Website-Based Agricultural Seed Information System In The Sumedang Area

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Submission date: 10-Nov-2023 10:20PM (UTC-0600)
Submission ID: 2224511835
File name: ed_Agricultural_Seed_Information_System_In_The_Sumedang_Area.pdf (813.24K)
Word count: 1566
Character count: 8353

Website-Based Agricultural Seed Information System In The Sumedang Area

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***Abstract*— Agriculture is an economic sector that is very important in the national economy. National economic development in the 21st century will still be based on agriculture. The stages that are in line with economic development, agriculture-based services and business activities will increase, namely agribusiness activities will become one of the leading activities of national economic development in a wide variety of aspects. The software development method used is the Prototype method, which plays an important role in managing the system. While the method used for system testing is the User Experience Questionnaire. This research has produced a web-based information system that can display agricultural seeds which are expected to help farmers determine which seeds to plant.**

***Keywords*— Seeds, Agriculture, Prototypes, PHP.**

I. INTRODUCTION (*HEADING 1*)

Agriculture is a very important economic sector in the national economy. National economic development in the 21st century will still be based on agriculture. The stages are in line with economic development, so that agricultural-based business and service activities will increase, namely agribusiness activities will become one of the leading activities of national economic development in various broad aspects. Economic activities based on food crops and horticulture are very important (strategic) activities in Indonesia. In addition to involving the largest workforce in production activities, its products are also staple foods in food consumption in Indonesia. From a business standpoint, economic activities based on food crops and horticulture are the largest and most widespread business activities in Indonesia. Its role as a producer of food and staples, causes every person out of 200 million Indonesians to be involved every day in economic activities of food crops and horticulture (Ahmad, 2018)

According to (UMY, 2010) One important factor that determines crop yields is seeds. Seed together with other means of production such as fertilizer, water, light, and also the climate determines the level of crop yields. Even though there are sufficient other means of production, if the seeds used are of low quality, the yield will be low. Selection of quality seeds is very important because it will determine the potential of agricultural products that are planted or cultivated. After conducting interviews at the Sumedang district agriculture office located at Jalan Pangeran Kornel Number 307, Regol Wetan Village, data was obtained that there was no website selling agricultural seed shops online.

The website that will be created serves to display a list of agricultural seeds sold in agricultural shops in the Sumedang area, which is expected to help farmers choose potential seeds to plant on their land, and also help existing agricultural seed shops. in the Sumedang region to market their products. The method used in writing this final project is prototype. The prototype method is a software development method that is widely used. With this prototyping method, developers and customers can interact during the system creation process. The process of the prototype method is 1. Collection of needs, 2. Design, 3. Evaluation. The reason for using this method is to get quick feedback from users, and evaluation can be done many times. The advantages of this method, namely the system development method which is very fast and can save time. As for the drawbacks, this method is not suitable to be applied to very large and global systems, such as operating systems.

II. METHOD

2.1 Process Flow

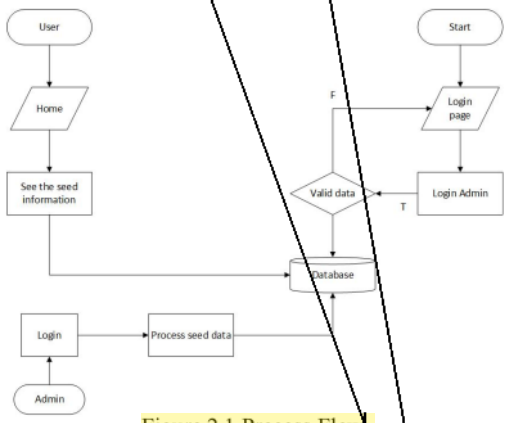


Figure 2.1 Process Flow

In the picture of the system flow above, it explains, the user does not need to log in to the system because the system created only displays agricultural seeds for sale and also seed shops in the Sumedang area which then the user will be immediately directed to the main page of the system, while the Admin is in charge To enter seed data, you must first log in by entering your username and password. The following is

a block diagram of the potential information system for agricultural seeds in the Sumedang region.

2.2 TCP/IP Data Socket Connection

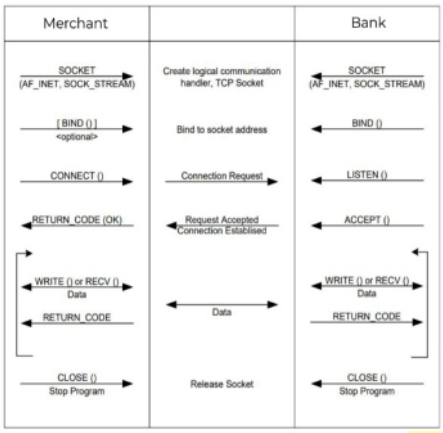


Figure 2.2 TCP/IP Socket Connection Figure 3. TCP/IP Socket Connection

The TCP/IP communication system will carry information from the merchant's system to the bank's system. The standard communication protocol used by bank systems is TCP/IP. Each request message will be responded to with the appropriate reply according to each type of request.

The connection interface between the bank system and the merchant system will use TCP/IP through a socket connection flow, where the bank system will act as a server (listening). The connection must be maintained unless there is a batch process that needs to close the connection. Both parties are responsible for re-establishing the connection automatically in the event of a connection failure, the 'Close' command should be used to terminate the connection normally.

III. Result and Discussion

3.1 Evaluate using UEQ

System evaluation was carried out using the User Experience Questionnaire, in the form of a questionnaire with 26 questions on product impressions given to visitors. Visitors are asked to answer spontaneously. The number of visitors who filled out the questionnaire was 30 people. Each question has a rating scale of 1 to 7.

3.2 Results of Questionnaire Answers

The following are answers from 30 respondents to 26 questions on the questionnaire, with a value scale of 1 to 7.

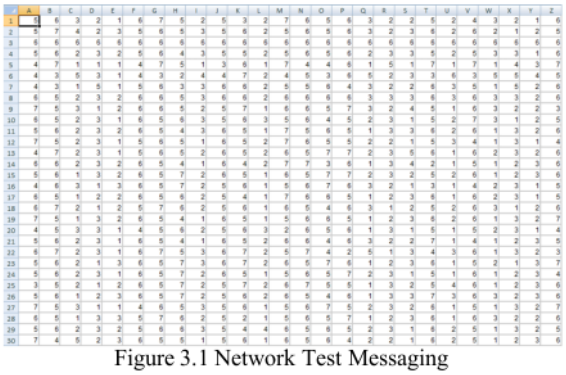


Figure 3.1 Network Test Messaging

3.3 Answer Grouping

Of the 30 answers given by respondents to each question, the mean, variance and standard deviation were calculated. Each question was given a color code according to the group, namely, attractiveness, perspicuity, efficiency, dependability, stimulation, and novelty.

Item	Mean	Variance	Std. Dev.	No.	Left	Right	Scale
1	1,3	1,2	1,1	30	annoying	enjoyable	Attractiveness
2	1,6	1,1	1,0	30	not understandable	understandable	Perspicuity
3	1,7	1,6	1,3	30	creative	dull	Novelty
4	1,5	1,4	1,2	30	easy to learn	difficult to learn	Perspicuity
5	2,1	1,2	1,1	30	valuable	inferior	Stimulation
6	1,5	0,5	0,7	30	boring	exciting	Stimulation
7	1,6	0,8	0,9	30	not interesting	interesting	Stimulation
8	1,3	1,6	1,3	30	unpredictable	predictable	Dependability
9	1,7	1,1	1,1	30	fast	slow	Efficiency
10	-1,3	0,5	0,7	30	inventive	conventional	Novelty
11	1,5	1,4	1,2	30	obstructive	supportive	Dependability
12	2,1	1,2	1,1	30	good	bad	Attractiveness
13	1,7	1,1	1,1	30	complicated	easy	Perspicuity
14	1,7	0,5	0,7	30	unlikable	pleasing	Attractiveness
15	1,3	1,4	1,2	30	usual	leading edge	Novelty
16	1,6	1,1	1,1	30	unpleasant	pleasant	Attractiveness
17	1,7	1,7	1,3	30	secure	not secure	Dependability
18	1,4	1,0	1,0	30	motivating	demotivating	Stimulation
19	1,5	1,6	1,3	30	meets expectations	does not meet expectations	Dependability
20	1,4	1,3	1,2	30	inefficient	efficient	Efficiency
21	1,9	1,8	1,3	30	clear	confusing	Perspicuity
22	1,4	0,9	0,9	30	impractical	practical	Efficiency
23	2,0	1,6	1,3	30	organized	cluttered	Efficiency
24	1,3	1,4	1,2	30	attractive	unattractive	Attractiveness
25	1,7	1,1	1,1	30	friendly	unfriendly	Attractiveness
26	1,5	1,2	1,1	30	conservative	innovative	Novelty

Figure 3.2 Answer Group

3.4 UX Test Results Using UEQ

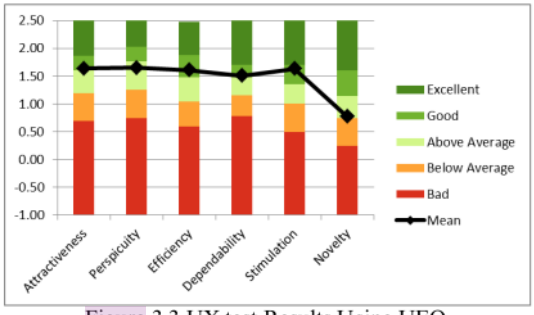


Figure 3.3 UX test Results Using UEQ

Judging from the test results above, it can be seen that the system created has attractiveness (attractiveness) at the good, clear lighting (perspicuity) at the level above average or above average, then in terms of efficiency it is at the level dependability good ,at the good level, stimulation is at the good level, and the latter has novelty at the above average level. It can be concluded that the system created is good enough because of the 6 UEQ test scales above, they are at good and above average.

IV. Conclusion

Based on the results of research, design, evaluation, testing and analysis of this system, it can be concluded as follows:

A web-based Agricultural Seed Potential Information System in the Sumedang Region that can be used to help the community, especially farmers in choosing agricultural seeds, was successfully built, then the system can displays data changes quickly, so that the data monitoring process can be carried out more effectively and efficiently. Evaluation of the system using the User Experience Questionnaire shows the results that the system created is well received by users, it can be seen from the results of the assessment that the average shows it is above the assessment standard.

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