**APPLICATION ENGINEERING DEVELOPMENT (INFO05100 12111)**

**FINAL PROJECT REPORT**

**MEAL SHARE PLATFORM**

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Abstract: In the face of growing concerns related to food insecurity, this project explores the implementation and impact of meal share programs as a community-driven solution. The objective is to investigate the multifaceted motivations, operational strategies, and outcomes associated with meal share initiatives, emphasizing their role in fostering community resilience and social cohesion. Additionally, the project explores the role of meal share programs in reducing food waste, promoting sustainable practices, and building stronger, more interconnected communities. Special attention is given to the volunteers' experiences, community engagement, and the potential long-term benefits of sustained meal sharing initiatives.

Introduction: In the wake of escalating concerns surrounding food insecurity, the imperative to find innovative and community-driven solutions has become more pressing than ever. This project embarks on a comprehensive exploration of the implementation and impact of meal share programs as a formidable response to the challenge of ensuring adequate nutrition for all. By delving into the multifaceted motivations, operational strategies, and outcomes associated with meal share initiatives, our objective is to unravel the intrinsic role these programs play in fostering community resilience and social cohesion. The urgency of addressing food insecurity on a community level is underscored by the interconnected web of challenges faced by individuals and families. Meal share programs emerge as a promising avenue for mitigating these challenges, relying on the strength of communal bonds and shared responsibility. Through this investigation, we seek to understand the intricate dynamics that drive individuals to participate in meal sharing and the ways in which these initiatives contribute to building stronger, more interconnected communities.

System Architecture:

A diagram of a company

Description automatically generated

Important Features:

**Email Marketing for Community Engagement:**

* *Targeted Communication:* Precise segmentation allows tailored messages based on demographics, interests, and preferences.
* *Consistent Updates:* Regular email communication fosters transparency and connectivity, keeping community members informed about events and initiatives.

**Daily Event Updates:**

* *Timely Dissemination:* Daily email updates ensure real-time information on community events, enhancing participation and engagement.
* *Vibrant Community:* \* Active involvement in events contributes to a vibrant and cohesive community atmosphere.

**Role-Based Authentication System:**

* *Secure Access Control:* Role-based authentication ensures secure access to relevant information, preventing unauthorized entry and safeguarding community data.
* *Personalized Communication:* Tailoring messages based on roles ensures personalized and meaningful communication, promoting community involvement.
* *Administrative Control:* Granular control over user access levels provides administrators with the tools to manage permissions and maintain community platform integrity.

Components:

**Enterprise:**

**Non-Governmental Organization:** The NGO is set to offer meals to those in need, and donors have the option to contribute a specific amount exclusively to the organization.

**School:** The school will not only be supplying meals but also overseeing the logistical aspects throughout the planning process.

**Hospital:** The hospital will continue the existing process but will replace logistical oversight with the provision of a nutritionist to offer guidance on nutritional values for those seeking assistance.

**Government:** In addition to meal provision, the government is launching a new initiative that emphasizes the creation of a community outreach program. This aims to facilitate easier connections between those in need of assistance and the meal-sharing platform.

**Organization:**

**Help Seeker:** When someone seeking assistance with meals is in need, various enterprises and organizations come together to support them.

**Volunteer:** The volunteer serves as the intermediary between the person in need of assistance and the logistics system, primarily focusing on linking the help seeker's request with transportation services.

**Nutritionist:** The meals generated by the enterprises are automatically sent to the nutritionist, who assigns nutritional values to each meal. Subsequently, the information is forwarded to the help seeker, enabling them to create a specific meal request.

**Logistics:** The meal request initiated by the help seeker is transmitted to the logistics department by the volunteer. The logistics operator then has the authority to either approve or reject a specific meal request.

**Donor:** Donors have the option to contribute a specific amount to the Non-Governmental Organization, and this funding is utilized to prepare and provide meals to those in need.

**Supervisor:** The supervisor manages all third-party applicants and is tasked with either approving or denying their applications.

**Community Outreach:** Marketing, as a component of the government, falls under the purview of community outreach.

**Admin:** Establishing a supervisor who is subsequently tasked with managing applicants originating from external sources.