Part 1 of the Systems Analysis Report

Association System Automation via Website

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1.1. Introduction

Qatrat Charity Association is a leading charitable association in the field of volunteering, charitable work,collecting donations and distributing them to those in need. It works in several fields, starting from sponsoring orphans,through digging wells and building mosques, to working on projects that open doors of livelihood and income for young people and the emerging generation. Qatrat Association is an old association in the field since 2000 and is accredited in several countries. The aim of developing a website for the association is to automate the association's transactions after they were paper-based, increase its efficiency and development in the field, increase donations, facilitate access to the association, educate the public, and reach the largest possible number of donors and needy people. This project seeks and aims to enhance and strengthen the association's digital presence, keep pace with development, improve its effectiveness, and facilitate its access to countries around the world.

1.2. Overview

A website for the Qatarat Charity Association
What is it and what is its purpose?
The association noticed its need for a website that helps it publish about itself and its services and facilitates the process of collecting donations. It noticed its need for a website that allows orphans, the needy and the affected to register and enter their data in it. A website for the association was one of the necessary and essential steps that the institution must take in light of the great technical development and in light of the expansion of its activity and its extension to several countries. It was necessary for it to have an electronic computer system to manage its business, transactions and movements and to know the value of the donations collected by the institution accurately and to know where those donations are spent and whether they reached those entitled to them or not. A website that enables the association to display cases of those in need and open the door to donations for those in need. An electronic website that guarantees the association an entity that distinguishes it from others and guarantees its right and prevents the impersonation and forgery that used to happen with the association, as there were some parties collecting money in the name of the association without the association knowing about it and without taking permission from it. A website that facilitates the entry and processing of data and the export of statistics and accounts about donations and their numbers.

1.3. Project motivation

The need of the charity for a website and automating its activity stems from its need to keep pace with development and its desire to improve and develop and its observation of the extent of the difficulties it faces, especially after its expansion in recent years, where hundreds of transactions pass through it daily, so it has become necessary to keep pace with development and automate the association's transactions and ensure that it obtains the following needs:

- Improving the provision of services.
- Enhancing the speed and accuracy of operations.
- Reducing the burden on employees while expanding the association's relationships and transactions.
- Ensuring the confidentiality and integrity of data and its accuracy and not tampering with it.
- Preventing impersonation operations that collect donations in the name of the association, taking advantage of the lack of an official form and website for the association.

1.4. Project Scope

1.4.1.Problem statement

The charity and its old manual system suffer from many problems, including:

- Lack of an archiving and backup system.
- Inefficiency and inaccuracy of transactions.
- Delayed entry of donations and difficulty in processing and dealing with them.
- Heavy reliance on material resources, which leads to additional costs and space utilization.

1.4.2. Project Objective

The objectives of the Qatrat website system project are:

- Design and develop an easy-to-use website that provides comprehensive information about the association's services and programs
- Increase donations and online interaction.
- Automate the charity's operations through the website to improve efficiency.
- Enhance data security and ensure its confidentiality, reliability and accuracy.
- Reduce the time required to process donation information and data .

- Provide easy, fast and timely access to data by the association's owners.

1.4.3. Project Deliverables

The project will provide:

- A fully automated website system.
- Secure storage and backup mechanisms.
- Documents and instructions needed to deal with the site and training materials needed to be provided to employees.
- Integrated modules and tools to manage donations, donors, communication and reporting.

1.5. Contribution

The establishment of the website will contribute significantly to the Qatrat Association and will contribute to achieving its goals through:

- Reducing operational costs and resource consumption.
- Improving the quality of service for donors or those in need alike.
- Improving employee productivity and morale by saving their time and effort using technology instead of manual transactions.
- Facilitating the process of collecting statistics and issuing reports to be submitted to the relevant authorities, which gives the association support, acceptance and recognition from several countries.

1.6. Conclusion

In this chapter, we have given a quick definition of the system and the website, presented the problems and challenges it will overcome, and presented the advantages and contributions it will provide to the association and its goals. In the end, the aim of automating the association's operations by creating a website is to keep pace with technical development and progress, facilitate tasks, and save time, money, and effort. Through these goals, the charitable association can achieve its goals of expansion and serving the needy in all parts of the world.

The following chapters will address the detailed requirements, design specifications, and implementation strategies to ensure the success of the project.

Part 2 of the Software engineering Report

Qatrat Website

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2.1 Introduction

This chapter presents and explains similar, close and related systems to the idea of the proposed website project for the Qatarat Charity Association and compares them to the project, focusing on the strengths and weaknesses of similar systems and explaining the positives and negatives of the proposed system and what distinguishes it from previous systems.

2.2 related work

2.2.1 overview

There are many, many organizations and charities in the world and most of them have their own website to manage their activities. These systems usually include features such as managing online donations, automating data entry and preparing reports when needed. And other features. Examples of such sites (https://gazasupport.net/, https://alkhaircharity.org/, https://ehsan.sa/) (Al-Khair Foundation, جمعية مساندة غزة الخيرية , منصة إحسان) that bring the user closer to the charity.

2.2.2 advantage of related work

- Efficiency: Automation improves operational speed and accuracy.
- Transparency: Improved visibility into donation allocation increases donor confidence.
- Accessibility: Donors and beneficiaries can interact with the system from anywhere.
- Reporting: Systems provide analytics and reporting capabilities to monitor performance.
- Security: Provides security for user information and data
- Mobile Support: A number of charities support a mobile app alongside the website

2.2.3 disadvantage of related work

- **Multilingualism: Most websites support one or two languages**
- **Cost: Implementing and maintaining such systems can be expensive.**
- **Complexity: Some platforms are difficult to use for less tech-savvy users.**
- **Customization: Many existing systems lack features specifically designed to meet the organization's specific needs.**
- **AI support: Similar websites do not support AI**

2.3 Qatarat Charity Association website

2.3.1 overview

The Qatarat Charity Association website was designed to automate the organization's activities, enhance operational efficiency, facilitate donors' access to the organization and its events, and provide a secure platform for managing donations, donor and beneficiary data. It addresses the challenges faced by the association and its old system based on old manual processes. The website has been supported by artificial intelligence that helps and facilitates the user, facilitates data processing, provides data on accidents, disasters, potential needy people, and other features of introducing artificial intelligence into the website.

2.3.2 advantage of Qatarat website

- **Ease of use: in use and interaction between donors and employees through simple and interactive user interfaces**
- **Diversity: providing many donation fields, payment methods and donation amounts**
- **Transparency: in administrative and financial practices**
- **Reports: issuing reports when needed and ensuring their access to donors to see the impact of their donations**
- **Security: the site applies the latest and highest security and technical standards and measures to ensure the security, confidentiality and integrity of information and data**
- **Speed Multiple options to ensure the speed of the donation process**

- **Cost saving: reduces operating expenses by automating processes.**
- **Customized features: specifically designed to meet the specific needs of the Qatar Charity.**
- **Scalability: supports the growth and expansion of the association in multiple countries.**
- **Artificial intelligence support: the site supports artificial intelligence in the process of analyzing data and facilitating the user, whether donating or employee, in using and interacting with the site**
- **Multilingualism: the website supports most popular languages**

2.3.3 disadvantage of Qatarat website

- **Initial costs: Development and deployment require a significant investment.**
- **Training needs: Employees may need training to adapt to the new system.**
- **Lack of support for payments via digital currencies such as Bitcoin and others**
- **Lack of a mobile application The system is a website only**
- **Maintenance requirements: Continuous updates and support are essential for long-term success.**

2.4 comparison

Features	related work	Qatarat Charity Association website
Customization	Medium	high
Ease of Use	high	high
Mobile Support	Medium	No
Security	high	high
Scalability	Medium	high
AI Support	No	high
Cryptocurrency Support	Medium	No
Multi-Language	Medium	high

2.5 conclusion

In this chapter, previous and current relevant systems similar to the project idea were discussed, their characteristics and advantages were identified to benefit from them, and the negatives in them were identified to try to avoid them, and the advantages and disadvantages were highlighted compared to the proposed Qatrat Charity Association website. The analysis shows that the Qatrat system addresses the gaps in similar current systems while providing a scalable, secure and easy-to-use platform to automate the association's operations.

Chapter 3: Software Requirements Analysis

Qatrat Website

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3.1 Introduction

This chapter outlines the requirements for the Qatarat Charity Association website project. These requirements are derived from the association's needs to automate its operations, improve efficiency, and enhance interaction between donors and beneficiaries. The analysis covers functional, non-functional, and system requirements, ensuring that the website meets the objectives of the association, donors, and beneficiaries while maintaining and providing the core and critical functions of the system, which are to operate a secure, efficient, and user-friendly platform.

3.2 Requirements

3.2.1 User requirements

1. **Donors:**
   - Easy registration and login.
   - Multiple payment options for donations.
   - Explicit tracking of donation impact.
   - Security and confidentiality of their data.
   - Access to reports and analytics on donation usage.
   - Multilingual support for global accessibility.

2. **Beneficiaries:**
   - Easy registration for assistance.
   - Secure provision of personal data.
   - Access to information on available services and programs.

3. **Staff:**
   - Effective management of donor and beneficiary data.
   - Automated reporting and analytics tools.
   - Secure access to the system for data entry and management.
   - Training materials and support for using the system.

3.2.2 System requirements

System requirements specify the hardware and software needed to support the website. For the Qatarat Charity Association website, these include:

1. **Hardware Requirements:**

- Servers: High-performance servers with sufficient storage and processing power to handle website traffic.
- Networking: Reliable internet connectivity with load balancing to ensure smooth operation.
- Secure data storage solutions.

2. **Software Requirements:**

- AI Frameworks: TensorFlow or PyTorch for implementing AI features.
- Web Server: Apache or Nginx web server software.
- SSL/TLS encryption for secure data transfer.
- Support for multiple payment gateways.
- Database: MySQL or PostgreSQL for storing user data, donations, and other information.
- Operating System: Linux-based server operating system (e.g., Ubuntu, CentOS).
- Programming Languages: PHP, JavaScript, and Python for backend and frontend development.

3.2.3 Functional requirements

Functional requirements describe the specific behaviors and functions the system must perform. For the Qatarat Charity Association website, these include:

1. **Donation Management:**

- Accept and process online donations.
- Provide multiple payment methods (credit card, PayPal, etc.).
- Generate receipts for donations.

2. **User Management :**

- Allow donors and beneficiaries to register and manage their profiles.
- Enable employees to securely manage user data.

3. **Reporting and Analytics:**

- Generate real-time reports on donations and their impact.
- Provide analytics on donor behavior and trends.

4. **AI Integration:**

- Use AI to analyze data and provide insights.
- Facilitate user interaction through AI-powered chatbots or assistants.

5. Protection and Security:

- Implement strong security measures to protect user data.
- Implement secure login mechanisms, including two-factor authentication .
- Ensure secure transactions, data storage, and encryption.
- Ensure regular data backups.

3.3 None Functional requirements

3.3.1 Usability

- The website should have an intuitive and easy-to-use interface.
- Navigation should be simple, with clear instructions for users.
- The website should be accessible to users with varying levels of technical expertise.

3.3.2 Security

- Implement encryption for all data transfers.
- Ensure secure storage of user data.
- Regular security audits and updates to protect against vulnerabilities.

3.3.3 Performance

- The website should handle high traffic volumes, especially during donation campaigns.
- Fast loading times for all pages and features.
- Efficient processing of donations and data entry.

3.3.4 Availability

- The website should be available 24/7 with minimal downtime.
- Implement backup and recovery systems to ensure no data loss in the event of a failure.

3.3.5 Flexibility

- The system should be scalable to accommodate future growth.
- Allow for easy updates and integration of new features.
- Support for multiple languages and currencies.

3.4 Domain requirements

- The site must comply with local and international regulations for charitable organizations.
- Ensure transparency in financial transactions and reporting.
- Provide clear information on how donations are used and distributed.
- Support multiple languages to cater to a global audience.

3.5 System stakeholders

They are the people responsible and interested in the website. We can say that they are all those who dealt with the website and provided it with a service, i.e. they are the end users, but to be precise, we have detailed the requirements of users by their types, so we will consider the owners of the system to be the people responsible for the charity, i.e. the managers and owners of the charity and its board of directors. Their interest and goal is the interest of the charity, its growth, development and expansion. These are their requirements. Their requirements are the success, protection and development of the charity, meeting the needs of users and ensuring that employees learn on the website.

3.5.1 End users

- **Donors :** Individuals or organizations contributing to the charity.
- **Beneficiaries :** Individuals or groups who receive assistance from the charity.
- **Employees :** Employees manage the website and charitable operations.
- **Administrators :** IT staff responsible for maintaining the website and ensuring its security.

3.6 Conclusion

The current chapter provides a requirements analysis of the Qatarat Charity Association website, the features and specifications needed to ensure that the system meets the organization's objectives. By addressing both functional and non-functional requirements, the website will provide a secure, efficient, and user-friendly platform for managing donations, beneficiaries, and other charitable activities. The next chapter will focus on the design and architecture of the system, and ensuring that these requirements are implemented effectively.