

Development Of Roll Applications As Website-Based Admin And Partners Using Iterative And Incremental Methods

1st Riyan Muda Karana Putra
Fakultas Rekayasa Industri
Universitas Telkom
Bandung, Indonesia
riyanmuda@student.telkomuniversity.ac.id

2nd Faishal Mufied Al-anshary
Fakultas Rekayasa Industri
Universitas Telkom
Bandung, Indonesia
faishalmufied@telkomuniversity.ac.id

3rd Hardiyanti
Fakultas Rekayasa Industri
Universitas Telkom
Bandung, Indonesia
margareta@telkomuniversity.ac.id

Abstrak

Dalam kehidupan masyarakat, perkembangan teknologi merupakan bagian yang esensial. Hal ini didasarkan pada manfaat yang diperoleh dari teknologi itu sendiri. Setiap tahun pengguna internet di Indonesia semakin meningkat, sehingga kebutuhan akan layanan internet semakin meningkat. Salah satu layanan internet yang dihadirkan adalah website yang berfungsi sebagai media segala informasi yang dicari. Karena website merupakan media yang cocok untuk memberikan informasi, maka website dapat digunakan sebagai sarana pemasaran produk atau jasa. ROLL adalah platform untuk menemukan manfaat fotografer dan videografer. Platform ini dapat digunakan sebagai mitra, admin, dan pelanggan. Platform ini akan memudahkan mitra untuk memasarkan layanan mereka, membantu pengguna menemukan layanan fotografer dan videografer dengan cepat dan sesuai anggaran mereka. Fotografer dan videografer dapat meninjau kebutuhan dan anggaran pelanggan secara detail. Oleh karena itu, penulis memutuskan untuk mengembangkan sebuah website bernama ROLL. Dalam pengembangan ini, penulis bertanggung jawab untuk membuat situs web unik untuk bagian Admin dan Mitra yang menggunakan metodologi Iteratif dan Inkremental. Tujuan akhir dari pengembangan website ROLL sebagai wadah pemasaran jasa fotografer dan videografer agar jangkauan pemasaran lebih luas dan juga memudahkan dalam mencari pelanggan.

Kata kunci : Iterative, Incremental, Admin, Partner

Abstract

In people's lives, technological developments are an essential part. This is based on the benefits derived from the technology itself. Every year internet users in Indonesia are increasing, so the need for internet services increases. One of the internet services that is presented is a website that functions as a medium for all information sought. Because the website is a suitable medium for providing information, the website can be used as a means of marketing products or services. ROLL is a platform aimed at finding the benefits of photographers and videographers. This platform can be used as partners, admins, and customers. The platform will make it easier for partners to market their services, helping users find photographer and videographer services quickly and within their budget. Photographers and videographers can review customer needs and budgets in detail. Therefore, the author decided to develop a website called ROLL. In this development,

the author is responsible for creating a unique website for the Admin and Partners section that uses the Iterative and Incremental methodology. The ultimate goal in developing the ROLL website as a marketing forum for photographer and videographer services so that the marketing reach is more comprehensive and also makes it easier to find customers.

Keywords : Iterative, Incremental, Admin, Partner

I. PRELIMINARY

In people's lives, technological developments are an important part. This is based on the benefits derived from the technology itself. Every year internet users in Indonesia are increasing so that the need for internet services is increasing. One of the internet services that is presented is a website that functions as a medium for all information sought. Because the website is a suitable medium for providing information, the website can be used as a means of marketing products or services.

Photographers are jobs that are engaged in services that offer services to capture certain moments such as graduations, nurseries, weddings, etc. as well as product promotion in the form of photos and videos as a promotional platform. People began to open the services of photographers to people who need professional services in this field. In today's social media, photos and videos are important for social media with increasing quality. improved. Photographers have the complexity of service marketing because usually the service marketing process is carried out only through social media, and recommendations between friends.

The ROLL website is a platform intended to seek the services of photographers based on the description above. This platform can be used internally or externally, such as partners, admins, and customers. The platform will make it easier for partners to market their services, helping users find photographer and videographer services quickly and within their budget. Photographers can review customer needs and budgets in detail. As well as a media provider for photographer and videographer equipment rental.

Because on a service marketing website, having admins and partners in a website-based application is very important for making reports, inputting data and making it

easier to work with other partners. Has a vital role in website marketing services. Here the author's idea is to develop a website for the Admin and Partners section and will develop other applications with a team called ROLL as a marketing platform for photographers in Bandung as the target market and preparing displays for admins will help partners and customers make transactions.

From the paragraph above, it can be concluded that the admin and partners on this website are very important because they are very influential in the progress of ROLL in the future where the admin will input data in collaboration with related partners. Therefore, the author decided to develop an admin and partner for a website-based application called ROLL where this application aims as a marketing platform for photographers in the city of Bandung.

II. THEORITICAL REVIEW

A. Business Model Canvas

The business model canvas is a tool in management strategy for translating a company's concepts, customers, infrastructure, and finances into visual elements. A business model represents the fundamental thinking about how an organization creates, delivers, and achieves value. A business model represents content, structure, and transaction management designed to make value by exploiting business opportunities. A business model can be described through nine blocks that show how a business works. The nine blocks form one interrelated part of the business model canvas. The business model canvas also describes, visualizes, evaluates, and modifies an existing business mode [1]. Here are the nine business model canvas blocks:

- a. Customer Segment
- b. Value Proposition
- c. Channels
- d. Customer Relationships
- e. Revenue Streams
- f. Key Resources
- g. Key Activities
- h. Key Partnerships
- i. Cost Structure

B. Unified Modeling Language (UML)

The Unified Modeling Language (UML) was created to forge a common, semantic and syntactic rich visual modeling language for the architecture, design, and implementation of structurally and behaviorally complex software systems. UML has applications outside of software development, such as process flow in manufacturing. It is analogous to blueprints used in other fields, and consists of many different types of diagrams. In aggregate, UML diagrams describe the boundaries, structure, and behavior of the system and the objects within it.[2].

- a. Use case diagram
 - b. Activity diagram
 - c. Class diagram
 - d. Sequence diagram
 - e. Deployment diagram
- C. Visual Studio Code

Visual Studio Code is a source code editor developed by Microsoft for Windows, Linux and MacOS. This includes support for debugging, embedded GIT Control, syntax highlighting, smart code completion, snippets, and code refactoring. It is also customizable, so users can change editor themes, keyboard shortcuts, and preferences. Visual Studio Code is free and open-source, although the official download is under a proprietary license. [3].

Visual Studio's code is based on Elektron, a framework used to deploy Node.js desktop applications that run on Bliklayout. Although using the Electron framework, Visual Studio Code does not use Atom and uses the same editor component (codenamed "Monaco") that was used in Visual Studio Team Services which was previously called Visual Studio Online.

In my opinion, Visual Studio Code is a code editor application that is the youngest to understand and has exclusive features in building this web-based application. Besides that, Visual Studio Code has been widely used by other programmers so that companies will quickly develop this application in the future.

III. METHOD

A. Identification

The identification stage is the stage that determines the formulation of the problem based on research conducted through field observations. The formulation of this problem will determine how the purpose of this research will solve so that the resulting solution will determine the problem boundaries of this research. Field observations were carried out through several resource persons who worked as photographers and videographers in the city of Bandung. The topics observed were about the development of Startup ROLL.

B. Business Identification

This stage performs analysis using the Business Model Canvas to identify the business model into nine parts.

C. Development Stage

This research's development method is Iterative Incremental, where this method has several stages, namely.

a. Inception

At this stage, it includes functional identification with a certain scope. In this study, the identification of application needs based on the requirements of the user is conducted.

b. Elaboration

At this stage, an analysis of the risks that will occur is carried out. At this stage, it is carried out to describe application requirements, application architecture design, and preliminary user interface design.

c. Contruction

In this stage, the application development process or implementation is carried out by creating program code to build the application by the design that has

been made, which will produce features and test whether these features comply with user requirements.

d. Transition

This is the last stage in this method, where the process of distributing software that is ready for use will be distributed to end-users.

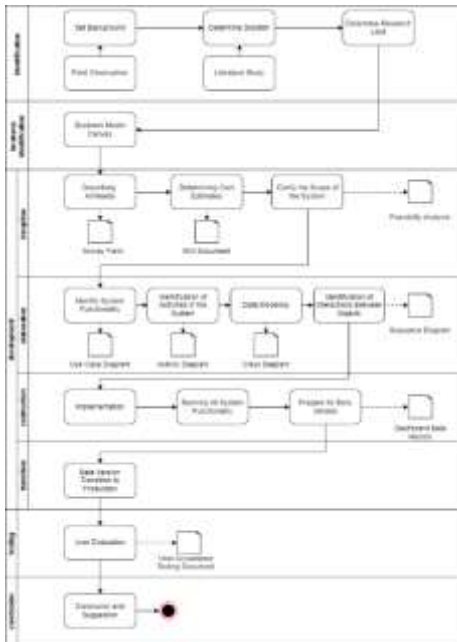


FIGURE III. 1 Stages of problem solving

IV. RESULTS AND DISCUSSION

A. Functional Need Analysis

Functional requirements are requirements that contain what processes will be carried out later. So there are several tables of system applicable requirements analysis that will be summarized. It can be seen in the table below.

REQ-ID	Name Need	Detail Need	Deskripsi	User
REQ-01	Running the Admin-Partner Website Roll	See Admin home page	Process the latest and promo news at home and see diagrams of new customers joining, new partners joining best-selling categories, and best-selling partners in a month. Admins can also change or add category, see the most popular partners, and see the photos liked the most in the gallery.	Admin

REQ-02	See Admin Gallery page	Process photo categories and filters you want to see and delete photos in the gallery.	Admin
REQ-03	View admin account page	The process of viewing partner user information and customer usage information. Admins can also delete partner and admin users.	Admin
REQ-04	View Admin Notification page	The process of viewing booking information and receiving transfers and also information on cancelled orders	Admin
REQ-05	View profile features page	The process of changing the full name, nickname, email, year of birth, telephone number, and password.	Admin
REQ-06	View partners home page	In the process of adding services or devices and changing personal data, partners can also view orders and history of orders received or canceled.	Partner
REQ-07	View package page	The process of adding and changing package information or viewing package details can also remove packages.	Partner
REQ-08	Partner gallery page	The process of posting new works in the gallery includes hashtags, categories, and images. And can also see what has been posted on the gallery page.	Partner

REQ-09	Admin profile page	The process of changing information such as full name, nickname, email, year of birth, phone number, and partner password.	Partner
REQ-10	Features logout	The process of logging out of the website and account.	Partner

2		Login	V
		Profile editing	V
3	Manage Transaction and Portfolio	See Order Data	V
4		Change Order tracking Status	V
5		Post picture for Portfolio	V
6		Add more service	V
7		Add more package	V
8		Manage picture that have been posted	V
9		Manage active service	V
10		Manage incoming order	V

B. Actor

In the Roll business process for the admin and partner sections, there are two main actors, namely Admin and partners. For a description of the actors, see the table below.

No	Aktor	Deskripsi
1.	Admin	Admins involved in Roll. Admin business processes can also access information from partners and process transactions made by partners.
2.	Partner	Partners involved in the Roll business process. Partners who can only provide services receive orders and change packages supplied to customers.

No	Activity	Actor
1	Manage transaction and website roll	Login Admin
2		Manage website information (about and contact) V
3		Manage booking information V
4		Manage incoming payment V
5		Manage canceled order V
6		Manage partner active information status V
7		Manage customer active information status V
8		Manage posted partner portfolio V
9		See chart about website activity V

C. Roles

To ensure that the functionality runs by the existing business processes, it is necessary to limit the system to current actors, according to the involvement needs in Roll's business processes.

NO	Activity	Actor	
			Partner
1	Manage Personal Account Data	Registration	V

D. Use Case Diagram

A use case diagram is a way of summarizing the details of a system and the users within that system. It is generally displayed as a graphical depiction of the interactions between the different elements in a system

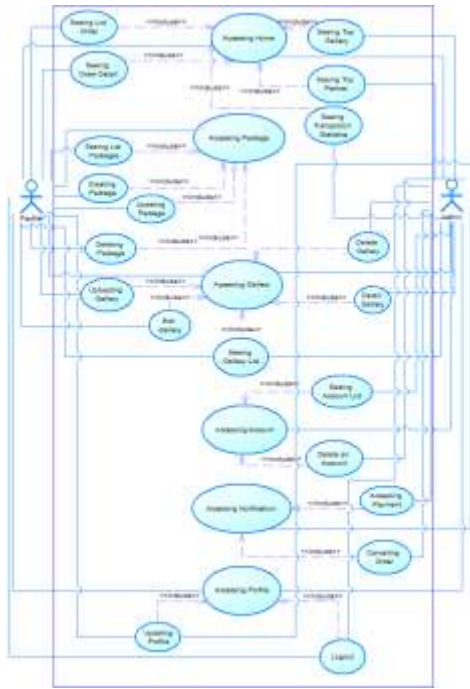


FIGURE V. 1 Partner Home Page

This is what the package partner page looks like. This page is only for partners who can access and add packages, view package details, change packages, and delete packages. Can be seen in the image below:



FIGURE V. 2 Partner Package Page

E. Implementation

The implementation stage of this application describes the implementation of the plans that have been designed from the previous chapter. The details of the Roll application implementation are as follows:

application implementation are as follows:

a. Hosting and Domain

Our hosting section uses one hosting provider service called Heroku. For the development of the Roll website, in Heroku, there is no charge because the Roll website is still in the development stage.

Heroku
<i>PROCESSOR: QUAD CORE</i>
<i>HARDISK SPACE: 100 GB</i>
<i>VIRTUAL MEMORY: 512 MB</i>
<i>BANDWIDTH: 100 GB</i>

FIGURE V.1 Hosting and Domain service

b. User

To access Roll websites, supported browsers such as Google Chrome, Safari, and Mozilla Firefox.

F. Implementation Result

The following is a display of the partner home page. On this page, only partners can access and manage what services will be provided to customers and view incoming order tables and history. Can be seen in the image below:

The following is an admin account page where only admins can access and view the user partner information table and the customer user information table. Admins can also search for and delete user partners and user customers. It can be seen in the image below:



FIGURE V. 3 Admin Account Page

The Notification admin page is where only admins can access and view the booking information table, receive transfers, and the canceled order information table. Can be seen in the image below:

G. Testing

a. Blackbox Testing

Blackbox Testing tests application features and functionality in all applications by providing several test cases for the application. In Blackbox Testing is given a certain number of inputs to get the output achieved. Blackbox Testing is considered successful if the application's output matches the desired output.

b. User Acceptance Testing

User Acceptance Testing is the final test of developing a product to validate that the system built is by user needs. However, the implementation is still not optimal, so an evaluation is needed to identify the UAT process. User acceptance tests are usually performed by the client and/or end-user. The main reason for user acceptance testing is to identify what the system will do and how it will benefit end-users before it is implemented in their live environment.[4].

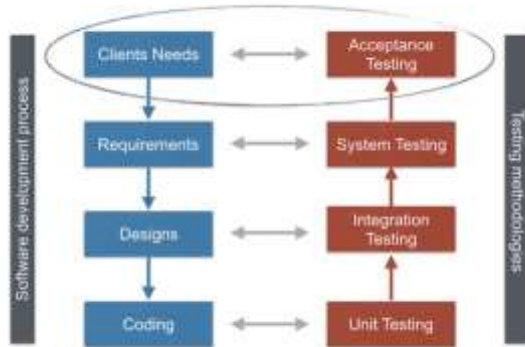


FIGURE V.4 User Acceptance Testing (UAT)

V. CONCLUSIONS

A. This website design uses an iterative, incremental method that has 4 menus for admin pages, namely Home admin, Gallery admin, Account admin, Notification admin, and 3 menus for partner pages, namely partner home, package, and partner gallery. The admin home page has a display; 1. data diagram of customers and partners who have just joined in one month, 2. data diagram of the best-selling category and the most booked partners in one month, 3. category feature that can view photos, edit categories, and delete categories, 4. display three the most popular category partners and the most photo likes in one month. On the gallery page, there is a category filter feature, a search feature for users who upload photos to the gallery and the last one can view posts and delete posts. On the account page, there is a partner information table and a customer information table. For the notifications page, there is a booking and receiving information table for transfers and a cancelled order information table. For the partner home page, there are; 1. personal data information, 2.

Add service, 3. add device, 4. table of incoming orders and history. On the package page, there are features of adding packages, package details, editing packages, and removing packages. For the Gallery page, there is a feature of posting the latest work and seeing the results of posts that have been published previously.

- B. Blackbox testing is considered successful if the application's output matches the desired outcome. By doing this test, the results obtained meet what is expected.
- C. From application testing using the UAT method, it can be concluded that the results of website testing have an attractive appearance of the partner's home page, the added service features on the partner's home page are easy to understand and do, the added device features are easy to understand and perform, the order entry and history table displays are easy to understand, The package page display is easy to understand, the added package features are easy to do, the gallery page display is easy to understand, posting new work on the gallery page is easy to do, and the last logout feature is easy to find. From all test results, it was obtained that the average value was above 75%, which indicated that the features and appearance of the website were easy to understand.

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