DEVELOPMENT OF OFFERING MODULE SIAPSIAPNIKAH.COM USING EXTREME PROGRAMMING METHOD AND CROWDSOURCING CONCEPT

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Abstract – **The number of marriage in Indonesia always rising up. Around 2.250.000 marriage was held in 2012. Preparing wedding party needs so many effort, energy, and time. To help them, most of people use wedding organizer service to prepare their wedding party. Nowadays, before deciding what wedding organizer that they will use, people usually come to wedding exhibition or come to wedding organizer office. Based on survey result on this research, most of wedding organizer does not has digital media to promote or market their service such as website. Besides that, most of people want to find the best service of wedding organizer by searching in the internet because internet access is very easy to get now. In this research, will be discuss about developing website application for wedding organizer and wedding organizer customer in offering system with crowdsourcing concept. With this website application, customer and wedding organizer has one place to find the best wedding organizer package and service and to promote wedding organizer product and service. This website application provide two main feature, first is find and order suitable package and the second customer can customizing and order their own package to selected wedding organizer.**

Keywords: Wedding organizer, Website application, offering, crowdsourcing, extreme programming.

1. Introduction

In Indonesia, there are so many company that provide wedding organizer service. This argument based on survey on "weddingku.com". From the survey result that conducted by researcher on weddingku.com, there are 509 wedding organizer company that registered in weddingku.com and the located in several region of Indonesia. Only 79 wedding organizer that has a website and 430 wedding organizer did not has a website. In a fact, technology development provide so many facility for wedding organizer to improve and developing their business. One example of the benefit from technological development for wedding organizer is, they can use internet technology to marketing process.

From the customer side, Most of the customer are using website facility to find an information about service that provided by wedding organizer than using another media. Proven from the survey to 108 respondent (customer) that website is a one kind of interested media to looking for wedding organizer information. Customer want to get a simple way to find the best wedding organizer and to find suitable package based on price and quality by using website. But, only several customer and wedding organizer that use crowdsourcing website to support their activity. Crowdsourcing website is useful for them. They can do all wedding business activity in one place.

Beside of crowdsourcing website, to provide customer and wedding organizer need there are offering system. This system help customer to find best package and service that offered by wedding organizer. Combination between crowdsourcing concept and offering system in one website application is one concept that will be develop in this research. According to the survey in this research to 56 customer of wedding organizer and 14 wedding organizer, 87 % customer want to use this website and 100% wedding organizer want to join in this website. For these reasons and see the potential of website implementation in Indonesia, this website that based on crowdsourcing models and offering system will be built to give some facility for customer and wedding organizer.

2. Research Methodology

2.1 Wedding Organizer

To preparing wedding party, usually Indonesian society use wedding organizer service to be more effective and efficient. Definition of wedding organizer is a business that provide a service about management all of wedding activity and provide all of wedding requirement. [2] Nowadays, wedding organizer service in Indonesia has a big opportunity to develop their business. Because, with a wedding organizer service, customer of wedding organizer who needs flexibility, fast, and easiness will be completing their needs in wedding preparation process.

2.2 Crowdsourcing

Crowdsourcing can be divided into two word, which are crowd and sourcing. Crowd mean group of people and sourcing mean anything that needed to create something. When it combined (still in free translation) will mean a concept or system based resource and group (crowd). Moreover, a simple definition of crowdsourcing by Jeff P Howe is an activity or action taken by a company or institution that take a function of work or tasks that should be performed by their employees to distribute to the crowd who connected to a computer network, in this case is the internet. Here is a picture of a model of crowdsourcing. [3]

2.3 Offering System

Offering and demand theory in economical knowledge describe as a relations in market between buyer and seller for some stuff. Offering and demand model used for determining price and to knowing the amount of goods sold. [1] In this research, offering theory will be implemented on a website but do not erase the meaning of offering itself. Users who will use this offering system are a customer of wedding organizer and wedding organizer.

2.4 Extreme Programming

Definition of Extreme programming is "Extreme programming (XP for short) is a pure agile method. XP is based on a number of best practices that have been known for a long time. XP take these practices to extreme level" (Hans Van Vlient, 2008:66) [6]. This method is appropriate for project development and applications that want to get the innovative and perfect result in a way that is not complicated.

2.5 Problem Solving Systematics

Problem solving systematics is a draft that explain about the steps to complete some research [5]. There are three main stages in the systematic research of this research, starting from the identification phase, software development phase, and the stage of inference and suggestion. Explanation of the stages that exist in the chart are as follows:

1. Identification phase
   In the identification stage, the thing to do is identify the information about wedding organizer service on a website and to identify the background of creating this website. At this stage, the result of this phase is formulation of the problem and will use to determine research objectives. Study of literature on this crowdsourcing model, E-commerce and software development methods with extreme programming will assist in the determination of the research objectives. In addition, another support activity is conducting studies in the real condition to benchmark the wedding organizer website. In order to focus the research objectives, it is necessary to limit the problem in this phase.

2. Software development phase
   At this phase, software development method that researcher use is the extreme programming method. In extreme programming methods are six main phases or stages, namely the exploration phase, the planning phase, the phase of the iteration to release, product ionizing phase, maintenance phase, and the phase of death. However, in this research will only be used until product ionizing phase. Exploration phase in this systematic research include the collection of user requirements for this crowdsourcing wedding organizer website. Planning phase includes restrictions on user expectations by providing an overview of the design and website that will be created. Determine the priority needs of the user as the target of this research to. Determining the iteration process for the preparation for the next phase. And estimated time of fulfillment of user needs. Iteration to release phase is a phase where this website will be created from the stage of analysis, design, coding and testing. In this phase will also produced a prototype of this website. Testing the website also carried out continuously by the developer team. The next is product ionizing phase. In this phase, the website will be released on a small sample of users who have been determined. After that, they will give a feedback to find out are the website already meet the needs of the user or not. If not, then the process will be repeated from the collection of user needs. But, if it is feasible, this website will be released to the public.

3. Inference and suggestion phase
   At this phase, researcher will the concussing the research and asked for manage feedback or suggestions to improve the weakness of this website.

3. Analysis and Design

Website application that developed in this research is one kind of crowdsourcing website application for wedding organizer and customer of wedding organizer to do offering system in wedding activity. All of their activity especially for offering process will be held in this website. This website will help customer to find and

offer the most suitable package for them. Wedding organizer also can promote and offer their service and package in one place. More than one customer and one wedding organizer that can join and use this website. Feature that provided by this website divided by two point of view. Which are customer and wedding organizer view.

3.1 Offering module application functionality

There are all feature that provide in this website

1. Features in member side
   a. Find suitable package (advanced search)
      This feature give a facility to the customer for search suitable package process by advanced search. Customer can find the greater package by select process searching and choose filtering category in detail.
   b. Detail package
      Before ordering process, customer can see the detail package. From the price, capacity of package, owner until detail in every category.
   c. Order package
      After the customer found their suitable package, they can order that package from wedding organizer that has the package. Customer also can try to find another package again, because in this feature it is possible to order more than one wedding package.
   d. Detail order
      After ordering some package, customer can see the detail order by this feature. Because they need to know the specific info about their order.
   e. List order package
      In page management user account, there are one tab for order package list. All of customer order will be manage and display in this page. With this feature, it will help customer to manage their order.
   f. Delete order package
      If they want to cancel their order. This website application provide delete order feature. Delete feature is very important to the customer because their need to cancel process.
   g. Post customize package
      In the offering system, customer has opportunity to post their customize package to the selected wedding organizer. By this feature, they can post package based on their need and their budget.
   h. Order customize package
      Order feature will be used after finish posting process. They must containing post package form and after that send it to the selected wedding organizer. After that they waiting for wedding organizer confirmation. If it is deal, they will continue the process by their self with the wedding organizer. They can post more than one package to the selected wedding organizer, and they can post same package to the other wedding organizer.
   i. List order customize package
      After post and order customize package, all of the transaction process and list will be displayed in order package tab in management account page. Customer can manage their order in this feature
   j. Detail order customize package
      Customer also can see the detail order by detail order customize package feature. Detail order feature provide information about selected wedding organizer, detail customize package and order status.
   k. Delete order customize package
      To complete the process, cancel probabilities will be handled by this feature. Delete order customize package in this website provided for canceling order process.
2. Features in wedding organizer
   side a. Manage
   package order
      All of customer order based on selected package that offered by wedding organizer will be manage with this feature. Wedding organizer can get all information about the order. They also can see the detail order, detail customer, accept order, reject order and delete order by this feature.
   b. Manage customize package order
      Almost same with manage package order, this feature focus on manage customize package order. Type order that managed by this feature are post customize package order. Wedding organizer can also see the detail order, accept order, reject order, and delete order.
   c. View detail customer
      From the status waiting to approve until deal or no for the order, wedding organizer can see the detail member. It will used for the next step especially after the order was accepted. Because, they will communicated by their self

3.2 Application architecture and technology

To develop this website application in this research, there are several supporting requirement. One requirement that will use to develop this website application is web service. Web service used to manage all of website component such as source code and database through web server so that can be accessed by the customer and wedding organizer. Beside of that, crowdsourcing concept become pattern to develop this website application. The crowdsourcing concept in general that used in this research can be see bellow
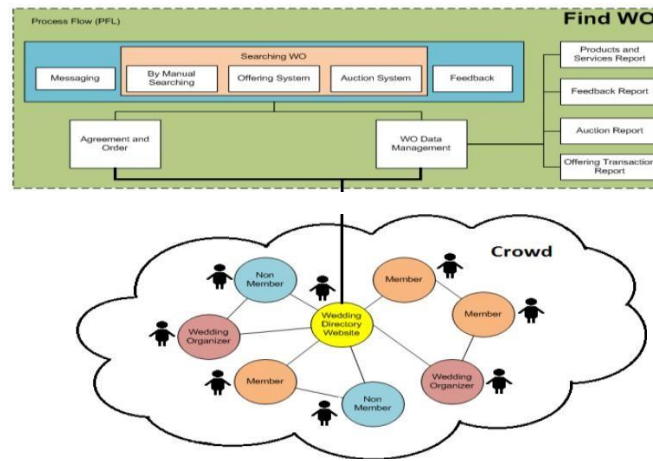

Figure 1 Crowdsourcing concept of siapsiapnikah.com

This website application developed by using framework CodeIgniter and use model, view, controller concept (MVC). This framework is a famous framework and usually used by website developer to make a website.

3.3 Application result

The result of this research will be explained by user interface result. But only several user interface that will be explained. There are three part of user interface, which are find and order package side, order customize package side and wedding organizer side.
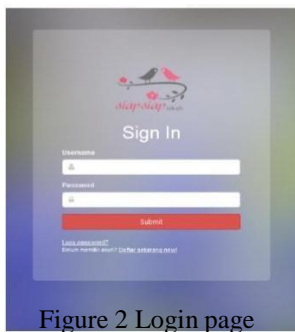

Figure 2 Login page

Figure 3 Member Register page

Figure 4 Wedding organizer registration page

Figure 1 and 2 are registration member and login page. To access offering system in this website, customer must become a member and wedding organizer must become a partner. Registration page for wedding organizer can be seen at the Figure 4. After join a member and partner, they must login in this website. And home of this website look like Figure 5. In home page, there are an information about website service (Figure 6) wedding organizer partner, package, about this website, contact person and advertisement. To use offering system feature, customer must go to "*sistem penawaran*" page.

Figure 5 Home member

Figure 6 Offering system menu

1. Find and order package side
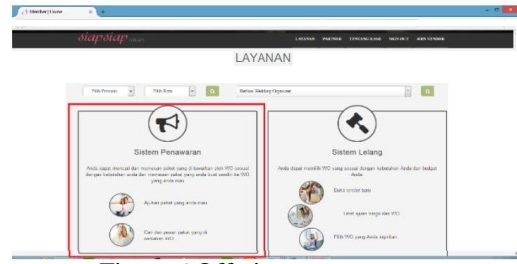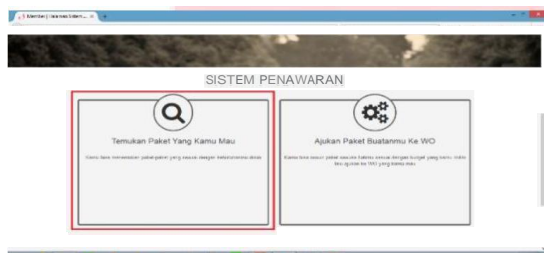

Figure 7 Find and order package menu

Figure 8 Searching package page

If they already on offering system page, customer can choose one of the feature. For the first, will be explain find and order package feature (Figure 7). Figure 8 explain about advanced searching to find a suitable package after customer choose find and order package menu. Customer must fulfil the searching form based on the category and they will find the best package for them. They can see the detail package and if they want, they can order the package. All of the order list will display in order list package page. We can see at Figure 9

Figure 9 Order package list page

2. order customize package side

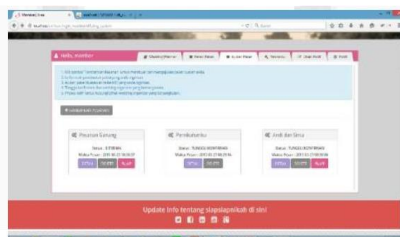Figure 10 Offering customize package menu

Figure 11 Customize package order list page
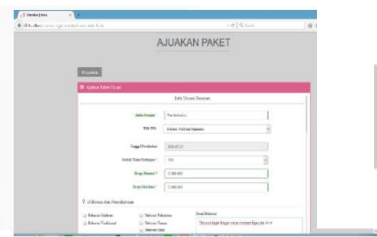
Figure 12 Customize package form

Beside find and order package, customer can post their custom package by offering customize package feature. After click offering customize package menu, it will directly go to customize package order list page (Figure 11). In this page, customer can post their own package by click button "*tambah pesanan*". Figure 12 is an order custom package form. Customer choose the wedding organizer and containing the requirement of the package. And send it to selected wedding organizer. After that, they waiting for wedding organizer confirmation

3. Wedding organizer side

Figure 13 Manage order list page

Figure 14 Detail order page

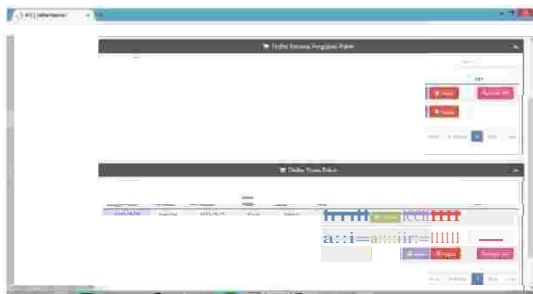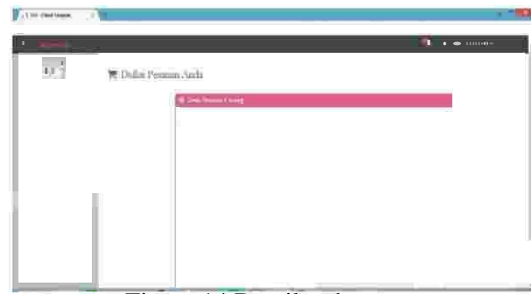In Figure 13, there are two kind of order and it is has relation with two offering system in the customer side. Wedding organizer can manage all order by see the detail order, give a confirmation to customer (accepted or rejected), see detail customer and delete order. Detail order page from wedding organizer side looks like Figure 14. With this feature, it will help wedding organizer to decide a decision weather accept the order or reject the order.

4. Testing

In this research, testing method that used are unit testing, system testing and acceptance testing with SERVQUAL scale. It used to know how good this website work and what is the weakness of this website. Here are the testing scenario.

Table 1 Testing scenario

User	Detail Activity	Testing	Testing Type	Code
Member	Find Suitable Package	Test to pass	unit testing	O22-01
	Check detail package	Test to pass	unit testing	O22-02
	Create new order package	Test to pass	unit testing	O23-01
		Test to fail	unit testing	O23-02
	Check detail order package	Test to pass	unit testing	O24-02
	Delete order package	Test to pass	unit testing	O25-01
	Create new order custom package	Test to pass	unit testing	O26-01
		Test to fail	unit testing	O26-01
	Check detail order custom package	Test to pass	unit testing	O27-01
	Delete order detail package	Test to pass	unit testing	O28-01
WO	Check order package list	Test to pass	unit testing	O29-01
	Accept order package	Test to pass	unit testing	O30-01
	Reject order package	Test to pass	unit testing	O31-01
	Delete package	Test to pass	unit testing	O32-01
	Check order custom package list	Test to pass	unit testing	O33-01
	Check detail order custom package	Test to pass	unit testing	O34-01
	Accept order custom package	Test to pass	unit testing	O35-01
	Reject order custom package	Test to pass	unit testing	O36-01
	Delete order custom package	Test to pass	unit testing	O37-01
	Check detail customer	Test to pass	unit testing	O38-01

4.1 Unit testing

For unit testing process, there are two kind of browser that used to running this website application. Which are Mozilla firefox and Google Chrome. Every browser has their own specification. With this kind of testing based on testing plan, it will show the deferent in the business process feature of offering system and design of the application. And the result can be seen in this Table 2.

Table 2 Result of blackbox testing

User	Number of Task	Web Browser	Pass	Filed
Customer	8 Task	Mozzila Firefox	8	0
		Google Chrome	8	0
Wedding Organizer	10 Task	Mozzila Firefox	10	0
		Google Chrome	10	0

4.2 System testing

In this research, system testing is one kind of testing method. This testing objective is to know how good this website work. Besides that, from this testing method, it will show and report the weakness of this website especially

for offering system. The one that do this testing is the user. To completing system testing in this research, there are some task to do. The one that will do this testing process are the user. And the result can be seen at Table 3.

Table 3 Result of system testing

No	Task	Success Percentage
	PELANGGAN	
1.	Find Package with advanced search feature	100%
2.	Check detail package	100%
3.	Order package	100%
4.	Check detail order package	100%
5.	Delete order package	100%
6.	Post a customize package	90 %
7.	Check detail order custom package	100%
8.	Delete order custom package	100%
	WEDDING ORGANIZER	
9	Check order package list	100%
10.	Check order custom package list	100%
11.	Accept order package	100%
12.	Reject order package	100%
13.	Accept order custom package	100%
14.	Reject order custom package	100%
15.	Check detail order	100%
16.	Check detail customer	100%
17.	Delete order	100%

4.3 Acceptance testing

Acceptance testing also used to know is the website working well. For acceptance testing there are some task and questionnaire for the user. The task and questionnaire crated based on service quality (SERVQUAL) scale. SERVQUAL used for measuring service quality in the e-service context [4]. The task and the result can be seen in the Table 4 and Table 5. This testing process conducting by seven customer and three wedding organizer.

Table 4 Acceptance testing result for member side

No.	Scale	Question	Really Agree	Agree	Disagree
1	Web Design	Are the navigation, menu and function on this website easy to use and easy to understand?	20%	80%	0%
2		Is the design of this website such as placing icons, pictures and colors make you comfortable to use this website?	30%	70%	0%
3	Reliability	Are the searching mechanism and request products/services mechanism on this website ensure the information is accurate?	50%	50%	0%
4		Is this website accommodate the user to find the suitable wedding package and to order wedding package?	80%	20%	0%
5		Is this website accommodate the user to find the suitable wedding organizer and price?	70%	30%	0%
6	Responsiveness	Is the website provide a mechanism to support user activities?	50%	50%	0%
7		Is the website provide a mechanism to support the communication between user and website owner?	50%	40%	10%
8	Security	Is the website provide some mechanism to make sure that user data are save?	50%	40%	10%
9		Is the website provide some mechanism to protect user activity and data?	60%	40%	0%
10	Fulfillment	Is this website has achieve the goal?	60%	40%	0%
11		Is this website helpful to find suitable wedding organizer and price?	80%	20%	0%
12		Is this website helpful to find suitable wedding package?	70%	30%	0%
13		Is this website helpful to order package process?	60%	40%	0%
14	Personalization	Is this website gives value added to customer?	50%	50%	0%
15	Information	Is this website provide updated product and service information?	60%	40%	0%
16		Is this website provide the information that easy to understand?	60%	40%	0%
17	Empathy	Is the website provide a system to make a good communication between users?	40%	50%	10%
18		Is the website have contacts information?	80%	20%	0%

Table 5 Acceptance testing result for WO side

No.	Scale	Question	Really Agree	Agree	Disagree
1	Web Design	Are the navigation, menu and function on this website easy to use and easy to understand?	67%	33%	0%
2		Is the design of this website such as placing icons, pictures and colors make you comfortable to use this website?	33%	67%	0%
3	Reliability	Is this website accommodate the user to create package and accept order request?	67%	33%	0%
4		Is this website accommodate the user to accept request except package order?	0%	100%	0%
5	Responsiveness	Is the website provide a mechanism to support user activities?	100%	0%	0%
6		Is the website provide a mechanism to support the communication between user and website owner?	67%	33%	0%
7	Security	Is the website provide some mechanism to make sure that user data are save?	33%	67%	0%
8		Is the website provide some mechanism to protect user activity and data?	67%	33%	0%
9	Fulfillment	Is this website has achieve the goal?	67%	33%	0%
10		Is this website helpful to advertise and promote WO's product and service?	67%	33%	0%
11		Is this website helpful to get the customers more easily?	33%	67%	0%
12	Personalization	Is this website gives value added to customer?	67%	33%	0%
13	Information	Is this website provide the information that easy to understand?	33%	67%	0%
14		Is this website provide facilities to make updated product and service information from WO?	67%	33%	0%
15		Is this website provide the information about competitor?	67%	33%	0%
16	Empathy	Is the website provide a system to make a good communication between users?	33%	67%	0%
17		Is the website have contacts information?	67%	33%	0%

5.   Conclusion and Suggestion

Website crowdsourcing with offering system for wedding organizer business calls siapsiapnikah.com is a potential website to implement in Indonesia. Based on research user demand and business opportunities, this website can required customer and wedding organizer needs. Website siapsiapnikah.com can be operated in more than one web browser which are Mozilla Firefox and google chrome based testing result.

For the development process, this website needs to test in other web browser. This website also still need a development especially from website design so it will looks more interesting and easy to use. The security of this website also need to developed.

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