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| SOEN POE PART 1  Software Engineering |
| |  |  |  | | --- | --- | --- | | Venkata Vikranth Jannatha | 9/27/23 | SOEN6222 | |

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# Introduction

The purpose of this project is to develop a comprehensive website for a non-profit organization dedicated to saving trees. This website aims to revolutionize the way the organization operates by providing a platform that will streamline their tree-planting initiatives, enhance engagement with supporters and volunteers, and simplify the donation process.

In addition, the website will serve as an educational tool, enlightening visitors about the critical role trees play in our environment and wildlife. It will also showcase the organization's ongoing work and future, thereby increasing transparency and fostering trust with its stakeholders.

The scope of this project encompasses the design and development of a website that caters to these needs. We will adopt an agile approach for this project, which entails close collaboration with the non-profit and the end-users of the website. This approach allows for continuous feedback and iterative development, ensuring the website not only functions effectively but also align with the needs and expectations of all stakeholders.

Specifically, the website will address the challenges outlined in the case study. It will feature a progress tracker for monitoring tree-planting efforts, a communication portal for improving engagement with supporters and volunteers, a donation system for efficient fundraising, and a section dedicated to providing updates on the organization's activities and their impact.

By delivering a website that significantly contributes to the non-profit's mission of saving trees, we aim to make a positive impact on our environment and wildlife. This project, guided by agile principles, is a step towards a greener and more sustainable future.

# Functional Requirements for Tree-Saving Program:

According to (Shvetsova, 2023) , The Functional Requirements includes with practical explanation.

1. Tree-Establishing Management System: A system that takes information about tree planting activities from staff and volunteers, processes it, and generates progress reports for review.
2. Communication and Commitment System: A system that conveys correspondences (messages, refreshes, warnings) made by staff to allies and volunteers, bringing about expanded commitment.
3. Donation Management System: A system that manages the collection and tracking of donations from supporters.
4. Volunteer Management System: A system that oversees volunteer recruits, timetables, and errand tasks.
5. Event Management System: A system that handles the preparation, booking, and execution of occasions.
6. Fundraising Effort System: A system that deals with the creation, execution, and tracking of fundraising campaigns.
7. Financial Revealing System: A system that tracks all financial transactions and generates financial reports.
8. Impact Evaluation System: A system that surveys and reports on the effect of the association's exercises.
9. Supporter Commitment System: A system that tracks supporter engagement and provides insights to improve engagement strategies.
10. Website Management System: A system that deals with organization’s website content and user interactions.
11. Data Analysis System: A system that analyses various data to provide insights for decision-making.
12. Customer Relationship Management (CRM) System: A system that manages the organization’s relationships and interactions with supporters and volunteers.
13. Web-based Social Media System: A system that incorporates with virtual entertainment stages to advance the association's exercises and missions.

These requirements are testable on the grounds that they can be checked by utilizing different strategies like review, exhibit, examination, or testing. For instance, to check if the online donation system works, we can try making a pretend payment. If the payment goes through and is recorded correctly, then it works! Similarly, to check if the tree monitoring system works, we can see if the sensors and GPS devices are working right and sending correct data to the website.

These requirements are feasible on the grounds that they can be executed utilizing existing advancements and assets. For example, if we need a system for online donations, we can use services like Zapper or PayPal to handle the payments.

These requirements are clear since they are expressed in basic and exact language, without equivocalness or uncertainty. They likewise indicate the normal way of behaving and result of the framework, without including unnecessary details or plan choices.

# These are the External Requirement for the Tree-Saving Program:

**Climate Programming Interface Point of Interaction**: The website should communicate with an external climate API (Application Programming Interface) to get and display the current and forecasted weather conditions for the tree-planting areas. This would involve sending requests to the API with the geographical coordinates of the area, receiving JSON responses with the weather data, and parsing and presenting this data on the website. This interaction would assist the organization in planning and monitoring tree-planting activities and informing supporters and volunteers about the weather conditions. This aligns with functional requirement 3: “The website will enable volunteers to sign up for tree-planting events and view their schedules and locations”.

The Non-Functional requirements for Tree-Saving Program: These are the non-functional requirements for my case study based on (Sommerville, 2016, pp. 172-173)

- Usability: The website must be easy to understand, natural, and simple to explore. It ought to give clear directions, input, and help highlights for the clients. It should likewise follow the standards of good UI and UX design.

- Performance: The website must be responsive, quick, and dependable. It needs to stack rapidly and handle numerous solicitations without postponements or blunders. It must also have a high accessibility and uptime.

- Security: The website must safeguard the information and protection of the clients, allies, volunteers, and benefactors. It ought to utilize encryption, confirmation, approval, and other security measures to project unapproved access, correction, or exposure of information. It must likewise follow significant regulations and guidelines regarding information security.

- Scalability: The website must have the option to deal with expanding measures of information and clients as the organization develops. It ought to have an adaptable and measured design that considers simple extension and change of elements and capabilities. It has to likewise apply cloud-based administrations and assets to improve performance and cost.

- Maintainability: The website must be not difficult to keep up with, update, and troubleshoot. It ought to keep coding guidelines and best practices, apply fitting documentation and remarks, and have a variant control framework. It ought to likewise have a testing structure and instruments to guarantee the quality and functionality of the product.

# Appendix

## Part 1 Improvements:

Reflecting on the feedback I received, I realize that my introduction fell short in a few key areas. While I did mention the Agile approach, I failed to clearly connect it to the non-profit’s mission of saving trees. I also touched on the scope of the project but didn’t delve into the specifics of the website’s functionalities. Furthermore, I didn’t adequately explain why the Agile approach is beneficial to my project.

Recognizing these shortcomings, I’ve made several revisions. I’ve emphasized the benefits of the Agile approach, detailing how its iterative nature and flexibility will aid in the successful execution of the project and align with the dynamic needs of the non-profit organization.

I’ve also expanded on the scope of the project, providing a more detailed overview of the website’s functionalities. This includes how each feature will contribute to the non-profit’s mission and enhance user experience.

These changes, I believe, have strengthened the introduction by providing a clearer, more comprehensive overview of the project, its alignment with the non-profit’s mission, and the benefits of the chosen development approach.

# References

Shvetsova, Y., 2023. *Functional and non-functional requirements of online shopping system: List & examples.* [Online]   
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