

The Development and Effectiveness of an Augmented Reality Website

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Abstract

The digital world has evolved in this century. Augmented reality (AR) websites offer everyone an amazing and different experience. Augmented reality is a technology that augments physical reality with digital elements, creating an immersive and engaging experience for users. This website opens the curtain on the exciting world of AR and promises to change the way we see and interact with the world around us. This study aims to Identifying limitation of Venus Paradise Website and to investigate the effectiveness of digital website to solve feedback issues between the management and the customers themselves. 120 respondents between the ages of 20 and 45 were selected to gather opinions and obtain all the necessary information. Each respondent completed the survey form provided via Google Forms. The information obtained is processed and analyzed using Microsoft Excel. The results of the survey show that a total of 120 respondents gave a good opinion of the website's services. All respondents gave the same opinion, which is the effectiveness of this digital website that can solve the booking problem of Venus Bridal Paradise. In addition, it also offers more diverse payment options than before. After collecting data from the respondents, this study also used the interview method to collect research data and information related to the need and importance of the study. The website was created using the ADDIE model. After the website was created, a study was conducted to examine the effectiveness of the website and the features of the website that needed improvement. The findings show that the responses to the website system were positive. Future researchers are encouraged to improve the Augmented website and to be able to enhance the website model to other companies.

Keywords: Website, Augmented Reality, Online Business

1.0 Introduction

This company's main activity is providing services for make-up artists. Venus Bridal Paradise is active in Penang. Venus Bridal Paradise has been conducting makeup services for married brides, ceremonies, engagements, and so on. Clients have the option to choose a makeup style according to their taste. For example, customers often opt for elegant make-up. In addition, Venus Bridal Paradise offers a rental service for bridal jewelry such as rings, bracelets, necklaces, etc. for brides to wear during the wedding. The number of internet users and online shoppers has increased significantly. This shows that there is great potential for online sales of goods and services.

This company often has problems with management feedback and payment issues from Venus Bridal Paradise customers, as well as problems with booking makeup services. The slow response from Venus Bridal Paradise's management is due to the lack of staff, so all bookings and payments will take

quite a long time.

Regarding the problems faced by Venus Bridal Paradise in terms of slow response from Venus Bridal Paradise for customer's enquiry and problems in booking makeup services by Venus Bridal Paradise customers. This has enabled the researcher to suggest innovative products that can help Venus Bridal Paradise to overcome the problems. The researcher has agreed to develop the Paradise website to solve Venus Bridal Paradise's problems.

Paradise website is a user-friendly and customer-friendly website where the customers can buy and sell more systematically. This website can solve the problem faced by Venus Bridal Paradise. With the existence of this website, all buying and selling matters of customers as well as management problems and problems in booking makeup services of Venus Bridal Paradise will be smoother and faster. The embedment of AR elements to the website will help customers to see the effect of before and after make up services. It would also help customers to choose the suitable make up services which suits them the most.

2.0 Literature Review

Based on previous studies, Muhammad Izzulhisyam Fakrul Amin (2021)¹ that show that a website must be an attraction for customers to facilitate their business. The researcher confirms the effectiveness of the website if the website is useful for the customers. Online businesses can have a positive impact on today's globalization. This shows that the researcher feels the need to create an interactive website for the company Venus Bridal Paradise.

According to Siti Izani Binti Idris, Mohammad Shahiran Bin Salim, Nor Hazlinda Binti Idris (2019), today's technological advances can improve the quality of human existence, and the impact is felt in many industries. Telecommunications, business, administration, entertainment, and education is only a small part of it. Although often condemned by society, it cannot be denied that technology is one of the things that advance the way of life. This is agreed upon by Fitri Baharuddin Arleta Malaysia (2021) where the researcher says that Augmented Reality has come a long way since its conception, and feels it has found its position in the market. According to Muhammad Izzulhisyam Fakrul Amin (2021), in the world of business and advertising today, a multimedia approach such as digital advertising is one the most effective way to promote and organize the company to be more sophisticated and profitable. With this, it turns out that traders can use Augmented Reality to advance their company.

Online shopping has gained favor among consumers due to the convenience it offers, with the hectic pace of modern life being a primary motivator for choosing this method. The ability to make purchases effortlessly at one's fingertips, without enduring lengthy queues at checkout counters, is a significant attraction. Moreover, online shopping has proven to be a safer option amid the Covid-19 pandemic. (Farhan Mat Arisah, Shamsul Azahari Zainal Badari, & Ahmad Hariza Hashim, 2016)

In the realm of modern technology, Augmented Reality (AR) has emerged as a powerful tool with the potential to revolutionize various aspects of our lives, including business practices. As businesses continually seek innovative ways to engage with consumers and enhance their brand presence, AR websites have garnered attention for their ability to offer immersive and interactive experiences. This essay aims to delve into the advantages of utilizing AR websites in contemporary business strategies, supported by relevant literature and case studies. One of the primary advantages of AR websites is their capability to enhance customer engagement. Traditional websites often struggle to captivate and retain the attention of visitors. However, AR technology enables businesses to create dynamic and interactive experiences that deeply engage users. By incorporating AR features such as 3D product visualizations, virtual try-on experiences, and interactive storytelling, companies can provide customers with memorable and personalized interactions. Research by Gaurav S. Khot, Hemant A. Patil, and Suchita P. Bhambre (2020) highlights that AR-enhanced websites lead to higher levels of user engagement and satisfaction, ultimately driving conversions and fostering brand loyalty.

AR websites offer unparalleled opportunities for product visualization, allowing customers to visualize products in real-world environments before making a purchase. This feature is particularly beneficial for industries such as furniture retail, fashion, and home improvement, where customers seek assurance regarding the appearance and fit of products. For instance, IKEA's AR app enables users to virtually place furniture items within their homes to assess their size, style, and compatibility. Such functionalities not only enhance the shopping experience but also reduce the likelihood of returns, thereby improving customer satisfaction and reducing operational costs.

Incorporating AR into marketing campaigns can significantly elevate brand visibility and engagement. AR-powered advertisements, when integrated into websites, enable users to interact with branded content in innovative ways. For example, Coca-Cola's AR campaign allowed users to scan specially marked cans to unlock immersive experiences and games. This interactive approach not only captures users' attention but also fosters positive brand associations and encourages social sharing, thereby amplifying the reach of marketing efforts.

AR websites enable businesses to deliver personalized shopping experiences tailored to individual preferences and needs. Through features such as virtual fitting rooms and personalized product recommendations based on user data, companies can create highly curated and relevant shopping journeys. Research by Jiwei Zhai et al. (2020) underscores the effectiveness of personalized AR experiences in driving purchase intentions and customer satisfaction. By leveraging AR technology to cater to diverse consumer preferences, businesses can enhance conversion rates and build long-term customer relationships. In a competitive market landscape, establishing a distinct brand identity is essential for success. AR websites offer a unique

opportunity for businesses to differentiate themselves by offering innovative and memorable experiences to consumers. Brands that embrace AR technology demonstrate a commitment to innovation and customer-centricity, positioning themselves as forward-thinking industry leaders. Furthermore, AR-enabled websites create buzz and excitement among consumers, generating positive word-of-mouth and organic brand advocacy.

Augmented Reality websites represent a paradigm shift in modern business strategies, offering a plethora of advantages ranging from enhanced customer engagement to personalized shopping experiences. By harnessing the power of AR technology, businesses can create immersive and interactive digital environments that captivate audiences, drive conversions, and strengthen brand loyalty. As AR continues to evolve and integrate seamlessly into online experiences, it is poised to become an indispensable tool for businesses seeking to thrive in the digital age.

3.0 Product Development

Various models can be applied in the development of modules, products, and models. The model consists of models ADDIE, Waterfall, ASSURE, Dick and Carey, and others. The product development developed in this study uses the ADDIE model. The ADDIE model consists of five phases, namely the analysis phase, the design phase, the development phase, the implementation phase, and the evaluation phase (Branson et al 1975).

3.1 ADDIE model

The ADDIE model is a method that is easy to use and helps researchers in developing the 'Paradise' website. The ADDIE model has five phases as follows.

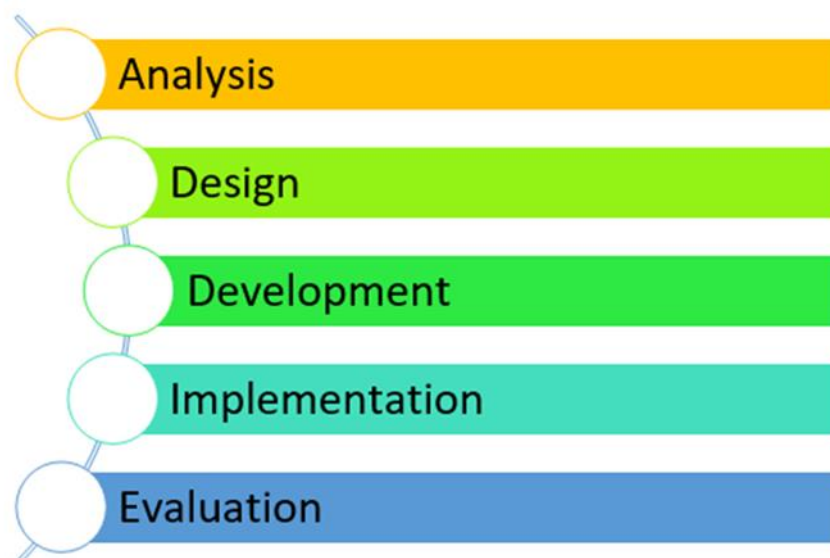


Diagram 1.1 ADDIE MODEL

3.1.1 Analysis Phase (Analysis)

The analysis phase is the beginning of the other fundamental stages. The analysis phase will be carried out to identify ways to solve problems faced in business. Through the analysis phase, the problems faced by a business can be identified by means such as interviews and questionnaires. The analysis phase can also help to achieve the objectives of the study more easily (Baharuddin, 2021). For the analysis phase, we have conducted questionnaires with Venus Bridal Paradise customers and also interviews with company managers to determine the problems the company is facing.

3.1.2 Design Phase

The design phase is a technique or procedure for doing design in business. In the design phase, all the problems faced by the company Venus Bridal Paradise can be solved according to all the research objectives set. For this phase, our group has discussed and planned to create an AR website for Venus Bridal Paradise company.

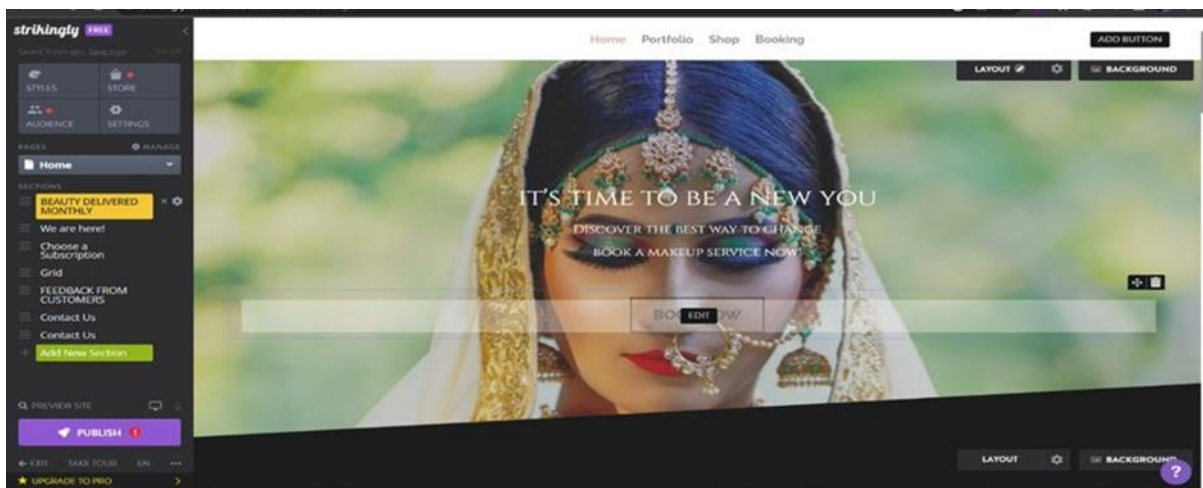


Diagram 1.2: shows the interface of the website

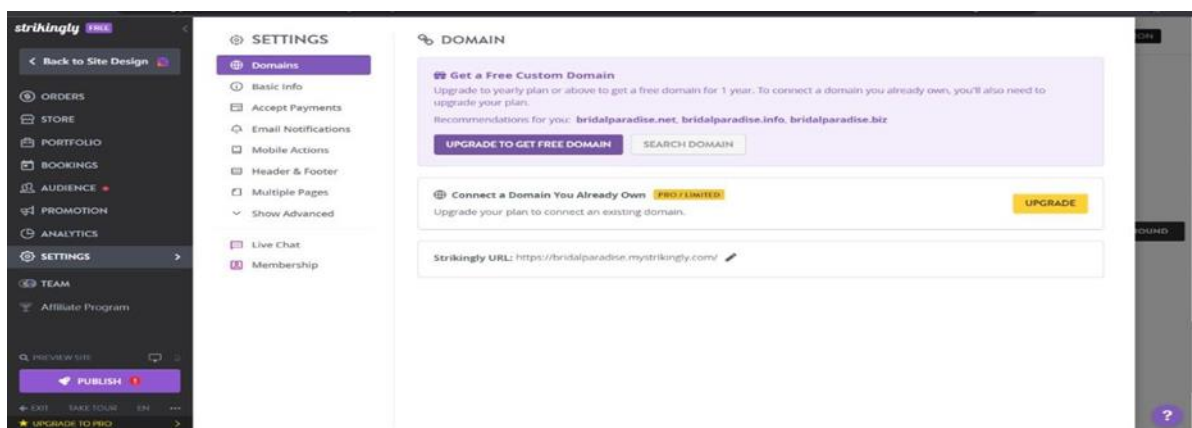


Diagram 1.3: shows the subdomain for the website

3.1.3 Development Phase

This stage involves building the actual system using all media and technology elements selected based on the analysis and design phases. In this

development phase, the researcher develops the product taking into account the website that will be used, which is strikingly.com. In other words, the development phase is an important phase that is directly related to the selection of media materials to suit the development of the website that is Paradise. The development phase can be referred to as below.

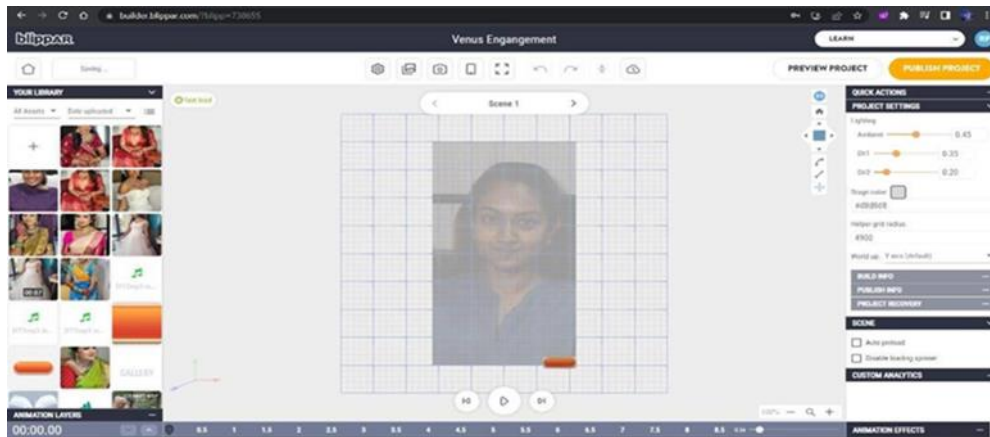


Diagram 1.4 Shows the process of uploading the AR image for the website

3.1.4 Implementation phase (Implementation)

In this phase, the products that have been designed by the researcher are used in real conditions. The implementation phase will be implemented in the target group, which is customers who like to use the services from Venus Bridal Paradise. This phase will involve the presentation and distribution of the Paradise Website to the target groups that have been specified. This phase allows the researcher to test the Paradise Website whether it works well and is suitable for use by Venus Bridal Paradise customers. The implementation phase can be referred to as below.

After opening the website, customers will see the main page of Venus Bridal Paradise. The home page has information about the Venus Bridal Paradise company, and feedback from long-time customers of Venus Bridal Paradise. Then, customers need to press the SHOP button and check the services they can choose from.

3.1.5 Evaluation phase

The last phase is the evaluation phase which includes the evaluation process on the effectiveness of the website before and after it is implemented for users. Evaluation needs to be done continuously and regularly at all levels to know the effectiveness of the Paradise Website. This website has been implemented and from the implementation, can prove that the website is successful or not in dealing with the problems that occur. In order to measure the effectiveness of this website, tests have been carried out.

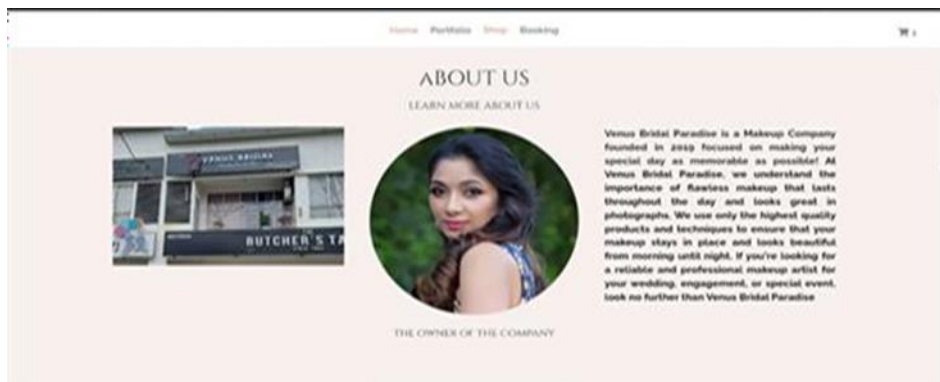


Diagram 1.5 shows the website main page

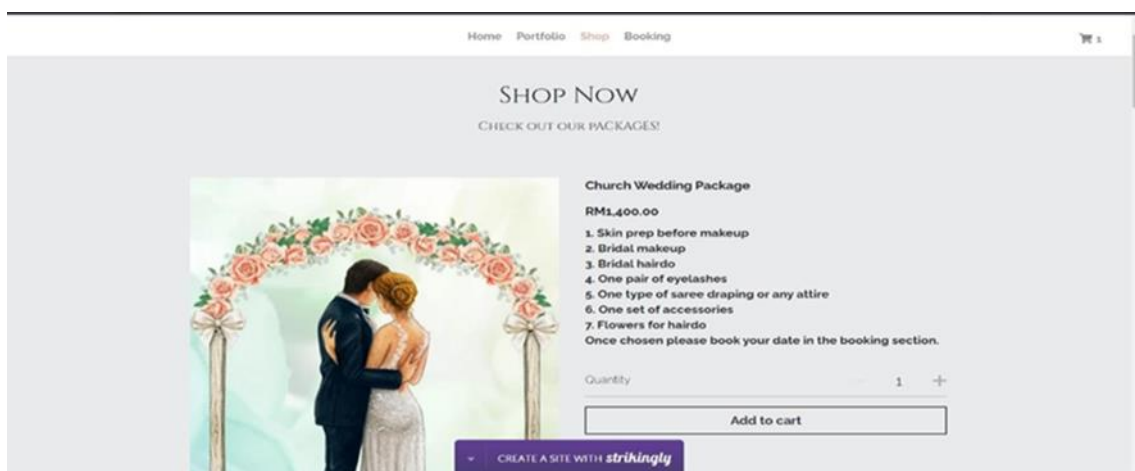


Diagram 1.6 shows the main page to 'shop'

4.0 Methodology

For the needs analysis phase, this study has used two methods to obtain information, namely interviews and questionnaires with the Company's customers. The analysis phase is the beginning of the other fundamental stages. The analysis phase will be carried out to identify ways to solve problems faced in business. The analysis phase was conducted. Cell phones and notebooks were used to record information through interviews conducted. Through interviews and questionnaires, all the information obtained was analyzed and the problems faced by the Venus Bridal Paradise business could be identified. The questioners was validated and the alpha cranbach was 0.8. Once the module is completed, the module is used in real life. The implementation phase will be implemented in the target group, which is customers who like to use the services of Venus Bridal Paradise. The effectiveness of the module is tested through a questionnaire with customers of the Venus Bridal Paradise Company. A quantitative method is carried out for the research. The questionnaire consists of a 4 Likert scale which is strongly agreed, agree, disagree, and strongly disagree. Respondents are required to choose only one scale for each statement. Google form was created and shared with the respondents. 120 respondents participated in this research. The research sample comprises of focused group, selected from the

company's customers.

5.0 Results and Discussion

The findings of the Venus Bridal Paradise Company website study that has been produced show that this website system received positive feedback from 120 respondents. As for the first objective Identifying the Venus Paradise Website is a way to solve the problems faced by the Venus Bridal Paradise Company, the table shows that items 1 to item 4 have positive feedback of agree to strongly agree. it can be concluded that the Augmented Realty created has an impact to the customers as the respondents agrees and strongly agrees that it easy for them to access information about the company, it is easy for customers to make payments, easy to book appointments and the website displays interactive website which displays all the services provided by the company. For item 1 'need a website to make it easy to get information about Venus Paradise Bridal Company. 29.2% of respondents strongly agree and 69.28% of respondents agree with the statement. As for the 2nd item 'I need a website that can facilitate my online payment process' 29.2% strongly agree and 68.3% agree on the given statement. As for the 3rd statement 'The need for a website that can facilitate the online payment process' 33.3% strongly agree and 65% agree with the statement. The importance of online business is significantly growing and the enterprenueur need to such skills to compete with other companies from the same industry as well as to increase their sale. (Rezlin Abd Rahman, Rafizi Ramli, 2022).

Table 1.1: Findings of objective 1

No	Needs of AR website	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)
1	The need of interactive website that displays services provided by Venus bridal Paradise company	29.2	69.28	1.6	0
2	The need of website that can simply booking process	29.2	68.3	2.5	0
3	the need of a website that can facilitate my online payment process	33.3	65	1.6	0
4	The need of userfriendly website	41.6	58.3	0	0

Table 1.2 : Findings of Objective 2

No	Effectiveness of the AR website	Strongly Agree (%)	Agree (%)	Disagree (%)	Strongly Disagree (%)
1	Venus Bridal Paradise	41.6	56.7	1.6	0

	Company website is easy to access				
2	Illustrations of pictures and symbols used are easy to understand	37.5	69.2	1.6	0
3	This website can provide good feedback	44.1	55.8	0	0
4	this website saves time	48.3	51.6	0	0

As for the second objective which is to identify the effectiveness of the website for customers, it can be concluded that 56.7% of customers agree and 41.6% strongly agree that the website is easy to access, 69.2% of respondents agree that the illustration of pictures and symbols used are easy to understand by the customers, According to Muhammad Asrul Affendi Mat Nor, Farah Waheda Othman, Nurhan Ayub (2022) AR application with user-friendly characteristic is vital for the user to understand and use the function of the application. Meanwhile, 55.8% of the respondents agree that the website also can provide good feedback and lastly, 51.6% of the respondents agree that the website saves time for customers as they can make bookings and payments through the website.

6.0 Conclusion

The Venus Bridal Paradise website was successfully developed and received positive views and comments on its use in the booking and payment process. Both of the objectives have been achieved. Future researchers could improve the website to be more effective and user-friendly by using the advance technology of AI . Improvements in website development must be emphasized to ensure that every customer is satisfied with the company's service. Suggestions for improving this module are also included to help overcome weaknesses and deficiencies that may exist in future websites.

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Author Contributions

Rohani, M. M. Y.: Conceptualisation, Methodology, Software, Writing-Original Draft Preparation; **Isratun, I.:** Data Curation, Validation, Supervision; **Roysen, F. P.:** Data collection.

Conflicts Of Interest

The manuscript has not been published elsewhere and is not being considered by other journals. All authors have approved the review, agree with its submission, and declare no conflict of interest in the manuscript.

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