

System CAT (Computer Assisted Test) information for Multimedia Department of Muhammadiyah Vocational High School 2 Moyudan Web-based

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Abstract

The computer-assisted test or what is usually called the CAT is a test whose main media use is a computer and the internet. The CAT system is the same as the test in general, it's just that the difference is the media used. If usually the CAT test still uses paper, then in this system this is no longer needed. SMK Muhammadiyah 2 Moyudan is located at Ngentak , Sumberagung , Kec . Moyudan , Sleman Regency, Special Region of Yogyakarta 55563. The process of accepting students majoring in multimedia tests that are still carried out manually, namely using paper and other writing instruments, certainly takes a long time. The purpose of this study is to design a CAT system so that the tests carried out can be efficient and the resulting values can be obtained in real-time. This system is designed using the Laravel framework. PHP and MySQL databases are the programming languages used in this study.

Keywords : Information, CAT, PHP, Mysql

1. INTRODUCTION

Education is the most important need, especially for the younger generation, so it needs support from parents, educational institutions, etc. Support can be in the form of existing facilities, for example in the teaching and learning process. Technology teaching and learning process is currently developing very quickly.

Computers are a very reliable technology in all fields. [1]. Current technological developments are very influential in all aspects, be it the economy, the problem of social inequality, politics, and so on. Technology has advanced rapidly, and trials in various fields have also improved quality, speed, and convenience. One of them is the Computer Assisted Test (CAT). Computer tests are used as an assessment tool to measure knowledge by collecting test-taker data that meets the requirements and storing test-taker test results in a central database. In other countries, the provision of computer-based assessments has become standard, making them increasingly attractive to education ministries, legislators, and other decision-makers. The advantage of online exams is that results can be reported in real-time [2].

The development of the digital world makes it easier for almost all human work so doing work is very time efficient. The development of information technology is followed by the development of operator/developer interfaces, both hardware and software. Hardware and mostly in the form of input and output devices (input-output). Although software contains computer programs. With the existence of a system that facilitates needs that can even replace human positions as workers, it begins to develop rapidly. One example is the development of multimedia which is the most crucial part of the educational aspect both in terms of learning and in terms of administration. The quality of learning cannot be measured by how much material the teacher provides in class, but by how much material students receive. One application in the form of

multimedia that can be used as a companion learning media is the Computer Assisted Test (CAT) application as a test medium for new students [3]. Multimedia is needed in the current era because it has various benefits such as increasing the quality of academic systems, learning management systems, and other learning resources [4].

SMK Muhammadiyah 2 Moyudan is located at Ngentak, Sumberagung, Kec. Moyudan, Sleman Regency, Special Region of Yogyakarta 55563. At the Vocational High School, there is no multimedia capability assessment system for new students. Given these problems, a Computer Assisted Test (CAT) information system was created to make it easier for teachers or committee members to select students. And prospective new students can find out points in real-time. [5]

Based on this, the authors want to design a CAT system for SMK Muhammad 2 Moyudan. This research takes the title "CAT Information System (Computer Assisted Test) for the Multimedia Department of SMK Muhammadiyah 2 Moyudan".

2. RESEARCH METHODS

2.1. Object Study

object study This is system Information on Computer Assisted Test (CAT) at SMK Muhammadiyah 2 Moyudan web-based which is located at Ngentak, Sumberagung, Kec. Moyudan , District Sleman , Special Region of Yogyakarta 55563. Research This designing A system To help the school For selecting students To enter a multimedia major with a method that gives questions that have been determined by the school and works with use Computer Assisted Test (CAT) method, to know the mark results exam in a manner direct or real-time.

2.2. Method Data Collection

Data collection techniques are methods used by researchers to get field data. the data will be studied from sources that have been obtained in the field. the data include way use of CAT, assessment process, question data, key data answers, assessment process, etc. Method data collection used researcher are :

2.2.1. Library Studies

Method studies References with study and study journal from various sources among them

- 1) A journal written by Ferry Putrawansyah in 2017 that is related to the CAT application for Reception Students in New High School Technology Fence Nature (STTP)
- 2) Development *Computer Assisted Test* (CAT) On Admission Student New In Tech College Pagaralam, Ferry Putrawansyah, Alfis Arif (2018)
- 3) System Information Reception Student New at Manokwari College of Law (STIH) , Enggelbertus Gobai , Zulkarnain , Lilis Indrayani (2020)

2.2.2. Method Observation

Method Observation Does observation direct to SMK Muhammadiyah 2 Moyudan? noted required data and information _ in research, as follows:

- 1) Candidate data students who have registered school To enter major multimedia.
- 2) Question data For the CAT exam along with the answer.
- 3) Committee data executor selection student.
- 4) CAT assessment process

5) Department data.

2.2.3. Method interview

Method interview was done with ask or communicate in a manner direct. Do interviews with head schools, teachers, and committees at SMK Muhammadiyah 2 Moyudan. To get information regarding the selection process reception students new already walked. Then compare selection process requirements using CAT

2.3. Design System

2.3.1. Context Diagram

Context Diagrams are usually used To give a description or expose channel Work systems broadly speaking. Context Diagram is useful For giving a draft base from A system that will be designed.

The Context Diagram explained that in the system information, there are four entities, namely: Admin, Committee, Head School, and Prospective Students. Each user has right each other's access. Context Diagram System CAT information can be seen under this :

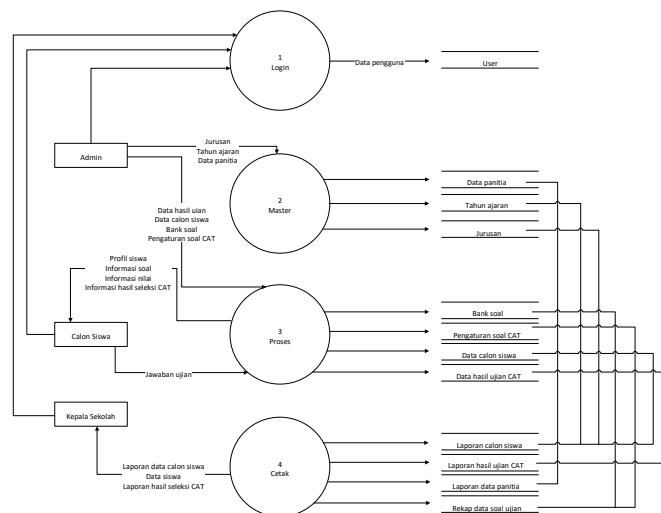


Figure 1 . Context Diagram

2.3.2. DFD Level 1

DFD level 1 is used For Describing the details of the process that occurs in a shared system become four part of the process, namely: Login, Master Data, Transactions, and Print. DFD level 1 System CAT information can be seen under this :

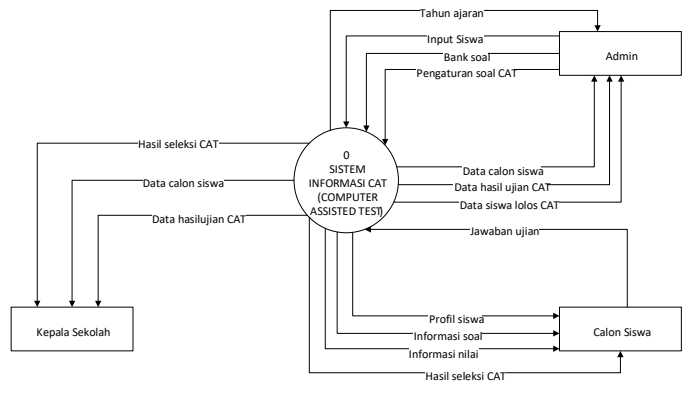


Figure 2. DFD Level 1

Description :

- 1) Id_candidate_students in tb_candidate_students related to tb_results_ujian and tb_reference_students
- 2) Id_majors on tb_results exam related on tb_reference_students , tb_majors , tb_bank question , tb_settings question
- 3) Id_study_year in tb_study_year related to tb_settings_soal

3. RESULTS AND DISCUSSION

3.1. Login Page

The login page functions to log into the system. Users can input their email and password before accessing this website. The system will check the previously entered data.

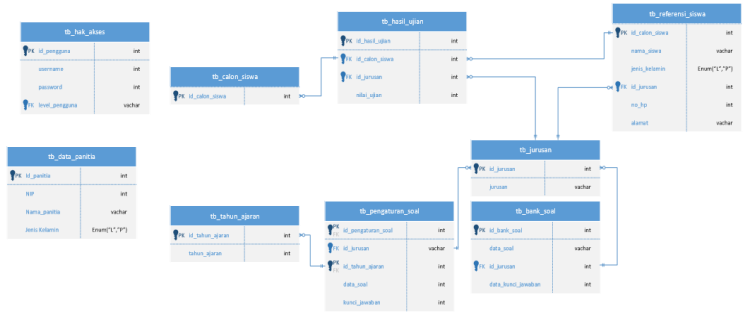


Figure 3. Database Design

3.2. Dashboard page

The dashboard page is apparently beginning to be first appeared _ when the user successfully logs in with the right. this page displays the total students and the total committee.



Figure 4. Database Design

3.3. Committee Data Page

This page contains committee data and is also available action to edit and delete committee data the

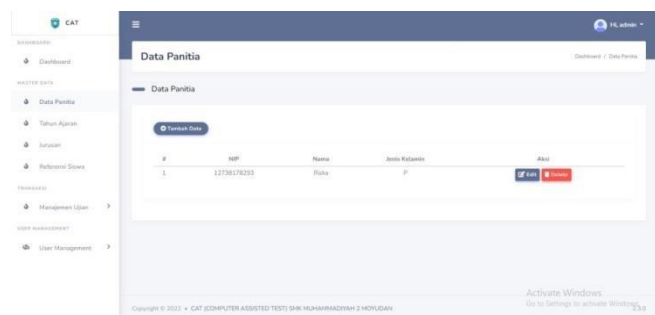


Figure 5. Committee Data Page

3.4. Year Page Teachings

this page contains data displayed in the form of year teachings and there are also actions to edit and delete year teachings.

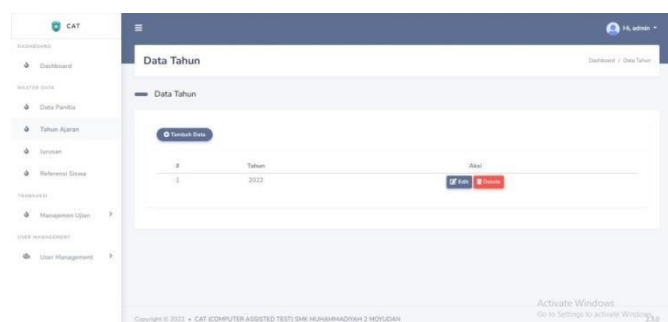


Figure 6. Year Page teaching

3.5. Department Page

This page contains data displayed in the form majors and actions edit and delete major the.

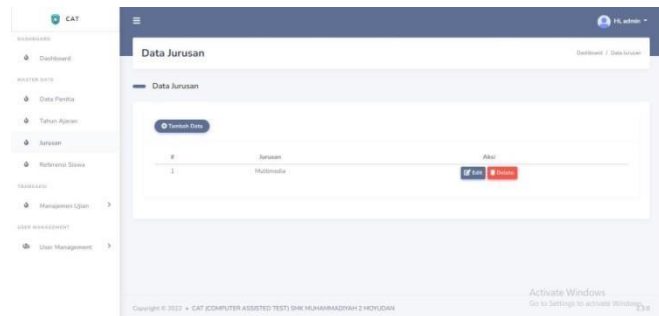


Figure 7. Department Page

3.6. Reference Page Student

This page contains data displayed in the form major, name, type gender, cellphone number, address, and action to edit and delete.



Figure 8. Reference Page Student

4. CONCLUSION

Based on the results implementation of System CAT (Computer Assisted Test) Information For the Multimedia Department of SMK Muhammadiyah 2 Moyudan WEB based, then can take the conclusion as follows:

- 1) Study This produces System CAT (Computer Assisted Test) Information For the Multimedia Department of SMK Muhammadiyah 2 Moyudan WEB based, which can be used by teachers and students To can simplify the exam process For entering a major digitally.
- 2) Test results System CAT (Computer Assisted Test) Information For Multimedia Department of SMK Muhammadiyah 2 Moyudan WEB based, showing that system that has designed can useful with Good matter This showed with results acquisition mark the most after trials were carried out appearance 60% system delivers response very attractive, easy in using the program 57.1% gave response easily, 48.6% program benefits provide response usefully, and 51.4% program performance gives response very ok.

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