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NOURISHING NEIGHBOURHOODS: THE IMPACT OF FOOD BRIDGE ON LOCAL FOOD ACCESS

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ABSTRACT:

The purpose of this project is to generate a food bridge where the Function halls and NGOs will get connected through design thinking concepts. Food bridge acts as an avenue for socializing, teaching as well as sharing meals with others thus creating fairness and strength in feeding systems that can withstand any calamity. Through creative designs in mind bending techniques such as those employed by illusionists during their performances, this paper aims at fostering equality within communities while responding towards hunger challenges experienced globally especially among children who are vulnerable due to malnutrition. Addition to it, by utilizing unusual methods like bending light rays around corners without reflecting them off surfaces or changing direction abruptly but smoothly so that they appear coming from different points on an object's surface simultaneously, we are able to achieve our goal of ensuring every person has access to healthy foods.

Keywords: Flutter, FoodBridge, Waste Management

I. INTRODUCTION

The global food chain faces a myriad of interconnected challenges that pose threats to human health, environmental well-being, and sustainable development. [1] Issues such as food waste, hunger, and environmental degradation demand urgent attention in the face of complex factors like economic disparities, climate change, and population growth. In response to these pressing challenges, a transformative movement is underway to revolutionize the world food system, making it more resilient, equitable, and sustainable[3]. Embracing the human-centred problem-solving approach of "design thinking," innovative solutions are being crafted to tackle the intricate problems plaguing the food system.

The concept of a food bridge, which serves as a link between regional food producers and consumers, lies at the heart of this project. By establishing a platform for food distribution, education, and interpersonal communication, the food bridge aims to foster the development of a fairer and more resilient food system.

II. METHODOLOGY

Identifying Customer Needs through Field Visits and Surveys

During the initial stages of the Food Bridge project, the emphasis was not solely on gathering data but on engaging with real individuals to understand their needs and preferences. [4] Given the constraints of physical visits to every community, surveys emerged as a valuable tool to reach a wider audience and gather diverse perspectives. Designing effective surveys presented challenges in formulating clear and inclusive questions that catered to individuals of varying backgrounds and technological literacy. The surveys enabled insights from a broad spectrum of participants, shedding light on the diverse experiences and viewpoints related to food waste and distribution.

An alarming statistic from The New Indian Express highlighted the significant food wastage at weddings in India, emphasizing the need to address the issue of surplus food management. The survey responses provided valuable insights into the concerns of event organizers and the obstacles faced by NGOs in redistributing excess food, offering practical solutions to mitigate food wastage. Drawing inspiration from initiatives like 'No Food Waste,' which connects food donors with recipients in need, the Food Bridge project aims to enhance transportation logistics by directly linking food providers with NGOs. [2] Leveraging the extensive networks and resources of NGOs can streamline the distribution process and ensure efficient utilization of surplus food.

To further optimize the food redistribution process, the integration of a notification system is proposed to enhance communication and coordination among stakeholders. This proactive approach eliminates the need for constant monitoring of the platform, ensuring timely and effective food transfers to those in need. The amalgamation of survey insights with hypothetical field visit scenarios has enriched the project's understanding of user needs and preferences, paving the way for innovative solutions to combat food waste and hunger effectively.

Translate the needs of customers into a product.

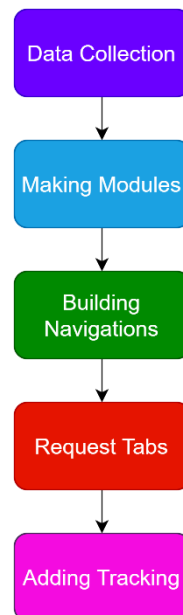
Making Food Bridge awesome is all about listening to what you need. ^[5]We get it—having trustworthy info about surplus food and donations is super important.

So, here's the scoop: Food Bridge is rolling out this cool system. No fancy machine learning stuff, just some tech magic. It's designed to be easy-peasy, quick to respond, and has neat features like notifications and special dashboards for event organizers and NGOs. This project or application can tell NGOs, how much food is there, and what's the quality of food, what are the food name, types and much more, helping NGOs to quickly respond to the system, based on the detail provide by the event organizer.

III. MODELING AND ANALYSIS

The designing process of Food Bridge is:

Figure 1: Flowchart of designing FoodBridge



Data Gathering

We collected all the data like the number of NGO providing free food and supporting no wastage of food, then we collected the data of event organizer, and popular places where such events happen.

Creating Dashboards

In our application we make sure to add three dashboards, first one for admin, second one for event organizer and the last one for NGOs, who are willing to distribute the surplus food to the needy.

Setting Up Security

We made sure to add an authentication system, so that only the authentic user can log in the system. Also helping to keep users separate in database.

Making it Easy to Use

Lastly, we wanted Food Bridge to be super user-friendly. It's like designing a tool that feels as familiar as your favourite application. We want everyone, whether it's event organizers or NGOs, to find it easy and enjoyable to use.

Specification of the product.

When we were thinking on Food Bridge's technical details, we made it ready for lots of people. We have made this project scalable, also easy to access i.e. user-friendly. We thought about servers, databases, and keeping everything balanced to keep it running smoothly.

We really cared about keeping the data safe. So, we have taken security measures to prevent unauthorized access of the database, and we made sure all messages and info were super safe. We also wanted to use technology in the right way, making choices that are good and fair.

We will be using Flutter for the front-end whereas Firebase for the database, for this project making it scalable application and user-friendly.

Food Bridge is a flexible project, ready for any kind of event, big or small. We made sure it can work for all sorts of gatherings, from small parties to big ceremonies. The plan we made was like a guide for our team, making sure everything we did matched with what we wanted Food Bridge to be.

IV. RESULTS AND DISCUSSIONS

This application serves as an opportunity to learn and to contribute to the society. The main goals of this application are to feed the hungry by helping NGOs and also helps in waste management.

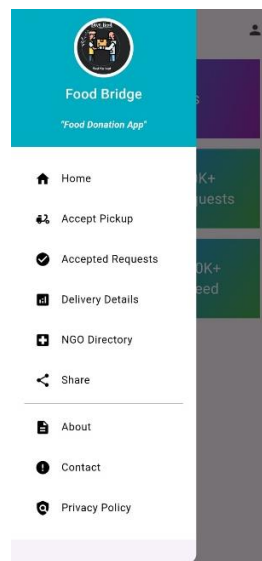


Figure 2: The navigation part of the Food Bridge

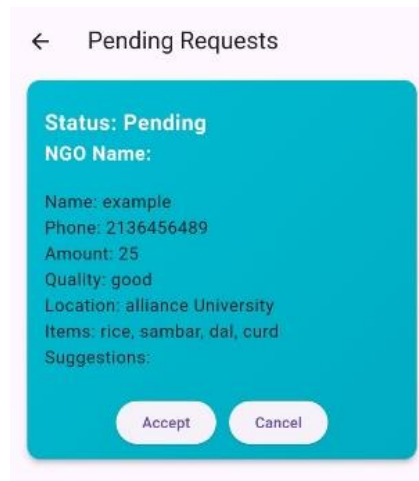


Figure 3. Request tab of NGOs' module after a request by Function Hall

V. CONCLUSION

The Food Bridge is an innovative concept that helps us to issue the concept of food insecurity in a sustainable and equitable manner. The main conclusion of the food bridge is to reduce food waste and provide nutritious meals to those who are struggling to afford them. Additionally, the Food Bridge can help us to fostering connections between food donors and recipients.

Here are some specific conclusions that can be drawn from the Food Bridge concept:

The Food Bridge can help to reduce food insecurity and improve nutrition. The Food Bridge can strengthen communities and promote social justice. The Food Bridge is a scalable and sustainable model for food redistribution.

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