Bilkent University

Department of Computer Engineering

Senior Design Project

Project short-name: ShareInHappiness

Specifications Report

Members: Sarp Tekin, Gamze Burcu Ayhan, Suleyman Rahimov, Sena Sultan Karataş, Burak Alaydın

Supervisor: Cevdet Aykanat

Jury Members: Çiğdem Gündüz Demir, Can Alkan

Contents

1 Introduction

Health care is one of the most important human needs. High quality health care will save millions of lives and provide people with a sense of safety and security. However, treatment of health problems such as cardiovascular disease, cancer, SMA and etc. can be very expensive and most of the people cannot afford it. [1] These people try to use social media platforms to raise money to pay for the medications. Unfortunately, impostors can also share fake posts on social media to collect money. Many people hesitate to donate money because it is not possible to track how this money will be spent later on.

To solve this problem, our team decided to develop a welfare platform. Each user will have a wallet and he/she will be able to load money into this wallet. If users have sufficient credit in their wallet, they can purchase one or more items listed by the people who need special devices and medications. There will be no direct money transaction between the users so this will prevent the scammers from abusing the platform.

1.1 Description

This welfare platform will be both mobile and web-based application using database concepts. The purpose of our project is to create a new welfare platform for the families that cannot afford medical devices and some special medicines. In addition, this platform aims to prevent making money by using these people with special needs and to reach families who really need help.

The application will be organized in a way to keep families in need of medical assistance and what they need and in order for these families to get help from here, they will need to register to this application by showing their doctor's reports. In this way, it will be prevented from abusing this application and using it to make money.

In addition, some diseases such as SMA are really expensive to treat and almost impossible to afford by families. When signing up for the app, people will be more reliable because they show the doctor's report, and people who want to donate know that the donation has arrived at the right place, so they donate more.

Transfer of the donated items is pharmacies'/medical shops' responsibility. After the transfer process is done, senders (pharmacies/medical shops) and the receivers (patients) must confirm that the transfer was successfully done. Then, the sender will receive the cost of the donated item.

1.2 Constraints

1.2.1 Implementation Constraints

- This will be a cross-platform application that will be both for web and mobile applications.
- Flutter will be used to develop the mobile application.
- HTML, CSS (Bootstrap), JavaScript (Vue.js) will be used for front-end of the web-application.
- C# will be used as the server-side language.
- .NET Core will be used as the server-side framework.
- MySQL will be used for the database.
- Github will be used for version controlling.

1.2.2 Economical Constraints

- There will be a hosting fee for the web-site. For the mobile version, there will be fees for publishing the app on Google Play Store and Apple Store.

1.2.3 Social Constraints

- This platform may increase the trust level against people who require financial support for their medical problems.The people who need medical supplies will not ask for money, they will ask for supplements that will be listed by our platform to helpers to see. Because the helpers will be sure that their money is used on things they choose they will be more likely to help the people in need. Which will ultimately increase the percentage of people in need that can get the supplements to increase their life quality or even save their lives.

1.3 Professional and Ethical Issues

The main ethical issue will be about the diseases and conditions of the people who seek help in our platform. In order to assure people who would like to help people who are in need that this is not a fraud we need to share the information of the people in need (Their full names, city they live, their medical conditions etc.) in our platform. Furthermore, we will demand proof of the information they provide with documents,doctor's diagnosis reports etc. Some people may not want to give some personal information like their telephone number or id. We won't share all the information they provide us with, just the essentials like a diagnosis report. However we will keep other information as a safekeeping, confidentially.

2 Requirements

2.1 Functional Requirements

2.1.1 Donation request

- Users of the platform will be able to create a donation request to ask for medicines and medical devices that they need after they register to the platform.
- To register, users will provide the necessary information about themselves and a medical report.
- Donations requests will include the donation description and a list of the necessary medications and medical devices.

2.1.2 Make donation

- All the users of the platform will have a wallet and they will be able to deposit money into this wallet.
- If users want to donate and have enough money in their wallet, they will be able to purchase and donate one or more of the items listed in the donation request of another user.
- After a donation is made, the donor will be sent a payment receipt.

2.1.3 Anti-fraud system

- There will be no money transfer between users so scammers will not be able to abuse the platform.
- The system will contact the retailer to purchase the necessary medication or the medical device.
- After the process is done, the donator will be sent a notification.

2.2 Non-functional Requirements

2.2.1 Security

- In order to prevent misuse, fraud and unauthorized access, patients are required to register with a medical report.
- In the system, all users will be able to see the list of needs and patients. In this way, they will be able to provide assistance to the needy most suitable for them and their location and check that they have been deleted from the list when help arrives.
- The user will be able to see the price and code of the medical she/he wants to buy for the patient from the medical specialist in the region she/he chooses.

2.2.2 Usability

- We aim to create a simple and understandable interface since the application can be used by the parents of sick children or directly by the patients.
- We plan to increase the productivity of users so that patients can reach the medicals they need quickly.
- We aim to educate users with a short demo that shows how to use the application to satisfy them.

2.2.3 Reliability

- It cannot store and use the user's data unless they give permission.
- Methods such as encryption are used to store application data.

2.2.4 Extensibility

- The reorganization will be provided to improve the application, update, and change the needs.
- The system can be used on the web and mobile.

2.2.5 Accessibility

- The application can be downloaded free of charge from Google Play Store and App Store.

3 References

[1] “What is spinal muscular atrophy(SMA)?”. [Online]. Available: https://www.zolgensma.com/what-is-spinal-muscular-atrophy. [Accessed: 11-Oct-2020].