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DARI SINI PENCERAHAN BERSEMI

House Sales Promotion Application Using Android-Based Augmented Reality Technology

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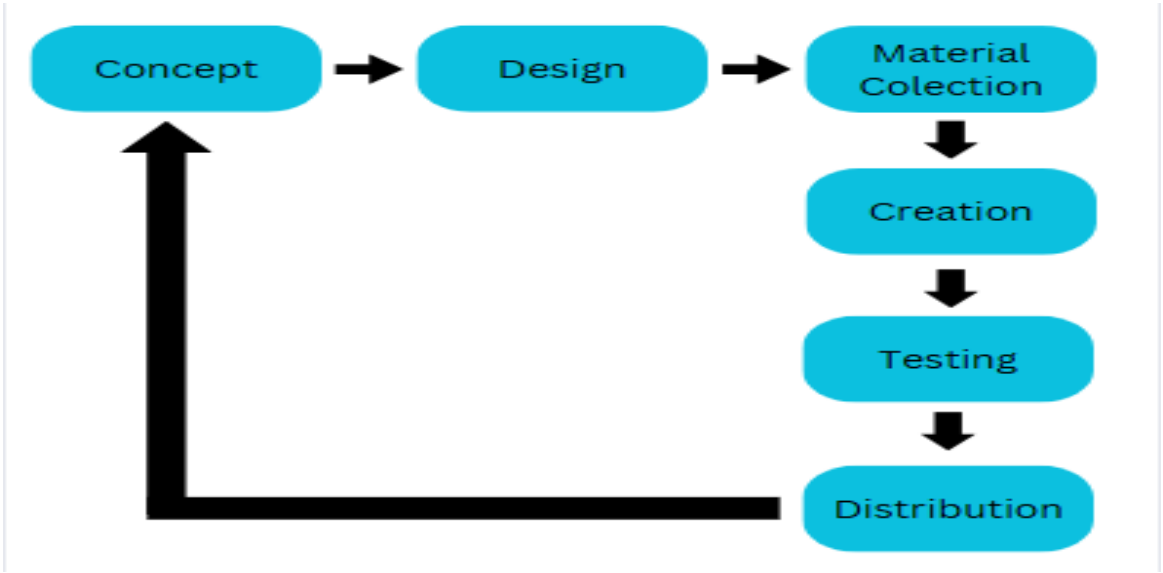
INTRODUCTION

The rapid development of technology has encouraged companies in the property sector to innovate beyond traditional promotional methods like brochures, banners, and exhibitions, which often lack interactivity and fail to provide realistic representations of properties. These limitations hinder the ability to attract potential buyers effectively. Augmented Reality (AR) offers a solution by integrating 3D objects into real-world environments, enhancing the promotional process. AR technology, particularly on Android-based devices, enables potential buyers to visualize detailed 3D representations of both the exterior and interior of houses, creating a more interactive and immersive experience. This approach addresses challenges faced by buyers unable to visit properties in person, allowing them to explore layouts and details virtually. Research shows that AR significantly improves promotional effectiveness, engagement, and decision-making for prospective buyers. To address the gap in utilizing AR for housing promotions, this study develops an Android-based AR application using Blender, EasyAR, and Unity. The application features interactive 3D visualizations with zoom-in and zoom-out functionalities, offering an innovative solution to enhance property marketing by providing detailed and realistic virtual tours.

Research Questions (Problem Formulation)

Berdasarkan penelitihan yang disampaikan oleh penulis terdapat permasalahan yaitu Bagaimana merancang dan membangun Aplikasi berbasis *Augmented Reality Interior dan Exterior* tentang penjualan atau promosi perumahan.

METHOD



In this research, the House Sales Promotion Application was developed using the Multimedia Development Life Cycle (MDLC) method. MDLC is a multimedia application framework that includes visuals, such as images, and Augmented Reality as one of its components.

Result

Planning

This house sales promotion using Android-based technology is designed to view 3D interior and exterior house designs. The system will be developed using Unity, EasyAR, and Blender applications.

Result

Design

Menu Page

About Menu Page

Result

Design

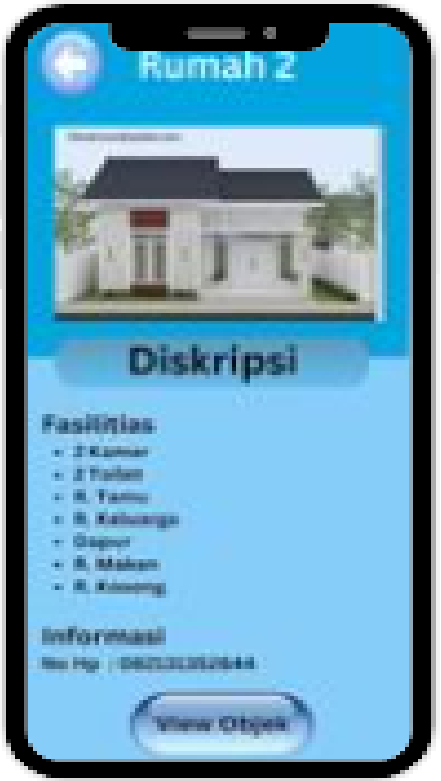
Guideline Page

Object Menu Page

Result

Design

Description Page



Exterior View Page

Result

Design

Interior View Page

Result

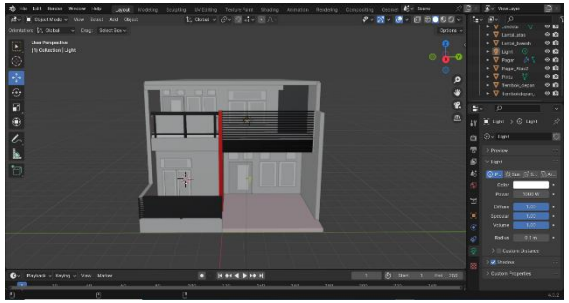
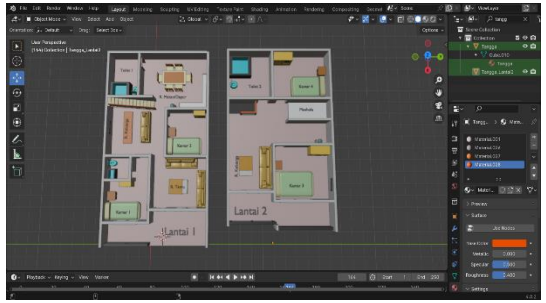
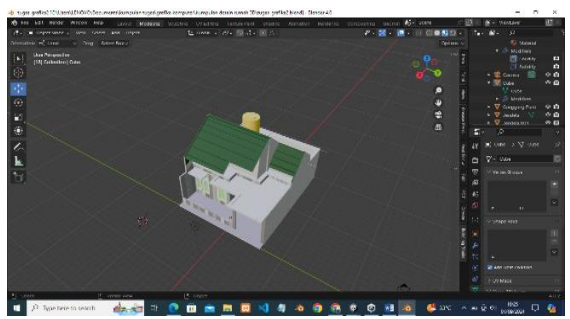
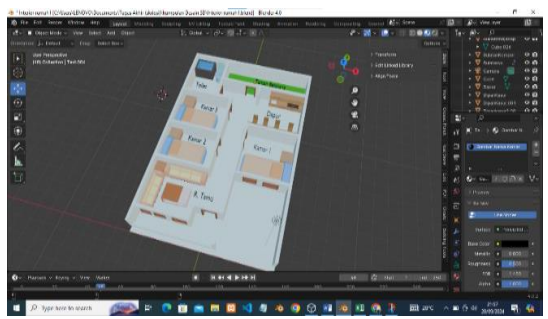
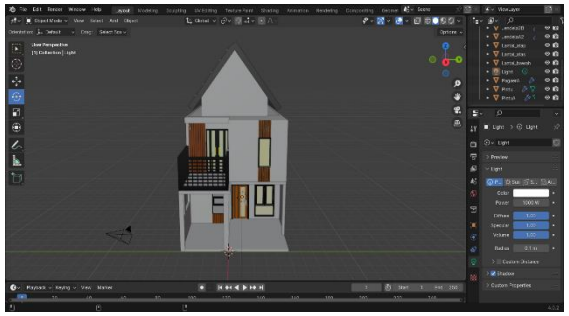
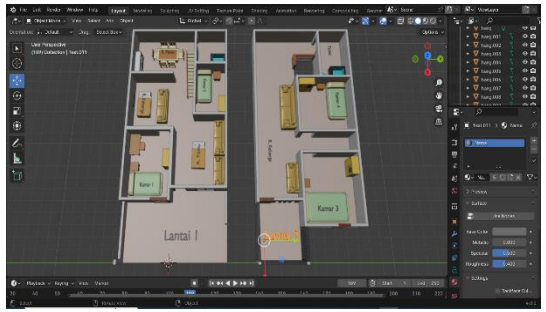
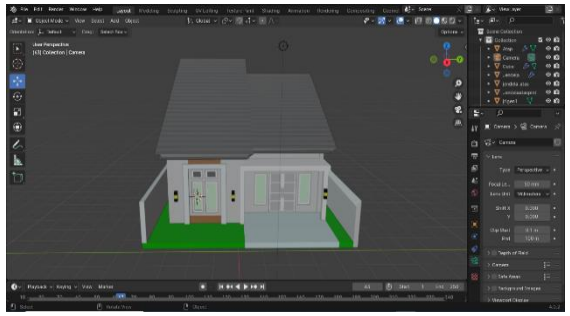
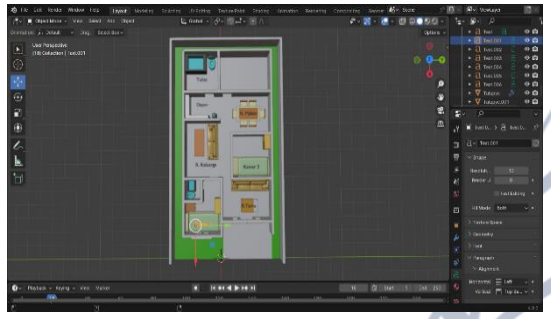
Data Collection.

The next stage is data collection, which involves gathering the data or documents that will be used for the research. The steps for collecting data and documents include analyzing the user and system requirements.

Result

Development.

In the next stage, which is the development stage, all the collected data and materials will be refined and modified.

Result

Development.

The results of the implementation in the development flow stage include the use of the application. Displaying 3D models of the house's exterior and interior being promoted serves as the basic concept of this application.

Result

Testing

No	Langka Pengujian	Testing Steps	Actual Results	Status
1	Start Button	Click the Start button on the main page.	The button works smoothly.	Passed
2	Tutorial Button	Click the Tutorial button on the main page.	The button works smoothly.	Passed
3	Guide Button	Click the Guide button on the main page.	The button works smoothly.	Passed
4	Exit Button	Click the Exit button on the main page.	The button works smoothly.	Passed
5	Back Button	Click the back button on the main page.	The button works smoothly.	Passed
6	Open Button	Click the open button	The button works smoothly.	Passed
7	View Object Button	Click the view Object button	The button works smoothly.	Passed
8	View Exterior Button	Click the view Exterior button	The button works smoothly.	Passed
9	View Interior Button	Click the view Interior button	The button works smoothly.	Passed
10	Start Camera Button	Click the Start Camera button	The button works smoothly.	Passed
11	Stop Camera Button	Click the Stop Camera button	The button works smoothly.	Passed
12	Exit Button	Click the Exit button	The button works smoothly.	Passed

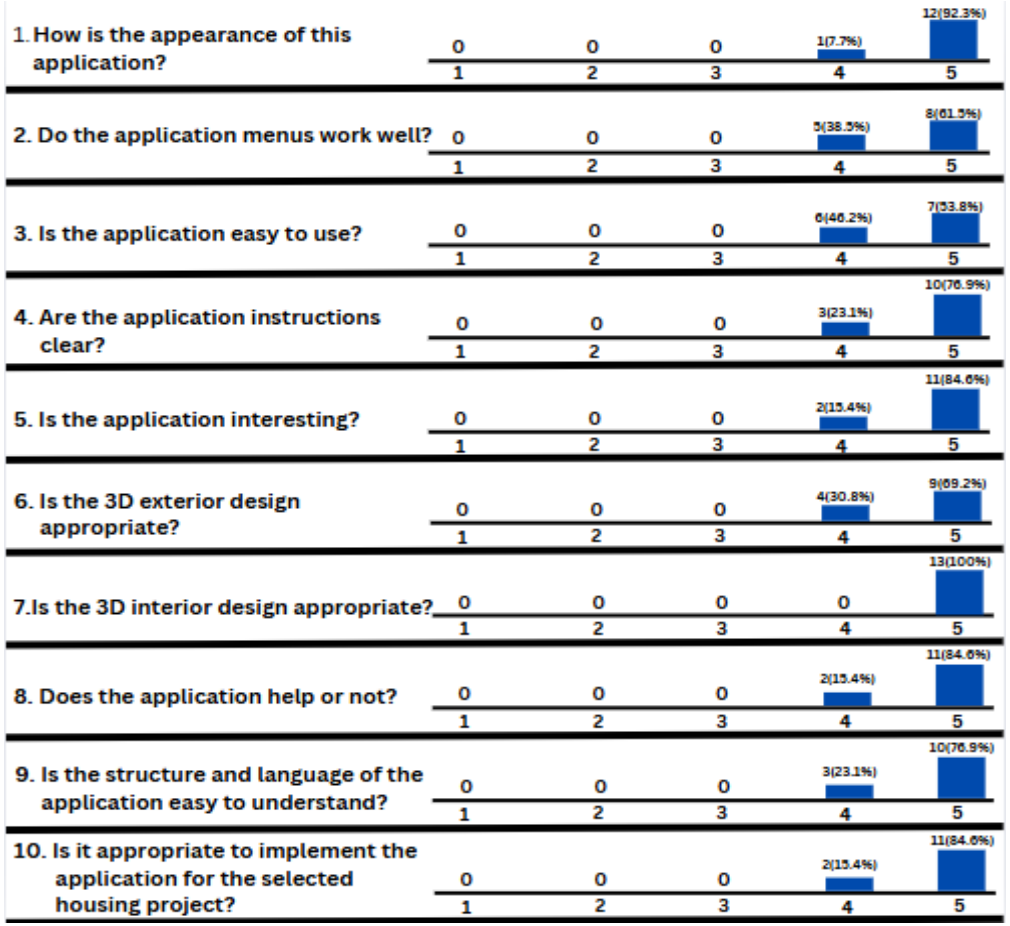
Result

Testing

No	Device	OS Version	CPU (Cores & Clock Speed)	RAM (GB)	Description
1	Device A	11	8 cores, 2.0 GHz	8	Application Running
2	Device B	8.1.0	4 cores, 1.8 GHz	2	Application Running
3	Device C	12	6 cores, 2.2 GHz	3	Application Running

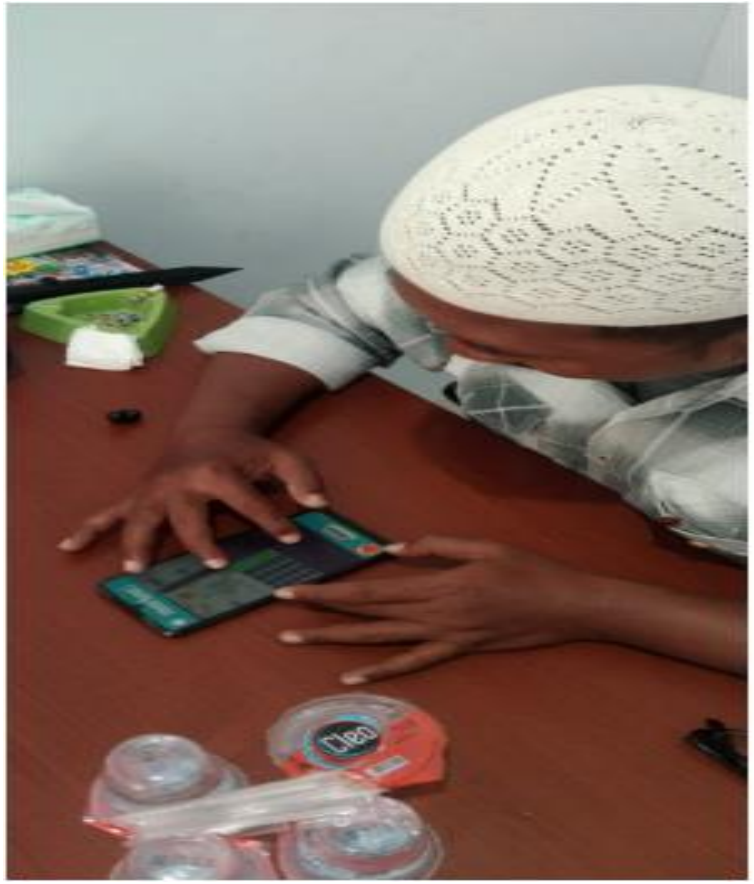
Result

User Response Questionnaire



Result

- **Distribution**f = (102 x 5) + (26 x 4)
- f = (510 + 104)
- P = (614/650 x 100%)
- The feasibility percentage is 94.5%.



Conclusion

Based on the research outlined above, this study successfully designed and developed a home sales promotion application using Augmented Reality technology, specifically tailored for marketing teams and potential homebuyers. The application received a score of 94.5% during testing conducted with prospective buyers and housing marketers. This result indicates that the application effectively facilitates potential buyers in viewing both the exterior and interior of homes and is user-friendly. Therefore, the testing demonstrates that the application is interactive, easy to understand, and suitable for use as a promotional tool in the real estate sector.

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