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Application Design Study of Plantation High School Students on Web-Based Tourism and Creative Industry in Muhammadiyah Tangerang University

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Abstract:

Specialization studies application is an application built to help determine the level of specialization in a group of people on a case by collecting data through surveys and analyze the data. Faculty of Tourism and Creative Industries Muhammadiyah University of Tangerang conduct surveys to collect data on student interest in the various fields of the tourism industry and the creative industries to be used as supplementary data in the filing of new courses. But the survey systems that still use paper forms to make the storage time data into the computer takes a long time because of the use of paper forms was less efficient. By designing the application to perform a computerized specialization studies which also includes an online survey functionality is expected to overcome the existing problems. The author uses the method of SWOT analysis, the Strength, Weakness, Opportunity, and the Threat, in the design of information systems to illustrate the main stages and steps in the development of application and method of its design using UML as a tool for modeling systems, blackbox testing methods used when testing the functions of the application whether it is correct or error condition exists.

Keywords — **Tourism Industries and Creative Industries, Specialisation Studies, Survey.**

I. INTRODUCTION

Progress in the field of informatics has experienced a rapid development in the past decade, almost all fields using computers as an important tool for organizations to achieve goals. Computerization of systems that are still manual enables better management of important data that the organization needs to manage these data into useful information.

Muhammadiyah University of Tangerang is one of the educational institutions that utilizes this progress to support various academic activities. The use of a computerized system has become an absolute necessity in handling various needs, for example in academic information systems. However, there are several systems where the process is still done manually, especially the specialization study system for high school students in the faculties of tourism and creative industries. The use of physical forms is felt to be increasingly inefficient because the files are increasing more and more each year which causes difficulty in managing the file.

The specialization of high school students is something that is needed by the faculty to find out how much the interest of high school students in various fields of tourism and creative industries so that it can function as a decision support in determining the new study program that will be opened by the faculty, besides High school student specialization studies are one of the requirements that must be met by the faculty in order to open a new study program and submit it to the DIKTI so that the DIKTI can assess whether the new study program is worth opening or not. Therefore, to provide a solution to the problem above the author took the title of the research, namely: "Designing Applications for Specialization Study of High School Students Against the Web-Based Tourism and Creative Industry Industry at the Muhammadiyah University of Tangerang".

II. RELATED WORK

In order to make it easier to understand the material related to the writing of scientific articles, the writer presents it simply as follows.

A. Specialization Study Application

"Applications or in this case application software is a subclass of computer software that utilizes the ability of the computer directly to perform a task that the user wants". It is usually compared to system software that integrates various computer capabilities, but does not directly apply this ability to do a task that benefits the user.

According to KBBI online the understanding of studies is "scientific research; study; review "(http://kbbi.web.id/studi: 2015). From this understanding, it can be concluded that study is an activity of a person to examine things in their entirety and deeply.

According to the big management of ABKIN "Specialization comes from the word interest, which means that the tendency or desire is strong enough to develop in individuals who are directed and focused on the realization of a condition by considering the individual's basic abilities, talents, interests and inclinations" (ABKIN: 2013). In the world of education, specialization of individuals or students is first directed and focused on specialization in study and career or work. Specialization on the individual or learner is developed and manifested first based on the potential or conditions that exist in the individual itself (ie the potential for basic mental abilities, talents, interests, and personal tendencies), and both are influenced directly or indirectly by environmental conditions, both natural, family life, groups and society as well as culture, and specifically educational facilities obtained by students.

Based on the meanings discussed above, it can be concluded that the application of specialization studies is a computer-based application that facilitates the user to collect data about a person's tendency towards something and process the data into information to be used properly.

B. Tourism and Creative Industry

As stated in Law No. 10 of 2009 that "the tourism industry is a collection of businesses that are interrelated in order to produce goods and or services for meeting tourist needs in the implementation of tourism" (Law No. 10: 2009), and tourism businesses are businesses that provide goods and or services for meeting the needs of tourists and tourism organizers.

The tourism industry is one industry that has a strong link with other sectors, because tourism can be said to be a combination of phenomena and reciprocal relationships due to interactions with tourists, business suppliers, government tourist destinations and the community of tourist destinations.

According to the Indonesian Ministry of Trade in Fitriana (2009: 5), "Creative Industries are industries that originate from the use of creativity, skills and individual talents to create prosperity and employment by generating and empowering the individual's creative and creative power"..

C. Code Igniter Framework

According to Hakim (2010: 8), CodeIgniter is a PHP framework that can help speed up developers in developing PHP-based web applications rather than writing all program code from scratch.

Figure 1. Code Igniter logo
Source: Hakim (2010: 9) Building a Web Based on PHP with the Code Igniter Framework

CodeIgniter was first created by Rick Ellis, CEO of Ellislab, Inc. (http://ellislab.com), a company that produces a fairly reliable CMS (Content Management System), namely Expression Engine (http://www.expressionengine.com). At present, CodeIgniter is developed and maintained by the Expression Engine Development Team.

In terms of programming, Code Igniter is compatible with PHP4 and PHP5, so it will run well on web hosts that are widely used today. Code

Igniter uses the design pattern -Model-View-Controll (MVC), which is a way to organize web applications into 3 different parts, namely database abstraction layers, front-view file views, and Controller-business logic from application. In essence Code Igniter also makes extensive use of the Singleton design pattern. The point is to load the class so that if the class is called in several times, the same event in that class will be reused. This is very useful in database connections, because we only want to use one connection each time the class is used

The advantages of using Code Igniter include:

1. Free, Code Igniter is licensed under Apache or BSD opensorce.
2. Written Using PHP 4, Although Code Igniter can run in PHP 5, but until now the Code Igniter program code is still created using PHP 4.
3. Small size, A small Code Igniter size is a distinct advantage. Compared to other large sized frameworks.
4. Using the MVC Concept, Code Igniter uses the MVC concept that allows the separation of application-logic and presentation layers.
5. Simple URL, By default, the Code Igniter generated URL is very clean and Serach Engine Friendly (SEF).
6. Have a Complete Library Package, Code Igniter has a complete library for working on operations that are commonly needed by a web-based application, for example accessing databases, sending emails, validating forms, handling sessions and so on.
7. Extensible, Systems can be easily developed using plugins and helper, or by using hooks.
8. Does Not Require an Engine Template, AlthoughCode Igniter is equipped with a simple parser template that can be used, this does not require us to use it.
9. Complete and clear documentation, Of the many frameworks, Code Igniter is the only framework with complete and clear documentation.
10. Community, The Code Igniter community is currently growing rapidly. One of the communities can be found at (http://Code Igniter.com/forum/).

The process of application data flow on the system can be illustrated as shown in Figure 2.

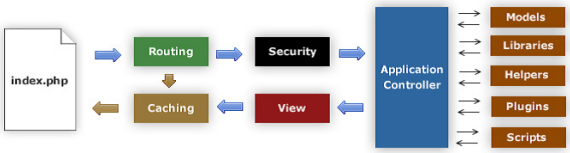

Figure 2. Application Flowchart
Source: Hakim (2010: 12) Building a Web Based on PHP with the Code Igniter Framework

Information:

1. Index.php functions as a front controller, initializing the resorce base to run Code Igniter.
2. The router checks the HTTP request to determine what to do with it.
3. If the cache is active, the results will be sent directly to the browser ignoring the normal data flow.
4. Security. Before the Controller is loaded, HTTP requests and data sent by the user will be filtered for security.
5. Controllers load models, core libraries, plugins, helpers and all the resources needed to process requests.
6. Finally, the resulting view will be sent to the browser. If the cache is active, then the view will be saved as a cache first, so that the next request can be displayed immediately.

CodeIgniter is very light, structured, easy to learn, complete documentation and outstanding support from the CodeIgniter forum. In addition, CodeIgniter also has other features that are very useful, including as advantages of the CodeIgniter Framework: (Daqiqil, 2011: 3)

1. Using the MVC Pattern. By using this MVC pattern, the resulting code structure becomes more structured and has clear standards.
2. URL friendly. The URL generated is very URL friendly. CodeIgniter minimizes the use of $ _GET and is replaced with a URL.
3. Convenience. Ease of learning, creating libraries and helper, modifying and integrating libraries and helper.
4. If we compare CodeIgniter with other frameworks, then some of the points that make CodeIgniter superior are:

a. Speed. Based on the CodeIgniter benchmark results, it is one of the fastest PHP frameworks available today.
b. Easily modified and adapted. It's easy to modify this behavior framework. No need for server requirements that are various and easy to adopt other libraries.
c. Complete and clear documentation.
d. Low Learning Curve. Code Igniter is very easy to learn. In selecting the framework this is very important to note because it must pay attention to the skills of all team members. If a framework is very difficult to learn, it will be risky to hinder the development team.

D. MVC (Model-View-Controller)

Model-View-Control (MVC) was first introduced by Xerox PARC researchers who worked on Smalltalk programming languages in the late 1970s and early 1980s. Smalltalk is an object oriented, dynamic and reflective type of programming language. Smalltalk was first used in educational learning and this is different from mainframe data and control structures in the Smalltalk program involved in the Windowed User Interfaces, the concept of object-oriented programming, the introduction of messages between object components, and the ability to monitor and modify their own structures and behavior.

MVC is a pattern or programming technique that separates between application developers based on the main components of an application, such as data manipulation, user interfaces and application control parts.

In simple terms it can be said that between design and process data is in a separate place. Currently MVC is a concept that is quite popular in the development of web applications, which began in Smalltalk language.

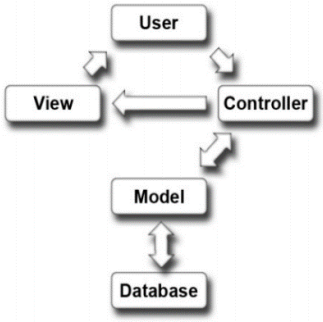

Figure 3. Model-View-Control

There are three types of components that build an MVC pattern found in Figure 4, namely:

1. Models relating to data and interaction to the database or webservice. The model also presents data structures of applications that can be either database or other data, for example in the form of text, XML and webservice files. Usually the model will contain classes and functions for data manipulation such as insert, update, delete and search, but cannot relate directly to the view section, website applications usually use databases to store data, therefore the model will usually relate to commands - SQL query command.
2. View-View is related to everything that will be placed to end-users, usually in the form of web pages, RSS, Javascript and others. Programmers must avoid data processing logic in the view. In the view only contains variables that contain data that is ready to be displayed. View can be said as a website page that is created using HTML with the help of CSS, Javascript and Jquery. In the view, the code must also be avoided when connecting to the database. View is only devoted to displaying data from the model and controller. This section does not have direct access to the model section.
3. Controller-Controller is the link between the model and view. In this controller there are classes and functions that process requests from the view into the data structure in the model. The controller must also not contain code to access the database. The task of the controller is to provide various variables that will be displayed in the view, call the model to

access the database, provide validation or check the input.

E. Object Oriented Programming

Object-oriented methodology is a software development strategy that organizes software as a collection of objects that contain data and operations that are applied to it. The advantages of using object-oriented methodologies are as follows:

1. Increase productivity, because classes and objects found in a problem can still be reused for other problems that involve the object (reuseable)
2. Speed of development, because the system is built properly and correctly at the time of analysis and design will cause a reduction in errors during processing.
3. Ease of maintenance, because with object models, patterns that tend to be fixed and stable can be separated and patterns that may change frequently.
4. Consistency, because of the inheritance and use of the same notation at the time of analysis, design and coding.
5. Software quality, because the development approach is closer to the real world and there is consistency at the time of its development, the resulting software will be able to meet the needs of users and have a few errors. Some examples of programming languages that support object oriented programming: Smalltalk programming language, Eiffel, C ++, PHP, Java.

III. METHODOLOGY

Here is the explanation the method for this research:

A. Current System Procedure

At this time the specialization study system at the Faculty of Tourism and Creative Industry at the University of MuhammadiyahTangerang still uses manual methods with the use of paper forms to conduct surveys and then typed into spreadsheet documents.

The survey process was carried out on high school students by providing two-page paper forms with information contents, level of understanding, source of information, level of interest, length of education and level of education desired by each survey participant.

Specialization Study Procedure.

The specialization study process begins by inputting survey data into a computer in a spreadsheet format, then analyze the data obtained so that it becomes useful information for consideration in proposing the procurement of new study programs.

B. SWOT System Analysis Method

To clarify the position of educational institutions as well as the role and function of information technology, the position of educational institutions in the form of a SWOT matrix will be mapped, which will be seen as a combination of the use of power to seize opportunities, overcome weaknesses, use force to avoid threats, minimize weaknesses and avoid threats:

	Strength (Kekuatan)	Weakness (Kelemahan)
Faktor Internal \ \ Faktor Eksternal	1. Sumber Daya Manusia yang banyak 2. Industri kreatif sebagai pendorong kemajuan ekonomi bangsa 3. Memiliki hubungan kerjasama dengan berbagai pelaku bisnis	1. Fakultas yang masih baru 2. Jumlah mahasiswa yang belum terlalu banyak 3. Jurusan pariwisata dan industri kreatif belum sepopuler jurusan lain
Opportunity (Peluang)	Strategi SO	Strategi WO
1. Tersedia alat-alat teknologi informasi untuk sarana dan prasarana 2. Lingkungan pendidikan yang terjangkau network 3. Sumber daya alam yang mendukung	1. Adanya SDM yang banyak dapat membantu berbagai aktifitas dengan didukung oleh peralatan serta sarana dan prasarana yang memadai 2. Industri kreatif yang saat ini digalakkan oleh pemerintah sebagai faktor penting penopang perekonomian 3. Berada dilokasi yang strategis memanfaatkan kerjasama dengan para pelaku bisnis yang sesuai dengan masing-masing jurusan	1. Mempromosikan keberadaan fakultas dan jurusannya dengan memanfaatkan sarana dan prasarana yang ada 2. Melakukan kerjasama dengan berbagai industri dan pelaku bisnis agar lebih menarik minat calon mahasiswa 3. Memanfaatkan lingkungan yang terjangkau network untuk menyediakan akses informasi dan pelayanan secara cepat, tepat, dan terpadu
Thread (Ancaman)	Strategi ST	Strategi WT
1. Keberadaan kampus lain sebagai kompetitor 2. Munculnya kompetitor kampus-kampus baru 3. Dinamika masyarakat yang lebih berminat pada bidang teknologi dan pemerintahan	1. Memanfaatkan SDM yang banyak untuk meningkatkan kualitas fakultas 2. Memaksimalkan kelebihan fakultas yang berkonsentrasi pada bidang pariwisata dan industri kreatif sebagai keunggulan dibandingkan jurusan lain 3. Melakukan kerjasama dengan pihak lain yang kmpeten untuk mendukung jurusan agar lebih diminati oleh calon mahasiswa	1. Membangun image bahwa industri pariwisata dan industri kreatif memiliki prospek yang cerah 2. Melakukan promosi tentang keunggulan fakultas secara tepat kepada para calon mahasiswa 3. Memberikan informasi tentang berbagai cerita kesuksesan yang mengandalkan industri pariwisata dan industri kreatif untuk menggugah minat calon mahasiswa

Figure 4. SWOT Analysis

IV. RESULT AND DISCUSSION

A. *Program Design*

HIPO (HirarchyPlus Input Process Output) is a tool to create program specifications which are structures that contain diagrams in which the program contains inputs that are processed and produce output. Program specifications explain how to use the proposed program application. Visual Table of Content (VTOC) is a diagram that illustrates the relationship and function of the system in stages, as below:

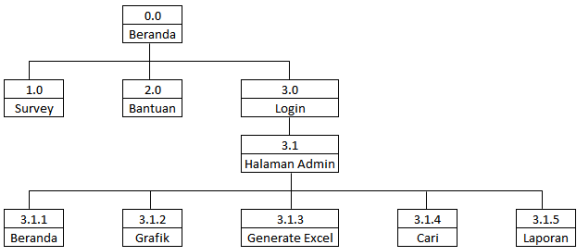

Fig 5. HIPO (Hierarchy Plus Input Process Output)

No.	Nama Tabel		Keterangan
1	frekuensi_keterlibatan	data_pribadi	Tabel frekuensi_keterlibatan memiliki hubungan one to one dengan tabel data_pribadi karena satu data_pribadi hanya boleh memiliki satu frekuensi_keterlibatan begitu pula sebaliknya satu frekuensi_keterlibatan hanya boleh dimiliki oleh satu buah data_pribadi
	idsurvey**, metro_tv, tv_one, rcti, tvri, indosiar, sctv, lain1, kompas, republika, lain2, radar_tangerang, tribun_banten, satelit_news, lain3, rri, elshinta, lain4	idsurvey*, nm_survey, jk, tmpt_lahir, tgl_lahir, agama, almt_survey, kode_pos, email, no_tlp, hobi, nm_sekolah, jurusan, almt_sekolah	
2	survey_peminatan	data_pribadi	Tabel survey_peminatan memiliki hubungan one to one dengan tabel data_pribadi karena satu data_pribadi hanya boleh memiliki satu survey_peminatan begitu pula sebaliknya satu survey_peminatan hanya boleh dimiliki oleh satu buah data_pribadi
	idsurvey**, perhotelan, jasa_usaha_wisata, jasa_penerbangan_cargo, penerbitan, percetakan, desain_grafis, desain_mode, desain_interior_eksterior, periklanan, animasi, broadcasting, kerajinan, musik_seni_pertunjukan, fotografi, arsitektur, riset_pengembangan, kuliner	idsurvey*, nm_survey, jk, tmpt_lahir, tgl_lahir, agama, almt_survey, kode_pos, email, no_tlp, hobi, nm_sekolah, jurusan, almt_sekolah	
3	tingkat_pemahaman_responden	data_pribadi	Tabel tingkat_pemahaman_responden memiliki hubungan one to one dengan tabel data_pribadi karena satu data_pribadi hanya boleh memiliki satu tingkat_pemahaman_responden begitu pula sebaliknya satu tingkat_pemahaman_responden hanya boleh dimiliki oleh satu buah data_pribadi
	idsurvey**, perhotelan, jasa_usaha_wisata, jasa_penerbangan_cargo, penerbitan, percetakan, desain_grafis, desain_mode, desain_interior_eksterior, periklanan, animasi, broadcasting, kerajinan, musik_seni_pertunjukan, fotografi, arsitektur, riset_pengembangan, kuliner	idsurvey*, nm_survey, jk, tmpt_lahir, tgl_lahir, agama, almt_survey, kode_pos, email, no_tlp, hobi, nm_sekolah, jurusan, almt_sekolah	
4	data_pribadi	lama_pendidikan	Tabel data_pribadi memiliki hubungan one to one dengan tabel lama_pendidikan karena satu data_pribadi hanya boleh memiliki satu baris data lama_pendidikan begitu pula sebaliknya satu baris data lama_pendidikan hanya boleh dimiliki oleh satu buah data_pribadi
	idsurvey*, nm_survey, jk, tmpt_lahir, tgl_lahir, agama, almt_survey, kode_pos, email, no_tlp, hobi, nm_sekolah, jurusan, almt_sekolah	idsurvey**, perhotelan, jasa_usaha_wisata, jasa_penerbangan_cargo, penerbitan, percetakan, desain_grafis, desain_mode, desain_interior_eksterior, periklanan, animasi, broadcasting, kerajinan, musik_seni_pertunjukan, fotografi, arsitektur, riset_pengembangan, kuliner	
5	data_pribadi	level_pendidikan	Tabel data_pribadi memiliki hubungan one to one dengan tabel level_pendidikan karena satu data_pribadi hanya boleh memiliki satu baris data level_pendidikan begitu pula sebaliknya satu baris data level_pendidikan hanya boleh dimiliki oleh satu buah data_pribadi
	idsurvey*, nm_survey, jk, tmpt_lahir, tgl_lahir, agama, almt_survey, kode_pos, email, no_tlp, hobi, nm_sekolah, jurusan, almt_sekolah	idsurvey**, perhotelan, jasa_usaha_wisata, jasa_penerbangan_cargo, penerbitan, percetakan, desain_grafis, desain_mode, desain_interior_eksterior, periklanan, animasi, broadcasting, kerajinan, musik_seni_pertunjukan, fotografi, arsitektur, riset_pengembangan, kuliner	

B. *Database design*

The normal form of a relational database is achieved through several stages called the normalization process. Unnormalized steps, First Normal Form (1NF), Second Normal Form (2NF) to the Third Normal Form (3NF) will be discussed in the following sections:

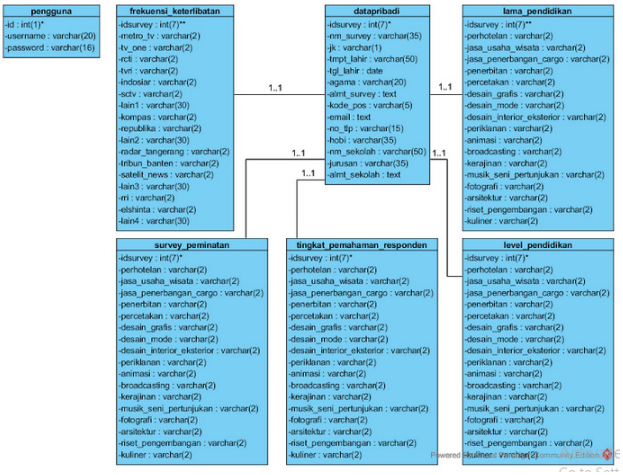

Figure 6. Second Normal Form (2NF)

Can be explained Second Normal Form image (2NF) is a table for a group of related values and consists of 7 tables: i.e. user table, frequency_involvement table, personal data_p table, education_public table, survey_pregnancy table, respondent__review table, and education level_ table.

Table I
Table First Normal Form

C. *Use Case Diagram Sistem*

Use case diagrams illustrate the expected functionality of a system. What is emphasized is "what" the system does, not "how" a system works. A use case diagram represents an interaction between the actor and the system.

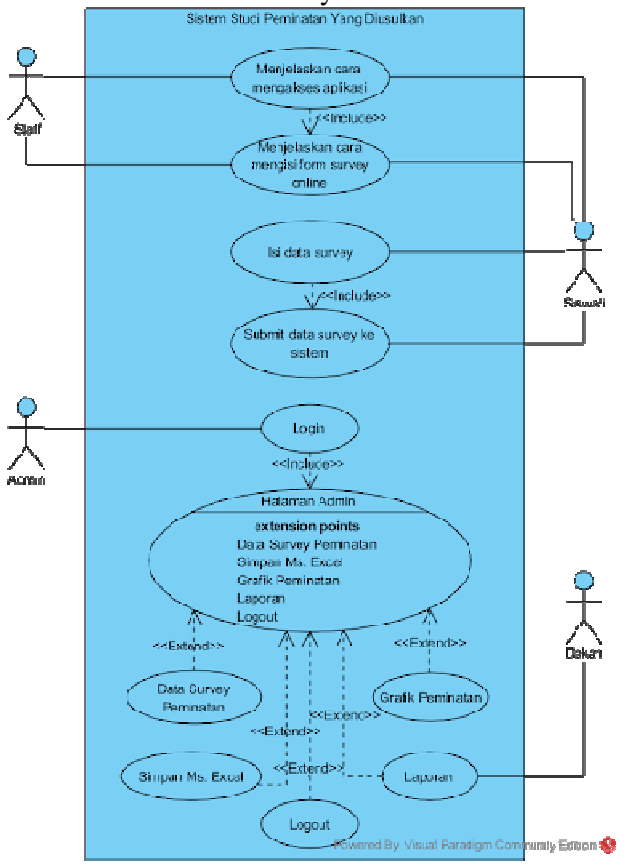

Figure 7. Use Case Diagram System

Based on figure 4.1. Use Case The proposed system diagram is:

Table II.
Use Case Scenarios Explain how to access the application

Nama Use Case	Menjelaskan cara mengakses aplikasi include Menjelaskan cara mengisi form survey online	
Aktor	Staff, Siswa/i	
Deskripsi	Menjelaskan cara mengakses aplikasi melalui web browser dan cara mengisi form survey online	
Pre – Condition	1.Staff telah diberi pelatihan untuk mengarahkan siswa/i dalam menggunakan aplikasi 2.Siswa/i telah diberitahu bahwa akan ada pengambilan survey	
Deskripsi Kegiatan	Staff	Siswa/i
	1.Memberikan pengarahan kepada para siswa/i bagaimana cara mengakses aplikasi 2. Memberikan pengarahan kepada para siswa/i bagaimana cara mengisi form survey online	1.Memerhatikan pengarahan dari staff
Kesimpulan	Staff mendapat pelatihan dari pengembang aplikasi dalam menggunakan aplikasinya khususnya prosedur pengambilan survey	
Post Condition	Siswa telah diberi pengarahan oleh staff bagaimana mengakses aplikasi dan mengisi form survey online	

Table III.
Use Case Scenario Fill in the survey data

Nama Use Case	Isi data survey include Submit data survey ke sistem	
Aktor	Siswa/i	
Deskripsi	Siswa/i mengisi survey berdasarkan tigkat peminatan masing-masing	
Pre – Condition	1.Siswa/i telah diberi arahan oleh staff tentang tata cara mengakses aplikasi dan mengisi form survey online	
Deskripsi Kegiatan	Siswa/i	
	1.Mengakses aplikasi dan mengisi form survey	
Kesimpulan	Siswa/i mengakses aplikasi dan melakukan pengisian survey serta men-submit-nya ke sistem	
Post Condition	Siswa telah mengisi form survey dan men-submit nya ke sistem	

Table IV.
Use Case Scenario login admin

Nama Use Case	Login include Halaman Admin	
Aktor	Admin, Dekan	
Deskripsi	Melakukan login ke aplikasi dan masuk kehalaman admin untuk melakukan studi peminatan	
Pre – Condition	1.Admin dan Dekan telah diberi username dan password oleh pengembang aplikasi untuk mengakses halaman admin	
Deskripsi Kegiatan	Admin	Dekan
	1.Login ke halaman admin 2.Mengelola data survey peminatan 3.Menyimpan data survey ke Ms. Excel 4.Melihat grafik peminatan 5.Membuat laporan hasil studi peminatan 6.Logout dari aplikasi	1.Melihat laporan hasil studi peminatan
Kesimpulan	Admin melakukan login ke halaman admin kemudian mengelola data survey peminatan dan dekan melihat laporan hasil studi peminatan	
Post Condition	Admin dan Dekan telah diberi pelatihan oleh pengembang aplikasi bagaimana cara menggunakan aplikasi	

D. *Flowchart Design*

The program flowchart is more detailed information about how each step of the program or procedure is actually carried out. This flowchart shows each step of the program or procedure in the right order when it occurs. The following system flowchart is proposed for the Design of Applications for Specialist Study of High School Students Against the Web-Based Tourism and Creative Industries at Muhammadiyah University of Tangerang.

1. Flowchart Program for the Home Page

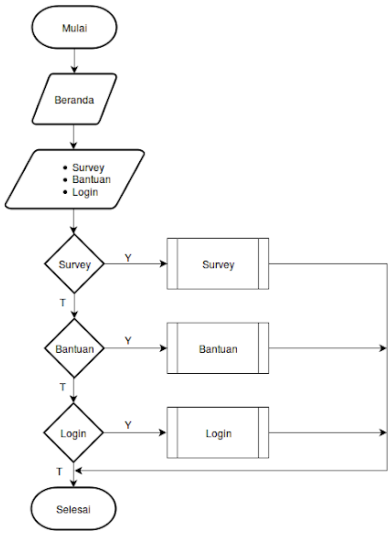

Figure 8. Flowchart Program for the Home Page

Based on Figure 8. The Flowchart Program for the Home Page is:

a. 2 (two) terminator symbols, which mark the beginning and end of the program flowchart process flow, namely "start" and "finish".
b. 2 (two) data symbols, which state the input or output process regardless of the type of equipment, namely "Home" and in the home page there is a menu "Survey", "Help", and "Login".
c. 3 (three) decision symbols, which show the decision-making step if "yes" or "no".
d. 3 (three) predefined process symbols, the process described in more detail in a separate flow chart.

2. FlowchartProgram for Survey Menu

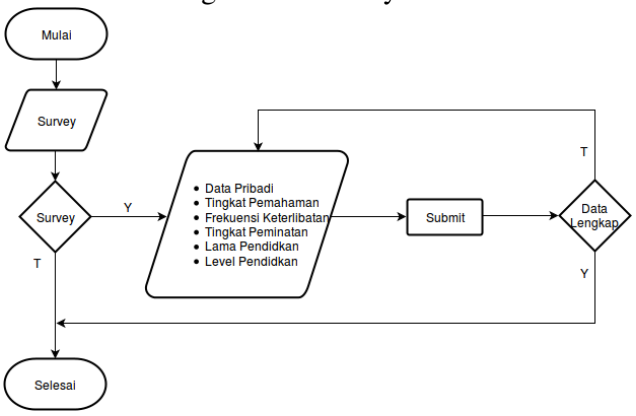

Figure 9. Flowchart Program for Survey Menu

3. Flowchart Program for the Help Menu

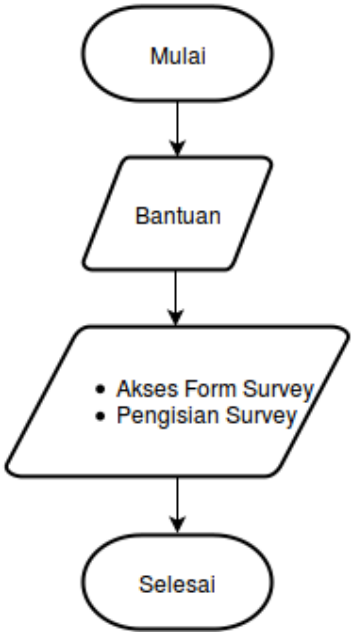

Figure 10. Flowchart Program for the Help Menu

4. FlowchartProgram For Login Menu

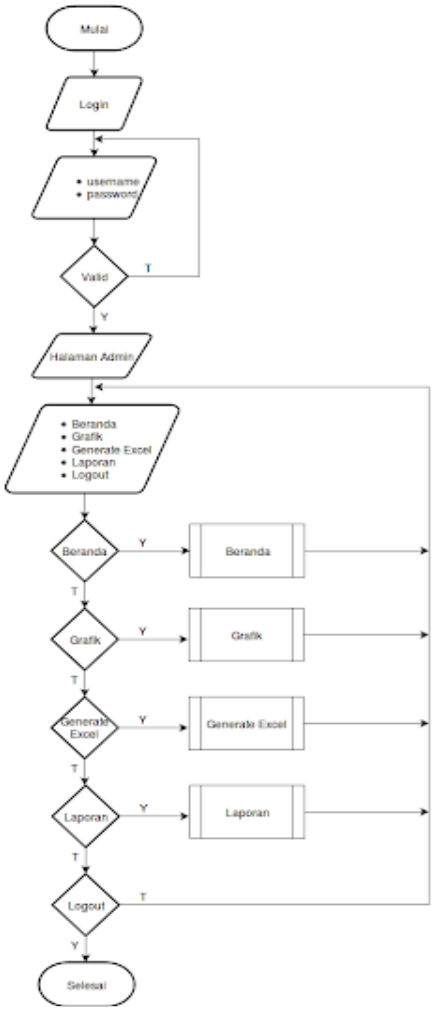

Figure 11. Flowchart Program for Login Menu

E. ***Prototype User Interface Design***

This stage is a clear picture of the complete design of the users and the website under study, as well as meeting the needs of the system users. The following is the prototype or appearance of the Application Design Study of Specialization of Senior High School Students Against the Web-Based Tourism and Creative Industry Industry at the Muhammadiyah University of Tangerang.

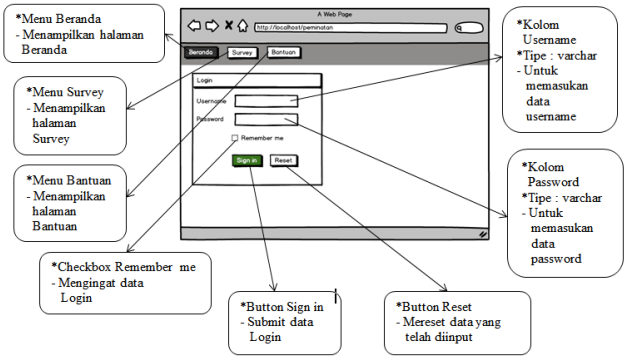

Fig 7. Home prototype

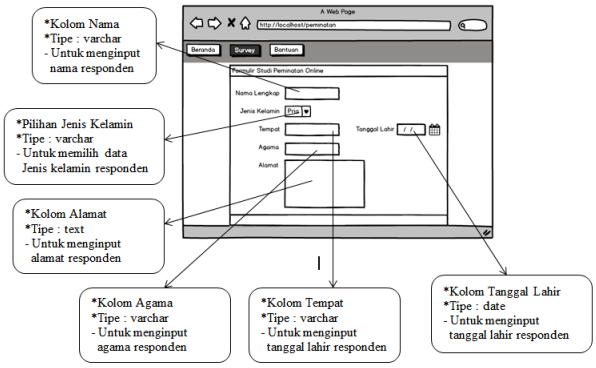

Fig 8. Prototype survey page

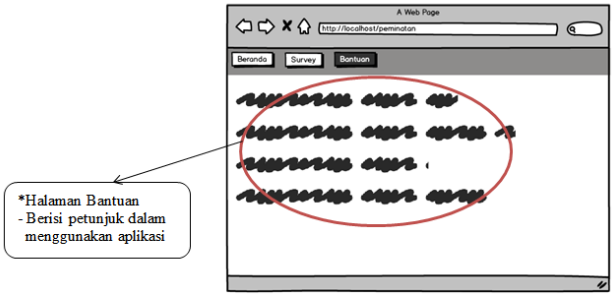

Fig 9. Prototype help pages

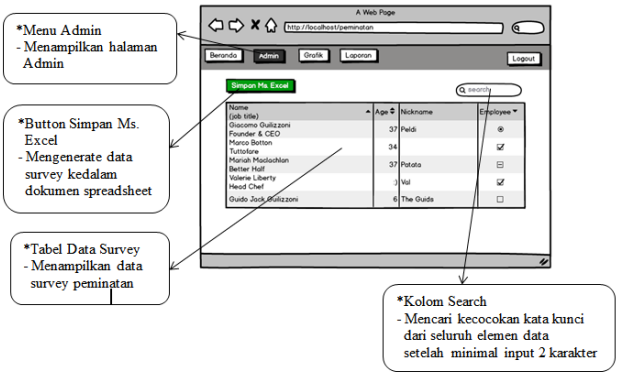

Fig 10. Prototype admin page

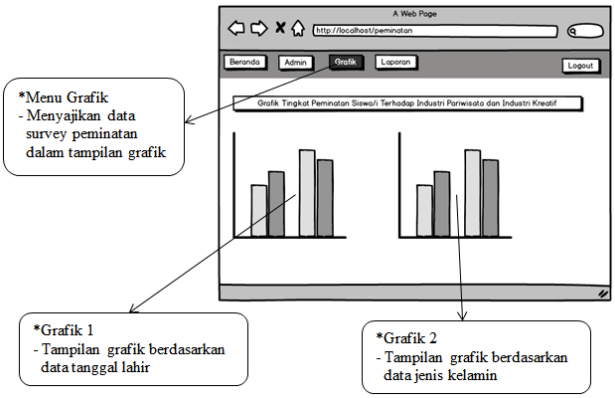

Fig 11. Prototype grafik page

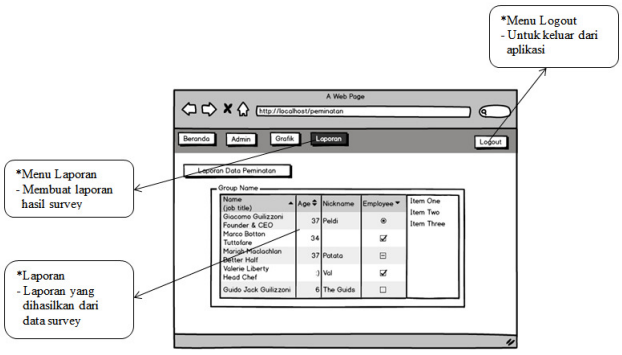

Fig 11. Prototype report page

V. CONCLUSIONS

Based on the results of the analysis of the formulation of the problem, the writer can conclude that:

1. The survey taking process for specialization studies currently running still uses physical forms, namely paper forms to collect specialization survey data.
2. Computerized specialization study systems have used digital forms, the use of physical forms is no longer needed so the system can perform efficiency in the use of paper.
3. This system is built using the PHP programming language and uses the PHP Framework Code Igniter as a tool so that the time to create software can be shortened, MySQL as the database and for its design using diagram modeling with UML.

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