

Online Charity Website

Senior Project

by

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Submitted to the School of Engineering of the

Lebanese International University

Beirut, Lebanon

in partial fulfillment of the requirements for the degree of

BACHELOR OF SCIENCE IN COMMUNICATION ENGINEERING

Summer 2021

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DEDICATION

To my family who sacrificed for me, and to my friends who supported me in all my situations, without you, I wouldn't have been here, thank you so much!

Jana A. Maamari

To my family who sacrificed for me, and to my friends who supported me in all my situations, without you, I wouldn't have been here, thank you so much!

Houssam K. Kaissar

ACKNOWLEDGMENT

Without the mental support fed into our spirits while implementing and working our way through this project, our work would not have been brought to light. To all who believed in our potentials and helped us reach our limits and even further, we want to send our sincere and genuine gratitude.

First, we would like to thank our families that supported us and never doubted the goals we set to accomplish. Our gratitude extends and couldn't be more heartfelt to others than Dr. Abdelmehsen Ahmad for his time spent and support in the selection and follow-up on the work throughout the semester timeline. The project wouldn't be on a level as high as it is without his precious and precise advice and assist. Working under Dr. Ahmad's supervision was a true honor.

Furthermore, we can't forget Dr. Ali Bazzi and his unconditional assist and continuous support. We are grateful for his dedication to keeping up with the work accomplished on the project that led to a more professional result.

Finally, we appreciate the commitment of every instructor that paved the way for our academic success throughout the past three years. Step by step, they helped us walk up the road and kept us on the right path. In addition, our deep gratitude extends towards the project committee and the Engineering Faculty board members for their ethical and professional manners that make us proud to be Lebanese International University members.

ABSTRACT

As a result of the rapid technological development and improvement, and due to the high usage rates of different individuals all around the globe, online platforms have become crucial assets that facilitate the actions and roles of people. Hence, we decided to work on a charity platform project called "HelpHands" which plays a role in connecting donators and aid applicants together. This project handles requests and data provided by different users and establishes a connection between the two parties. The project aims to hold out our hands to the needy and include the broad range of the Lebanese society benefiting from the interface. Consequently, lives can be saved and a better environmental footprint can be lead to by this approach. In this report, details about all aspects of the project will be discussed including planning, implementation, and communication established between users and technical characteristics. Furthermore, this system gives the privilege for users to donate either in-cash or in-kind, apply for aid with a simple form, request items already available or donated, and contact the organization for further inquiries. In the end, conclusions concerning similar systems found today will be analyzed and studied to come up with even better results and more satisfying outcomes. Finally, improvements to the project could be potentially added in the future to help scale up the benefit to a larger audience.

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LIST OF SYMBOLS

API: Application Programming Interface

CD: Compact Disk

CMS: Content Management System

COVID: Corona Virus Disease

CSS: Cascading style sheets

ER: Entity Relationship

HTML: Hypertext Markup Language

IDE: Integrated Development Environment

ISO: International Standardization Organization

LIU: Lebanese International University

LRC: Lebanese Red Cross

NGO: Non-governmental organization

PHP: Hypertext pre-processor

RDBMS: Relational Database System

SAL: Société anonyme Libanaise (Lebanese limited company)

SQL: Structured Query Language

UML: Unified Modeling Language

UN: United Nations

XAMPP: cross-platform, Apache, MySQL, PHP and Perl

CHAPTER 1

INTRODUCTION

1.1 Background

Charity organizations in Lebanon play a huge role in sustaining better life standards for individuals. The COVID-19 pandemic hit the Lebanese society and affected the financial and economic status of Lebanon in addition to the Beirut port explosion that happened during August 2020 [1]. The World Bank states that Lebanon suffers from extreme economic depression in economy, in addition to the currency losing value in the exchange market [1]. Organizations including the Lebanese Red Cross, the United Nations, and the Amel Association are all helping those in need were the LRC provides ambulance and medical services but with limited capacity and ability, the UN supports the Lebanese with food or financial aid, and the Amel association helps with fundraising and medical toolkits [2]. Most of the charity and non-profit organizations in Lebanon work without having major reliability on an online platform although having integrated and interactive charity websites and applications online can benefit people in need and people wanting to donate and makes the donation and aid process easier and faster.

The high demand for help assures the need for charity organizations to act on a greater scale as LRC reported that it receives about 140 thousand calls yearly and the UN world food programme has already provided financial aid for 50 thousand people [2].

The main problem is that although charity organizations are many, people can also participate in help in a direct way by meeting the donator with the needy. An online charity website can help by being a mediator for this process. What if a single website can provide a fast and secure connection between people and connect them so that if a person is in need he or she will be able to find the right person to ask for aid? What if we can correlate between

technology and internet to help achieve the maximum aid we can? This graduation project embraces the idea that technology and human welfare can coincide together to deliver the greater good to the greatest number of those in need of financial, apparel, medical equipment, and medical aid.

1.2 Problem Statement

In Lebanon's case, when a person in need wants to ask for help, he or she could potentially search for his/her product for a relatively long time without getting satisfied. Furthermore, going and applying for aid in many charity organizations may need lots of paperwork and verifications and the process usually takes more time than needed. The same applies to any person that wishes to donate and help the needy. In addition, going out and traffic is restricted due to the lockdown procedures and this could mean even more time waste with no potential results. On top of all that, charity organizations are also struggling to provide the missing medicines and equipment that people need meaning that people could lose their lives searching for aid and not finding any.

The Lebanese crisis and the COVID-19 pandemic on the other hand have given us a great opportunity to build up systems and software programs and facilities that help people connect and reach their potentials by increasing effectiveness. Users from all over the country access the internet into web pages covering several fields including e-commerce, reading, shopping, traveling, and many other websites but only a few to none of the online charity websites. Charity organizations can unlock greater potentials and ease the funding and donation processes by using a webpage to manage donations and aid applications.

As a double-headed sword, the crisis and the scarcity of resources either with people or with charity organizations affects a variety of the Lebanese community. The affected group includes not only the poor but the middle-class people that are suffering from

becoming considered with the poor. It also includes the elderly which usually have chronic diseases and health problems meaning they need more medicines than other and more medical equipment. In case the problem of not finding the appropriate aid easily is not solved, we are in great danger of losing more lives and escalating in the rapid depression economically and mentally.

1.3 General overview of the project

Our project provides a simple yet effective solution for charity and donations via implementing and correlating between the capabilities and advantages of technology and the internet with the human resources that seek to help others or to be helped. Help Hands online website offers all needed forms of charity including in-cash and in-kind donations and aid applications. Any user can apply for aid and according to his/her information; our website will find the right donator for the case. Similarly, donators can search for people in need and help them or fund our organization so we can provide the needy with their requests. In addition, users can browse multiple pages viewing activities, donated items, and learn more about our organization. By using our website, time is used more efficiently and there is less work to be done by the user.

The main feature is that the donator and the applicant are linked together based on their information where the site ensures that the appropriate users are linked. This means that we only act as a mediator for the donation process. This approach is one of a kind, where there is no other website that simply and unconditionally connects between donators and the needy.

1.4 Thesis Outline

In this section, a summary of the components of each chapter will be presented.

The 1st chapter includes a brief overview and historic background about the economic status of Lebanon and its reflection on charity organizations. In addition to the new features that can be applied on our website to resolve a major part of this problem.

Secondly, chapter 2 provides a view of several systems that are similarly related to our project. A comparison is done between these systems and our project to focus on the possible disadvantages and to compensate for them.

System design and architecture are stated in the 3rd chapter including supporting class, entity-relationship (ER), and sequence diagrams. This is followed by a summary and a conclusion of the design with ethical and environmental aspects taken into consideration.

Chapter 4 then comes to present the tools that are used to implement the project and set it running and functioning; showing and demonstrating how the website works. In addition to summarizing details about the back-end and the front-end implementation phases.

Last but not least, chapter 5 concludes the final work done in the project. Moreover, addition possible improvements and enhancements to the website are listed for potential future work.

CHAPTER 2

SURVEY OF EXISTING METHODS AND SIMILAR SYSTEMS

2.1 Introduction

Due to the rapid development of technology generally and the internet specifically, the whole world is surfing the internet nowadays to find their needs. Websites of every genre, from e-commerce websites that sell products to charity websites that offer means for people to help. People with kind hearts seek to use these systems to help others in need. For this reason, many similar systems to our system have been created and implemented to help ease this process. Although these systems all offer several features of great benefit to the society in need, they all lack some specifications that could enlarge their users' circle and be counted as an extra advantage. In this chapter, we will describe these methods and their systems and compare them with each other to discover their flaws and defects so we can rectify them in our system.

2.2 HelpLebanon

HelpLebanon (Figure 2-1) is an online donation website that helps provide donations to medical centers, aid, and charity organizations. This website is local to Lebanese funding and helps users support various institutions. HelpLebanon is powered by “areeba SAL” which is a company specialized in handling payments. [3]

All payments conducted through the HelpLebanon website are online, safely managed, and processed. This platform is free, meaning the user can access it easily to get information about organizations that need donations. Furthermore, the online transfer of donations is done weekly with the help of “areeba”, providing an effective method for monetary donations.

Users can access the website and browse viewing most of the Lebanese organizations that are in need, listed in a clear and simple design. Moreover, choosing whether the user wants to know about a specific organization or if he/she wants to donate and offer help.

The design and interface of this website are simple and user-friendly (Figure 2-1). In addition, transactions can be done using payment methods such as Master Card or Visa Card. Another feature that can be counted as an advantage to HelpLebanon's webpage is the ability of the user to choose between donating using Lebanese pound or US dollar. [4]

On the other hand, the website offers no effective method for donators to contact the website management, or to have direct contact with the organization that they want to help. This feature can provide great use in which the user can get all the needed information by calling or emailing the organization for specific details.

Additionally, HelpLebanon does not give enough variety of donation methods or techniques, only in-cash donations are processed and no in-kind ones are offered. This obstructs the potential to increase the range in which the donations can be made.

Finally, people as individuals may need help but are not registered in any organizational program although they seek help. An approach can be help people applying for aid.

The screenshot shows the HelpLebanon.com website interface. At the top, there is a navigation bar with the logo "HelpLebanon.com" and the text "Powered by areeba". Below the navigation bar, a banner reads "Lebanon needs your help" and "Donate to support your country and your people through these tough times. Every dime counts. All disbursements will be verified by the leading auditing firm, Ernst & Young".

The main content area features a search bar with the placeholder "Search" and a heading "Donate to NGO/Hospital of your choice". Below this, there is a grid of cards labeled A through K, each representing a different organization:

- A.**
 - AIN WAZEIN MEDICAL VILLAGE**: Ain Wazein Medical Village is a non-profit organization located in a medical compound that houses "The Hospital", the "Geriatric Medical Center", the "Rehabilitation Center", and the "Medical Village".
 - Ajalonoun**: Ajalonoun is a non-profit organization engaged in mobile cultural, social, healthcare, educational programs. It works to serve the local Lebanese community.
 - Al Reaya**: Al Reaya is a registered non-governmental organization, which was established in Lebanon in 1985. It was founded by a determined group of
- B.**
 - Bassma**: BASSMA, a non-profit association for Social Development, founded in Lebanon in 2002, strives to empower newly created two departments to help people.
 - Batroun Hospital**: Batroun Hospital is a healthcare organization that takes care of the health situation of patients. We have newly created two departments to help people.
 - Beirut HERITAGE INITIATIVE**: The Beirut Heritage Initiative is an independent and inclusive collaborative that strives to restore Beirut's architectural and cultural heritage.
- C.**
 - Bour Public Hospital**: Bour Public Hospital is managed and funded by the Lebanese Government.
 - Caritas Lebanon**: Caritas Lebanon is the social pastoral body of the Assembly of Catholic Patriarchs and Bishops in Lebanon. Its aim is to implement social.
 - DSC Lebanon**: DSC is a non-governmental, non-profit organization founded on the principles of empathy, compassion, humility, and sacrifice. We are not politically aligned.
- H.**
 - Maydele Hospital**
 - Ibed Al-Bakheet Association**
 - Ibrahim General Hospital**
- J.**
 - Lebanese American University**
 - Lebanese University**
 - Lebanese University of Technology**
- K.**
 - Lebanese University of Technology**
 - Lebanese University**
 - Lebanese University**

Below the grid, a "Donation Details" form is displayed for "Ain Wazein Medical Village". The form includes fields for "Your donation amount" (radio buttons for LBP and USD), "Your full name" (input field "Anonymous"), "Keep me anonymous" (checkbox), "Your email address" (input field "anonymous@mail.com"), "Credit Card Number" (input field "1234 4567 8910 1112"), "Card expiry date" (input field "MM/YY"), "CCV / CVC" (input field "***"), and a "Required fields" note. At the bottom of the form are payment method icons for Mastercard and VISA, and a "Donate" button.

Figure 2-1 HelpLebanon's interface [4]

2.3 AlFanar

Another charity website is AlFanar's. AlFanar supports the Lebanese offering in-cash donations in the main donation page shown in Figure 2-2. The Organization is registered in several regions and helps people in need located in countries including the United Kingdom, Egypt, United States, and Lebanon. With all contact information listed at the footer of the web-pages.

AlFanar was founded by Tarek Ben Halim. Investing to help communities mainly the Arabs was a motive for Tarek's attempt. The large effects of his organization lead to a change in the lives of over 4000 Egyptians during 5 years. In addition, the Lebanese are currently being benefited by the efforts of AlFanar to help the young and the refugees [5].

For mostly, this system provides credit card payment methods after the user enters his/her contact information and submits the donation request. Moreover, the user is free to determine if they want to be contacted later regarding any updates. This gives a way to the donator to follow up, leading to more possible contributions in the future.

The design of the website's interface is simple and easy to use. No complications are necessary for the donation process and all information needed is clearly stated in Figure 2-2. Nevertheless, this form design could be simpler than needed and not attractive to the user's eyes. More complex yet interactive and responsive design can be given to make the website more alive. A better overall experience for the user can be achieved by simply altering the design a little.

Furthermore, money transfer is powered by eTapestry. The security of the transaction is thus guaranteed and the website is counted as a trustworthy system to donate to. On the other hand, only in-cash donations are possible which can affect the audience range having the potential to donate via AlFanar.

ALFANAR

VENTURE PHILANTHROPY JOIN THE JOURNEY PORTFOLIO ABOUT US SUPPORT US LATEST

CONTACT US **DONATE**

Gift Information

Donation Amount*

£25
 £100
 £500
 £1000
 £5000
 Other £

Donation Frequency* One Time (None Selected)

Donation Purpose

Contact Information

Title choose title

First Name*

Middle Name

Last Name*

Suffix

Country* United Kingdom

Address Lines*

City*

County

Postal Code*

Email*

Confirm Email*

Phone*

From time to time, Alfanar sends out information regarding our work and issues. Please indicate your preferred method of communication:

Email
 Text Message
 Telephone
 Postal Mail
 No contact please

Payment Information

You, regular etc. And on all my donations on this event, £1 is worth an equivalent to £100. This donation will be for the current tax year (6 April to 5 April), the previous four tax years and all future tax years. I understand that I may be liable to Income Tax and/or Capital Gains Tax for the year of a donation that is at least equal to the amount of tax that all the charities and Community Groups receive in respect of Gift Aid. I agree to withhold from my gifts for the current tax year. I understand that other taxes such as VAT and Council Tax do not qualify.

Amount* £ 0.00
Payment Type Credit/Debit Card
We only accept credit/debit card payments. After you complete this form,

DONATE NOW

SUPPORT OUR WORK
Donate today to help build sustainable social enterprises in the Arab world.

JOIN OUR MAILING LIST

Name Email **SUBSCRIBE**

OUR COMMITMENT TO THE SDGS

1 NO POVERTY **4 QUALITY EDUCATION** **5 GENDER EQUALITY** **8 DECENT WORK AND ECONOMIC GROWTH** **10 REDUCED INEQUALITIES** **17 PARTNERSHIPS FOR THE GOALS**

Figure 2-2 Interface of AlFanar donation page [6]

2.4 Heart Disease Research Institute

The Heart Disease Research Institute is a webpage offering help to the victims of the explosion that happened in the Beirut Port. As shown in Figure 2-3, the website has a non-complex design with the freedom of donating in a responsive environment.

Users can scroll on the website to view information for recently and frequently asked questions, or they can contact the Heart Disease Organization for information. The website has a unique design to its implemented interface with many pictures and images shown of the disaster and the targeted cause. Edges of different sections are smooth and appealing to the user and provide a seamless experience.

Additionally, donations can be chosen to be either monthly or one-time support. This saves the time for users that wish to donate frequently the time to enter and donate every time they want to offer help. Along with this feature comes the ability to donate in any currency the user prefers to use; meaning donators from all over the world can donate and help the cause without the trouble of currency exchange in the current Lebanese economic status.

 HEART DISEASE
Research Institute

Send Help To Victims In Lebanon

Q Search

Give Now

Donate To Help Victims Of The Beirut Explosion.

£120,00 Give Support Now





Give Relief Now

One Time Monthly

Your most generous donation

£F200,000 £F100,000 £F50,000
£F30,000 £F10,000 £F8,000

£ LBP ▾

Designate to Lebanon Disaster Relief Fund
Give in honor or in memory
Add comment

Donate and Support

Frequently Asked Questions

How Much Of The Money Goes To The Program?

How Are The Employees Compensated?

If You Exceed Your \$1,000,000 Goal, What Will You Do With The Excess Money?

What Is Your Tax ID Number?

Enter First Name Email address GET STARTED NOW

Ready to get started? Enter your email and let us help you get started

Figure 2-3 Heart Disease main webpage [7]

2.5 Methods/Systems Comparison

Now, it is time to highlight the advantages and shortcomings of each of the previously stated methods concerning certain criteria. We summarized these points in the following three tables.

Table 2-1: Comparison Table Based on Graphical Interfaces

Criterion 1	System 1	System 2	System 3
Graphical Interface			
Good user interface	✓	✓	✓
Easy and effective navigation	✗	✓	✗
Simple and professional Design	✓	✗	✓
Responsive	✗	✓	✓

Table 2-2: Comparison Table Based on Content and Functionality

Criterion 2	System 1	System 2	System 3
Content and Functionality			
Quality content structure	✗	✗	✓
Usability	✓	✓	✓
Dynamic content	✗	✗	✓
Content management system	✗	✓	✗

Table 2-3: Comparison Table Based on Features

Criterion 3	System 1	System 2	System 3
Features			
Security measures	✓	✓	✓
Third party integration	✓	✓	✗
Accessible content and location	✗	✗	✗
Registration form	✗	✗	✗

2.6 Conclusion and Motivation

The world of the internet is in rapid growth, users are accessing the internet and surfing websites of all types. Charity websites such as the systems compared above are developing in order to support and meet the needs of the needy.

All of the three systems presented lack the specialization in a certain criterion. Some have a better user interface than others, but they miss good and efficient functionality. On the other hand, other websites provide easy navigation and support for their users by giving them a better more responsive interface. Although all systems have a good overall interface and security, they all have their downsides.

In our system, we are seeking to make use of the good and effective ideas shown in these systems. Moreover, the drawbacks and flaws will be managed to come up with a better overall. HelpHands will provide the user with a great graphical user interface; easy to navigate in and browse at. Furthermore, the system will be responsive feeding the user with all information needed to use it easily and effectively. The structure of our website is solid and contains managed dynamic content. Finally, the location and content of the website are accessible with ease, but in a secure manner.

CHAPTER 3

SYSTEM DESIGN

3.1 Introduction

Requirements, analysis, system and class diagrams, scope, and the ethical standards of the project will be presented in this chapter. Thus, a detailed understanding of how the website functions and routes will be discussed using class, ER, sequence, use case, and activity diagrams.

These diagrams and systems will explain the flow of our website and its design showing the user a proper route inside the pages and how the user can access any page by choosing the right path. Moreover, the user will have a clear vision off the advantage of using the website knowing all its technical and non-technical aspects in order to be able to take advantage of its features.

3.2 Requirements and Specification Analysis

The HelpHands website offers functionalities for its users via a complex system connected together. This system includes a database that stores all information needed and the main interface of the website. The website includes features and functions that will be discussed in section 3.2.1. Use-case diagrams for the admin and the user will include information of what sequence and cases can be followed inside the website.

After the use-case scenarios are explained and discussed, other sections will follow up to explain more about the system architecture in addition to class, system, sequence, and entity-relationship diagrams for further understanding of what the website can perform and how it can perform it effectively.

3.2.1 Functional Requirements

The user with an admin account or a normal account can use our system to achieve many functions where normal users have a different perspective regarding the website and how it interacts with them than admins.

To start with, a user (Donator/Applicant) can first surf the website, give a rating, and view certain pages such as the home, gallery, contact, about, and the login pages. This user can register their email as contact information or login into his/her HelpHands account to access more features if an account already exists. If the user has no account, they can register with a new one and then log in. Once logged in, all pages mentioned before can be accessed in addition to the aid application page and the donation page where the user can apply for aid if needed and/or donate either in-cash or in-kind donations. Furthermore, an activities page gives the user access to check if their aid requests have been confirmed or to view aid applicants that need donations and donate for them and check if any available items are already found and can be collected.

As for admins, they have all the access a normal user has but with more privileges. Admins can view and delete accounts if needed, check and confirm pending aid requests before they are presented to donators, and know the financial balance and the total donation amount. In addition, only admins can add other admin accounts to the system.

3.2.2 Use Case Diagrams

The HelpHands system and website have different roles and use cases for each type of user. As stated previously, normal site users and administrators are the two types of users that access the website. In conclusion, use case diagrams are meant to show the use cases in an easy and noncomplex way. Thus, 2 use case diagrams will be presented. The first diagram

(Figure 3-1) will show the normal users use case scenarios and the second diagram (Figure 3-2) will show the administrator's use cases since the admin will access the website from a different panel.

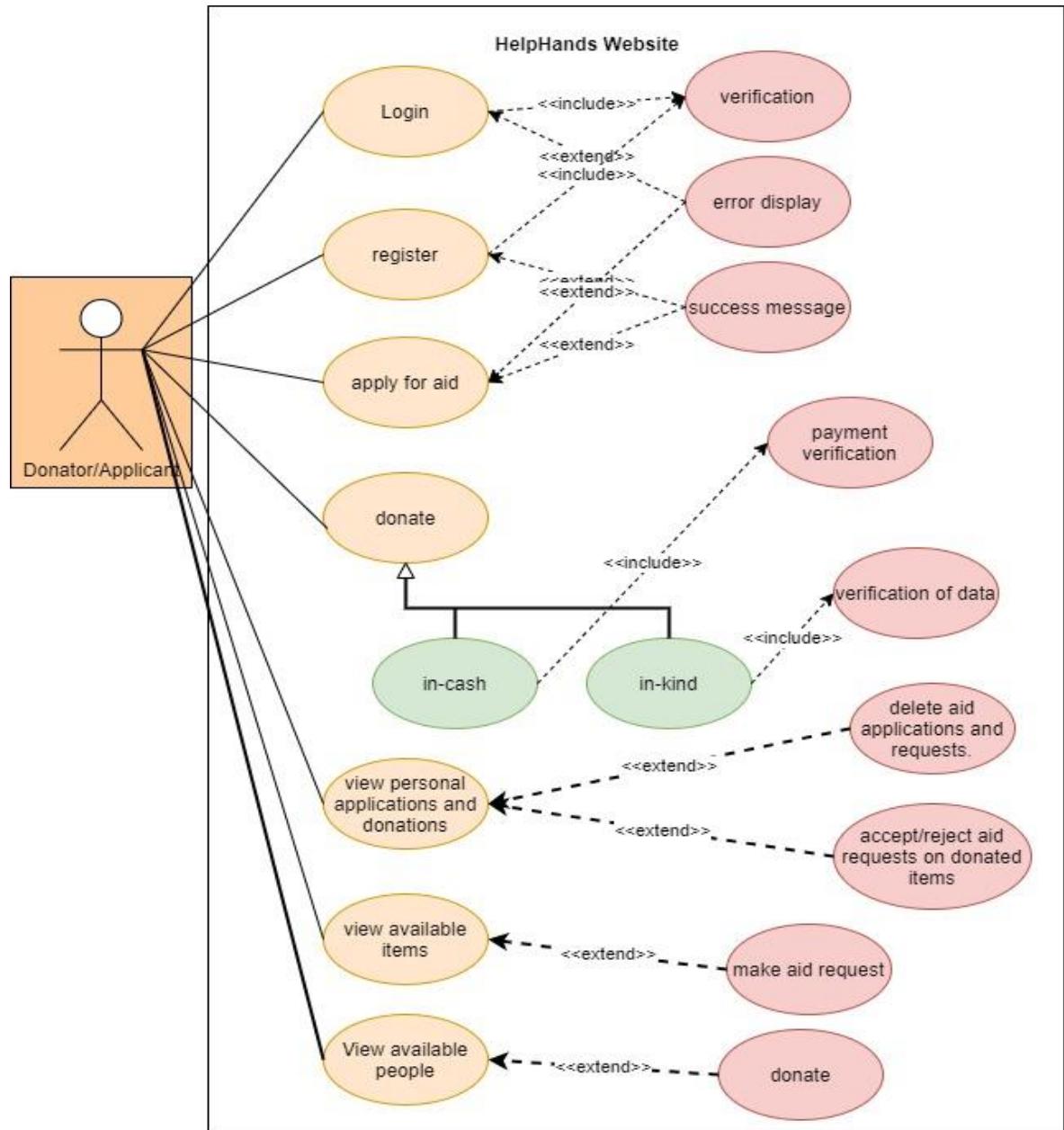


Figure 3-1 HelpHands use-case diagram for users

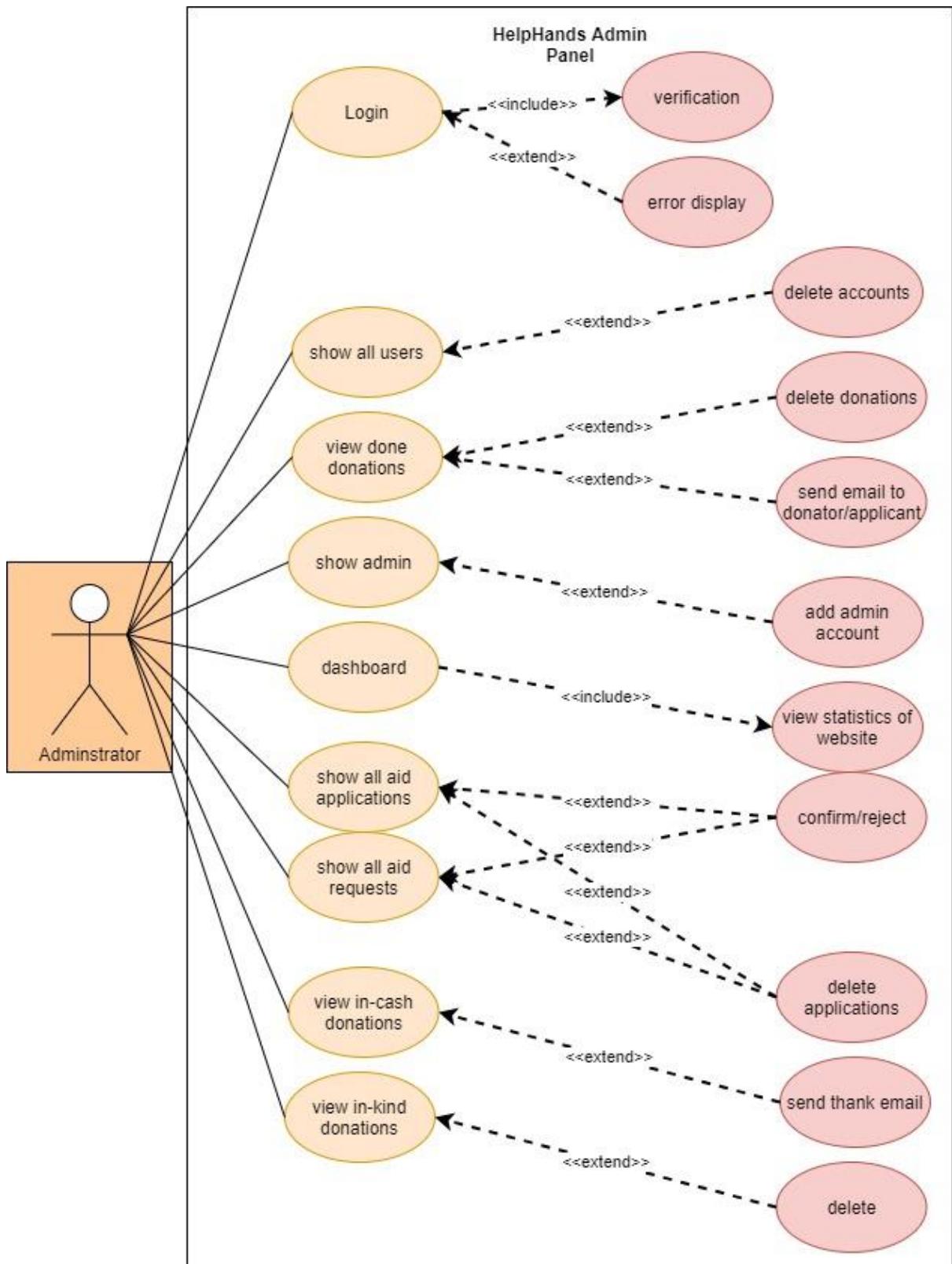


Figure 3-2 HelpHands use-case diagram for admins

3.3 System Architecture

Throughout all times, software applications and systems have developed and shown great improvement in all fields and domains. Systems are considerably more consistent and reliable, certainly more efficient due to technological advancement. This sophistication needs to be planned and described properly with a system architecture that shows the flow of data and processes inside the system and its structure. In addition, the interactions that occur between users of all types and the system are explained in this architecture.

The system interacts with the user based on the information needed and processes he/she needs to run. Users can donate by paying or giving, in addition to filling an aid application. All these functionalities can be presented in a system architecture diagram as shown in Figure 3-3.



Figure 3-3 System Architecture of HelpHands

3.4 Class Diagrams

In this section, we will present the class diagrams for users and admins. A class diagram is a type of structural UML that represents the structure of the system by using classes to show pages or objects, methods to show functions, and attributes to represent the variables of each object. Figure 3-4 and Figure 3-5 will help you to understand clearly how each page operates with the other ones within the same panel.

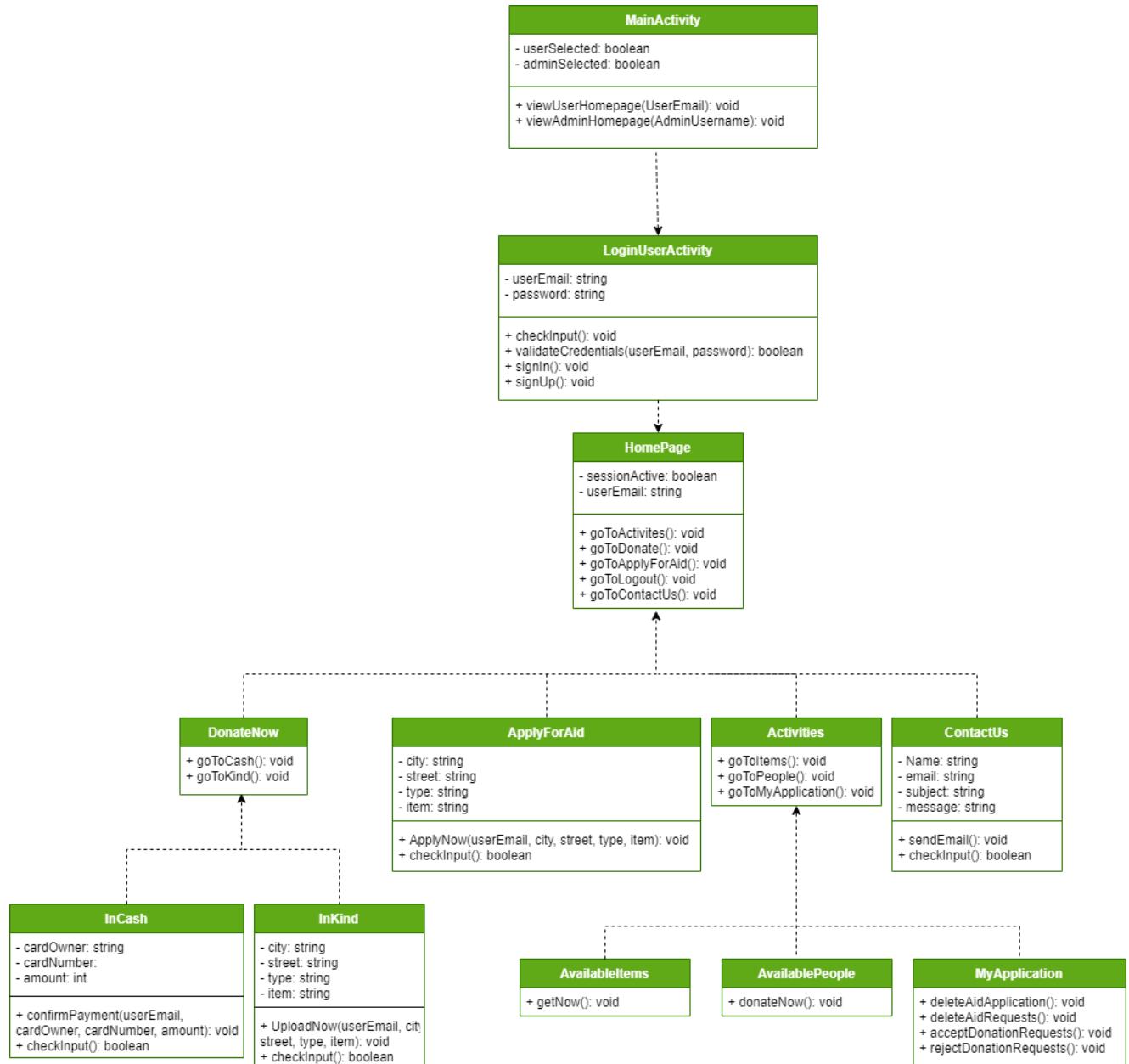


Figure 3-4 Class Diagram for User

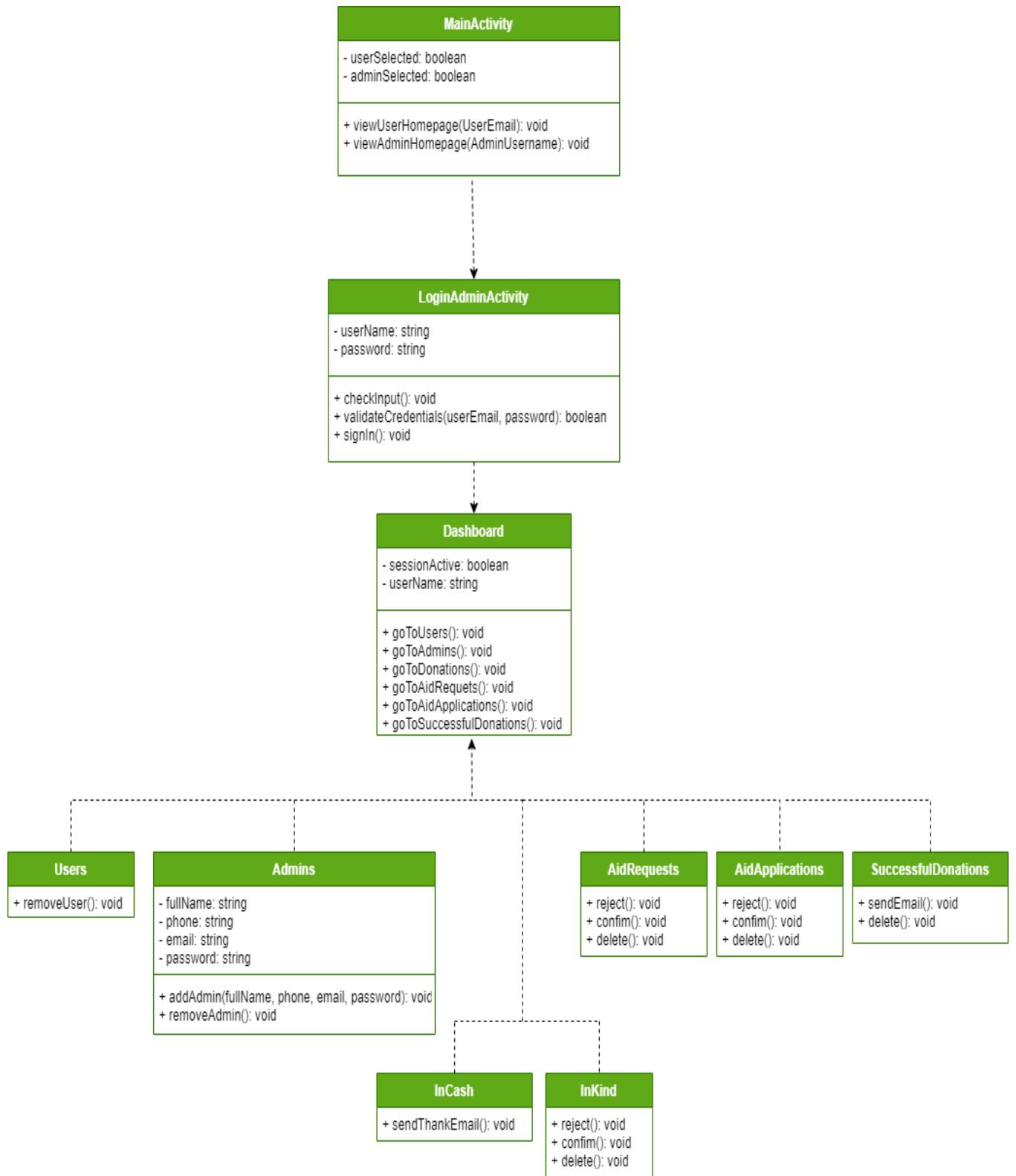


Figure 3-5 Class Diagram for Admin

3.5 Sequence Diagrams

Sequence diagrams are a specific type of behavioral UML. They are specialized in showing the sequence in which the operations and tasks can be done. They also show the interaction between both technical and non-technical documentation objects and how the transportation of an existing process happens between all system elements as shown in Figure 3-6 and Figure 3-7.

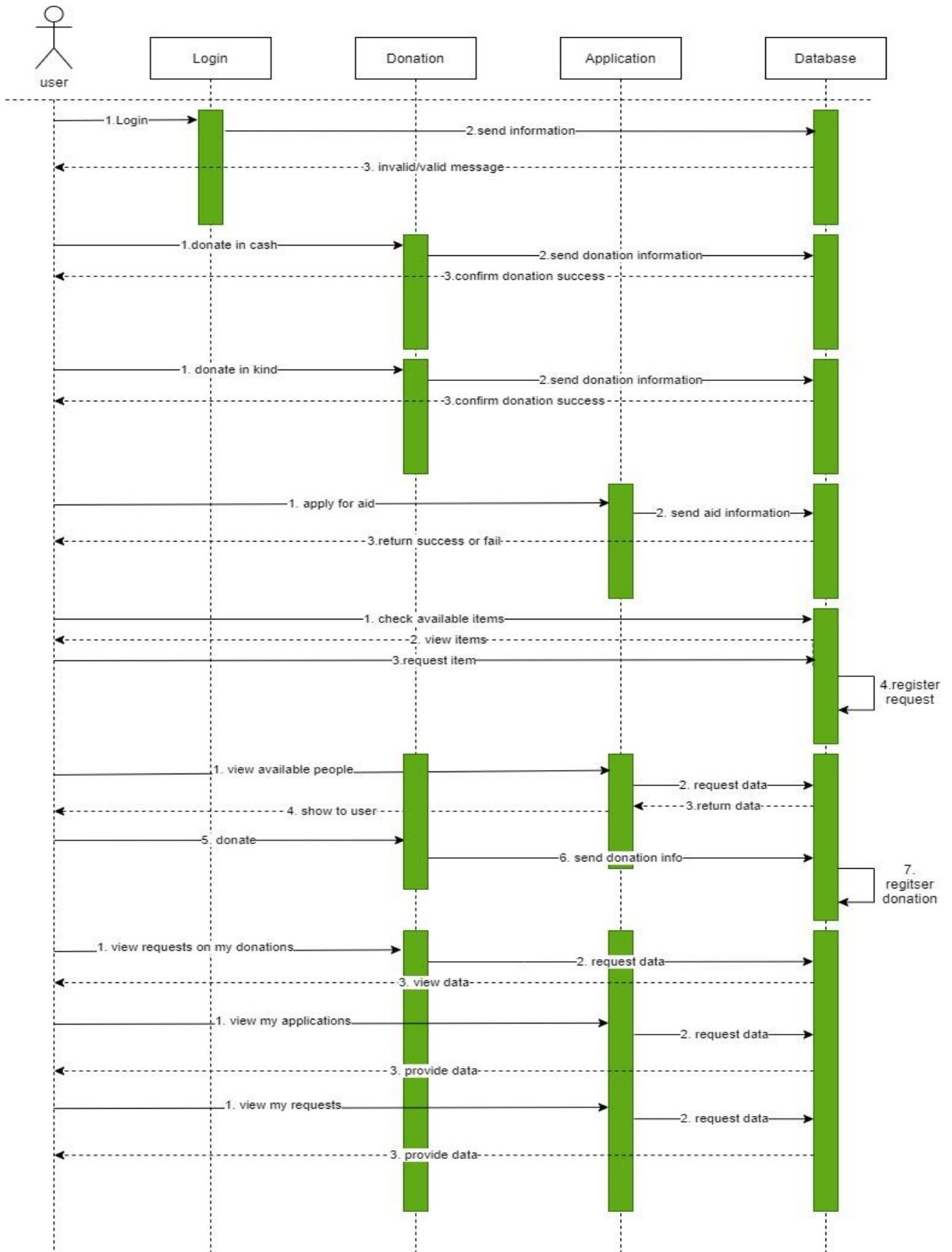


Figure 3-6 Sequence Diagram for user

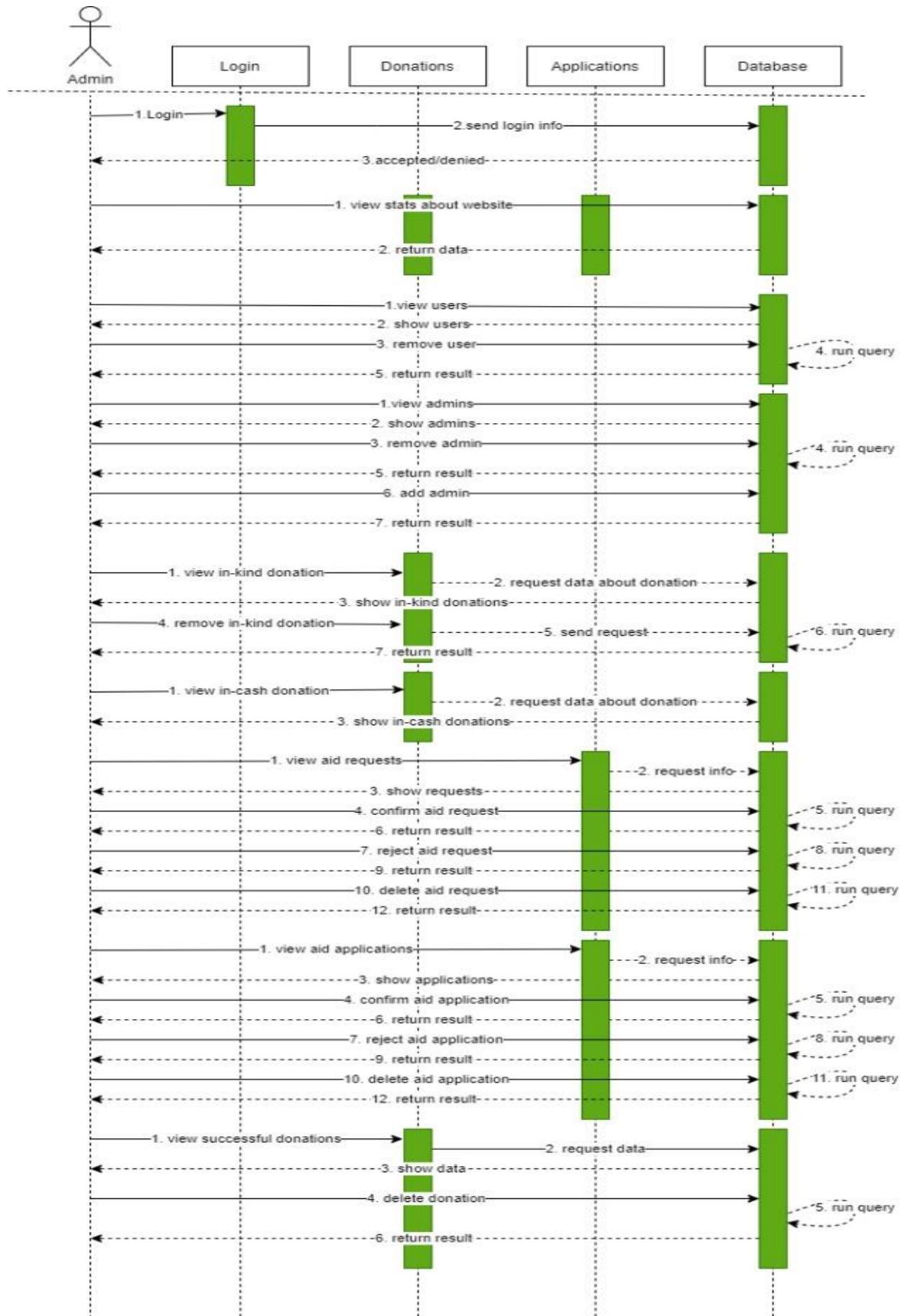


Figure 3-7 Sequence Diagram for Admin

3.6 Activity Diagrams

An activity diagram is a kind of behavioral UML that expresses the path of data flow of a system from a start point to a finish point at its various functioning times. It also describes the role of each system layer and its interactions with other ones, in addition to the role of each page accordingly to the various system layers. Figure 3-8 represents the functions of login and main pages concerning user, website, and database. Figure 3-9 shows the activity diagram of the contact page. In addition to Figure 3-10 which shows us the activity diagram of the aid section. Now Figure 3-11 represents the other main function of our website which is the donation section. The various sections of the activities page are shown in Figure 3-12 and Figure 3-13. Last but not least, the activity diagram of the admin section is explained in Figure 3-14 and Figure 3-15.

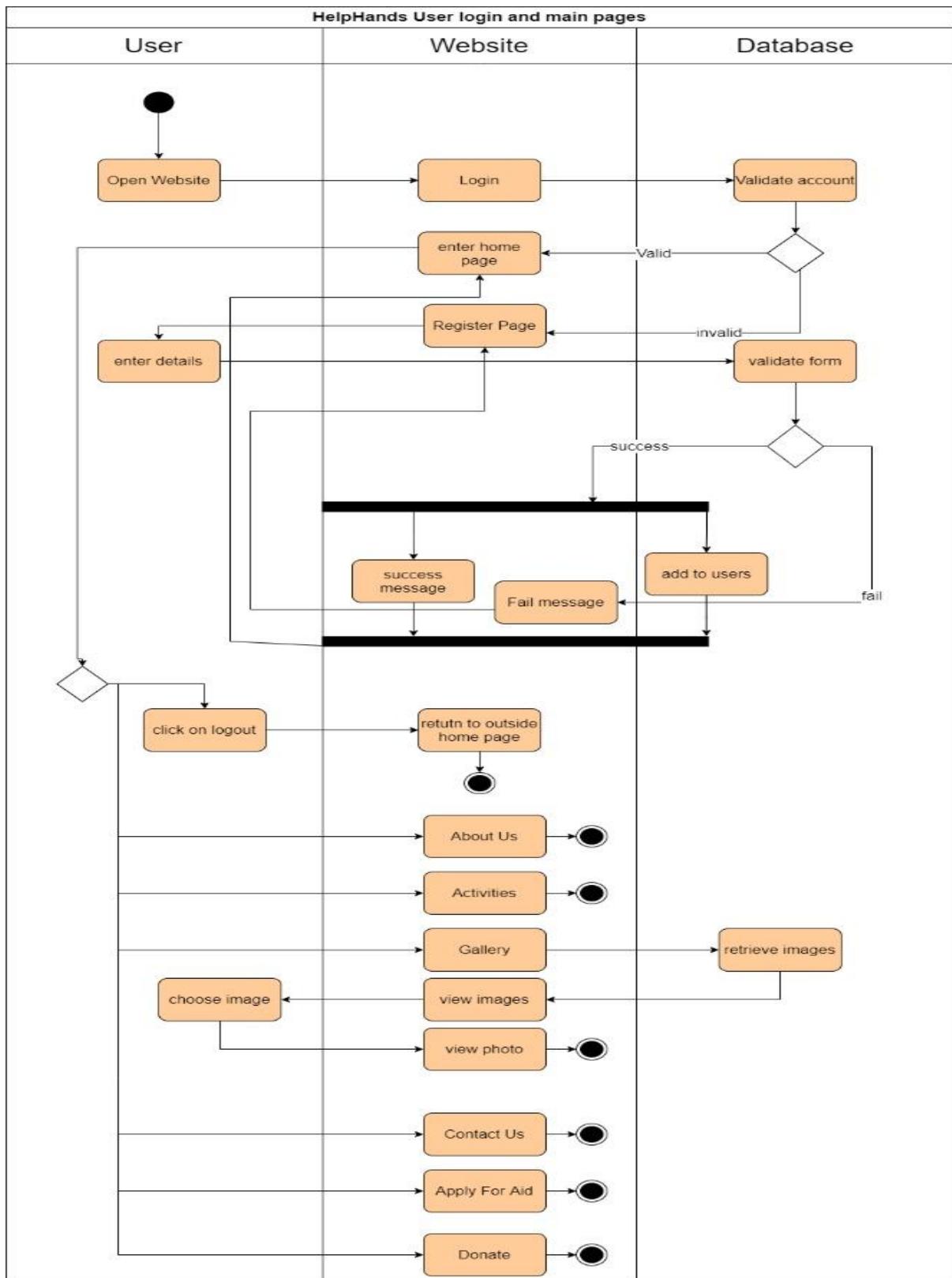


Figure 3-8 HelpHands user login and main pages

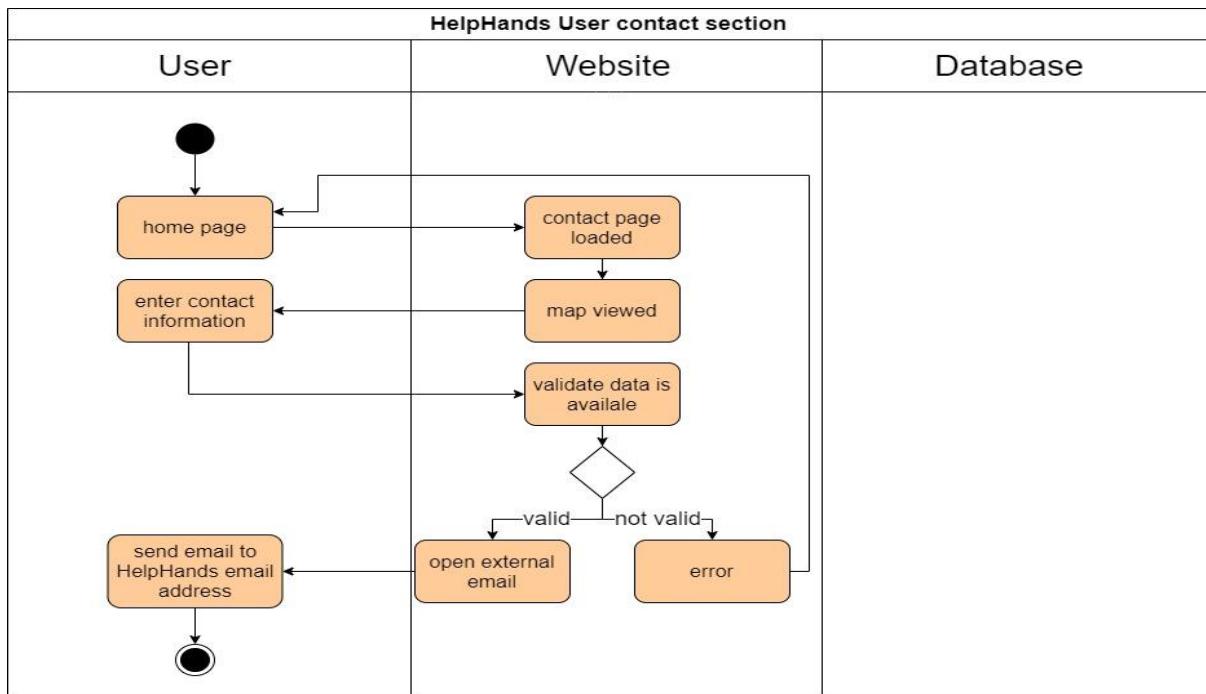


Figure 3-9 HelpHands user contact section

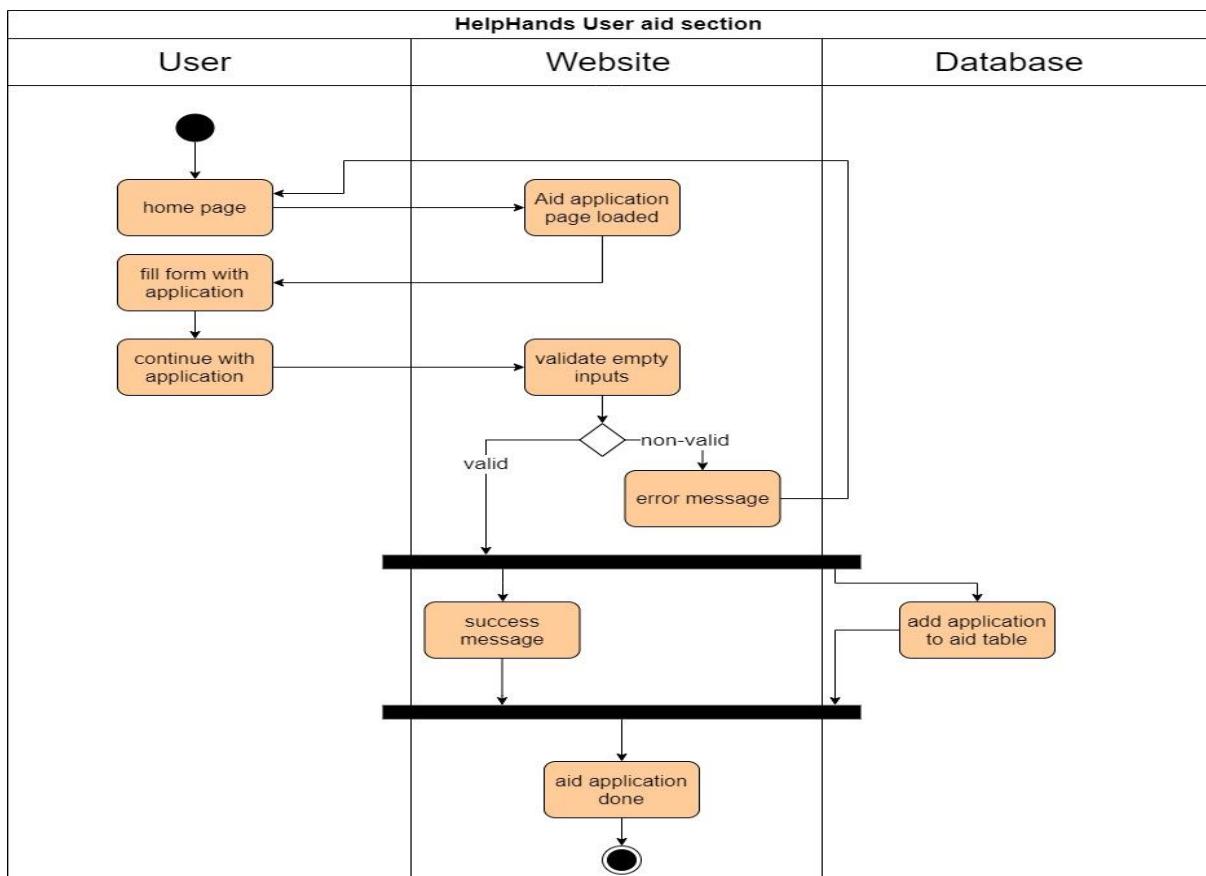


Figure 3-10 HelpHands user aid section

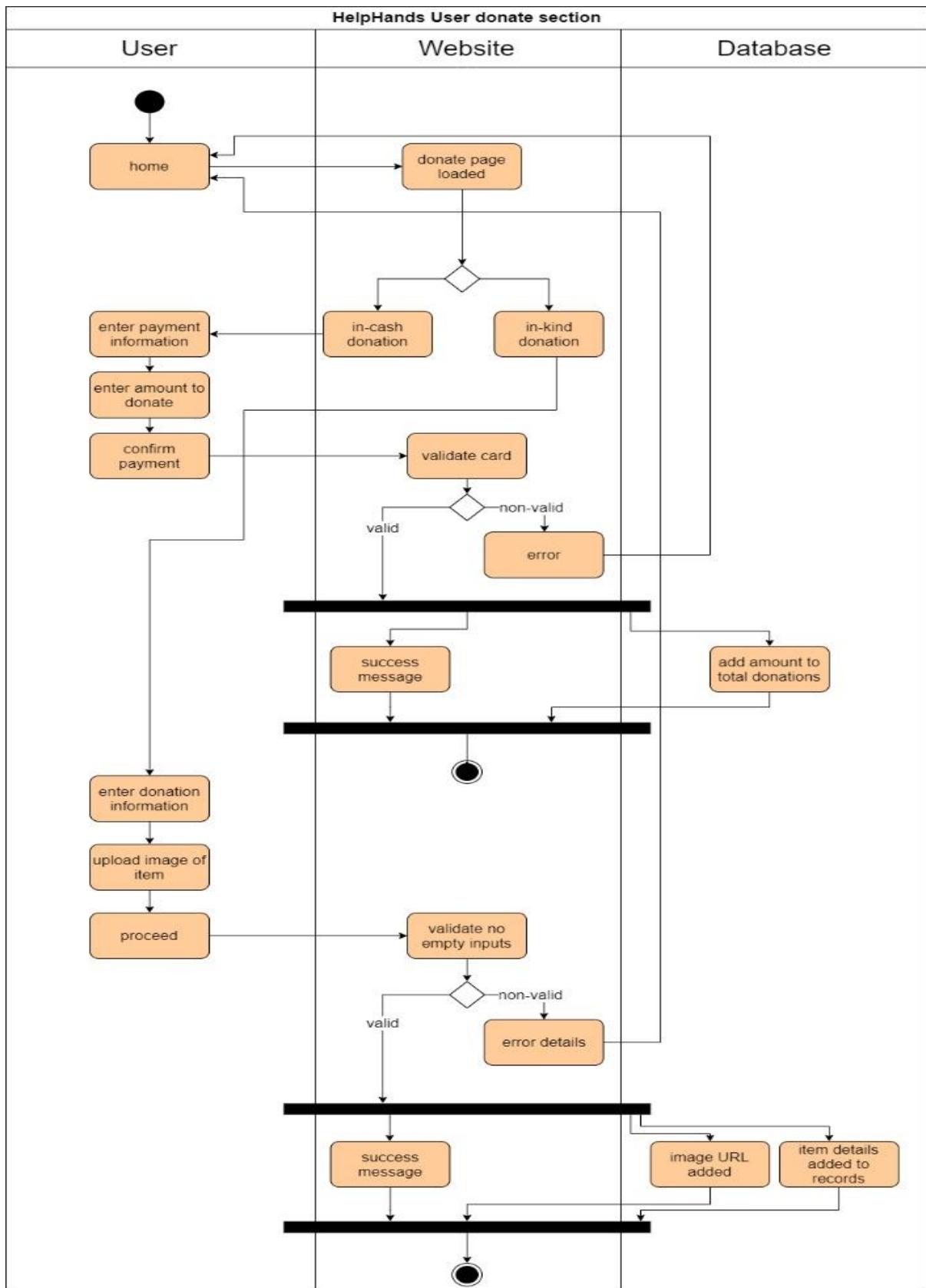


Figure 3-11 HelpHands user donate section

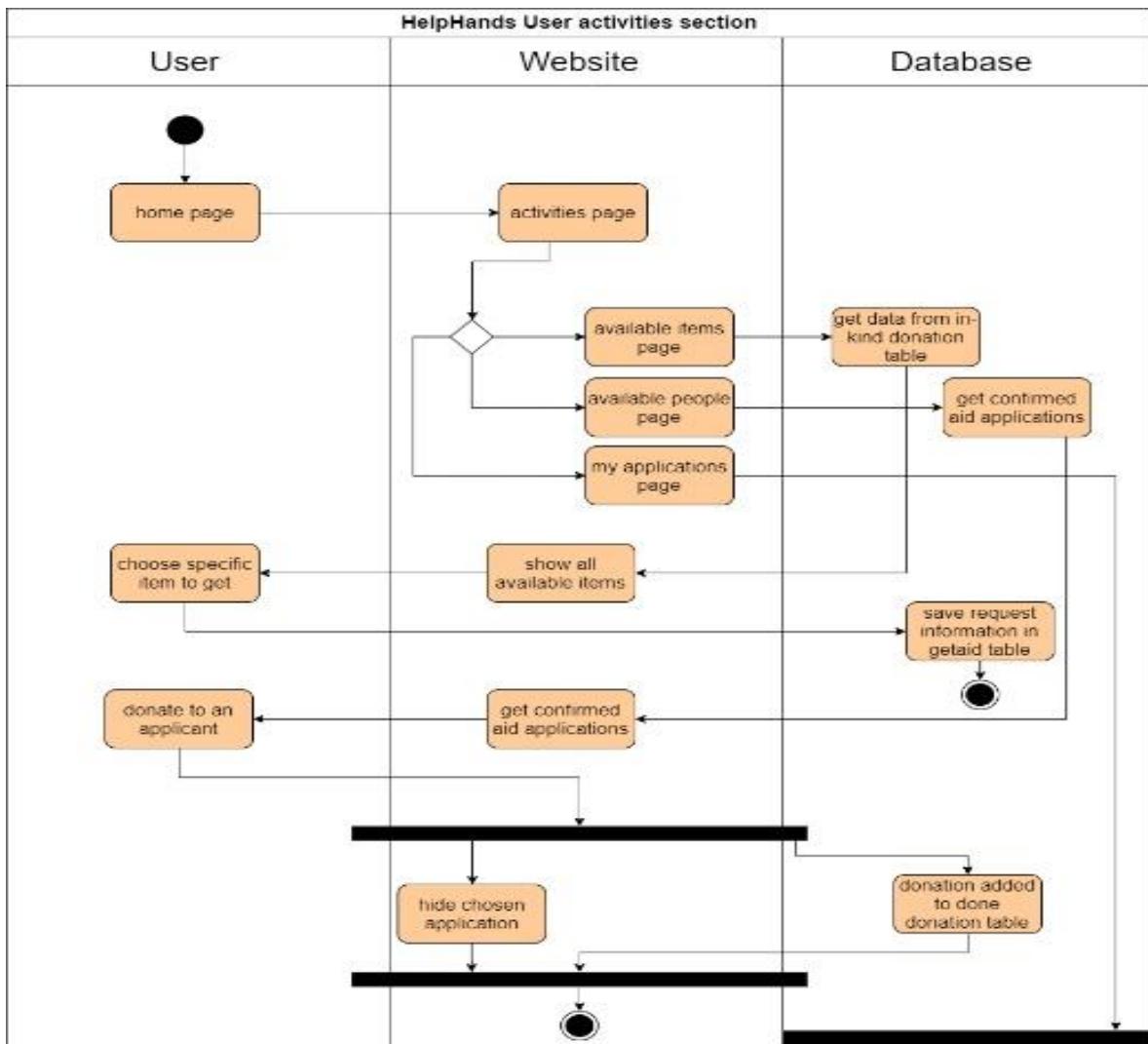


Figure 3-12 HelpHands user activities section (Available Items, Available People)

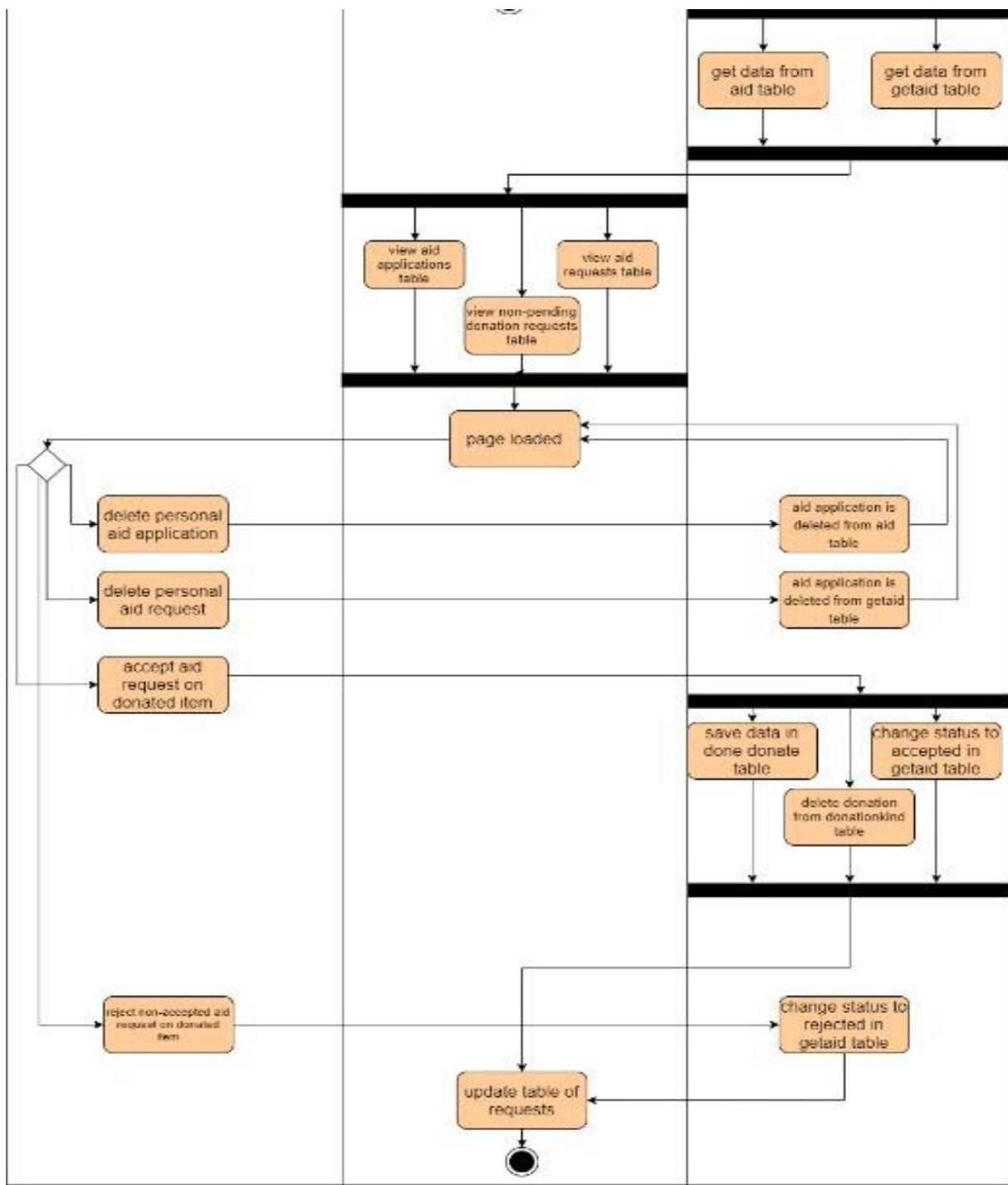


Figure 3-13 HelpHands user activities section (My Application)

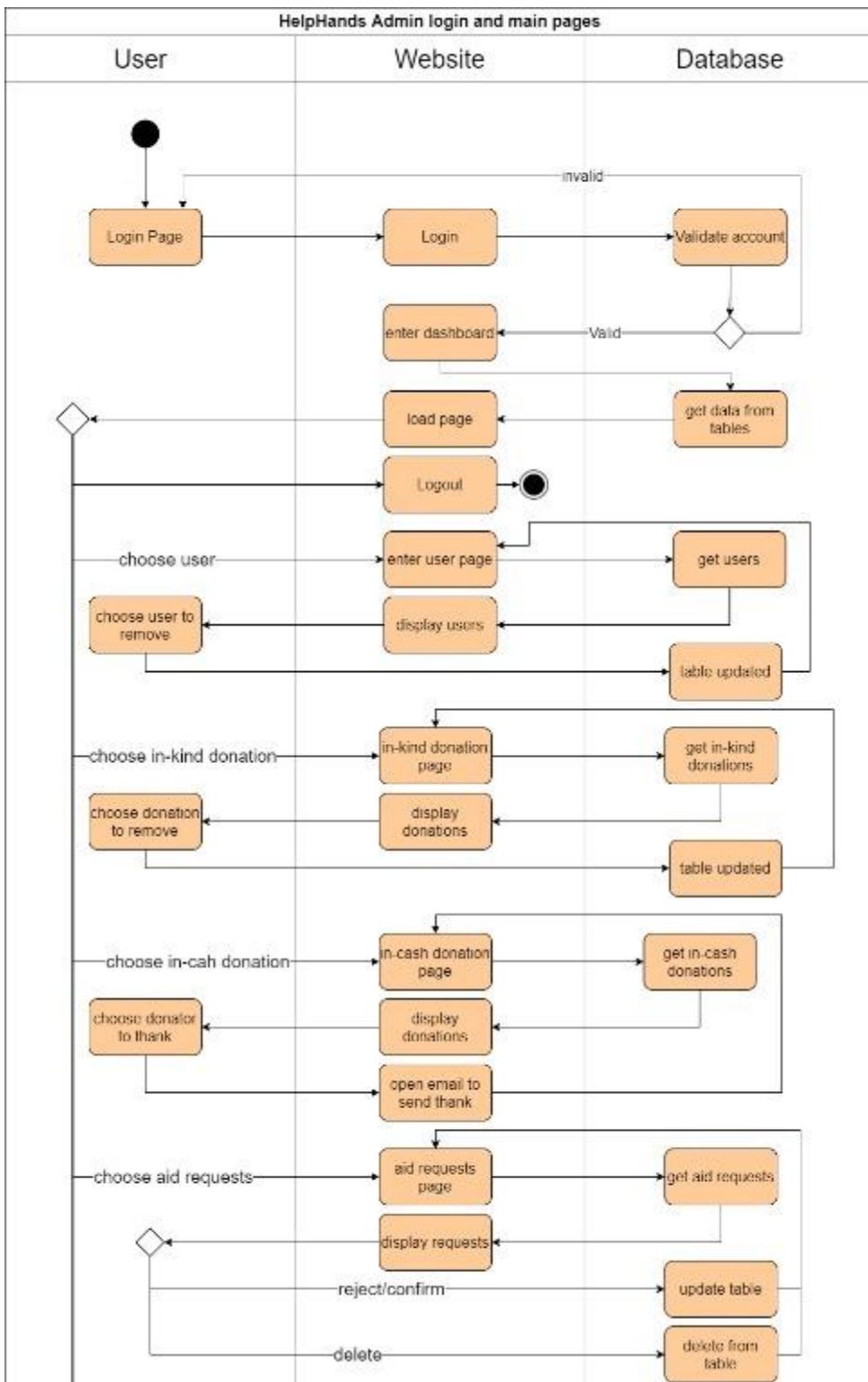


Figure 3-14 HelpHands Admin section (part 1)

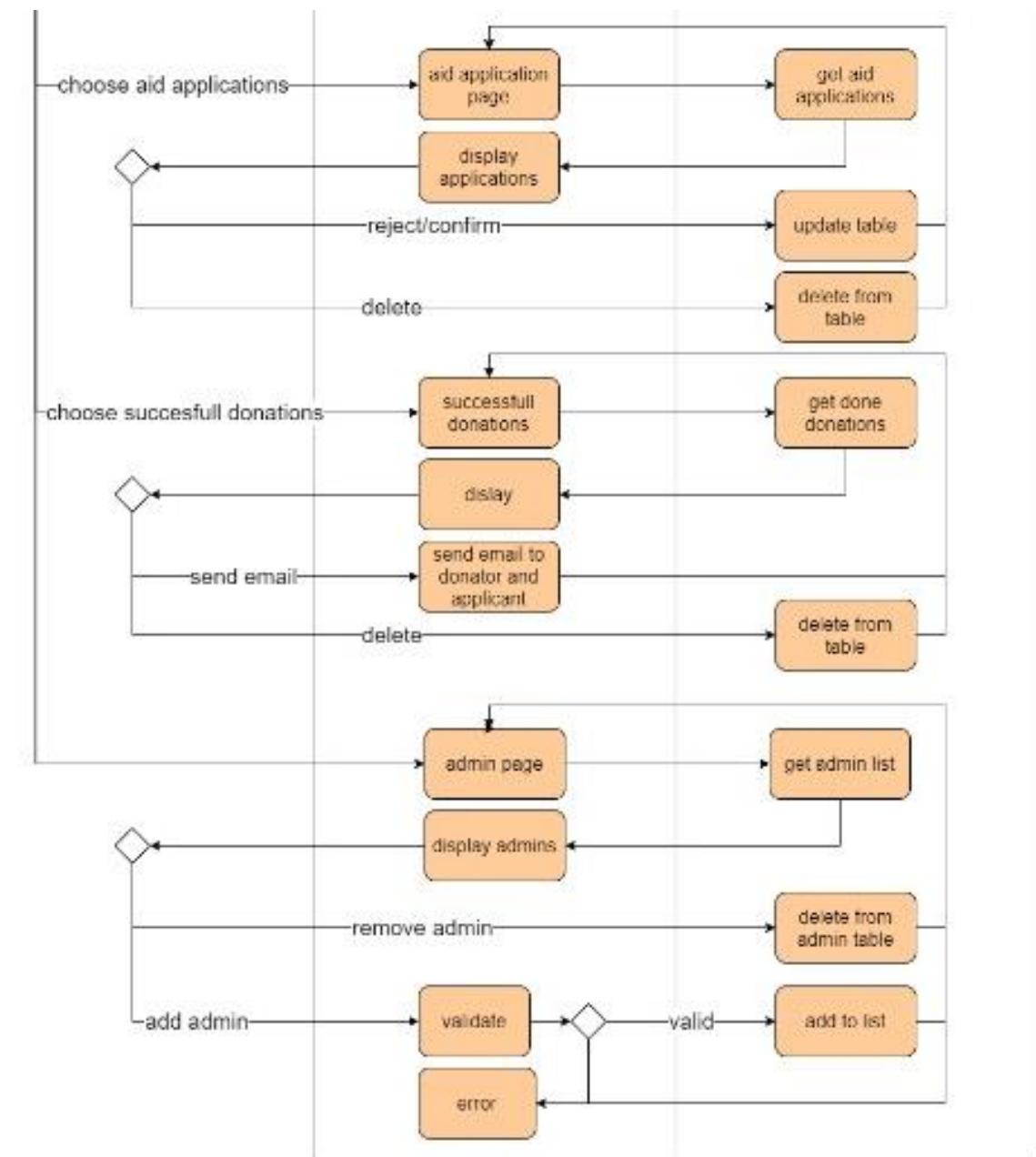


Figure 3-15 HelpHands Admin section (part 2)

3.7 Entity-Relationship (ER) Diagrams

An (ER) diagram is a type of flowchart that explains the relationship between tables within the same database. Figure 3-16 and Figure 3-17 illustrate the relation between the user and the other tables in the HelpHands database.

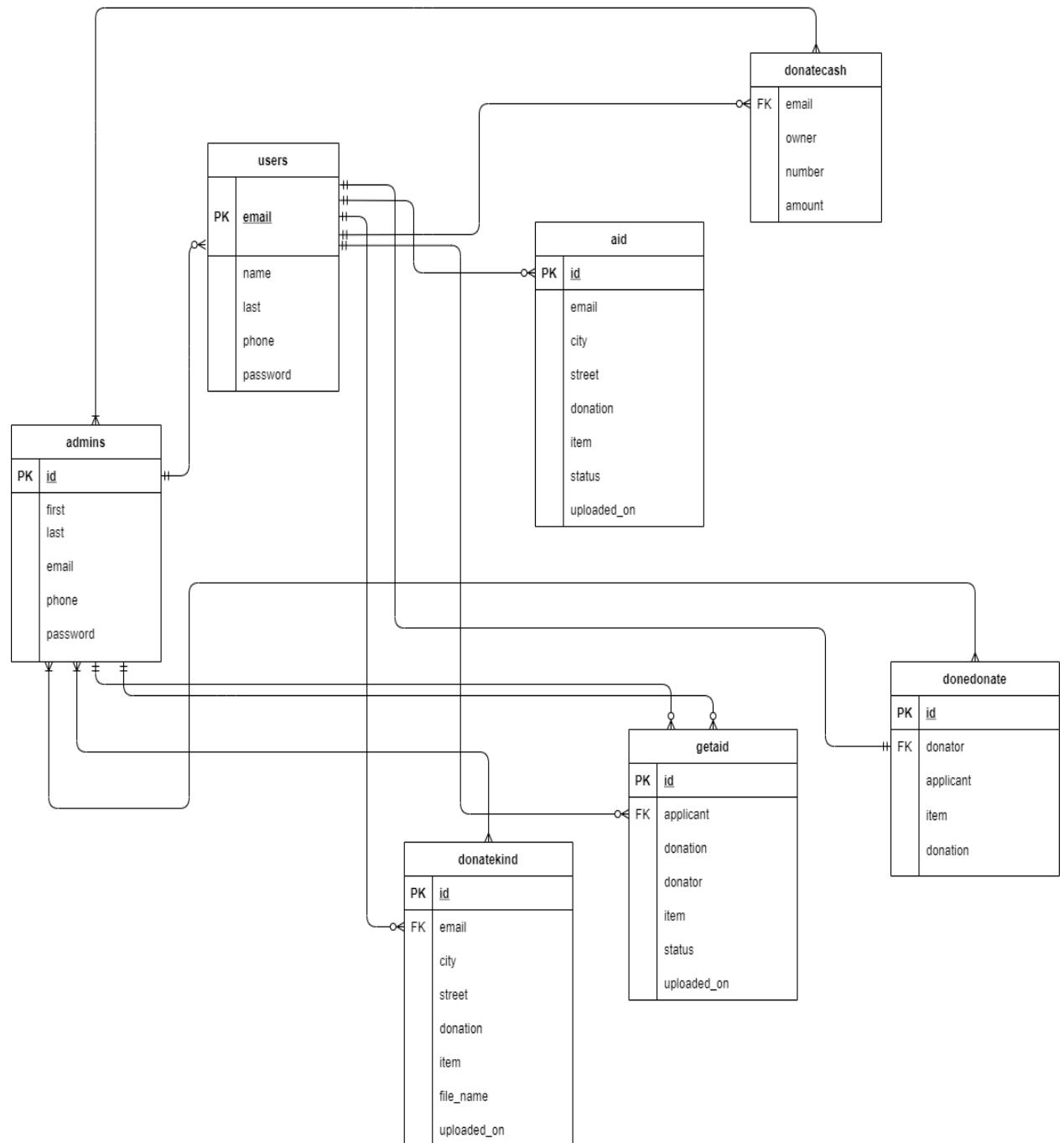


Figure 3-16 ER Diagram for HelpHands

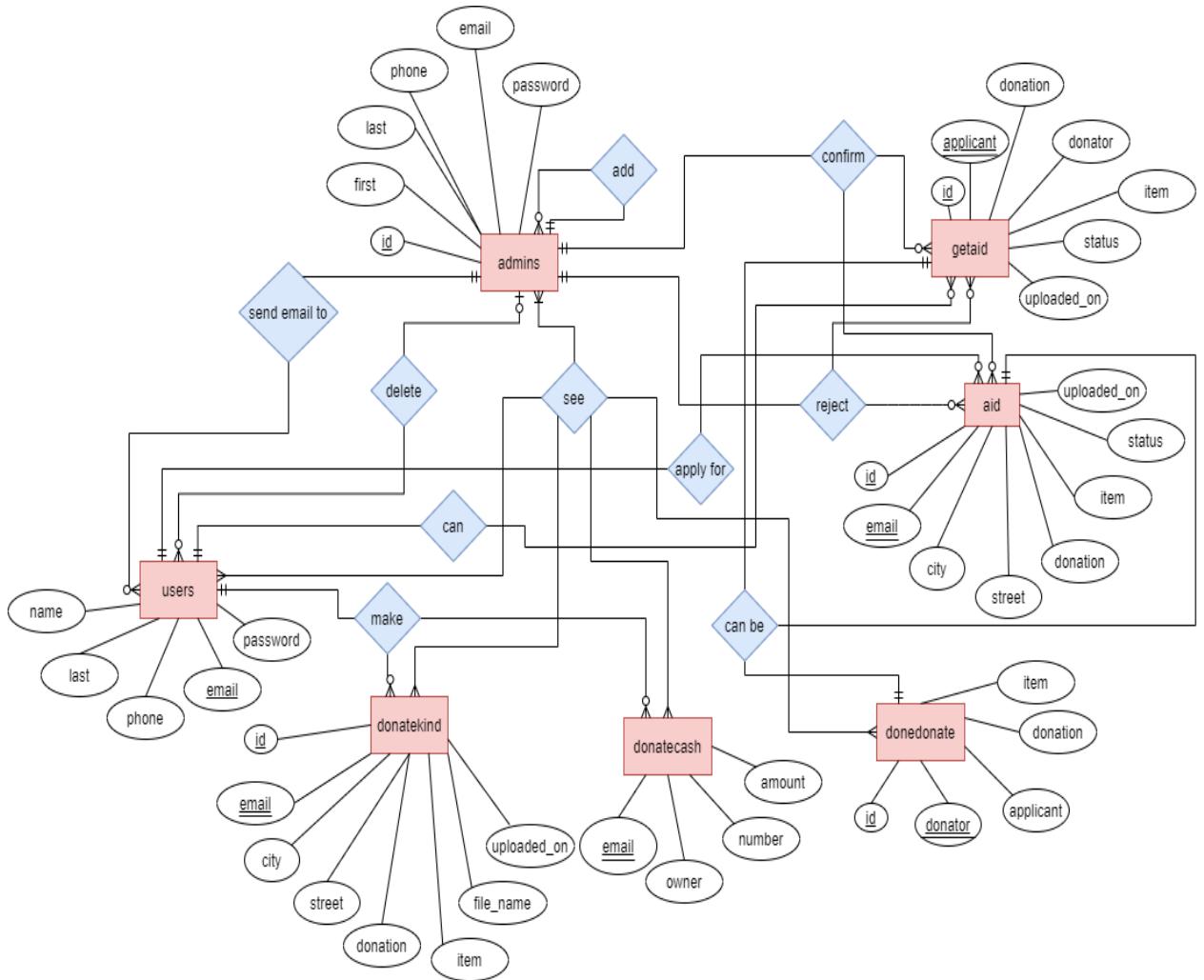


Figure 3-17 Relationship Model for HelpHands

3.8 Non-Technical Aspects

3.8.1 Financial Viability

- Wi-Fi monthly subscription is 40-50\$
- Monthly web hosting costs 20-30\$

3.8.2 Stakeholders

The stakeholders for this project are the charity organizations, people who love to supports and give help, and individuals in need.

3.8.3 Scope

The main purpose of this project is to provide an online platform that can satisfy the need of the Lebanese population with the most needed items and aids. We aim to reduce the potential spread of the COVID-19 virus by the use of our website. This project will connect people in an indirect perspective for the easy and fast delivery of requirements for all its users including donators and aid applicants.

3.8.4 Risks

All around the world, the COVID-19 pandemic has affected every person either directly or indirectly. Getting ideas from libraries was a hard job due to the lockdown forced on the country. Consequently, all information needed was collected from online sources. In addition to that, the economic status of Lebanon is in a rapid fall and as a result, there is a shortage in electrical power supply to cities and towns. Thus, internet service was not available on a daily and regular basis. This meant that online meeting for project completion and discussion was not always available, leading to undesired rescheduling and reorganization of work. Not only that but also there was a weak connection to the internet when available.

3.8.5 Schedule and Milestones

The schedule, the project progress, and the duration of each task during the semester are shown in Figure 3-18.

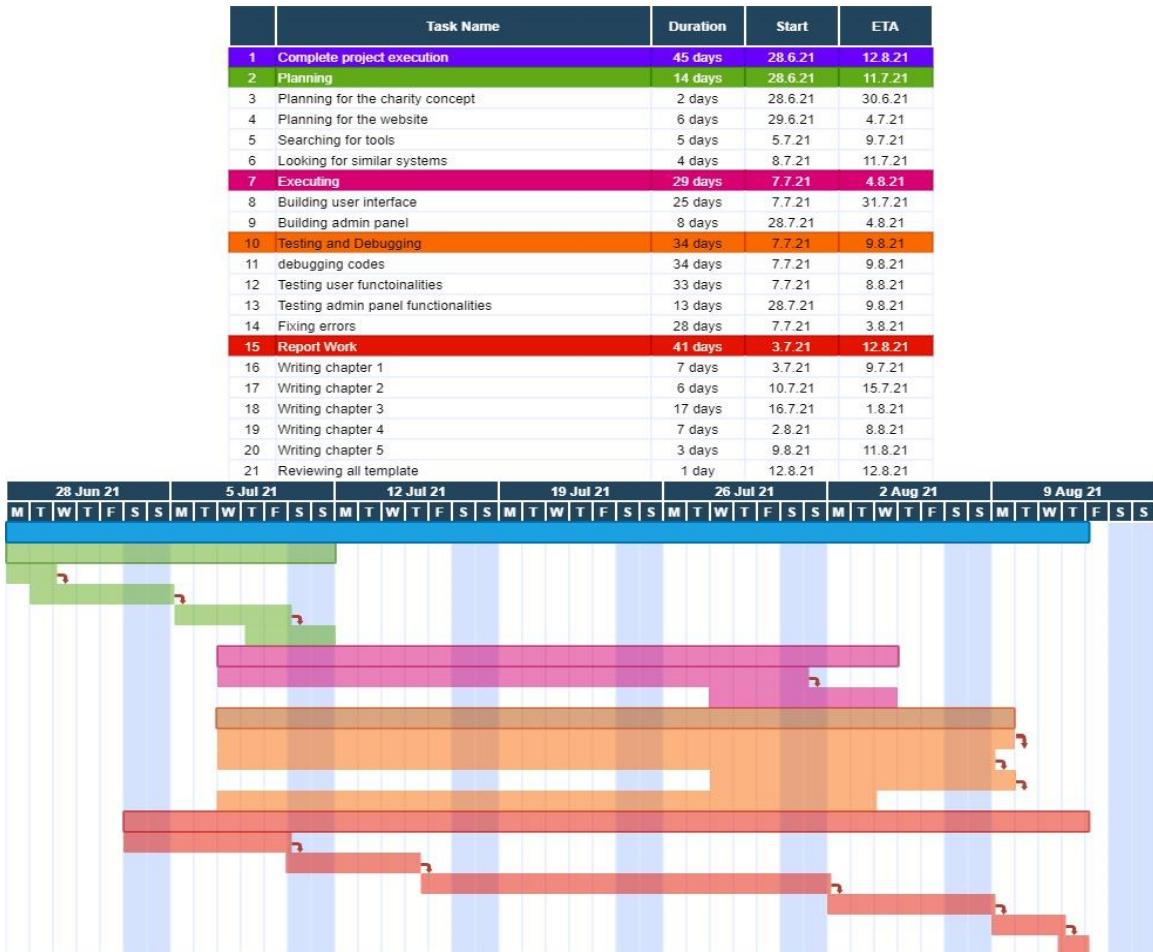


Figure 3-18 Gantt chart for HelpHands website

3.8.6 Ethical and Social Considerations

All processes handled by our system will ensure the secure transfer of personal data and information into the database. Furthermore, all unnecessary data is not viewed to other users and only sufficient and useful data is presented.

The information saved in our system will be monitored and no admins shall alter it or use it for personal gain or malicious purposes. In contrast, all information will be handled ethically following trusted procedures.

3.8.7 Environmental and Sustainability Considerations

HelpHands website especially benefits the environment by enforcing the concept of reuse. Users of the website will not throw items away in the trash just because they don't need them personally anymore. Instead, these items can be donated via our system and provided to others in need of them. This means the item will be reused and will have more usage lifetime than before. Moreover, all data will be saved in a digital format and no hard copies of information are stored meaning less negative environmental footprint than using paper and physical workstations.

3.8.8 Relevant Standards

This project has no relevant standards.

3.9 Conclusion

In this chapter, all functionalities implemented in the HelpHands website were discussed and explained in detailed but simple diagrams. The chapter shows how the system functions using several subsystems and a frontend base in addition to a backend-developed architecture. The diagrams including system architecture, class diagrams, activity diagrams, sequence, and ER diagrams, with use case diagrams all, describe the system for better understanding and usage of the interface. This ensures coming up with a smooth and seamless experience for the user.

In conclusion, an acceptable result couldn't be achieved without the right planning and organization that is shown in these diagrams. All architects need a map to follow to get the most out of a project, and these diagrams shown in this chapter are our maps.

CHAPTER 4

IMPLEMENTATION/SIMULATION AND TESTING

4.1 Introduction

Without the final implementation phase, the HelpHands website idea and concept couldn't be turned into an applicable system. This project was implemented and tested heavily using simulations to achieve the best result. Methods of implementation and simulation used will be discussed briefly in this chapter. Moreover, all the work will be summarized to help understand the cooperation and relation of the system's back-end and front-end architectures.

4.2 Implementation Tools

The list of the implementation tools that were used to build this web application are the following:

- Netbeans IDE 8.2: is an open and free source that is used for application development on Windows, Mac, Linux, and Operating Systems. The IDE simplifies the development of web and mobile applications that use the Java and HTML5 platforms. The IDE also offers support for the development of PHP and C/C++ applications. [8]
- XAMPP: XAMPP is a software program that stands for Cross-Platform, Apache, MySQL, PHP, and Perl, with the Ps standing for PHP and Perl, respectively. It's an open-source web-solutions package that offers Apache transport for plenty of servers and command-line executables, in addition to Apache API, MariaDB, PHP, and Perl modules. [9]

- PhpMyAdmin: is a free software tool written in PHP, intended to handle the administration of MySQL over the Web. PhpMyAdmin supports a wide range of operations on MySQL and MariaDB. Frequently used operations (managing databases, tables, columns, relations, indexes, users, permissions, etc) can be performed via the user interface, while you still can directly execute any SQL statement.
- PHP: it is an open-source scripting language that stands for Hypertext Preprocessor and its scripts are executed on the server, it's popular and free to download and use. [10]
- HTML5: HTML5 is the fifth and current version of Hypertext Markup Language used for structuring and presenting content on the World Wide Web. It's divided into three kinds of code: HTML, which offers the structure; Cascading Style Sheets (CSS), which contend with the presentation; and JavaScript, which makes matters happen. [11]
- CSS: is the language used to style a Web page, it stands for Cascading Style Sheets. Moreover, it describes how HTML elements are to be displayed on the screen, paper, or in other media and it can control the layout of multiple web pages all at once.
- JavaScript: is one of the world's most popular programming languages of the Web. It is easy to learn and can calculate, manipulate and validate data.
- MySQL: is an open-source used for database management and a Relational Database System (RDBMS) that makes use of Structured Query Language (SQL). It is maximum mentioned for its speedy processing, established reliability, ease, and versatility of use. It is mostly used by the Content Management Systems (CMS). MySQL is backed through the Swedish

corporation MySQL AB that is owned via way of means of Oracle Corp. It is written in C and C++ and is compatible with all major working systems.

- UML: brief for Unified Modeling Language, is a standardized modeling language along with an integrated set of diagrams, evolved to assist system and software program builders for specifying, visualizing, constructing, and documenting the artifacts of software program systems, as well as for enterprise modeling and other non-software program systems.
- Diagrams.net: is a free online diagram editor that helps users create UML diagrams such as class diagrams, entity-relationship diagrams, flowcharts, network diagrams, swimlane diagrams, sequence diagrams, and many others.

4.3 Implementation Summary

As mentioned before, the HelpHands website was developed using NetBeans IDE 8.2, and then connected to its database using XAMPP and PhpMyAdmin. In this chapter, we will illustrate the implementation of each panel:

1. User Panel:

- Home page: Figure 4-1 and Figure 4-2
- Login page: Figure 4-3
- Create page: Figure 4-4
- About us: Figure 4-5
- Gallery: Figure 4-6
- Contact us: Figure 4-7 and Figure 4-8
- Logged in home page: Figure 4-9, Figure 4-10, and Figure 4-11
- Donations page: Figure 4-12
- In-cash donations page: Figure 4-13

- In-kind donations page: Figure 4-14
- Apply for aid page: Figure 4-15
- Activities page: Figure 4-16 and Figure 4-17
- Available Items page: Figure 4-18
- Available People page: Figure 4-19
- My application page: Figure 4-20, Figure 4-21, and Figure 4-22

Let's start with the outside home page, where everyone can access this side without having an account. He/she can go to about us, gallery, contact us, login, and create an account as shown in Figure 4-1 and Figure 4-2.



Figure 4-1 Home page of HelpHands (part 1)



LOGIN HOME ABOUT US GALLERY CONTACT US

WHAT WE DO?

PROVIDE MEDICAL EQUIPMENT
You can provide medical equipment for people in need such as medical kits, wheel chairs, blood-glucose meter, inhalers, stethoscopes and many others.

PROVIDE MEDICINE
Donating medicine includes pills, capsules, injections, tablets, syrups for various conditions.

PROVIDE CLOTHING
Apparel may include shirts, pants, sweaters, sneakers, casual shoes, face masks, gloves, hats, socks.

DONATE MONEY
As a donator, you can donate a certain amount of money by contact us via email and send location. The money will be used to fund and help provide more equipment and appliances.

Chat

Figure 4-2 Home page of HelpHands (part 2)

On the login page, the user can write its account email and password, then press “log in” to go into the inside main page. He/she also can go to create a new account by pressing on “create a new account” as shown in Figure 4-3 and Figure 4-4.

Call Us : +961 70 163 378 | Mail Us : helphandsorglb@gmail.com

LOGIN HOME ABOUT US GALLERY CONTACT US

Sign in with your HelpHands account

Email

Password

LOG IN

CREATE A NEW ACCOUNT

**HEARTS TOGETHER. HANDS TOGETHER.
THIS CHANGES EVERYTHING.**

Chat

Figure 4-3 Login page of HelpHands

Call Us : +961 70 163 378 | Mail Us : helphandsorglb@gmail.com

[LOGIN](#) [HOME](#) [ABOUT US](#) [GALLERY](#) [CONTACT US](#)

Please enter your information

SIGN UP

Chat

Figure 4-4 Create page of HelpHands

Another page is the “about us” page, where users can read and know everything about HelpHands organization as shown in Figure 4-5.

[LOGIN](#) [HOME](#) [ABOUT US](#) [GALLERY](#) [CONTACT US](#)

ABOUT HELP HANDS

Help Hands is a Lebanese charity organization which aims to help as many people as possible.

Crisis, struggles, high cost of living, and the COVID-19 pandemic and the huge Beirut port explosion in Lebanon were the motive to create an online website devoted for donations of several fields including medical equipment, medicine, clothing and apparel.

Help Hands platform includes a gallery viewing available items of several genres ready for aid, a page specified for all types of donations listed including financial and physical donations, and another for applying for aid by simply entering general personal information in order for us to find the most appropriate aid method for the case. You can also contact us via our contact info available in the 'contact us' page via social media platforms, emails, and location.

Our site can help financially knowing that the Lebanese economy is depreciating in a rapid manner and several NGOs and charity organizations are supporting in all means and fields. This is an online platform that aims for maximum effectiveness in delivering aid to people in need in a fast, secure, and easy way.

The main feature for our website is that it acts as a mediator between the donator and the needy as many people in need might not have the time to search for help and this process might take more time than needed and no pay off. On the other hand, Help Hands connects people together and lets them find the appropriate aid or donating method in no time just with a few clicks saving time.

Confucius quoted “Charity, like the sun, brightens every object on which it shines.” Let's stand together in order to help those in need so we can fight and get out into a better future. Help Hands offers the opportunity for you to donate what you don't need to others that are in need, or to apply for aid. Let's brighten the lives of others by giving and give hope by reaching a hand for support.

Chat

Figure 4-5 About-us page of HelpHands

On the gallery page, all the items pictures of in-kind donations will be shown here (Figure 4-6).

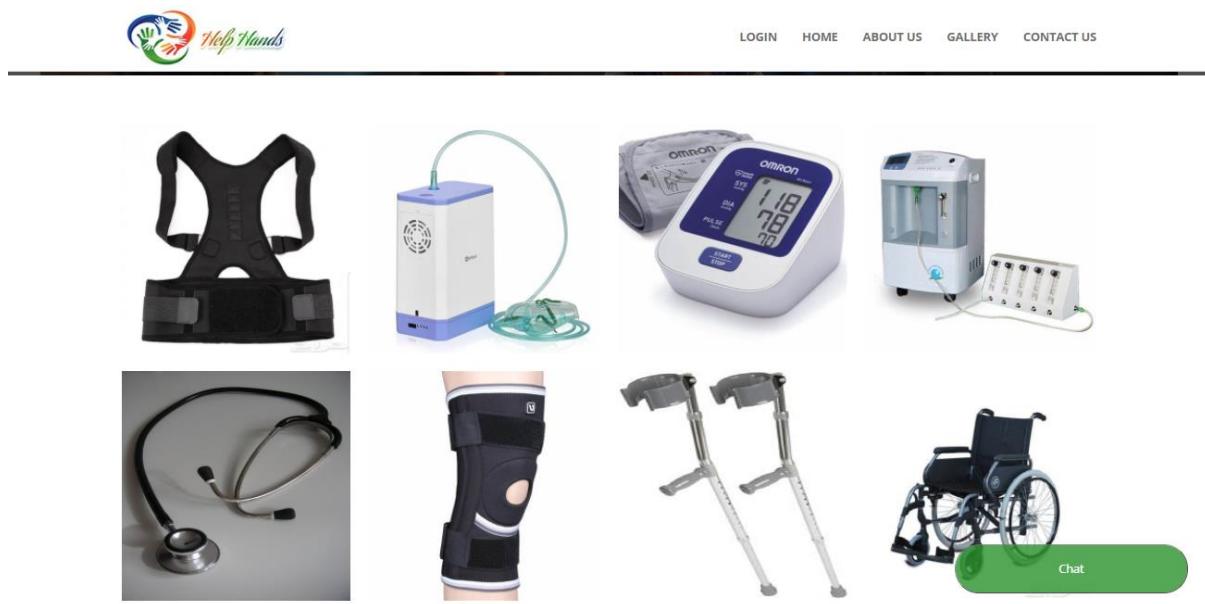


Figure 4-6 Gallery page of HelpHands

In the “contact us” page, the user can see our locations, and get our phone number, in addition to the ability to send an email in case he/she wants to know about something (Figure 4-7 and Figure 4-8).

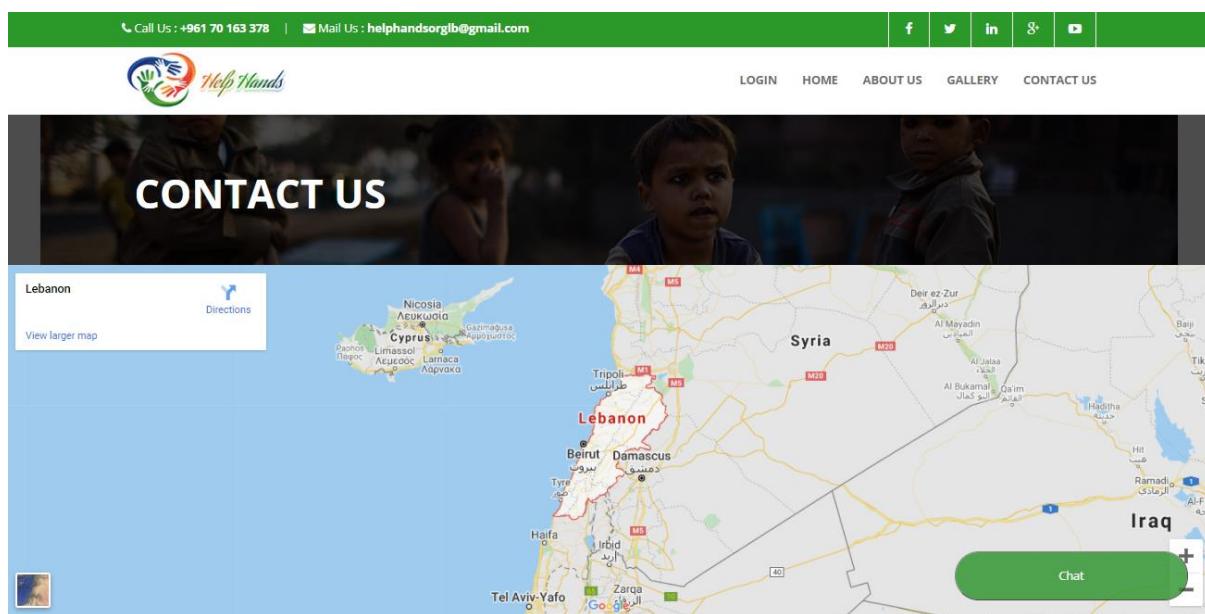


Figure 4-7 Contact-us page of HelpHands (part 1)

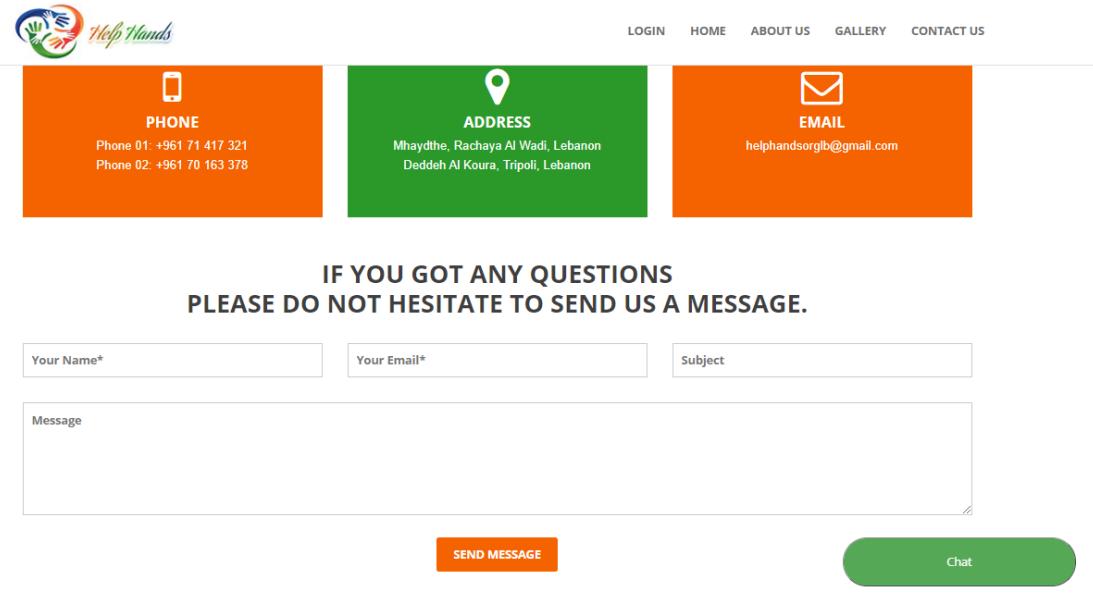
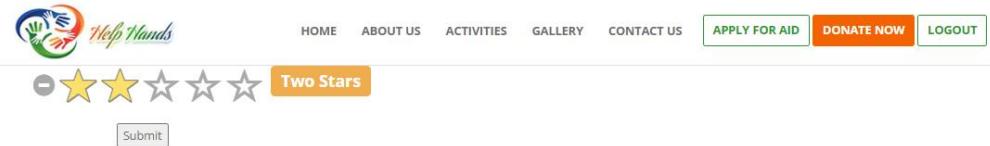


Figure 4-8 Contact-us page of HelpHands (part 2)

When the user does log in, he/she will go to the inside main page (Figure 4-9, Figure 4-10, and Figure 4-11). This page has more features than the outside one, where the user can donate (Figure 4-12), apply for aid (Figure 4-15), go to the activities page to see available items (Figure 4-18), available people in need (Figure 4-19), and the application of user (Figure 4-20, Figure 4-21, and Figure 4-22).



Figure 4-9 Home page of each user of HelpHands (part 1)



WHAT WE DO?



PROVIDE MEDICAL EQUIPMENT

You can provide medical equipment for people in need such as medical kits, wheel chairs, blood-glucose meter, inhalers, stethoscopes and many others.

[Read More](#)



PROVIDE MEDICINE

Donating medicine includes pills, capsules, injections, tablets, syrups for various conditions.

[Read More](#)



PROVIDE CLOTHING

Apparel may include shirts, pants, sweaters, sneakers, casual shoes, face masks, gloves, hats, socks.

[Read More](#)



DONATE MONEY

As a donator, you can donate a certain amount of money by contact us via email and send location. The money

Chat

Figure 4-10 Home page of each user of HelpHands (part 2)

USERS
11



SUCCESSFUL DONATIONS
2



IN-CASH DONATIONS
371491000 LBP



IN-KIND DONATIONS
4



RATING
3.54 stars from 7 reviews



DONATOR OF WEEK
Jack Maamari: 1 donations

Chat

Figure 4-11 Home page of each user of HelpHands (part 3)

Each user can make two types of donations (Figure 4-12): in-cash donations (Figure 4-13) and in-kind donations (Figure 4-14).

Figure 4-12 donations page of HelpHands

Figure 4-13 In-cash donation page of HelpHands

Call Us : +961 70 163 378 | Mail Us : helphandsorglb@gmail.com

Help Hands

HOME ABOUT US ACTIVITIES GALLERY CONTACT US [APPLY FOR AID](#) [DONATE NOW](#) [LOGOUT](#)

IN-KIND DONATIONS

PLEASE ENTER YOUR INFORMATION TO MAKE DONATION

Street Address*

City / Town*

Type Of Donation*

Item Name*

No file chosen

[Chat](#)

Figure 4-14 In-kind donation page of HelpHands

In the “apply for aid” page, the users fill the form and press “apply now”. This application will be shown in the “aid application” in the “view my application” section (Figure 4-20) with a pending status until an admin confirms it and makes the application visible to the donator in “donate to who’s in need” section (Figure 4-19)

Call Us : +961 70 163 378 | Mail Us : helphandsorglb@gmail.com

Help Hands

HOME ABOUT US ACTIVITIES GALLERY CONTACT US [APPLY FOR AID](#) [DONATE NOW](#) [LOGOUT](#)

APPLY FOR AID

PLEASE ENTER YOUR INFORMATION TO APPLY FOR AID

Street Address*

City / Town*

Type Of Donation*

Item Name*

[Chat](#)

Figure 4-15 Apply for aid page of HelpHands

In the activities page, the user has 3 sections to access: available items (Figure 4-18), donate to who's in need (Figure 4-19), and view my application (Figure 4-20, Figure 4-21, and Figure 4-22).

Call Us : +961 70 163 378 | Mail Us : helphandsorglb@gmail.com

Help Hands

HOME ABOUT US ACTIVITIES GALLERY CONTACT US APPLY FOR AID DONATE NOW LOGOUT

ACTIVITIES

AVAILABLE ITEMS

In this section, you will see the available items that you may need.
if you are in need for specific item, you can search here before applying for aid

SEE

DONATE TO WHO'S IN NEED

Chat

Figure 4-16 Activities page of HelpHands (part 1)

HOME ABOUT US ACTIVITIES GALLERY CONTACT US APPLY FOR AID DONATE NOW LOGOUT

DONATE TO WHO'S IN NEED

In this section, you will see some people who applied to get aid.
If you have the item, and you are able to help, please don't hesitate to give it to them

SEE

VIEW MY APPLICATION

In this section, you will see your previous aid applications that you submitted,
also you can view their status if they are pending or confirmed.

SEE

Chat

Figure 4-17 Activities page of HelpHands (part 2)

When the users access the “available items” section, a list of the in-kind donations items will be shown to them. They can request any item listed, but only the first one will be taken into consideration. This request will be shown in “aid requests” in the “view my application” section (Figure 4-21) with a pending status until an admin confirms it and makes the request visible to the donator in “donation requests” in “view my application” section (Figure 4-22). After that, the donator can either accept this request or reject it. According to the donator decision, the applicant will see its application status updated.

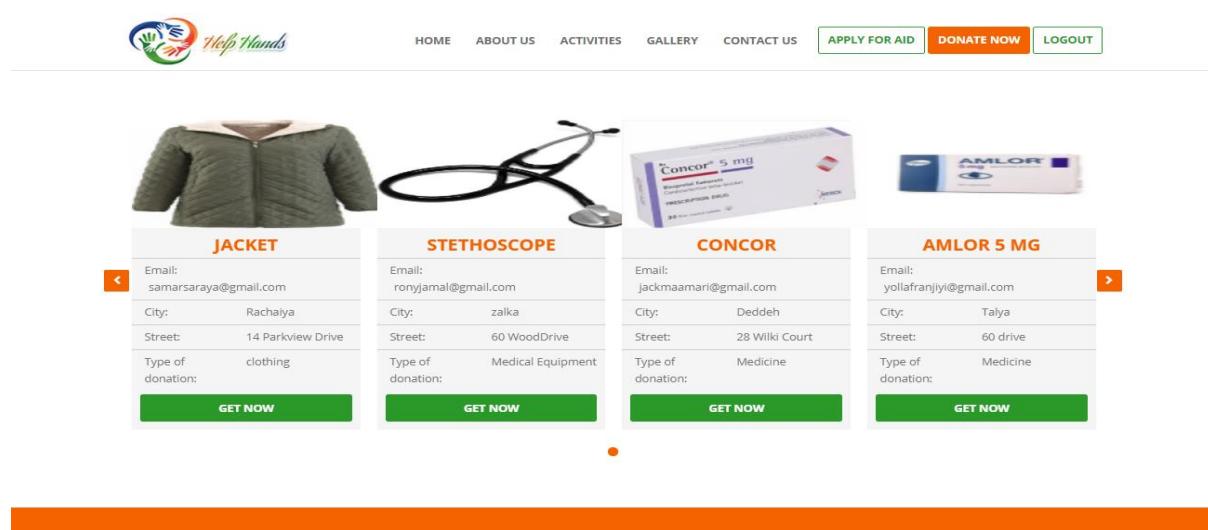


Figure 4-18 Available Items page of HelpHands

ID	City	Street	Type of donation	Item	Select to donate
27	zalka	60 WoodDrive	Medicine	Ambien 5 Mg	Donate
28	Zahli	42 LovRoad	clothing	Men Jacket	Donate
29	Beirut	311Ramatk Road	Medical Equipment	Oxygen Mask	Donate
31	Talya	60 drive	Medical Equipment	Steth	Donate

Figure 4-19 Available people page of HelpHands

Aid Applications

Search about type of donation

Only confirmed Aid Applications will be shown to others.

When your application is accepted, our team will contact you via email with all details within 24 hours.

ID	Email	Type of donation	Item	Status	Select to delete
30	jackmaamari@gmail.com	clothing	woman jacket	Rejected	<input type="button" value="Delete"/>

Aid Requests

Figure 4-20 My application page of HelpHands (part 1)

Aid Requests

Only confirmed Aid Requests will be shown to donator.

ID	Donator	Applicant	Type of donation	Item	Status	Select to delete
42	yollafranjiyi@gmail.com	jackmaamari@gmail.com	Medicine	Amlor 5 mg	Pending...	<input type="button" value="Delete"/>

Donation Requests

Figure 4-21 My application page of HelpHands (part 2)



Donation Requests

You can not reject an accepted request.

ID	Donator	Applicant	Type of donation	Item	Status	Select your choice
40	jackmaamari@gmail.com	lubnasoumaya@gmail.com	Medicine	Concor	Confirmed!	Accept Reject

**HEARTS TOGETHER. HANDS TOGETHER.
THIS CHANGES EVERYTHING.**

Chat

Figure 4-22 My application page of HelpHands (part 3)

2. Admin Panel:

- Login page: Figure 4-23
- Dashboard: Figure 4-24
- Users table: Figure 4-25
- Admins table: Figure 4-26
- In-kind donations: Figure 4-27
- In-cash donations: Figure 4-28
- Aid requests: Figure 4-29
- Aid applications: Figure 4-30
- Successful donation: Figure 4-31

Admins can view all the users, remove accounts, or add new admins. They also can delete admins' account, in-kind donations, aid requests, and aid applications.

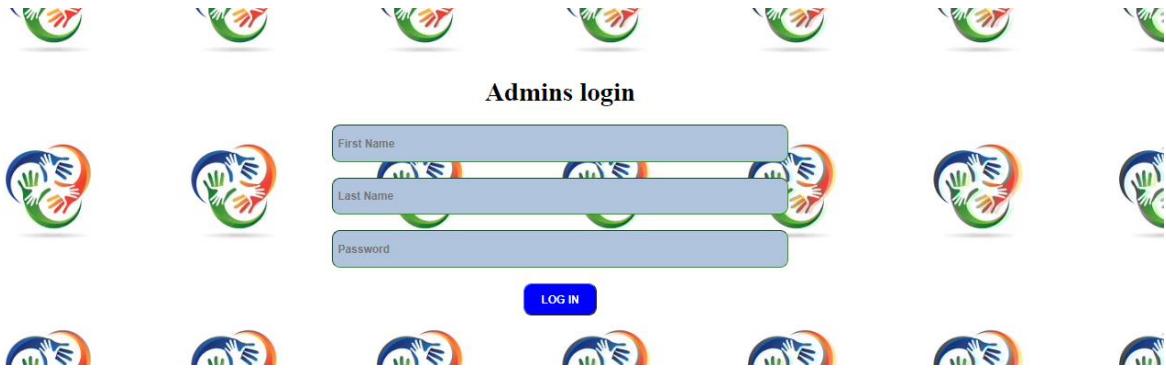


Figure 4-23 Login page of admins

Category	Value	Percentage	Time Period
USERS	11	0.12%	(30 days)
SUCCESSFUL DONATIONS	2	0.48%	(30 days)
IN-CASH DONATIONS	371491000	0.05%	(30 days)
IN-KIND DONATIONS	4	0.54%	(30 days)

BEST DONATOR
Jack Maamari:
1 donations

Figure 4-24 Dashboard of admins

First Name	Last Name	Phone Number	Email Address	Action
Jack	Maamari	70381845	jack.maamari.a@gmail.com	Remove
Lubna	Soumaya	71996289	lubna7@gmail.com	Remove
Mirna	Saraya	76360340	mirnasaraya@gmail.com	Remove
Raghed	Kaissar	76845291	raghedkaissar@gmail.com	Remove
Rony	Jamal	03406798	ronyjamal@hotmail.com	Remove

Figure 4-25 Users table in admins panel

The screenshot shows the HelpHands Admins Dashboard. On the left, there's a sidebar with links: Dashboard, Users, admins (which is selected), Donations (with sub-options In-Kind Donations and In-Cash Donations), Aid Requests, Aid Applications, and Successful Donations. The main area is titled "HelpHands Dashboard" and contains a table titled "ADMINS". The table has columns: ID, First Name, Last Name, Phone, Email, and Password. It lists two entries: one for "houssam" with ID 7 and another for "Jana" with ID 10. Each entry includes a "Remove" button. At the bottom of the table is a "Add Admin" button. The footer includes copyright information and links to donations and aid applications.

Figure 4-26 Admins table in admins panel

The screenshot shows the HelpHands Admins Dashboard. The sidebar is identical to Figure 4-26. The main area is titled "HelpHands Dashboard" and contains a table titled "IN-KIND DONATORS". The table has columns: Email, City/Street, type of donation, Name of item, Image of item, Time and date of uploading, and Remove. It lists two entries: one for "samarsaraya@gmail.com" with a jacket image and another for "ronyjamal@gmail.com" with a stethoscope image. Both entries show the upload date as 2021-08-08 13:31:53 and 2021-08-08 13:37:42 respectively.

Figure 4-27 In-kind donations table of admins

The screenshot shows the HelpHands Dashboard with a sidebar on the left containing links for Dashboard, Users, admins, Donations (In-Kind Donations, In-Cash Donations), Aid Requests, Aid Applications, and Successful Donations. The main content area is titled "HelpHands Dashboard" and displays a table titled "IN-CASH DONATORS". The table has columns for Email, Card Owner, Card Number, and Amount. It lists five entries:

Email	Card Owner	Card Number	Amount	Action
samarsaraya@gmail.com	Samar Saraya	4751 6610 1234 4321	500000 L.L	
mirnasaraya@gmail.com	Mirna Saraya	5731 6310 9629 4555	1111000 L.L	
jackmaamari@gmail.com	Jack Maamari	1111 2222 3333 4444	3695000 L.L	
lubnasoumaya@gmail.com	Loubna Soumaya	5374 8253 0163 4723	356321000 L.L	
ronyjamal@gmail.com	Rony Jamal	5655 6363 2222 4392	9864000 L.L	

Figure 4-28 In-cash donations table of admins

The screenshot shows the HelpHands Dashboard with a sidebar on the left containing links for Dashboard, Users, admins, Donations (Aid Requests, In-Cash Donations), Aid Applications, and Successful Donations. The main content area is titled "HelpHands Dashboard" and displays a table titled "AID REQUESTS". The table has columns for ID, Applicant, Donator, Type of donation, Name of item, Status, and Upload Date. It lists six entries:

ID	Applicant	Donator	Type of donation	Name of item	Status	Upload Date	Action
37	raghedkaissar@gmail.com	samarsaraya@gmail.com	clothing	Jacket	Confirmed!	2021-08-08 13:50:12	
38	lubnasoumaya@gmail.com	samarsaraya@gmail.com	clothing	Jacket	Rejected	2021-08-08 14:00:44	
39	lubnasoumaya@gmail.com	ronyjamal@gmail.com	Medical Equipment	stethoscope	Rejected	2021-08-08 14:00:47	
40	lubnasoumaya@gmail.com	jackmaamari@gmail.com	Medicine	Concor	Confirmed!	2021-08-08 14:00:48	
41	yollafranjiyi@gmail.com	samarsaraya@gmail.com	clothing	Jacket	Confirmed!	2021-08-08 14:03:29	
43	jackmaamari@gmail.com	jackmaamari@gmail.com	Medicine	Concor	Pending...	2021-08-13 09:51:47	

Figure 4-29 Aid requests table of admins

The screenshot shows the HelpHands Dashboard with a sidebar on the left containing links for Dashboard, Users, admins, Donations (Aid Applications, In-Cash Donations), Aid Requests, and Successful Donations. The main content area is titled "HelpHands Dashboard" and displays a table titled "AID APPLICATIONS". The table has columns for Email, City/Street, Donation Type, Item, Status, and Upload Date. It lists seven entries:

Email	City/Street	Donation Type	Item	Status	Upload Date	Action
ronyjamal@gmail.com	zalka/60 WoodDrive	Medicine	Ambien 5 Mg	Confirmed!	2021-08-08 13:35:16	
raghedkaissar@gmail.com	Zahl/42 LovRoad	clothing	Men Jacket	Confirmed!	2021-08-08 13:45:37	
mirnasaraya@gmail.com	Beirut/311Ramatk Road	Medical Equipment	Oxygen Mask	Accepted!	2021-08-08 13:54:48	Decline
jackmaamari@gmail.com	Deddeh/28 Wilki Court	clothing	woman jacket	Rejected	2021-08-08 13:59:44	Decline
yollafranjiyi@gmail.com	Talya/60 drive	Medical Equipment	Steth	Confirmed!	2021-08-08 14:05:43	
samarsaraya@gmail.com	Mohaidthe/ 33 hwn street	Medicine	Panadol Extra	Pending...	2021-08-08 14:30:56	Decline
mirnasaraya@gmail.com	Kfarkouk/238 dfiki Cann	clothing	Red Dress	Pending...	2021-08-08 14:32:06	Decline

Figure 4-30 Aid applications table of admins

ID	Donator	Applicant	Type of donation	Name of item	Send email
16	jackmaamari@gmail.com	mirmasaraya@gmail.com	Medical Equipment	Oxygen Mask	
17	samarsaraya@gmail.com	yollafranjy@gmail.com	Medical Equipment	Steth	

Figure 4-31 Successful donations in admins panel

4.4 Test Cases and Acceptance Criteria

The features provided in the HelpHands website are numerous and admirable, thus, presenting and explaining the test cases in this project is a mandatory task to show these features in a detailed yet simplified way. On the other hand, the acceptance criteria are defined as the set of actions and results expected to be acceptable. These criteria are decided before the beginning of the test cases and the implementation and debugging phase. It is an essential step in the construction of any system to set these criteria because they act as the standards and the minimum values that are found to fulfill the goals set for a satisfying result.

From a user's point of view, he/she can access the page via its URL, which directs them to the main home page. The user can browse for information and check a variety of open pages to learn more about the organization. The user has the freedom to access more features including donation and aid applications by either creating an account with detailed information about him/her or by logging in with a previously registered account using email and their HelpHands account password. Once logged in, the inside homepage welcomes the user, which includes the extra tabs for their account privileges mentioned earlier.

On the other hand, only a priory registered admin can sign in with their administrator account using their first and last names in addition to his/her password. The admin dashboard is viewed as the admin logs in with all information about the website. Furthermore, an admin has the freedom to check other tabs to view users, admins, donations and applicants, and other information with extended privileges over users' applications and donations statuses.

Cases of Success

User interface:

At first, the user either logs in with his/her account on the login page shown in Figure 4-3 or create a new HelpHands account as shown in Figure 4-4. Afterward, the user can browse all the pages available on the website shown previously in between Figure 4-5 and Figure 4-22.

Cases of Failure

1. The user can't send chat messages and no messages are stored in the database.
2. The user wants to log in to his/her account but the entered information is invalid. Thus, an error will occur.
3. A user tries to create an account with an already registered email. This also leads to an error message.

Administrator interface:

The page shown to the admin after logging in with their account includes several pages and functions such as:

1. Viewing statistics about the website in the dashboard.
2. Viewing and deleting users.
3. Viewing, adding, and deleting admins.
4. Seeing donations and the ability to delete them
5. Emailing donators and applicants.

6. Confirming, rejecting, or deleting aid requests and applications.

4.5 Conclusion

A must-do in any project in its construction phase is the learning phase and the exploration of new skills. Developing these skills and unlocking those potentials can only be achieved by focusing on the implementation and debugging of the project. Moreover, all these steps and procedures must be coordinated and handled professionally to ensure that quality overcomes only quantity and variety. With the right planning and execution of coding, building, and adjusting upgrades into the project, the needed result is reached. A fully advanced, sophisticated, brilliant, and useful system was transformed from plain ideas and thoughts into a reality and interactive platform and interfaces that users can use freely and easily. All these processes were explained in detail in this chapter to emphasize the importance of this phase on the project.

CHAPTER 5

CONCLUSION AND FUTURE WORK

5.1 Conclusion

The construction of the HelpHands organization website has shown us that hard work pays off. The process was a journey that we went through and learned during a group of helpful skills in both programming and designing. The challenge of constructing a seamless experience for the users, in addition to providing a fully applicable online platform that can support the high demands and be fully functional, was finally complete.

Throughout the timeline of the project, we've skilled up in teamwork, self-confidence, programming capabilities, and many other fields. The American author, salesman, and motivational speaker Zig Ziglar describes the idea of hard work by quoting "Difficult roads often lead to beautiful places". This experience has taught us countless lessons, but the most important of all those lessons was that everything comes with a price, and the price for the final result was our hard work and commitment to come up with the most of what is provided in our hands.

Although the system constructed requires simple tweaks and adjustments in a few of its aspects, the project is highly flexible in terms of upgrades. The graphical interface can be improved in addition to other features later.

We are excited to continue exploring and discovering to go further than our limits at every step and deliver the unexpected. The passion towards technology improvement and towards playing a role in this improvement drives up to push these limits. We are proud of what we discovered in our potentials and will never forget the support that every person gave us which played a major role in our motivation to finish and complete all goals set. It was an

incredible experience, journey, adventure, and challenge that we went through and will hopefully continue improving further and further.

5.2 Future Work

The time assigned to plan, study, and implement the HelpHands project was limited to put all the features we had in mind into the website. There are several ideas to implement but need more dedication and period to finish which will be most probably added in the future to improve the system constructed further.

The first feature that can be added includes detailed biographies about HelpHands team members and their backgrounds. This allows users to know more about our motives and encourage them to participate. Furthermore, volunteer recruitment can be added for the most active donators so that any of these donators can become a more active member of our organization.

More attributes can be also included in the website such as user testimonials. This lets other users view reviews about the website from previous applicants and donators and showing users transparent information given by real people.

In addition to that, donator-only benefits will be part of our future work unlocking more and more features proportionally to how much the donator participates and makes a change. Furthermore, a calendar will be added showing all events that may be a part of our future programs with a more advanced search tool that scans the whole system for the searched query and comes up with the optimal result.

Other ideas could range from associating a HelpHands mobile application that functions similarly to the website so that our services can be more accessible and more efficient. Levels of administrators and badges will also be potentially added with predetermined roles for every member.

APPENDIX: SETUP AND CONFIGURATION

In this section, a guide to the setup and configuration of the website system will be shown and explained:

These steps can be followed for a successful running of the website:

1. Download XAMPP from www.apachefriends.org/index.html.
2. Run the XAMPP control panel.
3. Open any browser (Mozilla Firefox, Microsoft Edge, Google Chrome, Opera, etc...) to use as a platform to run the system.
4. Go to <http://localhost/phpMyAdmin/>, and import the database using the SQL file.
5. Open the HelpHands website using the URL, <http://localhost/HelpHands>.

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