Project Report

Eco Friendly Online Food Ordering and Delivery Management System

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1. Abstract

This project presents an Eco-Friendly Food Delivery Management System designed to promote sustainable food consumption. The system allows users to browse and order food while displaying essential information such as calorie content and carbon impact for each item. This encourages environmentally conscious decision-making during the ordering process. The database structure efficiently manages users, products, delivery personnel, carts, and orders, ensuring smooth interaction between different components of the system. By combining convenience with environmental awareness, this project sets the foundation for a responsible and organized food delivery solution.

.2. Introduction

The Eco-Friendly Food Delivery Management System is designed to offer a complete digital platform for sustainable food ordering and delivery. The database architecture consists of well-structured modules such as **users, products, riders, orders, cart, and carbon impact analysis**, ensuring smooth operation across all stages of the delivery process. Unlike traditional delivery systems, this database introduces an **environmental-awareness layer** by associating each product with **carbon footprint and calorie values**, helping users make responsible dietary choices.

Additionally, the system allows users to save multiple delivery addresses for flexible ordering and ensures smooth interaction between customers, products, and delivery personnel. The structured database keeps everything organized — from cart items to confirmed orders — making the process efficient and easy to manage. Overall, this database lays the foundation for a modern food delivery system that focuses on convenience, sustainability, and proper data organization.

3. Objectives of the Project

- To provide an online platform for users to order food conveniently while tracking calorie intake and carbon emissions per item.

- To promote sustainable food choices by displaying real-time CO_2 impact and rewarding low-emission selections with offers or discounts.

- To ensure efficient order processing and delivery through structured user, rider, cart, and order management modules.

- To enable admin-level monitoring of sales, customer activity, and product popularity for data-driven decision-making.

4. System Analysis

4.1 Existing System

In most traditional food delivery platforms such as Foodpanda or Pathao Food, the primary focus is on convenience, speed, and discounts. While these systems efficiently manage user registration, cart handling, order placement, and delivery assignments, they lack any consideration of **environmental impact**. Users can view product prices and images, but they are **not informed about calorie intake or carbon emissions**, making them unaware of how their food choices affect health and sustainability.

Additionally, basic order and delivery flows exist, there is **no integration of eco-conscious decision support**. As a result, users continue to order without understanding the environmental footprint of their consumption.

4.2 Proposed System

The proposed Eco-Friendly Food Delivery Management System enhances traditional delivery platforms by integrating **environmental awareness** into the ordering process. Users can view the **calorie content and carbon emission value** of each product, helping them make health-conscious and eco-friendly decisions.

The system is structured to efficiently manage **users, products, riders, carts, orders, and carbon impact data**, ensuring smooth interactions between different components. By organizing all operations in a modular and scalable format, the proposed system provides a convenient, structured, and environmentally responsible solution for food delivery.

5. System Design
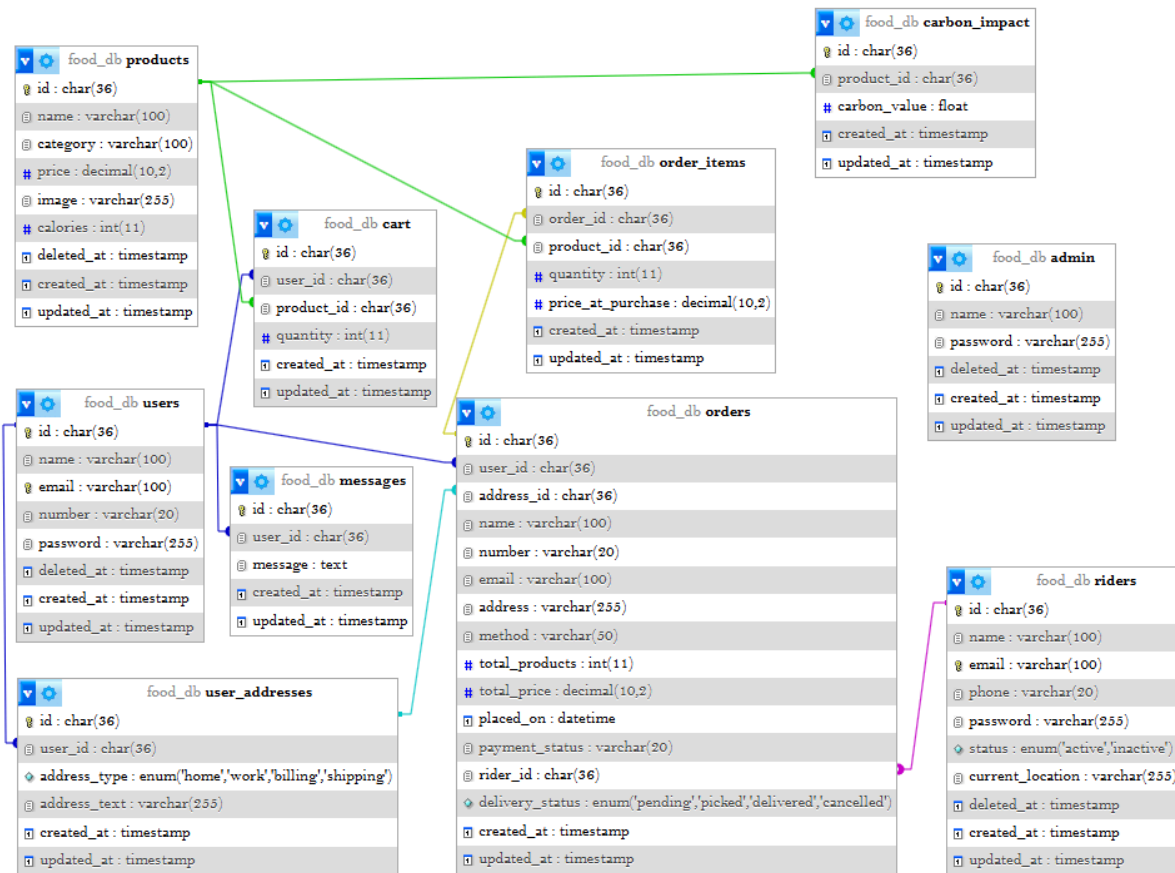
6. Implementation Details

Programming Language: PHP
 Frontend: HTML, CSS, JavaScript
 Database: MySQL
 Tools Used: Visual Studio Code, XAMPP, GitHub

7. Testing and Evaluation

The system is tested to ensure proper functionality and data accuracy based on its database structure.

1. **Functional Testing:** All modules — **users, products, cart, orders, riders, and carbon impact data** — are checked to ensure correct operations.

2. **Data Accuracy:** Carbon emission and calorie values for products are verified against sample inputs.

Evaluation: The system successfully manages all core functionalities and provides a reliable platform for users to make **sustainable food choices**.

8. Results and Discussion

The system successfully manages users, products, orders, and carbon impact data, providing accurate information for calorie intake and CO_2 emissions. It ensures smooth interaction between database components and demonstrates that users can make informed, sustainable food choices effectively.

9. Conclusion and Future Work

1. Introduce **real-time rider tracking** and **order notifications** to improve delivery efficiency.
2. Implement **reward systems or discounts** to encourage eco-friendly food choices.
3. Incorporate **eco-friendly packaging and zero carbon considerations**, including the use of **zero-impact delivery vehicles**, to reflect the true environmental footprint of each order.
4. Optimize delivery routes and logistics to further **reduce emissions** and enhance sustainability.

10. References

- Sommerville, I. Software Engineering, 10th Edition.
- MySQL Official Docs: https://dev.mysql.com/doc/