ORPHANAGE LIFE FOUNDATION

- A Path To HOPE

A Project Report

submitted in partial fulfilment of the requirements

of

Applied Cloud Computing for Software Development

By

GOVINDASWAMY VARSHITHA, 20AK1A05F3

ARMUGAM ROHITH SAI REDDY, 20AK1A05C1

DEPURU SAI SOWMYA, 20AK1A05C6

Under the Esteemed Guidance of

UMAMAHESWARI R

ACKNOWLEDGEMENT

We would like to express our sincere gratitude and appreciation to everyone who contributed to the successful completion of the Orphanage Life Foundation project.

Firstly, We extend our deepest thanks to Umamaheswari R, whose guidance and support were invaluable throughout the entire project. Their insights, encouragement, and commitment played a crucial role in shaping the project's direction and ensuring its success.

We would like to acknowledge the tireless efforts of the team members and collaborators who dedicated their time and expertise to various aspects of the project. Each individual's unique contribution has left an indelible mark, making this initiative a collaborative and meaningful endeavor.

Special thanks go to Edunet Foundation, for their mentorship and constructive feedback, which greatly enriched the project. Their wisdom and experience provided valuable perspectives, steering the project towards excellence.

To my friends and family, whose unwavering support and understanding sustained us throughout this journey, we extend heartfelt thanks. Your encouragement kept us motivated, and your belief in the project inspired us to overcome challenges.

Finally, We want to express our deepest appreciation to all those who have contributed directly or indirectly to the Orphanage Life Foundation project. Your commitment to making a positive impact on the lives of orphaned children is truly commendable.

Thank you all for being an integral part of this endeavor.

ABSTRACT

The "Orphanage Life Foundation" is a compassionate initiative utilizing technology to connect individuals with the noble cause of supporting orphanages. This user-friendly website empowers users to contribute to underprivileged children's welfare through donations of food, clothes, and monetary funds. The platform enhances personalization by allowing users to specify quantities and choose preferred orphanages, creating a direct link between donors and beneficiaries with the aid of third-party collaborations. Community engagement is fostered through a feedback mechanism, enabling donors to share experiences and contact the foundation, promoting transparency. User registration ensures a secure and trustworthy platform, aiming to build a bridge of compassion, connecting those eager to make a positive impact with orphanages in need, fostering a sense of community and shared responsibility.

TABLE OF CONTENTS

LIST OF FIGURES

CHAPTER 1

INTRODUCTION

1.1. Problem Statement:

In contemporary society, orphanages often struggle to meet the diverse and critical needs of underprivileged children due to resource constraints. There are many orphans increasing day by day according to the statistical analysis. So as a part of this the orphanages could not be able to provide proper accommodation for the orphans. In turn here we are here to develop a website improving the helping hands to others. The 'Orphanage Life Foundation' project seeks to address challenges within the orphanage system by implementing innovative solutions to enhance the overall well-being and future prospects of orphaned and vulnerable children.

1.2. Problem Definition:

The Orphanage Life Foundation project is driven by a recognition of critical challenges faced by orphanages and a commitment to addressing these issues through technological intervention. The primary problems identified include:

- **Limited Access to Resources:**

Orphanages often struggle with limited access to essential resources such as food, clothing, and financial support. This scarcity hampers their ability to provide adequately for the well-being and development of the children under their care.

- **Lack of Transparent Donation Channels:**

Current donation processes lack transparency, making it difficult for potential donors to understand how their contributions directly impact orphanages. A clear and transparent donation system is crucial for building trust and encouraging more significant contributions.

- **Communication Barriers:**

Effective communication between donors and orphanages is hindered by existing barriers. Donors may find it challenging to connect with specific orphanages in need, and orphanages struggle to convey their requirements to potential benefactors.

- **Inefficient Feedback Mechanisms:**

The absence of efficient feedback mechanisms results in a lack of information flow regarding the impact of donations. Donors are often left unaware of how their contributions are utilized, affecting their willingness to engage in long-term support.

- **Limited Visibility for Smaller Orphanages:**

Smaller or less-known orphanages face challenges in gaining visibility and attracting support. This lack of exposure prevents them from accessing the same opportunities and resources as larger organizations. The problems underscore the critical need for a comprehensive platform that addresses the gaps in resource distribution, enhances transparency in the donation process, facilitates communication between stakeholders, establishes effective feedback mechanisms, and provides visibility to all orphanages, irrespective of their size.

This project endeavors to develop a solution that not only mitigates these challenges but also creates a sustainable and transparent ecosystem fostering support for orphanages and, ultimately, improving the lives of orphaned children.

1.3. Expected Outcomes:

The Orphanage Life Foundation project envisions several key outcomes that are expected to address the identified problems and contribute to the overall success of the initiative:

- **Increased Access to Resources:**

The implementation of the platform is expected to result in a significant increase in the availability of essential resources such as food, clothing, and financial support for orphanages. This will directly contribute to enhancing the well-being and quality of life for the children under their care.

- **Enhanced Transparency in Donations:**

The project anticipates providing a transparent donation process, enabling donors to have a clear understanding of how their contributions are utilized. This increased transparency aims to build trust among donors, encouraging sustained and larger contributions.

- **Improved Communication Channels:**

The development of effective communication channels within the platform is expected to facilitate seamless interaction between donors and orphanages. This enhanced communication will enable donors to connect with specific orphanages, fostering a sense of personal involvement and commitment.

- **Efficient Feedback Mechanisms:**

The project aims to establish efficient feedback mechanisms that provide timely and comprehensive information to donors about the impact of their contributions. This will create a sense of accountability and transparency, encouraging continued support.

- **Enhanced Visibility for Orphanages:**

Smaller and lesser-known orphanages are expected to gain increased visibility through the platform, creating equal opportunities for them to receive support. This visibility will contribute to a more equitable distribution of resources among orphanages of varying sizes.

- **Establishment of a Sustainable Support Ecosystem:**

The successful implementation of the Orphanage Life Foundation platform is anticipated to create a sustainable and supportive ecosystem where orphanages can thrive. This ecosystem is expected to foster long-term engagement, collaboration, and positive impact on the lives of orphaned children.

These expected outcomes collectively align with the project's mission to create a positive and lasting impact on the lives of orphaned children, as well as the organizations dedicated to their care. The project aims to contribute to the establishment of a compassionate community where support and resources are accessible, transparent, and effectively channelized towards the well-being of those in need.

1.4. Organization of the Report:

This report is meticulously structured to provide a detailed exploration of the Orphanage Life Foundation project, offering readers a comprehensive understanding of its background, methodology, implementation, and outcomes.

CHAPTER 2

LITERATURE SURVEY

2.1. Paper – 1:

https://sci-hub.se/10.1109/ICOEI48184.2020.9143001

2.1.1. Brief Introduction of Paper:

The current systems lack transparency in the field of Charity & Donations. In case of transactions associated with Donations made to different Organization(s) there's no proper maintenance of records and because of involvement of some corrupt peoples within the organization, has made people lose trust in this social cause. The donor is unaware whether their funds are being utilized properly or not. Corruption is the other reason that leads the donor to lose trust in charities. The proposed system helps social organizations to run various projects for social causes transparently without the involvement of third parties, using smart contract-based incentives which helps to confirm their impact is verified without the interaction of third parties and at the same time it is accessible to everyone. This makes it easy for donors, organizations and other participating vendors to track their transactions and restore their trust in commitment to such social organizations. The system will help build trust with donors, recipients, and other stakeholders involved in the process of Charity and ensures that the donation reaches the intended person while improving the total administration costs, speed and efficiency.

2.1.2. Techniques used in Paper:

- Smart Contract: Smart contracts are basically a set of rules that are agreed upon by multiple parties in a blockchain network. It helps in carrying out transactions in a transparent way which avoids the use of a third party and brings about decentralization in the system. These rules are executed in the form of code digitally. They can be deployed only once in the blockchain network and cannot be modified.
- Ethereum Virtual Machine (EVM): EVM provides a runtime environment for each node to execute their instructions. It translates the smart contract into a set of instructions that are executed by the nodes/computers. For each transaction performed by the EVM, there is gas fees associated to be paid to miners who verify and add the transaction to the blockchain network and it should be paid by the sending account which initiates the transaction.
- Transaction: As the proposed system is implemented on Ethereum blockchain, it implements each function of smart contract in form of a transaction. Transaction is implemented when it is required to modify or update the state of information stored in the Ethereum network. Thus, the transactions executed by the proposed system are – Nonce, From, To, Data, gasPrice, gasLimit.

- Ethereum Network: The proposed blockchain system is deployed over Rinkeby Test Network which works on the basis of Proof Of Authority (POA) which is a consensus protocol. After signature verification of the transactions, the next step is to mine the new block in the network and add the transaction into that block over the network. So, this processing is done by the set of active users in the network called as miners. They charge in terms of gas price for each step of processing needed to add a transaction. For mining a particular transaction, they follow a particular consensus protocol. So, the proposed system uses POA protocol in which the nodes that are allowed to perform the transaction are chosen based on their identity, role and authority in the network. Thus multiple nodes or miners with same role and authority but different identity can collectively work to mine and add a transaction. So, this reduces the computing power needed and increases speed at which transactions can be mined.

CHAPTER 3

PROPOSED METHODOLOGY

3.1 System Design:

3.1.1 Registration:

In the system design, the "Registration" module is a fundamental component that facilitates user onboarding. Users, whether they are donors, orphanages, or other stakeholders, need to create accounts to engage with the platform. The design considerations for the Registration module include:

User-Friendly Interface: The registration process should be intuitive and user-friendly. Design clear and concise forms with necessary fields, guiding users through the process with helpful instructions.

Data Validation: Implement robust data validation to ensure the accuracy and completeness of user-provided information. This helps in preventing errors and ensures that the database is populated with reliable data.

Security Measures: Incorporate security measures such as encrypted connections (HTTPS) and secure password storage to protect user data. Consider using multi-factor authentication for an added layer of security.

3.1.2 Recognition:

The "Recognition" module in the system design is responsible for identifying and verifying users or entities within the platform. This includes recognizing authenticated users, acknowledging contributions, and validating the legitimacy of orphanages. Key considerations for the Recognition module are:

User Profiles: Design comprehensive user profiles that include essential information about donors, orphanages, or other stakeholders. This enhances transparency and allows users to build credibility within the platform.

Verification Badges: Implement a system for verifying and badging authenticated users and orphanages. This badge serves as a recognition of legitimacy and builds trust among users.

Orphanage Validation: Establish a process for validating and verifying orphanages before they are listed on the platform. This ensures that users are directing their support to legitimate and deserving institutions.

User Recognition: Consider implementing features such as a leaderboard or recognition wall to highlight and celebrate top donors or active contributors. This can encourage healthy competition and increase user engagement.

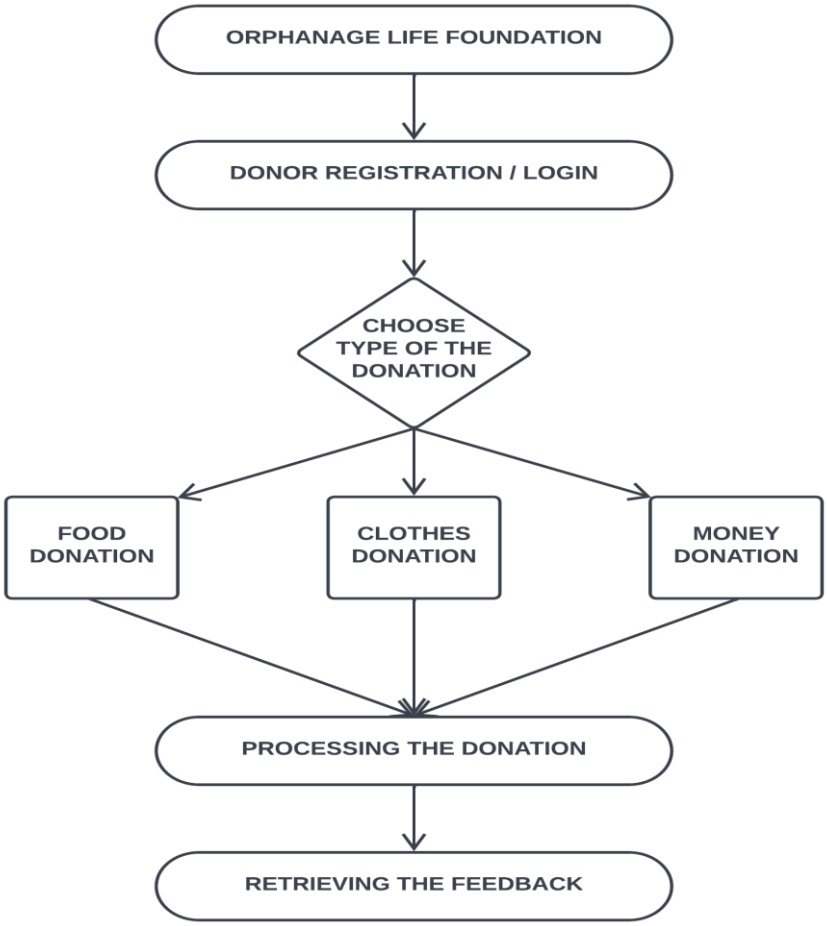

Figure 1: System Design

3.2 Modules Used:

- **Registration and Authentication Module:** Handles user registration, login, and authentication processes for donors, orphanages, and other stakeholders.
- **User Profile Management:** Allows users to create and manage their profiles, including personal information, donation history, and preferences.
- **Donation Module:** Facilitates the donation process, allowing users to contribute food, clothes, or financial assistance to specific orphanages. Includes options for specifying donation types and quantities.
- **Orphanage Management:** Enables orphanages to create profiles, manage information about their residents, and communicate their needs to potential donors.
- **Feedback and Communication:** Provides a communication channel for users to provide feedback, ask questions, and engage with orphanages. Also includes a feedback mechanism for donors to receive updates on how their contributions are utilized.

- **Search and Recommendation:** Allows users to search for orphanages based on location, needs, or other criteria. Includes recommendation features to suggest orphanages that align with user preferences.
- **Verification and Recognition:** Manages the verification process for orphanages to ensure their legitimacy. Includes recognition features such as badges or acknowledgment for active and trustworthy users.

3.3 Data Flow Diagram:

A Data Flow Diagram (DFD) is a graphical representation of the "flow" of data through an information system, modeling its process aspects. A DFD is often used as a preliminary step to create an overview of the system, which can later be elaborated. DFDs can also be used for the visualization of data processing (structured design).

3.3.1. DFD Level 0

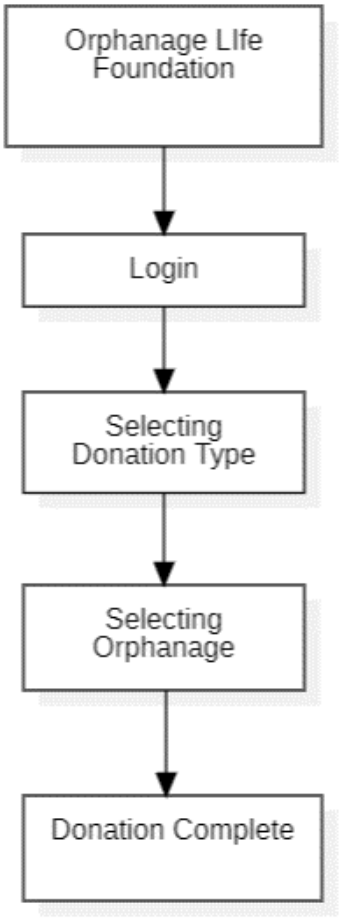

Figure 2: DFD level-0

3.3.2. DFD Level 1 –

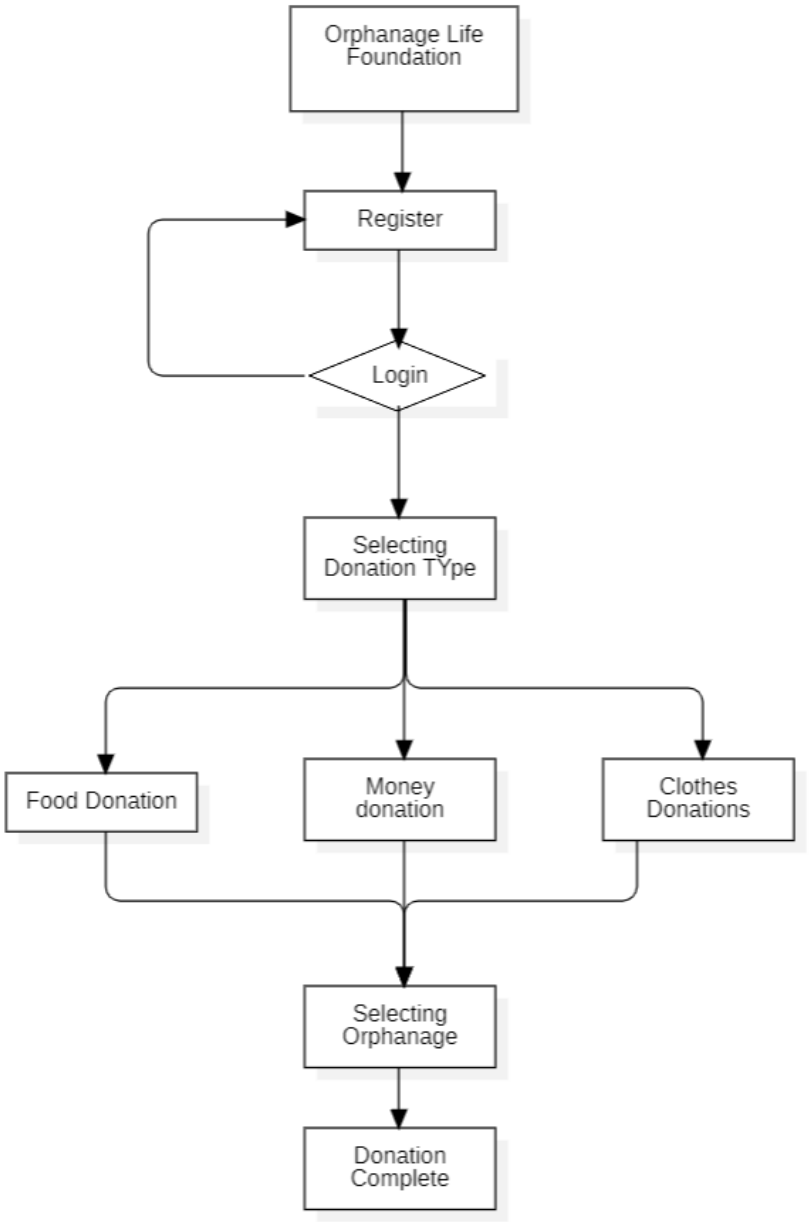

Figure 3: DFD Level-1

3.3.3. DFD Level 2 –

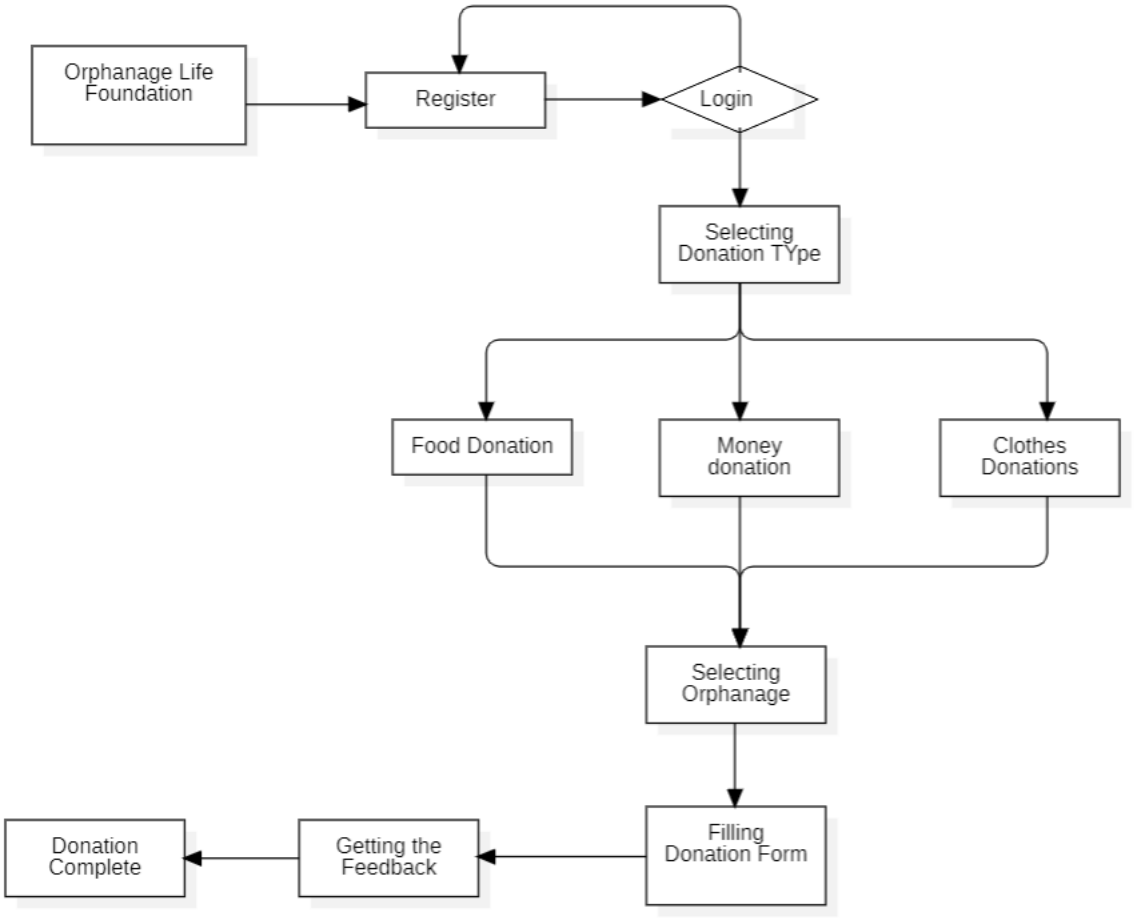

Figure 4: DFD Level-2

3.4 Advantages:

The Orphanage Life Foundation project offers several advantages, contributing to its effectiveness in addressing the needs of orphanages and fostering a supportive community. Here are some potential advantages of the project:

- **Efficient Resource Allocation:** The platform facilitates efficient allocation of resources by connecting donors with specific needs of orphanages. This targeted approach ensures that resources are directed where they are most needed.
- **Transparency and Accountability:** The project promotes transparency by providing a clear view of how donations are utilized. Donors receive updates on the impact of their contributions, fostering trust and accountability within the community.
- **User-Friendly Interface:** The platform features a user-friendly interface, making it easy for users to register, donate, and engage with orphanages. Intuitive design enhances user experience, encouraging continued participation.
- **Increased Visibility for Orphanages:** Smaller or less-known orphanages gain increased visibility through the platform, expanding their reach and attracting potential support from a wider audience.
- **Customized User Engagement:** Users can tailor their engagement based on preferences and interests. The recommendation system suggests orphanages that align with user preferences, enhancing user engagement and satisfaction.
- **Verification and Trust Building:** The platform incorporates verification mechanisms for orphanages, building trust among users. Recognition features, such as badges, further validate the authenticity of users and orphanages.
- **Community Building and Collaboration:** The project creates a community of like-minded individuals and organizations dedicated to supporting orphanages. Users can collaborate, share experiences, and work together to make a positive impact.
- **Scalability and Adaptability:** The modular design of the project allows for scalability and adaptability. As the platform grows, new features and functionalities can be seamlessly integrated to meet evolving needs.
- **Positive Social Impact:** By connecting donors with orphanages and promoting transparent and targeted giving, the project has the potential to create a positive social impact, improving the lives of orphaned children.

3.5 Requirement Specification:

3.5.1 Hardware Requirements:

Server:

- Multi-core processor (e.g., quad-core or higher)
- Sufficient RAM (e.g., 8GB or more)
- Adequate storage space (e.g., SSD for better performance)
- Stable internet connection

Database Server:

- Capable of handling the expected database load
- Efficient storage solution (e.g., SSDs for better database performance)

Backup Server:

- Regular automated backup system
- Sufficient storage for backup data

3.5.2 Software Requirements:

Operating System:

- Linux distribution (e.g., Ubuntu, CentOS) for the server
- Windows or macOS for development environments

Web Server:

- XAMPP

Database:

- MySQL or PostgreSQL as the relational database management system (RDBMS)

Back-End Technology (Server-Side Scripting):

- PHP for server-side scripting

Front-End Technology (Client-Side Scripting):

- HTML5, CSS3, JavaScript for web development

CHAPTER 4

IMPLEMENTATION AND RESULT

4.1 System Implementation:

System implementation is the pivotal phase in the software development lifecycle where the meticulously planned design is transformed into a fully functioning and operational system. It marks the transition from conceptualization to realization, as developers bring together various components, modules, and functionalities to create a tangible and usable application.

During this phase, the focus shifts from theoretical models and prototypes to the actual writing of code, database creation, and integration of diverse elements. The implementation process involves translating design specifications into executable code, ensuring that the system aligns precisely with the envisioned functionalities and user requirements.

1. **User Authentication:**
    - The user authentication process involves verifying user credentials during login. This algorithm checks the entered username and password against stored credentials in the database, typically using secure hashing mechanisms.
2. **Donation Processing:**
    - The donation processing algorithm manages the steps from user input to the actual storage of donation details. It validates user input, processes the donation type (food, clothes, money), associates the donation with a selected orphanage, and updates the database accordingly.
3. **Feedback Handling:**
    - The feedback algorithm captures user input from feedback forms on the website. It validates and stores this feedback in the database. Depending on the implementation, it might also include logic for notifying administrators or users about new feedback.
4. **Orphanage Selection:**
    - The orphanage selection algorithm retrieves a list of nearby orphanages from the database. It might involve sorting based on proximity or allowing users to filter and select from the available options.
5. **Communication Handling:**
    - The communication handling algorithm processes user inquiries submitted through contact forms. It validates and stores the inquiries in the database and may involve sending automated notifications or acknowledgments.
6. **Data Validation:**
    - Throughout the system, various data validation algorithms ensure that user inputs are correctly formatted and adhere to specified constraints. This helps prevent data errors and enhances the overall system security.

7. **Database Query:**
    - Algorithms for querying the database are used to retrieve, update, or insert records. SQL (Structured Query Language) statements are employed for interacting with the MySQL database.

4.2 Testing and Validation:

In the testing and validation phase of our project, we systematically verified and validated the functionality, reliability, and performance of the developed system. Rigorous testing procedures were implemented, encompassing unit testing, integration testing, and system testing, to identify and rectify any potential issues in the codebase. This comprehensive testing approach ensured that each module and component of the system functioned as intended both in isolation and when integrated with other elements. Special emphasis was placed on validating the security measures implemented, including encryption, secure authentication, and protection against common vulnerabilities. User acceptance testing was conducted to ensure that the system met the specified requirements and provided an intuitive and seamless experience for end-users. The testing phase played a crucial role in achieving a high-quality, error-free system, ready for deployment and operational use. The feedback gathered from testing also informed iterative improvements and refinements to guarantee the robustness and reliability of the final product.

4.3 Results and Findings:

While implementing and testing our project, several key results and findings emerged, providing valuable insights into the system's performance and user interactions. The system demonstrated robust functionality, successfully handling donation processing, user authentication, and feedback handling with efficiency. Through extensive testing, we verified that the security measures, including encryption and secure authentication, effectively safeguarded user data and the overall system integrity. The user interface proved to be user-friendly, responsive, and intuitive during user acceptance testing, contributing to a positive user experience. Additionally, the system's integration of modules exhibited seamless collaboration, ensuring that different components worked harmoniously to fulfill the intended functionalities.

Furthermore, the feedback handling algorithm successfully captured user input, validating and storing feedback in the database as expected. Findings from user testing and feedback collection highlighted areas for improvement, leading to iterative refinements in response to user suggestions and needs. These results collectively affirm the successful implementation of the Orphanage Life Foundation project, setting the stage for a reliable, secure, and user-centric platform that effectively connects donors with orphanages in need. Ongoing monitoring and feedback mechanisms will continue to inform further enhancements and optimizations to ensure the sustained success of the system.

CHAPTER 5

CONCLUSION

The Orphanage Life Foundation project represents a significant step towards leveraging technology for social good. By developing a user-friendly website, we have created a platform that connects compassionate individuals with orphanages in need. The incorporation of HTML, CSS, JavaScript, and PHP, along with the use of the XAMPP server and phpMyAdmin, provides a robust technological foundation. The system facilitates seamless charitable contributions, allowing users to donate food, clothes, and money to their chosen orphanages. The project promotes transparency through a feedback mechanism, enhancing accountability and trust. Through careful consideration of user experience and security measures, the deployed system aims to provide a secure, scalable, and efficient platform. As we deploy the project, continuous monitoring, maintenance, and potential scaling will be essential to ensure its ongoing success. The Orphanage Life Foundation stands as a testament to the potential of technology to make a positive impact on the lives of those in need and to bring communities together in the spirit of compassion and generosity.

SCOPE:

The future scope of the Orphanage Life Foundation project holds significant potential for expansion, enhancement, and increased impact. Here are some potential avenues for future development:

- ✓ Geographic Expansion
- ✓ Mobile Application Development
- ✓ Integration with Social Media Platforms
- ✓ Advanced Analytics and Reporting
- ✓ Collaboration with cooperate partners
- ✓ Educational Initiatives

The future scope of the Orphanage Life Foundation project is dynamic and can evolve in response to emerging technologies, societal needs, and collaboration opportunities. By staying adaptable and responsive to feedback, the project can continue to make a positive impact on the lives of orphaned children and the communities that support them.

Video Link:

https://drive.google.com/file/d/1Unv6fGZPieV1s2dnTmF0BNQU8uhDYzMR/view?usp=drivesdk

GitHub Link:

https://github.com/Varshitha269/ORPHANAGE-LIFE-FOUNDATION

REFERENCES

- https://www.scribd.com/document/130499797/Synopsis-Final
- https://www.ijraset.com/research-paper/web-application-for-medicine-food-books-and-cloth
- https://www.operationhelpahero.org/