptions of the application.

Finally, the analysis of the results will be based on the data collected during the usability tests. The analysis team will employ qualitative methods, such as content analysis, and quantitative methods, using descriptive statistics, to assess the effectiveness of the application in meeting the project's goals.

The tools used throughout the project will include Figma for interface prototyping, VS Code for code development, BR Modelo for database modeling, PG Admin for managing the PostgreSQL database, online questionnaires and semi-structured interviews for data collection, as well as qualitative and quantitative analysis techniques to interpret the results obtained.

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