BAKERY APP DESIGN(UX/UI RESEARCH)

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ABSTRACT

Our purpose is to create the best and efficient user interface for ordering of bakery item application through our study and research in UI - User interface, UX - User experience. One of the main features in this application is to be used by various people without any age restriction and connecting the cloud-kitchens and scheduling the snack with enhanced features. This abstract provides a concise overview of the UI/UX research conducted for the development of a mobile application aimed at facilitating bakery items ordering transactions. The study explores the user interface and user experience aspects of the application to ensure its effectiveness, ease of use, and overall satisfaction for both owners and consumers. The research focuses on gathering insights from potential users, analyzing their preferences, and incorporating them into the design process. By employing a user- centered approach, the study aims to create an intuitive, visually appealing, and efficient mobile application that enhances the experience of ordering bakery items. To conduct the research, a combination of qualitative and quantitative methods was employed. User interviews, surveys, and usability testing were conducted to gather data on user preferences, expectations, pain points, and desired features. The collected data was analyzed to identify common patterns, challenges, and opportunities for improvement in ordering the bakery items. The UI/UX research conducted for the mobile application for ordering bakery items serves as a foundation for creating an optimized platform. The application meets user expectations, maximizes user satisfaction, and facilitates successful payment transactions in an efficient and user-friendly manner.

Keyword : - *UX/UI research , Mobile application's effectiveness, User -centered approach, User friendly navigation*

1. INTRODUCTION

The goal of the mobile app for a bakery app is to develop a simple and approachable platform that connects customers with bakery products. The objective is to make the ordering of bakery items more convenient and effective for all parties. To create an app that offers the best user experience possible for consumers, UX/UI research looks deeply into the needs, preferences, and pain areas of users. In recent years, the advent of mobile applications has revolutionized various industries, including the food industry. Bakery food ordering apps, designed with a focus on user experience (UX) and user interface (UI) principles, have emerged as a popular choice for both consumers and businesses. These apps offer numerous benefits and advantages, making them a valuable tool for bakeries looking to enhance their customer experience and streamline their operations. To ensure happiness, trust, and a higher possibility of successful transactions for all parties involved, it is essential to improve the user experience. Bakery food ordering apps provide customers with the convenience of placing orders anytime, anywhere, using their smartphones or tablets. This accessibility eliminates the need to visit the bakery in person, saving customers time and effort. The app's intuitive UI makes it easy for customers to browse the bakery's menu, select items, customize their orders, and make payments, all within a few taps. This convenience enhances the overall user experience and encourages repeat business. The customers can ensure the accuracy of their orders. The app allows customers to review their orders before finalizing them, reducing the likelihood of errors. For bakeries, the app streamlines the order management process, reducing the time and resources required to process orders manually. This efficiency not only improves the bakery's operations but also enhances the overall customer experience by ensuring timely delivery of orders. Thorough research as well as consideration for the user experience (UX) and user interface (UI) design are required when developing a mobile application for a bakery app. Understanding the target audience, researching the competition, mapping user journeys, and developing prototypes for testing and iteration are all part of this process. The objective is to provide an intuitive and effective platform that supports seamless transactions between customers and the bakery by focusing on usability, visual appeal, mobile responsiveness, and security. To create a successful mobile application that satisfies the requirements of both users

and the bakery industry, we will investigate the essential facet of UX/UI research in this project.

2. METHODOLGIES:

The methodology for developing and implementing enhanced user experience of ordering bakery items involves a comprehensive approach that encompasses various components, tools, techniques, procedures, testing methods, and adherence to standards. Below is a detailed description of each aspect:

2.1. Comprehensive Literature Review:

The objective of conducting a comprehensive literature review is fundamental in establishing a project's foundation by identifying existing research, methodologies, and technologies crucial to design the efficient and enhanced application involving simplified UI and easy usage. This process involves thorough exploration across academic databases, journals, conferences, and industry publications to compile a diverse array of sources Mobile applications are not always adapted to the special needs of senior citizens. Studies have also found that a good UX design can better promote the physical and mental health of senior citizens, however, more research needs to be conducted about what senior citizens need and expect from the UX elements in mobile application design. The results of the study show, there are many types of mobile applications designed for enhancing senior citizens' well-being, and the most used application among seniors is "Health".

2.2. Data Collection and User experience:

The manner that bakery products are purchased has been transformed through user experience (UX) design, which has made the procedure easier and more effective. The creation of user-friendly mobile applications and internet platforms is a crucial component of this streamlined bakery process. These online marketplaces make it simple for sellers to connect their products by including details like Kitchen name, mail, mobile num, address and FSSAI License Number. Easy uploading of excellent images and thorough descriptions improves the user experience overall. These platforms provide consumers with robust search and filter options, making it simple to choose snack that fit their needs. The organization success can be determined mainly with the customer satisfaction in every point and here in this sector it can be achieved by conducting the user research and several process. In that we can able to identify the need of the customer in every aspect. The filters for Veg and Non-Veg, Price range and Home kitchen all were given to enhance the smooth experience. The UX of selling pastry items now routinely integrates with outside services. The platform can easily add tools that help customers make informed selections, such as previous orders and it's data. The platform's enhanced communication features have also made it easier to negotiate and complete transactions. Owners may simply get in touch with consumers with inquiries or offers, and consumers can anticipate responses quickly. Systems for secure messaging and notifications keep all parties updated and involved during the process.

2.3. Development of the UI:

We included all facets of user engagement, such as feelings, perceptions, and reactions. An efficient job completion rate, a smooth and intuitive user interface, and a feeling of satisfaction and joy are the hallmarks of a good UX. User research, user interface (UI) design, usability testing, and ongoing improvement are essential elements of a good UX. To effectively develop solutions that address user demands, UX designers strive to understand user needs, behaviors, and pain spots. They concentrate on creating user-friendly, aesthetically pleasing, and simple to use interfaces. User-centered design is given priority in a successful UX, ensuring that the product or service is in line with user expectations and goals. In the end, a strong UX results in greater user pleasure, customer loyalty, and the accomplishment of corporate objectives. On implementing it we can have the benefits and the rise in the organization's business. The User-Centered Design is what rivals are doing well or poorly enables designers to rank user preferences and demands. The Inspiration in examining the designs of rival products can spark original concepts and inventive solutions for your own creation. On finding best practices in the research for the business or market that you may implement into your UX design. The empathy map In this process we collected the details with the data and this plays a major role in determining each process and with this we can able to make many things in the development of the application.

2.4. Design and Development:

We promote empathy and a closer bond with the target market by encouraging designers and stakeholders to put themselves in the position of the user. Empathy maps are a useful visual tool for bringing teams and stakeholders together to develop a common understanding of the wants and needs of users. The feature of Problem-Solving in Empathy maps assists design teams in coming up with solutions that specifically address user issues by identifying places of delight and areas of pain. In our application the empathy map phase contains the certain points or questions for accessing the feelings and other things in the mapping journey and that provides the ideas to depict the several user emotion and that will help in designing of frames in the application. Building Empathy thing gives the visualizing user's experience, they encourage empathy among us and the stakeholders, resulting in more empathetic and user-centered decisions. The Problem identification in user journey maps highlight bottlenecks and pain points,

giving designers a clear direction for design improvements. The Journey map phase in our application are the Login and snack page and connect and schedule process and also logout page where assessed the points of the customer thoughts and what does the customer do and their feelings and the needed ideas for the improvement of the application.

3. METHODS AND PROCESS:

3.1 USER REGISTRATION AND AUTHENTICATION**:**

3.1.1 User process and data collection:

The platform like ordering bakery items, the user registration and authentication are essential parts of our mobile application. User registration entails the construction of unique profiles where users can enter their preferences, contact information, and other vital personal data. We provided protection of user data depends heavily on secure authentication techniques. This includes choices for logging in with their email address and password, which offer a conventional yet secure method of accessing the app. The onboarding process of our app is also made simpler by integrating social network logins, which enables people to join up fast using their pre-existing social profiles. In addition to improving user ease, this registration and authentication combination creates a secure and reliable environment for both bakery owners and consumers within the app. The SVM model gains from verifiable information marked as should be expected exchanges, empowering it to perceive The module also provides a platform for credibility and transparency by presenting user ratings and reviews. These evaluations and comments help potential buyers and sellers make wise judgments by giving important information about a user's standing, dependability, and previous transactions. Thus, user profiles play a crucial role in fostering responsible interactions, increasing user trust, and enhancing the overall experience within the app's ecosystem.

3.1.2 IA and modules:

With regards to ongoing oddity identification inside misrepresentation location frameworks, the execution of the prepared Help Vector Machines (SVM) model to handle approaching exchanges progressively is a crucial stage towards improving the framework's capacity to quickly distinguish possibly false exercises. By incorporating the SVM model into the exchange handling pipeline, the framework can dissect approaching information streams persistently and go with quick choices given learned examples and oddities. Laying out a limit for oddity scores is critical continuously peculiarity location, as it permits the framework to hail exchanges that veer off essentially from the typical way of behaving, showing expected deceitful action. By setting suitable limits in light of authentic information and model execution, the framework can separate between genuine exchanges and dubious ones, empowering ideal mediation to forestall deceitful exercises inside an online business climate. It also has powerful sorting and filtering features that let users group search results according to relevancy, cost, cloud kitchen, or other factors, further optimizing the user experience. This module makes sure that customers can quickly and easily navigate through the enormous selection of snack, saving time and increasing the likelihood that they will find the one that suits their needs and preferences.

3.2 Connect and schedule prototype:

3.2.1 Ratings and Connect features:

The Reviews and Ratings module in our app acts as the foundation for trust. It provides a transparent forum for exchanging experiences by enabling users to post and access reviews and ratings for both consumers and owners. Users are given the option to assess the dependability and trustworthiness of possible business partners thanks to this feedback system. 28 Positive feedback can assist establish a user's reputation and inspire trust in potential consumers or individual owners or bakery. On the other hand, it also serves as a precaution because users can make wise choices based on the opinions of others, encouraging ethical and secure transactions. This module is essential for trust and accountability within the app, which improves user safety and dependability. In this section the Connect provides the access to register their own shops promoting the cloud kitchen-business and the individual shops to showcase their snack items with the required details in it. Next it navigates to the details to register their shop with the clear-cut details after that details are to be added and the process is done. Moving onto next the Schedule process provides the option to make our snack schedule up to certain dates. We need to add and enter the needed baker and then snack for that day and our address for the delivery and then we can pay that using the several payment options. This acts a time saving thing for the working professionals and they can also cancel the day if they want and it significantly boosting the accuracy of the data offered. This module builds user confidence and trust by providing a thorough overview of a bakery details and condition, encouraging secure and well-informed transactions.

3.2.2 Testing Iterations:

The program is improved repeatedly until it has a high level of usefulness and user satisfaction. These stands for

important stages and actions in the UI/UX research process for creating a mobile application for ordering bakery items. Every stage contributes to the creation of software that is user-friendly, aesthetically beautiful, and simple to access while meeting the needs and expectations of its intended users. If these specific activities are incorporated into the UI/UX research module, designing a mobile application for ordering snack and promoting the business of the shops will be done completely and with the user in mind. This meticulous method aims to create an app that meets user needs while also standing out in a crowded market and providing a superior user experience.

4. RESULTS:

Thus, the qualitative and quantitative analysis of data from our UX research which includes competitor analysis, user personas, empathy map, journey map provided the significant way to derive the low fidelity prototype shown below and from the low fidelity prototype it will be helpful to design the final high fidelity prototype where the main screens are home page, connect page, schedule page and profile page show below.

4.1 In the home page we can able to get our snack and then the filter and search bar provides the items to get quickly and in below the recommendation is given based on the previous orders of the consumers. The voice activation icon is given to know the distance of their ordered items and it helps the aged citizens to know the arrival time of their orders.

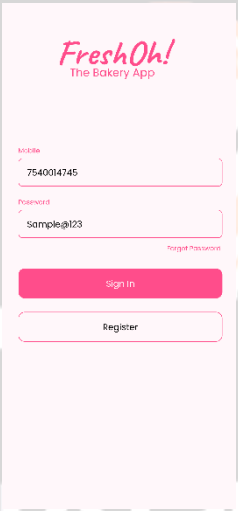

Figure 4.1 Login Screen

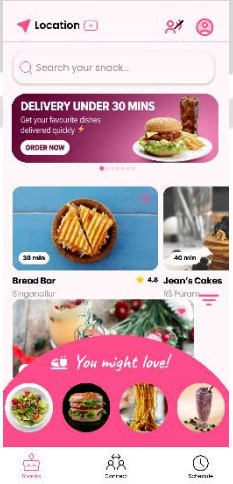

Figure 4.1: Home Screen

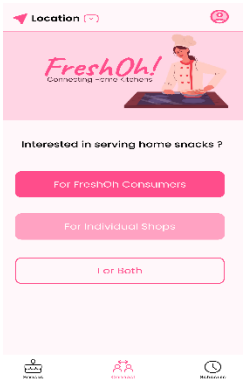

Fig 4.2 Connect Screen

4.2 The connect screen shown in fig is the page of the app where we can able to connect the cloud-kitchen based snack and also the individual shops for the ordering purposes and also they can able to register their shops with the required details in it and after all the verification the shop is listed to sell their products to the customers. In that it navigates to the sequence of easy process to list their foods and other things.

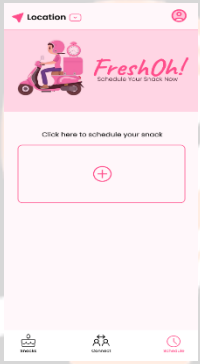

Figure 4.3 Schedule Screen

4.3 The schedule screen shown in fig where we can able to schedule our snacks for needed dates and if we want to schedule, we need to enter the required details in that to proceed further and then we can choose the payment method in it and then we can able to cancel the scheduled snack in the option given below. This screen will make an impact on the working professional to manage their time and many things.

5. CONCLUSION:

In this project, throughout the entire process of UX/UI the Interface for the Mobile Application has been built successfully. This app's interface is not only built for ordering the bakery items but also to give a wonderful experience while using the Application. The creation of a mobile app for ordering a bakery items and business with a heavy emphasis on user experience (UX) and user interface (UI) design is more than just developing a website where snack can be bought and sold by the owners. It is about meeting consumers' requirements and expectations while creating a seamless and engaging experience for them. A well-designed software will increase user pleasure, foster trust, and ultimately help the platform succeed. This will establish a new benchmark for excellence in the food sector, becoming the go-to platform for people looking to order the snack and food items in online.

6. REFERENCES

1). Krisnanik E, Rahayu T. UI/UX integrated holistic monitoring of PAUDusing the TCSD method. Bull Electr Eng Informatics

[Internet]. 2021 Aug 1[cited 2021 Sep 26];10(4):2273–84.
2). Nikam M, Gawali I, Khollam V, Lokhande A, Mante J. Online UI/UXPlatform (Crafter). Int J Sci Res Comput Sci Eng Inf Technol. 2021 May31;483–6.
3). Soumen Chakrabarti, Byron E Dom, S Ravi Kumar, Raghavan, Sridhar Rajagopalan, Andrew Tomkins, David Gibson, and Jon Kleinberg. Mining the web's link structure. Computer, 32(8):60–67, 2021
4).Ying Ding. Applying weighted page rank to author citation networks. Journal of the American Society for Information Science and Technology, 62(2):236– 245, 2022.
5).Lewis C, Rieman J. Task-Centered User Interface Design: A Practical Introduction [Internet]. Text. 1993. 190 p. Available from: http://hcibib.org/tcuid/tcuid.pdf.
6).Loeffler S, Roth RE, Goring S, Myrbo A. Mobile UX design: learning from the Flyover Country mobile app. https://www.tandfonline.com/doi/abs/10.1080/17445647.2020.1867247
7). Permana AA, Taufiq R, Ramadhina S. Prototype design of mobile application 'hydrolite' for hydroponics marketplace. Int Conf Electr EngComput Sci Informatics. 2020;2020- Octob(October):45–8.
8).Hariyanto D, Triyono MB, Köhler T. Usability evaluation of personalized adaptive e- learning system using USE questionnaire. Knowl Manag ELearning.2020;12(1):85–105.
9).Karnawan G, Andryana S, Komalasari RT. Implementasi User Experience Menggunakan Metode Design Thinking Pada Prototype Aplikasi Cleanstic. J Teknol dan Manaj Inform [Internet]. 2020 Mar 19 [cited 2021 Sep 26];6(1):10–7. 41
10).Setiawan A, Handojo A, Hadi R. Indonesian Culture Learning Application based on Android. Int J Electr Comput Eng [Internet]. 2017 Feb 1 [cited 2021 Sep 26];7(1):526–35 Available from: http://ijece.iaescore.com/index.php/IJECE/article/view/6307 Helia VN, Asri VI, Kusrini E, Miranda S.