Conception to Reality: The Design Process of Garuda Gears Social Commerce Mobile Application

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Abstract. *Garuda Gears is a start-up company that specializes in selling high-quality computer peripherals. In response to the growing trend of social commerce, this study documents the design process of Garuda Gears, a social commerce mobile app, from conception to reality. The development of the app followed the Model Development Life Cycle (MDLC) framework. The app's user interface was designed to establish a strong brand presence and enhance user experience. The study's findings highlight the importance of user-centered design and iterative development in creating a successful User interface for mobile Application. Overall, this study provides insights into the design process of a social commerce mobile app and offers valuable recommendations for future app development.*

Concepts: **Multimedia Design**

General Terms: User Interface, User Experience

Keywords: Social Commerce, Community-Building, Interactive

1 INTRODUCTION

The advancement of mobile technology has revolutionized the way people shop and interact with each other. The adoption of technology enables businesses to accurately meet customer needs and expectations (Alghamdi,2021). Social commerce has emerged as a new way for individuals to connect, engage in discussions, and purchase products from each other within a single platform. Garuda Gears, as a social commerce mobile app, offers a unique experience for gamers by combining the features of a community app with the convenience of e-commerce. It provides a platform for gamers, enthusiast, students, or basically anyone to connect, share their experiences, and purchase the latest gaming gear all from the convenience of their mobile devices. This study aims to investigate the potential of Garuda Gears as a social commerce mobile app and explore how it can enhance the user experience through its combination of community-building and e-commerce capabilities.

Building trust in an online shopping environment can be difficult. Social commerce apps leverage the power of social proof and recommendations from people who have experienced the product and trusted influencers to increase consumer trust and confidence in their purchases. The researchers come up to design a mobile that gamers, students, or enthusiasts can utilize to interact with other Garuda Gear products users or purchase one for themselves.

1.1 Statement of the Problem

The Garuda Gears Mobile App helped provide customers with high-quality User Experience that makes the products easy to be purchased and enhance the customer's digital experience and to deliver products that are affordable and easy to access for everyone. Therefore, the aim of this research is to tackle the following:

1. How does a mobile app can reach more potential consumers and make it more convenient for them to shop through the mobile app?

2. How does lack of convenience lead to low profitability and difficulty attracting and retaining customers?

3. In what way consistency in User Interface elements can help establish a strong brand presence in the crowded Accessories market?

1.2 Objectives of the Study

This project's objective was to develop a design for a system to deliver user-friendly mobile application to improve the customers' digital experience. The researchers aimed to design a Mobile App that can:

1. To analyze the current user interface design trends in the mobile app industry and apply them to the Garuda Gear social commerce mobile app.

2. Produce customer-centered design, good user experience and functionality of the mobile application.

3. To create a cohesive and consistent design language for the Garuda Gear social commerce mobile app to strengthen brand presence and recognition.

4. Increase the community engagement with the users.

5. Provide a seamless shopping experience for customers, with a focus on customer satisfaction and convenience.

1.3 Significance of the Study

This study intends to increase interaction between gamers, enthusiasts, students, or basically anyone using a Garuda Gear accessory to collaborate with each other and give them an outlet where they can talk about accessories tech that makes it for new users to be learn more about what Garuda Gears has to offer. The result of this study provides valuable insights into the design and functionality of the app, and its impact on user engagement and satisfaction. This study is deemed significant to the following:

Improving Customer Experience: The study aims to improve the user experience by designing a social commerce mobile app that integrates community-driven features and provides personalized recommendations.

Merchant: This study addresses the gap in traditional e-commerce platforms by providing a community-driven shopping experience that helps build trust and facilitates product discovery.

Advancement in Technology: This study contributes to the field of technology by providing a practical solution that uses cutting-edge design and development techniques to create a user-centered mobile app.

Innovative Solution: The design process of Garuda Gears social commerce mobile app presents an innovative solution to the limitations of traditional e-commerce platforms and enhances the overall shopping experience for consumers.

Relevance to Industry: The study has practical significance for e-commerce businesses and mobile app developers as it presents a model for designing a successful social commerce app.

Future Researchers: The research serves as a reference for future researchers who pursues the same kind of study and basis for future innovations of the study.

1.4 Scope and Limitations

The study focused on the design process of the app, from conception to the final product. The study provides insights into the various stages of design such as conceptualization, prototyping, testing, and development. The focus of the study is to be on the social commerce aspect of the app, examining the features and functions that contribute to the app's social commerce capabilities. The study also explore the impact of the app on the user experience, with the aim of enhancing the user experience through the design process.

The limitations of the study include the scope of the research being limited to the design process of the app. The study does not cover the implementation, marketing, and commercialization of the app. Additionally, the study only considers the user experience from a design perspective, and does not examine the technical and operational aspects of the app. The results of the study may also be limited by the sample size and the methods used to collect data, as well as the subjectivity of the participants' perspectives on the design process and user experience.

1.5 Definition of Terms

Social Commerce. Is a subset of electronic commerce that involves social media and online media that supports social interaction, and user contributions to assist online buying and selling of products and services.

Community-Building. Is a field of practices directed toward the creation or enhancement of community among individuals within a regional area or with a common need or interest. It is often encompassed under the fields of community organizing, community organization, community work, and community development.

E-Commerce. Is the activity of electronically buying or selling of products on online services or over the Internet.

Multimedia. Is a form of communication that uses a combination of different content forms such as text, audio, images, animations, or video into a single interactive presentation, in contrast to traditional mass media, such as printed material or audio recordings, which features little to no interaction between users.

User Interface. In the industrial design field of human–computer interaction, a user interface is the space where interactions between humans and machines occur.

2 REVIEW OF RELATED LITERATURE AND STUDIES

The review of related literature and studies is a crucial part of any research as it provides a foundation for the development of ideas, insights, and theories. This section aim is to present a comprehensive and critical analysis of relevant studies and literature that are related to the research topic. By examining the existing literature and studies, this section helps to identify gaps in knowledge, determine the strengths and weaknesses of previous research, and provide a framework for the development of new insights and theories.

Nidhyananthan, Selva (2022) stated in their research, the shortcomings of popular e-commerce platforms are discussed by taking Amazon as an example.[1] The UI that was designed by the researchers aims to be better than Amazon.

In 2022, Islam, Ankan Shahriar and their group conducted a study in Reviewing on E-Commerce System in Bangladesh [2]. An interesting case study is how these company's innovative business practices, services portfolio, and marketing strategies have captured an emerging market like Bangladesh.

E-commerce is one of the key areas of Web services, and as web service technology is developing quickly and new marketing ideas (like O2O) are becoming more common, many businesses are starting to spend money and human resources in this sector. A few conventional sectors are also looking to alter themselves through e-commerce (Ghillani et al., 2022). [3]

Yanfi, Yanfi & Nusantara, Pualam. (2023) stated in their research, until now, there is neither research nor application, both mobile and website specifically designed to facilitate courses in the community, a non-profit organization.[4]

Instrument/Evaluation Tool

ISO 14195:2003 is a standard that provides guidelines for evaluating the usability of multimedia products, such as software applications, websites, and other digital products. The standard provides a framework for conducting a systematic and comprehensive evaluation of the usability of multimedia products, with a focus on ensuring that the products are accessible, user-friendly, and effective for their intended users.

As an evaluation tool, ISO 14195:2003 can be used by designers, developers, and evaluators to assess the usability of multimedia products. The standard provides a set of criteria and guidelines that can be used to measure the usability of a product, including factors such as accessibility, multimedia content, interactivity, content organization, technical functionality, and design aesthetics. The results of the evaluation can be used to identify areas for improvement and to inform design and development decisions to enhance the overall user experience.

The questionnaire can be answered by a Likert scale to indicate their level of agreement or disagreement using a numerical rating. 1 (Strongly Disagree) to 5 (Strongly Agree) which was be used to acquire the goals of the evaluation.

3   METHODOLOGY

This chapter goes into the approach utilized in developing the UI, as well as the methodologies used to collect data, the instruments used, and the analysis.

3.1   Research Instruments

The researchers prepared an assessment form that follows the guidelines of ISO 14195:2003 which is the standard for evaluating multimedia products. Following the presentation of the UI Design, each respondent was be given a form and asked to rate the system. The instrument includes various categories/characteristics that the UI Design must have. This are the criterion and foundation for its relevance. Following that, the evaluation forms gathered, and the results are summarized by the researchers.

3.2   Multimedia Development Methodology

The method used by the researchers in designing the User interface for the Garuda Gears Mobile Application is the Multimedia Development Life Cycle (MDLC). These methodologies lend themselves to a development process based on collaborative analysis and design, iterative and rapid prototyping, small development teams comprised of specialists with advanced tool sets, and project management based on prioritization. The methodology outlined in this document follows this process and focuses on six phases of multimedia development:

- Initialization
- Blueprint Design
- Assets Preparation
- Product Development
- Testing and Validation

Figure 1: Multimedia Development Life cycle model

Initialization. In this stage the researchers have gathered the needed data. Initialization. The researchers considered the main aim and the design of the UI/UX. The researchers also considered potential characteristics that would be appealing to end users. One of the features created during this phase is a community wall like those seen on reddit or twitter, where end users may share their Garuda Gear experience and react on other users' posts, giving the program

a meaning. During the beginning of the application's UI/UX, several more features were brainstormed.

Blueprint Design. At this point, researchers assign duties to one another, with one being assigned with creating the supposed flowchart that served as the design's blueprint.

Assets Preparation. During asset preparation, the researchers gathered assets from Garuda Gear's existing website. During this phase, product images and descriptions were collected. Other mobile

application designs were also collected for inspiration, and the researchers were then able to go on to the following step.

Product Development. In this stage the researchers created the conception of the blueprint into a prototype this includes creating the UI of the mobile app and connect the wireframes with the guide of the flowchart. The purpose of the flowchart is to guide the design since it served as a pattern of progress for the design.

Testing and Validation. In the testing stage the prototype would be thoroughly tested to ensure that it provides the satisfaction the user experience needs and in validation the researchers identify or resolve any issues or bugs before releasing it in beta testing.

4. PRESENTATION, DISCUSSION AND

INTERPRETATION OF DATA

This chapter discusses the project potentials and boundaries and the result from the project evaluation by various evaluators who verified and assessed the system.

4.1 Project Capabilities and Limitations

The following are the capabilities of the project:
1. The Design Process includes a community featured capability.

2. E-Commerce is available in the Design Process of the mobile application.

3. It provides ease of use and responsiveness so that all users may use it without requiring instructions.

4. The multimedia design can portray the overall content of a system prior to the development

The following are the limitations of the project:

1. Limited to the Design process of the application.

2. The Design process does not include Implementation, Marketing, and commercialization.

3. The results of the study may also be limited by the sample size and the methods used to collect data, as well as the subjectivity of the participants' perspectives on the design process and user experience.

4.2 Project Evaluation Result

The system's performance was assessed in terms of the Usability, User-Centered Design, Visual Design, Content, and Interactivity of the UI design.

The researcher conducted the evaluation to National University Baliuag Professors, and representatives from the target client.

INDICATORS	Mean	Descriptive Rating
A. Usability		
1. Was the app easy to navigate and understand?	4.61	Excellent
2. Were the product categories clearly defined and accessible?	4.54	Excellent
3. Was the checkout process clear and straightforward?	4.63	Excellent
B. User-Centered Design		
1. Was the app visually appealing and easy on the eyes?	3.92	Very Good
2. Was the layout and organization of the app intuitive?	4.62	Excellent
3. Were the user needs and goals considered in the design of the app?	4.64	Excellent
C. Visual Design		
1. Was the overall design of the app appealing and professional?	4.73	Excellent
2. Were the images and graphics of high quality and relevant to the products?	4.52	Excellent
3. Was the color scheme	4.52	Excellent

appropriate and appealing to the target audience?		
D. Interactivity		
1. Were there opportunities for the user to interact with the app?	4.73	Excellent
2. Were the interactive features (such as product reviews, user ratings, etc.) functional and effective?	4.73	Excellent
3. Did the interactive features enhance the overall user experience?	4.64	Excellent
E. Content		
1. Was the information on the app accurate and up to date?	4.52	Excellent
2. Was the content presented in a clear and concise manner?	4.73	Excellent
Overall	4.57	Excellent

Table 1. The Evaluation result of the proposed UI Design

Table 1 presents the results of the respondents' assessment based on the performance of the system. The overall performance of the system gained a mean of 4.57 which is equivalent to Excellent in terms of rating.

5 SUMMARY OF FINDINGS CONCLUSION AND RECOMMENDATION

5.1 Summary of Findings

After conducting thorough research and analysis on the design process of Garuda Gears social commerce mobile app, several significant findings have emerged. These findings shed light on various aspects of the app's development, including its user interface, functionality, and overall effectiveness in meeting the needs of its target audience. By summarizing these key findings, the researchers can gain a deeper understanding of the strengths and weaknesses of the Garuda Gears app, as well as identify potential areas for future improvement.

5.2 Conclusions

In consideration to the objectives of the study and the results of testing and evaluation carried out, the following conclusions were delivered. The development of Garuda Gear Social Commerce Mobile Application was designed such that:

1.The Garuda Gear mobile app has the potential to greatly enhance the user experience of both the community social media and e-commerce, providing a seamless and intuitive platform for users to interact with the brand and make purchases.

2.The researchers identified different areas for improvement in the User Interface Design and recommendations for changes.

3.The potential benefits of a well-designed User Interface increases the user engagement, retention, and revenue.

4.Implementing consistent Branding elements such as color schemes, typography, and imagery throughout the is the key for Garuda Gear to establish a strong brand presence through the User Interface Mobile Application. The User interface must be aligned to the overall identity and messaging of Garuda Gear to reinforce their brand's presence.

5.3 Recommendations

Based on the findings of this study, there are several key recommendations that can help enhance the overall user experience and strengthen Garuda Gear's brand presence through their social commerce mobile app. These recommendations aim to build on the strengths of the current design and address the areas for improvement identified in the study. By implementing these recommendations, Garuda Gear can further differentiate themselves in the competitive landscape of social commerce apps and provide a seamless and engaging shopping experience for their users.

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