

USER INTERFACE DESIGN FOR ANDROID APPLICATION QUICK REPORTING OF ROBBERY AND BRAWL PROBLEMS IN MEDAN CITY

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Abstract: The issue of street robberies and brawls in Medan City requires swift and responsive handling to ensure the safety of the community. In an ever-evolving digital era, the use of mobile applications can be an effective solution to facilitate rapid reporting of security issues. This research aims to design a responsive user interface for the MedanAlert Android application for quick reporting of street robbery and brawl problems in the city of Medan. The research method employed is a development research method with a design approach. Analyzing user needs is the initial step in this research, where insights into the issues of street robberies and brawls in Medan City are gathered through surveys and interviews. Based on the analysis of user needs, a responsive user interface is designed, featuring important functionalities such as location reporting, issue description, and emergency contacts. The results of this research are expected to contribute to enhancing awareness, responsiveness, and community participation in reporting street robbery and brawl problems in Medan City. Furthermore, this research is also expected to provide a foundation for application developers to design and develop similar applications that meet user needs and technological advancements.

INTRODUCTION

Crimes such as street robberies and brawls have become a serious issue in Medan City, requiring an effective solution for reporting and handling to improve responsiveness and security in the city.

In response to this need, the "MedanAlert" research aims to develop a responsive User Interface (UI/UX) design for the Android application. With an optimal interface design, "MedanAlert" provides simple yet effective features that allow users to report incidents easily, including essential information such as location, brief descriptions, and photos. By optimizing the UI/UX, this application ensures that users can utilize these features quickly and without obstacles.

The hope is that the user interface design of the "MedanAlert" application can

be developed into a real-world application, enabling the people of Medan to contribute by providing accurate and real-time reports. This allows authorities to respond swiftly and accurately to such incidents. Additionally, the responsive and intuitive user interface design is expected to encourage active participation from the community in combating crime and enhancing the security level in Medan City.

Therefore, the research on the user interface design of the "MedanAlert" application aims to provide an effective solution in addressing street robbery and brawl issues in Medan City. Through good design, this application offers an optimal user experience, simplifies reporting, and enhances the community's responsibility for security in Medan City.

a. Problem Statement

The problem statement of this research is as follows:

- 1) How to analyze user needs related to the quick reporting of street robbery and brawl issues in Medan City?
- 2) What are the key elements that should be present in the user interface of the MedanAlert application to ensure its responsiveness?
- 3) How to integrate important features such as location reporting, issue description, and emergency contacts in a responsive user interface?
- 4) How to optimize the user experience in using the MedanAlert application to make it easy for users to report street robbery and brawl issues in Medan City?
- 5) How to evaluate and measure the effectiveness of the responsive user interface design in enhancing the quick reporting of street robbery and brawl issues in Medan City?"

b. Research Objectives

The objectives of this research are as follows:

- 1) To analyze user needs related to the quick reporting of street robbery and brawl issues in Medan City.
- 2) To design a responsive user interface in the MedanAlert Android application.
- 3) To integrate important features such as location reporting, issue description, and emergency contacts in a responsive user interface.

- 4) To enhance the user experience in using the MedanAlert application to make it easy for users to report street robbery and brawl issues in Medan City.
- 5) To evaluate and measure the effectiveness of the responsive user interface design in enhancing the quick reporting of street robbery and brawl issues in Medan City.
- 6) To provide an effective solution to facilitate the quick reporting of street robbery and brawl issues in Medan City through the MedanAlert application.
- 7) To offer recommendations to application developers for further improvement and development based on the research evaluation results.

c. Research Benefits

The benefits of this research are as follows:

- 1) This research will provide a deeper understanding of user needs related to the quick reporting of street robbery and brawl issues in Medan City. It will assist application developers in designing solutions that better align with user needs, thereby increasing the level of participation and reporting effectiveness.
- 2) By designing a responsive user interface in the MedanAlert application, this research will help improve the accessibility and ease of use of the application. Users will be able to report street robbery and brawl issues quickly and efficiently, enhancing the effectiveness of law enforcement and authorities' responses.
- 3) This research will aid in identifying and integrating essential features such as location reporting, issue descriptions, and emergency contacts into a responsive user interface. This will make it easier for users to provide relevant information and expedite authorities' responses.
- 4) With a focus on effective user interface design, this research aims to enhance the user experience in using the MedanAlert application. Users will feel more comfortable, find it easier to use, and be more assisted in reporting street robbery and brawl issues, thereby encouraging more active participation.

- 5) This research will conduct an evaluation of the responsive user interface design to measure its effectiveness in improving the quick reporting of street robbery and brawl issues in Medan City. The evaluation results will provide insights and recommendations to application developers for further improvements and developments to enhance the quality and functionality of the application.

d. Research Requirements

1) Hardware Requirements for Research:

A computer or laptop with adequate specifications is required for the development and design of the user interface of the application. This computer or laptop is also used for data analysis, evaluation, and solution design.

2) Software Requirements for Research:

Graphic design software such as Adobe XD, Sketch, or Figma is needed for designing a responsive and intuitive user interface. These tools enable the creation of wireframes, visual designs, and interactive prototypes.

RESEARCH METHODS

The research method employed is the development research method with a design approach. This method allows for the design and development of a responsive user interface in the MedanAlert application for the quick reporting of street robbery and brawl issues in Medan City. Below are the steps in the development research method with a design approach:

- a. Analyzing user needs related to the quick reporting of street robbery and brawl issues in Medan City.
- b. Conducting surveys, interviews, or other data collection methods to understand the needs, preferences, and challenges faced by users when reporting these issues.
- c. Designing a user interface based on the results of the needs analysis.
- d. Implementing the design results into a user interface design using Figma.
- e. Evaluating the design of the MedanAlert application.
- f. Improving the design based on the evaluation results to produce a design that aligns with user needs.

RESULTS AND DISCUSSION

a. Results

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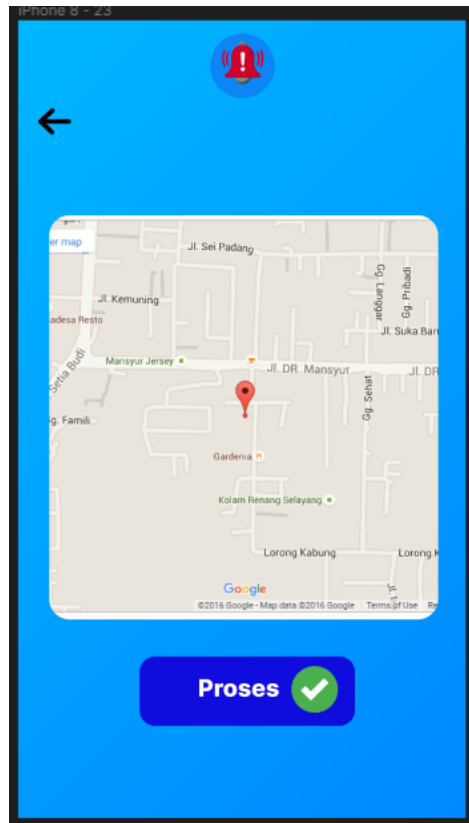
Gambar 1. Main Menu Interface



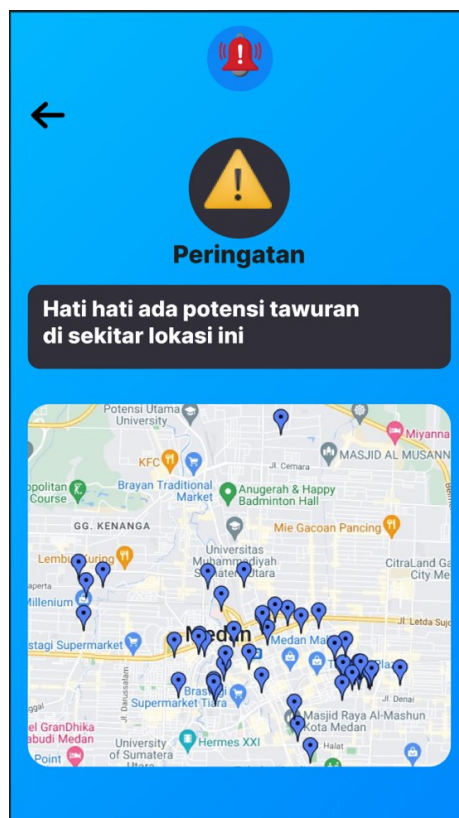
Gambar 2. Menu Incident Reporting Interface



Gambar 3. Incident Reporting Interface



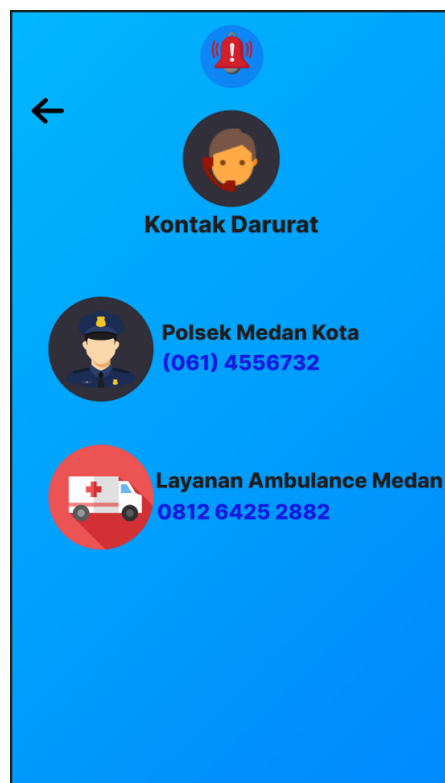
Gambar 4. Incident Reporting Results Interface



Gambar 5. Validated Incident Reports Interface



Gambar 6. Safe Location Interface for Shelter from Robbery and Brawls



Gambar 7. Contact Emergency Interface

b. Discussion

This research aims to develop a responsive user interface in the MedanAlert Android application, with a focus on quick reporting of street robbery and brawl issues in Medan City. The discussion of the research results covers several important aspects.

First and foremost, user needs analysis serves as a crucial initial step in this research. By understanding the needs and challenges faced by users, this research was able to design a user interface that better aligns with their requirements. Through surveys and interviews, the data obtained helped in understanding user preferences, expected features, and potential obstacles they might encounter when reporting street robbery and brawl issues. The results of this analysis form a vital foundation for designing relevant solutions.

Furthermore, the focus of this research has been on designing a responsive user interface. A good user interface should be highly responsive to user actions, easy to navigate, and intuitive. Through the use of graphic design tools, this research successfully produced wireframes and visual designs that demonstrate a user interface aligned with user needs. The importance of good design is to ensure the ease of using the application and enhance user participation in reporting street robbery and brawl issues in Medan City.

Overall, this research has successfully designed and developed a responsive user interface in the MedanAlert application, with a specific focus on quick reporting of street robbery and brawl issues in Medan City. The results of this research can contribute to increasing awareness, responsiveness, and community participation in reporting security issues in Medan City. Additionally, this research provides a foundation for application developers to design and develop similar applications in accordance with user needs and technological advancements.

CONCLUSION

a. Conclusion

This research has successfully designed a responsive user interface in the MedanAlert Android application, with the aim of facilitating the quick reporting of street robbery and brawl issues in Medan City. Through user needs analysis, a user interface design that aligns with user requirements and preferences has been developed. The use of graphic design tools has enabled the creation of wireframes,

visual designs, and interactive prototypes that clearly depict the user interface. The results of this research provide a strong foundation for application developers to continually improve and expand similar applications according to user needs and expectations.

b. Recommendations

Here are some recommendations that can be considered based on the results of this research:

- 1) In addition to the quick reporting feature for street robbery and brawls, it may be worthwhile to consider developing additional features that can enhance community safety, such as real-time security notifications, information on high-risk areas, or personal safety features like emergency calls or alarm triggers.
- 2) Integrating the MedanAlert application with the police or other relevant authorities can expedite responses and security issue handling. This way, users can feel safer and receive more effective assistance.
- 3) Conduct active marketing and promotional campaigns to raise public awareness about the existence and benefits of the MedanAlert application. These campaigns can involve social media, banners, or public events to expand the application's reach and encourage active user participation.
- 4) Continuously improve and enhance the user interface of the MedanAlert application based on user feedback. Conduct regular user testing to identify areas for improvement and ensure that the user interface remains responsive, intuitive, and user-friendly.
- 5) Collaborate with relevant parties such as research institutions, local governments, or security agencies to gain broader support and input in the development and enhancement of the MedanAlert application.
- 6) Use this research as a stepping stone to expand the coverage of MedanAlert to other regions facing similar security issues. With appropriate adjustments, the application can be used to strengthen security and provide quick reporting solutions in various locations.

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