Software Requirements Specification

For

Foster Family/Sponsorship Program

Web Application for Orphan or

Poor Family Children

Version 1.0 approved.

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Revision History

Name	Date	Reason For Changes	Version

1. Introduction

1.1 Purpose

The major goal of developing this SRS document is to inform the development team and end users about the system requirements, including both functional and non-functional requirements, as well as project objectives and scope. The requirements outlined in this project are used to build the main elements of the system, offering the expected user-requested functionalities, and giving a solid framework for the UML diagrams. This document will help the designers understand fully the requirements before they start the design phase. Also, it will reduce the possibility of redesigning in the future because all the functionalities will be specified.

1.2 Document Conventions

This document follows the IEEE Standards for software requirements specification.

1.3 Intended Audience and Reading Suggestions

The report is primarily created for the end users, development team, testing team, project managers, and the instructors, but it can be useful to any stakeholder with an interest in the project. In order to make this report understandable to anyone looking for information on our project, we have made a special effort to use natural language throughout the report rather than technical details meant for readers who have a general understanding of software engineering terminology. This document can be explicitly used as a guide by the development and testing teams as they construct the necessary features and test the system's quality components.

1.4 Product Scope

The system will be designed is a multi-layered charitable initiative with a goal of assisting orphans and vulnerable kids from low-income families. Many children throughout the globe and in our nation are dealing with problems like starvation, poverty, desolation, and homelessness as a result of earthquakes, diseases, and other catastrophes. The goal of this mobile/web application is to make it simple for users (who voluntarily sign up to be foster families or sponsors with financial support) to find and contact these children and provide help to them. The system will contribute in achieving this purpose by as innovative website that is user-friendly since it aids users who are willing to volunteer.

1.5 References

IEEE Std 610.12-1990, IEEE Standard Glossary of Software Engineering Terminology.
IEEE Std 730-1998, IEEE Standard for Software Quality Assurance Plans.
-2089-2021 - IEEE Standard for an Age Appropriate Digital Services Framework Based on the 5Rights Principles for Children

2. Overall Description

2.1 Product Perspective

The primary goal of development such system is to provide accessibility to the users all around the world to volunteer and help the vulnerable children anytime with high quality work and deliver the best features that satisfy their individual requirements. We aim to minimize the difficulties that the vulnerable children face due to harsh life conditions. Not only this, but also our target is to develop a system that is more than adequate and incredibly helpful for the users. Even if the software market already has several competitive existing systems, we strongly believe that our system will go a step further and offer new perspectives.

2.2 Product Functions

Although there are exists similar systems in the software market that serves a lot of people, they are either not enough to reach a wide variety and number of customers by limiting the region they provide service to. Depending on these reasons we decided to develop new system that solve the current systems issues and have more improvements and functionalities to increase user's satisfaction. The following are some of the website's suggested features:
1. Log in
2. Sign up
3. View Modules (Foster family, sponsorships, aid)
4. Select Module
5. Contact child(ren)
6. Update profile
7. Log out

2.3 User Classes and Characteristics

This Raise of hope system is designed for the use of 3 actors:
- User (foster family, sponsor, donor)
- Admin
- Child

User: A user can choose to be either foster family, sponsor, or donor by selecting one of the system modules. By doing so, the user will be provided with the various abilities of helping according to each module.

Admin: The system admin can be though as the manager of the system. He/she will be responsible of creating, managing accounts, and assign/define modules that user can select, also he/she is responsible of the communication between the user and the child.

Child: Is the user who will benefit from the system by the several features it provides. For instance, the communication between them and the volunteers/foster families.

2.4 Operating Environment

The requirement for this type of software is that the user of the system must have internet connection. Hence, the program's performance will be based on each user's internet speed. The established product won't be limited by the type of browser it can use; therefore, it will function in a variety of browsers.

2.5 Design and Implementation Constraints

- User are required to have an internet connection in order to user the website.
- Child must be 12 years old to use the system by their own.

2.6 User Documentation

This system shall include a chat bot which the user can ask for help and guidance about how the system works. The system shall have an instruction manual guiding the users through the system's functionalities.

2.7 Assumptions and Dependencies

One of the biggest concerns in our project is getting the approval by ministries in TRNC, because the website has to be authorized by official ministries to be launched. Adding to that, our system relies on internet connection. Whether you are using a PC or a mobile device it is anticipated to have internet connection to use the website. We may not be able to find sponsors/ organizations contributing with our system.

3. External Interface Requirements

3.1 User Interfaces

1- The users shall be able to register and create accounts, then log in to the system.
2- The user shall be able to view his/her profile and edit/add update to it if needed.
3- The system shall be able to show the menu bar.
4- The system shall be able to show the available modules (Foster family, Sponsor, Aid) and search for specific child(ren) through the search bar.
5- The user shall be able to view the list of vulnerable child(ren).
6- The system shall be able to show the profile of the child(ren).
7- The system shall be able to show "Help/support" of the system.
8- The system shall be able to show the feedback messages which will be displayed on the home page.
9- The system shall be able to show the chatbot describing how the system works.

3.2 Hardware Interfaces

The system should be available for all types of devices with an operating system. Also, it should have 4GB of RAM with 2.2Ghz in order to let the website work smoothly and fast enough. Also, it should have a browser (google chrome, Edge, Firefox, etc). User should have reliable internet connection minimum 10 Mbps.

3.3 Software Interfaces

The system will be developed and implemented by using several tools as we will be using Python, CSS, HTML, MySQL with a local database.

3.4 Communications Interfaces

In order to get access to the web system, there should be an internet connection through WIFI or 3G and then when the user access the web application the web page will be loaded by sending HTTP to the sever of the system. The homepage will take few seconds to appear to the user depending on the speed of the connection.

4. System Features

4.1 User Functional Requirements

USER:	
F.REQ -1	**The system shall allow the user to sign up.**
1.1	The system should ask the user to enter his First name.
1.2	The system should ask the user to enter his Last name.
1.3	The system should ask the user to enter his Email.
1.4	The system should ask the user to enter his Phone number.
1.5	The system should ask the user to enter his Password.
F.REQ -2	**The system shall allow the user to log in using his Email and password.**
F.REQ -3	**The system shall allow the user to view his profile.**
3.1	The system shall allow the user to view his personal information.
3.1.1	The system shall allow the user to view/edit his first/last name.
3.1.2	The system shall allow the user to view/edit his picture.
3.1.3	The system shall allow the user to view/edit his phone number.
3.1.4	The system shall allow the user to view his email address.
3.1.5	The system shall allow the user to view/edit his password.
3.2	The system shall allow the user to view his sponsorship history (if any).
3.2.1	The system shall allow the user to view active sponsorship subscriptions.
3.2.2	The system shall allow the user to view inactive sponsorship subscriptions.
3.3	The system shall allow the user to view his aid history (if any).
3.4	The system shall allow the user to view his total financial support amount (if any).
3.5	The system shall allow the user to view settings button.
3.5.1	The system shall allow the user to view/edit his notification preferences.
3.5.2	The system shall allow the user to edit the theme.
3.5.3	The system shall allow the user to change language.
3.6	The system shall allow the user to click on logout option.
F.REQ -4	**The system shall allow the user to view different modules.**
4.1	The system shall allow the user to view foster family module.
4.1.1	The system shall allow the user to fill in a form that is connected to foster family organization in TRNC. Constraints: -This module may contain legal regulations and processes. - Only users with an account can apply in the form.
4.2	The system shall allow the user to view sponsorship module.

4.2.1	The system shall allow the user to log in /sign up if he is not.
	Constraints: only users with an account can become a sponsor.
4.2.2	The system shall allow the user to view the meaning an importance of sponsorship section.
4.2.3	The system shall allow the user to view sponsorship rules and regulations section.
4.2.4	The system shall allow the user to view different types of sponsorship subscriptions (monthly, yearly).
4.2.5	The system shall allow the user to select monthly contracted subscription option which is a fixed amount of fees (50 USD) contracted for 12 months.
4.2.6	The system shall allow the user to select one-time yearly subscription option which is a fixed amount of fees (550 USD).
4.2.7	The system shall allow the user to view a list of children and chooses one according to the subscription type he chooses.
4.2.8	The system shall allow the user to view his sponsorship subscription from his profile.
4.3	The system shall allow the user to view aids modules.
4.3.1	The system shall allow the user to select organizational financial support option.
4.3.1.1	The system shall allow the user to choose the desired amount he wants to donate from a specified option (25/ 50/ 75/ 100 USD).
4.3.2	The system shall allow the user to select specific child support option.
4.3.2.1	The system shall allow the user to view a list of children and chooses a child.
4.3.2.2	The system shall allow the user to choose the desired amount he wants to donate from a specified option (25/ 50/ 75/ 100 USD).
4.3.3	The system shall allow the user to select scholarship financial support option.
4.3.3.1	The system shall allow the user to choose the desired amount he wants to donate from a specified option (100/ 200/ 300/ 400/ 500 USD).
F.REQ -5	**The system shall allow the user to view his chats.**
F.REQ -6	**The system shall allow the user to send / receive messages to/from child.**
6.1	The system shall allow the user to call child
6.2	The system shall allow the user to chat with child
6.3	The system shall allow the user to video call child
6.4	The system shall allow the user to send voice messages to child.
6.5	The system shall allow the user to send photos to child.
6.6	The system shall allow the user to send gift to child by applying in a form with specific options of (Toys/stationary supplies/ clothes…etc)
F.REQ -7	**The system shall allow the user to view child profile page.**
7.1	The system shall allow the user to view child name.
7.2	The system shall allow the user to view child picture.
7.3	The system shall allow the user to view child age.

7.4	The system shall allow the user to view child nationality.
7.5	The system shall allow the user to view child current location (time/weather).
7.6	The system shall allow the user to view child education status (successes/troubles).
7.7	The system shall allow the user to view child family status (orphan / poor /sustainable).
7.8	The system shall allow the user to view child story description about him.
7.9	The system shall allow the user to view child video.
7.10	The system shall allow the user to view child photo gallery.
7.11	The system shall allow the user to view child expenses status (food/ clothes/entertainment/money…etc).
7.12	The system shall allow the user to view child achievements.
F.REQ -8	**The system shall allow the user to view feedback messages.**
F.REQ -9	**The system shall allow the user to view home button.**
F.REQ -10	**The system shall allow the user to view chatbot option.**
F.REQ -11	**The system shall allow the user to view help button.**
11.1	The system shall allow the user to view contact us page.
11.2	The system shall allow the user to view About us page.
11.3	The system shall allow the user to view privacy policy page.
F.REQ -12	**The system shall allow the user to view an option to log out.**

4.2 Child Functional Requirements

CHILD:	
F.REQ -1	**The system shall allow the child to log in using his Email and password.**
F.REQ -2	**The system shall allow the child to view his profile.**
2.1	The system shall allow the child to view his name.
2.2	The system shall allow the child to view his picture.
2.3	The system shall allow the child to view his age.
2.4	The system shall allow the child to view his nationality.
2.5	The system shall allow the child to view his story description about himself.
2.6	The system shall allow the child to view his current location (time/weather).
2.7	The system shall allow the child to view his family status (orphan / poor /sustainable).
2.8	The system shall allow the child to view his expenses status (food/ clothes/entertainment/money…etc).
2.9	The system shall allow the child to view his education status (successes/troubles).
2.10	The system shall allow the child to view his video.
2.11	The system shall allow the child to view his photo gallery.
2.12	The system shall allow the child to view his achievements.
F.REQ -3	**The system shall allow the child to view his chats.**

F.REQ -4	**The system shall allow the child to receive messages from the user.**
4.1	The system shall allow the Child to receive call from user.
4.2	The system shall allow the child to receive chat from user.
4.3	The system shall allow the child to receive video calls from the user.
4.4	The system shall allow the child to receive voice messages from the user.
4.5	The system shall allow the child to receive photos from the user.
F.REQ -5	**The system shall allow the child to send messages to the user.**
5.1	The system shall allow the child to call user
5.2	The system shall allow the child to chat with user
5.3	The system shall allow the child to video call user
5.4	The system shall allow the child to send voice messages to user.
F.REQ -6	**The system shall allow the child to view feedback messages.**
F.REQ -7	**The system shall allow the child to view home button.**
F.REQ -8	**The system shall allow the child to view the sponsor profile.**
8.1	The system shall allow the child to view sponsor name.
8.2	The system shall allow the child to view sponsor picture.
8.3	The system shall allow the child to view sponsor email.
F.REQ -9	**The system shall allow the child to log out.**

4.3 Admin Functional Requirements

ADMIN:	
F.REQ -1	**The system shall allow the admin to register children.**
F.REQ -2	**The system shall allow the admin to remove children.**
F.REQ -3	**The system shall allow the admin to create children's profile.**
3.1	The system shall allow the admin to enter child name.
3.2	The system shall allow the admin to put child picture.
3.3	The system shall allow the admin to enter child age.
3.4	The system shall allow the admin to enter child nationality.
3.5	The system shall allow the admin to write the child story.
3.6	The system shall allow the admin to specify the child's current location (time/weather).
3.7	The system shall allow the admin to enter Childs' family status (orphan / poor /sustainable).
3.8	The system shall allow the admin to enter child expenses status (food/ clothes/entertainment/money…etc).
3.9	The system shall allow the admin to enter child education status (successes/troubles).
3.10	The system shall allow the admin to put child video.
3.11	The system shall allow the admin to put child photo gallery.

3.12	The system shall allow the admin to write child achievements.
F.REQ -4	**The system shall allow the admin to view children's profile.**
F.REQ -5	**The system shall allow the admin to edit children's profile.**
F.REQ -6	**The system shall allow the admin to view volunteers related information.**
F.REQ -7	**The system shall allow the admin to view sponsors related information.**
F.REQ -8	**The system shall allow the admin to view Donators related information.**
F.REQ -9	The system shall allow the admin to create modules.
9.1	The system shall allow the admin to create " Foster Family " module.
9.1.1	The system shall allow the admin to create a form that is connected to foster family organization in TRNC.
9.2	The system shall allow the admin to create " Sponsor " module.
9.2.1	The system shall allow the admin to specify type of subscription monthly contracted subscription option which is a fixed amount of fees (50 USD) contracted for 12 months.
9.2.2	The system shall allow the admin to specify type of subscription one-time yearly subscription option which is a fixed amount of fees (550 USD).
9.3)	The system shall allow the admin to create " Aid " module.
9.3.1)	The system shall allow the admin to create organizational financial support option with specified donation amounts (25/ 50/ 75/ 100 USD).
9.3.2)	The system shall allow the admin to create specific child support option with specified donation amounts (25/ 50/ 75/ 100 USD).
9.3.3)	The system shall allow the admin to create scholarship financial support option with specified donation amounts (100/ 200/ 300/ 400/ 500 USD).
F.REQ -10	**The system shall allow the admin to manage donations.**
F.REQ -11	**The system shall allow the admin to organize communication schedule between children and helper.**
11.1	The system shall allow the admin to organize chatting schedule.
11.2	The system shall allow the admin to organize video call schedule.
F.REQ -12	**The system shall allow the admin to receive and approve gift request forms from users.**
Constraints	**Admin shall be responsible of the communication between the helper and the child(ren) which are below 12 years old.**

4.4 System Requirements

4.4.1 Description and Priority

In this section we will explain some extra features related to the system which are considered a medium priority level.

4.4.2 Stimulus/Response Sequences

These features will come with the system and will be available for both users and children.

4.4.3 Functional Requirements

SYSTEM REQUIREMENTS:	
F.REQ -1	**The system shall be able to auto translate the language.**
F.REQ -2	The system shall be able to support dark mode.
F.REQ -3	The system should have a Chat bot.

5. Other Nonfunctional Requirements

5.1 Performance Requirements

Ensure that the system is able to provide efficient and effective support to users.
The most important aspect of website performance is the user experience, we will focus on creating a website that gives the user good experience by

- Choosing satisfying color for the page
- Make sure that all queries must return results within 10 seconds.
- Efficient response time. The execution time for all user interfaces use case should be around 5 seconds. Other performance requirements including memory, storage as well as processing must follow the industry recommended practices to ensure everything is working efficiently.

5.2 Safety Requirements

The purpose of safety requirements is to ensure that the system operates safely under different conditions and situations.

- The system should not cause any harm to end-users' hardware or software components
- Users should not be exposed to any security risks or malware through the website.
- The system should not inflict any damage to other systems and software. It wouldn't cause any damage externally or internally to components.

To achieve these aims, we are planning to use anti-virus software and run several testing methodologies using testing tools and perform these tests frequently.

5.3 Security Requirements

Security requirements are meant to ensure that the system is secure and protected against unauthorized access, data theft, and other security threats.

- Privacy& Cookies
- Hash function
- Encrption
- Strong password constancies: using password management to help user getting a strong, and unique password suggestions.
- ReCAPTCHA: enables web hosts to distinguish between human and automated access to websites. by giving some tasks like unclear letters and asking the user to write them. Where these kinds of tasks are easy for humans and difficult for bots.

5.4 Software Quality Attributes

By focusing on software quality attributes, developers can ensure that their software meets certain standards of quality and usability. and can provide a better user experience.

- **Testability**: This refers to how easily the system can be tested for defects and bugs. A testable system should have a clear and consistent architecture, with well-defined interfaces and testing procedures.

We will test our website using different testing tools available such as post man and W3C for checking there is no broken links or missing tags in the HTML code.

- **Usability:** This refers to how easy it is to use the system and how well it meets the user's needs. A usable system should be intuitive and provide clear feedback to users.

Our system will have user guide for making the website simple to use. The website of our system should be easy to use, taking into consideration that the majority of the users are not technically aware of software website structure.

- **Maintainability:** refers to how easy it is to make changes to the system and fix defects. A maintainable system should be modular and well-documented, with clear separation of concerns.

Since our system is intended to scale up in the future, the website shall remove all the back-end complexities for in-house engineers to make changes to the system in the future

- **Compatibility:** the software system should be able to work effectively and correctly with other systems, software, hardware, and environments. It involves ensuring that the software can operate without conflicts, errors, or failures with different operating systems, hardware, browsers, other software, and internationalization factors.

Our system's implementation will be responsive.
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5.5 Business Rules

<u>User (volunteer):</u> An actor in the system who can interact and use different functionalities in specific sections.
<u>Admin:</u> An actor who organizes the system.
<u>Child(ren):</u> An actor who will interact with the system.

5.6 Availability

The system should work 24 hours a day, 7 days a week. We will have a back-up plan for user data, monitor the network traffic and generate an alarm only if an error is detected. Plus, in case of system crash, user data should be retained.

6. Other Requirements

REQ-1 The user interface will be designed in a way that can let the students interact with it easily without being lost.

Appendix A:

CSS - Cascading Style Sheets
HTML – Hyper-Text Markup Language
SRS- Software Requirements Specification
DB – Data Base
SQL – Structured Query Language
RAM – Random Access Memory
HTTP - Hyper Text Transfer Protocol
TRNC - Turkish Republic of Northern Cyprus
Python – Programming language

Appendix B: Analysis Models

Appendix C: To Be Determined List

Source: http://www.frontiernet.net/~kwiegers/process_assets/srs_template.doc