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Marketing Website of E-Commerce as Production Unit's Container for All SMK at Surakarta

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Article Info	ABSTRACT
	This research is aimed to produce a marketing website for SMK's products to manage the production units in SMK within Solo area and introduce SMK's products to the public. His research also aimed to determine the properness of this website. This research uses the Research and Development (R & D) research method by Sugiyono. This research includes five steps: potential and problem analysis, data collection, product design, product validation, and product revision. The results of this study show that the website is very proper to use. The score for assessment of the expert's system is 89.3%, and it is categorized as very appropriate. Evaluation of both substance experts is 88.4%, and it is categorized as very proper. This website has superiorities that are: 1) integrating the existing SMK production unit in Surakarta, 2) there is a messaging feature. This website's weaknesses are: 1) the design is less attractive, 2) the absence of transaction features.

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1. INTRODUCTION

Vocational High School (SMK) is a formal education unit that organizes vocational education in secondary education as a continuation of the SMP / MTs. Vocational School (SMK) has some expertise program which grouping students according to their interests, talents and abilities. Program membership is provided in each vocational the same, but each has a featured vocational skills program. Some of the programs contained in the vocational skills in Surakarta include membership program mechanical engineering, automotive engineering, network engineering, craft engineering, building engineering, office administration, hospitality, culinary, beauty and others. On each program membership, each producing goods or services associated with the programming expertise.

The production unit is an activity or effort in school that aims to empower the school's resources and carried out by the school community. The production unit is a container of entrepreneurship in products (goods) or businesses (services). The production unit developed in Surakarta vocational schools produces the product, but the effect is still little known by the public.

The use of conventional means of marketing merely involves communication between schools and the school community. Marketing is still a very limited lead product in the form of goods and services produced less known by the public. One solution to overcome this problem by doing marketing with the utilization of technology development. Online marketing is a form of direct marketing that is growing most rapidly. Online marketing is a venture company to market the products of services and building customer relationships through the Internet. (Kotler & Armstrong, 2008: 237). The website is one example that can support the use of technology in marketing products and services. Websites that are normally used in the marketing process is based on an e-commerce website. Jony Wong. (2010) suggest e-commerce is the buying, selling and online marketing of goods and services through electronic systems. In Sunarko research and Sukadi (2013), the design of e-commerce can help apply online store sales as well as promotional media solutions and information products offered to consumers. Research

Ariyani (2013) also states that the design eCommerce helps consumers make the transaction process. In studies, Cao and Yang (2016) concluded that the application of e-commerce on the website showed a better performance of the website

This website is built using the PHP programming language and MySQL database. Kadir (2003) stated PHP is designed to form a dynamic web, meaning that it can create a view based on current demand. Nugroho (2005) revealed MySQL database server is a program that is able to receive and transmit data very fast, multiuser and using standard SQL (Structured Query Language).

Based on the above reasons can be based on eCommerce website development marketing for CMS production units. The construction of the marketing website is expected to help the management of the production units and introducing vocational school products to the general public.

2.   METHOD

The method of this research is research and development (R & D) by Sugiyono. This study includes five stages: analysis of the potential and problems, data collection, product design, product validation and product revision. The research was conducted at a vocational high school entire Surakarta.

2.1 Potential and Problems

At this stage, identifying the existing problems and exploring the potential that can be developed. The data obtained by observation of the production unit in SMK. In addition to the informant, interviews were conducted concerning the production unit SMK.

2.2 Data Collection

Data collection was conducted in a plan-making system. Data and information obtained by field studies, collect theories, interviews, questionnaires and documentation. After the data collected next step is to analyze the needs of the system. Needs analysis is divided into two, namely:

2.2.1   Analysis of functional requirements

Based on data collection analysis of functional requirements that include functions that must exist on the system to resolve the problem. Analyzing the types of needs that contains the processes carried out by the system and contains information that will be generated system.

2.2.2   Analysis of nonfunctional requirements

From the nonfunctional requirements necessary software and hardware to support the functional needs of the system.

2.3 Product Design

Product design is the design of the system to be created. The design is made consisting of: draft use-case diagrams, flowcharts, DFD, ERD, design, database creation, and manufacturing systems.

2.4 Design Validation

At this stage of testing the feasibility of the system. Design validation is done by experts who have experience and expertise in the field, testing the feasibility of using the alpha technique—testing the feasibility of alpttheadeveloper's alpha technique with black boxmethothe d and box box system. Technical feasibility beta testing performed by the user SMK. Testing the feasibility of the system using a model of ISO 25010.

Researchers using a Likert scale with a scale of 1-5 grades. A value of 1 means very poor, 2 means less, 3 means enough, 4 means good and 5 means excellent. The feasibility of the system is divided into five categories: very worthy, worthy, worthy enough, not worth it; it is not worth it. The formula can calculate each type:

$$Persentase = \frac{jumlah\ skor}{skor\ maksimum} \ x\ 100\%$$

(Riduwan, 2013: 14)

Results of the calculations used to determine the range of categories each category. Categories can be seen in Table 1.

Table 1.assessment categories

Category	Interval
It is not worth	0% -20%
Not worth	21% -40%
Decent enough	41% -60%
Worth	61% -80%
Very decent	81% -100%

(Guritno, Sudaryono, and Rahardja, 2011)

2.5 Revised design

at this stage of the design revision, the system will be rectified to overcome the problems experienced during the feasibility test. The system can be run according to its function.

3.   RESULTS AND DISCUSSION RESEARCH
3.1   Potential and problems

Analysis of potential and issues by observation of the production unit in two vocational schools at Surakarta. Objective observation is to determine the activity of production units in SMK. In addition to observation, the analysis also was conducted through interviews with less than two teachers.

The results obtained are potential analysis:
1.   There are products of various vocational and sale value.
2.   With internet facilities, products can be introduced to the public.

The results of the analysis obtained problem are:
1.   People do not fully know the products SMK.
2.   There is no container to showcase products online CMS.

3.2   Data Collection

The data collected in this study is data about products produced SMK production unit. Data obtained by the method of documentation. In the management of the production units of data obtained through interviews with the teacher concerned.

3.2.1 Functional requirements analysis

Results of the analysis of the functional requirements of this system are:
   1.   The system displays SMK products
   2.   are admin for user confirmation function SMK.
   3.   The system displays a list of vocational and messaging features for visitors are

3.2.2 Nonfunctional requirements analysis

Results of the analysis of non-functional requirements are divided into hardware and software needs. Hardware requirements in the form of laptop / Personal Computer (PC) have a specification Intel Core i3-3217U CPU @ 1.8 GHz, 4 GB RAM and 500 GB of storage.

While the need for software such as Windows 7 Ultimate operating system, the XAMPP Control Panel v3.2.1, 2410 Apache, phpMyAdmin 4.2.11, manufacture application source code Notepad ++ and Adobe Dreamweaver CS6 as well as the Google Chrome browser version of Firefox version 56.0 and 51.0.1.

3.3   Product Design

Researcher drafting for the manufacturing system. The draft design is used to describe the flow of the system to be running. This design consists of 1) a draft use-case diagram; 2) Flowchart; 3) DFD; 4) ERD; 5) Preparation of plan; 6) Preparation of a database, and 7) Making the system.
1)   Usecase draft
     draft use-case diagram is shown in Figure 1. Making use case aims to facilitate the distribution system between the user's access rights
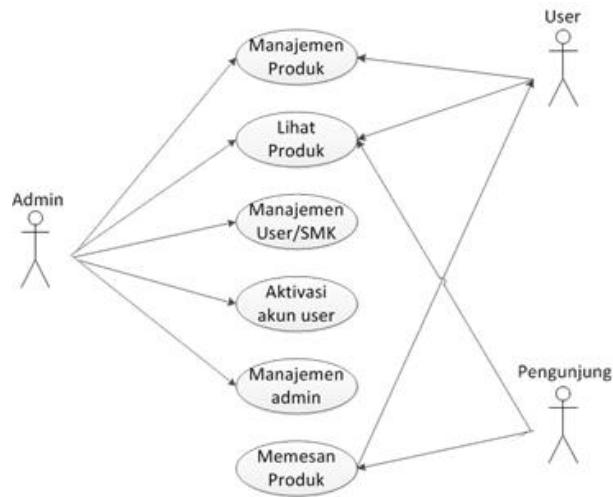
Figure 1. Diagram Usecase draft

2) Draft flowchart
   Draflow chart shownown in Figure 2. The flowchart draft aims to determine how the system will run
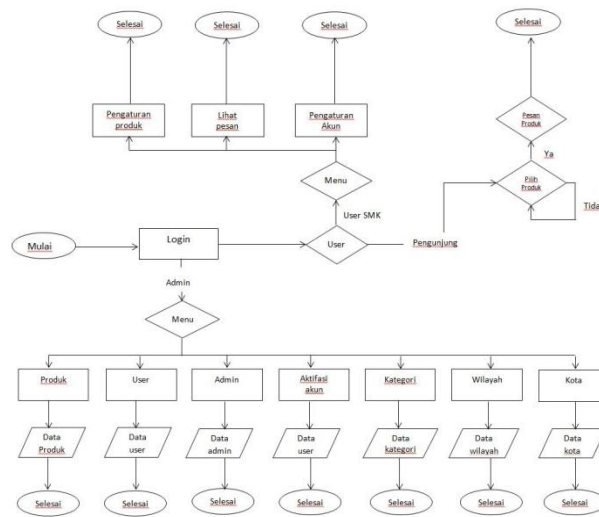

Figure 2. Draft flowchart

3) DraftDFD
   DraftDFD level 0 is shown in Figure 3. DFD level 0 shows the relationship between users with a system that will be created.
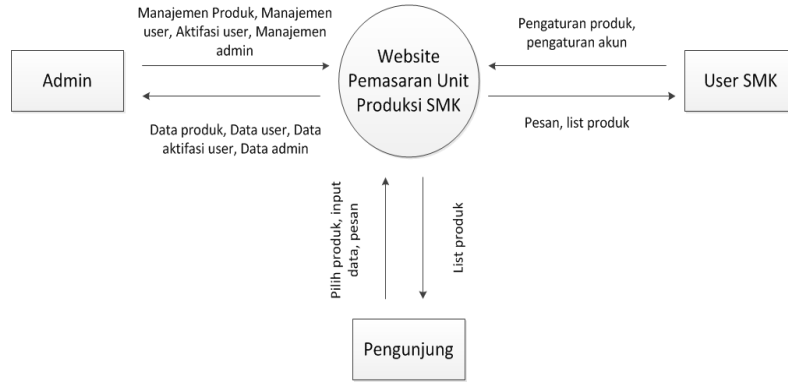
Figure 3. DFD level 0

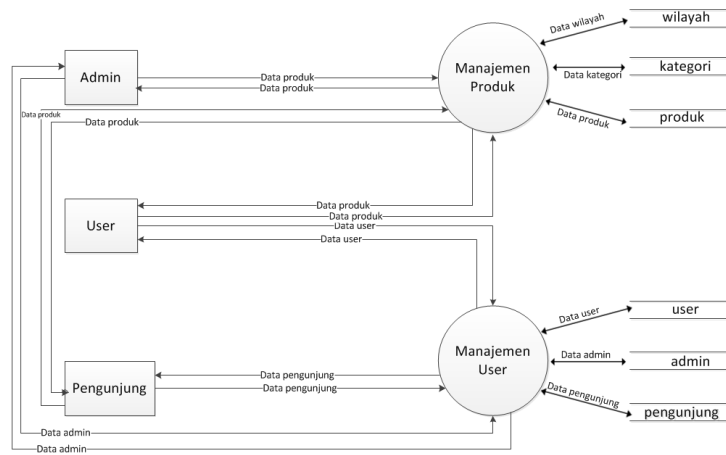DraftDFD level 1 is shown in Figure 4. The process is in the DFD level 1 will be described in DFD level 2.

Figure 4. DFD level 1

DraftDFD level 2 Product Management is shown in Figure 5. DFD level 2 Management product describes the product management process performed by the user.
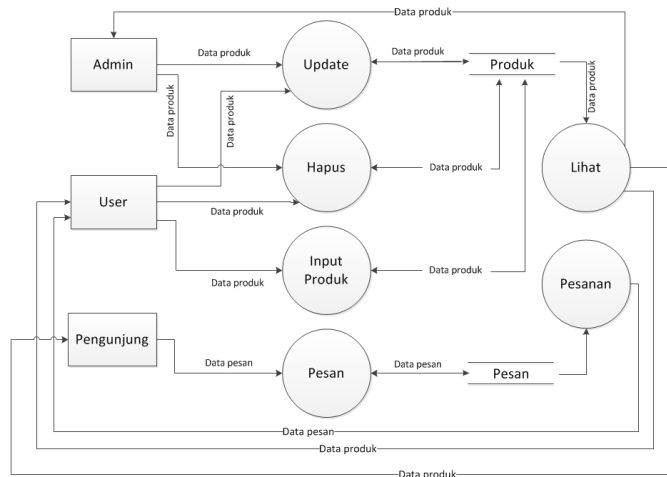
Figure 5. DFD level 2 Product Management

DraftDFD level 2 User Management is shown in Figure 6. DFD level 2 describes the user management process performed by the user.
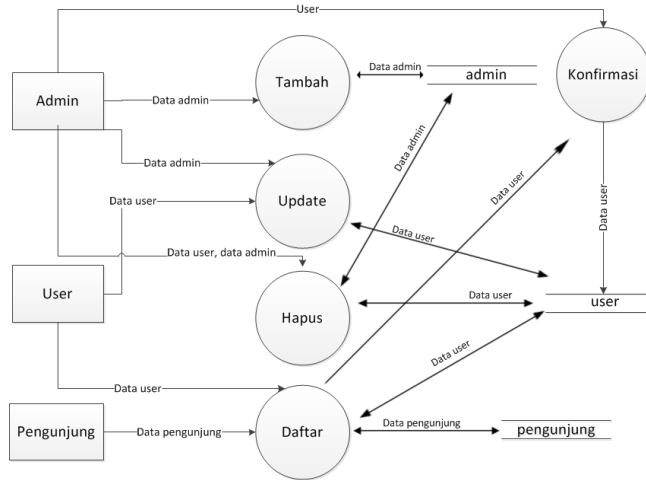

Figure 6. DFD level 2 User Management

4) PlanERD

Draft ERD has shown in Figure 7. The draft ERD is a relationship between entities that exist in the system.
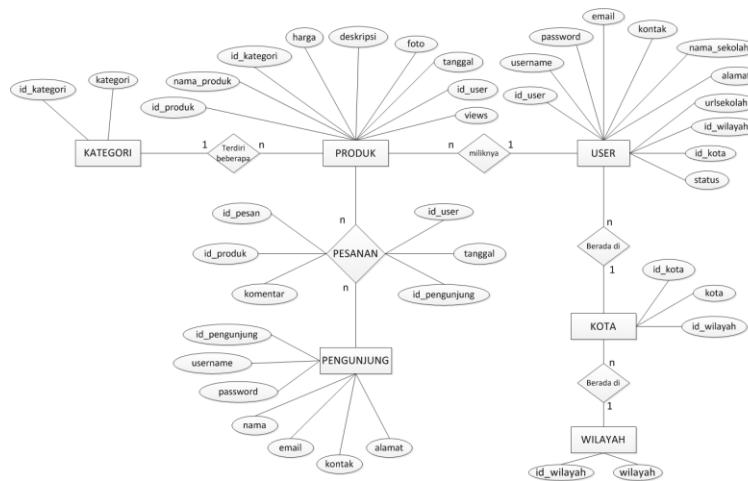

Figure 7. Draft ERD

5) Pembuatan Design

Design user interface design in the system is made simple for ease of use for users. The main display on the system design can be seen in Figure 8.
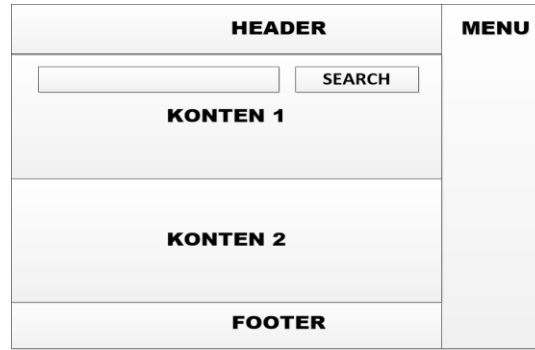
Figure 8. Design Display Home

6) Pembuatan *Database*

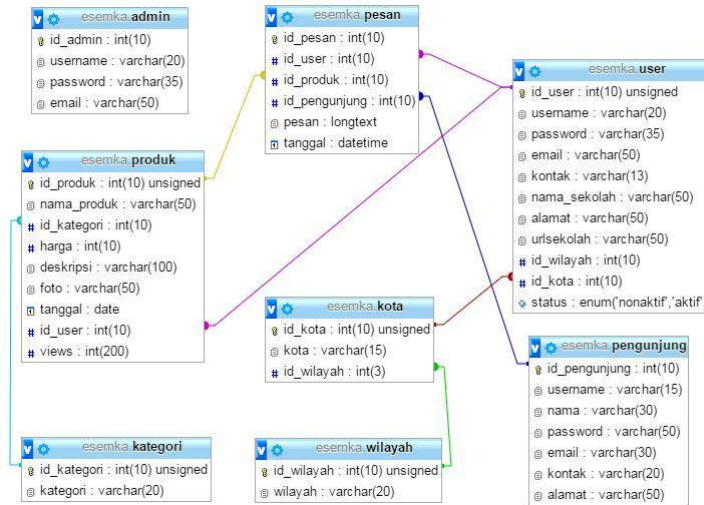Figure 9 shows a table in *the database.* The table that there is a relation indicated by a hyphen.

Figure 9. Relation table

7) The creation of the system

at the stage of manufacture of the system based on the design made at the design, stage system needs at a preliminary stage. Preparation of this system using the programming language PHP and HTML. Preparation of this system is *natively* or using pure PHP. This means that in the manufacturing system is no standard structure and name folders and files that exist in the system freely according to developers' wishes. The display system can be seen in Figure 10-13
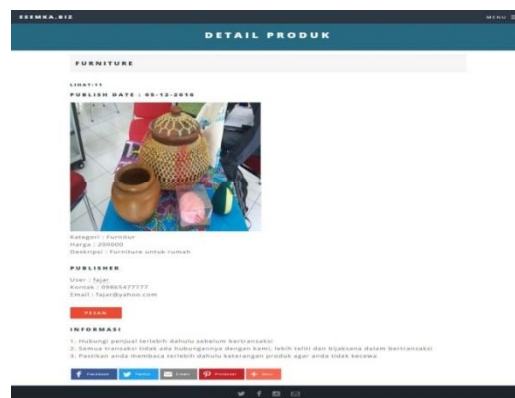
Figure 10. Main Page

Figure 11. Page Product Detail
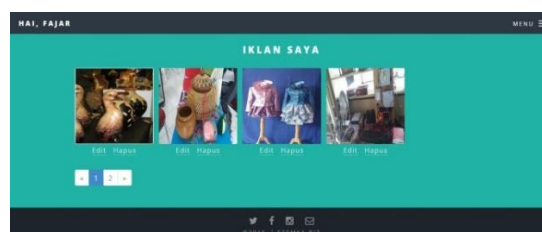

Figure 12. Page User Login

Figure 13. Page My Product

3.4 Validation design

The design validation stage will be testing the feasibility of the system. This test aims to determine the features of the system that are already well underway when used. Testing is done by one expert system and two experts substance.

Table 2. Table Ratings by expert systems

No	Aspects assessed	Nilai
1	Appropriateness of the choice of software to development	80.0
2	Easy access	96.0
3	Proceed data flow	84.0
4	program Display	96.0
5	Program sustainability	80.0
6	Compatibility program	100.0
	Average	89.3

Test results of the expert system have an 89.3 average so these results indicate that the system is included in the category of very decent. The assessment results for the accuracy aspect of the choice of software for the development get the value 80.0 because the software required for system development is not quite right. For compatibility aspects of the program gets the weight 100.0 due to onshore systems run in different browsers to access the system after validation by an expert system, feasibility testing performed by the substance.

Table 3. Table Ratings by experts substance

No.	Aspects assessed	Value
1	Operating	86.7
2	Match function	80.0
3	Ease studied	95.0
4	Handling errors	86.7
5	Ease of access	95.0

6	Beauty display	86.7
	Average	88.4

The test results of both experts substance have 88.4 average results, so the results indicate that the system is included in the category of very decent. The expert substance scoring results obtained 80.0 value because some functions and features were not appropriate in a system that is already running. For convenience, aspects studied and accessibility scored 95.0 because it is easy to learn and accessible to system users.

3.5 Revised Design

Based on the results of the design validation, there is some input from expert systems and expert substance. Revisions were made to add features message notification feature, visitor registration, the search results and display design elements.

4. CONCLUSION

The results in the system being developed is 89.3 and 88.4 of the expert system of experts substance. It can be concluded that the system developed is included in the category of very decent.

With the development of systems marketing website production units vocational implications as follows: 1) Making the production unit the public, 2 can know SMK Surakarta) to expand the network of sale of the products produced by SMK, 3) All of the information can be accessed at easy through the website and online.

This system's sustainability can be done by adding transaction features that are integrated into the system and adding features pop-up notifications of incoming messages, and improving the appearance of the system.

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