Grocery Store Website

Derick S

Bachelor Computer Application

Department Computer Science

Rathinam College of Arts & Science

dericks.bca22@rathinam.in

Ms.N.Sukanya

Assistant Professor

Department of Computer Science

Rathinam College of Arts & Science

Sukanya.csc@rathinam.in

ABSTRACT

The frontend design and development of an interactive online grocery store geared at small businesses and local providers is presented in this paper. Customers may browse products, manage their shopping cart, and finalize purchases with a GPay UPI QR code thanks to the responsive, user-friendly interface that is created with HTML, CSS, and JavaScript. Clean layout, device responsiveness, and seamless user interactions are prioritized. Additionally, the website has rudimentary form validation to guarantee that user data is accurate prior to submission. This project shows how small merchants can create a digital storefront without depending on intricate frameworks or backend systems by concentrating just on frontend technology. A workable option for inexpensive online transactions in the Indian market is provided by the QR payment integration.

Keywords: Frontend development, HTML5, CSS3, JavaScript, shopping cart, UPI payment, QR code integration, responsive design, online grocery store, and user interface design

I.INTRODUCTION

Consumer behavior has changed due to the quick uptake of online purchasing platforms, particularly in the aftermath of mobile-first browsing and digital payment systems. Due to a lack of technological resources and expensive establishment costs, small and midsize grocery merchants sometimes find it difficult to develop a digital presence, even if giant e-commerce websites dominate the market. Lightweight, simple-to-deploy online retail solutions are now required as a result.

This paper presents a straightforward yet useful front-end grocery store website that was created with just HTML, CSS, and JavaScript. Users can browse a list of grocery products on the website, put items in their carts, submit their personal information, and check out using a UPI QR payment system (like GPay).

The system strives to offer a simple user experience with little technical overhead and is responsive, operating well on desktop and mobile platforms.

This solution maintains the emphasis on usability and user interface design, in contrast to backend-heavy platforms that

demand sophisticated infrastructure. Additionally, small merchants who want to take digital payments without integrating costly gateways can benefit from its capabilities for manual payment verification

II. RELATED WORK

Because of its scalability and dynamic characteristics, frameworks like React, Angular, and Vue.js have been widely used in frontend development for e-commerce systems. Nevertheless, these frameworks frequently add complexity and necessitate backend connectivity, which makes them less appropriate for novices or small enterprises seeking straightforward, static solutions.

Online grocery store systems have been proven in a number of academic and commercial initiatives, although the majority concentrate on full-stack solutions that include database administration, payment gateways, and user identification. Despite their strength, these systems may be overdesigned for small or neighborhood grocery stores that require little maintenance and rapid deployment.

According to certain studies, creating simple online stores with JavaScript, CSS, and plain HTML works well. These implementations are easy to host on free or inexpensive platforms like GitHub Pages or Netlify, and they usually cater to small-scale demands. Despite the fact that UPI has grown to be a widely used and accessible payment mechanism in India, there are very few projects that integrate QR-based UPI payments, particularly in frontend-onlyimplementations.

This study proposes a solely frontend strategy, in contrast to the current systems via QR code scanning. This study demonstrates the efficient use of contemporary frontend technology to provide digital capabilities to small food stores.

that prioritize commercial scalability or backend-heavy functionality. It fills the gap by providing a straightforward UPI payment interface along with the necessary e-commerce functionality, such as product display, cart management, and a checkout procedure. This makes it an affordable and useful option for small merchants wishing to go to digital.

III.METHODOLOGY

To guarantee simplicity, responsiveness, and deployment ease, frontend technologies were the exclusive emphasis of the grocery store website's development. There were five primary parts to the system:

Using HTML and CSS to Display Products

Products are arranged using HTML components decorated with CSS Grid or Flexbox in a grid layout. An image, title, price, and "Add to Cart" button are all included on each product card. Without backend assistance, this structure facilitates the display and updating of product listings.

Design That Responds

The website was made responsive to different screen widths by using CSS media queries. Grid layouts, button placements, and font sizes automatically adjust for desktop, tablet, and mobile devices.

JavaScript-Based Shopping Cart Functionality

Interactive behavior was handled via JavaScript. Upon selecting "Add to Cart," users' products are added to a dynamic array in the cart. Real-time updates are made to the cart to account for changes in quantity, eliminate products, and determine the overall cost. JavaScript variables are used to store this state in the memory of the browser.

Form for Customers and Validation

Users are asked to evaluate their cart summary and provide their name, address, and phone number during checkout. Before permitting submission, JavaScript-based form validation makes sure that all needed fields are filled out accurately. Users receive real-time feedback from the system on incorrect or missing inputs.

Integration of UPI QR Code Payments

During the checkout process, the system shows a static GPay UPI QR code as an image rather than a complicated payment gateway. Consumers manually make the payment after using their UPI app to scan the code. They confirm their order by clicking the "Payment Done" button after completing the payment. For small enterprises, this approach is easy to use and reasonably priced.

IV EXPERIMENTAL RESULTS

To assess the frontend grocery store website's usability, responsiveness, and functionality, it was tested in a controlled setting on a variety of devices and browsers. Typical user activities such as product browsing, shopping cart management, customer data submission, and UPI QR code payments were the main emphasis of the testing scenarios.
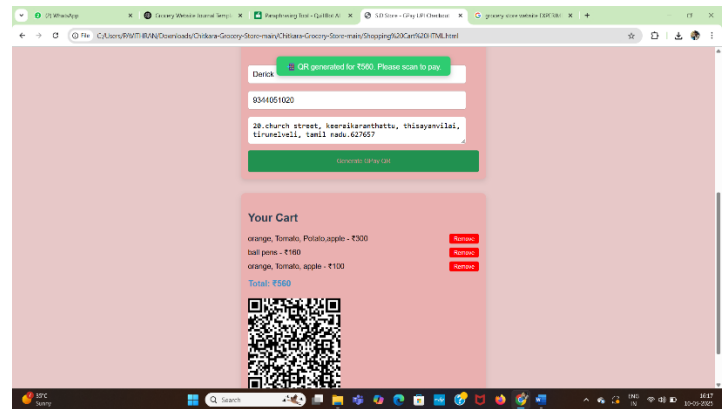

Fig 1.1Checkout_Form_GPay_QR

The static GPay QR code was displayed clearly on all screen sizes. Users were able to scan the QR code using UPI apps like Google Pay and PhonePe without any difficulty.Although the payment process was manual, users found the flow understandable and intuitive.

V CONCLUSION & FUTURE STUDY

A frontend-only, lightweight grocery shop website created with HTML, CSS, and JavaScript was presented in this presentation. The concept effectively illustrates how small grocery suppliers may establish an online presence without depending on expensive e-commerce platforms or intricate backend infrastructure. Important features like product presentation, shopping cart administration, gathering customer information, and UPI QR code-based payments were put into place and evaluated for user accessibility and cross-device compatibility.

Because of its straightforward architecture, the system may be upgraded with little technical knowledge and set up on free hosting platforms. Businesses can accept digital payments without integrating costly or complex payment systems by using a static UPI QR code.

VI. REFERENCES

[1] W3Schools. "HTML Shopping Cart Tutorial." Retrieved from https://www.w3schools.com

[2] MDN Web Docs. "HTML: Hyper Text Markup Language." Retrieved from https://developer.mozilla.org/en-US/docs/Web/HTML

[3] MDN Web Docs. "CSS: Cascading Style Sheets." Retrieved fromhttps://developer.mozilla.org/en-US/docs/Web/CSS

[4] MDN Web Docs. "JavaScript Guide." Retrieved from https://developer.mozilla.org/en-US/docs/Web/JavaScript/Guide

[5] Google Developers. "Responsive Web Design Basics." Retrieved from https://web.dev/responsive-web-design-basics

[6] NPCI. "Unified Payments Interface (UPI)." Retrieved from https://www.npci.org.in/what-we-do/upi

[7] Kumar, R. (2021). Designing Lightweight E-Commerce Sites for Local Retail. International Journal of Web Engineering.

[8] Bootstrap Documentation. (if you used Bootstrap) Retrieved from https://getbootstrap.com