**Sponsorship Program Web Application for Orphan or Poor Family Children**

**Graduation Project Report**

**CMSE/CMPE - 405**

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**Term: Spring 2022/2023**

# ABSTRACT

The main goal of the design project is to create a website that allows users to make donations and provide support to disadvantaged and orphaned children. The project focuses on addressing various needs of these children, including shelter, nutrition, clothing, education, healthcare, and allowance. Through the website, users will have the opportunity to contribute financially towards fulfilling these essential requirements.

The design project employs a range of methods to achieve its objectives. These methods include conducting interviews and surveys to gather requirements from stakeholders, employing iterative design processes to create an effective user interface, utilizing appropriate technologies for front-end and back-end development, designing and implementing a database, establishing a verification and approval process for user registrations, developing filtering and sorting algorithms, integrating a secure payment gateway, implementing a messaging system for communication between users and children, conducting thorough testing and quality assurance procedures, deploying the website, and ensuring ongoing maintenance and updates. These methods ensure that the website functions well, is user-friendly, and provides a secure platform for users to make donations.

The outcome of the design project is the successful creation of a user-friendly website that facilitates donations to children in need. The website includes features such as filtering options, detailed child profiles, a secure payment system, and a messaging platform for communication between users and children. Rigorous testing and quality assurance processes ensure that the website functions properly and is secure. Overall, the project accomplishes its objective of enabling users to contribute and support underprivileged children effectively.

In conclusion, the design project confirms that the developed website effectively allows users to make donations to children in need. The user-friendly interface, filtering options, detailed child profiles, secure payment system, and messaging platform contribute to a seamless and engaging user experience. The successful implementation of the project demonstrates the potential of technology in addressing social issues and making a positive impact on the lives of vulnerable children.

**Keywords:**

* Donations
* Children in need
* Orphaned children
* User interface
* Secure payment system

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# 1. INTRODUCTION

The lack of a centralized platform for donations to support children in need, particularly those without proper guardianship, is a significant challenge.

The project addresses the need for a reliable and accessible means for individuals to contribute towards fulfilling the diverse needs of underprivileged children. Without such a platform, it is difficult to find trustworthy channels for donations, hindering support for vulnerable children. This project aims to bridge this gap and streamline the donation process. The primary beneficiaries are the children in need themselves. By providing a targeted donation platform, individuals can contribute to specific needs such as shelter, nutrition, clothing, education, healthcare, and allowance. Additionally, the project benefits users who seek to make a positive impact, offering a convenient and transparent avenue for their donations.

While various initiatives exist to address the needs of underprivileged children, a centralized platform specifically focusing on monetary donations for children without guardianship may be lacking. Existing charitable organizations and initiatives have different approaches, but this project provides a specialized platform solely dedicated to meeting the needs of these children through financial contributions.

The problem area encompasses challenges faced by children in need, particularly those without proper guardianship. It includes limited access to basic necessities, educational opportunities, healthcare, and financial stability. Solving these issues requires a comprehensive approach that combines financial support, social awareness, and stakeholder collaboration. This project aims to contribute to this broader goal by providing an efficient platform for individuals to improve the lives of these children through their contributions.

# 2. PROJECT PLANNING AND MANAGEMENT

A.1. Preliminary Project Information

# A.1.1

|  |  |
| --- | --- |
| **Project No** |  |
| **Project Name** | Foster Family/Sponsorship Program Mobile/Web Application for Orphan or Poor Family Children |
| **Start Date** | 04.04.2023 |
| **End Date** | 15.01.2024 |
| **Time** |  |

# A.1.2

|  |  |  |  |
| --- | --- | --- | --- |
| **Project Manager** | | | |
| **Name Surname** | Emir Kaan Yapıcı | **ID No** | 19000053 |
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A.2 Group Information

# A.2.1

|  |  |  |  |
| --- | --- | --- | --- |
| **Student 1** | | | |
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|  |  |  |  |
| --- | --- | --- | --- |
| **Student 2** | | | |
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|  |  |  |  |
| --- | --- | --- | --- |
| **Student 3** | | | |
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| **Phone** | +90 5488537718 | | |
| **Email** | dogukan\_190701@hotmail.com, | | |

# A.2.2

|  |
| --- |
| **List of Completed / Ongoing Projects of Team** |
| -Samet Sarıçiçek CMSE 322 Web Scraping  -Emir Kaan YAPICI CMPE312 Student Portal  -Ali Başaran KABA CMSE326 Software Testing |

B.1 Introduction to Project

# B.1.1

|  |
| --- |
| **Summary of Project** |
| Our project aims to provide educational and welfare support to children from orphaned or low-income families. Through this platform, sponsors can connect with and financially support children in need, ensuring they have access to quality education, healthcare, and other essential services. The web application facilitates transparent communication between sponsors and beneficiaries, while tracking the progress and impact of the support provided. |

# B.1.2

|  |
| --- |
| **Key Words** |
| Sponsorship Program, Web Application, Orphan, Poor Family Children, Education, Welfare Support, Financial Support, Healthcare, Essential Services, Transparent Communication, Progress Tracking, Impact |

# B.1.3

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| --- |
| **Aim of Project** |
| The objective of this project is to develop a web app that links sponsors to orphaned or underprivileged children who require educational and welfare assistance. By promoting transparent communication and financial aid, the project aims to guarantee that these kids have access to education materials, healthcare, and vital services, ultimately enhancing their overall well-being and future opportunities. |

# B.1.4

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| **Innovative Aspects/Contributions of Project** |
| Developing a user-friendly web app that simplifies the sponsorship process, making it more convenient for sponsors to connect with children in need.  Establishing transparent communication channels between sponsors and beneficiaries, nurturing trust and accountability.  Incorporating progress tracking and impact assessment tools that enable sponsors to evaluate the efficacy of their contributions.  Leveraging technology to effectively match sponsors with children based on specific needs and preferences.  Raising social awareness and motivating more people to participate in helping underprivileged children. |

# B.1.5

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| **Methods to be Applied** |
| Performing research and analysis on existing sponsorship programs to pinpoint best practices and opportunities for enhancement.  Creating a user-friendly web app interface, emphasizing ease of use and accessibility for users.  Introducing secure and transparent communication tools, like messaging and video chat, to enable interaction between sponsors and children.  Utilizing data-driven matching algorithms to pair sponsors with children based on individual preferences and requirements.  Incorporating progress tracking and impact assessment tools to evaluate the success of sponsorships.  Marketing the web application through diverse channels to draw sponsors and increase awareness about the cause. |

# B.1.6

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| **Economic and National Outcomes** |
| Our group is proud to operate as a non-profit entity, committed to making a positive impact on the lives of orphaned or poor family children. Our primary goal is not to generate revenue, but to provide a platform that connects sponsors with children in need, ensuring they have access to quality education, healthcare, and essential services.  As a non-profit, we rely on the generosity of our sponsors and other supporters to fund our operations and maintain the web application. We pledge to utilize all donations and resources responsibly and transparently, focusing on maximizing the benefits for the children we serve. Together, we strive to create a brighter future for these young individuals and promote a more equitable society for all. |

B.2 Reason of Starting the Project, Methods and R&D Stages

# B.2.1

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| **1- Explain the reason of starting this project. (Max 500 charachter)** |
| The primary motivation for initiating this project stems from our dedication to making a tangible, positive impact on the lives of orphaned or poor family children who encounter numerous obstacles in accessing quality education, healthcare, and essential services. By developing a user-friendly web application, we aim to bridge the gap between sponsors and children in need, allowing for more efficient and effective support.  Many children from disadvantaged backgrounds lack the resources and opportunities to reach their full potential, which perpetuates a cycle of poverty and limited prospects for the future. This project strives to break this cycle by connecting children with sponsors who can offer the necessary financial aid and emotional support to help them flourish.  By enabling transparent communication channels and utilizing advanced matching algorithms, our web application ensures that each sponsorship caters to the individual needs of the children involved. This personalized approach optimizes the impact of the assistance provided and fosters a deeper bond between sponsors and beneficiaries.  In addition to the immediate benefits of sponsorship, this project also aims to inspire a broader shift in societal attitudes towards underprivileged children. By promoting compassion, empathy, and social responsibility, we hope to establish a more inclusive and supportive community for all children, regardless of their background.  Ultimately, the driving force behind this project is the conviction that every child deserves the chance to lead a fulfilling and successful life. Through the development and implementation of this web application, we are working to turn this conviction into a reality for countless young individuals in need. |
| **2- Explain the purpose of this project.** |
| The goal of this project is to create a web application that acts as a platform for linking sponsors with orphaned or underprivileged children who require educational and welfare assistance. By enabling financial support and transparent communication between sponsors and beneficiaries, the project seeks to ensure these children gain access to quality education, healthcare, and vital services. This assistance will ultimately contribute to improving their overall well-being and future opportunities, promoting a more equitable society. |

|  |
| --- |
| **3- Explain**   * **output of project** * **national / international standards if exist** * **the specific objectives of the project** * **success criterias** * **realistic constraints** |
| Project Output: A user-friendly web application that links sponsors with orphaned or underprivileged children in need of educational and welfare assistance.  National/International Standards: While there may not be specific standards for such projects, it is crucial to comply with data privacy regulations like GDPR and adhere to best practices for child protection and ethical sponsorship.  Specific Objectives:  a) Enable sponsor-child connections.  b) Encourage transparent communication.  c) Facilitate access to education, healthcare, and essential services.  d) Promote social awareness and responsibility.  Success Criteria:  a) Number of children sponsored.  b) Positive impact on children's lives.  c) User satisfaction and continuous engagement.  d) Expansion of the platform to reach more children.  Realistic Constraints:  a) Funding for development and maintenance.  b) Ensuring data privacy and security.  c) Attracting and retaining sponsors.  d) Monitoring and evaluating the project's impact. |
| **4- Explain**   * **the methods to be applied during R&D activities** * **applications** * **techniques and tools to be used** * **standards to be followed under the workflow** |
| **Which SOFTWARE PROCESS MODEL in below will you apply? Why? How? Explain.**  The Waterfall Model offers advantages such as:  Easy-to-follow structure: The linear sequence of stages simplifies project management and team coordination.  Thorough documentation: Comprehensive documentation at each stage ensures clarity in requirements and design, benefiting future maintenance and scalability.  Defined milestones: Clear milestones help track progress, measure success, and keep stakeholders informed throughout the project.  **Explain, Project Workflow:**   1. **Feasibility and Pre-research:**   Technical Feasibility: Evaluate the technical resources, skills, and infrastructure needed to create the web application, ensuring that the development team possesses the capabilities to achieve the project objectives.  Financial Feasibility: Estimate the expenses associated with developing, launching, and maintaining the web application, and investigate potential funding sources, such as donations, grants, or partnerships.  Legal and Regulatory Considerations: Assess any legal or regulatory requirements related to child protection, data privacy, and other relevant factors that may influence the project.  By conducting a comprehensive feasibility study and preliminary research, you can better understand the project's viability, identify possible risks and challenges, and establish a strong foundation for successful execution.  To gain a deeper understanding of the project's implementation, we aim to gather more information by examining systems that have employed similar or identical methods. To diversify the project, we intend to interview users of applications that have used similar or the same methods and expand the project based on their responses.   1. **System Design:**   Requirement Analysis: Collect and examine the functional and non-functional requirements of the project, such as user features, performance, and security.  Architectural Design: Establish the high-level structure of the application, including the selection of architecture patterns and the interaction between different components.  User Interface (UI) Design: Develop wireframes and mockups for the application's user interface, ensuring it is user-friendly, visually appealing, and aligns with the project's objectives.  Database Design: Outline the structure of the database, including tables, relationships, and indexing strategies, to enable efficient storage and retrieval of data.  Component Design: Divide the system into smaller, manageable components or modules, and define the functionality, interfaces, and dependencies for each component.  Integration Design: Plan the integration of components, APIs, and third-party services, ensuring smooth communication and data exchange between them.  Security and Privacy Design: Implement security measures and data protection mechanisms to safeguard sensitive information and comply with relevant regulations. Once the system design is completed and approved, the development team can move forward to the implementation phase, converting the design specifications into a functional web application.   1. **Software development:**   Software development is the process of creating a software application by following a series of stages, from requirement gathering to deployment and maintenance. For your Sponsorship Program Web Application for Orphan or Poor Family Children, the software development process will typically involve these phases:  Requirement Gathering: Collaborate with stakeholders to define the project's functional and non-functional requirements, such as features, performance, security, and user experience.  Planning and Estimation: Create a project plan, allocate resources, and estimate timelines, budgets, and potential risks.  System Design: Design the application's architecture, user interface, database, components, integration, and security, as detailed in the previous response.  Implementation: Write the source code for the application, following the design specifications, and using appropriate programming languages, frameworks, and libraries.  Testing: Perform various types of testing, such as unit, integration, system, and user acceptance testing, to ensure the application meets its requirements and functions correctly.  Deployment: Deploy the application to a production environment, making it accessible to end-users. This may involve configuring servers, databases, and other infrastructure components.  Maintenance and Support: Monitor the application's performance, address any issues that arise, and provide ongoing support to users. This phase also includes updating the application to accommodate new features, bug fixes, and changing requirements. By following a structured software development process, you can improve the efficiency and quality of your web application, ensuring that it meets the needs of its target users and achieves its intended purpose.   1. **Prototype implementation and testing work:**   Prototype Implementation: Create a scaled-down version of the web application, focusing on the most crucial features and functionality. This prototype should include essential elements of the user interface, database, and system components, but it does not need to be fully functional or polished.  Usability Testing: Invite a group of target users to test the prototype and gather feedback on its usability, design, and features. Observe how users interact with the application and take note of any issues or areas for improvement.  Functional Testing: Ensure that the prototype's features work as intended and meet the specified requirements. This includes testing various user scenarios, inputs, and workflows to confirm that the system behaves correctly and consistently.  Performance Testing: Evaluate the prototype's performance under various conditions, such as different load levels, network speeds, and device types. Identify any bottlenecks or performance issues that may require optimization.  Security Testing: Examine the prototype's security measures and data protection mechanisms, checking for vulnerabilities and potential risks. This is particularly important for an application dealing with sensitive information, such as a sponsorship program for children.  Feedback Analysis and Iteration: Analyze the feedback and test results, and make any necessary changes to the design, functionality, or performance. Iterate on the prototype until it meets the desired level of quality and user satisfaction.  Finalize Design and Move to Full Implementation: Once the prototype has been thoroughly tested and refined, finalize the design and proceed with the full implementation of the web application, incorporating all the lessons learned from the prototyping phase.   1. **Maintenance:**   Bug Fixes: Keep an eye on the application for any bugs, issues, or errors that may arise and address them promptly to ensure the application's stability and reliability.  Updates and Enhancements: Integrate new features, functionality, and updates to ensure the application remains relevant and useful to its users. This may include responding to user feedback, adding new sponsorship programs, or improving the application's performance and security.  Performance Optimization: Continuously monitor and optimize the application's performance to ensure fast loading times, responsive user interface, and efficient use of resources.  Data Backup and Recovery: Regularly back up the application's data and create a recovery plan to ensure data is protected and can be quickly restored in case of data loss or system failure.  Technical Support: Provide ongoing technical support to users, responding to their questions and concerns, and troubleshooting any issues that arise.  Compliance and Security: Monitor the application's compliance with relevant regulations and industry standards, and ensure that the application's security measures and data protection mechanisms are up-to-date and effective. |
| **5- Explain**   * **the contribution of national/international technological development if exist** * **starting a new research and development projects within or outside the team** * **launch new applications or research studies in different technology areas**   **With whom can we cooperate?**  **Expectations:**  **Published work:**  **Can your output be an input for other similar national/international projects?** |
| The Sponsorship Program Web Application for Orphan or Poor Family Children has the potential to contribute to national and international technological development by providing a platform for addressing a critical social issue using innovative technology. The project could inspire similar initiatives in other countries or lead to the creation of new tools and technologies that can help solve related challenges.  In terms of research and development, there may be opportunities to collaborate with other teams or organizations working on related projects. This could involve sharing knowledge, expertise, or resources to accelerate progress and improve the quality of the final product. It may also be beneficial to explore partnerships with government agencies, NGOs, or academic institutions that have relevant expertise or resources.  Through the publication of research papers, white papers, and other forms of knowledge sharing, the project can contribute to the wider body of knowledge on child sponsorship programs and social impact technology. This could help to inform policy decisions and inspire further research and development in the field.  The output of the project may also be used as an input for other similar national or international projects. The knowledge and technology developed could be adapted and applied to other contexts or countries to address similar social challenges.  In summary, the Sponsorship Program Web Application for Orphan or Poor Family Children has the potential to make a significant contribution to national and international technological development. Through collaboration with other teams and organizations, publication of research, and knowledge sharing, the project can help to inspire and accelerate progress in the field of social impact technology. |

B.3 Innovative and Unique Aspects

# B.3.1

|  |
| --- |
| **1- Describe**   * **differences** * **advantages** * **superiority**   **compared to other similar projects.** |
| Innovative Technology: The project utilizes innovative technology to address a critical social issue. The web application uses a user-friendly interface, secure payment gateway, and personalized sponsorship options to create a unique user experience.  Flexibility and Customization: The web application is designed to be flexible and customizable, allowing sponsors to choose from a variety of sponsorship options and tailor their support to meet the specific needs of the child or family they are sponsoring.  Robust Tracking and Reporting: The web application includes a robust tracking and reporting system that allows sponsors to track the impact of their support, including updates on the child's education, health, and well-being.  Social Impact Focus: The project is driven by a social impact focus, aimed at improving the lives of vulnerable children and families. It aligns with the United Nations Sustainable Development Goals and supports the efforts of governments and NGOs to create a more equitable and just society.  Collaborative Approach: The project takes a collaborative approach to development, partnering with stakeholders, sponsors, and other organizations to maximize impact and ensure that the application meets the needs of its users.  These advantages and superiorities set the Sponsorship Program Web Application for Orphan or Poor Family Children apart from other similar projects. By leveraging innovative technology, customization, robust tracking, and a social impact focus, the project has the potential to create meaningful and lasting change for vulnerable children and families. The collaborative approach to development also ensures that the application is relevant and responsive to the needs of its users, maximizing its impact and effectiveness. |

# B.4.1

|  |
| --- |
| **2- Who can contribute to this project in your team?** |
| Project Manager  Backend Manager  Backend Developer  Frontend Manager  Frontend Developer  Database Manager  User Interface Designer |

C.1 Gantt Chart and Work Packages

# C.1.1 Gantt Chart

*Figure 3.1: Gantt Chart - Visual representation of project milestones and timeline.*

# 

*Figure 1.2: Gantt Chart - Visual representation of project milestones and timeline.*

# C.1.2 List of Work Packages

|  |  |
| --- | --- |
| **Work Package No** | 1 |
| **Work Package Name** | **Project Feasibility and Pre-Research** |
| **Start-End Date and Time** | 04.03.2023 - 15.04.2023 |
| **Related Organizations** | - |

|  |
| --- |
| **1- List the activities of work packages.** |
| * Defining the project objectives and scope * Identifying potential risks and constraints * Assessing the technical feasibility of the project * Evaluating the financial viability of the project * Defining the project roadmap and timeline * Preparing a project proposal and feasibility report |
| **2- Describe the methods and parameters that will be used for work package.** |
| * Market research: Surveys, interviews, focus groups, will be used. * Technical feasibility analysis: This will involve assessing the technology requirements, potential challenges, and risks associated with the project. This analysis will help in identifying any technical limitations or challenges. * Financial analysis: This will involve conducting a cost-benefit analysis and evaluating the project's financial viability. * Project proposal and feasibility report: The proposal and report will be developed based on the findings from the market research, technical feasibility analysis, and financial analysis. The report will include an executive summary, project objectives, scope, market analysis, technical feasibility, financial analysis, project roadmap, and timeline. |
| **3- List the experiments, tests and analysis in the work package.** |
| * Conduct market research and analysis to identify children who need help. * Determine technical feasibility by evaluating existing technologies and identifying potential challenges and limitations. * Conduct cost-benefit analysis to determine the financial feasibility of the project. * Identify potential risks and challenges and develop mitigation strategies. * Determine the project scope, requirements, and constraints. |
| **4- List the output of work package and its success criterias.** |
| **Outputs**:  A feasibility report that includes market analysis, technical feasibility assessment, cost-benefit analysis, risk assessment, project scope, requirements, and constraints.  **Success Criteria:**   * Completion of the feasibility report within the allocated time and budget. * Clear identification of the project's potential market, technical feasibility, and financial viability. * Identification and mitigation of potential risks and challenges. |
| **5- Explain the relation of output with other work packages** |
| The output of the Project Feasibility and Pre-Research work package will provide important information and insights for the other work packages. The market analysis will inform the design and development of the system, while the technical feasibility assessment will guide the database and backend development. The cost-benefit analysis will help determine the budget and resource allocation for the project, and the risk assessment and mitigation strategies will be incorporated into the implementation and testing phases. Overall, the feasibility report will serve as a roadmap for the entire project, guiding decision-making and ensuring that the project remains on track to meet its goals. |

|  |  |
| --- | --- |
| **Work Package No** | 2 |
| **Work Package Name** | System Design |
| **Start-End Date and Time** | 17.04.2023 - 14.06.2023 |
| **Related Organizations** | - |

|  |
| --- |
| **1- List the activities of work packages.** |
| 1. Requirement analysis 2. Architectural design 3. System specification 4. Component design 5. Integration and testing plan 6. Documentation and reporting |
| **2- Describe the methods and parameters that will be used for the work package.** |
| * Use of UML diagrams for system modeling * Definition of system components and interfaces * Use of design patterns for component design * Conducting code reviews and unit testing for component development * Creation of integration and testing plan for system-level testing * Documentation of design decisions and testing results |
| **3- List the experiments, tests and analysis in the work package.** |
| 1. Create a detailed system design document that includes architecture diagrams, data flow diagrams, sequence diagrams, and use case diagrams. 2. Conduct a feasibility study to assess the practicality of the proposed system design. 3. Analyze potential risks and develop risk management strategies. 4. Test the system design through simulations and prototypes to identify and resolve any issues. 5. Conduct a user-centered design process to ensure the system design meets user requirements and expectations. |
| **4- List the output of the work package and its success criterias.** |
| **Outputs:**   * A detailed system design document that includes all necessary diagrams, specifications, and requirements. * A feasibility report that outlines potential challenges, risks, and mitigation strategies. * A risk management plan that identifies and mitigates potential risks associated with the system design. * A testing report that outlines the results of simulations and prototypes and any issues that were identified and resolved. * User requirements and expectations that have been incorporated into the system design.   **Success Criteria's:**   1. The system design document is completed on time and meets all necessary specifications and requirements. 2. The feasibility report identifies potential challenges and risks and provides viable mitigation strategies. 3. The risk management plan identifies and mitigates potential risks associated with the system design. 4. The testing report identifies and resolves any issues with the system design. 5. User requirements and expectations are successfully incorporated into the system design. |
| **5- Explain the relation of output with other work packages** |
| The output of the system design work package serves as the foundation for the subsequent work packages, including database development, backend development, frontend development, and prototype implementation and test study and maintenance. The system design document provides the technical specifications and requirements that guide the development and implementation of the system. The database development work package, for example, uses the system design document to create a database schema that aligns with the system's requirements. Similarly, the backend development work package uses the system design document to develop a backend architecture that aligns with the system's requirements. The frontend development work package uses the system design document to develop a user interface that aligns with the system's requirements. Finally, the prototype implementation and test study and maintenance work package uses the system design document to develop and test the final product. |

|  |  |
| --- | --- |
| **Work Package No** | 3 |
| **Work Package Name** | Database Development |
| **Start-End Date and Time** | 15.06.2023 - 19.07.2023 |
| **Related Organizations** | - |

|  |
| --- |
| **1- List the activities of work packages.** |
| * Defining the database schema and structure * Designing the tables and relationships * Creating the database and configuring the necessary settings * Populating the database with test data and validating its integrity * Developing and implementing the data access layer * Creating views and stored procedures for efficient data retrieval and manipulation * Implementing data security and access controls * Conducting performance tuning and optimization |
| **2- Describe the methods and parameters that will be used for work package.** |
| * Utilizing a relational database management system such as MySQL using PHPMyAdmin. * Choosing appropriate data types and field sizes for efficient storage and retrieval * Implementing normalization rules to avoid data redundancy and inconsistencies * Utilizing SQL queries and scripts for database creation and management * Implementing database security features such as user authentication and access control lists (ACLs) * Testing the database using unit tests and integration tests to ensure proper functionality and performance |
| **3- List the experiments, tests and analysis in the work package.** |
| * Data modeling and database design * Implementation of database schema * Database testing and validation * Integration testing with the backend system * Performance testing and optimization |
| **4- List the output of work package and its success criterias.** |
| **Outputs:**  A fully functional and optimized database that meets the requirements of the system design  **Success Criteria's:**   * Database design and schema are complete and accurately reflect the requirements of the system * All necessary tables, columns, and relationships are implemented correctly * Data is properly validated and stored in the database * Database integration with the backend system is successful * Database performance meets or exceeds the requirements outlined in the system design |
| **5- Explain the relation of output with other work packages** |
| Fully functional and optimized database, is crucial for the success of the following work packages. Including the backend development and frontend development. The backend system relies heavily on the database for data storage and retrieval, while the frontend system depends on the backend API to fetch data from the database. Any issues or errors in the database can result in errors or failures in the other work packages. Therefore, a successful output from this work package is essential for the successful completion of the overall project. |

|  |  |
| --- | --- |
| **Work Package No** | 4 |
| **Work Package Name** | Backend Development |
| **Start-End Date and Time** | 20.07.2023 - 09.08.2023 |
| **Related Organizations** | - |

|  |
| --- |
| **1- List the activities of work packages.** |
| * Defining the backend architecture * Developing the backend functionalities according to the system design * Implementing database connection and management * Writing API endpoints for the frontend to interact with the backend * Testing and debugging the backend code * Integrating with the frontend and database development work packages |
| **2- Describe the methods and parameters that will be used for work package.** |
| * The programming language to be used for backend development, such as PHP, HTML, JavaScript, CSS * The choice of framework for the backend, such as Laravel. * The database management system,The API development and documentation tool, Postman * The version control system, Git * The Waterfall methodology will be used for development. |
| **3- List the experiments, tests and analysis in the work package.** |
| * Unit testing for each module developed * Integration testing for the integrated modules * Performance testing for the developed system * Security testing to ensure the system is secure * Error handling testing to ensure the system can handle errors effectively |
| **4- List the output of work package and its success criterias.** |
| **Outputs:**   * Completed backend code with all modules integrated and tested * User and API documentation for the developed backend code * Error-free and secure backend system   **Success Criteria's:**   * All backend modules are developed and integrated by the end of the work package * The backend system passes all tests, including unit, integration, performance, security, and error handling tests * The documentation is complete and easy to understand for users and developers * The backend system is error-free, secure, and meets the requirements specified in the system design. |
| **5- Explain the relation of output with other work packages** |
| The Backend Development work package is really important for the Frontend Development and Prototype Implementation and Test Study and Maintenance work packages. The frontend development team needs the backend system to provide the things they need to build the frontend parts. So, it's really important to finish the backend development work package successfully to make sure the whole project works well. Also, the prototype implementation and test study and maintenance team will use the backend system to test and maintain the system. If there are any problems or mistakes in the backend system, the whole project will not work as well as it should. |

|  |  |
| --- | --- |
| **Work Package No** | 5 |
| **Work Package Name** | Frontend Development |
| **Start-End Date and Time** | 10.08.2023 - 21.11.2023 |
| **Related Organizations** | - |

|  |
| --- |
| **1- List the activities of work packages.** |
| * Developing the UI/UX design * Creating the HTML, CSS, and JavaScript codes for the website's frontend * Implementing responsive design for different screen sizes and devices * Integrating frontend with the backend API and database * Testing and debugging frontend code * Providing user documentation and training materials for website usage |
| **2- Describe the methods and parameters that will be used for work package.** |
| * Agile development methodology to ensure flexibility and responsiveness to changes * HTML5, CSS3, and JavaScript as the primary programming languages for the frontend development * Frontend frameworks and libraries, React * Version control systems such as Git for source code management and collaboration * Browser testing tools, BrowserStack * Responsive design testing tools, BrowserStack * Performance testing tools such as Google Lighthouse or WebPageTest. |
| **3- List the experiments, tests and analysis in the work package.** |
| 1. Usability testing: This involves testing the usability and functionality of the application's user interface (UI) to ensure that it is user-friendly and easy to use. 2. Compatibility testing: This involves testing the application's compatibility across different browsers and devices to ensure that it works smoothly on all platforms. 3. Performance testing: This involves testing the performance of the application's UI to ensure that it is responsive and does not slow down even when handling large amounts of data. 4. Security testing: This involves testing the application's UI for vulnerabilities to ensure that it is secure and safe for users to use. |
| **4- List the output of work package and its success criterias.** |
| **Outputs:**  The output of the Frontend Development work package is a fully-functional user interface that is user-friendly, responsive, and compatible across different browsers and devices.  **Success Criteria's:**   1. A fully-functional user interface that meets the requirements specified in the design document. 2. User testing feedback indicating that the UI is user-friendly and easy to use. 3. Compatibility testing results indicating that the UI works smoothly on all platforms. 4. Performance testing results indicating that the UI is responsive and can handle large amounts of data. 5. Security testing results indicating that the UI is secure and free from vulnerabilities. |
| **5- Explain the relation of output with other work packages** |
| The Frontend Development work package is really important and it's connected to other work packages, especially the System Design and Backend Development ones. The user interface has to be designed based on what's in the design document, which is made in the System Design work package. Also, the frontend code has to work really well with the backend code, which is made in the Backend Development work package. Finally, the output of the Frontend Development work package will be tested in the Prototype Implementation and Test Study work package to make sure it works right and does what it's supposed to do for the project. |

|  |  |
| --- | --- |
| **Work Package No** | 6 |
| **Work Package Name** | **Prototype Implementation and Test Study and Maintenance (Test & Maintenance stage)** |
| **Start-End Date and Time** | 22.11.2023 - 15.01.2023 |
| **Related Organizations** | - |

|  |
| --- |
| **1- List the activities of work packages.** |
| * Conducting system testing and debugging * Implementing and integrating the system components * Documenting and presenting the system architecture and design * Preparing user manuals and training materials * Conducting user training sessions * Performing system maintenance activities such as bug fixes, upgrades, and backups * Conducting performance testing and optimization |
| **2- Describe the methods and parameters that will be used for work package.** |
| * Using automated testing tools and frameworks for system testing and debugging * Implementing the system using agile development methodologies to ensure flexibility and adaptability to changing requirements * Utilizing version control systems such as Git to manage and track code changes and updates * Conducting load testing to measure system performance under high traffic and peak loads * Developing and implementing a system of monitoring and analytics to track system performance, usage, and user feedback. |
| **3- List the experiments, tests and analysis in the work package.** |
| * Performing regression testing to ensure that new features and modifications have not introduced any unexpected issues. * Conducting load testing to assess system performance under heavy usage and identify any bottlenecks or areas that need optimization. * Analyzing system logs and error reports to identify and address any issues or bugs. * Conducting usability testing to evaluate the user-friendliness and accessibility of the system. |
| **4- List the output of work package and its success criterias.** |
| **Outputs:**   * A fully functioning prototype of the system that meets all the requirements outlined in the project plan. * Comprehensive documentation, including user manuals, technical manuals, and system specifications. * A report on the results of testing, including any issues or bugs identified and addressed during the testing process. * A maintenance plan outlining the schedule and procedures for ongoing system maintenance and support.   **Success Criteria's:**   * The system passes all acceptance tests and meets the requirements and expectations of end-users. * The system performs well under heavy usage and load testing. * All identified issues and bugs are addressed and resolved. * The system is deemed user-friendly and accessible through usability testing. * The maintenance plan is comprehensive and feasible for ongoing system maintenance and support. |
| **5- Explain the relation of output with other work packages** |
| The output of this work package is critical to the success of the entire project as it involves the implementation and testing of the prototype system. The successful completion of this work package will ensure that the system is fully functional and meets all the requirements outlined in the project plan. The output will serve as the foundation for the subsequent work packages, including the frontend and backend development stages, as any modifications or additions will be based on the prototype developed in this stage. Additionally, the maintenance plan developed in this work package will be used in the final stage of the project to ensure ongoing support and maintenance of the system. |

# C.1.3 List of Milestones (should be matched in the Gantt chart)

*Table 1: Milestone List - Project milestones.*

|  |  |  |
| --- | --- | --- |
|  | **Description of Output** | **Expected Time Interval** |
| 1 | Project Feasibility and Pre-Research | 04.03.2023 - 15.04.2023 |
| 2 | System Design | 17.04.2023 - 14.06.2023 |
| 3 | Database Development | 15.06.223 - 19.07.2023 |
| 4 | Backend Development | 20.07.2023 - 09.08.2023 |
| 5 | Frontend Development | 10.08.2023 - 21.11.2023 |
| 6 | Prototype Implementation,Test Study and Implementation | 22.11.2023 - 15.01-2024 |

# C.1.4 List of Risks (see following example, find other risks of your Project!)

*Table 2: Risk List - Identified project risks*.

|  |  |  |  |
| --- | --- | --- | --- |
| Risk | Probability | Effects | Your Strategy |
| The time required to develop the software is underestimated. | High | Serious | We will reevaluate the project time and plan the project again |
| Software tools cannot work together in an integrated way. | High | Tolerable | We try other tools to integrate. If it is not integrable then we will create our tools. |
| Customers fail to understand the impact of requirements changes. | Moderate | Tolerable | It is tried to be explained in the meetings or the effect of this situation is explained to the customer in monetary terms. |
| The rate of defect repair is underestimated. | Moderate | Tolerable | Replace potentially defective components with more reliable bought-in components. |
| The size of the software is underestimated. | High | Serious | Investigate buying sw components;  Investigate use of a program generator. |
| Code generated by code generation tools is inefficient. | Moderate | Insignificant | More effective tools are used by changing software tools. |
| Key staff are ill at critical times in the project. | Moderate | Serious | Reorganize the team so that there is more overlap of work and people therefore understand each other’s jobs. |
| The database used in the system cannot process as many transactions per second as expected. | Moderate | Serious | Investigate the possibility of buying a higher-performance database. |

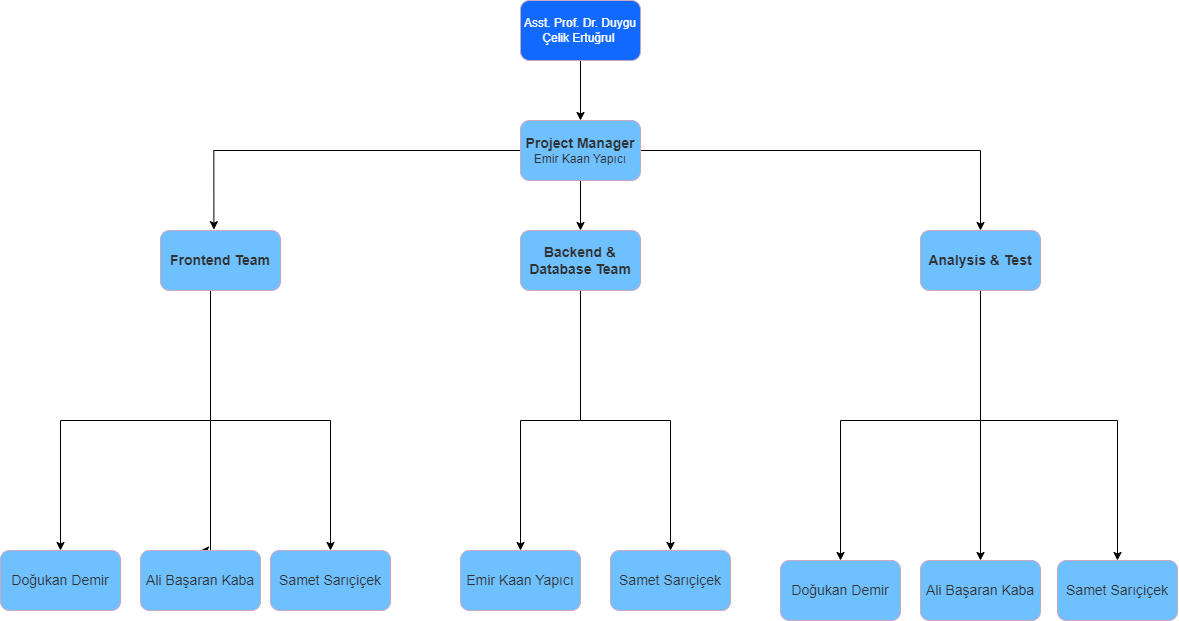
C.2 Project Management and Organization

# C.2.1 Project Team

*Table 3: Risk List - Identified project risks.*

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Personnel Name** | **Title** | **ID** | **Education Status** | **Graduation Date** | **Date of Starting Work** | **Idea Owner** |
| Emir Kaan YAPICI | Database Manager-Backend Developer | 19000053 | B.S | 01/07/2024 | 04.04.2023 |  |
| Samet SARIÇİÇEK | Backend Manager-Frontend Developer | 19331159 | B.S | 01/07/2024 | 04.04.2023 |  |
| Ali Başaran KABA | User Interface Designer | 19000089 | B.S | 01/02/2024 | 04.04.2023 |  |
| Doğukan DEMİR | Frontend Developer | 19001429 | B.S | 01/02/2024 | 04.04.2023 |  |

# C.2.2 Organization Scheme (an example is given below!)

*Figure 2: Organization Scheme - Diagram depicting the project's organizational structure.*

D.1 Economic Forecasts

|  |
| --- |
| **1- Evaluate the commercialization potential of project outcomes. List possible risks here?** |
| the potential risks associated with commercializing a platform like ours:   * **Lack of demand:** There may not be enough demand for the platform, leading to limited growth and revenue potential. * **Competition:** There may be other platforms or organizations offering similar services, making it difficult to differentiate your platform and attract sponsors. * **Legal and regulatory issues:** There may be legal and regulatory issues related to collecting donations and distributing them to beneficiaries, which could create compliance challenges and liabilities. * **Reputation risks:** The platform's reputation could be at risk if there are any issues related to transparency, accountability, or the effective use of donations. * **Operational risks:** There may be operational risks related to the technology infrastructure, data privacy, and security, which could lead to system failures or data breaches.   It's important to acknowledge these risks and develop a plan to mitigate them, such as implementing rigorous data privacy and security protocols, ensuring transparency and accountability in how donations are used, and complying with all relevant laws and regulations.  And also there are additional risks related specifically to providing support to orphaned or low-income children:  **Dependence:** Children may become dependent on the support provided by sponsors, making it difficult for them to become self-sufficient in the long term.  **Stigmatization**: Children may be stigmatized or face discrimination due to their orphaned or low-income status, which could impact their social and emotional well-being.  **Cultural barriers:** Cultural barriers may prevent some children from accessing the support they need, such as educational opportunities or healthcare services.  **Sustainability:** The support provided may not be sustainable in the long term, especially if the needs of the children change or if sponsors are no longer able to provide support.  **Quality of life:** The support provided may not be sufficient to improve the quality of life for the children in meaningful ways, such as by addressing their health, education, or emotional needs.  **Lack of parental figures:** Orphaned children may lack parental figures or role models, which could impact their emotional and social development.  **Mental health:** Orphaned children may be at risk of developing mental health issues such as anxiety, depression, and trauma due to their experiences of loss and hardship.  It's important to acknowledge these risks and work to mitigate them by providing holistic support that addresses the specific needs of orphaned and low-income children, including emotional and social support, as well as education and healthcare services. Additionally, it's important to ensure that the support provided is sustainable and able to improve the quality of life for the children in meaningful ways. |

|  |  |
| --- | --- |
| **2- List your expectations to your team which are come by your project** | |
| Time-to-market (month): | Unknown |
| The expected increase in sales revenue (%): | Unknown |
| The expected increase in market share (%): | Unknown |
| Time to start to gain: | Unknown |

D.2 National Outcomes

|  |
| --- |
| **1- Specify the output that may be subject to patent, utility model and industrial design registration in the project.** |
| Our project is aimed at providing educational and welfare support to children from orphaned or low-income families. Through our platform, sponsors can connect with and financially support children in need, ensuring they have access to quality education, healthcare, and other essential services. Our web application facilitates transparent communication between sponsors and beneficiaries, while tracking the progress and impact of the support provided.  In terms of potential outputs subject to intellectual property protection, one example would be a new and innovative method for monitoring and tracking the progress and impact of our educational and welfare support on children. By using a combination of data analytics, machine learning, and user feedback, we can monitor the beneficiaries' educational progress, health status, and overall well-being. Protecting this method with intellectual property rights could give us a competitive advantage and the potential to license the technology to other organizations or governments.  Moreover, this method could also have a positive impact on national incomes, as it could potentially demonstrate the long-term economic benefits of providing educational and welfare support to children from orphaned or low-income families. Governments and policy-makers could use this data to make informed decisions about investing in similar projects, which could ultimately help boost national incomes. As a team, we are excited about the potential of our project to make a positive impact on the lives of children in need and contribute to the growth of our nation's economy. |
| **2- Explain the potential of the project and its outputs that may have an effect on social life, education, health, etc.** |
| At the core of our project is a mission to help children from low-income families, particularly those who have lost their parents and are living in orphanages. Through our web application, we aim to provide educational and welfare support to these children, ensuring they have access to quality education, healthcare, and other essential services that they might not have otherwise.  We believe that our project has the potential to make a significant impact on social life, education, health, and more. One of the most important ways in which our project could have a positive impact on social life is by providing children with the support they need to break the cycle of poverty. By ensuring that these children have access to quality education and other essential services, we can help them build a foundation for a better future. This could lead to increased social mobility, greater opportunities, and an overall improvement in their quality of life.  Another potential impact of our project is on education. By providing educational support to children, we can help ensure that they are equipped with the skills and knowledge they need to succeed in life. Our web application allows us to monitor the progress of each child, identify areas where additional support is needed, and tailor our programs to meet their specific needs. This could help ensure that each child has the best possible chance of achieving their full potential.  Finally, our project could have a positive impact on health. By providing healthcare and other essential services, we can help ensure that the children we support are healthy and able to thrive. This, in turn, could lead to improved mental health, better academic performance, and a higher quality of life overall.  In summary, our project is focused on providing educational and welfare support to children from low-income families, particularly those living in orphanages. We believe that our project has the potential to make a significant impact on social life, education, health, and more. Through our web application, we aim to provide children with the support they need to break the cycle of poverty, achieve their full potential, and live happy, healthy lives. |
| **3- Explain the positive and negative effects of project outputs for environment and human being.** |
| Our project aimed at providing educational and welfare support to children from low-income families, with a web application facilitating transparent communication between sponsors and beneficiaries. While our project has the potential to make a significant positive impact on social life, education, and health, we must also consider the potential positive and negative effects on the environment and human beings.  On the positive side, our project outputs focus on providing essential services such as education and healthcare to children who may not have access to them otherwise. By doing so, we can help break the cycle of poverty, improve social mobility, and improve the overall quality of life for these children. Additionally, our project could help reduce the gap between the privileged and underprivileged, leading to a more equitable and just society.  However, our project could also have negative effects on the environment and human beings. For example, our web application could increase the carbon footprint by consuming electricity and contributing to electronic waste. Moreover, if our project results in large numbers of children being enrolled in schools or receiving healthcare, this could lead to increased energy consumption, transportation, and waste generation. We need to be mindful of these potential negative impacts and take steps to mitigate them.  To minimize these negative effects, we will focus on incorporating eco-friendly features in our web application, such as using energy-efficient servers and reducing the amount of unnecessary data storage. We will also work with schools and healthcare providers to encourage sustainable practices such as recycling, energy conservation, and waste reduction.  In conclusion, while our project aims to make a positive impact on society, we must consider its potential impact on the environment and human beings. By taking steps to minimize negative effects and promoting sustainability, we can ensure that our project is not only socially responsible but also environmentally conscious. |

(M013) Instrument / Equipment / Software / RELEASE PURCHASES

*Table 4: Instrument / Equipment / Software / RELEASE PURCHASES (M013) - List of purchased items.*

| **Project Name** | | **Foster Family Sponsorship** | | | | | | | | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Line no** | **Instrument / Equipment / Software / Publication Name** | | **No. of Item** | **Capacity** | **Technical specification** | **Purpose of Project Activities** | **Post-Project Place of Use / Purpose** | | **Unit Price (USD)** | **Unit Price (TL)** | **Total Amount (TL)** |
| **R & D** | **Production** |
| **1** | **Laptop** | | **4** | **-** | **8 core 3.2 GHZ** | **Coding** | **Code** | **Algorithm** | **1000** | **20000** | **80000** |
| **2** | **VS Code** | | **1** | **-** | **2023 Edition** | **IDE** | **Coding Tool** | **Environemnt of Algoritmhs** | **free** | **free** | **0** |
| **3** | **MySql** | | **1** | **-** | **Oracle** | **Creating database of the System** | **Data Storing and Processing** | **Data and Queries** | **free** | **free** | **0** |
| **4** | **Internet Connection** | | **1** | **-** | **10 mbps** | **Connecting computers and working environment of System** | **-** | **Connecting users and system** | **50** | **1000** | **1000** |
| **5** | **GitHub** | | **1** |  | **Linux Based** | **Version Control of the system** | **Testing and Collecting separated works** | **System** | **free** | **free** | **free** |
|  |  | |  |  |  |  |  |  |  | **TOTAL** | **81000TL** |
|  |  |  |  |  |  |  |  |  |  |  |  |

(M030) Quarterly Estimated Cost Form (TL)

*Table C.5: Quarterly Estimated Cost Form (TL) (M030) - Estimated project costs.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Project Name:** | | | | |
| **Cost Item** | **2023-2024** | | **Total(TL)** | **TOTAL COST RATE OF CONTENTS** |
| **I** | **II** |
| **Personel** | 20000 | 20000 | 40000 | - |
| **Travel** | 1000 | 1000 | 2000 | - |
| **Instrument / Equipment / Software / Publications** | 50000 | 50000 | 10000 | - |
| **Domestic Works Made By R & D and Testing Institutions** | 10000 | 10000 | 20000 | - |
| **International Works Made By R & D and Testing Institutions** | 90000 | 90000 | 18000 | - |
| **Domestic Services Procurement** | 12000 | 12000 | 24000 | - |
| **Overseas Service Procurement** | 18000 | 18000 | 36000 | - |
| **Material** | 11000 | 11000 | 22000 | - |
| **TOTAL COST** | 118000 | 118000 | 236000 | - |
| **CUMULATIVE COST** | 212000 | 212000 | 424000 | - |
| IN THE PROJECT TOTAL MAN/MONTH | | | 236000 | |

APPENDIX

Activity Table

*Table 6: Activity Table - Project activities.*

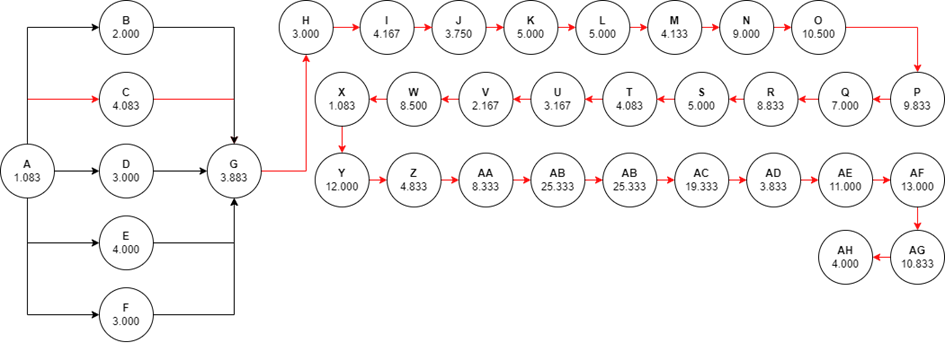
|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activity** | **Predicates** | **Duration** | **Optimistic Time** | **Most Likely** | **Pessimistic** | **Expected** | **Variance** | **Std. Deviation** | **Succes Probability** | **Expected Time** |
| A | - | 1 | 0.5 | 1 | 2 | 1.083 | 0.0625 | 0.25 | 90 | 1.083 |
| B | A | 2 | **1** | 2 | 3 | 2.000 | 0.1089 | 0.33 | 95 | 2.000 |
| C | A | 4 | 2.5 | 4 | 6 | 4.083 | 0.3364 | 0.58 | 92 | 4.083 |
| D | A | 3 | 2 | 3 | 4 | 3.000 | 0.1089 | 0.33 | 93 | 3.000 |
| E | A | 4 | 3 | 4 | 5 | 4.000 | 0.1089 | 0.33 | 98 | 4.000 |
| F | A | 3 | 1 | 3 | 5 | 3.000 | 0.4489 | 0.67 | 97 | 3.000 |
| G | B, C, D, E, F | 4 | 2 | 4 | 5 | 3.833 | 0.25 | 0.5 | 96 | 3.833 |
| H | G | 3 | 2 | 3 | 4 | 3.000 | 0.1089 | 0.33 | 96 | 3.000 |
| I | H | 4 | 3 | 4 | 6 | 4.167 | 0.25 | 0.5 | 95 | 4.167 |
| J | I | 4 | 2 | 4 | 4.5 | 3.750 | 0.1764 | 0.42 | 89 | 3.750 |
| K | J | 5 | 3 | 5 | 7 | 5.000 | 0.4489 | 0.67 | 91 | 5.000 |
| L | K | 5 | 4 | 5 | 6 | 5.000 | 0.1089 | 0.33 | 84 | 5.000 |
| M | L | 4 | 3 | 4 | 7 | 4.333 | 0.4489 | 0.67 | 82 | 4.333 |
| N | M | 9 | 6 | 9 | 12 | 9.000 | 1 | 1 | 87 | 9.000 |
| O | N | 10 | 8 | 10 | 15 | 10.500 | 1.3689 | 1.17 | 89 | 10.500 |
| P | O | 10 | 7 | 10 | 12 | 9.833 | 0.6889 | 0.83 | 87 | 9.833 |
| Q | P | 7 | 5 | 7 | 9 | 7.000 | 0.4489 | 0.67 | 83 | 7.000 |
| R | Q | 9 | 6 | 9 | 11 | 8.833 | 0.6889 | 0.83 | 89 | 8.833 |
| S | R | 5 | 4 | 5 | 6 | 5.000 | 0.1089 | 0.33 | 92 | 5.000 |
| T | S | 4 | 3.5 | 4 | 5 | 4.083 | 0.0625 | 0.25 | 87 | 4.083 |
| U | T | 3 | 2 | 3 | 5 | 3.167 | 0.25 | 0.5 | 84 | 3.167 |
| V | U | 2 | 1 | 2 | 4 | 2.167 | 0.25 | 0.5 | 89 | 2.167 |
| W | V | 9 | 5 | 9 | 10 | 8.500 | 0.6889 | 0.83 | 96 | 8.500 |
| X | W | 1 | 0.5 | 1 | 2 | 1.083 | 0.0625 | 0.25 | 95 | 1.083 |
| Y | X | 12 | 10 | 12 | 14 | 12.000 | 0.4489 | 0.67 | 96 | 12.000 |
| Z | Y | 5 | 3 | 5 | 6 | 4.833 | 0.25 | 0.5 | 78 | 4.833 |
| AA | Z | 8 | 7 | 8 | 11 | 8.333 | 0.4489 | 0.67 | 90 | 8.333 |
| AB | AA | 25 | 22 | 25 | 30 | 25.333 | 1.7689 | 1.33 | 92 | 25.333 |
| AC | AB | 20 | 15 | 20 | 24 | 19.833 | 2.25 | 1.5 | 94 | 19.833 |
| AD | AC | 4 | 2 | 4 | 5 | 3.8333333333333333333 | 0.25 | 0.5 | 87 | 3.833 |
| AE | AD | 11 | 9 | 11 | 13 | 11 | 0.4489 | 0.67 | 84 | 11.000 |
| AF | AE | 13 | 11 | 13 | 15 | 13 | 0.4489 | 0.67 | 95 | 13.000 |
| AG | AF | 11 | 9 | 11 | 12 | 10.833333333333333333 | 0.25 | 0.5 | 91 | 10.833 |
| AH | AG | 4 | 3 | 4 | 5 | 4 | 0.1089 | 0.33 | 86 | 4.000 |

**Path Table**

*Table 7: Path Table - Sequence of project activities.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Paths** | **Total Expected Time for Each Path** | **Variance of Each Path** | **Standard Deviation of Each Path** | **Duration of Path** |
| 1 | A, B, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH | 214.33 | 203.21072704 | 14.2552 | 214 |
| 2 | A, C, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH | 216.413 | 209.74859929 | 14.4827 | 216 |
| 3 | A, D, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH | 215.33 | 203.21072704 | 14.2552 | 215 |
| 4 | A, E, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH | 216.33 | 203.21072704 | 14.2552 | 216 |
| 5 | A, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH | 215.33 | 213.01986304 | 14.5952 | 215 |

**Network Diagram**

****

*Figure 3: Network Diagram - Illustration of project activities and their dependencies.*

**PERT Calculation**

Expected time calculated using expected duration values. Variance calculated by variance values of each process. Standard deviation calculated by taking square root of variance. You can also see all other possible paths. The longest path “**A, C, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH** “indicated in bold color which has 216.413 days is our critical path.

*Table 8: PERT Calculation - PERT analysis results.*

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activity** | **Predicates** | **Duration(day)** | **Optimistic Time(day)** | **Most Likely(day)** | **Pessimistic(day)** | **Expected** | **Variance** | **Standard Deviation** | **Probability of Succes** | **Expected Time(day)** |
| A | - | 1 | 0.5 | 1 | 2 | 1.083 | 0.0625 | 0.25 | 90 | 1.083 |
| B | A | 2 | **1** | 2 | 3 | 2.000 | 0.1089 | 0.33 | 95 | 2.000 |
| C | A | 4 | 2.5 | 4 | 6 | 4.083 | 0.3364 | 0.58 | 92 | 4.083 |
| D | A | 3 | 2 | 3 | 4 | 3.000 | 0.1089 | 0.33 | 93 | 3.000 |
| E | A | 4 | 3 | 4 | 5 | 4.000 | 0.1089 | 0.33 | 98 | 4.000 |
| F | A | 3 | 1 | 3 | 5 | 3.000 | 0.4489 | 0.67 | 97 | 3.000 |
| G | B, C, D, E, F | 4 | 2 | 4 | 5 | 3.833 | 0.25 | 0.5 | 96 | 3.833 |
| H | G | 3 | 2 | 3 | 4 | 3.000 | 0.1089 | 0.33 | 96 | 3.000 |
| I | H | 4 | 3 | 4 | 6 | 4.167 | 0.25 | 0.5 | 95 | 4.167 |
| J | I | 4 | 2 | 4 | 4.5 | 3.750 | 0.1764 | 0.42 | 89 | 3.750 |
| K | J | 5 | 3 | 5 | 7 | 5.000 | 0.4489 | 0.67 | 91 | 5.000 |
| L | K | 5 | 4 | 5 | 6 | 5.000 | 0.1089 | 0.33 | 84 | 5.000 |
| M | L | 4 | 3 | 4 | 7 | 4.333 | 0.4489 | 0.67 | 82 | 4.333 |
| N | M | 9 | 6 | 9 | 12 | 9.000 | 1 | 1 | 87 | 9.000 |
| O | N | 10 | 8 | 10 | 15 | 10.500 | 1.3689 | 1.17 | 89 | 10.500 |
| P | O | 10 | 7 | 10 | 12 | 9.833 | 0.6889 | 0.83 | 87 | 9.833 |
| Q | P | 7 | 5 | 7 | 9 | 7.000 | 0.4489 | 0.67 | 83 | 7.000 |
| R | Q | 9 | 6 | 9 | 11 | 8.833 | 0.6889 | 0.83 | 89 | 8.833 |
| S | R | 5 | 4 | 5 | 6 | 5.000 | 0.1089 | 0.33 | 92 | 5.000 |
| T | S | 4 | 3.5 | 4 | 5 | 4.083 | 0.0625 | 0.25 | 87 | 4.083 |
| U | T | 3 | 2 | 3 | 5 | 3.167 | 0.25 | 0.5 | 84 | 3.167 |
| V | U | 2 | 1 | 2 | 4 | 2.167 | 0.25 | 0.5 | 89 | 2.167 |
| W | V | 9 | 5 | 9 | 10 | 8.500 | 0.6889 | 0.83 | 96 | 8.500 |
| X | W | 1 | 0.5 | 1 | 2 | 1.083 | 0.0625 | 0.25 | 95 | 1.083 |
| Y | X | 12 | 10 | 12 | 14 | 12.000 | 0.4489 | 0.67 | 96 | 12.000 |
| Z | Y | 5 | 3 | 5 | 6 | 4.833 | 0.25 | 0.5 | 78 | 4.833 |
| AA | Z | 8 | 7 | 8 | 11 | 8.333 | 0.4489 | 0.67 | 90 | 8.333 |
| AB | AA | 25 | 22 | 25 | 30 | 25.333 | 1.7689 | 1.33 | 92 | 25.333 |
| AC | AB | 20 | 15 | 20 | 24 | 19.833 | 2.25 | 1.5 | 94 | 19.833 |
| AD | AC | 4 | 2 | 4 | 5 | 3.8333333333333333333 | 0.25 | 0.5 | 87 | 3.833 |
| AE | AD | 11 | 9 | 11 | 13 | 11 | 0.4489 | 0.67 | 84 | 11.000 |
| AF | AE | 13 | 11 | 13 | 15 | 13 | 0.4489 | 0.67 | 95 | 13.000 |
| AG | AF | 11 | 9 | 11 | 12 | 10.833333333333333333 | 0.25 | 0.5 | 91 | 10.833 |
| AH | AG | 4 | 3 | 4 | 5 | 4 | 0.1089 | 0.33 | 86 | 4.000 |

**COCOMO ESTIMATION**

* **DI Table**

*Table 9.1: DI Calculation Table.*

|  |  |
| --- | --- |
| Factor | Complexity Value |
| Data Communication | 7 |
| Distributed Data Processing | 4 |
| Performance Criteria | 6 |
| Heavily Utilized Hardware | 0 |
| High Transaction Rates | 2 |
| Online Data Entry | 12 |
| Online Updating | 10 |
| End-user Efficiency | 4 |
| Complex Computations | 6 |
| Reusability | 2 |
| Ease of Installation | 1 |
| Ease of Operation | 2 |
| Portability | 3 |
| Maintainability | 5 |
| **DI=** | **62** |

* **UFP**

*Table 9.2: UFP Calculation Table.*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Functions** | **Simple No** | **Simple Weight** | **Average No** | **Average Weight** | **Complex No** | **Complex Weight** | **Total** |
| **User Input** | 7 | 3 | 8 | 4 | 9 | 6 | (7 \* 3) + (8 \* 4) + (9 \* 6) = 69 |
| **User Output** | 6 | 4 | **13** | 7 | 14 | 8 | (7 \* 3) + (8 \* 4) + (9 \* 6) = 69 |
| **User Query** | 4 | 3 | 5 | 4 | 10 | 6 | (4 \* 3) + (5 \* 4) + (10 \* 6) = 76 |
| **Internal Files** | 10 | 7 | 11 | 10 | 12 | 15 | (10 \* 7) + (11 \* 10) + (12 \* 15) = 317 |
| **External Interfaces** | 0 | 5 | 0 | 7 | **0** | 10 | (0 \* 5) + (0 \* 7) + (0 \* 10) = 0 |
| **Count Total** |  |  |  |  |  | = | **663** |

* **FP**

**FP = UFP \* [0.65 + 0.01 \* DI]**

**FP = 663\* [0.65 + 0.01 \* 62]**

**FP =842,01**

**\*KLOC calculated using High-Level Language = 64**

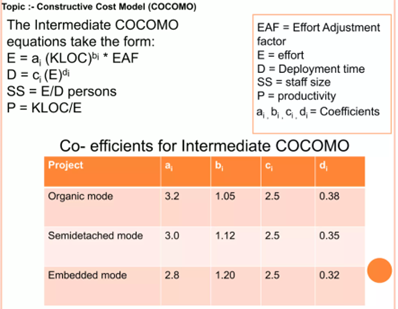
**KLOC = (842.01 \* 64)/1000 = 53.888**

**Detailed COCOMO**

\*Our Project is Intermediate, and type is Semi-Detached so we will calculate COCOMO based on Intermediate COCOMO Table

*Table 10: Effort Adjustment Factors Calculation Table.*

|  |  |
| --- | --- |
| **EFFORT ADJUSTMENT FACTORS** | |
| Required Software Reliability (RELY): | High:1.15 |
| Database Size (DATA): | High:1.08 |
| Product Complexity (CPLX): | High:1.15 |
| Store Size (STOR): | Nominal:1.00 |
| Application Experience (ACAP): | Nominal:1.00 |
| Application Experience of Developers (AEXP): | Low:1.13 |
| Programmer Capability (PCAP): | Low:1.17 |
| Language and Tool Experience (LEXP): | Nominal:1.00 |
| Modern Programming Practices (MODP): | Nominal:1.00 |
| Use of Software Tools (TOOL): | High:0.91 |
| Required Development Schedule (SCED): | High:1.04 |
| **EAF TOTAL** | 1.665 |



*Figure 4: COCOMO Screenshot - Screen capture of COCOMO estimation tool.*

**E = 3.0\*(53.888)1.12 \* 1,665= 265.82**

**D = 2.5(265.82)0.35 = 41.73**

**SS = 265.82/41.73= 6.367**

**P = 53,88/265.82= 0.2025.**

3-Calculating probability of successful completion rate for each path

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Paths** | **Total Expected** | **Specified Time** | **Variance of Each Path** | **Standard Deviation** | **Duration of Path** | **Z-Score** |
| 1 | A, B, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH | 214.33 | 225 | 203.21072704 | 14.2552 | 214 | 0.748 |
| 2 | A, C, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH | 216.413 | 220 | 209.74859929 | 14.4827 | 216 | 0.247 |
| 3 | A, D, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH | 215.33 | 222 | 203.21072704 | 14.2552 | 215 | 0.467 |
| 4 | A, E, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH | 216.33 | 221 | 203.21072704 | 14.2552 | 216 | 0.327 |
| 5 | A, F, G, H, I, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH | 215.33 | 218 | 213.01986304 | 14.5952 | 215 | 0,18 |

# 3. REQUIREMENTS ANALYSIS

## 3.1 Functional Requirements

* Users should be able to register and create an account.
* Users should be able to log in to their accounts.
* Users should be able to view and update their personal information.
* Users should be able to search for and view information about children in need.
* Users should be able to sponsor a child by making donations.!
* Users should be able to view their donation history.
* Users should be able to sponsor a child!
* User should notify when sponsored child needs anything.
* Users should receive a confirmation and thank you message after donating.
* Government authorities should be able to register and create accounts.
* Authorities should be able to view and update their personal information.
* Authorities should be able to verify the eligibility of children in need.
* Authorities should be able to approve or reject sponsorship and sign-up requests.
* Authorities should be able to communicate with users regarding sponsorship details.
* Admin should have full control over the system and its functionalities.
* Admin should be able to manage user accounts and permissions.
* Admin should be able to manage the information and details of children in need.
* Admin should be able to manage and monitor sponsorship requests and approvals.
* Admin should be able to manage and allocate donations received.
* Admin should be able to view and filter users.
* Admin should be able to view and filter authorities.
* Admin should be able to view detailed information of users and authorities.
* Admin should be able to change the regions of authorities and manage donations.

## 3.2 Non-Functional Requirements

* Availability:
  + The system should only be available in the Turkish Republic of Northern Cyprus (TRNC).
  + The system should provide high availability and accessibility.
* Security:
  + The system should securely store and protect users' personal information. The system should ensure user privacy and data security.
  + The system should prevent unauthorized access by implementing security measures.
* Usability:
  + Users should be able to access the system through a user-friendly and easy-to-use interface.
  + The system should be accessible and usable from different devices (mobile-friendly).
* Performance:
  + The system should operate quickly and efficiently, providing users with instant feedback.
  + The system should be resilient to heavy user traffic and scalable for growth.
* Reliability:
  + The database should be regularly backed up and protected to ensure up-to-date and consistent data.
  + The system should handle errors and provide appropriate error messages to users. The system should have a mean time to failure, minimizing downtime probability and failure rate.
  + The system should have a high availability and a low probability of unavailability.
  + The system should have a low rate of failure occurrence.
* Traceability and Logging:
  + User information and donation transactions should be logged and traceable.
* Communication:
  + The system should facilitate easy communication between users and authorities.
  + The system should support communication between children and sponsors.
* Data Management:
  + The system should accurately reflect the real needs of children in need and donations.
  + The system should regularly update data to ensure accuracy and currency.

## 3.3 Realistic constraints

Economic: The system should be accessible to all users, regardless of their financial capabilities. The system should not require a significant financial investment to use or maintain.

Environmental: The system should be designed to consume minimal power and resources. The production and use of the product should minimize pollution and environmental impact.

Social: The system should not impose any discriminatory or exclusionary constraints based on age, gender, race, religion, or any other social factors. The system should be accessible to a wide range of users, including individuals with disabilities.

Political: The system should comply with all relevant laws and regulations in the Turkish Republic of Northern Cyprus (TRNC). The system should not promote or engage in any activities that may cause political tension or conflicts. Ethical: The project should adhere to ethical guidelines, including proper attribution and acknowledgement of ideas or code from other projects. The system should respect user privacy and confidentiality.

Health and Safety: The system should not pose any health or safety risks to users or society. Appropriate measures should be taken to ensure the security and integrity of user data.

Manufacturability: The product should be designed to be manufactured using reasonable amounts of resources and within practical production capabilities. The necessary resources for manufacturing the product should be available and sustainable.

Sustainability: The product should be designed for long-term use, with considerations for future upgrades, maintenance, and compatibility with evolving technologies. The project should prioritize sustainable practices in development, production, and operation.

## 3.4 Ethical issues

Privacy and Data Protection: Ensuring the privacy and protection of users' personal information is crucial. Ethical concerns may arise if the system fails to adequately safeguard user data or if it shares sensitive information without proper consent.

Misuse of Funds: If the system involves collecting donations or financial transactions, there is a risk of potential misuse of funds. Ensuring transparency and accountability in handling and distributing donations is essential to address this ethical concern.

Discrimination and Bias: The system should be designed and implemented in a way that avoids any form of discrimination or bias based on factors such as race, gender, religion, or socioeconomic status. Ethical issues may arise if the system inadvertently perpetuates or amplifies existing biases.

Responsible Use of Technology: The project should consider the potential for the system to be used for illegal or unethical activities. Steps should be taken to prevent the system from being exploited for criminal purposes or enabling unethical behavior.

User Manipulation and Influence: The system should avoid manipulative techniques or practices that exploit users' vulnerabilities, such as persuasive design or behavioral manipulation. Ethical concerns may arise if the system aims to manipulate users' behaviors or decisions for unintended or unethical purposes.

Transparency and Accountability: It is important to ensure transparency in the system's operations, decision-making processes, and algorithmic models. Ethical issues may arise if the system operates in an opaque manner, making it difficult for users to understand or challenge its functioning.

# 

# 4. DESIGN

## 4.1 High level design (architectural)

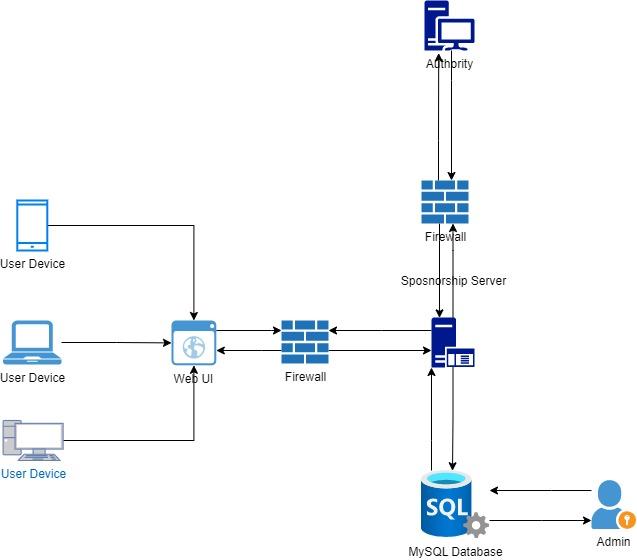


Figure 4 High Level Design - Diagram showcasing the architectural design of the system.

The system consists of 4 main actors. Sponsor, Authority, Admin and Child. Sponsor and authority can use the system from any device. But the Authority and Admin should use desktop app so they can manage the system.

## 4.2 Software design.

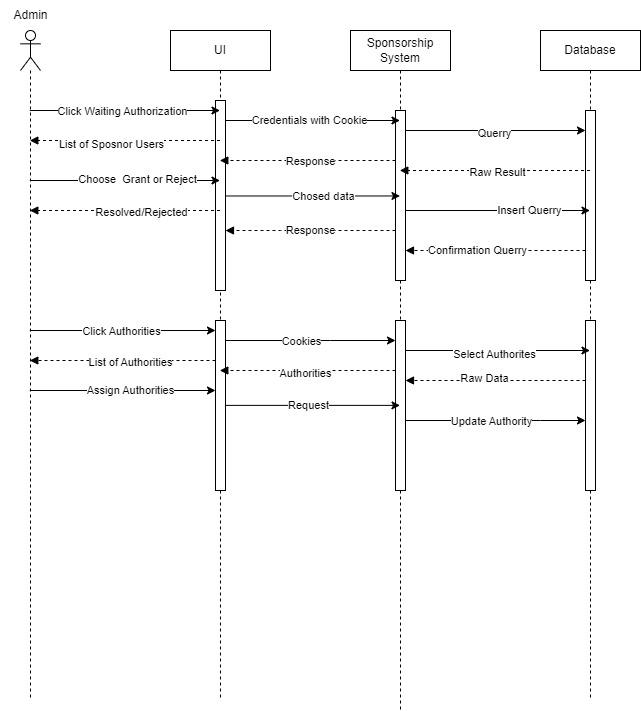


Figure 5: Admin Sequence Diagram - Sequence of actions performed by the admin.

Admin Sequence Diagram. Admin grant or reject users and authorize authorities.

metin, paralel, diyagram, doküman, belge içeren bir resim

Açıklama otomatik olarak oluşturuldu

*Figure 7: Authority Management - Diagram depicting authority's role in managing users and child chats.*

Authority can manage users, check child chat between sponsors and manage needs of the childs

metin, diyagram, paralel, çizgi içeren bir resim

Açıklama otomatik olarak oluşturuldu*Figure 9: Child Chat - Illustration of child's chat interaction with sponsored user.*

Child can just chat with the sponsored user.

metin, diyagram, paralel, çizgi içeren bir resim

Açıklama otomatik olarak oluşturuldu*Figure 10: User Actions - Visual representation of user actions like sign up, login, donate, and sponsor***.**

Users can sign up, login, donate children, sponsor children.

diyagram, metin, ekran görüntüsü, paralel içeren bir resim

Açıklama otomatik olarak oluşturuldu*Figure 11: Authority Needs Management - Diagram showcasing authority's management of needs.*

Authority manages need use case. Authority can add, delete, update needs. If authority want to add need system should check any need group is open and if it is open, system add that new need to existing need group.

metin, diyagram, ekran görüntüsü, paralel içeren bir resim

Açıklama otomatik olarak oluşturuldu*Figure 12: Chat Access - Illustration of authority's access to user-sponsor chat and generating reports.*

Authority can acces chat between user and sponsor. If authority decides sponsor messages are inappropriate, authority selects these messages and generates reports about users and bans it.

diyagram, teknik çizim, plan, metin içeren bir resim

Açıklama otomatik olarak oluşturuldu*Figure 13: Child Chat - Visual representation of child's chat interaction with sponsored user***.**

Child can chat with sponsored user if that user is not banned.

diyagram, çizgi, metin, teknik çizim içeren bir resim

Açıklama otomatik olarak oluşturuldu*Figure 14: Sponsor Confirmation - Diagram depicting the sponsor confirmation process for a child.*

To be sponsor to the child, user should get confirmation both the admin and the authority of that child.

metin, diyagram, plan, çizgi içeren bir resim

Açıklama otomatik olarak oluşturuldu

*Figure 15 User Donation - Illustration of user donating to the needs of children.*

User can donate any need of the childs. If the user donates more than the needs that excess money goes to the credit store of the company.

diyagram, paralel, çizgi, dikdörtgen içeren bir resim

Açıklama otomatik olarak oluşturuldu*Figure 16: User Reject or Grant - BPMN diagram for user rejection or grant process.*

BPMN diagram of user reject or grant both admin and Authority

metin, diyagram, ekran görüntüsü, plan içeren bir resim

Açıklama otomatik olarak oluşturuldu

*Figure 17: System Class Diagram - Class diagram representing system actors and classes.*

Class diagram of the system consists of Actor classes which is Admin, Authority, Child and Sponsor. Also, conversion and message class for chat, Donation class for donations operation done by the sponsor, Needs class for the children.

diyagram, taslak, daire, teknik çizim içeren bir resim

Açıklama otomatik olarak oluşturuldu*Figure 18: System Structure - Diagram showcasing the general structure of the system.*

General structure of the system. Admin generally manages system and other actors, child just chat with the sponsor user, Authority also manages children and Users.

diyagram, teknik çizim, taslak, plan içeren bir resim

Açıklama otomatik olarak oluşturuldu

*Figure 19: System Process - Visual representation of the main processes in the system*

Main process of the system consisting of chatting, donating, sponsoring, and managing.

diyagram, çizgi, metin, origami içeren bir resim

Açıklama otomatik olarak oluşturuldu

*Figure 60: Use Case Diagram.*

In the use case both authorty and admin can approve or reject user, sponsor,authority and child should login.

*Table 11.1: Use Case Template 1.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: UC-001 | Use Case ID: UC-001 | | |
| Use Case Name: | Login | | |
| Created By: | System | Last Updated By: |  |
| Last Updated By: | System | Date Last Updated: |  |

|  |  |
| --- | --- |
| Actor: | Child, User (Sponsor), Authority |
| Description: | This use case describes the process of logging into the system by the Child, User (Sponsor), or Authority actor. It allows actors to access their respective functionalities within the system. |
| Preconditions: | The system is accessible and running.  The actor has a valid account or credentials.  Postconditions: |
| Postconditions: | The actor is successfully logged into the system and gains access to their respective functionalities. |
| Priority: | High |
| Frequency of Use: | This use case is performed whenever an actor needs to access the system. |
| Normal Course of Events: | The actor opens the system's login page.  The system presents the login form.  The actor enters their username or email address and password.  The actor submits the login form.  The system verifies the provided credentials.  If the credentials are valid:  a. The system authenticates the actor's account.  b. The system grants access to the actor's respective functionalities based on their role.  c. The system redirects the actor to their dashboard or home page.  If the credentials are invalid:  a. The system displays an error message indicating invalid credentials.  b. The actor may retry entering the correct credentials or recover their account if needed. |
| Alternative Courses: | If the actor forgets their password:  a. The actor clicks on the "Forgot Password" link.  b. The system prompts the actor to enter their email address.  c. The actor enters their email address and submits the form.  d. The system verifies the email address and sends a password reset link to the provided email.  e. The actor receives the password reset link and follows the instructions to reset their password.  f. The actor can then proceed with the login process using the new password. |
| Exceptions: | If there are technical issues or errors during the login process, the actor may encounter difficulties logging in.  If the actor's account is locked or deactivated, the system should provide appropriate error messages or instructions for reactivation. |
| Includes: | None |
| Special Requirements: | The login process should adhere to proper security measures, such as password encryption and account lockout policies.  The system should provide user-friendly error messages in case of incorrect credentials or other login-related issues. |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.2: Use Case Template 2.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | Use Case ID: UC-002 | | |
| Use Case Name: | Chat with Sponsor | | |
| Created By: | System | Last Updated By: |  |
| Last Updated By: | System | Date Last Updated: |  |

|  |  |
| --- | --- |
| Actor: | Child |
| Description: | This use case describes the process of a Child actor initiating a chat session with their Sponsor. It allows the Child to communicate directly with their Sponsor within the system. |
| Preconditions: | The Child is logged into the system.  The Child has an active sponsorship and assigned Sponsor. |
| Postconditions: | The Child successfully initiates a chat session with their Sponsor. |
| Priority: | Medium |
| Frequency of Use: | This use case is performed whenever the Child wishes to communicate with their Sponsor. |
| Normal Course of Events: | The Child navigates to the chat functionality within the system.  The system presents a list of active sponsors.  The Child selects their assigned Sponsor from the list.  The system opens a chat interface with the selected Sponsor.  The Child can type and send messages to the Sponsor.  The Sponsor receives the messages and can respond accordingly.  The Child and Sponsor engage in a real-time conversation through the chat interface. |
| Alternative Courses: | None |
| Exceptions: | If the Child's assigned Sponsor is not available or offline, the system should display an appropriate message indicating the Sponsor's unavailability.  If there are technical issues or errors during the chat session, the Child may encounter difficulties in sending or receiving messages. |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.3: Use Case Template 3.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: UC-003 | Use Case ID: UC-003 | | |
| Use Case Name: Sign In | Use Case Name: Sign In | | |
| Created By: System | Created By: System | Last Updated By: |  |
| Last Updated By: System | Last Updated By: System | Date Last Updated: |  |

|  |  |
| --- | --- |
| Actor: | User (Sponsor) |
| Description: | This use case describes the process of a User (Sponsor) actor signing in to the system. It allows the User to access their sponsored child's information, engage in communication, and perform various sponsorship-related activities. |
| Preconditions: | The User is registered in the system.  The User has a valid username and password. |
| Postconditions: | The User successfully signs in to the system. |
| Priority: | High |
| Frequency of Use: | This use case is performed whenever the User wants to access the system and perform sponsorship-related tasks. |
| Normal Course of Events: | The User launches the system or navigates to the login page.  The system presents a login form, prompting the User to enter their username and password.  The User enters their username and password in the respective fields.  The User submits the login form.  The system validates the provided credentials.  If the credentials are valid, the system authenticates the User and grants access.  The system redirects the User to the home page or the main dashboard.  The User can now access their sponsored child's information, engage in communication, and perform various sponsorship-related activities. |
| Alternative Courses: | None |
| Exceptions: | If the User enters an invalid username or password, the system displays an error message and prompts the User to re-enter the correct credentials.  If the User forgets their password, they can use the "Forgot Password" functionality to reset their password. |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.4: Use Case Template 4.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | Use Case ID: UC04 | | |
| Use Case Name | Search and Filter Children | | |
| Created By:] | [Created By] | Last Updated By: |  |
| Last Updated By: | [Last Updated By] | Date Last Updated: |  |

|  |  |
| --- | --- |
| Actor: | User (Sponsor) |
| Description: | This use case describes the process of searching and filtering children based on specific criteria by a User (Sponsor). |
| Preconditions: | The User (Sponsor) is logged into the system.  The User (Sponsor) has the necessary permissions to search and filter children. |
| Postconditions: | The system displays a list of children that match the search and filter criteria.  The User (Sponsor) can view the details of the selected child. |
| Priority: | Medium |
| Frequency of Use: | High |
| Normal Course of Events: | The User (Sponsor) accesses the search and filter functionality in the system.  The system presents the User (Sponsor) with various search and filter options, such as age, gender, location, etc.  The User (Sponsor) selects the desired search and filter criteria.  The User (Sponsor) submits the search request.  The system processes the search request and retrieves a list of children that match the specified criteria.  The system displays the list of children to the User (Sponsor).  The User (Sponsor) can view the details of a specific child by selecting the child from the list. |
| Alternative Courses: | If no children match the specified search and filter criteria, the system displays a message indicating that no results were found. |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system should provide an intuitive and user-friendly interface for the User (Sponsor) to perform the search and filter operations.  The search and filter functionality should be efficient and provide accurate results. |
| Assumptions: | The User (Sponsor) has valid login credentials.  The system has a database of children with relevant information for search and filtering. |
| Notes and Issues: | None |

*Table 11.5: Use Case Template 5.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC05 | | |
| Use Case Name: | View Child Info and Needs | | |
| Created By: | [Created By] | Last Updated By: | : [Last Updated By] |
| Date Created: | [Date Created] | Date Last Updated: | : [Date Last Updated] |

|  |  |
| --- | --- |
| Actor: | User (Sponsor) |
| Description: | This use case allows the User (Sponsor) to view detailed information and needs of a specific child. |
| Preconditions: | The User (Sponsor) is logged into the system.  The User (Sponsor) has selected a child to view their information and needs. |
| Postconditions: | The User (Sponsor) is presented with the detailed information and needs of the selected child. |
| Priority: | Medium |
| Frequency of Use: | Moderate |
| Normal Course of Events: | The User (Sponsor) selects a child from the search results or any other relevant section of the system.  The system retrieves and displays the detailed information and needs of the selected child.  The User (Sponsor) can view the child's personal details, including their name, age, gender, and location.  The User (Sponsor) can also view additional information about the child, such as their family background, education, and any specific needs they may have.  The User (Sponsor) can review the child's needs, such as medical care, education support, or other necessary resources.  The User (Sponsor) can make an informed decision based on the child's information and needs to determine whether they want to sponsor the child. |
| Alternative Courses: | If the selected child's information or needs are not available or incomplete, the system displays a message indicating the unavailability of information |
| Exceptions: | If the User (Sponsor) is not logged into the system, they are prompted to log in before accessing the child's information and needs. |
| Includes: | None |
| Special Requirements: | The system should present the child's information and needs in a clear and organized manner for easy comprehension. |
| Assumptions: | The system has a database that stores detailed information and needs of each child.  The User (Sponsor) has the intention to understand the child's background and needs before making a sponsorship decision. |
| Notes and Issues: | Additional features such as the ability to save favorite children or contact the organization for further inquiries can be considered as future enhancements. |

*Table 11.6: Use Case Template 6.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-006 | | |
| Use Case Name: | Meet Child Need | | |
| Created By: | System | Last Updated By: | System |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | User (Sponsor) |
| Description: | This use case allows the User (Sponsor) actor to meet the needs of a sponsored child. It provides options for fulfilling the child's needs based on the User's preferences and available resources. |
| Preconditions: | The User is signed in to the system.  The User has selected a specific child to sponsor. |
| Postconditions: | The sponsored child's needs are met according to the User's chosen method. |
| Priority: | Medium |
| Frequency of Use: | This use case is performed when the User wants to contribute towards fulfilling the needs of the sponsored child. |
| Normal Course of Events: | The User selects the "Meet Child Need" option for the sponsored child.  The system presents the User with different methods to meet the child's needs, such as financial donation, purchasing specific items, or providing services.  The User chooses the preferred method to fulfill the child's need.  If the User selects the "Meet in Full" option:  4.1. The system redirects the User to the "Meet in Full" use case.  4.2. The User follows the steps outlined in the "Meet in Full" use case.  If the User selects the "Meet Specified" option:  5.1. The system redirects the User to the "Meet Specified" use case.  5.2. The User follows the steps outlined in the "Meet Specified" use case. |
| Alternative Courses: | If the User cancels or navigates away from the "Meet Child Need" process, the system returns to the previous page or displays a confirmation message. |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.6.1: Use Case Template Extended From 6 Extended Number 1.*

|  |  |  |  |
| --- | --- | --- | --- |
| Extend Use Case ID: | UC-006.1 | | |
| Extend Use Case Name: | Meet in Full | | |
| Created By: | System | Last Updated By: | System |
| Date Created: | Date | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: |  |
| Description: | This extend use case allows the User (Sponsor) actor to meet all the needs of the sponsored child. |
| Preconditions: | The User is signed in to the system.  The User has selected a specific child to sponsor. |
| Postconditions: | All the needs of the sponsored child are met by the User. |
| Priority: | Low |
| Frequency of Use: | This extend use case is performed when the User wants to meet all the needs of the sponsored child. |
| Normal Course of Events: | The User selects the "Meet in Full" option within the "Meet Child Need" use case.  The system presents the User with a summary of the child's needs.  The User confirms the decision to meet all the child's needs.  The system processes the User's request and updates the child's needs status as "met". |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.6.2: Use Case Template Extended From 6 Extended Number 2.*

|  |  |  |  |
| --- | --- | --- | --- |
| Extend Use Case ID: | UC-006.2 | | |
| Extend Use Case Name: | Meet Specified | | |
| Created By: | System | Last Updated By: | System |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: |  |
| Description: | This extend use case allows the User (Sponsor) actor to meet specific needs of the sponsored child. |
| Preconditions: | The User is signed in to the system.  The User has selected a specific child to sponsor. |
| Postconditions: | The specified needs of the sponsored child are met by the User. |
| Priority: | Low |
| Frequency of Use: | This extend use case is performed when the User wants to meet specific needs of the sponsored child. |
| Normal Course of Events: | The User selects the "Meet Specified" option within the "Meet Child Need" use case.  The system presents the User with a list of the child's needs.  The User selects the specific needs they want to meet.  The User confirms the decision to meet the selected needs.  The system processes the User's request and updates the selected needs' status as "met". |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.7: Use Case Template 7.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-007 | | |
| Use Case Name: | Sponsor the Child | | |
| Created By: | [Actor] | Last Updated By: | [Actor] |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | User (Sponsor) |
| Description: | This use case describes the process of sponsoring a child, where the user (sponsor) takes the initiative to provide financial or other forms of support to a specific child in need. |
| Preconditions: | The user (sponsor) is logged into the system.  The user (sponsor) has access to a list of children available for sponsorship. |
| Postconditions: | The user (sponsor) becomes the official sponsor of the selected child.  The sponsorship information is recorded in the system. |
| Priority: | High |
| Frequency of Use: | Once per child sponsorship. |
| Normal Course of Events: | The user (sponsor) accesses the list of available children for sponsorship.  The user (sponsor) reviews the profiles and information of the children.  The user (sponsor) selects a specific child they wish to sponsor.  The user (sponsor) provides the necessary details and information required for sponsorship, which may include:  Personal information (name, contact details, etc.) of the sponsor.  Preferred sponsorship duration (e.g., monthly, yearly).  Sponsorship amount or donation frequency.  Any specific instructions or preferences for the sponsorship.  The user (sponsor) confirms the sponsorship details and submits the sponsorship request.  The system validates the provided information and checks for any existing sponsorships for the selected child.  If the sponsorship request is valid and no conflicts exist, the system records the sponsorship information and assigns the user (sponsor) as the official sponsor of the child.  The system sends a confirmation message or notification to the user (sponsor) regarding the successful sponsorship.  The user (sponsor) receives the sponsorship confirmation and can proceed with further engagement and support for the sponsored child.  The user (sponsor) concludes the use case. |
| Alternative Courses: | If the selected child already has an active sponsor, the system notifies the user (sponsor) about the unavailability for sponsorship and suggests alternative children for sponsorship. |
| Exceptions: | The user (sponsor) provides invalid or incomplete information during the sponsorship request, in which case the system prompts for correction or additional details. |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | The system maintains an up-to-date list of children available for sponsorship.  The user (sponsor) has access to the necessary information and profiles of the children.  The user (sponsor) has the financial capability and intention to sponsor a child. |
| Notes and Issues: | None |

*Table 11.8: Use Case Template 8.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-008 | | |
| Use Case Name: | Get Latest News about Sponsored Child | | |
| Created By: | System | Last Updated By: | System |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | User (Sponsor) |
| Description: | This use case describes the process of the User (Sponsor) actor accessing the latest news and updates about their sponsored child. |
| Preconditions: | The User is signed in to the system.  The User has selected a specific child to sponsor. |
| Postconditions: | The User receives the latest news and updates about their sponsored child. |
| Priority: | Medium |
| Frequency of Use: | This use case can be performed periodically to stay updated on the sponsored child's news. |
| Normal Course of Events: | The User selects the "Get Latest News" option within the system.  The system retrieves the latest news and updates related to the sponsored child.  The system presents the news and updates to the User, including information about the child's progress, achievements, and any relevant updates.  The User reads the news and updates to stay informed about their sponsored child. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.9: Use Case Template 9.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-009 | | |
| Use Case Name: | Chat with the Child | | |
| Created By: | [Actor] | Last Updated By: | [Actor] |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | User (Sponsor), Child |
| Description: | This use case describes the process of initiating a chat conversation between a user (sponsor) and the sponsored child. The user (sponsor) wants to communicate with the child directly to establish a personal connection, provide support, or exchange messages. |
| Preconditions: | The user (sponsor) is logged into the system.  The user (sponsor) has an active sponsorship for a child.  The child is enrolled in the sponsorship program and has an assigned sponsor. |
| Postconditions: | The user (sponsor) and the child engage in a chat conversation.  Messages exchanged during the chat are recorded and saved for future reference. |
| Priority: | High |
| Frequency of Use: | As desired by the user (sponsor) and availability of the child. |
| Normal Course of Events: | The user (sponsor) accesses the system dashboard or sponsorship management section.  The user (sponsor) locates the sponsored child or selects the specific sponsorship record.  The system displays the basic information about the sponsored child, including their name, photo, and relevant details.  The user (sponsor) selects the option to initiate a chat with the child.  The system establishes a secure chat session between the user (sponsor) and the child.  The user (sponsor) can type and send messages to the child, expressing their greetings, support, or any other relevant content.  The child receives the message and can respond by typing and sending their own messages.  The user (sponsor) and the child continue exchanging messages in a real-time chat interface.  The system ensures that the messages are delivered and displayed promptly to both the user (sponsor) and the child.  The user (sponsor) and the child can engage in a meaningful conversation, share updates, ask questions, or provide emotional support.  The user (sponsor) and the child may have the option to attach images, files, or other media to enrich the conversation, if supported by the system.  The user (sponsor) and the child can end the chat session when they are ready to conclude the conversation.  The system closes the chat session and saves the messages exchanged between the user (sponsor) and the child for future reference.  The user (sponsor) concludes the use case. |
| Alternative Courses: | None |
| Exceptions: | If the child is not available or unable to participate in the chat session, the system notifies the user (sponsor) and suggests alternative means of communication. |
| Includes: | None |
| Special Requirements: | The chat functionality should provide a real-time communication experience.  The system should ensure the privacy and security of the chat messages.  The chat interface should be user-friendly and intuitive for both the user (sponsor) and the child. |
| Assumptions: | The system supports real-time chat functionality between the user (sponsor) and the child.  The user (sponsor) has a genuine interest in communicating with the sponsored child.  The system maintains a record of the chat messages for auditing and reference purposes. |
| Notes and Issues: | None |

*Table 11.10: Use Case Template 10.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-010 | | |
| Use Case Name: | Send Pocket Money | | |
| Created By: | User (Sponsor) | Last Updated By: | User (Sponsor) |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | User (Sponsor) |
| Description: | This use case describes the process by which the user (sponsor) sends pocket money to the sponsored child. The purpose is to provide financial support for the child's daily needs and expenses. |
| Preconditions: | The user (sponsor) is logged into the system with a valid account.  The user (sponsor) has an active sponsorship for a specific child. |
| Postconditions: | The sponsored child receives the designated amount of pocket money from the user (sponsor).  The user (sponsor) receives a confirmation message indicating the successful transfer. |
| Priority: | High |
| Frequency of Use: | The frequency of this use case depends on the user's (sponsor's) discretion and willingness to provide pocket money to the sponsored child. |
| Normal Course of Events: | The user (sponsor) selects the option to send pocket money for the sponsored child.  The system presents a form or interface to the user (sponsor) to enter the desired amount of pocket money.  The user (sponsor) enters the amount of money to be sent.  The system validates the entered amount to ensure it meets the required format and criteria.  If the entered amount is valid, the system proceeds to the next step. Otherwise, an error message is displayed, prompting the user (sponsor) to re-enter a valid amount.  The system verifies the user's (sponsor's) account balance or preferred payment method.  If the account balance or payment method is sufficient, the system proceeds to the next step. Otherwise, it notifies the user (sponsor) about the insufficient funds or the need to update the payment method.  The system initiates the transaction process to transfer the specified amount of pocket money to the sponsored child's account.  The sponsored child's account is credited with the received pocket money.  The system generates a confirmation message indicating the successful transfer.  The user (sponsor) receives the confirmation message, acknowledging the completion of the transaction. |
| Alternative Courses: | None |
| Exceptions: | If the entered amount is not in the valid format or does not meet the required criteria (e.g., negative value, non-numeric characters), the system displays an error message and prompts the user (sponsor) to re-enter a valid amount.  If the user's (sponsor's) account balance is insufficient to cover the desired amount of pocket money, the system notifies the user (sponsor) about the insufficient funds and suggests alternative actions, such as reducing the amount or adding funds to the account.  If the user's (sponsor's) preferred payment method is not valid or expired, the system notifies the user (sponsor) to update the payment method before proceeding with the transaction. |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | The system incorporates a secure and reliable payment processing module capable of handling financial transactions.  The user (sponsor) has a valid account with sufficient funds or a valid payment method linked to their account.  The sponsored child's account is properly configured to receive pocket money from the user (sponsor). |
| Notes and Issues: | None |

*Table 11.11: Use Case Template 11.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-011 | | |
| Use Case Name: | Manage Profile | | |
| Created By: | User (Sponsor) | Last Updated By: | User (Sponsor) |
| Date Created: | [Date] | Date Last Updated: | : [Date] |

|  |  |
| --- | --- |
| Actor: | User (Sponsor) |
| Description: | This use case describes the process by which the user (sponsor) manages their profile information and settings within the system. The purpose is to enable the user (sponsor) to maintain accurate and up-to-date information associated with their account. |
| Preconditions: | The user (sponsor) is logged into the system with a valid account. |
| Postconditions: | The user (sponsor) successfully updates their profile information and/or settings.  The system stores and reflects the changes made by the user (sponsor) in their profile. |
| Priority: | Medium |
| Frequency of Use: | The frequency of this use case depends on the user's (sponsor's) need to update or modify their profile information and settings. |
| Normal Course of Events: | The user (sponsor) selects the option to manage their profile within the system.  The system presents the user (sponsor) with a profile management interface or form.  The user (sponsor) reviews their existing profile information and settings.  The user (sponsor) identifies the specific profile information or settings they wish to update or modify.  The user (sponsor) makes the necessary changes to the identified profile information or settings.  The system validates the changes made by the user (sponsor) to ensure they meet the required criteria and format.  If the changes are valid, the system proceeds to the next step. Otherwise, an error message is displayed, prompting the user (sponsor) to correct the invalid input.  The system updates the user's (sponsor's) profile with the modified information or settings.  The system generates a confirmation message indicating the successful update.  The user (sponsor) receives the confirmation message, acknowledging the completion of the profile management process. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | The system provides a user-friendly interface that enables the user (sponsor) to easily navigate and modify their profile information.  The system incorporates proper validation mechanisms to ensure the integrity and accuracy of the updated profile information.  The user (sponsor) has the necessary permissions to modify their profile information and settings. |
| Notes and Issues: | None |

*Table 11.12: Use Case Template 12.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-012 | | |
| Use Case Name: | Approval | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority |
| Description: | This use case describes the process of approving requests made by the user (sponsor) related to actions such as sponsoring a child, getting the latest news about a sponsored child, chatting with the child, and sending pocket money. The purpose is to ensure that these actions are reviewed and approved by the authority or admin before they are executed. |
| Preconditions: | The user (sponsor) has initiated a request for actions such as sponsoring a child, getting the latest news about a sponsored child, chatting with the child, or sending pocket money. |
| Postconditions: | The authority successfully reviews and approves the user's (sponsor's) request.  The requested action is executed or allowed to proceed. |
| Priority: | High |
| Frequency of Use: | The frequency of this use case depends on the number of requests made by the user (sponsor) and the authority's availability to review and approve them. |
| Normal Course of Events: | The system notifies the authority about a pending request for approval.  The authority accesses the approval interface or dashboard within the system.  The authority reviews the details of the request, including the type of action requested and relevant information provided by the user (sponsor).  If additional information is required, the authority contacts the user (sponsor) for clarification.  The authority evaluates the request based on predefined criteria, policies, and regulations.  If the request meets the required criteria and is in compliance with policies and regulations, the authority proceeds to the next step. Otherwise, the request is rejected.  The authority provides their approval by selecting the "Approve" option within the approval interface.  The system verifies the authority's approval and updates the status of the request accordingly.  The user (sponsor) receives a notification indicating the approval of their request.  The requested action, such as sponsoring a child, getting the latest news about a sponsored child, chatting with the child, or sending pocket money, is executed or allowed to proceed. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system provides an intuitive and efficient approval interface or dashboard for the authority to review and approve requests.  The authority has the necessary permissions and authority to review and approve requests.  The system maintains an audit trail of the approval process for accountability and traceability purposes. |
| Assumptions: | The authority is responsible for ensuring the compliance of requested actions with relevant policies and regulations.  The system provides proper notifications and alerts to the authority for pending requests requiring approval. |
| Notes and Issues: | None |

*Table 11.13: Use Case Template 13.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-013 | | |
| Use Case Name: | Authority Approval | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority |
| Description: | Description: This use case describes the process of authority approval within the larger approval use case. It specifically focuses on the authority's role in reviewing and approving the requests made by the user (sponsor) related to actions such as sponsoring a child, getting the latest news about a sponsored child, chatting with the child, and sending pocket money. |
| Preconditions: | Description: This use case describes the process of authority approval within the larger approval use case. It specifically focuses on the authority's role in reviewing and approving the requests made by the user (sponsor) related to actions such as sponsoring a child, getting the latest news about a sponsored child, chatting with the child, and sending pocket money. |
| Postconditions: | The authority successfully reviews and approves the user's (sponsor's) request.  The request is forwarded to the next level of approval (Admin Approval) or the requested action is executed if no further approval is required. |
| Priority: | High |
| Frequency of Use: | The frequency of this use case depends on the number of requests received by the authority for approval. |
| Normal Course of Events: | The authority receives a notification or accesses the approval interface to review pending requests.  The authority selects a specific request for review from the list of pending requests.  The authority examines the details of the request, including the type of action requested and relevant information provided by the user (sponsor).  If additional information is required, the authority contacts the user (sponsor) for clarification.  The authority evaluates the request based on predefined criteria, policies, and regulations.  If the request meets the required criteria and is in compliance with policies and regulations, the authority proceeds to the next step. Otherwise, the request is rejected.  The authority provides their approval by selecting the "Approve" option within the approval interface.  The system verifies the authority's approval and updates the status of the request accordingly.  If further approval is required (Admin Approval), the system forwards the request to the next level of approval. Otherwise, if no further approval is needed, the requested action is executed.  The authority receives a notification indicating the successful approval of the request. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system provides an intuitive and efficient approval interface or dashboard for the authority to review and approve requests.  The authority has the necessary permissions and authority to review and approve requests.  The system maintains an audit trail of the approval process for accountability and traceability purposes. |
| Assumptions: | The authority is responsible for ensuring the compliance of requested actions with relevant policies and regulations.  The authority has the knowledge and expertise to evaluate and make informed decisions regarding the approval of requests. |
| Notes and Issues: | None |

*Table 11.14: Use Case Template 14.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-014 | | |
| Use Case Name: | Admin Approval | | |
| Created By: | : Admin | Last Updated By: | : Admin |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Admin |
| Description: | This use case describes the process of admin approval within the larger approval use case. It specifically focuses on the admin's role in reviewing and approving the requests made by the user (sponsor) that have already received authority approval. The requests include actions such as sponsoring a child, getting the latest news about a sponsored child, chatting with the child, and sending pocket money. |
| Preconditions: | The admin has received a request for approval from the approval use case after it has received authority approval.  The admin has access to the approval interface or dashboard. |
| Postconditions: | The admin successfully reviews and approves the request.  The request is either executed or finalized, depending on the specific action requested. |
| Priority: | High |
| Frequency of Use: | The frequency of this use case depends on the number of requests that have received authority approval and require admin approval. |
| Normal Course of Events: | The admin receives a notification or accesses the approval interface to review requests that have received authority approval.  The admin selects a specific request for review from the list of requests.  The admin examines the details of the request, including the type of action requested and relevant information provided by the user (sponsor).  If additional information is required, the admin contacts the user (sponsor) or the authority for clarification.  The admin evaluates the request based on predefined criteria, policies, and regulations.  If the request meets the required criteria and is in compliance with policies and regulations, the admin proceeds to the next step. Otherwise, the request is rejected.  The admin provides their approval by selecting the "Approve" option within the approval interface.  The system verifies the admin's approval and updates the status of the request accordingly.  The requested action is executed or finalized, depending on the specific action requested.  The admin receives a notification indicating the successful approval of the request. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system provides an intuitive and efficient approval interface or dashboard for the admin to review and approve requests.  The admin has the necessary permissions and authority to review and approve requests.  The system maintains an audit trail of the approval process for accountability and traceability purposes. |
| Assumptions: | The admin is responsible for ensuring the compliance of requested actions with relevant policies and regulations.  The admin has the knowledge and expertise to evaluate and make informed decisions regarding the approval of requests. |
| Notes and Issues: | None |

*Table 11.15: Use Case Template 15.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-015 | | |
| Use Case Name: | View Sponsorship and Donation History | | |
| Created By: | User (Sponsor) | Last Updated By: | User (Sponsor) |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | User (Sponsor) |
| Description: | This use case describes the process of the user (sponsor) viewing their sponsorship and donation history. It enables the user to access and review a record of their past sponsorships and donations, providing them with a comprehensive overview of their contributions and the impact they have made. |
| Preconditions: | The user (sponsor) is logged into their account.  The user has an active sponsorship or has made previous donations. |
| Postconditions: | The user successfully views their sponsorship and donation history.  The user can access detailed information about each sponsorship and donation. |
| Priority: | Medium |
| Frequency of Use: | The frequency of this use case depends on the user's engagement with sponsorships and donations. |
| Normal Course of Events: | The user (sponsor) navigates to the "Sponsorship and Donation History" section within their account.  The system presents a list or summary of the user's past sponsorships and donations, sorted by date or other relevant criteria.  The user selects a specific sponsorship or donation from the list to view detailed information.  The system displays the detailed information, including the recipient organization, sponsorship duration, donation amount, and any associated notes or messages.  The user can scroll or navigate through their sponsorship and donation history to review additional records.  If desired, the user can filter or search for specific sponsorships or donations based on criteria such as date range, recipient organization, or donation amount.  The user can choose to export or download their sponsorship and donation history for offline reference or reporting purposes. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system maintains a comprehensive and up-to-date record of the user's sponsorships and donations.  The user interface provides a user-friendly and intuitive design for easy navigation and information retrieval.  The system ensures the security and privacy of the user's sponsorship and donation history. |
| Assumptions: | The user (sponsor) has a valid and active account with the system.  The system accurately tracks and records the user's sponsorships and donations. |
| Notes and Issues: | None |

*Table 11.16: Use Case Template 16.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-016 | | |
| Use Case Name: | Donate to the Company | | |
| Created By: | User (Sponsor) | Last Updated By: | User (Sponsor) |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | User (Sponsor) |
| Description: | This use case describes the process of the user (sponsor) donating to the company. It enables the user to make a financial contribution to support the company's operations, initiatives, or specific projects. |
| Preconditions: | The user (sponsor) is logged into their account.  The user has selected the option to donate to the company. |
| Postconditions: | The user successfully makes a donation to the company.  The user receives confirmation of the donation. |
| Priority: | Priority: High |
| Frequency of Use: | The frequency of this use case depends on the user's willingness and ability to donate to the company. |
| Normal Course of Events: | The user (sponsor) navigates to the "Donate" section within their account or on the company's website.  The system presents the user with various donation options, such as one-time donation, recurring donation, or donation towards specific projects or campaigns.  The user selects the preferred donation amount or enters a custom amount.  The user chooses the payment method, such as credit card, bank transfer, or other available options.  The user provides the necessary payment details, including credit card information or bank account details.  The user confirms the donation by reviewing the selected amount and payment information.  The system processes the donation transaction securely and sends a confirmation message to the user.  The user receives the confirmation message, acknowledging the successful donation.  If desired, the user may opt to receive a receipt or acknowledgment of their donation for tax or record-keeping purposes. |
| Alternative Courses: | If the user encounters any issues during the donation process, they may contact customer support for assistance. |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system integrates with secure and reliable payment gateways to process the donation transactions.  The user interface provides a user-friendly and intuitive design for seamless donation experience.  The system generates and sends confirmation messages promptly after successful donations. |
| Assumptions: | The user (sponsor) has sufficient funds or credit to complete the desired donation.  The company has a designated process to receive and allocate donations appropriately. |
| Notes and Issues: | None |

*Table 11.17: Use Case Template 17.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-017 | | |
| Use Case Name: | Manage Child Information | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority |
| Description: | This use case describes the process of the authority managing child information. It allows the authority to view, update, and maintain accurate and up-to-date information about the sponsored children. |
| Preconditions: | The authority is logged into their account.  The authority has the necessary permissions and authorization to manage child information. |
| Postconditions: | The authority successfully views, updates, or maintains child information.  The system records any changes made to the child information. |
| Priority: | High |
| Frequency of Use: | The frequency of this use case depends on the need to manage and update child information by the authority. |
| Normal Course of Events: | The authority navigates to the "Manage Child Information" section within their account or the administrative interface.  The system presents a list of sponsored children or a search functionality to find a specific child.  The authority selects a child from the list or enters the relevant search criteria to locate the desired child.  The system displays the child's information, including their profile, contact details, sponsorship status, and any other relevant details.  The authority reviews the existing information and may make updates or modifications as needed.  If necessary, the authority can add or remove additional information related to the child, such as medical records, educational progress, or special needs.  The authority saves the changes made to the child's information.  The system updates the child's information in the database and generates an audit log to track the modifications.  The authority may choose to generate reports or export the child information for further analysis or sharing. |
| Alternative Courses: | If the authority encounters any issues or errors while managing child information, they may seek technical support or consult with other authorized personnel. |
| Exceptions: | None |
| Includes: | View Child Information  Update Child Information |
| Special Requirements: | The system provides appropriate access controls and security measures to ensure only authorized personnel can access and modify child information.  The user interface should be intuitive and user-friendly, facilitating easy navigation and efficient management of child information.  The system should have proper data validation and error handling mechanisms to prevent data integrity issues. |
| Assumptions: | The system provides appropriate access controls and security measures to ensure only authorized personnel can access and modify child information.  The user interface should be intuitive and user-friendly, facilitating easy navigation and efficient management of child information.  The system should have proper data validation and error handling mechanisms to prevent data integrity issues. |
| Notes and Issues: | None |

*Table 11.18: Use Case Template 18.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-018 | | |
| Use Case Name: | Manage Child Needs | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority |
| Description: | This use case describes the process of the authority managing the needs of sponsored children. It allows the authority to identify, assess, and address the specific needs of each child under their supervision. |
| Preconditions: | The authority is logged into their account.  The authority has the necessary permissions and authorization to manage child needs. |
| Postconditions: | The authority successfully identifies, assesses, and addresses the needs of sponsored children.  The system records any changes made to the child needs and updates the relevant records. |
| Priority: | High |
| Frequency of Use: | The frequency of this use case depends on the need to manage and address the needs of sponsored children by the authority. |
| Normal Course of Events: | The authority navigates to the "Manage Child Needs" section within their account or the administrative interface.  The system presents a list of sponsored children or a search functionality to find a specific child.  The authority selects a child from the list or enters the relevant search criteria to locate the desired child.  The system displays the child's profile and existing information about their needs, including physical, emotional, educational, or medical requirements.  The authority reviews the existing needs information and may update or modify it as necessary.  The authority may conduct assessments or evaluations to determine the current status and severity of the child's needs.  Based on the assessment, the authority identifies the appropriate actions or interventions required to address the child's needs effectively.  The authority may collaborate with other stakeholders, such as social workers, psychologists, or healthcare professionals, to develop a comprehensive plan to meet the child's needs.  The authority records the actions taken and updates the child's needs information accordingly.  The system captures the changes made and generates an audit log to track the modifications.  The authority may monitor the progress of the child's needs and make further adjustments or interventions as necessary. |
| Alternative Courses: | If the authority encounters any issues or challenges while managing child needs, they may seek guidance from supervisors or consult with other professionals with expertise in child welfare |
| Exceptions: | None |
| Includes: | View Child Needs  Update Child Needs |
| Special Requirements: | The system provides appropriate access controls and security measures to ensure only authorized personnel can access and modify child needs information.  The user interface should facilitate easy navigation and efficient management of child needs, allowing the authority to update, assess, and address the needs effectively.  The system should have proper data validation and error handling mechanisms to maintain data integrity and accuracy. |
| Assumptions: | sponsored children.  The system maintains a secure and reliable database to store child needs information.  The authority has the authority and responsibility to make decisions and take actions to meet the needs of sponsored children. |
| Notes and Issues: | None |

Included Use Case 1: Select Urgency

*Table 11.19: Use Case Template Included Number 1.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-019 | | |
| Use Case Name: | Select Urgency | | |
| Created By: | : Select Urgency | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority |
| Description: | This use case describes the process of the authority selecting the urgency level for a child's specific need. The urgency level helps prioritize and address critical needs promptly. |
| Preconditions: | The authority is logged into their account.  The authority is managing the child needs within the "Manage Child Needs" use case. |
| Postconditions: | The urgency level for the child's need is selected and recorded in the system. |
| Priority: | Medium |
| Frequency of Use: | The frequency of this use case depends on the need to assign urgency levels to child needs by the authority. |
| Normal Course of Events: | The authority identifies a specific need for a sponsored child that requires attention.  The authority selects the need from the list of identified needs.  The system presents a set of urgency options, such as low, medium, or high urgency.  The authority evaluates the severity and immediate impact of the need and selects the appropriate urgency level.  The system records the selected urgency level for the child's need. |
| Alternative Courses: | If the authority determines that a need does not require immediate attention, they may select a low urgency level.  If the authority identifies a need that demands immediate action, they may select a high urgency level.  The authority may consult with other professionals or follow organizational guidelines to determine the urgency level. |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system should provide clear and concise urgency options for the authority to select.  The selected urgency level should be prominently displayed and associated with the corresponding need.  The system should store and track the urgency level assigned to each child's need. |
| Assumptions: | None |
| Notes and Issues: | None |

Included Use Case 2: Add Need

*Table 11.20: Use Case Template Included Number 2.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-020 | | |
| Use Case Name: | Add Need | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date]] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority |
| Description: | This use case describes the process of the authority adding a new need for a sponsored child. It allows the authority to include additional requirements or identify emerging needs for the child's well-being. |
| Preconditions: | The authority is logged into their account.  The authority is managing the child needs within the "Manage Child Needs" use case. |
| Postconditions: | A new need is added to the child's existing needs in the system |
| Priority: | Medium |
| Frequency of Use: | The frequency of this use case depends on the identification of new needs for sponsored children by the authority. |
| Normal Course of Events: | The authority identifies a new need or requirement for a sponsored child.  The authority navigates to the "Manage Child Needs" section within their account or the administrative interface.  The authority selects the specific child for whom they want to add the need.  The system presents a form or input fields to enter the details of the new need, such as its description, category, or associated information.  The authority fills in the required information for the new need.  The authority submits the form or saves the new need in the system.  The system records the new need and associates it with the respective child. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system should provide a user-friendly interface for the authority to enter and save the details of the new need.  Proper data validation mechanisms should be in place to ensure accurate and consistent data entry.  The system should allow the authority to view and manage the newly added needs for sponsored children. |
| Assumptions: | None |
| Notes and Issues: | None |

Included Use Case 3: Mark Need as Met

*Table 11.21: Use Case Template Included Number 3.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-021 | | |
| Use Case Name: | Mark Need as Met | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority |
| Description: | This use case describes the process of the authority marking a child's need as met, indicating that the need has been addressed and resolved satisfactorily. |
| Preconditions: | The authority is logged into their account.  The authority is managing the child needs within the "Manage Child Needs" use case. |
| Postconditions: | The selected need is marked as met in the system. |
| Priority: | Medium |
| Frequency of Use: | The frequency of this use case depends on the resolution of child needs by the authority. |
| Normal Course of Events: | The authority reviews the list of identified needs for a sponsored child.  The authority selects a need from the list that has been successfully addressed and resolved.  The system displays the details of the selected need.  The authority selects the option to mark the need as met.  The system updates the status of the need to indicate that it has been successfully resolved. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system should provide a clear and intuitive interface for the authority to mark a need as met.  The marked status should be visibly displayed, indicating that the need has been addressed.  The system should maintain a history or log of marked needs for reference and tracking purposes. |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.22: Use Case Template 22.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-022 | | |
| Use Case Name: | Manage the Company Credit | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | Date] | Date Last Updated: | Date] |

|  |  |
| --- | --- |
| Actor: | Authority |
| Description: | This use case describes the process of the authority managing the company credit, which includes monitoring and controlling the financial resources allocated to sponsored children and their needs. |
| Preconditions: | The authority is logged into their account.  The authority has the necessary permissions to manage the company credit. |
| Postconditions: | The company credit is effectively managed, and financial resources are allocated appropriately. |
| Priority: | High |
| Frequency of Use: | The frequency of this use case depends on the financial activities and needs of sponsored children. |
| Normal Course of Events: | The authority accesses the "Manage the Company Credit" section within their account or the administrative interface.  The system displays the current status and available balance of the company credit.  The authority reviews the transaction history, including incoming and outgoing funds related to sponsored children.  The authority monitors the utilization of funds for different needs and expenses.  If necessary, the authority can add or allocate funds to specific children or categories of needs.  The authority updates the transaction records and adjusts the balance accordingly.  The system provides notifications or alerts for low credit balance or excessive spending.  The authority ensures that the company credit remains within the allocated budget and takes appropriate actions to manage financial resources effectively. |
| Alternative Courses: | If the company credit balance is insufficient, the authority may request additional funding or reallocate funds from other sources.  In case of unexpected expenses or urgent needs, the authority may prioritize the allocation of funds accordingly.  The authority may consult with financial advisors or follow organizational guidelines to ensure prudent financial management. |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system should provide a secure and reliable platform to manage financial transactions and records.  Proper authentication and authorization mechanisms should be in place to ensure only authorized individuals can access and manage the company credit.  The system should generate reports or summaries of financial activities and provide tools for data analysis and decision-making. |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.23: Use Case Template 23.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-023 | | |
| Use Case Name: | Add a New Child | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority |
| Description: | This use case describes the process of adding a new child to the sponsorship program. The authority is responsible for gathering and entering the necessary information about the child into the system. |
| Preconditions: | The authority is logged into their account.  The authority has the necessary permissions to add a new child. |
| Postconditions: | A new child is successfully added to the sponsorship program. |
| Priority: | High |
| Frequency of Use: | The frequency of this use case depends on the number of new children joining the program. |
| Normal Course of Events: | The authority accesses the "Add a New Child" section within their account or the administrative interface.  The system presents a form or template to enter the child's information.  The authority fills in the required fields, which may include:  Full name  Date of birth  Gender  Contact information (address, phone number, email)  Educational background  Health condition or any special needs  Family background or social circumstances  The authority verifies the accuracy of the entered information.  The system performs validation checks to ensure the completeness and correctness of the provided data.  If all required fields are filled correctly, the authority submits the form.  The system generates a unique identifier or child ID for the newly added child.  The authority receives a confirmation message indicating the successful addition of the child to the sponsorship program. |
| Alternative Courses: | If any required field is missing or contains invalid information, the system prompts the authority to correct the errors before submission.  The authority may have the option to upload supporting documents or photos related to the child's profile, if applicable.  In some cases, the authority may need to seek additional information or clarification from the child's family or relevant sources. |
| Exceptions: | If there is a technical issue or system error, the authority may need to contact the technical support team for assistance.  If the entered information is found to be inaccurate or incomplete after submission, the authority may need to update the child's profile accordingly. |
| Includes: | None |
| Special Requirements: | The system should have proper data validation mechanisms to ensure the accuracy and consistency of the entered information.  The authority should have access to necessary guidelines or instructions to assist them in collecting and entering the required child information.  Privacy and data protection measures should be implemented to safeguard the sensitive information of the child and their family. |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.24: Use Case Template 24.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-024 | | |
| Use Case Name: | View Chat Between Sponsor and Child | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority |
| Description: | This use case describes the process of viewing the chat conversation between a sponsor and a child within the sponsorship program. The authority has the role of monitoring and ensuring the appropriateness of the communication between sponsors and children |
| Preconditions: | The authority is logged into their account.  The authority has the necessary permissions to view chat conversations. |
| Postconditions: | None |
| Priority: | Medium |
| Frequency of Use: | The frequency of this use case depends on the volume of chat conversations between sponsors and children. |
| Normal Course of Events: | The authority accesses the "View Chat Between Sponsor and Child" section within their account or the administrative interface.  The system presents a list of chat conversations between sponsors and children.  The authority selects a specific conversation from the list.  The system displays the chat transcript, showing the messages exchanged between the sponsor and the child.  The authority can view the messages, including the sender's name, message content, and timestamp.  The authority can scroll through the conversation to review the entire chat history.  If needed, the authority may take appropriate actions based on the content of the conversation, such as providing guidance, addressing concerns, or escalating issues to higher authorities. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system should provide a user-friendly interface for the authority to easily navigate and view chat conversations.  Proper security measures should be in place to protect the confidentiality and privacy of the chat content.  The authority should have access to relevant policies or guidelines regarding acceptable communication between sponsors and children. |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.25: Use Case Template 25.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-025 | | |
| Use Case Name: | Record Child School Progress | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority |
| Description: | This use case describes the process of recording the school progress of a child within the sponsorship program. The authority is responsible for monitoring and tracking the educational development of sponsored children. |
| Preconditions: | The authority is logged into their account.  The authority has the necessary permissions to record child school progress. |
| Postconditions: | The child's school progress is recorded in the system. |
| Priority: | Medium |
| Frequency of Use: | The frequency of this use case depends on the school terms or reporting periods. |
| Normal Course of Events: | The authority accesses the "Record Child School Progress" section within their account or the administrative interface.  The system presents a list of sponsored children.  The authority selects a specific child from the list.  The system displays the child's profile and available school progress fields.  The authority enters the relevant information about the child's school progress, such as grades, attendance, behavior, or any other required metrics.  The authority saves the entered data.  The system updates the child's school progress record with the provided information. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system should provide an intuitive interface for the authority to easily navigate and enter child school progress data.  Proper validations should be in place to ensure accurate and valid data entry.  The authority should have access to relevant guidelines or criteria for assessing and recording school progress. |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.26: Use Case Template 26.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-026 | | |
| Use Case Name: | View Sponsorship Info | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority, Admin |
| Description: | This use case describes the process of viewing sponsorship information for a child within the system. Both the authority and admin actors can access this functionality to retrieve details about the sponsorship status and related information. |
| Preconditions: | The user (authority or admin) is logged into their respective account.  The user has the necessary permissions to view sponsorship information. |
| Postconditions: | The sponsorship information for the selected child is displayed. |
| Priority: | High |
| Frequency of Use: | This use case is frequently used by the authority and admin to access sponsorship details. |
| Normal Course of Events: | The user navigates to the "View Sponsorship Info" section within their account or the administrative interface.  The system presents a list of sponsored children.  The user selects a specific child from the list.  The system retrieves and displays the sponsorship information for the selected child.  This information may include sponsor details, sponsorship start and end dates, donation history, communication logs, and any additional relevant data.  The user reviews the displayed sponsorship information. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system should provide an intuitive interface for the user to easily navigate and access sponsorship information.  The displayed information should be organized and presented in a clear and understandable format.  The system should handle cases where no sponsorship information is available for a selected child. |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.27: Use Case Template 27.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-027 | | |
| Use Case Name: | View Sponsors and Their Sponsorship Donations | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority, Admin |
| Description: | This use case describes the process of viewing sponsors' information and their sponsorship donations within the system. Both the authority and admin actors can access this functionality to retrieve details about sponsors and their contributions. |
| Preconditions: | The user (authority or admin) is logged into their respective account.  The user has the necessary permissions to view sponsors' information and sponsorship donations. |
| Postconditions: | The user (authority or admin) is logged into their respective account.  The user has the necessary permissions to view sponsors' information and sponsorship donations. |
| Priority: | High |
| Frequency of Use: | This use case is frequently used by the authority and admin to access sponsorship details and donation records. |
| Normal Course of Events: | The user navigates to the "View Sponsors" or "Sponsorship Donations" section within their account or the administrative interface.  The system presents a list of sponsors or sponsorship donation records.  The user selects a specific sponsor from the list or chooses to view all sponsorship donations.  The system retrieves and displays the selected sponsor's information and their sponsorship donations.  Sponsor information may include sponsor name, contact details, sponsorship start and end dates, and any other relevant details.  Sponsorship donation records may include donation amounts, dates, purpose, and any associated notes or comments.  The user reviews the displayed sponsors' information and sponsorship donations. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | The system should provide an intuitive interface for the user to easily navigate and access sponsors' information and sponsorship donations.  The displayed information should be organized and presented in a clear and understandable format.  The system should handle cases where no sponsors or sponsorship donation records are available. |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.28: Use Case Template 28.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-028 | | |
| Use Case Name: | Approve Sponsor | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Authority, Admin |
| Description: | This use case describes the process of approving a sponsor within the system. Both the authority and admin actors have the authority to review and approve sponsor applications. |
| Preconditions: | The user (authority or admin) is logged into their respective account.  A sponsor has submitted an application for approval. |
| Postconditions: | The sponsor's application is approved, and they gain access to the system's sponsorship features |
| Priority: | High |
| Frequency of Use: | This use case is performed when a sponsor application is received and requires approval. |
| Normal Course of Events: | The user receives a sponsor application notification or navigates to the pending applications section.  The user selects the pending sponsor application to review.  The system displays the sponsor's application details, including their contact information, background, and reason for sponsorship.  The user reviews the sponsor's application, ensuring it meets the necessary criteria and requirements.  If the application is satisfactory:  a. The user selects the "Approve" option.  b. The system updates the sponsor's status to "Approved" in the system's database.  c. The sponsor receives a notification of their approval and gains access to the sponsorship features.  d. The user receives a confirmation message indicating successful approval.  If the application does not meet the requirements:  a. The user selects the "Reject" option.  b. The system updates the sponsor's status to "Rejected" in the system's database.  c. The sponsor receives a notification of their rejection.  d. The user receives a confirmation message indicating successful rejection. |
| Alternative Courses: | None |
| Exceptions: | If there are technical issues or errors during the approval process, the user receives an error message and may need to retry the approval later. |
| Includes: | Extend: Approve  Extend: Reject |
| Special Requirements: | The system should provide a user-friendly interface for reviewing and approving sponsor applications.  The approval process should include validation checks to ensure that only eligible sponsors are approved.  Notifications should be sent to sponsors upon approval or rejection. |
| Assumptions: | None |
| Notes and Issues: | None |

Extend: Approve

*Table 11.28..1: Use Case Template Extended From 28 Extended Number 1.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-028.1 | | |
| Use Case Name: | Approve | | |
| Created By: | Approve | Last Updated By: | Approve |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: |  |
| Description: | This use case extends the "Approve Sponsor" use case. It represents the additional steps involved in approving a sponsor application. |
| Preconditions: | The sponsor application is under review.  The user (authority or admin) is authorized to approve sponsor applications. |
| Postconditions: | The sponsor's application is approved, and they gain access to the system's sponsorship features. |
| Priority: | High |
| Frequency of Use: | This use case is performed when a sponsor application is approved. |
| Normal Course of Events: | The user selects the "Approve" option in the "Approve Sponsor" use case.  The system updates the sponsor's status to "Approved" in the system's database.  The sponsor receives a notification of their approval and gains access to the sponsorship features.  The user receives a confirmation message indicating successful approval. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

Extend: Reject

*Table 11.28..2: Use Case Template Extended From 28 Extended Number 2.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-028.2 | | |
| Use Case Name: | Reject | | |
| Created By: | Authority | Last Updated By: | Authority |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: |  |
| Description: | This use case extends the "Approve Sponsor" use case. It represents the additional steps involved in rejecting a sponsor application. |
| Preconditions: | The sponsor application is under review.  The user (authority or admin) is authorized to reject sponsor applications. |
| Postconditions: | The sponsor's application is rejected, and they receive a notification. |
| Priority: | High |
| Frequency of Use: | This use case is performed when a sponsor application is rejected. |
| Normal Course of Events: | The user selects the "Reject" option in the "Approve Sponsor" use case.  The system updates the sponsor's status to "Rejected" in the system's database.  The sponsor receives a notification of their rejection.  The user receives a confirmation message indicating successful rejection. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

*Table 11.29: Use Case Template 29.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-029 | | |
| Use Case Name: | Admin Manage Authority | | |
| Created By: | Admin | Last Updated By: | Admin |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: | Admin |
| Description: | This use case describes the process of managing authority users within the system. The admin actor has the authority to add new authority users, update existing authority profiles, and perform other administrative actions related to authority management. |
| Preconditions: | The user is logged into the admin account.  The admin has appropriate privileges to manage authority users. |
| Postconditions: | Authority user information is updated or new authority users are added as required. |
| Priority: | High |
| Frequency of Use: | This use case is performed when there is a need to manage authority users, such as adding or updating their profiles. |
| Normal Course of Events: | The admin navigates to the authority management section of the admin dashboard.  The admin selects the desired action from the available options, such as "Update Authority" or "Add Authority."  If the admin chooses to update authority:  a. The admin selects the authority user to update.  b. The system displays the current information of the selected authority user.  c. The admin modifies the necessary fields, such as name, contact information, or role.  d. The admin saves the changes.  e. The system updates the authority user's profile with the new information.  If the admin chooses to add authority:  a. The admin selects the "Add Authority" option.  b. The admin provides the required information for the new authority user, such as name, contact information, and role.  c. The admin saves the new authority user.  d. The system adds the new authority user to the system's database.  The admin receives a confirmation message indicating the successful update or addition of the authority user. |
| Alternative Courses: | None |
| Exceptions: | If there are technical issues or errors during the authority management process, the admin receives an error message and may need to retry the action later. |
| Includes: | Extend: Update Authority  Extend: Add Authority |
| Special Requirements: | The system should provide a user-friendly interface for managing authority users.  Proper validation checks should be in place to ensure the accuracy of the authority user's information. |
| Assumptions: | None |
| Notes and Issues: | None |

Extend: Update Authority

*Table 11.29..1: Use Case Template Extended From 29 Extended Number 1.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-029.1 | | |
| Use Case Name: | Update Authority | | |
| Created By: | Admin | Last Updated By: | : Admin |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: |  |
| Description: | This use case extends the "Admin Manage Authority" use case. It represents the additional steps involved in updating an authority user's profile. |
| Preconditions: | The admin has selected the "Update Authority" option in the "Admin Manage Authority" use case. |
| Postconditions: | The authority user's profile is updated with the new information provided by the admin. |
| Priority: | High |
| Frequency of Use: | This use case is performed when an authority user's profile needs to be updated. |
| Normal Course of Events: | The admin selects the "Update Authority" option in the "Admin Manage Authority" use case.  The admin selects the authority user to update from the list of available authority users.  The system displays the current information of the selected authority user.  The admin modifies the necessary fields, such as name, contact information, or role.  The admin saves the changes.  The system updates the authority user's profile with the new information.  The admin receives a confirmation message indicating the successful update of the authority user's profile. |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |

Extend: Add Authority

*Table 11.29..2: Use Case Template Extended From 29 Extended Number 2.*

|  |  |  |  |
| --- | --- | --- | --- |
| Use Case ID: | UC-029.2 | | |
| Use Case Name: | Add Authority | | |
| Created By: | Admin | Last Updated By: | Admin |
| Date Created: | [Date] | Date Last Updated: | [Date] |

|  |  |
| --- | --- |
| Actor: |  |
| Description: | This use case extends the "Admin Manage Authority" use case. It represents the additional steps involved in adding a new authority user. |
| Preconditions: | The admin has selected the "Add Authority" option in the "Admin Manage Authority" use case. |
| Postconditions: | A new authority user is added to the system's database with the provided information. |
| Priority: | High |
| Frequency of Use: | This use case is performed when a new authority user needs to be added to the system. |
| Normal Course of Events: | The admin selects the "Add Authority" option in the "Admin Manage Authority" use case.  The admin provides the required information for the new authority user, such as name, contact information, and role.  The admin saves the new authority user.  The system adds the new authority user to the system's database.  The admin receives a confirmation message indicating the successful addition of the authority user |
| Alternative Courses: | None |
| Exceptions: | None |
| Includes: | None |
| Special Requirements: | None |
| Assumptions: | None |
| Notes and Issues: | None |
|  |  |

metin, ekran görüntüsü, yazı tipi, tasarım içeren bir resim

Açıklama otomatik olarak oluşturuldu

*Figure 21: Physical Database.*

In E-R diagram child and user can have many identification like TRNC and Republic of Turkey also a child can have many sponsor and a sponsor can have many child to sponsor. Each child can have multiple need group. Need group table holds the all created needs. If a need is not completed and authority want to add new need active need group will be updated. A need can have many donations and a user can donate many needs. Each sponsor can have multiple report. This report table holds the all penalties of a user have done.

# 5. IMPLEMENTATION

## 5.1 Tools, technologies and platforms used

● The programming language to be used for backend development, such as HTML, JavaScript, CSS, React.

● The choice of framework for the backend, such as ExpressJS, Sequel,ize.

● The database management system, the API development and documentation tool, Postman

● The version control system, Git

● The Waterfall methodology will be used for development.

## 

## 5.2 Algorithms

|  |  |
| --- | --- |
| Table 1. Procedure of the TC ID algorithm used in the system. | |
| 1 | function Kontrol(TCno) { |
| 2 | let Algoritma\_Adim\_Kontrol = 0; |
| 3 | let TekBasamaklarToplami = 0; |
| 4 | let CiftBasamaklarToplami = 0; |
| 5 |  |
| 6 | if (TCno.length === 11) { |
| 7 | Algoritma\_Adim\_Kontrol = 1; |
| 8 | } |
| 9 | for (let i = 0; i < TCno.length; i++) { |
| 10 | if (!isNaN(parseInt(TCno[i]))) { |
| 11 | Algoritma\_Adim\_Kontrol = 2; |
| 12 | } |
| 13 | } |
| 14 | if (TCno.substring(0, 1) !== "0") { |
| 15 | Algoritma\_Adim\_Kontrol = 3; |
| 16 | } |
| 17 |  |
| 18 | let arrTC = TCno.replace(/[^0-9]/g, "").split("").map(x => parseInt(x)); |
| 19 |  |
| 20 | for (let i = 0; i < TCno.length; i++) { |
| 21 | if (((i + 1) % 2) === 0) { |
| 22 | if (i + 1 !== 10) { |
| 23 | CiftBasamaklarToplami += parseInt(arrTC[i]); |
| 24 | } else { |
| 25 | if (i + 1 !== 11) { |
| 26 | TekBasamaklarToplami += parseInt(arrTC[i]); |
| 27 | } |
| 28 | } |
| 29 | } |
| 30 | } |
| 31 |  |
| 32 | if (parseInt(TCno.substring(9, 10)) === (((TekBasamaklarToplami \* 7) - CiftBasamaklarToplami) % 10)) { |
| 33 | Algoritma\_Adim\_Kontrol = 4; |
| 34 | } |
| 35 | if (parseInt(TCno.substring(10, 11)) === ((arrTC.reduce((sum, x) => sum + x, 0) - parseInt(TCno.substring(10, 11))) % 10)) { |
| 36 | Algoritma\_Adim\_Kontrol = 5; |
| 37 | } |
| 38 |  |
| 39 | if (Algoritma\_Adim\_Kontrol === 5) { |
| 40 | return "Correct TC No"; |
| 41 | } else { |
| 42 | return "Incorrect TC No"; |
| 43 | } |
| 44 | } |

## 

## In order to ensure the security and protection of our users' information, we place great importance on the identity verification process on our developed website. Therefore, the membership system in our project is designed in such a way that only users with valid identification numbers can register. Identity verification is a process used to authenticate users' real identities. During this process, the provided identification number is verified by checking its compliance with official documents. By verifying users' identities, our aim is to prevent the creation of fake accounts and establish a secure environment.

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## 5.3 Standards

Standards in accordance with the TRNC constitution have been determined and implemented in our project. These standards are rather the correction of features that may be against the law. Standards such as not inflicting any direct or indirect physical or moral harm on any child, protecting the financial rights of the users, and presenting the donations to the state in a transparent manner are included.

# 6. QUALITY AND TESTING

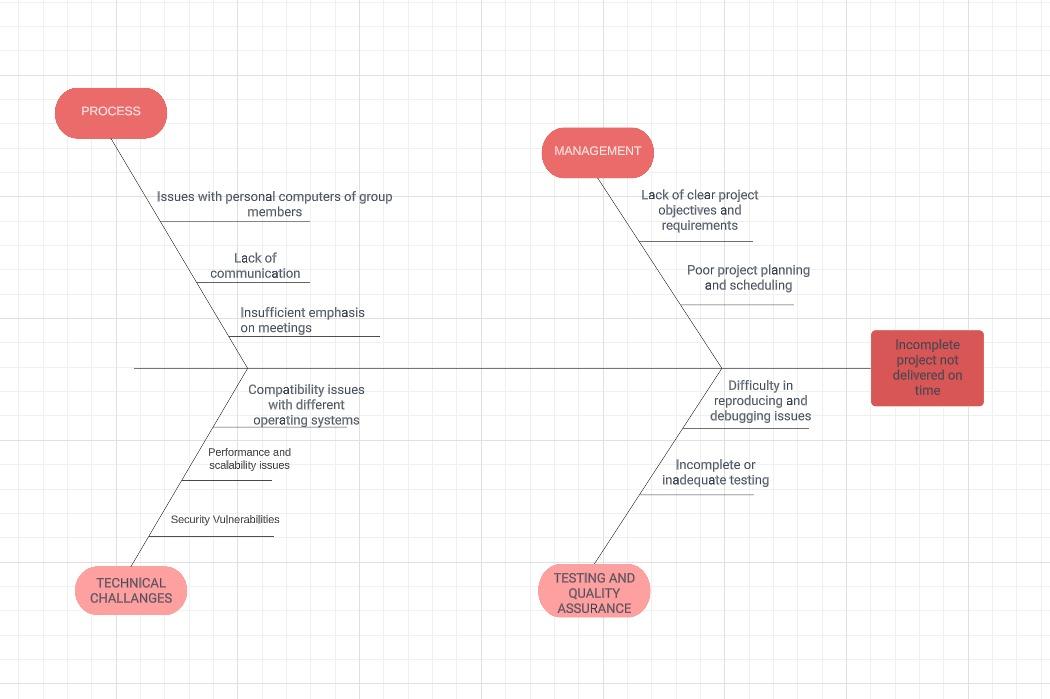
## 6.1 Quality Assurance Activities During Project Life Cycle

1. **Quality Metric Tables**

|  |  |  |
| --- | --- | --- |
| **Number** | **Quality Metric** | **Description** |
| 1 | Accessibility Compliance | The system should be accessible to all users, especially disabled users. |
|  |  | Measurement: The level of accessibility can be evaluated based on standards such as the Web Content Accessibility Guidelines (WCAG) 2.1. |
|  |  | Accessibility tests should be conducted using usability testing with users of different types of disabilities and automated accessibility testing tools. |
| 2 | Mean Time to Fix | Bugs and errors within the system should be fixed within one day. |
|  |  | Measurement: The time taken to fix issues should be measured from the moment they are reported. The resolution time for reported bugs can be tracked. |
| 3 | Content Accuracy | Ensuring content accuracy by providing reliable and up-to-date information to users. |
|  |  | Measurement: Content should be regularly reviewed, verified, and updated. User feedback should be collected, and a correction process should be in place. |
| 4 | Compliance with Regulations | The system should comply with relevant legal and regulatory requirements, such as data protection or privacy regulations. |
|  |  | Measurement: Audits should be conducted to verify compliance with applicable laws, regulations, and standards. |
|  |  | Consultation with legal experts may be necessary, and compliance assessments should be performed. |
| 5 | Sign-up and Sponsorship Confirmation | Authorities should frequently check notification boxes for new sign-ups and sponsorship confirmations. |
|  |  | Measurement: Notification boxes should be regularly monitored, ensuring prompt processing of new sign-ups and sponsorship confirmations. |
| 6 | Location and Region Verification | The location and region information of displayed children should be verified. |
|  |  | Measurement: Appropriate verification processes should be used to validate the addresses and locations of registered children. |
|  |  | Methods such as identity verification, address verification, or other relevant techniques can be employed. |
| 7 | Security Check | Authorities should frequently check message boxes and be prepared for any crimes or issues (e.g., verbal harm). |
|  |  | Measurement: Message boxes should be periodically checked, ensuring quick responses to security threats or other problems. |
|  |  | Relevant security protocols and emergency plans should be defined and implemented. |

.

1. **For QUALITY ASSURANCE**



*Figure 22: Fishbone Diagram - Visual representation of a Fishbone diagram to assess potential project problem*

Fishbone diagram, also known as a cause-and-effect diagram or Ishikawa diagram, is a visual tool used to identify and analyze the potential causes of a specific problem or effect.

In the fishbone diagram shown above, there are 4 main categories that contribute to potential problems: process, management, technical challenges, and testing and quality assurance. Potential problems within these fundamental categories can lead to the project not being completed on time.

## 6.2 Quality Control (QC) Activities After Implementation Completed

1. **Prepare your Test-Cases to test the critical modules of your system**

Test Case ID: TC001

Module Name: User Registration

TC Scenario: Verify that a new user can successfully register on the website.

Test Case Name: User Registration - Successful Registration

Prerequisite: The website registration page is accessible.

Test Data:

• Name: alibasaran

• Email: alibasaran@example.com

• Password: test123

Test Steps:

1. Navigate to the website registration page.

2. Enter the name "ali basaran" in the Name field.

3. Enter the email address "alibasaran@example.com" in the Email field.

4. Enter the password "test123" in the Password field.

5. Click on the "Register" button.

6. Wait for the registration process to complete.

Expected Results:

1. The registration process should complete without any errors or exceptions.

2. The user should be redirected to a confirmation page or receive a confirmation email.

3. The user's information should be stored in the database.

Status: Pass

Comments: The user registration feature is functioning correctly, and new users can register successfully.

Test Executed By: Ali Basaran Kaba

Test Case ID: TC002

Module Name: Login Functionality

TC Scenario: Verify that registered users can successfully login to the website.

Test Case Name: User Login - Successful Login

Prerequisite: A registered user account exists in the system.

Test Data:

Email: alibasaran@example.com

Password: test123

Test Steps:

Navigate to the website login page.

Enter the email address "alibasaran@example.com" in the Email field.

Enter the password "test123" in the Password field.

Click on the "Login" button.

Wait for the login process to complete.

Expected Results:

The login process should complete without any errors or exceptions.

The user should be redirected to the homepage/dashboard.

The user's information and session should be validated.

Status: Pass

Comments: The user login functionality is working correctly, allowing registered users to log in without any issues.

Test Executed By: Ali Basaran Kaba

**E. SWOT Analysis**

Strengths:

1. Clear Purpose: The project has a clear purpose of providing donations to needy and orphaned children, which can evoke strong emotional appeal and garner support from individuals and organizations.
2. Online Platform: The use of a website as a platform for donations provides convenience, accessibility, and the potential for a wide reach, allowing users to easily contribute and engage with the project.
3. Collaboration Opportunities: The project involves multiple actors, including users, government authorities, administrators, and children, creating opportunities for collaboration and a collective effort to address the needs of children effectively.
4. Customizable Donations: The project allows users to choose the specific needs they want to contribute to, giving them a sense of control and personalization in their donations.

Weaknesses:

1. Limited Geographic Scope: The project is currently limited to the KKTC region, which may restrict the potential donor pool and limit the impact of the project.
2. Dependence on User Engagement: The success of the project relies heavily on user participation and engagement. If there is low user interest or lack of promotion, the project may struggle to achieve its goals.
3. Verification and Approval Process: The requirement for verification and approval of user information by the authority can introduce delays in user onboarding and may deter potential donors who are looking for quick and hassle-free donation processes.
4. Lack of Offline Presence: The project's reliance on an online platform may exclude individuals who have limited internet access or prefer offline donation methods, potentially missing out on potential donors.

Opportunities:

1. Partnerships with Organizations: Collaborating with local organizations, NGOs, or businesses can help expand the project's reach, enhance credibility, and tap into their existing networks for fundraising and support.
2. Social Media and Digital Marketing: Utilizing social media platforms and digital marketing strategies can significantly increase awareness, engagement, and attract a larger audience of potential donors.
3. Community Involvement: Engaging local communities through events, workshops, or volunteer programs can create a sense of ownership, generate goodwill, and encourage support for the project.
4. Expansion to Other Regions: Exploring the possibility of expanding the project beyond KKTC to other regions or countries can open up new opportunities for greater impact and increased donations.

Threats:

1. Competition from Similar Projects: The presence of other donation projects or charitable organizations addressing similar causes can lead to competition for donor attention and resources.
2. Economic Factors: Economic downturns or financial instability can negatively impact individuals' willingness and ability to donate, potentially affecting the project's fundraising efforts.
3. Privacy and Security Concerns: With the collection of personal information and financial transactions, ensuring data privacy and security is crucial to maintain trust and protect the project from potential cybersecurity threats.
4. Regulatory and Legal Compliance: The project needs to comply with relevant laws and regulations related to fundraising, financial transactions, and data protection, which may involve administrative complexities and legal hurdles.

# 7. USER GUIDE OF THE SYSTEM

**User Registration:**

To become a registered user, follow these steps:

* Visit our website and navigate to the registration page.
* Fill in the required information, including your identification number, password, address, email, and phone number.
* Upload your identification photos for verification purposes.
* Submit the registration form for review and approval.

During the registration process, we prioritize the safety and security of the children we serve. Therefore, we require users to provide accurate identification and personal details. This helps us ensure that our platform is used responsibly and ethically.

**User Verification:**

* + After submitting the registration form, your information will be reviewed by the authority responsible for children's welfare.
  + The authority will validate your details and determine your eligibility to access the website.
  + Once approved, you will receive a notification, and you can proceed to log in to the website using your credentials.

The verification process is in place to maintain the integrity of our platform and protect the privacy of the children. We appreciate your patience during this stage, as it may take some time to complete the verification process.

**User Homepage:**

* + Upon successful login, you will land on the user homepage.
  + On the left side of the page, you will find three horizontal lines, indicating a menu. Click on the menu icon to explore the available options.
  + The menu includes options such as Pending Approvals, Users, Children, Donations, and Children's Location Map.

The user homepage serves as the central hub for all your activities on the website. From here, you can access various sections and features that allow you to contribute to the well-being of children in need.

**Pending Approvals:**

* + By clicking on the "Pending Approvals" option in the menu, you can access a list of users who have requested registration and are awaiting approval.
  + As an authority or admin, you can review their information, including name, surname, address, identification number, and identification photos.
  + Evaluate the provided details and choose to approve or reject the registration request.

The "Pending Approvals" section is specifically designed for authority figures responsible for vetting user registrations. By carefully reviewing the information provided, you can ensure that only legitimate and trustworthy individuals gain access to the platform.

**User Management:**

* + The "Users" section allows you to manage registered users on the platform.
  + You can search, filter, and sort the user list based on various criteria such as name, surname, region, or sponsorship status.
  + Clicking on a user's profile will display their information, including contact details and the children they have sponsored or donated to.

User management provides an overview of all registered users and their respective activities. This section enables you to track users' engagement and contributions, ensuring transparency and accountability within the community.

**Children in Need:**

* + To view children in need, click on the "Children" option in the menu.
  + Children will be presented as cards, featuring their photos, names, ages, regions, and specific needs.
  + Utilize the available filters to refine your search based on urgency (normal or critical), region (e.g., Lefkoşa, Mağusa, Girne, Lefke, Karpaz, Güzelyurt), or need type (shelter, nutrition, clothing, education, health, allowance).
  + Clicking on a child's card will provide additional details about their background and circumstances.

The "Children in Need" section allows you to browse through profiles of children who require support. By understanding their individual needs and situations, you can make informed decisions about whom to sponsor or donate to.

**Child Sponsorship:**

* + To sponsor a child, select the desired child's profile and click on the "Sponsor" button.
  + You will be redirected to a sponsorship confirmation page, which outlines the sponsorship details, including the sponsorship duration, monthly contribution amount, and payment method options.
  + Choose the desired sponsorship duration (e.g., 6 months, 1 year, ongoing) and the monthly contribution amount.
  + Proceed to the payment section, where you can select your preferred payment method (e.g., credit card, bank transfer).
  + Follow the instructions to complete the sponsorship process.

Child sponsorship allows you to establish a long-term commitment to a specific child. By providing financial support, you contribute to their overall well-being and help meet their essential needs.

**Making Donations:**

* + If you prefer to make one-time donations instead of child sponsorship, navigate to the "Donations" option in the menu.
  + Here, you can select from different donation categories (e.g., shelter, nutrition, clothing, education, health, allowance) or choose to make a general donation.
  + Specify the donation amount and proceed to the payment section, where you can choose your preferred payment method.
  + Complete the donation process by following the provided instructions.

Making donations allows you to contribute directly to the causes and needs that resonate with you the most. Whether it's a specific area of support or a general donation, your contribution will make a difference in the lives of these children.

**Sponsored Children Overview:**

* + By clicking on the "Sponsored Children" option in the menu, you can access a dedicated page displaying the children you sponsor.
  + This page provides an overview of the children you support, including their names, ages, regions, and sponsorship status.
  + From here, you can view the children you sponsor, their specific needs, and their progress.
  + Access the messaging system to communicate directly with the children or make additional donations.

The "Sponsored Children" section serves as a centralized hub for monitoring and interacting with the children you sponsor. Here, you can stay updated on their progress and communicate with them through a secure messaging system.

**Messaging System:**

* + Access the Messaging page from the user homepage to view and exchange messages with the children you sponsor.
  + The messaging system provides a secure and direct channel for communication between sponsors and children, fostering a supportive and meaningful relationship.

The messaging system facilitates ongoing communication, allowing you to provide guidance, encouragement, and support to the children you sponsor. This personal connection can positively impact their lives and help them overcome challenges.

**Donation History:**

* + The Donation History page displays a comprehensive record of all your previous donations.
  + You can refer to this page to track your contribution history and verify the impact you have made.
  + The history includes details such as donation date, amount, category, and recipient (child or general donation).

The Donation History section enables you to review your past contributions, ensuring transparency and accountability. By having access to this information, you can assess your overall impact and identify areas where you may wish to focus your future support.

**Direct Donations:**

* + As a user, you have the option to make direct donations to the organization.
  + Navigate to the designated section, usually found in the "Donations" menu, and enter the desired donation amount.
  + Please note that direct donations may be subject to review and control by the admin.

Direct donations provide flexibility for users who prefer to support the organization, rather than individual children or specific needs. These contributions help sustain the overall operations and initiatives aimed at improving the lives of disadvantaged children.

**Children's Location Map:**

* + Clicking on the "Children's Location Map" option in the menu will display an interactive map.
  + The map provides an overview of the regions where children in need are located, allowing you to visualize the impact of your contributions across different areas.

The Children's Location Map offers a visual representation of the distribution of children in need. This feature allows you to gain a broader understanding of the geographical context and the overall reach of the organization's efforts.

# 8. DISCUSSION

The success of this project can have significant global impact. This website, which enables donations to be made to children in need and orphaned children, can serve as a model for similar initiatives worldwide, addressing similar needs. By providing a platform for users to contribute towards various necessities such as shelter, nutrition, clothing, education, healthcare, and allowances, the project not only benefits the poor children but also creates an opportunity for individuals and society to make a positive difference. Additionally, the solution promotes environmental sustainability by emphasizing financial contributions rather than material donations, reducing resource consumption and waste. Overall, this project has the potential to make a positive impact on a global, economic, environmental, and societal scale, benefiting both the recipients and the individuals involved in the donation process.

# 9. CONCLUSION

The project involves creating a website to facilitate donations for children in need and orphaned children, addressing their various necessities such as shelter, nutrition, clothing, education, healthcare, and allowances. The website allows users to browse and select children to support, make financial contributions, and engage in communication with the sponsored child. The project is useful as it provides a centralized platform for individuals to directly impact the lives of vulnerable children, promoting social responsibility and collective efforts towards improving their well-being. Through this project, I have achieved the establishment of a functional and user-friendly website that connects donors and beneficiaries, fostering a sense of empathy and community engagement. Personally, this project has allowed me to develop skills in web development, project management, and problem-solving. I have gained a deeper understanding of social issues and the importance of leveraging technology for social good. It has been a rewarding experience to witness the positive impact this project has on the lives of children in need and to contribute towards making a difference in the world.

# 10. REFERENCES

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# APPENDIX

HTML - HyperText Markup Language,

CSS - Cascading Style Sheet,

JavaScript - High Level Programming Bootstrap,

CSS Framework Laravel - A PHP web application framework with expressive, elegant syntax,

NodeJS - A fast and powerful run environment,

Sequelize - MySql ORM tool,

MySQL - Database Chatbot,

Live Chat software that helps handling customer enquiries,

Agile Development Method - Method for project development,