# PROCEEDINGS OF CHIUXID 2015

ACM In Coop International Conference on Human Computer Interaction and User Experience

Bandung - Indonesia, 08-10 April 2015

# Connect

Connecting academics and professionals in the UX world







Proceedings of CHI UX Indonesia 2015 (CHIuXiD 2015) – The International HCI and UX Conference in Indonesia
Edited by Adi Tedjasaputra, Harry B. Santoso, Eunice Sari, Johanna Hariandja, Emil R. Kaburuan, Paulus Insap Santoso
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## **CONNECT**

## Proceedings of CHI UX Indonesia 2015 (CHIuXiD 2015)

The International HCI and UX Conference in Indonesia

In cooperation with ACM SIGCHI

08-10 April 2015 Bandung, Indonesia

### **Edited by**

Adi Tedjasaputra, Harry B. Santoso, Eunice Sari, Johanna Hariandja, Emil R. Kaburuan, Paulus Insap Santosa









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## **Welcome from Conference Chairs**

It is with great pleasure we welcome you to CHI UX Indonesia (CHIuXiD) 2015. CHI UX Indonesia 2015 is an international ACM In-Coop Conference that provides a platform for Human-Computer Interaction (HCI) and User Experience (UX) academics and professionals from across Indonesia to share and learn about the development of HCI and UX in the region. This year CHI UX Indonesia 2015 is organized for the first time by CHI UX Indonesia (Indonesia ACM SIGCHI Chapter) in collaboration with Industrial Engineering Department of Parahyangan Catholic University (UNPAR).

The theme "Connect ~ Connecting academics and professionals in the UX world" was chosen to reflect our passion to gather and engage HCI practitioners from academia and industries to exchange knowledge and share their portfolio relevant to HCI and UX, as well as to build a common ground to advance HCI and UX collaboration in the region. HCI is not a completely new discipline in Indonesia, yet HCI practice has recently become a new "trend" in the industry. More universities have started to offer HCI courses as a part of their programs, while industries start to practice HCI and UX to improve their product and service delivery.

UX Indonesia – Malaysia 2014 Conference conducted in April 2014 was the first HCI and UX event ever conducted in Indonesia. This event laid a cornerstone for building a strong HCI and UX community of practice in Indonesia and gave birth to Indonesia ACM SIGCHI Chapter (CHI UX Indonesia). As people started to get together and engage in this new community, we realised a big gap of knowledge and interpretation among the community members.

CHIuXiD 2015 aims to engage academics and professional in a number of interactive activities, i.e. keynote sessions, participative sessions, position paper and poster presentations, workshops, design challenge activities, and industry tracks. This event provides a venue for its participants to learn the state-of-the-art of HCI and UX in Indonesia, discuss and exchange knowledge, address the challenges and exhibit the works being done related to HCI.

We currently receive the works of more than 70 contributors from Indonesia, Malaysia, Singapore, Australia, United States, Netherland, Belgium, Japan, Taiwan and United States through forty-two submissions. Out of twenty-four technical papers submitted, we selected twelve papers (four short papers and eight full papers) through a rigorous double-blind-review process done by a board of

international reviewers. These papers features a number of great and insightful articles related to usability testing and evaluation, HCI and Online Learning, HCI Education, Healthcare Experience Design and Applied User Experience.

Proceedings of CHIuXiD 2015 consist of the above technical papers and other submissions that were submitted under the following categories: workshop proposals, position papers and design challenge proposals, which were reviewed by their respective track chairs. Eight teams were selected to participate in the Round 2 of the Competition (24-hour design challenge) to present their proposals. Eight position papers were selected for poster and position paper presentation. Four hands-on workshops will be conducted as part of the conference programme.

Organizing the first International ACM In-Coop Conference on Human-Computer Interaction and User Experience is a great challenge. We knew that the field is currently growing in Indonesia. We extend our gratitude to our strong and dedicated program committee members, international board of reviewers, and also the co-organizer, Industrial Engineering Department UNPAR.

Last but not least, we do hope that you enjoy the conference and your stay in Bandung. We also wish our international participants a memorable experience during your stay in Indonesia.

Eunice Sari and Johanna Hariandja (Conference Chairs)

On behalf of CHI UX Indonesia 2015 Organizing Committee

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## A Preliminary Study to Determine Criteria For Personalized E-Commerce

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#### **ABSTRACT**

Web design is one of several critical factors for the acceptance and success of an e-commerce website. A good web design influences user's satisfaction and intention to use the website. The purpose of the study was to determine criteria for personalized e-commerce with a method recommended by users in using an e-commerce. This study used a qualitative method to analyze three components of web design i.e. information, navigation, and visual designs. Data collection was performed using in-depth interview technique on participants who have been familiar with online transactions. Data showed that participants preferred navigation and information designs rather than visual design.

**Keywords:** web design; personalized website; e-commerce

#### INTRODUCTION

Websites are becoming critical for companies and organizations. Either they are seen as a part of marketing strategies (internet sites) or as a tool to enhance internal communication and efficiency of the organization (intranets) [4]. Studies on usability evaluation are required to provide recommendations for improvement website in the context of the user centered design process [16]. Many design attributes are interrelated and interacted, which make difficult to identify the effect of an attribute on the entire website [13].

An excellent website enables users to operate it easily, comfortably, and enjoyably. Web designer should focus on the user necessitates in order to make users ability to use the website efficiently and satisfy [18]. E-commerce differs from other site categories i.e. information or entertainment

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because e-commerce is not technology driven but is user driven [15].

Guidelines and principles to develop a website are classified into three general categories[1]. The first category, web design developed using intuitively by professionals who have practical expertise. The second category is traditional user interfaces design literature, and the last one is a recommendation derived from users. The guideline which is suitable to develop a website is the third category i.e. recommendation derived from user, therefore, could provide specification of a personalization site.

Personalization website is an important issue to improve the services of website in heterogeneous users [9]. The purposes of personalization are to provide a customized website which is able to fulfill the requirements of individual customers [11] and can highly impact on the perceived usefulness [14]. In the other hand, interfaces design can affect online shopper trust in the merchant, therefore will ease making purchases [21].

Website design has three components namely information design (ID), navigation design (ND) and visual design (VD). Accuracy of the information on a website is a part of information design. Navigation design is navigational scheme to help users while using a website. Overall graphical look such as balance, esthetic, emotional appeal, and uniformity are among the components of visual design [5].

A personalizing method that has been used in previous study is flexible widget layout (FWL). The method for personalization as a dialog box in the existing system [22]. Another approach of personalization is web usage mining that consists of the following stages [8]:

- 1. Detection user preferences;
- 2. Identification of users having similar preferences;
- 3. Construction of a set of Web pages highly cohesive from the usage and content points of view;
- Computation and ranking of interesting recommendations for the active user.

Those approaches were used to improve service in some existing websites. Those approaches are not relevant to recent public inquiries. However, they have been used to improve service an existing website. The purpose of this present study was to determine criteria for personalized ecommerce with a method recommended by users in using an

e-commerce. The results of this study make suggestions for web developers to develop e-commerce associated with the three components of website design.

#### **METHOD**

The study of personalized e-commerce divided by three step i.e. 1) to determine criteria for personalized; 2) testing of criteria for personalized e-commerce; 3) implementation into e-commerce. This manuscript is the first step of the three-step toward investigation to develop personalized e-commerce. This study is qualitative method to investigate the phenomenon of users when interact with an e-commerce. Data collection was performed using in-depth interview technique on participants who have been used online transactions. Interview was taken about 90 minutes for each participant. Investigations were about how features should be presented in e-commerce such as product displays, search facilities, price comparisons, symbols, and texts

Participants of this study were experts with experience and knowledge of online transaction. They are two businessmen from Yogyakarta and two lecturers of Yogyakarta University. Participants were distinguished by academic background, gender, age, and job, therefore, this study have varying ideas from participants to enrich the data. In-depth interview was performed on each participant in different time and recorded in an audio file. In the qualitative method, the process of data analysis [3]was defined as the following steps:

- 1. Prepared the data for the analysis i.e. transcribes form audio file to text file;
- Read through the data to obtained a general sense of material;
- Coded the data i.e. locates text segments and assign a code label;
- 4. Coded the texts for description to be used in the research report;
- Coded the texts for themes to be used in the research report.

Output of the qualitative data interpretation was grouped into three components of web design i.e. ID, ND, and VD, and presented as a list of e-commerce features. The next step is to create a comparison table of statements of each participant to find the essential items that will be used as the guidances to develop a personalized e-commerce.

#### **RESULTS AND DISCUSSION**

This steps resulted in three groups of web design components. The essential items in each group of web design components are shown in Table 1.

ID	ND	VD
Trust triggers	Comparison	Layout
Notification	Product display	Color
Tracking Order	Search facility	Text and Symbol

ID	ND	VD
	Personal setting	

Table 1. Group of essential items.

Table 2 shows the opinion of participants classified according to the essential items in their online shopping experiences. Each participant with different academic background, gender, age, and job varied in term of his/her expressions. All expressions were encoded and grouped.

<b>Group: Information Design</b>			
Essential item: Trust trigers			
Participant 1	Product availability, bank account, mailing address, telephone		
Participant 2	Product variety, clear instructions		
Participant 3	Feedback, website rating, notification, order tracking, option and solution		
Participant 4	Website performa, member amount, contact,update, layout		
Essential item:	Essential item: Notifications		
Participant 1	Email or SMS		
Participant 2	Email or SMS		
Participant 3	Email or SMS		
Participant 4	SMS		
	Order tracking		
Participant 1	Should be provided		
Participant 2	Should be provided		
Participant 3	Should be provided		
Participant 4	-		
Group: Naviga	tion Design		
Essential item:	Comparison		
Participant 1	Price		
Participant 2	Specification		
Participant 3	Price		
Participant 4	Price and specification		
	Essential item: Product display		
Participant 1	Product image, price, minimum specification, link to detailed product		
Participant 2	Some product image, price, minimum specification		
<b>Essential item:</b>	Product display		
Participant 3	Detailed information with some product image		
Participant 4	Price and minimum specifications		

Essential item: Search facility		
Participant 1	Simple search	
Participant 2	Complete filter	
<b>Essential item:</b>	Search facility	
Participant 3	By category and spesification of product	
Participant 4	By category and provided an adcanced search	
<b>Essential item:</b>	Personal setting	
Participant 1	Particularly necessary for notification and display setting	
Participant 2	Not important because of no intention to use	
Participant 3	Not important	
Participant 4	Prefer to provide personal setting	
Group: Visual	Design	
<b>Essential item:</b>	Layout	
Participant 1	Not concerned	
Participant 2	Not concerned	
Participant 3	Not concerned	
Participant 4	Concerned	
<b>Essential item:</b>	Color	
Participant 1	No special color	
Participant 2	No special color	
Participant 3	Not concerned	
Participant 4	Concerned and should be suitable to product character	
Essential item: Symbol and text		
Participant 1	General symbol and note	
Participant 2	Indonesian language and general symbol	
Participant 3	Clear Symbol and note	
Participant 4	General symbol	

Table 2. Opinion of Participant classified by essential items.

Table 2 represents the users need when interact with an e-commerce website. Webmasters may use these data as a basic information to develop a personalized e-commerce website to provide an e-commerce website which is suitable for the users need. This approach can facilitate web developers to make personalization. In accordance with the website, personalization was defined as a match between individual preferences and website with tailored content based on user profiles. The impact of personalization is to make their time in website more productive [17].

For example, participants were not concerned with layout and color in visual design. Moreover, they did not concern about symbols being used. They preferred using general symbols to represent online transactions. Associated with the personalization, web designer should provide a simple layout and color as well as general symbols in online transaction.

In contrast, previous study regarding a personalization of website has been done using web usage mining. The study aimed to help the webmaster team to improve the design of website. They used several techniques including clustering, association rules and subgroup discovery [2]. For examples, users' characteristics and interests can be further analyzed in association with the content of a website. The process of gathering specific information such as demographic, personal, or even information concerning from users namely user profiling. User profiling is one of process in web usage mining [6]. The results of this study were useful to improve web design in information design and navigation design, however, does not suitable to develop a new website but is more suitable to improve an existing website.

The term of personalization is different with personal setting. Personal setting especially in the section dealing with the technical requirements such as notification and image or text version in website. Issues regarding personal setting was not necessary. However, personal setting was still required. Personalization is customizing a website to the users need in correlation with other information in the web context such as structure and content [6]. In accordance with the three components of web design, personalization of website is more concerned with navigation design. This is in agreement with the statements of Participants in this study that personal setting was not essential factor although it may be good.

On the other hand, some features of website interface affect consumers online purchase intention. The findings of the study showed that a website should enable consumers to understand the site of layout and to easily navigate the site of their products and services search offered by the site [10]. Another study [20] indicated that goals and expectations of consumers were different when using different websites at different times. A website should facilitate the purposes of its users that are determined by the type of task performed. Hence, different tasks and goals require different user interfaces. The findings demonstrated that personalization was more important followed by navigation design and visual design. Personalization was facilitated with different tasks and goals included navigation design. Visual design is less important because it could not totally facilitate user tasks.

Regarding the three components of website design, this study shows that among the three web design components being observed, the most significant factors were information design and navigation design. A good design website is not only because it could bring visual pleasure, but also because the website is easy and comfortable to read, navigate, and use [21]. Visual design could be one factor to let the users stay longer on a website. However, if a website has a good navigation design, such as easy product search, comparison of price, and payment method,

consumers will be more willing to revisit the website and increase the intention of purchase. Furthermore, a good navigation design will increase trust and satisfaction of the website [19].

In the search facilities and product displays, each respondent in this study had a different opinion. Participant number 2 and 4 who possess an information technology background prefer using advanced search when searching a product. In contrast, to participant number 1 and 3 who do not have an information technology background, they prefer to use a simple search feature, just by category and product specifications. This phenomenon suggests that background knowledge affects feature choices.

All participants in this study stated that a good product should provide price, picture, and product specifications. Lack of such information will affect the user's confidence of users when using a website. Users also need to compare product based on price and specification before buying. Therefore, comparison feature should be provided in the product display that can help the users to make a decision.

In the group of information design component, notification is an important factor that must be present. Notification is needed when the consumers are successful in ordering, payment or delivery process. Notification can be sent through the email address or short message services. It would be better if this notification feature has setting facility that allow users to select whether the notification will be sent via email address, short message service or both.

A clear information regarding the purchase status and feedback facility were also significant. These two factors were associated with consumer satisfaction. However, more significant factors were found on such e-commerce that website should be improved to provide easier product comparison, easier navigation, one level website (do not have many links), and easier to find contact information[12]. The next important factor in information design is order tracking. Although, all participants in this study stated that order tracking should be provided in order to consumers easily to check the products during the delivery process. Consumers would feel comfortable if they could track their orders.

The opinion of all participants are in accordance with previous studies that ID is considered an essential prerequisite for trust and satisfaction [5, 7]. Consumer's trust will likely feel easier to make purchases and to close sensitive information online. Therefore, the success of ecommerce may depend on the online trust [21].

#### CONCLUSION

The study was concluded that:

- 1. Recommendation derived from user is the guideline to developing an excellent website that is suitable to the user need;
- 2. This guideline could provide a personalization website which make users time in website is more productive;

- 3. Based on the interpreting of qualitative data associated with three components of web design, Participants are more concerned about information design and navigation design rather than visual design;
- 4. Regarding the visual design, participants prefer a simple layout and color;
- 5. In the navigation design, participants need to easy use website primarily to compare price and specification of product;
- 6. Participants also prefer complete information in product display because it will help the user during the transaction;
- 7. Advanced search should be provided to make easy users when searching the products their needed;
- A clear information includes vendor, order status, and notification are among factors that increase consumer trust:

#### **FUTURE WORKS**

Future study needs to focus on essential items testing using different participants to validate the essential items that should be provided in e-commerce.

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