

Implementation of Psychotest System Application Selection of KKL STMIK Participants in Purwokerto Amikom Using DISC (Dominance-Influence-Steadiness- Compliance)

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Abstract

Kuliah Kerja Lapangan abbreviated as KKL is one of the chosen programs for STMIK Amikom Purwokerto students, where this program can be taken after taking 5 semesters. There are two stages of selection for KKL participants which include registration and psychological test exams. The psychological test was conducted to determine the personality type to form a group, a tool used to measure personality types using the DISC (Dominance - Influence - Steadiness - Compliance) theory. Each DISC character has a different response to the pressure he experiences in the environment, because of his direct involvement with the community, a system is needed to help the formation of groups based on psychological results. The researcher made a web-based psychological test application to facilitate prospective field work participants in carrying out exams and help organizers of field work in determining groups based on psychological results. The researcher collected data using observation, interviews, questionnaires, and literature studies. The system development method used is the waterfall method.

Keywords: *Kuliah Kerja Lapangan, psikotes, DISC*

1. INTRODUCTION

Science and technology has become a staple of humanity today. The development of science and technology extends to various fields such as information and communication technology. The presence of the internet also easily helps to spread information so that it can be accessed by anyone, this is seen by the number of companies and educational institutions that have web-based systems or applications. Web sites in the form of text and images not only provide information but also various systems that are used to conduct activities digitally using the internet, one of the digital activities using the internet is a web-based psychological test application.

To measure personal values psychologically, a psychological competency test is needed. This test can be formed in a verbal, written, or projective evaluation format that is structured to measure a person's emotional and cognitive functions or abilities. In psychology, not only IQ (Intelligence Quotient) tests but also personality tests. Personality tests are used to measure a person's characteristics, such as maturity, emotional, responsible, and objective levels. The measurement process is carried out through a test consisting of a sequence of questions and at the

end of the question will be obtained a conclusion about the psychological conditions in accordance with the selected personality categories [1].

Information Technology studies play an important role in improving the quality and quality of education in Indonesia. This is the internet which is a part of information technology that gives advantages and quality to the world of education [2]. Before going further, we first need to know first about the psychological purpose of the test. Psikotes as one of the benchmarks for knowing human abilities related to aspects of psychology personally and socially. Besides that it also relates to general insight and information absorption. Criteria for someone's success in psycho test reflects personal expectation by a company or agency, thus psychological test questions are designed covering several parts that can be used to measure these aspects. For example, currently the psychological test is also used by several universities as a material for decision making in the participation of students who take KKL one of them at STMIK Amikom Purwokerto college which is held once a year in the odd semester period with the requirement of completing 5 semester, where this decision-making is needed to form an KKL group which each group consists of 10 students. The

establishment of the KKL group was carried out through a psychological test to find out the character of each student so that they could work together in groups. Through this psychological test application the author wants to help develop a psychological test that previously used the system in Evenbrite.

Personality assessment tools that are used to improve work productivity, team performance, and also communication are DISC (Dominance - Influence - Steadiness - Compliance). This tool provides an overview of a person's style that can predict future attitudes and behaviors. This is obtained by evaluating the main personality factors that exist in a person. Basically, DISC measures four factors of a person's behavior, namely Dominance (D), Influence (I), Steadiness (S), and Compliance (C). Type D characteristics are patterns in responding to problems and challenges and using power. Type I characteristics are how the interaction response and ability to influence. The type S characteristic is how a person changes patterns, and the speed in responding to the environment. The type C characteristic is how the pattern responds to structured procedural and rules that are set by other parties.

Each DISC character has a different response to the pressure he experiences in the environment, especially in the MPA that goes directly to the community will feel the difference between rural communities and urban communities. A person's behavior can be seen from the result of a meeting between a person's personality and his environment, so the same person may behave differently if he is in an unequal environment [1].

Based on the background, to be more focused and in accordance with what is expected in the existing problems, the researcher limits the scope of the problem, as follows:

- a. The design and manufacture of this application is only to categorize personality types based on DISC and classify according to personality type not for grouping KKL participants.
- b. Researchers focused this research on a psychological test application to assess the results of the answers given in the form of questions.

2. METHOD

The technique used in developing applications in this study is the waterfall method. The main stages of the waterfall model directly represent archetypal development activities. There are 5 stages in the waterfall model, namely requirements analysis and definition, system and software design, implementation and unit testing, integration and system testing, and operation and maintenance [4].

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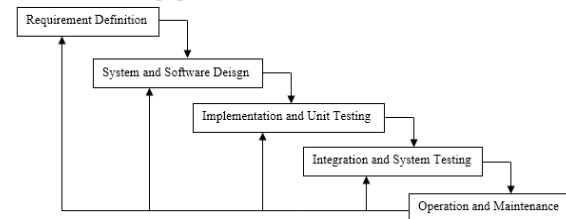


Figure 1. Model Waterfall development techniques, Source: (Ian Sommerville, 2007)

Explanation of these stages can be seen in the following description:

- a. Requirement Analysis and Definition
This is the stage in implementing features, goals and system constraints through interviews with end users. This discussion will produce a determination in detail and function as system requirements.
- b. System and Software Design
In this stage a system infrastructure will be designed with the provisions agreed and set. And also identify and illustrate the basic patterns of software systems and their relationships.
- c. Implementation and Unit Testing
In this stage, the results of the software design will be realized as a single program application that is ready to use. Each feature will be tested performance and functional.
- d. Integration and System Testing
In this stage, each program feature will be linked to each other and tested as a unified application model to ensure the system meets the existing requirements. After that the system will be handed over to the user
- e. Operation and Maintenance
In the next stage, the system is installed and can be used by the user. On the other hand it has also entered the maintenance phase if problems are found in the process flow. In addition, if the user wants a new development, it can add some new features in it..

3. DISCUSSION

- a) Requirement Analysis and Definition
This stage is a software requirements planning stage that aims to understand the desired software and the limitations of the software. This information was obtained by interviewing the KKL organizers. The explanation of the analysis is:

1) Analysis of user needs

Based on the results of the interviews that have been conducted, it can be concluded

that this web-based psychological test application is based on the need for selection of KKL participants. The processes carried out in this system are:

- Input Process
- Processing
- Output Process

b) Software and System Design

1) System planning

a. Context Diagram

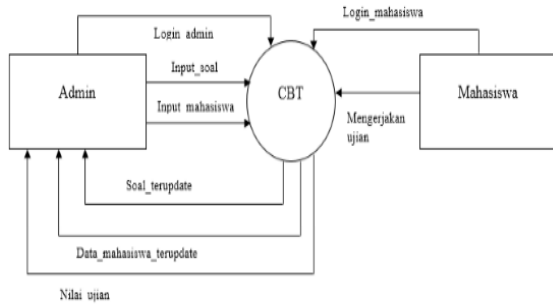


Figure 2. Diagram Konteks

b. DFD Level 0

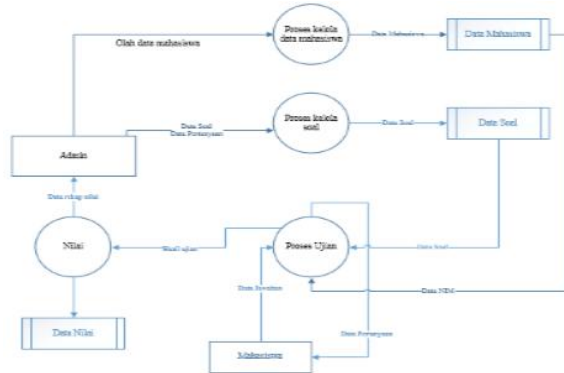


Figure 3. DFD Level 0

c. DFD Level 1 Manage Student Data

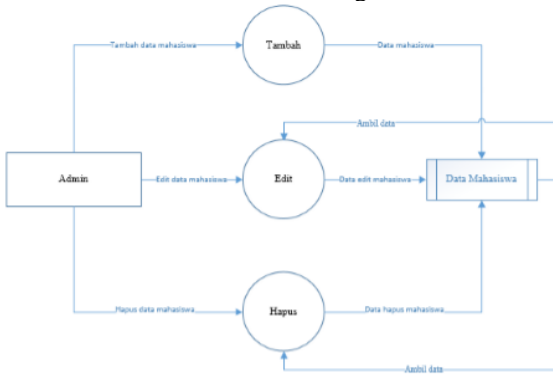


Figure 4. DFD Level 1 Manage Student Data

d. DFD Level 1 Entering Data Problem

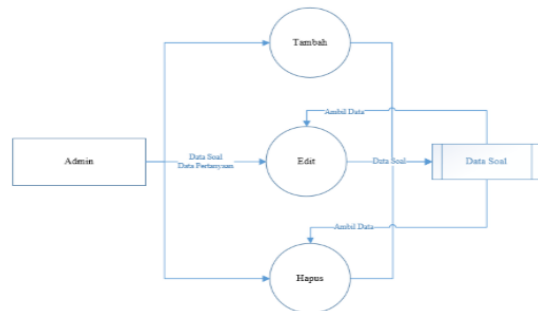


Figure 5. DFD Level 1 Entering Bank Question

e. DFD Level 1 Exam

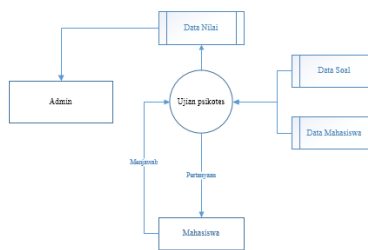


Figure 6. DFD Level 1 Flow Exam

f. DFD Level 1 Input Value

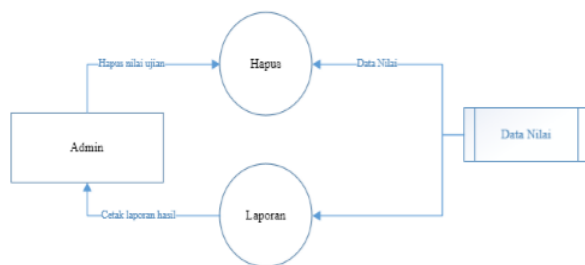


Figure 7. Data Flow Diagram Level 1 Value Process

2) Database Design

a. Table Relations

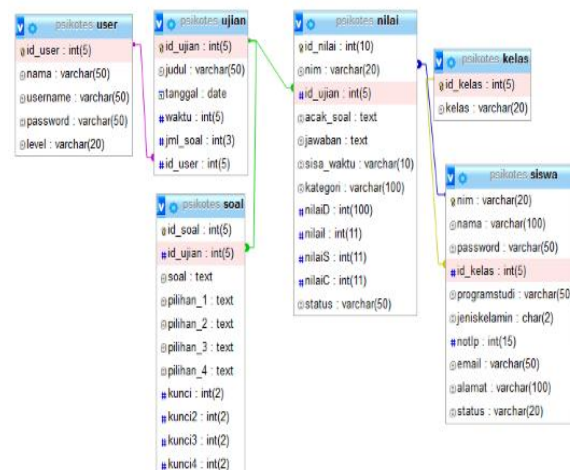


Figure 8. Table Relation

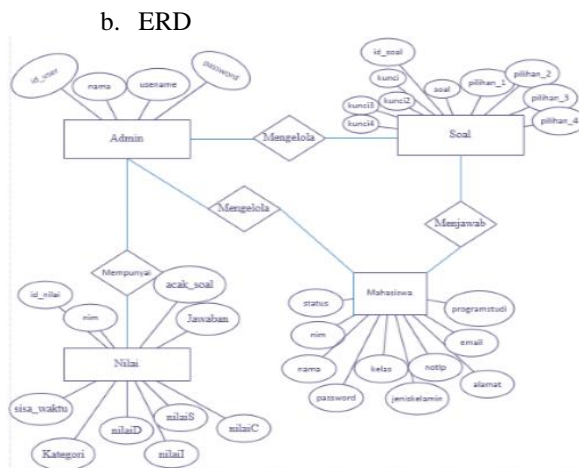


Figure 9. Entity Relationship Diagram

c) Implementation and Unit Testing

In this stage, the results of the software design will be realized as a set of programs or program units. The system implementation is made as close as possible to the system design so that the system that has been made is not out of the system requirements that have been designed.

d) Integration and System Testing

Individual program or program units are integrated into a system unit and then tested. In other words, this test is shown to test the connectivity of each software function to ensure that the system requirements have been met [2]. At this stage two methods will be carried out. The first phase will be tested for alpha and beta testing will be carried out.

1) Alpha Testing

In this type of testing, the user will also directly test the features. Users will use the guidelines created by the designer and then re-match whether they are appropriate or not. All types of errors from the system are recorded and corrected by the developer [3].

2) Beta Testing

In this test phase, the software will be delivered as a new version of the user who tested the application on the user's own media. Exceptions / defects that occur will be reported to the developer. Beta testing is done after alpha testing. A software version known as the beta version is released for users who are limited to outside the company. Software is given to the user group to ensure that the software has some troublesome errors or bugs [3].

This beta testing phase is to find out the user's response to the web-based psychological test application. Testing was carried out on a number of respondents. Then given a

questionnaire form that contains questions whether it is in accordance with the existing problems.

The following is about the questionnaire by the respondents and the results.

Table 1
Questionare by user

No.	Aspect Parameter	Value					Acc.
		VA	A	N	DS	DP	
1	Psycho test application this is needed in stages selection the participants of KKL	14	9	1			24
2	Psycho test application this is very selective support in the selection KKL participant	7	15	2			24
3	Psycho test application this can give results that is consistent and accurates	2	18	4			24
4	Psycho test application this provides complete features	4	16	4			24
5	This psychological test application is appropriate to be used as a selection stage for KKL participants	9	15				24
6	This web-based psychological test application is easier to use compared to the previous psychological test	11	13				24
RESULT		47	86	11			144

The number of respondents as many as 24 people with each respondent got as many as 6 questions, the total value of the questions was 144. The results of the questionnaire were 47 very agree statements, 86 agree statements, 11 statements disagree, 0 disagreements and 0 statements very disagree. The results of the questionnaire obtained the following percentage:

- VA : 47/144 x 100% = 33%
- A : 86/144 x 100% = 59%
- N : 11/144 x 100% = 7,6%
- DA : 0/144 x 100% = 0%
- DP : 0/144 x 100% = 0%

Thus, the percentage of the respondent's statements that are the biggest 59% and included in the assessment category agree.

e) Operation and Maintenance

After the web-based psychological test application is tested, the system must go through operational and maintenance stages. It is intended to monitor system performance, detect errors that were not detected during testing.

1) User training operations

Human resources are one of the main factors that determine the achievement of computerized system goals. To realize this, training must be required for every personnel who will be involved in the use. Admin must at least know the problem of computer operation, maintenance, and maintenance.

2) Maintenance

▪ Backup program

Backup programs can be done easily, namely simply copying files related to the system page, storage can be in the form of flashdisk, CD, DVD or hard drive

▪ Backup database

To maintain the database and prevent the database from being lost, it is necessary to backup the database and this step needs to be done periodically, both every month and every year.

4. CONCLUSION

After doing research on the problems that exist in the web-based psychological test application for the selection of KKL participants, it can be concluded as follows:

- a. This psychological test application can be a means for selecting KKL participants.
- b. This study has successfully built a web-based psychological test application model for selection of KKL participants that can be used

to help classify personality types based on exam results.

. In the trial of all the features contained in this performance assessment application, it has passed the trial test, namely the alpha test and beta test using a questionnaire. The results of the questionnaire from the 6 questions submitted received a percentage of 59% belonging to the criteria agreed.

5. NOVELTY

In this study, by looking at the opportunities available, other researchers can develop using several psychological theories other than DISC. Even though DISC actually does not say that it is the right method if used in personality selection.

6. REFERENCES

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