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RESEARCH ARTICLE

Design of Infak Payment Information System Using Borland Delphi 7 (Case Study: Aceh Energy & Mineral Resources Department)

Ida Marhamah [1] | Syafrinal [2*] | Taufiq Iqbal [3] | Ihsanuddin [4]

[1] Informatics Management Study Program, AMIK Indonesia, Indonesia.

[3,4] Informatics Management Study Program, STMIK Indonesia Banda Aceh, Indonesia.

Correspondence

[2] Information System Study Program, STMIK Indonesia Banda Aceh, Indonesia.
Email: syafrinal@stmikiba.ac.id

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Abstract
The purpose of the study is to create an Infaq Payment Information System using Delphi 7 to make Infak Data Payments contained in the Aceh Energy and Mineral Resources Office where there are advantages when compared to Microsoft Excel in terms of Infaq Payments including in terms of Output, where the system that will be the author developed can load more than one Output. In the process of the author's research regarding infaq payments at the aceh energy and mineral resources service, in the current system there are often obstacles or problems that arise. This happens because there are several things that quite interfere with the Financial Monitoring process, including; The length of the infaq payment process is one of the main obstacles, the use of microsoft excel is considered too complicated in terms of input, processing, information, the process of accessing / uploading data will take longer and waste more energy, and the possibility of errors or mistakes is more risky due to everything something that can manually interfere with the accuracy of the user. In application development, the researcher uses the prototype method. From the results of the research, the calculation application can be used as payment at the Aceh Energy & Mineral Resources Department and is designed using Delphi, then the results of the evaluation of the current desktop application display with prototype design are known that each category has an increase in usability value. Content, Organization and Readability previously had a value of 0.61 and increased to 0.66. The Navigation category was previously 0.62 to 0.67. The previous User Interface Design category was 0.63 to 0.70 and the previous Performance and Effectiveness category was 0.64 to 0.72.

Keywords
Infaq; Payment Information System; Delphi 7; Access Databases; Prototyping Models.

1 | INTRODUCTION

Basically every agency carrying out data processing activities requires an application system [1][2], in this case the Aceh Energy and Mineral Resources Office has used computer facilities to reduce the error rate in data processing. Therefore, it is necessary to have good settings and activities in implementing an application system correctly and correctly. Using a computer as a tool to run an application system in data processing is very effective both from processing data [3], adding data and retrieving stored data for a design arrangement of an application system [4][5]. At the Aceh Energy and Mineral Resources Office, infaq processing and payment uses Microsoft Excel as the application used by employees in the office to record or pay infaq. Actually, using Microsoft Excel for Infaq payments is good, because it can also reduce the error rate in data processing. However, there are still obstacles that occur when using Microsoft Excel in terms of payment of infaq data. Among them there are files that are still scattered, making it difficult for employees who want to display infaq data. Because to process a document of such a nature, it takes a coherent system that is interconnected with each other, so as to reduce the irregularity of Infaq Data. From these problems, the author is interested in creating an Infaq Payment Information System using Delphi 7 to make Infaq Data Payments contained in the Aceh Energy and Mineral Resources Office where there are advantages when compared to Microsoft Excel in terms of Infaq Payments including in terms of Output, where the system that the author will develop later can contain more than one output.

2 | BACKGROUND THEORY

The system is a set of elements / elements that are interrelated and influence each other in carrying out joint activities to achieve a goal [6][7]. The system is an interconnected framework arranged according to a comprehensive scheme, to carry out an activity or main function of the company [8][9]. The system is a total structure consisting of elements, where each of these elements has a special function, and between them interact and interact in an effort to achieve common goals [10]. Information can be interpreted as the result of processing data that is needed and useful, has conditions and needs for that information [11][12]. Information is also one way to connect and develop the data needed to produce information that is useful in carrying out organizational development goals [13]. Information is data that has been processed into a form that is meaningful to the recipient and useful in current or future decision making [14][15]. Information as a result of data processing, the resulting data provides certain meanings and benefits for people who receive it [16][17]. In general, an information system is a tool to present information in such a way that it is useful for the recipient [18]. The purpose is to present information or decision making on the design, initiation, organization, control of the operations of a company's sub-systems. One of the software development tools is to use Delphi. Delphi is an integrated development environment (IDE) for developing console, desktop, web, or mobile device applications [19][20]. This product was originally developed by CodeGear as the software development division of Embarcadero, the division previously owned by Borland [21]. Delphi is a visual programming language in the windows environment (under windows) that uses the Pascal language as a compiler [22]. The existence of the Delphi programming language cannot be separated from the Turbo Pascal language which was launched in 1983 by Borland International Incorporation [23]. By using Free Pascal which is an open-source project, this language can also be used to create programs that run on Mac OS X and Windows CE operating systems. Especially for database programming, Borland Delphi provides powerful and complete object facilities that make it easier for programmers to create programs for database applications [24]. Delphi's database formats are Paradox, dBase, MS Access, ODBC, SyBASE, Oracle and others database formats.

3 | METHOD

In the process of the author's research regarding infaq payments at the aceh energy and mineral resources service, in the current system there are often obstacles or problems that arise. This happens because there are several things that quite interfere with the Financial Monitoring process, including; The length of the infaq payment process is one of the main obstacles, the use of microsoft excel is considered too complicated in terms of input, processing, information, the process of accessing / uploading data will take longer and waste more energy, and the possibility of errors or mistakes is more risky due to everything something that can manually interfere with the accuracy of the user. In application development, researchers use the prototype method where prototyping is a software development method that uses an approach to make designs quickly and gradually so that they can be immediately evaluated by potential users or clients [25][26].

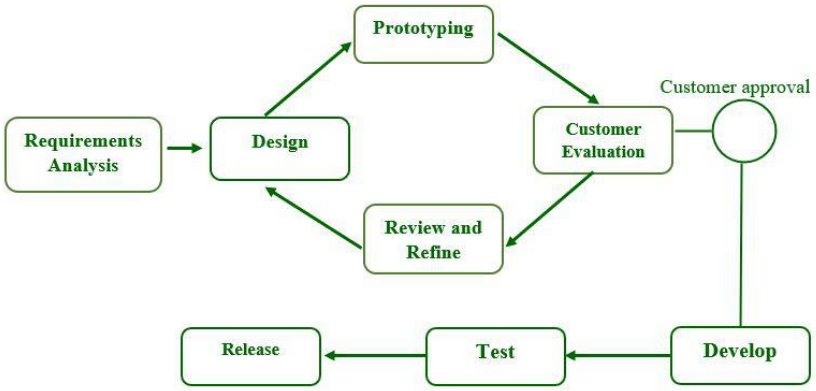

Figure 1. Prototype Method

Prototype method is a software development method that allows interaction between system developers and system users, so as to overcome incompatibility between developers and users. Prototype can be interpreted as an example or initial model created to test concepts that have been introduced previously [27]. Generally, prototypes are created to carry out several trials at once. The phases in Prototyping are; Need analysis, build prototyping, evaluate prototyping, code system. Test the system. System Evaluation, and Using the system [28][29]. The next stage is data collection and interviews which aim to help establish the user context of the system that will be created. The data and information needed are user groups, therefore interviews with stakeholders and users were conducted. Then evaluate the appearance of the current web application which aims to determine the usability value by distributing questionnaires to 30 respondents, the questionnaire consists of 4 categories, namely Content, Organization and Readability, Navigation, User Interface Design and Performance and Effectiveness.

4 | RESULT

As for the Input Analysis used in the infaq payment system, namely the recording of infaq payments. As for the Output Analysis used at this time, manually using Microsoft Excel in carrying out each financial bookkeeping, below is an example of a table that still uses manual programs both in terms of input, process and output information, but to produce a more effective performance. and efficient the author tries to make a change even though it is a simple program but sometimes it can be more helpful in the performance of the staff / employees, therefore the author makes a program with the theme of Designing Infak Payment Information Systems at the Aceh Energy and Mineral Resources Office, here is a manual table which is one example of the many types of financial accounting reporting. The results of the design are as shown in Figure 2 below.

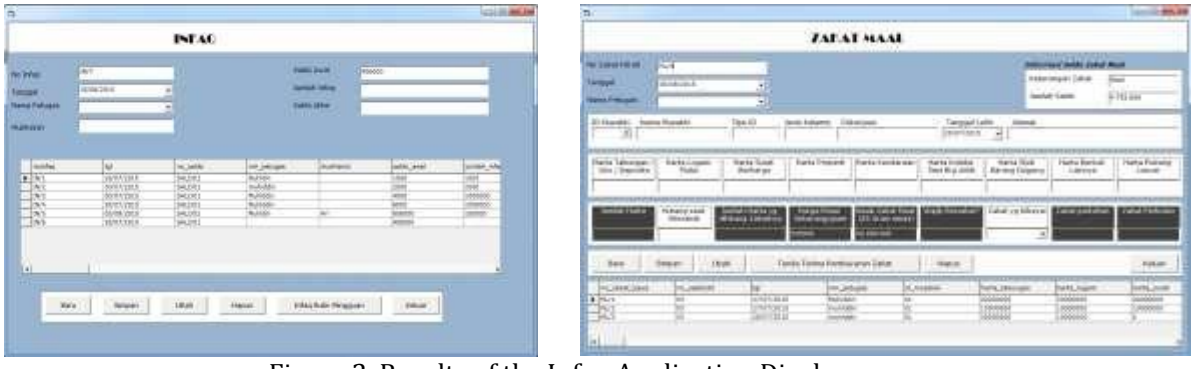

Figure 2. Results of the Infaq Application Display

In the evaluation activity, an assessment of the resulting display is carried out. Evaluation using a Google Form questionnaire. Questionnaires were distributed to 30 respondents from AMIK Indonesian students. The results of the evaluation of the current application display in each category, namely the Content, Organization and Readability categories, obtained an average usability value of 0.64. Navigation category obtained an average value of 0.62. User Interface Design category obtained an average value of 0.63. Performance and Effectiveness category

obtained a value of 0.64. Analysis of the design before repairs and also after completion of the improvement of the user interface and discussion of the comparison between the results of the evaluation conducted by 30 respondents to the current desktop application display and the results of the evaluation of the prototype design.

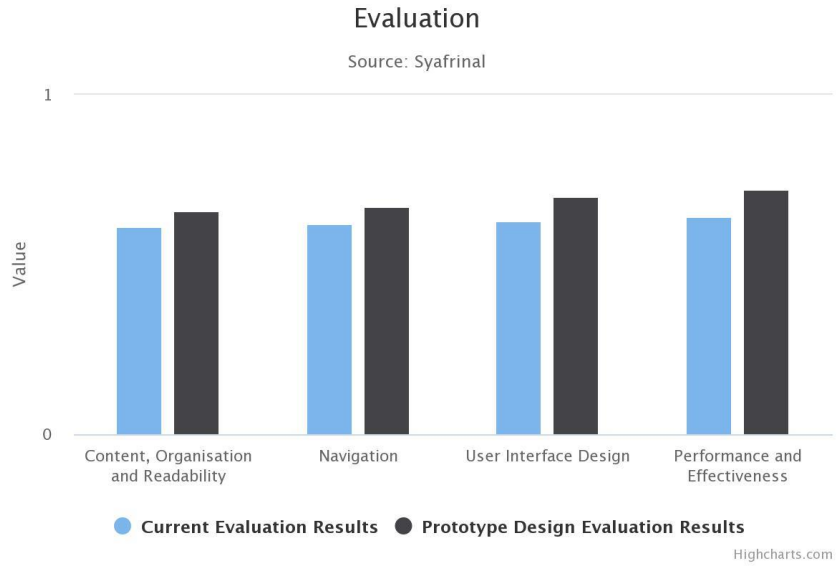

Figure 3. Category Value Diagram of Current Infak Application Evaluation Results with Prototype Design.

Based on the picture, it can be seen that each category experienced an increase in the usability value. Content, Organization and Readability previously had a value of 0.61 and increased to 0.66. The Navigation category was previously 0.62 to 0.67. The previous User Interface Design category was 0.63 to 0.70 and the previous Performance and Effectiveness category was 0.64 to 0.72.

5 | CONCLUSIONS AND FUTURE WORK

From the results of the research, the calculation application can be used as payment at the Aceh Energy & Mineral Resources Department and is designed using Delphi, then the results of the evaluation of the current desktop application display with prototype design are known that each category has an increase in usability value. Content, Organization and Readability previously had a value of 0.61 and increased to 0.66. The Navigation category was previously 0.62 to 0.67. The previous User Interface Design category was 0.63 to 0.70 and the previous Performance and Effectiveness category was 0.64 to 0.72. In further research, development is carried out using the XE5 version and above, where Delphi can already be used to build an application that runs on the Android platform.

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