Project ERASE Website

Project Alpha Prototype Report

Project ERASE

Project ERASE Website Development Team

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I. Introduction

Educational inequality remains a worldwide issue which is often rooted in the lack of fundamental resources. Students at major institutions benefit from a variety of academic tools and infrastructure, but many communities, particularly in rural Guatemala, lack the basic supplies necessary to support consistent education for everyone. Project ERASE was founded to bridge this divide and erase these disparities. Project ERASE has successfully raised over $3,000 and delivered 20,000 school supplies to 65 students, but its current growth is limited by the lack of digital infrastructure.

The project's primary problem is its inefficient management and lack of a web presence. Currently, the organization manages its outreach and donation tracking through various social media platforms and manual processes. This creates a bottleneck for expansion. Without a website, it is difficult to showcase student impact, manage high volumes of donated inventory and money, or provide a streamlined portal for donors to engage with the mission. This is where our project comes in.

Project ERASE requires a centralized web-based ecosystem to serve its operational needs. Our team will develop a dedicated web application to centralize the organization's resources. This will provide a professional face for the organization to attract donors and will allow for efficient management of many operations. Some of the features that will be implemented include an administrative dashboard for managing website operations, a database for managing student information, interactive tools like a donation impact map, and a low-bandwidth portal for partners and students in Guatemala. By streamlining their digital presence, we aim to provide project ERASE with the tools necessary to transform from a local student club into a scalable and high-impact nonprofit organization.

I.I Background and Related Work

The fundamental goal for this project is to build a robust, long-lasting website, but there are several key features that our website aims to implement beyond static webpages. The two main innovations our website aims to utilize, is an interactive map for users to learn about communities impacted by donating supplies to Project ERASE, as well as AI integration on the website through a chatbot, to accurately navigate users to the pages they wish to visit, be it a blog post, the login page, or the events calendar.

To determine the layout of the website, we studied the design decisions of two separate websites: Feeding America's website, and WSU's Foundations website. Both of these sites represent two distinct styles for presenting information to new users who first reach the page. Feeding America's website chooses to present all the key options for the user on the first page, with several embedded links at the top of the screen, with concise descriptions for where each link leads [1]. The layout minimizes the amount of searching a user must do, while maximizing information presented to the user. WSU's Foundations website instead hides many of its key information behind dropdown menus on the top of the screen, giving the front page more room to breathe without information forced in front of the user, but it also requires the user to explore the site further [2].

The inspiration for an interactive map comes from a world map graphic on the Habitat for Humanity website under the “Where we work” page [3]. This project aims to innovate upon the static map on the Habitat for Humanity website, by having a system where Project ERASE team members can add new icons for served communities, and each pop-up displays information about the significance of each location on the map.

Our final goal for this project is to achieve AI integration by expediting the process of navigating users to their desired pages. This would be performed through an AI chatbot that will recognize keywords to specific pages of the website, either login pages, blog posts, or relevant events, and redirect the user automatically. This software is already successfully implemented in banking sites such as America First Credit Union’s Virtual Assistant [4]. This system assists logged in users with any common issues they are facing during their experience with the website. Our goal is to allow the AI more freedom in shaping the user’s experience, with the aforementioned ability to redirect the user, and allow for guests to access the chatbot along with logged in users.

I.II Project Overview

Project ERASE’s mission centers around tackling educational disparity by fundraising and sending school supplies to those in need in Guatemala. The goal of this project and website is to give the organization a centralized hub where anyone can learn about Project ERASE, their mission, and how they are helping. Additionally, the Project ERASE team wants to use the website to streamline the process of communicating with coordinators in Guatemala and add accessibility features to accommodate Spanish speakers and those with limited access to an internet connection. The website will take into account the current branding and style of Project ERASE to create an easily navigable page that is also pleasing to look at.

As a part of helping others learn about Project ERASE, several features are planned for implementation that showcase Project ERASE in different ways. One discussed feature is an interactive map showing packages being sent to destinations in Guatemala (and other locations in the future), that allow you to click on them to see more information about the supplies being sent, the students being helped, etc. Project ERASE has a database of students they have helped which can be compiled into statistics and graphics that will appear on the website. The website will also have a calendar that users can view showing different events Project ERASE is holding with the option to RSVP if available for that event. The website will include typical static pages such as a page showcasing the Project ERASE team.

The Project ERASE website also needs to be inclusive and accessible to people who may want to access the page. As a part of this, a Spanish translation of the site helps Spanish speakers navigate and interact with the site more easily. An AI chatbot is being considered to help users get to a specific page quickly by returning web pages based on what the user wants. Lastly, the performance of the website should be prioritized to accommodate people with low-speed connections who still need to access the website.

Project ERASE works with coordinators who send over the information of students for them to help. To make this process easier for the organization, the website will have a way for coordinators to log in and enter the information of students which the Project ERASE team can directly access. This database of students will support basic information about the student and

will also support image uploads. There will also exist a log-in for board members that can modify various elements of the website such as being able to upload pictures of events, create posts, and add calendar events.

Additional features that align with the client's needs and goals are considered as long as they fall under the main objective of helping Project ERASE gain more visibility and aligning with the needs of the Project ERASE team. The primary objective of our project is to establish a central hub for Project ERASE and optimize the communication between Project ERASE and the coordinators sending student information to hopefully facilitate the growth of Project ERASE as an organization to help more students in need.

I.III Client and Stakeholder Identification and Preferences

Our client is the Project ERASE team with a primary point of contact being Luis Morales Carrera. The project ERASE team needs a website that can display key information relevant to the project as well as a platform to organize and handle their ongoing operations. They need a platform to communicate events, handle their student database, and display information on how their work affects students in Guatemala in a fashion that provides geographically accurate information for volunteers and donors. The primary stakeholders here are the project ERASE team who will use the site as administrators.

Our project has other stakeholders in many forms. Our site will be used by potential donors for the Project ERASE mission, volunteers who wish to help, and people who are learning about the project. This will require the website to have an easy and accessible design, multi-language support for the international audience, and an accurate database of work done and students helped to demonstrate the project's success.

This site is part of a project that will be ever changing and growing. As such, we must design our site with the understanding that in the future it could reach new audiences and develop in a way that our list of stakeholders grows. By designing a solid backend to account for changing databases and an effective way to change information and communicate the project's objectives, we can ensure that all stakeholders, whether present or future, are going to encounter a quality product.

II. System Requirements Specification

This section delineates the system requirements for the Project ERASE website. The goal of the website is to be utilized as a center of key information for the Project ERASE team, to spread awareness about their organization to volunteers, donors, and educators that could assist with their goals. The website should be intuitive to navigate, should contain relevant information for both new and returning users, allow for administrators to access data of students and interested volunteers, contain a dynamic list of blog posts, and should utilize AI integration in technical support and navigation.

The following sections detail the specific requirements for the Project ERASE website to satisfy these goals, contained in UML use cases, functional/non-functional requirements, and user stories.

II.II Use Cases

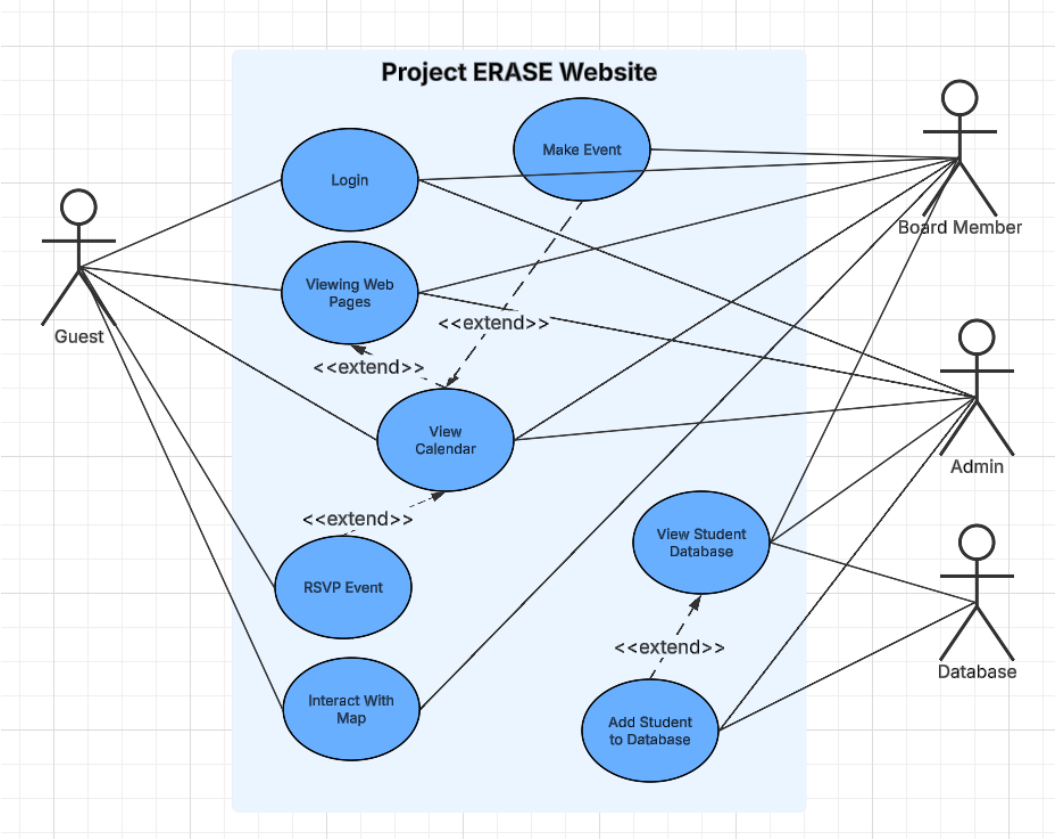

Figure 1: Use Case Diagram

UC1: Login	
Actors	Guests, Board Members, Admin
Description	This use case demonstrates registering and logging into an account for the website. Once logged in, each actor gains additional functionality depending on their needs. For example, regular users can RSVP for events, board members can create events/posts, and admins can manage the student database.
Precondition	The user must be on the Project Erase login page.
Main Flow	1. The user enters their login information. 2. If the user does not have an account registered, they press on a button indicating they want to register for an account. 3. The system verifies the registration and logs them in. 4. If the user is returning, the user presses on a button indicating they are logging in. 5. The system verifies the login and logs them in. 6. After verification, the user is redirected to the home page or account page.
Alternate Flow	If the user enters invalid credentials, the system notifies the user and prompts them to try again.
Postcondition	The user is logged in.
Priority	Level 0, Essential Use Case
Related Requirements: FR1, FR2, NFR4	

UC2: Add Student to Database	
Actors	Admin, Database
Description	This use case describes the admins ability to add a new student to the database of students Project Erase is helping. Admins are able to enter relevant details for students and also attach an image.
Precondition	The user is logged in as an admin and is on the database page.
Main Flow	1. The admin fills in the required information to add a student. 2. Optionally, the admin may fill in additional information about the student. 3. After inputting the information, the admin presses on a button to add the student. 4. The system responds with confirmation that the student is added and the database is updated to reflect the new student.

Alternate Flow	If the student is already in the database or if the required information is not filled, the system returns an error message stating the reason why the student could not be added.
Postcondition	The database updates with the newly added student.
Priority	Level 0, Essential Use Case
Related Requirements: FR3, NFR3, NFR4	

UC3: View Student Database	
Actors	Board Members, Admins, Database
Description	This use case describes board members and admins being able to access and view the student database, containing the information of students that Project Erase has helped.
Precondition	The user is logged in either as a board member or an admin.
Main Flow	1. The user presses on a button that redirects them to the database page. 2. The user is able to view the database which contains the information of students and their picture. 3. The user can sort or filter the students with different parameters and the system displays the students accordingly. 4. The user can search with different parameters such as name and the system displays the students accordingly.
Alternate Flow	If the database is empty or if no students match the filter parameters, the database displays a message stating no students are found.
Postcondition	The system returns a list of the students in the database.
Priority	Level 0, Essential Use Case
Related Requirements: FR3, NFR3, NFR4	

UC4: View Calendar	
Actors	Guests, Board Members, Admins
Description	This use case describes how users can view and potentially interact with the calendar of Project Erase events. Depending on the type of user, the system allows the user to perform a different set of actions.
Precondition	The user must be on the homepage.
Main Flow	1. The user, regardless of whether they are logged in or not, can find and view the calendar displaying Project Erase events matching the

	current month of the user. 2. Users can press on events to open a panel with more information about the specific event. 3. If the user is logged in as a guest or an admin, the user can RSVP for events if the event allows for that to happen. 4. If the user is logged in as a board member, the user can edit the details of the event.
Alternate Flow	Users should be unable to RSVP for events that are full or are too close to the event date.
Postcondition	All users should be able to view the calendar and logged in users should have additional functionality.
Priority	Level 0, Essential Use Case
Related Requirements: FR4, NFR1, NFR2	

UC5: Make Event	
Actors	Board Members
Description	This use case describes board members creating events which will be displayed on the calendar on the homepage.
Precondition	The user must be logged in as a board member.
Main Flow	1. The user presses a button to create an event. 2. The user is redirected to a page where they can enter the details of the event. 3. The user presses a button to publish the event. 4. The system returns a message indicating success and the calendar is updated with the event now viewable.
Alternate Flow	1. The user presses a date on the calendar they wish to create an event on. 2. The main flow starts with the date autofilled to the date pressed.
Postcondition	The event is now viewable on the calendar.
Priority	Level 0, Essential Use Case
Related Requirements: FR4, NFR3	

UC6: RSVP Event	
Actors	Guests
Description	This use case describes how guests can RSVP for events viewable on the

	calendar.
Precondition	The user is logged in as a guest and the event has RSVPs enabled.
Main Flow	1. The user presses on a desired event. 2. The event opens up with additional details. 3. The user presses on a button to RSVP. 4. The system returns confirmation that the user has RSVP'ed for the event and allows the user to choose if they wish to enable notifications for the event.
Alternate Flow	The RSVP button should be greyed out if the event is taking place too soon, the event has already happened, or if the event does not have RSVPs enabled.
Postcondition	The user should be notified that they are RSVP'ed for the event and their information should be added to a list viewable by the board members.
Priority	Level 0, Essential Use Case
Related Requirements: FR4, NFR2	

UC7: Viewing Webpages	
Actors	Guests, Board Members, Admins
Description	This use case describes the general ability for any user, logged in or not, to view different pages on the website containing information about Project Erase.
Precondition	The user finds the Project Erase website through a link or search engine.
Main Flow	1. The user is directed onto a homepage with many details about Project Erase visible including their branding, mission, and calendar. 2. The user can navigate the website by pressing on the tabs visible from the homepage. 3. The user is redirected to their desired page and can find the information described by the headers.
Alternate Flow	1. Users can also interact with an AI chat bot that helps users find the desired webpage or information they are looking for. 2. The chat bot should respond to user questions with an answer and also link to a page on the website.
Postcondition	The user is redirected to the webpage they are searching for and can view its contents.
Priority	Level 0, Essential Use Case
Related Requirements: FR5, FR6, NFR1, NFR2, NFR5	

UC8: Interact with Map	
Actors	Guests, Board Members
Description	This use case describes the interactable map feature which all users can interact with. Board members have additional functionality with the viewable packages on the map.
Precondition	The user must be on the map page.
Main Flow	1. Users are able to view a map of the world. 2. Users can zoom in and out of the map. 3. Users can see packages which are viewable on the map and have an arc indicating they are traveling. 4. Users press on the package to view more information about the package being sent, where it is headed, and who it is helping.
Alternate Flow	If the user is signed in as a board member, the user can create packages on the map page by entering certain details or edit the details of an active package by pressing the package they wish to edit.
Postcondition	Users can see packages on the map.
Priority	Level 1, Highly Desirable Use Case
Related Requirements: FR7, NFR5	

II.III Functional Requirements

The following are the functional requirements of our web page. They outline the overall description of the requirement, the source from which the requirement has its origin, and the overall priority of the requirement for the web page and system.

User Management

[FR-1]: User Login & Registration

Description	The web page will support a user registration and login system. This will allow users to create profiles that contain user specific information and allow admin users special access to the site and its functionality.
Source	Client.
Priority	Priority Level 0: Essential Function

[FR-2]: User Database

Description	The system will need a database of registered users and store data related to their status (User/Admin) and saved information.
Source	Client and internal requirements decided by the team.
Priority	Priority Level 0: Essential Function

Student Information Management

[FR-3]: Database of students receiving aid

Description	The web page will need to access a database of the students project ERASE has aided. This will include info such as where in Guatemala the student is located and what aid they have received as well as a photo of the student.
Source	Database, Admin.
Priority	Priority Level 0: Essential Function

Events Management

[FR-4]: Event List and Reservation

Description	The web page will provide a list of the current planned events for the user. The events will need to be created by an administrator. Some events will require a reservation in order for users to attend.
Source	Website System, Admin.
Priority	Priority Level 0: Essential Function

Website Frontend

[FR-5]: Navigation

Description	The system has to be easily navigable to all relevant pages. This includes a home, about, calendar, students, and other pages included within the site.
Source	Client.
Priority	Priority Level 0: Essential Function.

[FR-6]: AI Chatbot

Description	The system must provide an AI chatbot that assists users in navigating the website and locating relevant information. The AI chatbot should respond to user queries by providing answers and directing users to appropriate pages within the website.
Source	Client and internal requirements decided by the team.
Priority	Priority Level 1: Desirable functionality

[FR-7]: Calendar & Map Interaction

Description	The web page must allow interaction with the site's calendar and map pages. The calendar should allow for saving of events by users and the map should allow for users to discover where donated goods are being sent.
Source	Client Request.
Priority	Priority Level 1: Desirable functionality

II.IV Non-Functional Requirements

The following non-functional requirements outline qualities that will be required in our system and web page. These are qualities that are ideal and are part of the end product but do not inherently alter how the website or databases will function.

Non-Functional Requirement	**Description**
[NFR-1] Accessibility	The website should have methods to allow all potential users to access. This will include Spanish language support.
[NFR-2] Performance	The website should be fast and load pages efficiently. Data retrieval should be quick and not slow down the site or its pages. Users should not experience wait times over 2 seconds for simple operations and 5 seconds for database retrieval.
[NFR-3] Maintainability	The website should be designed to allow for continued use both by future project ERASE admins and potential future development.
[NFR-4] Security	The website will secure data given to it by using secure methods to store any recorded data.

[NFR-5] Aesthetic Design	The UI should be visually pleasing to keep users engaged and have a positive experience with the site while using official project ERASE colors and branding.

II.V User Stories

The following user stories describe specific actions users can take within the Project ERASE website. Each story outlines what the user wants to accomplish and why, clearly specifying system behaviour through these scenarios.

User Story 1: User Registration and Login

As a user, I want to register and log into the Project ERASE website so that I can access personalized features such as RSVPing to an event.

Feature: User Authentication and Role Based Access

Scenario: Successful Registration and Login

- **Given:** I attempt to log in into the website
- **When:** I enter incorrect login credentials
- **Then:** I should receive an error message indicating invalid credentials
- **And:** I should be prompted to try again

User Story 2: Managing Student Information

As an admin, I want to add and manage student information so that project ERASE can track the students receiving aid.

Feature: Student Database Management

Scenario: Adding a New Student

- **Given:** I am logged in as an admin
- **When:** I enter a student's required information and submit the form
- **Then:** The student should be added to the student database
- **And:** I should receive confirmation that the student was successfully added

Scenario: Viewing Student Information

- **Given:** I am logged in as a board member or admin
- **When:** I navigate to the student database page
- **Then:** I should see a list of students and their associated information
- **And:** I should be able to search or filter students by parameters such as name or location
-

User Story 3: Viewing and Managing Events

As a user, I want to view upcoming events and RSVP so that I can participate in Project ERASE activities.

Feature: Event Calendar and Reservation System

Scenario: Viewing Events on the Calendar

- **Given:** I am on the homepage
- **When:** I view the calendar
- **Then:** I should see a list of upcoming events
- **And:** I should be able to click on an event to view additional details

Scenario: RSVPing to an Event

- **Given:** I am logged in as a registered user
- **When:** I click on an event that allows RSVPs
- **Then:** I should receive confirmation that I am registered for the event
- **And:** My information should be added to the event attendee list

Scenario: Creating an Event

- **Given:** I am logged in as board member
- **When:** I enter event details and publish the event
- **Then:** The event should appear on the calendar
- **And:** Other users should be able to view it

User Story 4: Website Navigation and Information Access

As a visitor, I want to easily navigate the website so that I can find information about Project ERASE.

Feature: Website Navigation

Scenario: Navigating Between Pages

- **Given:** I am on the homepage
- **When:** I click on navigation tabs such as “About” or “Calendar”
- **Then:** I should be redirected to the selected page
- **And:** The content should load clearly and correctly

Scenario: AI Chatbot Assistance

- **Given:** I am unsure where to find specific information
- **When:** I interact with the AI Chatbot
- **And:** I ask a question about the website
- **Then:** The system should provide a helpful response
- **And:** It should direct me to the relevant page

User Story 5: Interacting with the Interactive Map

As a user, I want to view and interact with the map so that I can see where donated packages are being sent.

Feature: Interactive Map

Scenario: Viewing Package Information

- **Given:** I am on the map page
- **When:** I click on a package displayed on the map
- **Then:** I should see details about the package
- **And:** I should see information about where it is being sent and who is helping

Scenario: Creating or Editing a Package

- **Given:** I am logged in as a board member
- **When:** I create or edit a package entry on the map
- **Then:** The updated information should be saved
- **And:** Other users should be able to view the updated package details

II.VI Traceability Matrix

The Traceability Matrix maps each functional requirement to the corresponding use cases and user stores that demonstrate how the requirement is implemented. This ensures that every requirement is supported by defined user interactions and scenarios. The matrix verifies the consistency and alignment between system functionality and user expectations.

Functional Requirement	**Use Cases**	**User Stories**	**Priority**
FR-1: User Login and Registration	**UC1:** Login	**US1:** Successful Registration and Login	Level 0
FR-2: User Database	**UC1:** Login	**US1:** Successful Registration and	Level 0

		Login	
FR-3: Database of Students Receiving Aid	**UC2:** Add Student to Database	**US2:** Adding a New Student	Level 0
FR-3: Database of Students Receiving Aid	**UC3:** View Student Database	**US2:** Viewing Student Information	Level 0
FR-4: Event List and Reservation	**UC4:** View Calendar	**US3:** Viewing Events on the Calendar	Level 0
FR-4: Event List and Reservation	**UC5:** Make Event	**US3:** Creating and Event	Level 0
FR-4: Event List and Reservation	**UC6:** RSVP Event	**US3:** RSVPing to an Event	Level 0
FR-5: Navigation	**UC7:** Viewing Webpages	**US4:** Navigating Between Pages	Level 0
FR-6: AI Chatbot	**UC7:** Viewing Webpages	**US4:** AI Chatbot Assistance	Level 1
FR-7: Calendar & Map Interaction	**UC8:** Interact with Map	**US5:** Viewing Package Information	Level 1

III. System Evolution

The assumption for this project mainly hinges on its continual uptime and support by the client, especially once the project has been completed. The purpose of the website should be an ever-growing product that has the capability to manage students helped by Project ERASE, the additional events run, and the growing amount of information and news about the team. The website should require minimal technical knowledge to maintain, and should always give the Project ERASE team the option to refine the website as they see fit.

A key feature to consider for the longevity of the website ties into the non-functional requirement of the aesthetic of the site. The current art for the project relates mainly to the upcoming academic year, and it's possible that the project will not continue to utilize the exact same branding year in and year out. As such, there should be a feature where the team can edit the logo for the website, without diving into the code itself.

Another hope for the site is that the software it is built upon will be supported long-term. This website should be essentially the finalized version for the Project ERASE team, until support for the website framework goes out of date, which ideally would not be a factor for the team's decision making about utilizing the website after the product is handed off to them.

IV. Glossary

Define technical terms used in the document.

- **AI Chatbot:** An artificial intelligence tool intended to assist users in navigating the website by returning specific web pages based on user queries.
- **Admin:** A privileged user role with access to maintain the student database.
- **Board Member:** A privileged user role with permissions to create and manage events, create packages on the map, and view student information.
- **Database:** A structured digital storage system used to manage and retrieve user data, student records, and event information.
- **Event:** A scheduled activity organized by Project ERASE that appears on the website calendar and can allow user reservations.
- **Functional Requirement (FR):** A specific statement describing a function or behavior that the system must perform.
- **Guest:** A general user of the website who may browse public content and register for an account to access additional features such as booking a spot for an event.
- **Interactive Map:** A visual feature on the website that allows users to clock on specific geographic locations to see information about supply packages and the students being helped.
- **Maintainability:** The degree to which the website can be easily updated, modified, or extended by administrators or future developers.
- **Non-Functional Requirement (NFR):** A requirement that defines system qualities or constraints such as performance, security or accessibility.
- **Performance:** The responsiveness and speed that the website loads pages in and processes user actions.
- **Priority Level:** A classification used to indicate the importance of a requirement.
- **Reservation:** A confirmed booking or attendance record for a specific event stored within the system.
- **RSVP:** A website feature that allows users to confirm their attendance for specific events listed on the digital calendar.
- **Security:** The protection of stored data and user information from unauthorized access or misuse.
- **Stakeholder:** Any individual or group involved in the project, including the administrators, donors. Volunteers, and the students in Guatemala.
- **Student Database:** A digital record keeping system used to organize student information, photos, and statistics to demonstrate project impact and streamline coordinator communication.
- **System Evolution:** Future changes that could affect the website, including scalability considerations, and potential risks that may impact the website over time.
- **Use Case:** A structured description of how a user interacts with the system to accomplish a specific task or goal.
- **Website Frontend:** The portion of the website that users interact with through a web browser.

V. References

[1] “U.S. Hunger Relief Organization | Feeding America.” Accessed: Feb. 6, 2026. [Online]. Available: https://www.feedingamerica.org/home?r=n&o=b

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