WASTE NOT, WANT NOT: REVOLUTIONIZING HOTEL FOOD MANAGEMENT WITH A COLLABORATIVE WEB APPLICATION

CONTENT

INTRODUCTION

Food waste in hotels is a major issue that has been largely ignored. Hotels generate a significant amount of food waste on a daily basis, and this waste often ends up in landfills, contributing to environmental pollution. Furthermore, the cost of managing this waste can be substantial, which can impact the bottom line of hotels.

The lack of a structured system to manage food waste in hotels is a major problem. Many hotels do not have a clear understanding of how much food they are wasting, or where this waste is coming from. This makes it difficult for them to identify areas where they can reduce waste, and implement effective solutions.

DETAILED PROBLEM STATEMENT

Inefficient food management leads to significant food waste in both large and small hotels, with no structured system in place to address the issue. This wastage can be mitigated by establishing a food waste management web application that involves collaboration with NGOs and startups/companies specializing in waste food management.

INNOVATIVE SOLUTION

Hotels, both big and small, generate significant amounts of food waste due to ineffective management practices. This not only contributes to environmental concerns but also represents a missed opportunity to help those in need. To address this issue, a proposed food waste management program involves collaborating with NGOs to donate edible food and partnering with startups or companies to effectively manage inedible food. By implementing this program, hotels can reduce their food waste footprint while making a positive social impact.

FEATURE AND FUNCTIONALITIES

Creating a web application to support the systematic food waste management solution would be a valuable tool for hotels. Here's an outline of the key features and functionalities that the web application could include:

1. User Registration and Authentication: Users, including hotel staff, NGOs, and food management startups/companies, could register and log in to the web application with appropriate access levels.

2. Food Inventory Management: Hotels would be able to input and update information about surplus food in their inventory. This would include food type, quantity, expiration date, and quality assessment.

3. Food Redistribution: The web application would provide a platform for hotels to collaborate with partner NGOs. Hotels could post available surplus food for donation, and NGOs would be able to view and request specific food items for redistribution.

FEATURE AND FUNCTIONALITIES

4. Inedible Food Waste Management: The web application would facilitate collaboration between hotels and food management startups/companies. Hotels would have the option to submit requests for collecting and disposing of inedible food waste, specifying the quantity and type of waste.

5. Monitoring and Reporting Dashboard: The web application would feature a dashboard that provides real-time data and analytics on food waste generation, donation activities, and inedible waste management. This would enable hotels to track their progress, measure the impact of their efforts, and generate reports for internal and external stakeholders.

6. Communication and Notifications: The web application would facilitate communication between hotels, NGOs, and food management startups/companies. It would include messaging functionalities for coordination, notifications for new donation requests, and alerts for upcoming expiration dates of surplus food.

7. Continuous Improvement Suggestions: The web application could have a feature for users to share ideas and suggestions to improve food waste management practices. This would foster collaboration and encourage the exchange of innovative solutions among stakeholders.

FUTURE SCOPE

Future Scope for the Food Waste Management Web Application:

1)Mobile Application: Develop a mobile application for the web platform, allowing users to access and manage food waste data, communicate, and receive notifications on the go. This would increase convenience and accessibility for users, enabling them to stay connected and engaged with the food waste management efforts.

2)Expansion to other sectors: While the initial focus may be on hotels, the food waste management program can expand to include other sectors such as restaurants, catering services, and large-scale events. This would maximize the impact and reduce food waste across

3)Blockchain and traceability: Implementing blockchain technology can provide transparency and traceability throughout the food waste management process. This ensures accountability and enables stakeholders to track the journey of donated or processed food, fostering trust and efficiency.the food service industry.

WOW FACTOR

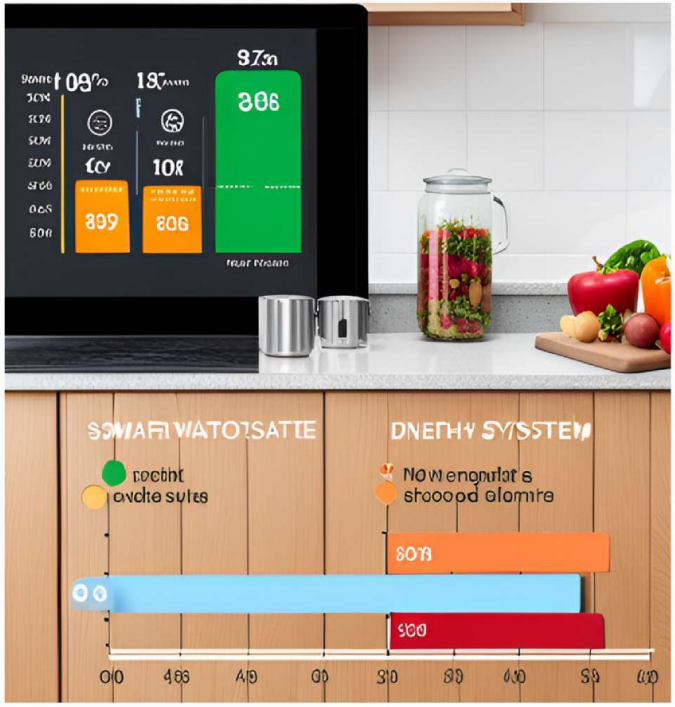
The WOW factor in this web application lies in the integration of cutting-edge technologies and unique functionalities that enhance the overall user experience and effectiveness of food waste management. Here are a few remarkable features:

1. Real-time Food Inventory Tracking: Implementing advanced technologies the web application enables hotels to monitor their food inventory accurately and in real-time. This functionality reduces the likelihood of overordering, leading to minimized food waste.

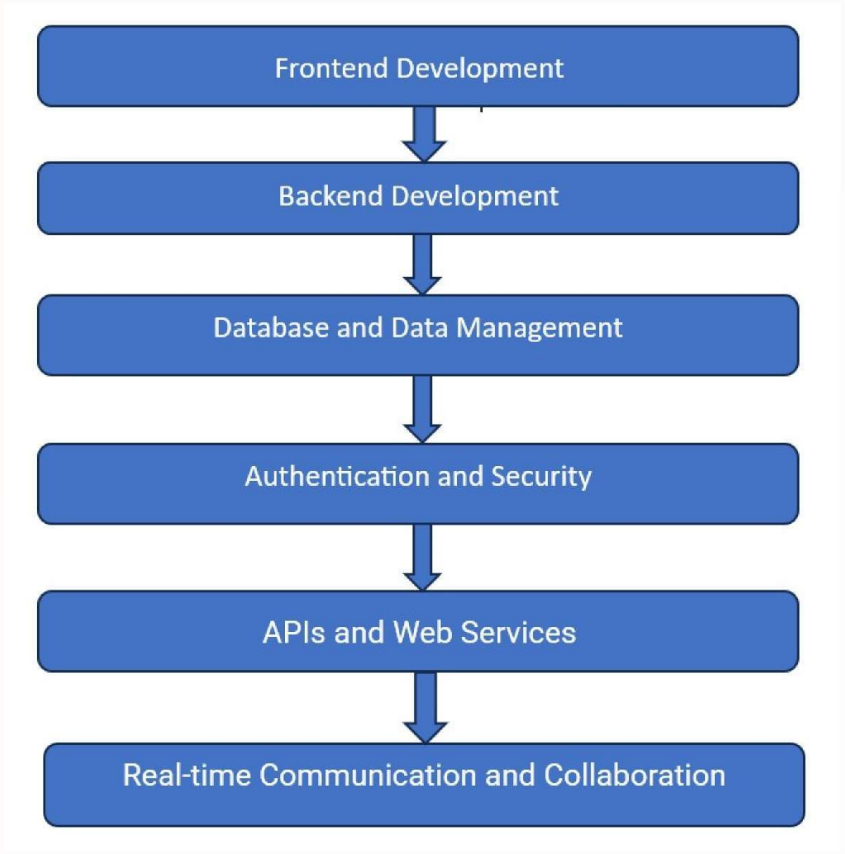
2. Smart Menu Optimization: By leveraging historical data and customer preferences, the application analyzes valuable insights for menu optimization. It suggests adjustments based on popular dishes, seasonal availability, and forecasted demand, enabling hotels to minimize extra food and improve resource allocation.

3. Seamless Donation Management: The web application streamlines the process of donating extra edible food to NGOs. It offers a user-friendly interface that allows hotels to easily identify excess food, coordinate pickup schedules with partnering NGOs, and track the impact of their donations in reducing food waste and supporting communities in need.

4. Performance Analytics and Reporting: The web application generates comprehensive reports and analytics on food waste reduction efforts. Hotels can track their progress over time, measure the impact of their initiatives, and gain valuable insights to optimize their operations further. These performance metrics include food waste volume reduction, cost savings, environmental impact, and the social contribution made through donations.



TECHONOLOGY STACK



SOFTWARE REQUIREMENTS

- Frontend Development:
  - HTML/CSS
  - JavaScript
  - Framework: React.js or Angular for building dynamic and responsive user interfaces.
- Backend Development:
  - Programming Language: Python,java

- Database and Data Management:
  - Relational Database: MySQL
  - Object-Relational Mapping (ORM) Framework: Django ORM or Sequelize (Node.js) for simplified database interactions.
- Authentication and Security:
  - Authentication: Implement user authentication using libraries like Django Authentication (Python) or Passport.js (Node.js).
  - Encryption: Implement SSL/TLS
    APIs and Web Services:
- RESTful APIs: Use frameworks like Django REST Framework (Python) or Express.js (Node.js) to design and implement APIs for communication between the front-end and back end
- Third-Party APIs: Integration with external APIs for functionalities such as geolocation, email notifications, and payment gateways.

- Real-time Communication and Collaboration:
  - Websockets: Use libraries like Socket.IO or SignalR for real-time communication and collaboration features within the website.