

## ***“SharePlate”: A Surplus Food Redistribution Application for Promoting Sustainability and Wellbeing in Sri Lanka***

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Food waste presents significant challenges, impacting the economy, environment, and societies across Sri Lanka. This study investigated the sources and causes of surplus food waste in Sri Lanka while technology development focuses on designing and developing the SharePlate application. The SharePlate, a mobile application designed to minimize food waste by facilitating surplus food redistribution. The application uses smart resource allocation techniques to efficiently match surplus food with individuals or organizations in need. SharePlate redistributes surplus food to reduce waste and promote social and environmental benefits. This study outlines the application’s key concepts, operation, and potential advantages, highlighting its role in supporting sustainability and enhancing community well-being. The development process involved collaboration with stakeholders, and evaluation assesses the app's impact through user feedback and data analysis. SharePlate utilizes mobile app development, geolocation services, database management, user interface design, and feedback mechanisms. SharePlate was developed using a variety of programming tools and techniques that are important to its performance and efficacy. Mobile app development frameworks such as React Native are used for cross-platform compatibility by assuring widespread accessibility. Geolocation services are combined with Google Maps Application Programming Interface (API) to provide exact location monitoring for food donors and recipients. Database management solutions are used to effectively store and retrieve data by allowing for smooth communication between users and food providers. In addition, user interface design principles combined with feedback systems improve the app's usability and responsiveness to give a pleasant user experience. SharePlate intends to change surplus food management in Sri Lanka by using these software engineering practices while also promoting sustainability and responsible food consumption. Through SharePlate, it offers efficient surplus food management, reduced food waste, responsible consumption promotion, community engagement, and scalability for broader adoption as an innovative solution in Sri Lanka.

**Keywords:** Food Waste, Surplus Food Redistribution, Mobile Application, Sustainability, Sri Lanka

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