**Food Donation App**

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**Abstract:**

This project aims to develop a mobile application that connects individuals and organizations with surplus food to those in need, in an effort to reduce food waste and address food insecurity. The app will be designed for Android and will incorporate advanced concepts such as geolocation and to provide a user-friendly and secure experience. The app will allow users to create profiles as either food donors or recipients, and will enable donors to post details about the surplus food they have available, while allowing recipients to search for available food donations based on their location and food preferences. Through this app, we hope to make a positive impact on society by reducing food waste, addressing food insecurity, and promoting sustainable consumption and production practices.

**Objective:**

The objective of this project is to create a mobile application that connects individuals and organizations who have surplus food with those in need of food. The project also aims to communicate those investments in food wastage reduction is the most logical step in the pursuit of sustainable production and consumption, including food security, climate change and other adverse environmental effects. Public awareness materials and a strategy will be developed to this effect.

**Application Gap:**

According to the Food and Agriculture Organization of the United Nations (FAO), an estimated 9.2% of the world's population (approximately 690 million people) were undernourished in 2019. This means that they did not have access to enough food to lead a healthy and active life. Moreover in India, according to the Global Hunger Index 2021, the prevalence of undernourishment is still high with 14% of the population undernourished. In absolute numbers, this translates to approximately 189 million people who are undernourished. Most of the food donation apps these days suffer from the following drawbacks:

* Limited availability: Many food donation platforms are limited in their reach and are only available in select cities or regions, making it difficult for users in other areas to access the service.
* Lack of integration: Existing platforms often lack integration with other important stakeholders, such as food banks, NGOs, and government agencies, which can limit the effectiveness of the donation process.
* Poor user experience: Many existing platforms are not user-friendly, which can discourage potential donors and recipients from using the app.
* Inadequate safety measures: Food safety is a critical aspect of food donation, and many existing platforms do not provide adequate guidelines for food handling and storage, which can pose a risk to the health and safety of recipients.
* Inefficient matching: Many existing platforms rely solely on manual matching processes, which can be time-consuming and inefficient, resulting in a delay in getting the food to those in need.

**Contribution towards society / Environment:**

The food donation app will have a positive impact on society in several ways. Firstly, it will help to reduce food waste by diverting surplus food from landfills and instead redistributing it to people in need. This will have a positive environmental impact by reducing greenhouse gas emissions from decomposing food waste. Secondly, the app will help to address food insecurity by connecting food donors with food recipients, who may be individuals or organizations such as food banks, homeless shelters, or schools. By providing a reliable and convenient platform for food donation, the app can help to ensure that people have access to nutritious food and reduce hunger.

**Design and Methodology:**

The food donation app will be designed for Android platforms. At first, the user has to register him/herself with the app. We are employing **firebase** for the data storage of the user details such as username, email, password, and phone number. Once the users register themselves with the app they can login and can either donate food by entering details such as name, phone number and description, quantity of the food and location of the donor. An NGO or a person who is in need of food can see the description of the food and the details of the donor and can accept the donation after which they can collect the donation. A user can also view his previous donations in history module.

**Use of Advanced Concepts:**

The food donation app will use several advanced concepts to ensure a user-friendly and secure experience for its users. These include:

Geolocation: The app will use geolocation to match food donors with recipients based on their proximity.

Messaging: The app will be able to enable communication between the donor and receiver using a messaging service.

**References:**

* "Food Donation Connection" - A non-profit organization specializing in connecting surplus food to those in need.
* "No Waste" - A food waste reduction app developed by the Swedish company Karma.
* "Feeding America" - A nationwide network of food banks and hunger-relief organizations.
* "Food for All" - A food waste reduction app developed by a Boston-based startup that enables users to purchase surplus food from restaurants at discounted prices.