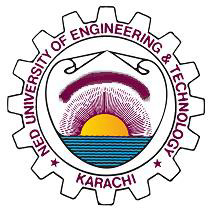
**UNDERGRADUATE FINAL YEAR PROJECT REPORT**

*Department of Software Engineering*

NED University of Engineering and Technology

**Zakat Collection App**

Group Number: 5

**Batch: 2019 – 2023**

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# **Author’s Declaration**

We declare that we are the sole authors of this project. It is the actual copy of the project that was accepted by our advisor(s) including any necessary revisions. We also grant NED University of Engineering and Technology permission to reproduce and distribute electronic or paper copies of this project.

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# **Abstract**

Poverty and hunger are some of the most pressing issues faced by societies worldwide. In many countries, charitable organizations collect Zakat, a form of obligatory charity in Islam, from individuals to provide assistance to those in need. However, the conventional receipt system used for door-to-door Zakat collection is highly susceptible to fraud and mismanagement, causing donors to lose trust in charitable organizations. To address this issue, we propose an automated system to streamline the record-keeping and auditing procedures for Zakat collection.

The system aims to enhance the transparency and credibility of charitable organizations by establishing trust among donors, minimizing fraud, and enabling proper auditing and funds management. It comprises five user classes: Super Admin, Admin, Office Secretary, Worker/Collector, and Donor. Each class has specific functions and privileges, and the system operates on a client-server architecture with a backend hosted on Firebase and two frontends using React.js and React Native.

The proposed system offers numerous benefits, including reduced collection costs, secure donation records, and real-time donation confirmations. By providing an automated and paperless solution, the system can eliminate delays in donation confirmations and establish better marketing strategies for organizations. Ultimately, the system's implementation aims to increase the number of donations for public welfare and contribute to the eradication of poverty and hunger.

# **Acknowledgments**

First, we would like to express our profound gratitude to almighty Allah for blessing us with the strength to achieve the set targets of our project.

The completion of the targets of our project could have never been possible without the participation and coordination of each and every member of the group. Here is a little effort to show our deepest gratitude to **Engr. Sidra Masood** (Project Internal Supervisor) despite being extremely bound to her duties served her best to guide and supervise us. Besides the Project Internal, we would like to appreciate **Mr. Akif Surya** (Project External Supervisor), too, to invest his precious time in communicating and guiding us with the project requirements.

The task achievement is the result of the efforts of all the people mentioned above. Our deepest regards to all the lecturers of the Software Engineering Department, NEDUET

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# **United Nations Sustainable Development Goals**

The Sustainable Development Goals (SDGs) are the blueprint to achieve a better and more sustainable future for all. They address the global challenges we face, including poverty, inequality, climate change, environmental degradation, peace and justice. There is a total of 17 SDGs as mentioned below. Check the appropriate SDGs related to the project.

* No Poverty
* Zero Hunger
* Good Health and Well being
* Quality Education
* Gender Equality
* Clean Water and Sanitation
* Affordable and Clean Energy
* Decent Work and Economic Growth
* Industry, Innovation and Infrastructure
* Reduced Inequalities
* Sustainable Cities and Communities
* Responsible Consumption and Production
* Climate Action
* Life Below Water
* Life on Land
* Peace and Justice and Strong Institutions
* Partnerships to Achieve the Goals

# **Chapter 1 INTRODUCTION**

## **Background Information**

Zakat is one of the five pillars of Islam and an important source of welfare for the poor and needy in countries like Pakistan. While many charitable organizations collect Zakat donations, there is still a significant population that is not being served. This indicates a need for improvements to increase the number of donations.

Several factors have been identified as contributing to this issue:

* The door-to-door collection system lacks the ability to establish trust among donors. Only 33% of donors submit their Zakat to NGOs, and they donate larger amounts than other donors. By increasing trust, the number of donations may rise.
* Fraud and corruption among workers collecting donations also impact donor trust making it difficult to reach fundraising targets. Controlling these practices can help increase the number of funds collected.
* The current manual receipt system is inefficient, with provisional receipts being unauthentic and official confirmation taking weeks. This demotivates donors and leaves room for improvement to encourage more donations.
* Many people in the country are not aware of or do not prefer to donate online. Most still donate with cash or checks. It is important to consider the needs and preferences of these individuals as well.

## **Problem Statement**

The conventional receipt system for collecting donations is highly susceptible to fraud and mismanagement, leading to a lack of trust between donors and charitable organizations. Donors are often left uncertain about the proper use of their contributions, which can cause many to show less interest in donating. As a result, the donations for public welfare, which are vital for eliminating poverty and hunger, fall short of the required amount.

## **Proposed Solution**

The proposed solution is an automated system for recording and auditing door-to-door collections of Zakat by charitable organizations. The system aims to reduce the chances of fraud, establish trust among donors, and provide an efficient, secure, and transparent way of tracking donations. The system will minimize the cost of collection, eliminate long delays, and enable a proper audit of transactions to maintain checks and balances of funds.

## **Significance and Motivation**

The significance of the proposed system lies in its ability to improve the relationship between donors and charitable organizations by providing transparency and accountability. The system will encourage donors to contribute more, and the automated and paperless process will make it easier for charitable organizations to collect and manage donations efficiently.

The motivation behind this project is to create a system that can help charitable organizations collect funds effectively and transparently, ultimately helping to eliminate poverty and hunger by ensuring that the collected funds are distributed appropriately.

## **Objectives**

The objectives of the system are:

* To establish trust among donors.
* To enable donors to track their donations easily.
* To minimize the chances of fraud.
* To enable proper auditing of transactions and maintain checks and balances of funds.

## **Benefits**

Overall, the system has the potential to improve the organization's ability to attract and retain donors, increase the impact of its fundraising efforts, and ultimately achieve its goals more effectively. Some of the key benefits are listed below:

* ***Improved donation management*:** The system will provide a centralized platform for managing donations, making it easier to track and analyze donations, as well as monitor fundraising progress.
* ***Increased transparency*:** By providing donors with real-time access to information about their donations, the system can increase transparency and trust between the organization and its donors.
* ***Enhanced communication*:** The system will allow the organization to send promotional messages to potential donors and keep them informed about the latest campaigns and events.
* ***Streamlined operations*:** By automating many of the manual processes involved in donation management, the system can help reduce administrative burdens, save time, and increase efficiency.
* ***Better decision-making*:** With improved data analysis and reporting, the system can provide valuable insights into donor behavior, campaign effectiveness, and other key metrics that can help the organization make better-informed decisions.
* ***Increased security*:** The system can help to improve the security of the donation process by providing secure channels for donors to make donations and ensuring that all financial transactions are properly tracked and recorded.
* ***Scalability*:** The system can easily scale to meet the growing needs of the organization, whether that involves expanding to new regions or increasing the number of campaigns and events.

# **Chapter 2 LITERATURE REVIEW**

## **Introduction**

This chapter provides a literature review of existing research on Zakat collection systems, donation management, and related systems. This section discusses the current situation of Zakat collection in Pakistan, the importance of Zakat in Islam, and the factors affecting the collection process. The review also analyzes various solutions proposed to address these issues and provides a summary of the findings. The review also focuses on identifying the key features, advantages, and limitations of the existing systems, as well as identifying the research gaps that this project aims to address.

## **Current Situation of Zakat Collection in Pakistan**

Zakat is an essential religious obligation in Pakistan, but there is a lack of awareness among people about its significance. According to [1], only 2.5% of Pakistanis pay Zakat, and the majority of them do not pay the correct amount. Furthermore, the manual Zakat collection system in Pakistan is outdated, inefficient, and prone to corruption, making it challenging to collect and manage funds transparently [2]. Additionally, the majority of Zakat donations in Pakistan are made in cash, making it difficult to track and manage them [3].

## **Importance of Zakat in Islam**

Zakat is one of the five pillars of Islam, and its importance cannot be overstated. According to [4], the payment of Zakat is a religious obligation that is incumbent upon every adult Muslim who has the financial means to pay it. The payment of Zakat is also a means of purification and a source of reward from Allah [5]. Zakat is seen as an important source of welfare for the poor and needy in Islamic societies and is intended to help redistribute wealth more equitably [6].

## **Factors Affecting Zakat Collection**

Several factors impact the collection of Zakat in Pakistan, including the lack of trust between donors and charitable organizations, the absence of a proper system for tracking donations, and the preference for cash donations [7]. Additionally, the lack of transparency and accountability in the Zakat collection process, along with corruption and fraud, have a significant impact on the number of donations made [8]. According to [9], a lack of awareness and understanding about the Zakat system and the need for Zakat also contribute to the low collection rate.

## **Existing Zakat Collection Systems**

Several Zakat collection systems have been proposed to address the challenges faced by charitable organizations. According to [10], the traditional Zakat collection system in Pakistan is primarily manual and outdated. The system involves the door-to-door collection, with handwritten receipts being issued to donors. The system is prone to corruption, fraud, and mismanagement, making it challenging to track and manage donations effectively.

However, in recent years, various Zakat collection and management systems have been developed to facilitate the donation process and improve transparency and accountability. The following subsections describe some of the existing systems that have been implemented in Pakistan.

## **Alkhidmat Foundation’s Zakat Collection System**

Alkhidmat Foundation is a leading charitable organization in Pakistan that collects Zakat, Sadqat, and other donations for the poor and needy. The organization has developed a Zakat collection system that uses biometric verification to ensure the authenticity of the donor and the donation amount. The system generates a unique QR code for each donor, which can be used to track the donation history and monitor the utilization of funds. [11]

## **Saylani Welfare Trust’s Zakat Management System**

Saylani Welfare Trust is another leading charitable organization in Pakistan that uses a web-based Zakat management system to manage the collection and distribution of Zakat funds. The system provides an online portal for donors to make donations and allows the organization to monitor and track the funds in real time. The system also generates detailed reports on the collection and utilization of funds. [12]

## **Pakistan Bait-ul-Mal’s Zakat Distribution System**

Pakistan Bait-ul-Mal is a government agency responsible for the collection and distribution of Zakat funds in Pakistan. The organization has implemented a Zakat distribution system that uses a database to maintain the record of eligible beneficiaries and the amount of Zakat distributed to them. The system provides a transparent and efficient way of distributing Zakat funds to the needy. [13]

## **Bait-us-Salam Welfare Trust’s Zakat Management System**

Baitussalam is a charity organization that is officially registered in Pakistan. The organization offers several options for individuals who wish to donate Zakat to their cause. These options include making donations online through their website using a secure donation portal, transferring Zakat directly to their bank account, donating in cash at their office in Karachi, using mobile banking options such as Bank Islami Meezan Bank and Faysal Bank, utilizing door-step collection services with TCS and Leopards Courier Services as their collection partners, or making anonymous donations through the 1 Link Top Up method. [14]

Once you have chosen your preferred donation method, you can select your desired cause and make your donation accordingly.

## **Comparison of Existing Systems**

Several studies have compared various Zakat collection systems to determine which is the most effective. According to [15], an electronic Zakat system is the most efficient method for collecting Zakat, providing a transparent and secure platform for donors to make donations. The study also found that electronic Zakat systems were more effective than traditional Zakat collection methods in increasing the number of donations made.

**Table 1: Comparison of Existing and Proposed Zakat Collection Systems**

|  |  |  |
| --- | --- | --- |
| **Aspect** | **Manual System** | **Electronic System** |
| ***Trust and Transparency*** | Limited transparency; Lack of trust | Increased transparency; Improved trust |
| ***Efficiency*** | The manual collection process is time-consuming | The automated collection process is more efficient |
| ***Security*** | The cash collection system is prone to fraud | The online donation system is secure |
| ***Scalability*** | Difficult to scale to meet growing needs | Easy to scale and customize for different organizations |

## **Research Summary**

In the literature review, the author discussed the various existing Zakat collection and management systems in Pakistan, including Alkhidmat Foundation's Zakat Collection System, Saylani Welfare Trust's Zakat Management System, and Pakistan Bait-ul-Mal's Zakat Distribution System. The review also identified the factors that affect Zakat donation behavior in Pakistan, such as religious beliefs, trust in charitable organizations, perceived effectiveness of donations, and social influence. Additionally, the review highlighted the effectiveness of using technology in Zakat management systems to improve transparency and accountability, as well as the impact of social media on increasing awareness and promoting Zakat donations. Overall, the review identified several research gaps that this project aims to address.

## **Conclusion**

Research has shown that the current manual Zakat collection system in Pakistan is inefficient, outdated, and prone to corruption, making it challenging to collect and manage funds transparently. Several studies have proposed automated Zakat collection systems as a solution to address these issues. These systems provide a transparent, efficient, and secure platform for donors to make donations and enable charities to manage donations more effectively. Comparisons between existing systems have shown that electronic Zakat systems are the most effective method for collecting Zakat, providing a transparent and secure platform for donors to make donations. The importance of Zakat in Islam cannot be overstated, as it is one of the five pillars of Islam and is seen as an important source of welfare for the poor and needy in Islamic societies. Factors affecting the collection of Zakat in Pakistan include the lack of trust between donors and charitable organizations, the absence of a proper system for tracking donations, and the preference for cash donations. Lack of awareness and understanding about the Zakat system and the need for Zakat also contribute to the low collection rate. Automated donation management systems can help reduce the administrative burden associated with manual donation management, making it easier for charities to collect and manage donations. Overall, the use of an electronic Zakat system can potentially increase the number of donations made and improve the efficiency, transparency, and accountability of the Zakat collection process in Pakistan.

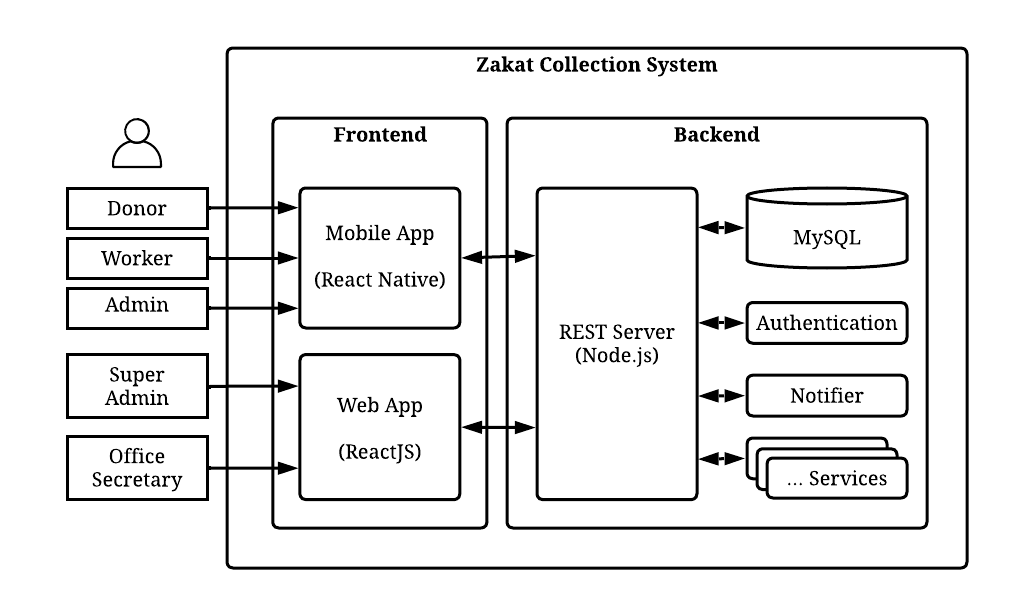
# **Chapter 3 SYSTEM ARCHITECTURE AND DESIGN**

## **Introduction**

This chapter outlines the key components, modules, and functionalities of the system, along with the logical and physical structure. It discusses the database design, security measures, and user interface considerations. It also addresses the integration of technological components and third-party services, if applicable.

## **Top-Level Architecture**

The proposed system architecture for the Zakat Collection System is designed to provide a comprehensive and efficient solution. The system consists of various modules and services, catering to five different user classes: Worker, Chairperson, Donor, General Secretary, and Office Secretary, as discussed.



**Figure 1** - Top Level Architecture

Overall, the proposed system architecture combines the use of React Native and ReactJS for frontend development, a monolithic REST Node Express backend, a MySQL database for data management, and various services to enhance user experience and communication. This architecture aims to provide a reliable, scalable, and user-friendly solution for the effective collection and management of Zakat funds.

## **Frontend System**

The front end of the system is developed using React Native, a cross-platform framework, to create a mobile app for the Worker, Chairperson, and Donor user classes. This allows for a seamless user experience across multiple mobile platforms. Additionally, a web app developed using ReactJS is provided for the General Secretary and Office Secretary User classes, ensuring accessibility from desktop browsers.

## **Backend System**

To streamline the backend development and ensure a cohesive architecture, a single backend system is implemented. This backend is developed as a monolithic REST Node Express application, providing a robust and scalable foundation for the entire system. The backend handles various functionalities, such as user authentication, data processing, and communication with the database.

## **Database**

For data management, a MySQL database is employed to store and manage the system's data effectively. MySQL is a widely used relational database management system known for its stability, reliability, and data integrity. It enables efficient querying and retrieval of information, essential for the smooth operation of the Zakat Collection System.

## **Third-Party Services**

In addition to the core components, the system incorporates various services to enhance its functionality. Real-time notifications are implemented to keep users informed about important updates and events. Email and SMS alert services are integrated to enable communication with users, ensuring timely and relevant information delivery. These services contribute to improving user engagement and overall system efficiency.

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