

Title of the Project : IOT ASSISTED FOOD DONATION AND WASTE MANAGEMENT SYSTEM.

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Summary

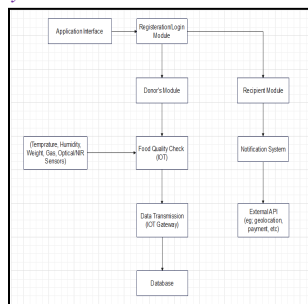
Abstract: Food waste remains a global challenge, with environmental, economic, and social repercussions. This research paper introduces a novel approach to mitigate this issue by harnessing the power of the Internet of Things (IoT) within a web application. The proposed system combines food donation and waste management with real-time food quality assessment. Using IoT-enabled sensors, the application monitors food conditions, including temperature, humidity, and freshness, ensuring that donated food is safe for consumption. The platform provides a user-friendly interface for donors, recipients, and volunteers, enabling efficient food donation matching and distribution. Moreover, it leverages data analytics and machine learning to predict and optimise food waste reduction strategies. By addressing the critical aspect of food quality assessment through IoT technology, this research offers a comprehensive solution that not only minimises food waste but also ensures the safety and quality

Objectives:

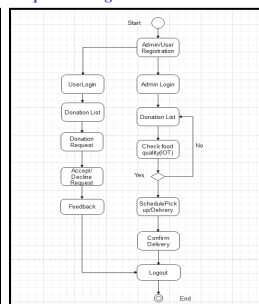
- To reach out to more people facing starvation.
- To enhance waste sorting accuracy.
- To reduce environmental impact.
- To encourage charitable donations.
- To connect donors and beneficiaries.
- To implement real time odour monitoring.
- To connect donors and beneficiaries.

Methodology: People now exchange their belongings physically by visiting each organisation or support group several times. To help reduce food waste, a few websites and campaigns have made efforts to aid people in sharing their leftover food. Currently, volunteers or members of social support groups must visit and hunt for these eateries and individual donors. They are having severe issues with communication, discovering locations, missing potential contribution spots, and much more. Additionally Sales forecasting in the restaurant industry is primarily based on historical data analysis and intuition. This approach may not provide accurate predictions, leading to problems such as overproduction of food or insufficient preparation, both of which contribute to food waste. Overall, the current system lacks the effective communication channels, advanced analytical capabilities and real-time data insights required for effective food waste management and donation. There is a need for a more efficient and technology-based system that can optimise food stocks, connect donors with NGOs and provide accurate sales forecasts to minimise food waste.

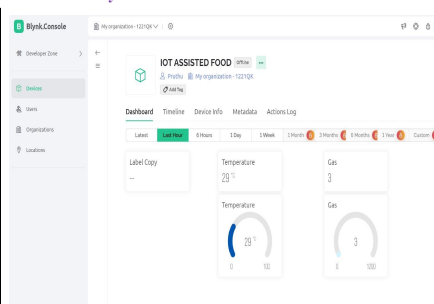
System Architecture:



Proposed Design:



Result Analysis:



Conclusion:

This innovative IoT approach offers a pathway to a sustainable future by addressing food wastage, food insecurity, and environmental concerns simultaneously. The project aims to create win-win situations. By reducing food waste, we feed the hungry, benefitting both society and the environment. The power of IoT, data analytics, and smart sensors has been harnessed to optimise food distribution, reduce waste, and ensure food safety and quality. Real-time tracking and accountability build trust among donors, recipients, and the public. The system shows the tangible impact of their contributions. This project's success is rooted in the collaboration of food service establishments, charities, and waste management authorities. Together, we can drive change

