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Excess Food Distribution Application

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Abstract - In contemporary society, the issue of food wastage is pervasive, necessitating effective management strategies to improve environmental and economic sustainability. To tackle this problem, we have developed an Android mobile application that leverages mobile technology to combat food waste. This innovative app facilitates the donation and sharing of surplus food from restaurants with individuals in need. Its features encompass user registration, login functionality, browsing available food items, adding and removing items from the cart, and logging out. The app's functionality relies on the utilization of Firebase storage and real-time database. Users seeking food can browse images of donated food items contributed by various users and add them to their cart. Ultimately, our app aims to establish connections between food donors and those experiencing food insecurity. By harnessing the power of mobile technology and offering a user-friendly interface, we aspire to encourage restaurants and individuals to donate their excess food, thereby curbing food waste.

Key Words: Food Wastage; Mobile App; Firebase; Authentication; Storage; table.

1.INTRODUCTION

The popularity of mobile applications has increased rapidly in recent years, particularly on the Android platform, which has over 190 countries using it on millions of mobile devices. As a result, we developed an Android application called the "Excess Food Reduction App" using Android Studio, with the aim of reaching a wider audience since most people nowadays use Android phones. To improve the performance of our image processing algorithms, we utilized noise estimation to adapt the detection step. In countries like India, food waste is a significant issue, with statistics showing that approximately one-third of food goes to waste, and in India, this figure increases to 40%. This highlights the importance of reducing food waste, and our primary objective was to create a platform that empowers people to donate their excess food and help to alleviate food insecurity. The app's main features include reducing manual work to a great extent, facilitating communication and the exchange of ideas between NGOs, donors, and the impoverished. Overall, our app is designed to provide a solution to the problem of food waste and improve food security.

2. MOTIVATION

In very colonized countries like India, cooking disappearance is a disquieting issue. Worldwide cuisine wastage enumerations show that about individual triennial of fare goes to waste. In India these enumerations increases and as well 40 allotment of total cuisine goes to waste. This essentially is an disturbing evidence to take a become involved the reducing foodstuff disappearance. Introduction: Food waste has emerged as a significant global challenge with far-reaching environmental, economic, and social implications. According to the Food and Agriculture Organization (FAO), approximately one-third of all food produced for human consumption is lost or wasted annually. This wastage not only depletes valuable resources like water, land, and energy but also contributes to greenhouse gas emissions and exacerbates food insecurity. In response to this pressing issue, the development of a food waste management app becomes a powerful tool to combat food waste, raise awareness, and encourage sustainable practices among individuals, households, and businesses.

3. OBJECTIVES

The aims of bureaucracy are

- To weaken manual work to excellent range.
- To authorize smooth interaction middle from two points bread donors and arranging.
- To create work faster and fast by digitalizing it via our app.

4. SYSTEM ARCHITECTURE

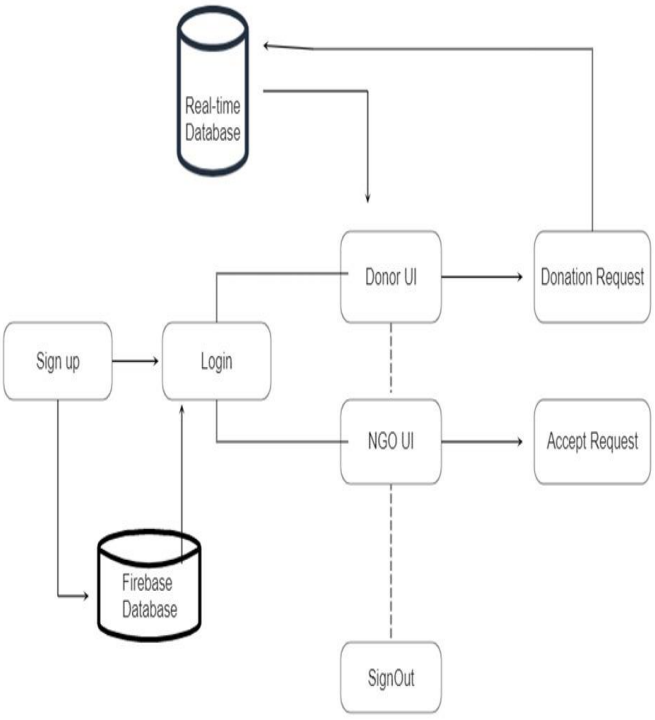

Figure 4.1: System Architecture

5. IMPLEMENTATION

5.1 User Authentication – Login

Figure 5.1: Login Page

5.2 Donation App UI

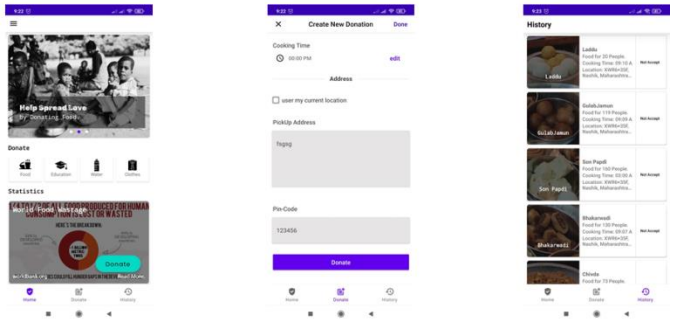

Figure 5.2: Donation App UI

5.3 Donation Item Details

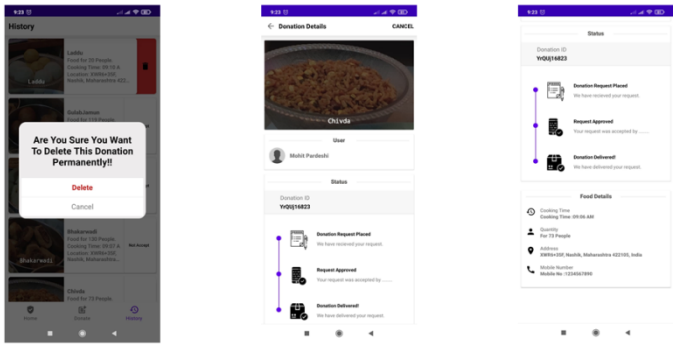

Figure 5.3: Donation Item Details

5.4 NGO App UI

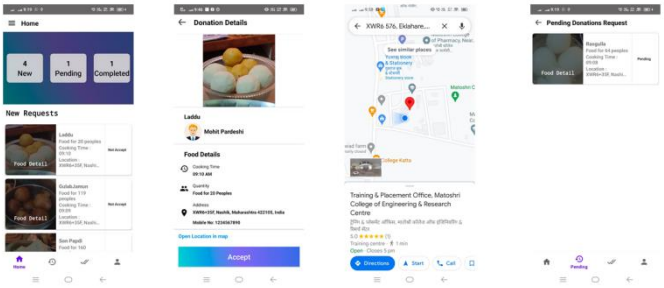

Figure 5.4: NGO App UI

5.5 Donation Request Detail Page and NGO Profile

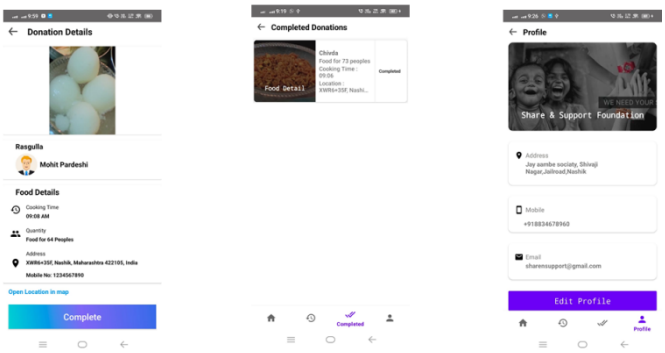

Figure 5.5: Donation Request Detail Page and NGO Profile

5.6 Firebase Console

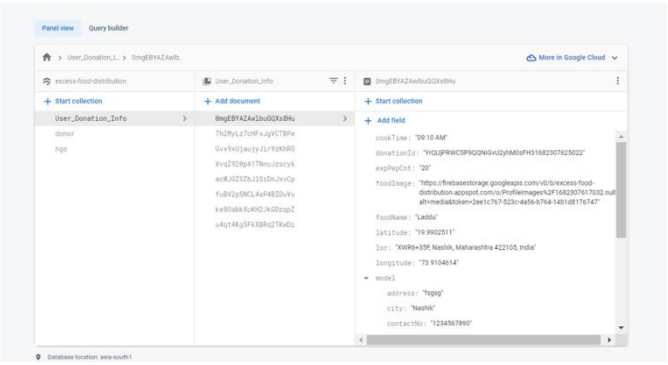

Figure 5.6: Firebase Console Page

6. CONCLUSIONS

With utmost appreciation, we would like to acknowledge the invaluable contributions of the individuals and organizations involved in the development of our food waste management app. Their support has been instrumental in creating a platform that addresses the crucial issue of food waste and its impact on society.

Our project aims to provide a user-friendly and efficient solution by connecting food donors with NGOs,

enabling the seamless redistribution of surplus food to those in need. Through the collaborative efforts of our team and the support of our project supervisor, we have successfully implemented key components such as user registration and login, donation request creation, donation tracking, and notifications.

The implementation of our project involved utilizing various technologies and methodologies, including mobile app development frameworks, backend database management systems, and user interface design principles. Extensive research was conducted to understand the complexities of food waste and explore existing solutions and best practices. The insights gained from this research have greatly influenced the development process.

The app's user-friendly interface, intuitive navigation, and streamlined donation process contribute to its usability and effectiveness. User feedback played a crucial role in refining and enhancing the app's functionality and user experience, ensuring that it meets the needs of both food donors and recipients.

Our project report emphasizes the importance of addressing food waste not only to reduce hunger and poverty but also to promote sustainability and environmental conservation. By diverting edible food from landfills, the app contributes to minimizing the environmental footprint associated with food production, transportation, and disposal, thus aligning with environmental sustainability goals.

Additionally, our project highlights the significance of stakeholder engagement throughout the development process. Active involvement and collaboration with food donors, NGOs, and end-users have shaped the app's features and functionality, ensuring that it meets their requirements and maximizes its positive impact.

The scalability and replicability of our app's design make it adaptable for implementation in different regions and contexts, addressing diverse food waste management challenges globally. We envision our project serving as a blueprint for similar initiatives worldwide, encouraging the reduction of food waste and the creation of sustainable food systems.

In conclusion, we extend our heartfelt gratitude to all the individuals and organizations who have contributed to the success of our food waste management app. Together, we strive to make a significant social and environmental impact by addressing food waste, reducing hunger, and fostering sustainable practices.

ACKNOWLEDGEMENT

We would like to extend our heartfelt appreciation to all the individuals and organizations who have played a vital role in the development of our food waste management app. Our utmost gratitude goes to our project supervisor, whose guidance and unwavering support have been invaluable throughout this endeavor. Their expertise and valuable insights have significantly influenced the app's direction and development.

We would also like to express our sincere thanks to the participants of our user testing sessions. Their feedback on the app's usability and functionality has been incredibly valuable. Through their input, we were able to refine and enhance the app's design, making it more user-friendly and effective. Furthermore, we want to acknowledge the contributions of the open-source community. The libraries and tools provided by this community have been instrumental in the development process, enabling us to create a robust and efficient app.

Lastly, we would like to express our deep appreciation to our friends and family for their unwavering support and encouragement throughout this project. Their belief in us has been crucial in keeping our motivation high and ensuring we deliver a high-quality product. To all the individuals and organizations who have contributed to the success of this project, we are sincerely grateful. We genuinely hope that our food waste management app will have a positive impact by reducing food waste and promoting sustainable consumption habits.

REFERENCES

1. Hunger + Health and Feeding America, “Understand Food Insecurity”, https://hungerandhealth.feed understand-food-insecurity
2. No Kid Hungry, “Facts About Child Hunger in America”, https://www.nokidhungry.org/who-weare/hunger-facts, 2020. [3] Android Studio, https://developer.android.com/studio
3. Buzby, J.C., Wells, H.F. and Hyman, J. “The Estimated Amount, Value and Calories of Postharvest Food Losses at the Retail and Consumer Levels in the United States”, USDA, Economic Info Bulletin, No. 121, Feb 2014.
4. Anderson, S. A., “Core Indicators of Nutritional State for Difficult-to Sample Popula-tions”, Journal of Nutrition, 1990, 120(11): 1555-1600.
5. https://firebase.google.com/docs/guides
6. https://developer.android.com/docs
7. https://developer.android.com/studio/
8. https://developer.android.com/reference/androidx/recyclerview/widget/RecyclerView