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Application of the System Development Life Cycle Method for the South Jakarta Area Search System with User Acceptance Test

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Abstract

A system designed to assist prospective new students in providing, knowing the final results of the lectures or campuses that are expected to be in the south Jakarta area. This system is built on an android based which can be installed by users easily, quickly. Users here are prospective new students primarily, this system helps in providing information, provides a map of campus routes, campuses or majors on campus and makes it easier for new students to determine where to study. From the research conducted, it provides 7 questions that produce an android-based system using the System Development Life method. The results of the test using the UAT User Acceptance Test with 30 prospective new student participants who want to continue their studies to the undergraduate level which we apply to install this application on each participant's smartphone. User Acceptance Test testing of 89.14%, meaning that results indicate that the Application of the System Development Life Cycle Method for the South Jakarta Regional Study Place Search System with User Acceptance Test was built can be used by prospective new students

Keywords: *System Development Life Cycle; Searching system; College; User Acceptance Test; Android*

1. Introduction

A system designed to assist in providing information about campuses or colleges in the South Jakarta area, this system is built using Android which can be installed by users, the users here are 12th grade high school / vocational high school students or the same as prospective new students who want to continue to the undergraduate level who is looking for information, regarding the list of campuses, campus routes, the intended faculties according to interests. From this explanation, the authors searched and found some literature in the journal. According to E. Hermanto, Y.S. Dwanoko (2019) with the title Application of the SDLC Model for the Design of Web-Based Guidance and Counseling Information Systems has the final conclusion that after testing the system using a black box, that is, the function has run as expected by the user and the UAT test (User acceptance test) with a percentage of 96.4 % that the system that has been created can help and facilitate BK teachers in knowing the assessment of problematic students in real time [1]. According to Y.W.S. Putra, M. Fadlil Adhim (2022) with the title Online Presence Information System Using Face Recognition Technology and GPS here has a final conclusion if the system test uses User Acceptance Testing (UAT) of 93.8% which indicates this system can be accepted by its users [2]]. According to M.G Barek, E.K.Nurnawati, M.Sholeh, (2019) with the title Design of a college search application, the final conclusion is that a web-based application for admins is used to manage data, while an Android-based application "Kampus Jogja" is used by users. 3] . According to J. Sundari, D. Arumaryawan, (2018), with the title Geographic Information System with Google Map for Searching Boarding Houses, it can be concluded that the use of

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GIS is presented in web form, making it easier for boarding house owners to inform their location, and making it easier for people to search for locations. boarding house [4]. According to Alcianno G. Gani (2018) with the title Decision support system determining the place of KKN (Real Work Lectures) using the fuzzy logic method has the conclusion that the function of this application is to determine the placement of students in Real Work Lectures using fuzzy logic methods that are able to solve problems. 5]. From several comparisons of journals that have been obtained, the intent and purpose of designing and making this application is to help users, especially grade 12 SMA/K students or prospective new students who want to continue, continue to the undergraduate level and are looking for information about the intended campus. around the South Jakarta area, this application was built using 30 respondents to try to use the application.

2. Research Methodology

The research methodology is a method that is arranged in a clear and sequential sequence that can be used to collect data or information in conducting research in accordance with the object under study [6].

2.1. Research Stages

The Research Stage is the level of a research activity where this stage is carried out in a structured, coherent, logical and systematic way [7] At this stage, we understand for sure about the initial background of the problem, study literature, research methods, system development life cycle methods, build an android-based system. , perform system testing with UAT testing and the final results where the expert system can be used, can be installed on the android smartphone of prospective new students.

2.2. System Development Life Cycle Method

The System Development Life Cycle method is a work stage that aims to produce a high-quality system that is in accordance with the wishes of the customer or the purpose of the system [8]. In Figure 2 below are the stages of working on the system development life cycle method used in this study [9]

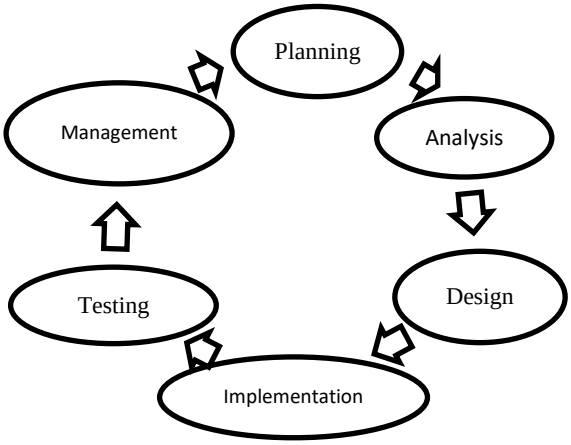

Figure 1. Stages of the System Development Life Cycle Method

In Figure 1 above are the stages of the System Development Life Cycle Method where the first stage is to carry out an initial plan, namely to want to make the system like how, its

background, what its purpose is. the second stage is analyzing the system, the third stage is designing the system here after knowing the background, knowing the flow and then designing the system, the fourth stage of implementation here is to check the coding in the system design, the fifth stage is to test the system whether the system is running well, right or not, the fifth stage management here is always making changes in the system.

2.3. System Design

The use of the System Development Life Cycle method in the South Jakarta Regional Study Place Search System With UAT Testing where the system users here are prospective new students can access and use Android-based which is easier, faster, by simply installing the application on a smartphone, the user can immediately enter the initial menu and can do a search, check any lecture places in South Jakarta, along with the desired faculties and departments directly, without having to open looking for their respective websites

3. Results and Discussion

3.1. Implementation

In the implementation there is a display of the results of the application that has been designed which is where there is an initial display menu or application start menu, main menu, campus list, campus routes, recommendation menu, how to use the system menu, by clicking start the application it will go directly to the main menu display.

Figure 2. Display the Application Start Menu

In Figure 2 the display menu starts to enter the application where if you click start the application will enter main menu. In Figure 3 is a display of the main menu list which contains a list of campuses, campus routes, recommendations and how to use the system that can be used by system users, namely prospective new students.

Figure 3. Main Menu List Display

In Figure 4 is the display of selecting a campus or a list of campuses, where here there are several campuses that are entered and their data will always be updated in the system that can be selected by the user.

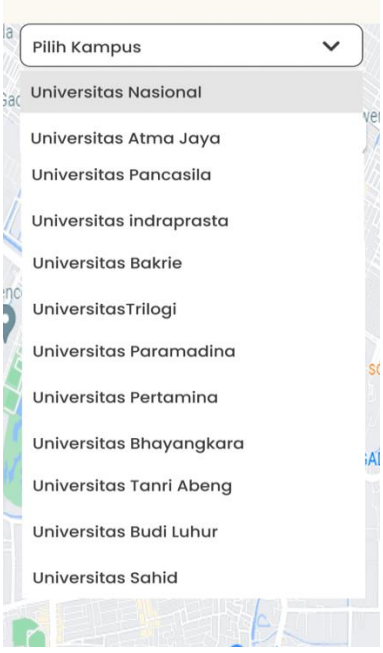

Figure 4. Campus List Menu Display

In Figure 5 is the campus route which in the application here directly connects to Google Maps

Figure 5. Campus Route

In Figure 6 here, if you click on the recommendation menu, the names of universities in the south Jakarta area that can be selected by the user will appear, where there are biographies of higher education, full addresses, accreditations to study programs or faculties desired by prospective new students.

Figure 6. Recommended Menu

3.2. UAT Testing (User Acceptance Test)

The UAT (User Acceptance Test) test is not much different from a questionnaire that is not commonly heard. From this test, where the output is a document or test results that can be used as evidence that the software has been accepted and has met user needs [11]. For testing the system here, the UAT test is used which is carried out on 30 people or equal to 30 respondents consisting of prospective new students or high school/vocational 12th grade students who are looking for a place to study in the south Jakarta area. To assist in testing the system, here is a list of questions such as a questionnaire aimed at knowing the level of presentation if the system is feasible and useful to use. This test has 5 questions with answers strongly disagree, disagree, disagree, agree, strongly agree, and have a weighted value.

Table 1. Description and Weighted Values

Statement	Description	Value
SS	Sangat Setuju	**5**
S	Setuju	**4**
KS	Kurang Setuju	**3**
TS	Tidak Setuju	**2**
STS	Sangat Tidak Setuju	**1**

Table 2. Questions For Respondents

Statement
1. Can this application be useful and useful for application users, especially prospective new students?
2. Is the main menu display understandable to the user
3. Is the information about campus routes, recommendations, campus lists provided in this application interesting?
4. How the whole of this application for users
5. The final result of the recommendation menu can help and facilitate?

$$P = \frac{f}{n} \times 100\% \quad (1)$$

Information :
P = Percentage
f = Answer Frequency
n = Number of Respondents

The following are the results of the data from the questionnaire after being added up based on the answers:

Table 3. Answer Results

Statement	SS	S	KS	TS	STS
1	13	11	6	0	0
2	10	17	3	0	0
3	20	7	3	0	0
4	13	15	2	0	0
5	13	16	1	0	0
6	19	10	1	0	0
7	24	6	0	0	0
Total	112	82	16	0	0

From the questionnaires that have been obtained and collected in table 3 above, then it can

be summed up with the average answers that have been obtained from the respondents. Based on the score is calculated as follows:
Total scores of respondents who answered SS = 112 x 5 = 560
Total scores of respondents who answered S = 82 x 4 = 328
Total scores of respondents who answered KS = 16 x 3 = 48
Total scores of respondents who answered TS = 0 x 2 = 0
Total scores of respondents who answered STS = 0 x 1 = 0
Quantity = 936
The results of respondents' answers are 30 people/answers, then the highest and lowest values can be calculated
as follows :
Highest score 30 x 7 x 5 = (If all answer SS) = 1050
Lowest score 30 x 7 x 1 = (If all answer STS) = 210

Found the results of its percentage value:

$$\frac{936}{1050} \text{ x } 100\% = 89{,}14\% \quad (2)$$

From the results of the percentage value of 89.14%, it means that the results show that the Application of the System Development Life Cycle Method for the South Jakarta Regional Lecture Search System with the User Acceptance Test that was built has been accepted by users, namely prospective new students.

4. Conclusion

The system here is made and designed to help users, namely prospective new students who want to continue to the undergraduate level, users can install this application on their Android smartphone and then can use it, aiming to speed up, make it easier for prospective new students to choose the appropriate college or college. according to his wishes and in accordance with the desired study program majors. The use of the SDLC method here is for the stages of work in creating and developing the system. The use of the system can search for universities in the South Jakarta area and study programs of interest with this one application. This system is designed to make it faster and easier to provide final results that are in accordance with higher education or lecture places and can link to their respective websites. With the UAT test using 7 questions given to 30 respondents and the results of the percentage value as much as 89.14%, it means that these results indicate that the Application of the System Development Life Cycle Method for the South Jakarta Regional Lecture Place Search System with the User Acceptance Test that was built can be used by users, namely prospective new students.

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