

Development of Educational Website and Buying And Selling Kpop Merchandise Integrated With Payment Marketplace

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Abstract— The development of educational website and buying and selling kpop merchandise integrated with this payment marketplace uses PHP, HTML, and javascript programming languages. The problem that occurs is that there is no website to increase the enthusiasm of kpop fans. An educational website that presents a variety of complete and up to date information coupled with the existence of e-commerce, buying and selling kpop merchandise from their idols will add to the breakout power of kpop fans to continue to support their idols. Fans can do an in-depth search of their idols, then can make sales of the merchandise they own and make purchases of the merchandise they want, both new and used. Examples of merchandise such as albums, photocards, light sticks, and many more. Therefore, a research was conducted entitled "Development of educational website and buying and selling kpop merchandise integrated with payment marketplace" using the Rapid Application Development (RAD) development method and *Unified Theory of Acceptance and Use of Technology* (UTAUT) research method in order to solve these problems and increase the enthusiasm of kpop fans.

Keywords: Website, K-Pop, Merchandise, Payment System, Rapid Application Development, Unified Theory of Acceptance and Use of Technology.

I. INTRODUCTION

The development of information and communication technology has spurred digital transformation that changes the industrial order including Korean industry and the technology industry itself [1]. The Korean industry or known as "Hallyu /

Korean Waves" developed so rapidly and could be accepted by the wider community so that Korean culture was so popular and spread to various countries including Indonesia [2]. Some things such as Korean dramas, kpop, make-up, skincare, and many more have begun to poison young Indonesians. With the development of technology, hallyu/korean waves in Indonesia can be improved even more [3]. Both can be combined to improve each other's performance.

So far, on the kpop website there is still no website that provides complete and up to date information, especially in it there are buying and selling stalls such as e-commerce that provide merchandise from kpop idols. By making this system, the enthusiasm of Kpop fans will be more advanced in the future.

This educational web development research was conducted to facilitate and help kpopers who are enthusiastic about the progress of their idols so that they can find more detailed information about their idols, especially for fans who want to find merchandise from their idols both new and used.

The Korean Entertainment World in Indonesia gets very high enthusiasm because the industry has many plus values, ranging from his extraordinary work, his voice that can make everyone addicted, and certainly his face that attracts the hearts of his fans [4]. The world of Korean Entertainment is very diverse ranging from Korean Dramas, Korean Songs (K-POP), Variety Shows, Korean Movies, Skincare, Make-up, and many more. Each has its own market so there is no doubt that the market for Korean products sold in Indonesia will be very explosive and sell well. This thesis focuses on kpop idols and idol

merchandise that can be traded on this website.

The development of this website requires XAMPP which is used to conduct experiments and server tests on the project created. XAMPP is free software that contains a wide variety of operating systems. XAMPP is a stand-alone server (localhost) and is equipped with various features, one of which is database management features [5].

PHP stands for PHP:Hypertext Preprocessor commonly used for programming languages [6]. PHP was designed by Rasmus Lerdorf and developed by The PHP Development Team and Zend Technologies. In PHP there are many types of extensions provided. PHP is an open source technology that is free to obtain and can be configured according to the needs of the company supported by a community of users and developers [7]. PHP is used as the easiest, simplest, and often used programming language by many programmers.

HTML is the most basic code and stands for HyperText Markup Language [8]. HTML itself was released in 1993 exactly 29 years ago and was created by Berners-Lee (Swiss Research Institute). HTML is also used as the easiest, simplest, and often used code by many programmers.

Cascading Style Sheets or commonly known as CSS was developed by the World Wide Web Consortium. CSS itself is not a programming language but rather looks like a configuration of the appearance of a tag on a website that can change text, color, background, and much more on a tag on the website [9]. CSS is a script that is intended specifically to regulate the appearance of website applications.

UI design or what we commonly know as User Interface is an interface design in real form that can display the way users interact directly with the system [10]. This User Interface design is made to attract buyers because it has an attractive catalog display

and spoils the eye, it can be a plus point of a website.

Javascript is a script developed in 1995 by Sun Microsystems and Netscape. Javascript has a difference with other programming languages in that the flow is not too complex and tight [11].

Web hosting is a form of service that provides a server that will be used to accommodate website page data so that it can be accessed by the public via the internet around the world. Some self-hosting is free without charging a penny and some are paid. The difference is in terms of bandwidth and data security promised by the hosting company [12]. The web hosting used is a "Rumah Web".

II. METHOD

The method used to develop this website is Rapid Application Development or commonly referred to as RAD. The RAD method is used because this method is suitable for developing websites, starting with building the framework of the system, then providing prototypes of planning stages to users and sellers, analyzing and designing and implementing them by fully understanding the surrounding conditions in order to support the needs of kpopers. RAD is one of the most popular application development methods because it only takes a short time, unlike other methods. RAD is a software development method with an object-oriented approach to system development. This method aims to shorten the time in planning, designing, and implementing a system when compared to other methods [13].

Then the test method, The use of UTAUT (*Unified Theory of Acceptance and Use of Technology*) research method is one of the research models that is generally used to explain user acceptance of the use of information technology systems. This model puts a model to explain user behavior towards information technology[14]. This study includes five variables, namely Performance Expectancy (PE), Effort Expectancy (EE),

Social Influence (SI), Facilitating Conditions (FC), and Behavioral Intention (BI) [15].

Performance Expectancy (PE) variables are variables that can explain user expectations and expectations of a technology. Effort Expectancy (EE) variables are variables that can help researchers to find out how easy it is for users to master technology and understand the features that exist and that have been provided, Social Influence (SI) variables that can influence others through user decisions in using technology, Facilitating Conditions (FC) variables are variables that include surrounding factors such as environmental and infrastructure factors to influence acceptance of a technology, and the variable Behavioral Intention (BI) is a variable that aims to measure a willingness or desire of users in using technology long-term.

With these five variables, All About Kpop website research will be easier and more understanding to understand the factors that affect user acceptance in a technology and can be further developed.

Table 1 describes the list of questions presented to respondents on the All About Kpop website.

Table 1. List of questionnaire questions

No	Questions	Variable
1	Using the All About Kpop website makes it easier for me to find out information about Kpop artists and buy and sell merchandise.	EE1
2	I believe that it is easy and does not require much time in learning and using the All About Kpop website.	EE2
3	The user interface of the All About Kpop website is not confusing or eye catching in the eyes of website visitors.	EE3
4	The use of the All About Kpop website has the advantage of finding out information about Kpop	PE1

No	Questions	Variable
	artists and buying and selling merchandise.	
5	The usefulness of the All About Kpop website has the expected function.	PE2
6	The existence of the All About Kpop website is to support more Kpop fans in finding out information about Kpop artists and their merchandise.	PE3
7	The use of the All About Kpop website provides good quality information and details about Kpop artists.	FC1
8	The information on the All About Kpop website is accurate and reliable.	FC2
9	The All About Kpop website is useful for Kpop fans.	FC3
10	The All About Kpop website satisfies Kpop fans in finding out information about Kpop artists.	SI1
11	The All About Kpop website can give satisfaction to Kpop fans through the services and features on the website.	SI2
12	Kpop fans feel satisfaction after visiting the All About Kpop website.	SI3
13	I plan to recommend using the All About Kpop website to others.	BI1
14	I am committed to using the All About Kpop website regularly whenever I want to find out information about Kpop artists and their merchandise.	BI2
15	I plan to continue using the All About Kpop website in the future.	BI3

All questions of the questionnaire are presented with the following answers:

- 1 : Strongly Disagree.
- 2 : Disagree.
- 3 : Neutral.
- 4 : Agree.
- 5 : Strongly Agree.

III. RESULTS AND DISCUSSION

A. RESULT

Website Design is one way to promote and sell merchandise products in the store. In addition, it can also provide some information about kpop and the product itself [16]. The design of this website consists of menu design for admins, login and logout design, header and footer design, index design, shop plan, cart plan, product checkout plan, and much more [7]. The design of this website is done to make it easier to find out information about kpop and buy and sell merchandise.

Figure 1 explains the flow of using educational websites and buying and selling merchandise from the admin side

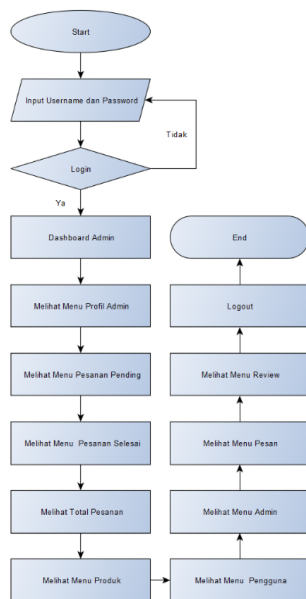


Figure 1. Website flowchart from admin side

And then The flow of educational websites and buying and selling merchandise as a user can be seen in figure 2.

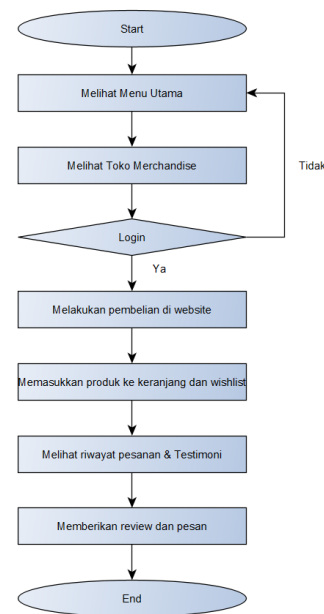


Figure 2. Website flowchart from user side

The results of validity testing are very important for the results of data analysis. Significant results show that the variable is statistically reliable. In testing validity and reliability, SPSS is used as an auxiliary medium to calculate the pearson correlation coefficient, compare with critical values from the calculated r table, and help determine how significant the relationship between the variables that have been tested.

In validity testing using Pearson correlation, data is considered valid if the Pearson correlation value is greater than the corresponding r-table value. According to the table above, with the number of respondents as many as 86 respondents so that the value of the r table used is 0.227. Thus, according to the validity test, the data above are all valid because every data in the variable is contained in the same component column. The following is table 2 which displays the results of validity testing that show the calculated r can be greater than the critical value of the table or table r.

Table 2. Table of Validity Test Results

	Rotated Component Matrix ^a	
	Component	
	1	2
EE1	.585	.507
EE2	.740	.444
EE3	.528	.562

PE1	.649	.482
PE2	.796	.262
PE3	.856	.244
FC1	.773	.402
FC2	.668	.527
FC3	.699	.278
SI1	.744	.441
SI2	.726	.349
SI3	.462	.693
BI1	.375	.776
BI2	.295	.833
BI3	.251	.831

From the results of the validity test table 2 above shows that each variable is considered valid and correlates with component 1 and component 2.

Next is table 3 which displays the results in the form of a summary of the results of validity testing that has been carried out, and the conclusion is that there is a significant relationship between the two variables tested. The relationship can be positive or negative, meaning that a change in one variable will have an impact on changes in another.

Table 3. Table of Reliability Test Results

Variable	Cronbach's Alpha	N of items	Internal Consistency
EE	.847	3	Good
PE	.860	3	Good
FC	.829	3	Good
SI	.823	3	Good
BI	.865	3	Good

It can be seen from table 3 that the EE variable obtained a result of 0.847 and it can be concluded that the EE variable has a very high reliability coefficient. The result obtained by the PE variable is 0.860 and it can be concluded that the PE variable also has a very high reliability coefficient. The FC variable obtained a result of 0.829 where the FC variable has a very high reliability coefficient. Furthermore, the SI variable obtained a result of 0.823 which means that

the SI variable also has a very high reliability coefficient. And the last is the BI variable where the results obtained are 0.865 which means the BI variable has a very high reliability coefficient and has a good meaning for the website because development in long-term use is recognized by respondents who have filled out the questionnaire.

From the results of the reliability test in table 3 above, it can be concluded that, after conducting reliability tests on each variable, the results are good and valid because Cronbach's alpha exceeds 0.8. Research reliability can be confirmed through the use of Cronbach's alpha. Data is considered valid and has good reliability if the alpha value exceeds 0.6. If it meets reliability standards, then the data can be used and can be trusted for further analysis in the future. This testing is usually done by methods such as questionnaires or tests. According to the test using the data that has been collected and the number of questions as many as 15. Thus, the data is trustworthy and can be used as a basis for further analysis.

Next is the data correlation test. In data correlation testing, the r table is used as a measuring tool between two variables in statistics. Table 4 explains that there is a correlation between variables in statistics and it can be concluded that the data that has been tested is valid and provides consistent results in measuring the same variable in different situations or times.

Table 4. Table of Correlation Test Results

		Correlations				
		AverageEE	AveragePE	AverageFC	AverageS	AverageB
AverageEE	Pearson Correlation Sig. (2-tailed)	1	.601**	.695**	.745**	.653**
			.000	.000	.000	.000
	N	86	86	86	86	86

AveragePE	Pearson Correlation Sig. (2-tailed)	.601**	1	.770**	.720**	.546**
		.000		.000	.000	.000
	N	86	86	86	86	86
AverageFC	Pearson Correlation Sig. (2-tailed)	.695**	.770**	1	.731**	.625**
		.000	.000		.000	.000
	N	86	86	86	86	86
AverageSI	Pearson Correlation Sig. (2-tailed)	.745**	.720**	.731**	1	.700**
		.000	.000	.000		.000
	N	86	86	86	86	86
AverageBI	Pearson Correlation Sig. (2-tailed)	.653**	.546**	.625**	.700**	1
		.000	.000	.000	.000	
	N	86	86	86	86	86

** . Correlation is significant at the 0.01 level (2-tailed).

The result of the data correlation test in table 4.10 above is the pearson correlation result contained in the EE and PE variables is 0.601 with a significance level of 0.000 which means that both variables have a very high

level of correlation. Then between the EE and FC variables obtained pearson correlation results of 0.695 with a significance level of 0.000. EE and SI variables have a pearson correlation result of 0.745 with a significance level of 0.000. EE and BI variables that have the result of pearson correlation 0.653 with a significance level of 0.000. The result of pearson correlation between the PE variable and FC is 0.770 with a significance level of 0.000. Then the PE variable with SI obtained a pearson correlation of 0.720 with a significance level of 0.000. The PE variable with BI obtains a pearson correlation of 0.546 with a significance level of 0.000. The FC and SI variables obtain a pearson correlation of 0.731 with a significance level of 0.000. The FC and BI variables obtain a pearson correlation of 0.621 with a significance level of 0.000. And the last is the SI variable with BI which obtains a pearson correlation result of 0.700 with a significance level of 0.000. Thus, the correlation test between variables can be concluded that between variables have a correlation with each other with other variables and the data is valid.

B. DISCUSSION

The development of the All About K-Pop website is done to increase the breakout power of people out there who do not know the world of K-Pop so that they more easily understand the basics of the Korean world. The educational function on this website is located on the page of each artist, which on the page is explained and given information about the artist such as (Debut date, Debut song, Fandom Name, dance practice videos of the artist, detailed explanation of each member, Awards that have been won by the artist, and some photos of their concert or world tour schedule). Educating some information such as the information above will greatly help ordinary people to better understand what the Kpop world is like starting from artists, songs, dances, and achievements. In addition, there are categories in the merchandise that can be used as knowledge about each artist's merchandise.

The first display that visitors will see when visiting the website is the display of the

main page of the All About Kpop website, to access it we only need to write the website link from All About Kpop in the browser. On the main page of this website, website visitors do not need to log in to see and find out information about Kpop artists on this website. On the main page of this website, a lot of information about Kpop artists ranging from Boygroups and Girl Groups as this website progresses, may be added such as soloists, actors, and actresses. The appearance of the website is made with a "pink" theme because it matches the content on the website and attracts the eyes of visitors or commonly called eye catching.

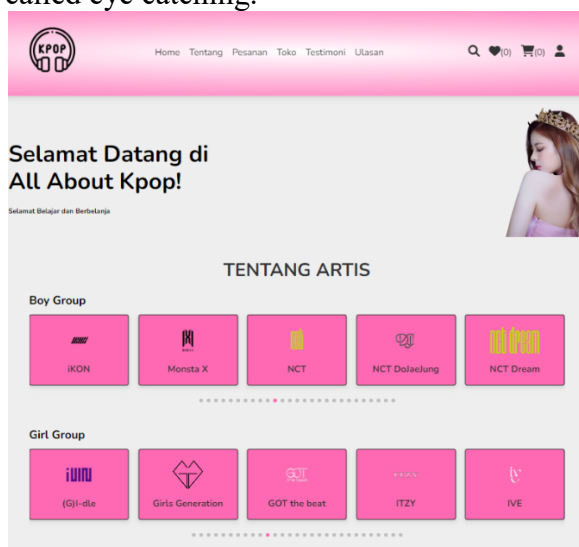


Figure 3. Landing Page

After entering the landing page, users can see complete and up to date artist information on the page. Here's a picture of the artist information.

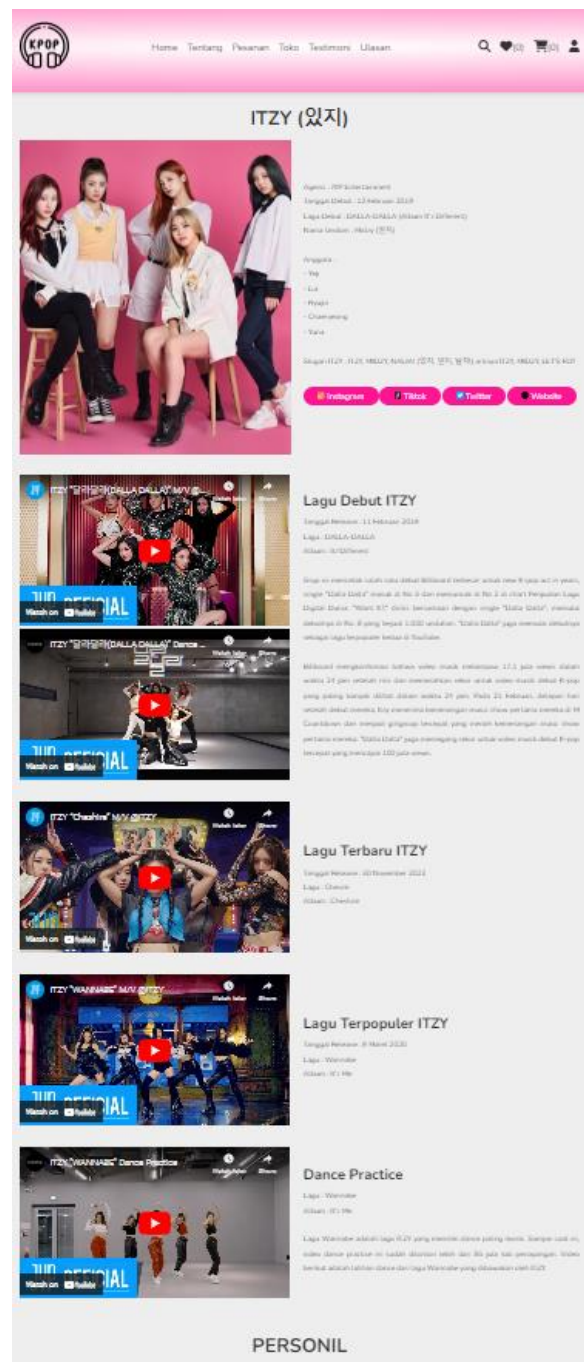


Figure 4. First look at artist pages

tiktok, and twitter. And also no less important is youtube, on that display has been displayed youtube video players that have been categorized based on debut songs, latest songs, most popular songs, and dance practice from the artist so that visitors have no difficulty in finding out information about the artist.

After explaining the information underneath there is a brief bio of the member or members of the artist. Then there are what awards, achievements, and nominations have been obtained by these artists during their time in this entertainment world. Then there are photos that inform some of the concerts or world tours that have been and will be carried out by the artist. Then at the bottom of the home screen there is a slider that directs to several other artists so that visitors don't have to bother returning to the home page to find some information and biodata about other Kpop artists.

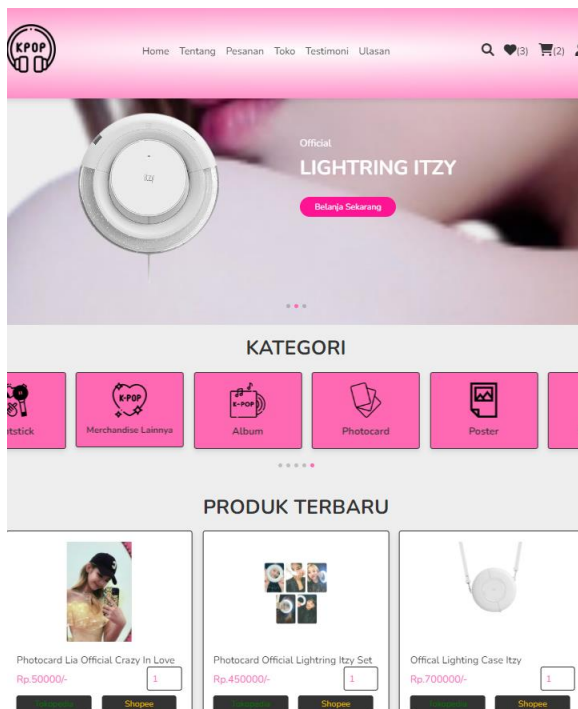


Figure 7. Store Page

Figure 7 is a store display containing product banners, product categories and products. In the category section there are albums, photocards, posters, lightsticks, and other merchandise. If the user has not logged in, the appearance of this shop will still appear

but the user cannot put products into the cart and wishlist, the user also cannot purchase merchandise before logging in to this website.

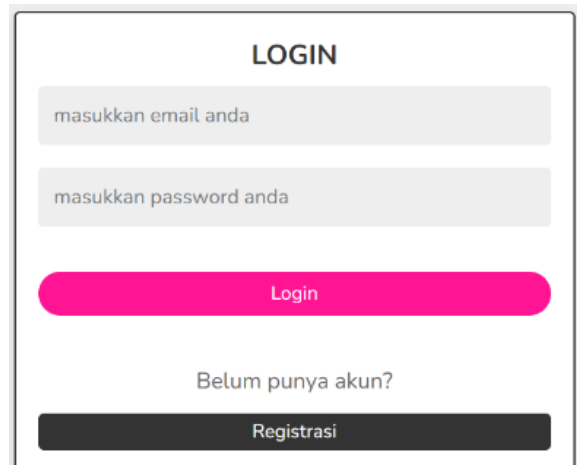


Figure 8. Login Page

Figure 8 above explains that website visitors are required to log in if they want to make merchandise purchases, view purchase history, put products in wishlists and carts. If the visitor does not have an account, the visitor can create an account or register an account first.

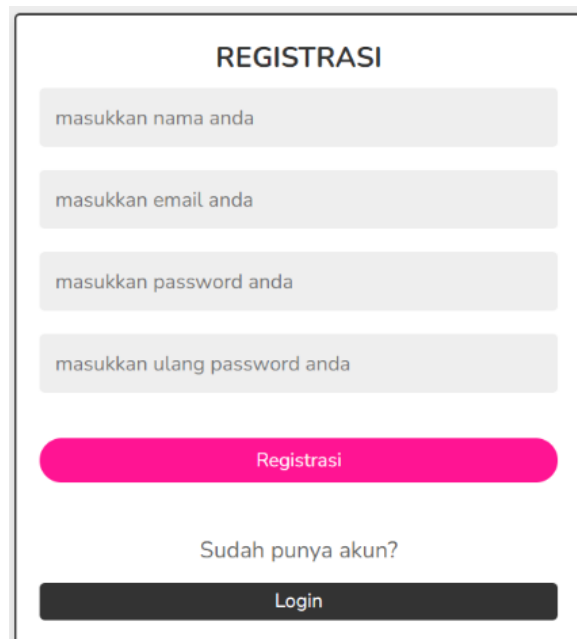


Figure 9. Register Page

Figure 9 above is a display of the register on the website. Account registration must be done by visitors who want to make transactions on the website and open all the features on this all about kpop website.



Figure 10. Payment Page

Figure 10 above is a display of the payment page which contains the visitor's order product, the total price of the order, qris to make payment, and personal data forms such as name, email, phone number, address, and postal code. After filling in personal data and making payments, visitors can click "Selesaikan Pesanan" so that the admin can check the payment. After making a payment, visitors can see the detailed status of their order on the order page.

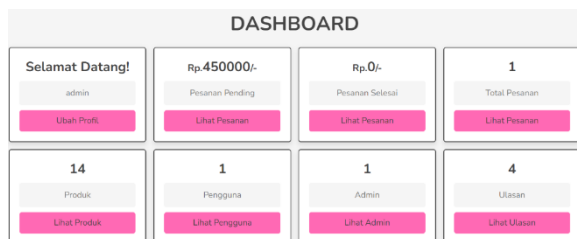


Figure 11. Admin dashboard page

Figure 11 is what the admin dashboard looks like. On this page there are several

admin access rights such as changing admin profiles, viewing total money that is still pending order status, viewing total money that has been completed order status, viewing total orders, viewing and adding products or merchandise, viewing visitors or users who have created an account on this All About Kpop website, viewing and adding admin data, View and delete messages provided by visitors logged in to the admin, and the last is to view and delete reviews left by visitors logged in to the admin.

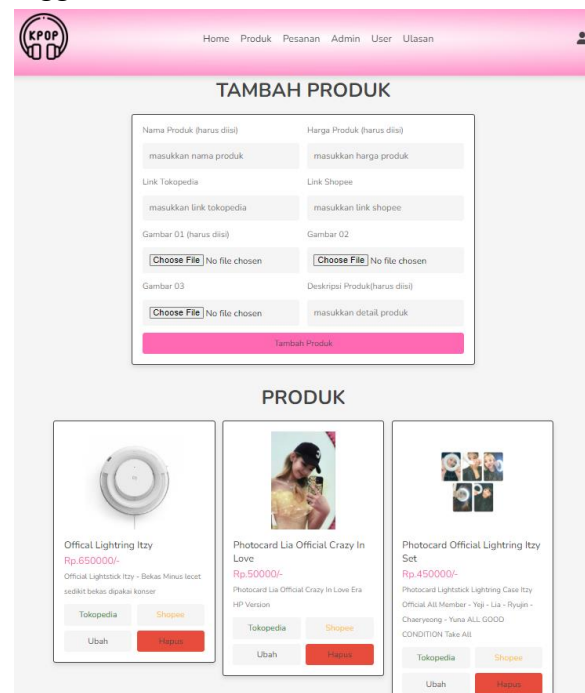


Figure 12. Admin product page

Figure 12 is a view of the product that can only be accessed by admins. Admins can add products or merch through this page. The data needed to add products on this page are product names, product prices, tokopedia links, shopee links of product images or photos (at least one maximum three), and product descriptions. After all the data is entered, click "Tambah Produk" so that the product appears on the page visited by the visitor (store page).

In addition to adding products, admins can also view, organize, and delete products that have been entered into the database before. If the admin wants to make changes to their product data, click "Ubah" on the product they want to change. If the admin

wants to delete the product, click "Hapus" on the product you want to delete.

IV. CONCLUSION

The development of an educational website and buying and selling kpop merchandise that is integrated with the payment marketplace is needed to make it easier for kpop fans to find out information about kpop artists and merchandise. With this website, fans will be more efficient and effective in finding out information about kpop and its merchandise. In addition to providing complete and up to date information, this website also provides features that make it easier for fans such as listing the artist's social media such as Instagram, Twitter, TikTok, and the official website on the artist's page, displaying information such as debut songs, latest songs, most popular songs, and dance practice, then on the artist page also explaining in detail about the personnel or members of the artist, In addition, the artist page also displays the awards that have been won and the concert schedule of the artists.

In addition to information that can make it easier for fans, this website has an attractive UI or user interface or eye catching in the eyes of fans because of the pink shades that spoil the eyes of kpop fans so that fans will find out some information about the artist and his merchandise.

This educational website and buying and selling merchandise is designed using native php which provides advantages for researchers in website development because they have learned from a long time. The use of native php can also provide flexibility, effectiveness, and time efficiency in the development and maintenance of the All About Kpop educational website.

According to the test results, the All About Kpop website has a significant influence on users' continued use. Some factors and advantages such as the appearance or user interface are attractive or eye catching, the data presented in it is up to date and complete, the features available on the website are good enough to encourage users

to recommend to others to visit the website, and can also be used as evidence that the research and testing is really valid.

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