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Snapsnaks

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ABSTRACT—

We are creating a cool food app called "SNAPSNACKS" to make online ordering super easy. We are checking how much you like using it, understanding how you think, and making sure it's a smooth experience. You can share your thoughts on stuff you bought or services you used.

The way we get our food has changed with mobile apps, and SNAPSNACKS is here to simplify it. We are teaming up with lots of local restaurants to give you a bunch of tasty options. You can track your order in real-time, pay in different ways, and trust us for quality food and delivery.

We have got special offers and loyalty programs to keep things exciting. Working closely with local restaurants means more choices for you. We're expanding to more places, ensuring quick customer support for a great experience. Our app is always using the latest tech to stay ahead, giving you a modern and awesome platform for all your food cravings.

Keywords— ***Online food odering,Mobile App, MERN(MongoDB, Express.js, React.js,Node.js), A1anAI.***

Introduction

The food industry is leveraging mobile technology for online food ordering, connecting with a wide audience. This process involves using mobile apps or websites to deliver food from local restaurants. The popularity of mobile food ordering apps, like foodApp, is growing, especially among the younger generation. Customers appreciate the ease of generating orders and having food delivered to their doorstep, with online payment adding to the convenience.

foodApp, a cutting-edge mobile application, has transformed the food ordering experience. It connects users with a variety of local restaurants, offering a diverse range of flavors through an intuitive and user-friendly interface. The app aims to simplify the entire ordering process, providing a hassle-free and enjoyable experience. Users can explore numerous cuisines and menu options with just a few taps.

Timely delivery is a top priority for foodApp, ensuring the preservation of food quality and freshness. Real-time order tracking adds transparency, allowing users to monitor their orders from preparation to delivery. The app supports various payment options to accommodate user preferences.

Quality assurance is crucial, with strict standards for both food and delivery services. User feedback is actively encouraged, contributing to continuous improvement. Engaging promotions, discounts, and loyalty programs enhance the user experience, fostering appreciation and loyalty among app users. Community Detection Basics.

Literature Survey

Wireless Food Ordering System Based on Web Services: We gathered what was needed, designed the system, built it, tested it, and launched it step by step. We kept improving with feedback, working closely as a team and with those interested in the project. It was a flexible and collaborative process, making sure everyone's ideas were considered. [1]

Foody-Smart Restaurant Management and Ordering System: We did a survey to find out what makes people order food online, collecting and analyzing data on those. [2]

Stimulus Factors of Order Online Food Delivery: We surveyed people to understand what makes them order food online, gathering and analyzing data on the factors influencing online food delivery. [3] . Customizable wireless food ordering system with real-time customer feedback: Step by step, we gathered needs, designed, built, tested, and launched while working with others and getting regular feedback. [4] .Designing and Developing APDA Food Ordering System using an Interaction Design Approach: We improved by listening to users, gathering needs, creating

prototypes, and testing. The process involved continuous collaboration with stakeholders, getting feedback at each step. This user-centered approach ensured the design met user expectations, making it iterative and responsive to users' evolving needs. [5] .Android Application Food Delivery Services: We mixed flexible and structured methods. We first gathered needs, planned the system, built, tested, and launched it. We also connected with other services and worked closely with others, getting feedback along the way. It was like building step by step with constant teamwork and improvements[6].Formal Specification for Online Food Ordering System using Z language: A formal and rigorous approach using the Z language for specification, refinement, and verification of the system requirements and behaviour[7]. Orderista AI-based Food Ordering Application: We mixed flexible and step-by-step methods. First, we gathered needs, planned the system, built, tested, and launched it. We also connected with other services and worked closely with others, getting feedback all along. It was like building step by step with teamwork and improvements happening regularly[8]. An Artificial Intelligence-based Voice Assistant: AI Voice Assistants, like Siri or Alexa, use smart technology to grasp what users say. They learn from this and use it to give tailored responses. It is like having a computer understand and talk back to you, making interactions feel more personal and natural[9] .Measuring User Experience Quality of Voice Assistants: We use surveys, testing, and feedback to check how well voice assistants, like Siri or Alexa, work. We look at things like accuracy, how fast they respond, understanding language naturally, how they function, how easy they are to use, if they are dependable and if they keep user info secure[10] .

System Design

A.User Interface (UI):

Voice Commands:

Define a set of natural and concise voice commands that users can use to interact with the website. For example, "Browse menu," "Add to cart," "Place order," etc.

Implement a voice recognition system to accurately interpret these commands.

Visual Feedback:

Provide visual cues on the website interface to confirm user commands. This can include highlighting selected items, displaying order summaries, and using animations to signify actions.

B. Menu Structure:

Categorization:

Group menu items logically into categories (appetizers, main courses, desserts).

Allow users to navigate through categories using voice commands like "Show me desserts."

Voice-enabled Search:

Implement a voice search feature to enable users to find specific items quickly. For example, "Search for pizza."

C.Order Management:

Cart Interaction:

Allow users to add, remove, and review items in their cart using voice commands like "Add burger to my cart" or "Remove pizza."

Provide a voice confirmation of each action.

Order Confirmation:

Confirm the order with a voice prompt before finalizing the purchase. For instance, "Are you sure you want to place this order?"

D.Voice Recognition Technology:

Integration:

Integrate a reliable voice recognition API (such as Google Cloud Speech-to-Text, Microsoft Azure Speech, or other similar services).

Implement error handling for misinterpretations and ambiguous commands.

E.Error Handling:

Clearly communicate errors or uncertainties in voice commands.

Provide suggestions or alternatives when the system encounters a potential misinterpretation.

F.*User Authentication:*

Account Creation/Login:

Allow users to create accounts or log in using voice commands or a combination of voice and traditional methods.

Ensure secure authentication and data handling.

G.Payment Integration:

Secure Transactions:

Implement a secure payment gateway (such as Stripe, PayPal, etc.) to handle online transactions.

Use voice confirmation for sensitive actions like submitting payment details.
Voice Confirmation:
Implement a voice prompt to confirm the payment details before processing the transaction.

H.Notification System:
Order Status Updates:
Implement a notification system to update users on the status of their orders.
Use both visual indicators on the website and voice prompts to notify users of order confirmations, delays, or completions.

I.Accessibility:
Compatibility:
Ensure the website is accessible to users with disabilities by incorporating voice commands and alternative navigation options.
Follow accessibility standards (WCAG) to make the website inclusive.

J.Testing:
User Testing:
Conduct extensive testing with real users to identify usability issues.
Test the voice recognition system with users from different demographics to ensure inclusivity.

K.Scalability and Performance:
Backend Infrastructure:
Design a scalable backend infrastructure that can handle varying levels of user activity, especially during peak times.
Optimize database queries and server responses to ensure quick and efficient processing of voice commands.
Performance Optimization:
Optimize the website's performance for fast response times.
Regularly monitor and optimize both front-end and back-end components to provide a seamless user experience.

WORKING

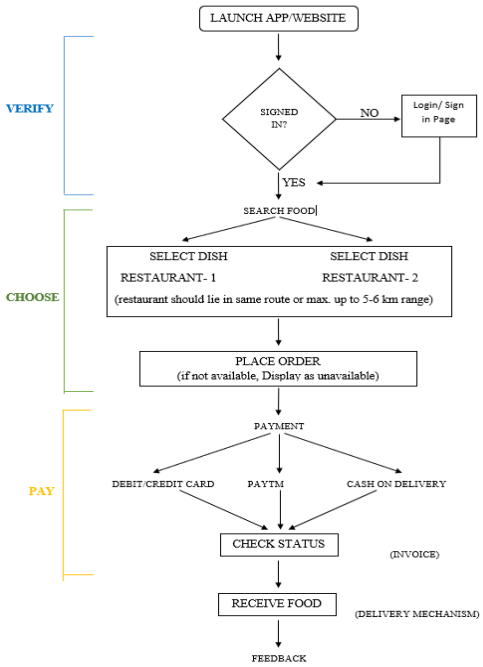

Figure 1: The mechanism from user end

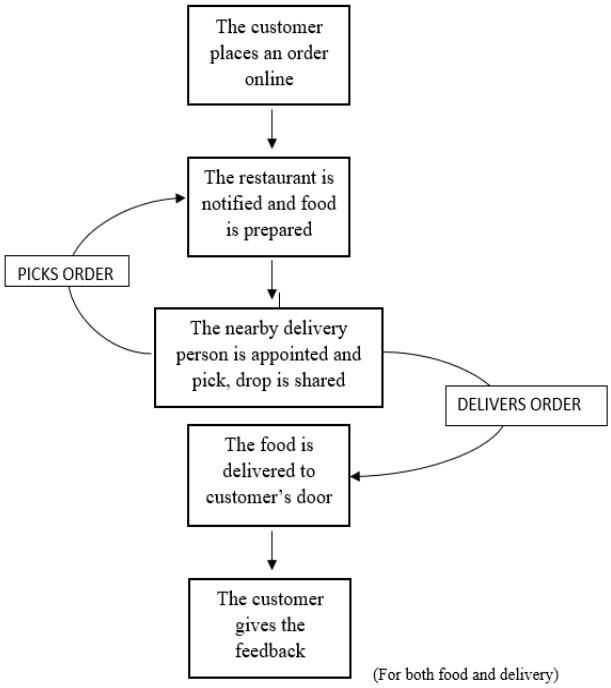

Figure2: Working of food deliveryapps

RESULTS

The proposed system utilizes voice interpretation for customer interaction on the Android application, simplifying the ordering process. After orders are placed, details are swiftly transferred to the kitchen for efficient processing. Notifications are sent to both customers and waiters upon the completion of dish preparation. At the end of the dining experience, customers receive generated bills. A Feedback Collection Form is presented to gather insights into their overall satisfaction. Despite the system's efficiency, the use of voice commands for ordering raises concerns about disrupting the restaurant's ambiance. Striking a balance between technological advancement and preserving the traditional dining atmosphere is crucial, possibly through designated areas for voice-activated orders or providing customers with ordering options. This approach aims to enhance the dining experience while respecting the importance of maintaining a pleasant restaurant environment.

Top of Form

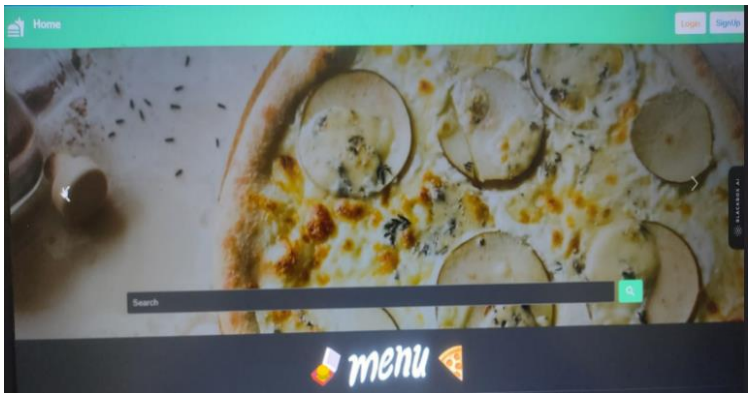

Figure 3: Body cart component

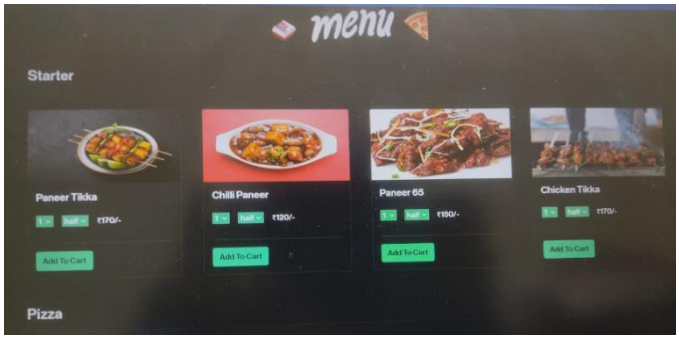

Figure 4: Restaurant food item 1

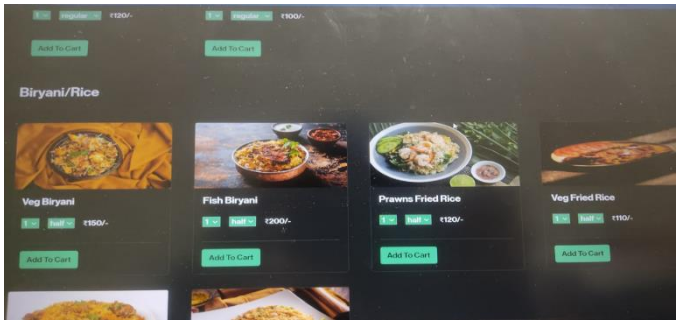

Figure 5: Restaurant food item 2

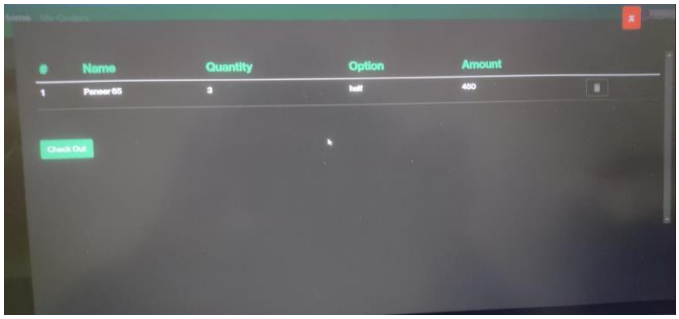

Figure 6: Store cart item

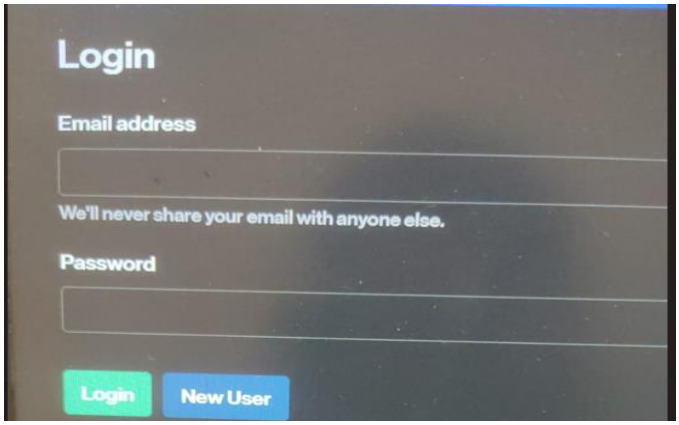

Figure 7: Login page

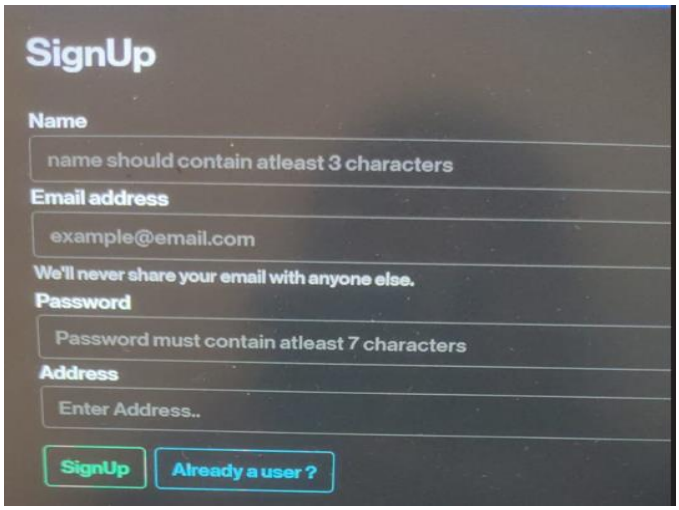

Figure 8: Sign-Up page

VI. CONCLUSION

The development and analysis of a food delivery app using the MERN stack highlight its pivotal role in advancing digital food services. This research showcased the seamless integration of MongoDB's scalability, Express.js's efficient backend management, React.js's dynamic user interface, and Node.js's optimized performance. The resulting synergy not only ensured robust and responsive functionality but also set the stage for future innovations in food technology. As the digital food delivery market continues to grow, the insights from this study provide guidance for further advancements and optimizations, solidifying the MERN stack's position as a cornerstone in modern web application development.

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