

Utilization of Scrum Models in Photography Services and Online Videography

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Abstract

The difficulties faced by the user in selecting photography and videography services are now very limited to access the transmission of his works, and also because a photography and videography have not been computerized to make information and data management scarce. The purpose of the study is to develop a software by pinching agile ux, asa measure of user satisfaction or need to online photography and videography services. The method is the scrum that serves to manage a project more efficiently, and it makes teamwork more effective and focused. The results of this study were developing a software that functioned asa function, from providers and users as well as photography and videography services, so they became more efficient and the published works became more optimized. Testing results using black box testing that test for functionality and required specifications. Applications made to help sell products and promote shops in these materials, so that all are more organized and more effective in the system are washed down. The application has not been entirely feasible, as development in the system is still required.

Keywords — Marketplace, Agile UX, Scrum, Online

1. INTRODUCTION

In this digital era, the development of science and technology is growing very rapidly which has an impact on all aspects, including photography and videography services [1]. In designing and developing a system, it is necessary to develop User Experience (UX) to support the success of a software [2]. In this case photography and videography services for access are still difficult to use, the results of his work have not reached the public optimally, which makes the services of photographers and videographers mostly known by using reference materials, so that the dissemination of information is incomplete. In addition to access and incomplete information, some features and content that should exist, but are not yet available in the system, difficulties in finding the desired information and also a consideration in terms of users who are still managed in a limited manner, are also not structured. and well organised.

To overcome this problem, namely by making this system a means of increasing marketing for business users, it is necessary to improve and develop the system as one of the marketing improvements, as a good information management tool that is in accordance with the needs and desires of users. UX) is very important, it must be considered so that it does not cause difficulties for users in interacting with the system [3]. Because this method emphasizes human and computer interaction, it uses Interaction Design [4]. This design interaction has 4 basic activities, namely: Discovering Requirements, Designing Alternatives, Prototyping, and

Evaluating. This can make it easier for developers, especially to develop a ready-made system, and will be developed according to user needs [5].

In designing a system that is in accordance with the User Experience method, it is closely related to Interaction Design, where the most suitable method is the Five Planes, namely the strategy plan, scope plan, structure plan, skeleton plane, and also the surface plane [6]. This strategy plane is a stage of observation and analysis of interview data, system development objectives, user needs, and also persona design [6]. Scope Plane is fundamentally determined by the strategy section. Strategy becomes Scope when you translate Product Objectives and User Needs into a specific requirement for the content and functionality that the product offers to users [6]. Determining a Scope on a project is an important process that produces a valuable product, because it can identify what can be handled now and what must wait to be done later which will then determine functional and content requirements which include: what features and content are in a project. product, what are the needs that must be met and aligned with strategic goals. This plane structure is a system structure with a menu that has been defined in the previous stage. The Plane Plane is AgileUX. Surface Plane is a display of the system design [7]. The concept of User Experience (UX) has such broad dimensions, both from the psychological side, from the thinking side, from the physiological side to cultural, to technical and execution aspects such as programming and so on that have not been touched on in this paper. Design as the vanguard in the User Interface is now required to animate the process of its formation through the fields in User Experience [8].

The Human Centered Design (HCD) approach that is centered on humans in terms of characteristics and psychology is very suitable for use in secondhand e-commerce UI/UX design, because it is able to provide needs from the user side and get feedback from 107 users, so that we can optimize the final design results. with the feedback [9]. The User Experience (UX) method can also be used for the development of a mobile-based LIPI scientific work repository application, where the application is built by paying attention to the user experience aspect so that the function and appearance are in accordance with the respondent's expectations. In the final stage, the LIPI repository was tested which had been built using the think aloud method [10]. To overcome problems and make this system a means of improving marketing and good for business users, it is necessary to improve and develop the system as one of the marketing improvements and as a good information management tool that is in accordance with the needs and desires of users, then the User Experience (UX) aspect) is very important and must be considered, so as not to cause difficulties for users in interacting with the system [3].

Based on the research above, there are similarities with the research to be carried out, namely using the User Experience (UX) method, as a means to facilitate the dissemination of information on online photography and videography services, developing systems for user needs and desires, so as not to cause difficulties in accessing them. The novelty of this research is the use of the Agile UX device development method with an emphasis on the application to be developed. The Agile UX method can translate Product Objectives and User Needs into more specific requirements, which are useful for the content and functional products offered to users (users). Applications are made to seek harmony between sellers, buyers and the system, there are stages of strategy that will define how to use various existing

features and website functions can work together, so that it can describe how users can interact with products and how the system responds to interactions. with the user so as to help the user to achieve his goals

2. RESEARCH METHOD

This research method conducted a survey to a videography service shop in the Sintang area. A research method that aims to search intensively from the background and circumstances or current events, to an object under study which is used as a case by using systematic ways, which is done by observing, observing what the organization will need.

2.1. *Data collection*

The survey technique uses a questionnaire that is distributed to photography and videography service providers and photography and videography service users and conducts interviews with photography and videography service providers regarding what information these photography and videography service providers want.

2.2. *Software Development*

The development of systems that solve problems by integrating techniques and processes from interaction design that derives from some of the same characteristics as iteration, focuses on quantifiable completion criteria and involves the user in it. The key is to find a balance that fits the research and reflects a good User Experience (UX) design, as well as rapid iteration that incorporates user feedback and allows technical alternatives to be tested [7]. The system modeling in this study uses UML (*Unified Modeling Language*) which consists of use case diagrams, activity diagrams, class diagrams and sequence diagrams. The software testing method uses black-box testing, namely testing the design and program code. Testing is intended to determine whether the functions, inputs, and outputs of the software are in accordance with the required specifications [11]. Several types of errors that can be identified are incorrect or missing functions, interface errors, errors in data structures (*database access*), performance errors, initialization errors and program endings [12]. Black-box testing works by ignoring the control structure so that its attention is only focused on domain information [13].

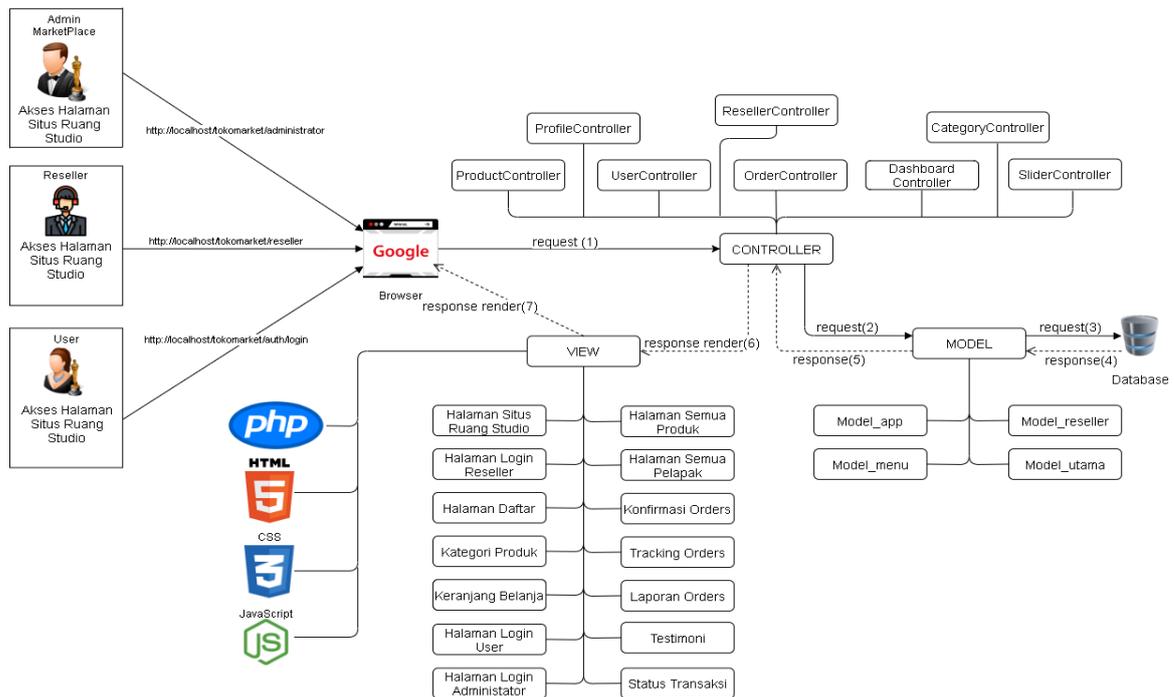


Figure 1. System Architecture Model

Based on Figure 1, there are three access rights, namely Admin, Reseller and User. Admin can access all existing features, Reseller can only access on special page for reseller, meanwhile, User can only access on special page for user as buyer. In the e-marketplace there is a bootstrap framework that helps to make the site look more comfortable when used for users. The main function of bootstrap is to make the site more responsive. The interface on the site will work optimally on all screen sizes, both on smartphone screens and computer/laptop screens. Bootstrap also provides lots of CSS classes and plugins that are ready to be used to help make the appearance of a site or website.

Bootstrap used looks lighter and more structured. The use of the PHP programming language also helps in making a website development even better, PHP is also used simultaneously with HTML, the HTML programming language is one of the languages used to create a web page. And besides that PHP can interact directly with databases, one of the databases supported by PHP is MySQL to store data, so making a site requires a programming language that depends on each other, in order to produce results that are in accordance with the wishes of the user. In this e-marketplace, more emphasis is placed on the appearance of the site that has been created according to the user's wishes, with an attractive site appearance, the user will feel more comfortable when accessing the site, user interface and user experience are indispensable in building a site.

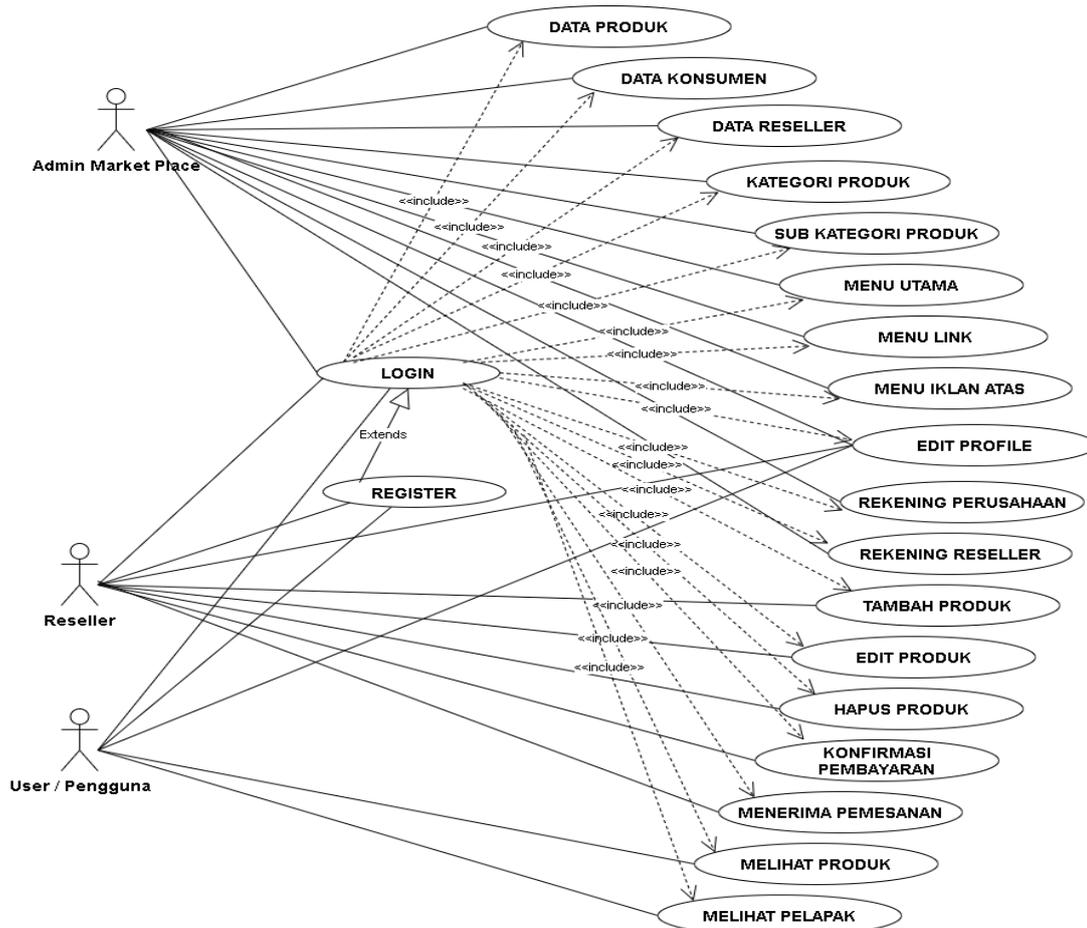


Figure 2. Use Case Diagram

Based on Figure 2 of this use case diagram, there are 2 (two) actors who act as admin, reseller and user. The admin here must access the admin form first to be able to access the others. After data verification is complete, the admin can access consumer data, reseller data, product data, company accounts, product categories, reseller accounts, and then log out by logging out. This reseller data contains reseller data in the Studio Room. Product Data contains the products contained in the seller (*reseller*). Company account here is in the form of Company account data. Product Category is data about what product category is entered. Reseller account here is in the form of Reseller account data. Resellers are here to get started, resellers must login first. After logging in, the reseller can see which orders have been entered and start confirming payments and also view account data or update their own account data which is then ended by logging out.

Users here to view can only be done by a user but to use this system, you must first log in. After logging in, the user can place an order for the product now. After placing an order for the product, the user must confirm the payment. If he does not confirm the payment, the ordered item will not be processed by the reseller. Users can also see transactions made in the purchase history of goods or products that have been purchased on the same day, and users can comment either in product discussions or to the admin, the comment forum provided can only be used by logged in users.

3. RESEARCH RESULTS AND DISCUSSION

3.1. *Product Backlog*

At the product backlog stage, it is done by collecting data. The first is based on direct interviews from potential users of the Ruang Studio application which had previously been obtained from user stories. This product backlog will be created based on the requirements generated from the analysis of user stories based on the needs of users in the desired system. The obtained requirements are used as a product backlog item which will determine the level of difficulty and the estimated processing time needed to complete it. The determination of the priority of working on the product backlog is obtained from the results of communication between the reseller and the stackholder.

Table 1. Product Backlog marketplace Ruang Studio

No.	Product Backlog Features	Estimate (Minutes)	Level of difficulty	Priority	Scrum Sequence
1	Use Case Creation	240	Low	Tall	1
2	Activity Diagram Making	360	Medium	Tall	1
3	Sequence Diagram Creation	360	Medium	Tall	1
4	Class Diagram	360	Medium	Tall	1
5	Studio Room Site MockUp Creation	360	Medium	Medium	2
6	Space Studio Site MockUp Implementation	600	Tinggi	Tall	2
7	Studio Room database creation	360	Tinggi	Tall	3
8	Login function creation	240	Medium	Tall	3
9	Creating a register function	180	Medium	Tall	3
10	Creating profile change function	180	Low	Tall	3
11	Creating logout function	15	Low	Tall	3
12	Product add function creation	240	Medium	Tall	4
13	Product change function creation	240	Medium	Tall	4
14	Creation of the function register as a seller	240	Low	Tall	4
15	Creation of function view product information	240	Low	Tall	4
16	Creation of function view order list	360	Tall	Tall	5
17	Creation of order status check function	360	Tall	Tall	5
18	Payment confirmation function creation	240	Medium	Medium	5
19	Create function change order status	480	Tall	Tall	5
	Total	5655			

3.2. *Sprint Planning*

This sprint backlog is the result of the distribution of the product backlog, where the product backlog is divided into 4 sprints. The distribution of the product backlog for each sprint is determined based on priority, level of difficulty and adjusted for system development needs. The length of time for each sprint is determined based on the difficulty level of each packlog. Each sprint is carried out for +> 4 weeks.

Table 2. Sprint Planning

No.	Product Backlog Features	Priority
1	<i>Use Case</i> Creation	Tall
2	<i>Activity Diagram</i> Making	Tall
3	<i>Class Diagram</i> Creation	Tall
4	<i>Sequence Diagram</i> Creation	Tall

3.3. *Daily Scrum*

The analysis of business processes carried out on the previous system resulted in the addition of 7 new functions and there were 2 old functions that were developed on this Ruang Studio site. The new function developed is that there are 3 users in the system (reseller, user, admin), there is an order history, there is an order basket, there is a testimonial, Resellers are able to enter other packages as well as photography and videography services, there is payment confirmation, there is a centralized data that only can be accessed by the system administrator. The old function that was developed is the work of a reseller that has been made into an advertisement, changes to the appearance of customer testimonials.

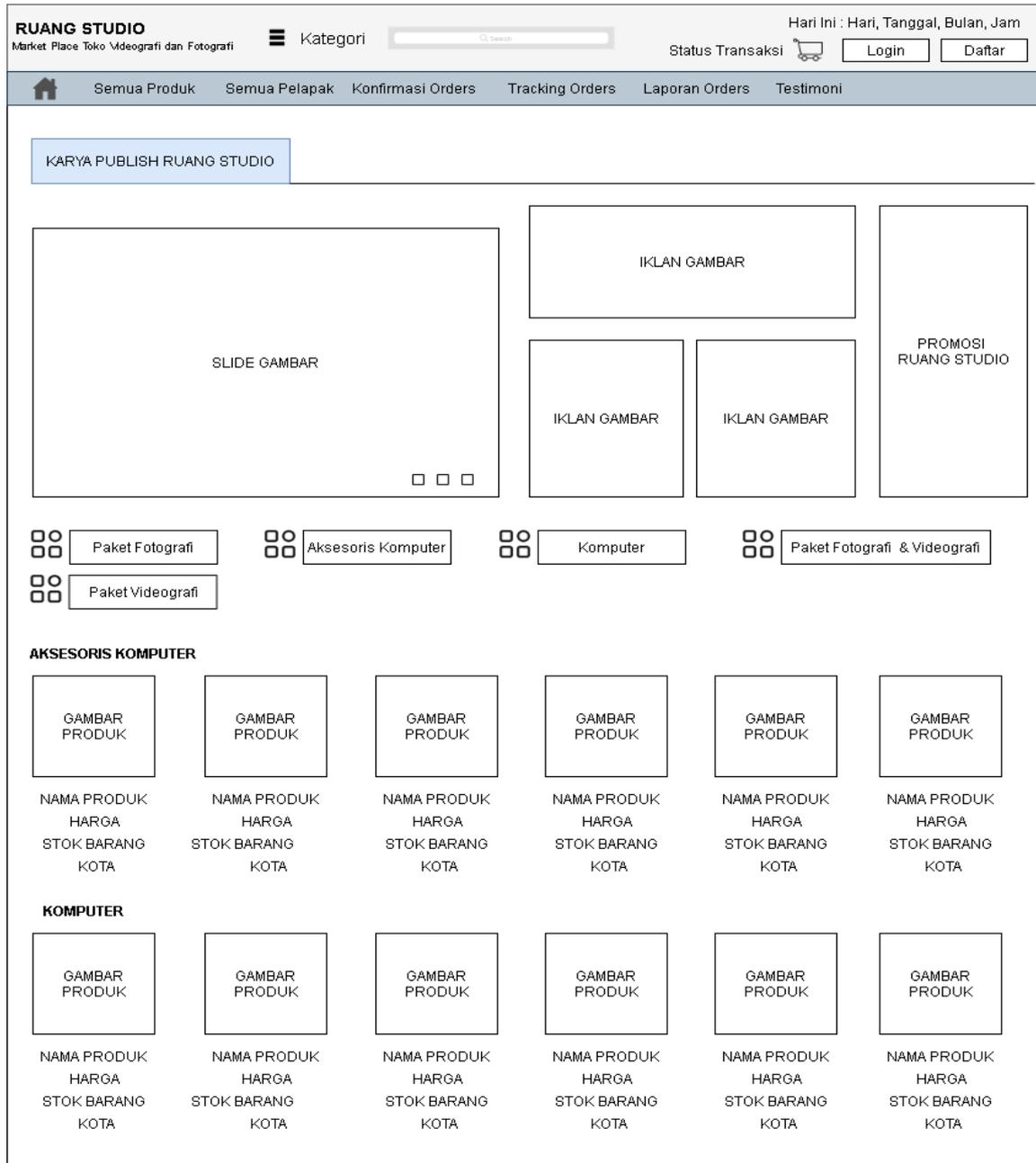


Figure 3 Mock Up Design

Based on Figure 3, at this stage the researcher makes a mock up design. This mock-up design has been updated to a more user-friendly display. The appearance of this website has been grouped into criteria so that users can use it easily. For the initial design in making a website or site, it is necessary to first design the appearance of the initial page. In this display design, User Experience (UX) is needed. The analysis of business processes carried out on the previous system resulted in the addition of 7 new functions and there were 2 old functions that were developed on this Ruang Studio site. The new function developed is that there are 3 users in the system (*reseller, user, admin*), there is an order history, there is an order basket, there is a testimonial, Resellers are able to enter other packages as well as photography and videography services, there is payment confirmation, there is a centralized data that only can be accessed by the system administrator. The old function that was developed is the work of a

reseller that has been made into an advertisement, changes to the appearance of customer testimonials.

Table 3 Sprint Review (User Needs Grouping)

No	Product Backlog	Product Owner	Information
1	Making <i>Use Case Diagrams</i>	Agree	No changes to the <i>product backlog</i>
2	<i>Activity Diagram Making</i>	Agree	No changes to the <i>product backlog</i>
3	<i>Class Diagram Creation</i>	Agree	No changes to the <i>product backlog</i>
4	Creation of <i>Sequence Diagrams</i>	Agree	No changes to the <i>product backlog</i>

In table 3, the author tries to do this at this stage according to the schedule that takes place during the sprint cycle. The author tries to group what needs are in user stories then the user tries to combine them into a use case and is consulted with the product owner because in making the system a specific system description must be made first so that the system is depicted as a whole. In this sprint review, use is made. Case diagram is used as a benchmark for the performances that will be carried out in a system. After the Product Owner agrees with the Use case diagram, it will be continued into the Activity Diagram, Class Diagram, and also the sequence diagram.

3.4. Sprint Retrospective

At this stage the author discusses with several sampling users to discuss the shortcomings and advantages that have been done in sprint 1. The author does not experience any shortcomings in working on the sprint backlog. The user submits the results that have been carried out in accordance with the sprint backlog in sprint 1. The remaining product backlog will be worked on in sprint 2. This stage is carried out by discussing the remaining product backlog in sprint 2, namely making the design and implementing the design. At the stage after a system is created, what must be made is how the form of the system will be. The mock up made now is different from the previous mock up because the previous mock up was not very user friendly, so this mock up design was carried out.

Table 4. Sprint Retrospective

No.	Product Backlog Features	Priority
1	<i>MockUp Making</i>	Medium
2	<i>MockUp Implementation</i>	Tall

a. Sprint Restrospective

At this stage the author and several users have seen an overview of the system that will be created and according to some users, the use cases that have been created represent and have entered this site. For mock ups and implementation of the site as well, this site is already user friendly because it is neat where this site has grouped products, sellers so that users have seen this site already matches what is expected by user stories and will continue to sprint 3.

b. *Sprint 3*

The author chooses the remaining 13 product backlogs as many as 5 product backlogs to be included in. 5 The selected product backlogs are the creation of the Studio Room database, the creation of a login function, the creation of a register, the creation of a profile change and the creation of a log out function. These 5 product backlogs were chosen because to run a system, the author must first create a database from this Studio Room then how to enter the system, how to register to enter the system, change their profile and exit the system.

Table 5. Product Backlog Sprint 3

No.	Product Backlog Features	Prioritas
1	Studio Room database creation	Tall
2	Login function creation	Tall
3	Creating a register function	Tall
4	Creating profile change function	Tall
5	Creating logout function	Tall

c. *Daily Scrum (Database Creation)*

In making this Studio Space database the author uses PHP my admin as the database. After the database has been worked on, the next step is to create a login function and other functions.

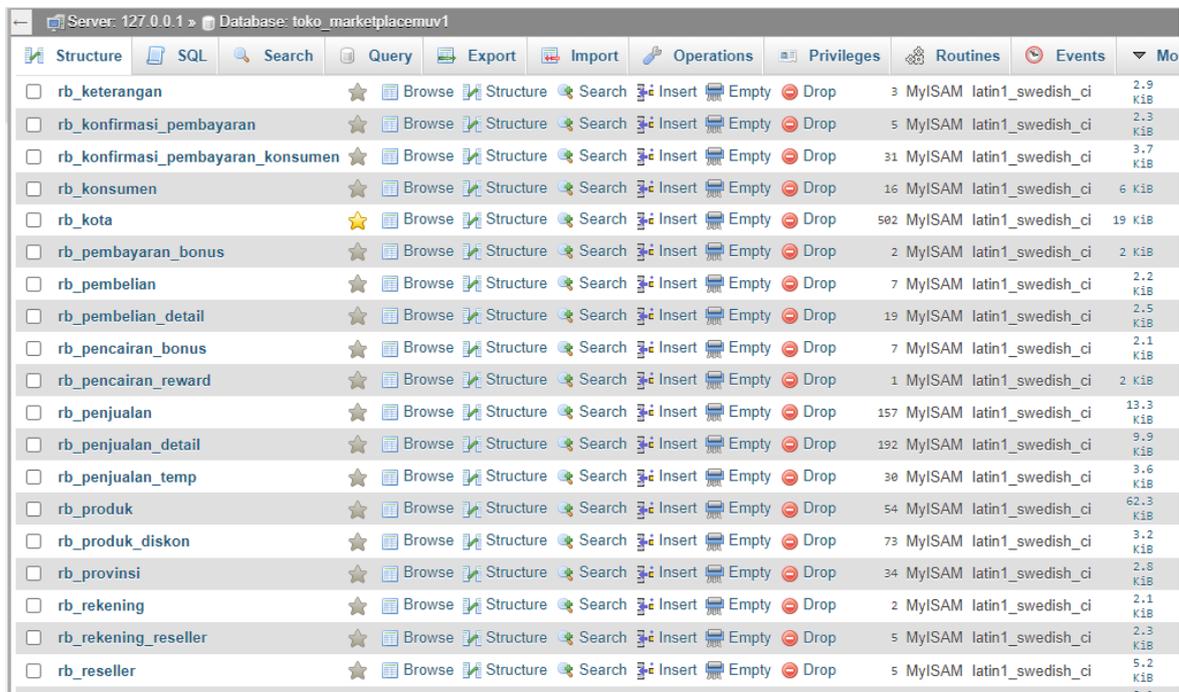


Figure 4. Daily Scrum (Database Creation)

The next development is the creation of the login function. This login function consists of users, resellers, and admins. For logins made by users and resellers, they do not have a

security code. To login admin requires a security code. This login function is a function that has been updated because the old system only logs in, it doesn't distinguish user logins.

d. Sprint Review (System Test Result)

At this stage the author again explains and presents the results of the third sprint to several users. The review is carried out to receive input in the form of feedback on database creation, login function, register function, profile edit function and log out function. The results of testing the Studio Room system can be seen in table 6 :

Table 6. System Test Result

Function	Scenario	Test Result
Database	The user sees whether the required data has been entered into the system or not	Succeed
Login	The user tries to enter the system by using the login system	Succeed
Daftar	User tries to register into the system	Succeed
Ubah Profile	User tries to update personal data into the system	Succeed
Log Out	User exits the system	Succeed

Users see the results of testing the functions that have been done in the system. At this stage the author must ensure that the function runs normally and properly. Because all testing processes were successful, the sprint backlog item was approved by several users.

4. CONCLUSION

From the results of software design and development by utilizing User Experience using the Scrum Model method, it produces software that is designed and developed to help promote or sell a store product into the site system, and can make it easier to find orders for photography and videography services or other computer accessories. The software is designed and developed, the seller (reseller) can update data changes that are carried out continuously in a database, making it easier to find out the current price or stock of goods. The software designed and developed by the Marketplace Admin can see consumer data, reseller data, product data, what product categories are sold in each store.

5. REFERENCES

- **Online version of scientific magazine articles** in the order of writing: Author, year, article title, magazine name (must be italicized as an official abbreviation), number, volume, page and website address.

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- [1] Hartati, R., Amaly, N., 2019, Kesenian dan Teknologi di Era Disrupsi (*Studi Terhadap Akun Instagram Madihin @gazali_rumi*), *Journal Alhadharah : Jurnal Ilmu Dakwah*, Vol. 18, No. 2, 39-57.
 - [2] Waralalo, M, H., 2019, Analisis User Interface dan User Experience Pada AIS UIN Jakarta Menggunakan metode Heuristic evaluation dan webuse dengan starndart iso 13407, *Skripsi*, Program Studi Teknik Informatika Fakultas Ilmu Komputer Universitas Bina Darma Palembang.
 - [3] Hardiansyah, L., Iskandar, K., dan Harliana 2019, Perancangan User Experience Website Profil Dengan *Metode The Five Planes* (Studi kasus: BP3K Kecamatan Mundu), *Jurnal Ilmiah INTECH (Information Technology Journal) of UMUS*, Vol.01, No.01, Mei 2019, pp. 11-21
 - [4] Guo F. 2012. *More Than Usability: The Four Elements of User Experience, Part I [Internet]. [diunduh 2017 Nov 22]*.
 - [5] Mendiola B. Wiryawan., 2011, *User Experience (Ux) Sebagai Bagian Dari Pemikiran Desain Dalam Pendidikan Tinggi Desain Komunikasi Visual*, *Journal HUMANIORA* Vol.2 No.2 Oktober 2011: 1158-1166.
 - [6] Setiadi, A. R., dan Setiaji, A., 2020, Perancangan *UI/UX* menggunakan pendekatan *HCD (Human-Centered design)* pada website Thriftdoor, *Journal Automata*, Vol. 01, No.02.
 - [7] Prasetyadi, A., Nurhadryani, Y., dan Koswara, E., 2017, Pengembangan Aplikasi Repositori Karya Ilmiah Lipi Berbasis Mobile, *Jurnal Penelitian Pos dan Informatika*, Vol.7, No.1, Hal.59-72.
 - [8] Jaya, T. S. (2018). Pengujian Aplikasi Dengan Metode Blackbox Testing Boundary Value Analysis (Studi Kasus: Kantor Digital Politeknik Negeri Lampung). *Jurnal Informatika: Jurnal Pengembangan IT (JPIT)*, Vol.03, No.02, 1-4.
 - [9] Kieffer, S., Ghouti, A., dan Macq, B., 2017, *The Agile UX Development Lifecycle: Combining Formative Usability and Agile Methods*, *Journal Hawaii International Conference on System Sciences*.

- **Bibliography only contains all the references referred to the written text, not just the literature read. References are written in the order in which references appear in the text, not in the alphabetical order of the author.**

- [1] Sharp, H., Rogers, Y., dan Preece, J., 2019, *Interaction Design: beyond human-computer interaction, Fifth Edition, John Wiley & Sons, Inc., Canada*.
- [2] Garrett, J.J., 2019. *The Elements of User Experience: User-Centered Design for the Web and Beyond. Berkeley (US): New Riders*.
- [3] Sukamto, Rosa A dan M.Shalahuddin. 2016. *Rekayasa Perangkat Lunak Terstruktur dan Berorientasi Objek*. Bandung : Informatika Bandung.
- [4] Pressman, Roger S. (2007). *Rekayasa Perangkat Lunak: Pendekatan Praktisi (Buku 1)*. Beizer, B.