Online Digital Invitation (An Implementation with Go-Web)

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Abstract: This study aims to develop an online digital invitation service that can be used for all activities such as invitations to religious, family, and personal activities and in the application development process the Go Web framework is used. This study uses research with the Research and Development method. The product developed based on initial research is the Online Digital Invitation System. The test subjects in this development are expert subjects and students of STMIK Indonesia Banda Aceh as potential users of the product. This research was taken by random sampling technique, which consisted of 20 small-scale and 30 large-scale test people. The data collection technique was done by using a questionnaire. This questionnaire was conducted to assess the application developed from the completeness of the application and the material as well as the physical appearance of the application. Data analysis is descriptive quantitative and qualitative. Based on the results of research and discussion of research results to develop an Online Digital Invitation System, several stages of feasibility testing are needed, namely media expert tests, material expert tests and tests on respondents. Based on the results of research on small group trials, the Digital Online Invitation System was obtained. Most 90% stated that it was very feasible to use, and the results of research on large trials, most of the students, 96.67% stated that it was very feasible to use. With these results, it can be concluded that the Online Digital Invitation System is very feasible to use. Based on the conclusions from the results of the study, it is implied that the Online Digital Invitation System is very feasible to use, so that it becomes good input for users in making digital invitations both used through browsers and android.

Index Terms: Design; Implementation; Online Digital Invitation; Go Web.

1. Introduction

Digital invitations are invitations made in digital form, either in the form of images, videos or in the form of online invitations that physically cannot be touched like conventional invitations that use paper, wood, acrylic and other media [1][2]. For someone who wants to hold a wedding, birthday party, and other parties, it may be familiar if you have to send an invitation card for guests [3][4]. However, most of them actually spend money just for the invitation card design. Actually, if you have an Android-based smartphone, now it doesn't have to be difficult to hire services for invitation card designs. because, free applications for making invitations on the PlayStore are also able to make their own wedding invitations and even make birthday invitations. Various online services that provide free invitation designs such as; canva

[5], Invitation Card Maker & RSVP, Invitation Maker, Invitation Card Maker, Birthday Invitation Maker, Video Invitation Maker, Invitation Maker for Weddings, Birthdays & Events, Invitation Maker 2.0, Digital Invitation Card Maker, Invitation maker 2021 [6][7][8][9] available on PlayStore with more than 200 templates provided for free. However, the results of the card design are shared through social media such as WA, Telegram, and so on to convey activities and for invited guests.

In Indonesia, the trend of online digital invitations has been widely used to replace conventional invitations and the distribution of images or videos for invited guests. Digital Invitation Websites can now be used effectively at lower costs and have an attractive appearance. Content from text, audio and video narration has been embedded in the online digital invitation. Although some opinions state that digital or online wedding invitations seem to lack respect for the guests who will be invited and do not seem serious and rude to invite them. Some online digital invitation services such as; our-wedding, webnikah.com, akanikah.com., weddingchicks.com, sebarundang.id, greetingsisland.com which usually offer wedding invitation services. Several studies conducted by Immasari & Arfian (2022) developed a web-based online invitation system that can reduce costs, printing time and sending invitations. In this case the online invitation system is a solution between consumers and producers, where in a system they can place orders and make transactions online anywhere and anytime. This system can also create links that can be shared via social media. Testing this application using black box testing and the framework used is Codeigniter 4 [10]. Further research conducted by Aldiansyah & Thamrin (2022) resulted in an online invitation service called "Momenindahku" where the digital wedding invitation website offers many features that are used for making digital invitations and there is also an auto send whatsapp feature to distribute digital invitations automatically [11]. In contrast to the research conducted by Juliana *et al* (2021) they produced a cellular application called "Evecurate" which has QR technology services for the Check-in process, namely during the registration process and developed with Flutter and Firebase [12].

The three studies have the same goal in improving digital invitation services both for use on web and mobile platforms, but only on a limited scope of invitation activities. In this study, an online digital invitation service was developed that can be used for all activities such as invitations to religious, family, and personal activities and in the application development process a framework is used. One of the advantages of the Go Web language is the support from the community and libraries and frameworks for this language which are production-ready and free to use [13]. On the Go Web, just like any other programming language, there are many ready-to-use libraries and frameworks. There is a framework that is already complete, complete with contents from end to end, from project setup to testing and build/deployment, all of the tooling is there. There are also frameworks whose scope is more specific (commonly called libraries), such as libs to simplify operations at the data layer, libs for routing, and others [14]. Go Language is an abbreviation of this one programming language. As we know its name begins with Go, which is a programming language maintained by Google [15]. Google does not work alone, but works with 3 reliable figures in 2009. Robert Griesemer, Rob Pike and Ken Thompson are the three figures. This one programming language can be typed statically and can generate binary codes on the machine that is compiled with it. Dating back to the 21st century, the Golang programming language seeks to build on its predecessors. Making websites, applications and software can also use this programming language [14][16].

2. Research Method

This research was conducted in February-July 2022 with the collaboration team of STMIK Indonesia Banda Aceh, Politeknik Aceh Selatan, Sekolah Tinggi Ilmu Kehutanan Pante Kulu, and involved a team of experts to conduct material testing by PT. Trans Dana Profitri. This study uses research with the Research and Development method. Research and Development is a research method used to produce certain products, and test the effectiveness of these products. To be able to produce certain products, research that is needs analysis is used and to test the effectiveness of these products so that they can function in the wider community, research is needed to test the effectiveness of these products. The research procedure for developing the Design and Implementation of a Go Web-based Online Digital Invitation System adapting the steps written by Sugiyono (2013:298) this is a picture of the research design flow [17].
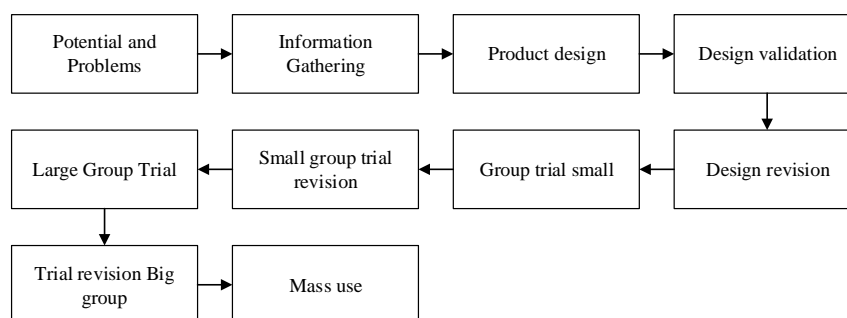

Fig 1. Steps to Use Research & Development Method

1) Potential and Problems
    Research can start from the existence of potential problems. Potential is everything that when utilized will have added value [17]. In this study, the potential problem that can be raised is the development of science and technology, but information in finding local Digital Online Invitation System services.

2) Information Gathering
    Judging from the potential problems above, the next step is to find information regarding the Online Digital Invitation System. Based on the observations that have been made so far there is no service with the features planned by the author. In addition, the operation of Android uses a browser on a smartphone or computer with an internet connection. Therefore, the researcher intends to develop an operating android in the form of a Go Web-based Online Digital Invitation System.

3) Product Design
    The design of the Online Digital Invitation System is carried out using the Go Web framework by taking invitation data which is generally used in Indonesia in every event. The application that will be made has a simple display with a menu that is easily understood by visitors, making it easier to access.

4) Design Validation
    Design validation is an activity process to assess whether the product design will be more effective than the old one or not [17]. The product of the research will be validated by experts or experienced experts to assess the new product that has been designed, in order to find out its weaknesses and strengths. This development research obtained design validation by two expert teams, namely research members who play a role in determining whether the application developed is in accordance with applicable rules and can handle the creation and development of android.

5) Design Revision
    After the product design is validated through discussions with experts and experts, the weaknesses of the product will be known. Furthermore, improvements are made to minimize product weaknesses.

6) Small Group Trial
    Small group trials will be conducted with students accessing the android application and looking for information on the Online Digital Invitation System available on smartphones. In this trial, respondents will assess the feasibility of the application and will later provide suggestions for later improvement by researchers.

7) Small-scale Trial Product Revision
    If the product testing has been completed on a limited sample, it will be known the shortcomings. So, the next product revision is carried out in order to improve the feasibility and quality of Android to be accessed.

8) Large-Scale Trial
    Product testing will be carried out by operating Android with a laptop/computer or smartphone. This is intended to determine the feasibility of the Android Go Web-based Online Digital Invitation System. The large-scale trial process is observed by android users/accessors.

9) Revision of Large-Scale Trial Products
    If the product testing has been completed on a limited sample, it will be known the shortcomings if the product will be used in a larger population. So, the next product revision is carried out in order to improve the feasibility and quality of Android.

10) Mass Products
    The final product of this research is an application in the form of a Go Web-based Online Digital Invitation System. This development will support sports facilities to be more efficient and effective. Furthermore, if the research has been completed and is declared feasible, the product can be used en masse.

   Product trials aim to collect data that can be used as a basis for determining the goodness/effectiveness of the resulting product. The data obtained from the trial results are used as a basis for improving and perfecting the product in the form of a Go Web-based Online Digital Invitation System.

1) Trial Design
    The design that will be tested will be consulted with media experts and material experts. Then the design is tested. This media trial aims to get feedback in the form of suggestions as material for evaluating products to be developed.

2) Trial Subject
    This research will be conducted at the STMIK Indonesia laboratory in Banda Aceh, while for the small-scale trial subjects, 20 students of STMIK Indonesia Banda Aceh were randomly assigned using laptops/smartphones, and the large-scale trial subjects were 30 people who were taken at random.

3) Data Type
    The types of data obtained from this research are quantitative data and qualitative data. According to Wali (2022) quantitative data is data in the form of numbers or data that has been rated. While qualitative data is data in the form of sentences or pictures [18]. Quantitative data in the form of assessments, collected through questionnaires or product trial questionnaires, during testing activities, were analyzed by descriptive quantitative analysis. Percentage is intended to determine the status of something then interpreted with qualitative sentences. The questionnaire used

in this study is an assessment questionnaire. Based on the number of opinions or answers, the researcher then percentages each answer with the formula:

$$Eligibility\ Percentage = \frac{Score\ obtained}{Maximum\ total\ score} x100$$

After obtaining the percentage with this formula, then the feasibility of the Online Digital Invitation System application media is classified into four eligibility categories as follows.

Table 1. Percentage of Eligibility

No	Percentage	Appropriateness	Score
1	76% - 100 %	Worthy	4
2	56% - 75 %	Decent enough	3
3	40% - 55%	less worthy	2
4	< 40%	Not feasible	1

To obtain sufficient and accurate information through an assessment, a good assessment instrument is needed. The instruments used in this research are several methods which include:

1) Interviews: interviews were conducted to obtain in-depth information about the obstacles and weaknesses in the Online Digital Invitation System application.
2) Observation: observation is a means of collecting data through observation and recording. The advantage of using the observation method is that a lot of information can only be investigated by observing.
3) Questionnaire: is a data collection tool that contains a number of questions or statements that must be answered by the research subject. While the model development instruments are grouped into two, the first is product validation, the second is field trials using the questionnaire method.

In product validation, material and media experts are given to get recommendation input. The validation sheet is used to obtain a feasibility assessment of the Online Digital Invitation System application. On the validation questionnaire sheet material and media experts use a Likert scale, namely the psychometric scale commonly used in questionnaires according to Wali (2022) with four choices, namely; Very Poor, Fairly Good, Very Good, and Decent. Online Digital Invitation System Application as information to provide the desired online invitation service. Questionnaires will be given to experts and practitioners for an assessment of the android application.

Table 2. Respondents' Assessment

Variable	Indicator	Item Indicator Evaluation	Item
Online Digital Invitation System	Small-scale trial and large scale	Display Aspect	1, 2, 3, 4
		Design Aspect	5, 6, 7, 8, 9
		Aspects of Use	10, 11, 12, 13 14
		Material Aspect	15, 16, 17, 18
Amount			18 Items

3. Result and Discussion

3.1 Results
1) Potential and Problems
   Research can depart from potential problems, in this study the potential problem that can be raised is the development of science and technology, but the information in the desired digital invitation service is lacking even though there are many similar services in Indonesia but have not been found specifically related to services. religious and personal invitations and more for wedding party invitations.
2) Information Gathering
   Following up on potential problems above, the next step is to look for information in various applications on the PlayStore. Based on the observations that have been made so far there is no android for invitation information specifically on religious and personal invitations. Android operation using a browser on a smartphone or computer with an internet connection. Therefore, the researcher intends to develop an operating android in the form of an Online Digital Invitation System. Therefore, the researcher intends to develop a Go Web framework.
3) Product Design
   Android design is done by using the Go Web framework, the application that will be made has a simple appearance with a menu that is easily understood by visitors, making it easier to access. The following is the result of the finished application's front page.

Fig 2. Online Digital Invitation System Application Display Results

a. Product revision expert validation

Design validation is an activity process to assess whether the product design will be more effective than the old one or not [17]. The product of the research will be validated by experts or experienced experts to assess the new product that has been designed, in order to find out its weaknesses and strengths.

b. Design Revision

After the product design is validated through discussions with experts and experts, the weaknesses of the product will be known. Furthermore, improvements are made to minimize product weaknesses. The results of the validity test from material experts and media suggestions were given, then the researchers revised the product to be used

c. Small group trial

Small group trials will be conducted with students accessing the Online Digital Invitation System available on smartphones. In this trial, respondents will assess the feasibility of the application and will later provide suggestions for later improvement by researchers. The results of the small group trial were 20 respondents. The description of the results of the research on the development of the Digital Online Invitation System can be seen in the table below

Table 3. Results of Small Group Trial Online Digital Invitation System Development

No	Interval	Predicate	Frequency	Percentage
1	81% - 100%	Worthy	17	85%
2	61% - 80%	Decent enough	2	10%
3	41% - 60%	Less worthy	1	5%
4	< 40%	Not feasible	0	0
Amount			20	100%

Based on the results of the research on small group trials, it was obtained from 20 respondents as much as 85% (17 students) stated that they were eligible and as many as 10% (2 students) stated that they were quite feasible and 5% (1 student) stated that they were not eligible. Online Digital Invitation System is feasible.

d. Small-scale Trial product revision

If the product testing has been completed on a limited sample, it will be known the shortcomings. So, the next product revision is carried out in order to improve the feasibility and quality of Android to be accessed.

e. Large-Scale Trial

Product testing will be carried out by operating Android with a laptop/computer or smartphone. This is intended to determine the feasibility of the Online Digital Invitation System application. The large-scale trial process is observed by android users/accessors. Analysis of large groups was carried out on 20 respondents, the results of the Development of an Online Digital Invitation System can be seen in the table below:

Table 4. Results of Large Group Online Digital Invitation System Development

No	Interval	Predicate	Frequency	Percentage
1	81% - 100%	Worthy	26	86,67%
2	61% - 80%	Decent enough	3	10%
3	41% - 60%	Less worthy	1	3.33%
4	< 40%	Not feasible	0	0
Amount			20	100%

Based on the results of the research on the Digital Online Invitation System from 20 respondents, 86.67% (26 students) stated that they were eligible, 10% (3 students) and 3.33% (1 student) stated that they were not eligible. These results mean that the development of an Online Digital Invitation System after receiving a feasibility test from several respondents was obtained. Most of the respondents stated that the Online Digital Invitation System was feasible.

f.   Large-Scale Trial Product Revision
     If the product testing has been completed on a limited sample, it will be known the shortcomings if the product will be used in a larger population. So, the next product revision is carried out in order to improve the feasibility and quality of Android.
g.   Mass use
     The final product of this research is an application in the form of an Online Digital Invitation System. This development will support sports facilities to be more efficient and effective. Furthermore, if the research has been completed and is declared feasible, product can be used in bulk.

3.2 Discussion

The research data that have been collected are then processed and analyzed qualitatively and quantitatively. In order to improve the product from inputs from experts and respondents using qualitative techniques. In the assessment of the development of the Digital Online Invitation System application media an assessment with a minimum of 75%, which is a fairly decent category. So, if the average assessment by material experts and media experts, as well as test results on the use of application media by students shows the final result is very feasible, namely 87%, then the development of an Online Digital Invitation System with material levels of various features and services, application design development applications The Online Digital Invitation System for the general public in this study is categorized as very suitable for use in the Online Digital Invitation System with various invitations for religious, family, and personal activities. Based on the results of research on small group trials, it was obtained that the Online Digital Invitation System from 20 respondents stated that the application obtained was 85% feasible to use. And the results of the research on the Online Digital Invitation System from 20 respondents obtained that 86.67% stated that the Online Digital Invitation System was very feasible to use. Based on the results of research on media and material expert tests, it has been obtained that both of them state that the Online Digital Invitation System is very suitable to be used to make it easier for players in the invitation-making process. The results in the small and large group trials were obtained by all students stating that the Online Digital Invitation System stated that it was very feasible. The feasibility of a tool made in the form of an Online Digital Invitation System will greatly facilitate the public in choosing invitation services with various types of desired activities according to the theme and topic of the invitation. Thus the user will feel comfortable in the process of making the invitation which will have an impact on the results of the use so that he will feel satisfied being trained with the features he chooses. In Application development we use Go-Web on the browser side while in Mobile development we use Golang Mobile App Development for 'gomobile build' and 'gomobile bind' tools for Golang mobile development. Although some references mention that Fyne and Gio UI can be used for live rendering libraries, while Fyne is more of a maintained library with the idea of expressing intent rather than design.

5. Related Work

Invitations made in the form of print media and developed in digital form, including video-based invitations, image-based invitations and web-based invitations, were discussed from various kinds of digital invitations which of course required special skills and needs in the manufacturing process and took a long time, need wisdom from people who are experts or special services in making it [19]. The development of a digital invitation application is expected to assist managers in recording vendor data, product data per vendor, customer data, order data and making digital invitations [20]. With the internet media, information can be quickly and easily obtained and disseminated. The web-based application was chosen because it can be accessed anywhere and anytime, as long as the user is connected to the internet. Submission of information using multimedia will have a good impact because the information can be designed to be more lively and attractive [21]. Research conducted by Hui-Fei Lin & Chi-Hua Chen (2019) augmented reality in an effort to bring new things to the user experience in making invitations [22]. A different study conducted by Sandhy & Mandala (2022) applies RFID which can be used as an alternative solution for the attendance of invited guests [23]. Although it is known that a digital invitation is an innovation in the process of changing communication behavior, advances in technology have changed the situation. But not much has been discussed, especially in Indonesia. Returning to the purpose of this research, they agree that the use of digital invitations can be used as a new service by emphasizing cost-effective and efficient use in distributing invitations to guests.

4. Conclusion

Based on the results of research and discussion of research results to develop an Online Digital Invitation System, several stages of feasibility testing are needed, namely media expert tests, material expert tests and tests on respondents. Based on the results of research on small group trials, the Digital Online Invitation System was obtained. Most 90% stated that it was very feasible to use, and the results of research on large trials, most of the students, 96.67% stated that it was very feasible to use. With these results, it can be concluded that the Online Digital Invitation System is very feasible to use. Based on the conclusions from the results of the study, it is implied that the Online Digital Invitation System is very feasible to use, so that it becomes good input for users in making digital invitations both used through browsers and android.

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