

Abstract

This research paper explores the challenges faced by rural artisans in effectively marketing and selling their crafted products. It focuses on the hurdles encountered by rural entrepreneurs who lack skills or familiarity with modern e-commerce applications. The study aims to shed light on the unique challenges of the rural market, including limitations of local retail shops, lack of economic opportunities, and the growing consumer market in rural communities. Additionally, the research seeks to propose solutions to facilitate the marketing and selling of craft products in rural areas. The transformative role of mobile applications, especially the VCOM platform, is highlighted as a key factor in empowering rural artisans to effectively sell their goods and crafts. The study intends to contribute valuable advancements in the rural artisan community and e-commerce landscape.

Introduction

The transformative role of mobile applications in empowering rural artisans is a key focus of this research. Previous studies have shown that mobile applications can significantly impact smallholder farmers and micro-entrepreneurs in rural areas by providing access to information, market linkages, financial inclusion, and improved resource management. These applications have also addressed barriers such as ICT literacy and cultural challenges among local artisans, providing real-time access to relevant information. Leveraging these insights, the research emphasizes the potential of mobile applications to provide a platform for rural artisans to effectively sell their goods and crafts. It also highlights the importance of developing user-friendly interfaces and application architectures tailored to accommodate individuals with varying levels of technological literacy and familiarity with mobile applications. This sets the stage for discussing the proposed solution and software system design outlined in the problem statement.

Related works

The Related Works section of the research paper focuses on the transformative role of technology in empowering rural artisans, particularly in the context of mobile applications and e-commerce platforms. Previous studies have highlighted the impact of technology in providing market linkages, financial inclusion, and information access for rural artisans. Additionally, research has demonstrated the potential of technology in addressing barriers such as ICT literacy and cultural challenges among rural artisans, ultimately improving the standard of living and economic well-being of individuals in isolated areas. These insights emphasize the significance of leveraging mobile applications and e-commerce platforms to enhance the livelihoods of rural artisans.

Software system design

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Software System Design for Rural Livelihood Improvement Using Mobile Applications

Introduction

The transformative role of mobile applications in empowering rural artisans is a key focus for rural livelihood improvement. This research explores the challenges faced by individuals in rural areas with valuable crafting skills in effectively marketing and selling their products. Specifically, the study aims to shed light on the hurdles encountered by rural entrepreneurs who lack skills or familiarity with modern e-commerce applications. Additionally, the research seeks to propose solutions to facilitate the marketing and selling of craft products in rural areas through the development of a software system tailored to the needs of rural artisans.

User Interface Design

The software system should prioritize creating a user-friendly and intuitive experience through the use of visual elements such as icons and recognizable symbols. This is essential to enhance user interaction and accommodate individuals with varying levels of technological literacy and familiarity with mobile applications. The user interface design should be tailored to facilitate ease of use and ensure effective engagement with the mobile application.

Scalability and Robustness

The architecture of the mobile application should be scalable, efficient, and suitable for cross-platform development. The software system should be designed with modern app architecture principles and utilize technologies that allow for robustness, scalability, ease of testing, and maintainability. It should also be able to handle various operations efficiently and provide a seamless user experience.

Cross-Platform Development

The software system should be designed for cross-platform development to ensure reach and accessibility across different devices and platforms. Employing technologies such as Flutter and Dart can ensure the development of a visually appealing application with a user-friendly interface tailored for ease of use by individuals in rural areas.

Database Management

The software system should employ a structured database such as MySQL to facilitate data integrity and cost-effective visualizations through table-based representations. This will ensure that the system effectively manages and stores data related to product listings, user registrations, and transactions while maintaining scalability and efficiency.

Conclusion

In conclusion, the software system designed for rural livelihood improvement using mobile applications should prioritize user-friendly interfaces, scalability, robustness, cross-platform development, and efficient database management. By focusing on these aspects, the software system can effectively empower rural artisans and entrepreneurs to market and sell their products, contributing to the improvement of economic opportunities and the standard of living in rural communities.

System architecture

The focus of this research is on addressing the challenges faced by rural artisans in effectively marketing and selling their products. The study emphasizes the transformative role of mobile applications in empowering rural artisans and the potential of Self-Help Groups (SHGs) to provide economic empowerment in rural areas. The research also highlights the importance of designing a suitable UI and screen flow for the VCOM mobile application to support users with varying levels of technological literacy. The software technologies used in the VCOM mobile application include Flutter, Dart, Node.js, and MySQL, which enable the development of a visually appealing cross-platform application with a user-friendly interface. The VCOM platform has been developed to enable individuals to sell their products online without intermediary charges, providing insights into the product's origin and fostering community engagement. The system architecture of the VCOM mobile application is designed to be scalable, efficient, and suitable for cross-platform development, ensuring a user-friendly interface tailored for ease of use by individuals with varying levels of education.

Software implementation

The software implementation for rural livelihood improvement through VCOM aims to create a suitable user interface (UI) and screen flow design for user registration, roles, and linear application workflows. It focuses on enhancing user interaction by incorporating visual elements such as icons and ensuring a user-friendly and intuitive experience. Additionally, the software architecture and technologies commonly used for mobile application development are considered, with an emphasis on scalability, efficiency, and the ability to develop a visually appealing cross-platform application tailored for individuals with varying levels of education.

Software technologies

The research explores the challenges faced by individuals in rural areas with valuable crafting skills in effectively marketing and selling their products. Specifically, the study focuses on the hurdles encountered by rural entrepreneurs who lack skills or familiarity with modern e-commerce applications. It aims to shed light on the unique challenges of the rural market, including limitations of local retail shops, lack of economic opportunities, and the growing consumer market in rural communities. Additionally, the research seeks to propose solutions to facilitate the marketing and selling of craft products in rural areas. The transformative role of mobile applications in empowering rural artisans is a key focus of this research. Leveraging insights from previous studies, the research emphasizes the potential of mobile applications to provide a platform for rural artisans to effectively sell their goods and crafts. Additionally, the research highlights the importance of developing user-friendly interfaces and application architectures tailored to accommodate individuals with varying levels of technological literacy and familiarity with mobile applications. The research also discusses the critical influence of mobile app architecture on app success, scalability, maintainability, and user experience. The content concludes by highlighting the need to stay updated with advancements in technology and user expectations. The mobile application VCOM has been developed to address the challenge faced by individuals in rural areas who possess crafting skills but lack platforms to effectively sell their goods, especially those unfamiliar with complex mobile applications. Representatives from Self-Help Groups have visited numerous villages, imparting crafting skills to residents and subsequently developed the VCOM platform. This platform enables

individuals to sell their products online without intermediary charges, providing insights into the product's origin and fostering community engagement.

Conclusion

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