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The Issues Related to Agreement of Software Usage Rules and Its Solution by UX Approach

Shin'ichi Fukuzumi

RIKEN, Tokyo, Japan

ABSTRACT

Software terms of use and privacy policy agreements always require user consent before use. However, only a small percentage of users actually read these agreements in their entirety. This author addressed this problem by utilizing a UX (User Experience) approach and ergonomic standards. Focusing on the pre-use experience of the UX, the principles of information presentation described in ISO 9241–112 were applied to the UI, and a sample screen was created and compared to the conventional version. In the future, the author plans to propose information presentation methods that utilize not only visual information but also auditory and haptic information.

Keywords: Software usage, Privacy, Agreement, User experience, User interface, ISO

INTRODUCTION

Software terms of service and privacy policy agreements are required to be read and agreed to before use. The content of these agreements covers a wide range of topics, including "description of services," "rules for use," "fees and payment methods," "prohibited actions," "disclaimers," and "matters concerning the suspension, modification, or termination of services," all of which are important. However, it is said that only about 4–6% of users actually read these agreements in their entirety (Kanamori et al., 2017).

So why aren't these terms and conditions read? The reasons often include: 1) They are long and it's pain (McDonald et al. 2008), 2) The advantages and disadvantages are unclear (Reidenberg et al. 2014) and 3) They all contain the same content, and people haven't encountered any problems from not reading them (they have become a mere formality) (Cate, 2010). However, these terms and conditions are primarily agreements between the service provider and the user, and they include clauses to clarify the allocation of responsibility, so there are many troubles that arise from agreeing to them without fully understanding them.

To prevent such problems, it has been reported that users need to understand the following four rules outlined in these terms and conditions (Fukuzumi, 2024).

1) Criteria for account suspension
2) Rules regarding finances (payment methods, late payment fees, etc.)

3) Rules for withdrawal and cancellation
4) Copyright rules.

A common measure to ensure users read the consent form is to have them check a box confirming they have read it. However, in many cases, users are likely to check the box without actually reading the form. Therefore, recently, some UIs have emerged where the checkbox only becomes active after the user scrolls to the end of the consent form. However, this is only a superficial solution and fails to fulfill the original purpose of achieving mutual agreement between the service provider and the user.

Previous research includes applications of Nudge theory (Acquisti et al, 2017), the use of icons (Cranor et al., 2006), and the Privacy Nutrition Label inspired by food nutrition labels (Kelley, 2009), but these are not sufficient (Sakurai et al, 2018). Therefore, measures from a User Experience (UX) perspective are necessary. Specifically, this involves the "anticipated experience" which is one of important elements of UX, and creating a UI that allows users to intuitively understand the four points mentioned above, in accordance with HCI principles (UX white paper, 2011). For example, if it concerns account suspension, the UI should convey the image of the account becoming unusable; if it concerns financial matters, it should convey that actual damage will occur.

Through such measures, it is necessary to maximize the user's understanding of the consent form.

ANALYSIS OF TERMS OF USE

This time, we classified the contents of the terms of use for software and web applications and analyzed which of the four roles mentioned above they belong to. The subjects are:

- General software
- Online shopping sites
- Auction sites

The purpose of online shopping and auctions is to buy and sell things, so the focus is on operational aspects such as user qualifications, transactions, and exemptions rather than on terms for using regular software. In addition, the former is characterized by the fact that the operator and seller are almost the same, while the latter provides a place and the operator and seller are different. Table 1 shows the terms of use items written for each of the three target products with a circle, and among them, the items that seem to be related to the four rules mentioned above are highlighted in a bold frame.

From this, we found that there are 3–4 items in terms that require special attention.

Table 1: The terms of use items written in products.

	Software	On-line shopping sites	Auction sites
Definitions	○	○	
Application of the terms		○	
Service description		○	
Acquired information	○		
License	○		
Change of the rules	○		
Scope of use	○		
Establishment of contract		○	
Payment methods		○	
Delivery method		○	
Cancellation of Sales Contract, Returns, and Defect Warranty Liability		○	
Transfer of Ownership and Risk of Products		○	
Qualifications for listing			○
Qualifications for bidding			○
System provided by our company			○
Usage fee			○
Obligations of sellers			○
Measures taken by our company			○
Notifications and contact		○	
Matters to be complied with		○	○
Personal information		○	
Intellectual property rights such as copyright	○	○	
Prohibited acts	○		
Disclaimers	○	○	○
Compensation for damages	○		
Contract period	○	○	

PROPOSAL OF TERMS OF USE

Policy

The main purpose of the terms is an agreement between the provider and the user, and for this purpose, measures from the perspective of UX are necessary. Specifically, it is important to clearly show the "pre-use experience" in the UX concept. The aim is to create a UI that allows users to intuitively understand the four points mentioned above according to the principles of HCI. That is,

- Display only the titles of items (about 1–2 lines) that require attention and the relevant items (items that have an impact) from the four rules according to the principles of 9241–112 (ISO 9241–112, 2017) and at the same time display an icon indicating the degree of danger.
- Hover the pointer over the icon to display a pop-up displaying the dangerous content.

By showing the concrete impact, such as conveying the image of an account being unusable in the case of an account suspension or conveying the actual damage that will occur in the case of financial matters, it is possible to make users understand the minimum terms and conditions.

The principles of ISO 9241–112 are as follows:

- detectability,
- freedom from distraction,
- discriminability,
- unambiguous interpretability,
- conciseness, and
- consistency (internal and external).

An example using these principles is shown in Figure 1.

Proposal Example

Figure 1(a) is a representation of a typical consent form, where various contents with different levels of detail are uniformly described. Figure 1(b) is a rewritten version of the conventional consent form, following the principles of information presentation described above.

In Figure 1(b), first, by displaying only the specific amount of concrete loss using visual effects such as color, size, blinking., it is possible to convey to the user that there will be negative consequences for them before they even read the content, thus realizing a pre-use experience of the user experience (UX). Next, in accordance with the principles of information presentation in ISO 9241–112, it achieves the following: changing the font size (detectability), using color to draw attention to specific areas (freedom from distraction), and structuring the information using pop-ups, etc., allowing users to directly access the necessary information (discriminability).

As can be seen by comparing Figure 1(a) and Figure 1(b), Figure 1(b) is not simply a collection of text, but incorporates variations in display to enable interaction.

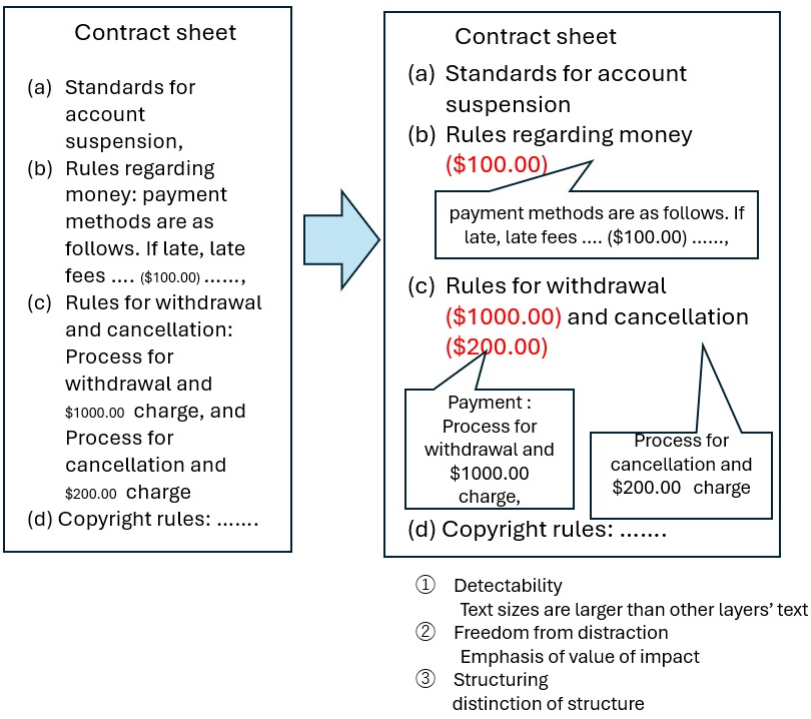

Figure 1: Example of proposed contract sheet.

CONCLUSION

This time, regarding the consent form, we proposed improvements to the presentation method using a UX perspective and an ergonomic perspective. While user evaluation of these results is yet to be conducted, we believe that the improvements will be effective even now, as the presentation is based on the international standard ISO 9241–12. On the other hand, the most common reason for not reading the consent form, as described at the beginning, is "①it's pain," and we have not yet implemented any countermeasures for this. Since it is undeniable that it is troublesome (time-consuming), we will consider how to be guiding users to the relevant information or further utilizing the principles of information presentation to address this issue. Furthermore, as part of our accessibility efforts, we will consider countermeasures using not only visual information (ISO9241–125 2017) but also auditory information (ISO/TS 9241–126 2019) and haptic information (ISO9241–920 2024), in conjunction with user evaluation.

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