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Usability Testing of BlogExpress: Blog Reader Software as a Knowledge Management Tool

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Abstract

The purpose of this study is to evaluate usability of blog reader software named BlogExpress. Five participants volunteer to participate in this think-aloud, scenario-based usability testing. After completing each scenario and after completing all five scenarios, participants also rate the interface on readability, usefulness, learnability, and visual appeal. The results show that they can complete the scenarios within allocated time. Ratings of usability are generally positive; nevertheless, participants report problems in understanding some graphical representations.

1 Introduction

Increasingly, organizations make radical changes on the way of doing business to gear up towards the transition for the knowledge-based era. Many initiatives including new management strategies, new technologies, and new attitudes are necessary. Ultimately, such initiatives all aim at managing knowledge or intellectual capital of organizations which comes from employees, customers, competitors, and business partners. For businesses to prosper in the marketplace, managing knowledge becomes a critical task to organizations as knowledge is undeniably embedded into products and services to create differentiation from competitors (Stewart, 2001). It could be said that knowledge is the ultimate competitive advantage. With knowledge management, organizations can provide better product development and faster customer service. Frequently reported, however, employees as knowledge creators do not receive sufficient motivation and support to create and share knowledge. Another constraint for managing knowledge is that some organizations do not possess the culture of knowledge sharing. Moreover, skilled people in organizations do not know about what they have already known. Nevertheless, with vast benefits of knowledge management, organizations dramatically pay more attentions on coping with challenges in managing knowledge and on capitalizing their knowledge assets.

Recently, Weblogs or blogs, which can be considered as knowledge repository, have rapidly increased their significance as a knowledge management tool inside and outside organizations. Evidently, blog content quality improves continuously, which means tacit knowledge is notably available for people to reuse, recreate, and share in a cyclic fashion. While the blog phenomenon has continued its expansion in quality and quantity, the quest for decent blog tools to capture, create, and share knowledge becomes urgent. Several blog tools are available today as blog reader applications, blog writer applications, or both. Other novel tools such as Web-based RSS aggregators, blog stats, blog ranking, and blog portals are also created. Among these, blog reader tools are extremely significant because reader applications are the first tools people use to enter the blog information circle. BlogExpress is free blog reader software. Many interface initiatives are developed for ease of use. Thus, scenario-based usability testing is essential to ensure the usability of such initiatives.

2 Related Work

This section explains related work of this study which consists of blog definition, RSS definition, knowledge definition, types of knowledge, knowledge management definition, and BlogExpress

2.1 Blog Definition

A Weblog or blog is a written collection of personal opinions formatted like a reversed diary or journal. Blog contents are frequently updated and freely available for Web users to read and to comment. Blogs started as a way to distribute personal interests and opinions of writers. Increasingly, businesses develop their own blogs as a means to keep their users up-to-date with company developments. Effectively, blogs replace newsletters. This way, users who are concerned with unsolicited (spam) mails need not leave their email addresses and other personal information to companies. In addition, blogs are used in intranets to leverage knowledge among employees. In sum, blogs are tools to keep communities informed and knowledgeable personally and professionally.

2.2 RSS Definition

RSS stands for Rich Site Summary or Really Simple Syndication. RSS is defined upon the XML specification. Strictly speaking, an RSS feed is an XML file. An RSS feed contains a short version of new contents of a Web site. A user who subscribes to an RSS feed will use an RSS reader (or so-called a news aggregator or a blog reader) to retrieve the updated feeds and read the new contents.

2.3 Knowledge Definition

Knowledge can be defined as "*a fluid mix of framed experience, values, contextual information, expert insight, and grounded intuition that provides an environment and a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of the knowers. In organizations, it often becomes embedded not only in documents or repositories, but also in organizational routines, processes, practices and norms.*" (Davenport & Prusak, 1998) Clearly, to become knowledgeable requires more than knowing information or facts of a certain subject but possessing skills in such subject. Turban & Aronson (2001) assert that knowledge is contextual, relevant, and actionable information developed over time. Interestingly, knowledge is also indicated as a weapon of business management processes such as decision making, planning, evaluating, and forecasting (Tiwana, 2002).

2.4 Types of Knowledge

Two major types of knowledge include explicit knowledge and tacit knowledge (Nonaka & Takeuchi, 1995). Knowledge that is refined and written in a document format for easy transferring is called explicit knowledge. Examples include rules, regulations, working procedures, and patents. Contrary to explicit knowledge, tacit knowledge includes experience, tactics, beliefs, intuitions, and values developed over time mostly from jobs. Normally, tacit knowledge has not been formally captured and recorded on any document. Generally speaking, tacit and explicit knowledge are so-called knowing-how and knowing-that, respectively (Awad & Ghaziri, 2003).

2.5 Knowledge Management Definition

Fundamentally, knowledge management (KM) is a process of drawing out, codifying, and disseminating knowledge for sharing and reusing (Turban & Aronson, 2001). Four major purposes of knowledge management include knowledge repository creation, knowledge access improvement, knowledge environment enhancement, and management of knowledge as an asset (Davenport & Prusak, 1998). Turban & Aronson (2001) illustrate a broad perspective on the cycle of knowledge management as follows. First, an organization must create knowledge which can be done in many ways such as problem solving, observing, experimenting, and learning from experiences. Second, an organization must capture knowledge or extract tacit knowledge from various sources such as written articles, conversations, and practices. Third, both explicit and tacit knowledge must be collated, organized, and presented in a usable format for easy access and dissemination. This process is called refining knowledge. Fourth, an organization must create knowledge repository or store knowledge in an accurate, up-to-date, consistent, and identical manner. Fifth, knowledge must be managed. The essence of this process is to keep knowledge current and verify its relevancy and accuracy. Lastly, knowledge management cannot be accomplished if knowledge itself is not shared. Traditional channels e.g., newsletters and memorandums and online channels via Internet and corporate intranets e.g., blogs, emails and Web boards can be made available to disseminate knowledge.

2.6 BlogExpress

This section contains brief information of BlogExpress software. The topics include BlogExpress description, BlogExpress as a knowledge management tool, and interface initiatives of BlogExpress.

2.6.1 BlogExpress Description

BlogExpress is a full-featured .NET desktop application for content syndication. It can be downloaded from http://UsableLabs.com. BlogExpress is a freeware. Nonetheless, with its license, (1) a user must give the original author credit, (2) a user may not use this work for commercial purposes, and (3) a user may not alter, transform, or build upon this work. BlogExpress software, its trademarks, and its usages are copyrighted by Dr. Thawatchai Piyawat. The uses of BlogExpress are licensed under the Creative Commons Attribution-NoDerivs-NonCommercial License (http://creativecommons.org/licenses/by-nd-nc/1.0/). BlogExpress supports all RSS versions and Atom. It can read contents from any blogs and any Web sites that provide feeds for content syndication. Generally, a feed is an XML file with .rss, .rdf, or .xml extension. BlogExpress lets users categorize feeds hierarchically. Additionally, it has built-in Web tabs that can be used to view any Web pages directly without leaving BlogExpress for a Web browser. BlogExpress is built carefully for high usability. Content readability is what a user will experience when using this software. Figure 1 shows a screenshot of BlogExpress.

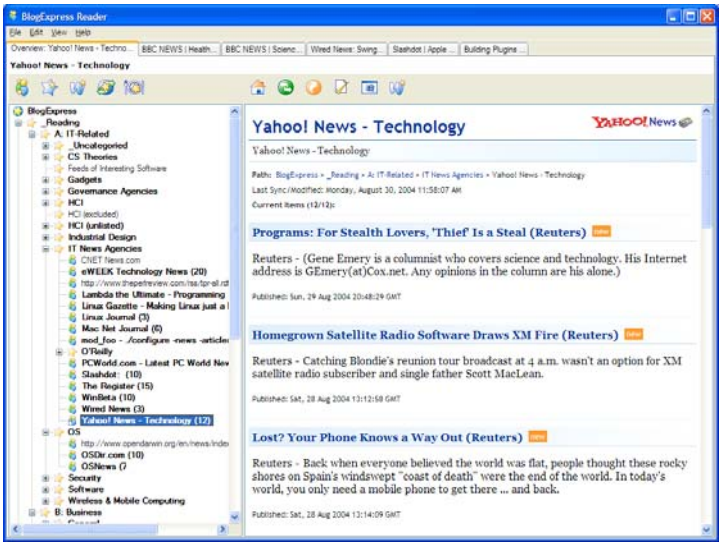

Figure 1: BlogExpress Screenshot

2.6.2 BlogExpress as a Tool in Knowledge Management Processes

Table 1 presents the methods of using blogs as tools in knowledge management processes. It also specifies how BlogExpress can be used in each process.

Table 1: Knowledge Management Features in BlogExpress

KM Processes	Blogs as KM Tools	BlogExpress Features
1. Creating knowledge	Writing blogs to express knowledge	BlogExpress contains a tab-interface embedded Web browsing function, called Web Tab in which a user can use to view Web pages and to enter a blog writing server of an organization.
2. Capturing knowledge	Reading blog contents and mining knowledge from blog archives	Blog reading is the main functionality of BlogExpress. It is designed for high readability. As such, a user can spend less time to capture knowledge from blog contents.

KM Processes	Blogs as KM Tools	BlogExpress Features
3. Refining knowledge	Categorizing blogs and mapping blog relevancy	BlogExpress supports multi-level hierarchical categorization of feed subscriptions.
4. Storing knowledge	Archiving blogs as knowledge repository	The current version of BlogExpress cannot archive historical contents. Historical archival is a function for a server-level application. However, a user can use BlogExpress to access contents from a blog repository.
5. Managing knowledge	Arranging blog contents into categories and a chronological order	Multi-level categorization with BlogExpress lets a user manage sources of knowledge according to his or her preference.
6. Disseminating knowledge	Posting personal or professional blogs in offline and online media and referring to blog contents of others	Organizations recommend BlogExpress to employees to use it for reading contents of disseminated knowledge. It keeps employees current with new knowledge.

2.6.3 Interface Initiatives of BlogExpress

BlogExpress contributes some initiations to the developer community. The contributions are primarily notable in the user interface arena. The major contributions are as follows.

2.6.3.1 Two Panes; Not Three (People Scan; Not Read)

Before the release of the first version of BlogExpress, all blog readers at that time had their interface imitating Microsoft Outlook (and/or Microsoft Outlook Express). The interface contains tree panes: each for a hierarchy, a list, and a display of contents. The Outlook interface works fine for email applications where users tend to read all emails carefully as much as possible. However, when applying the interface to blog reading, its efficiency is questionable. During the development of BlogExpress, the developer noticed the difference of mental modes on obtaining information regarding to reading RSS contents. While reading contents that are not personal or directed to them, users are likely to scan for only information that is interested to them. They do not read contents line by line like emails. Other media show this difference, indeed. People read their letters with care while scan newspapers as fast as they can. With this assumption, the developer designed BlogExpress to have only two panes: one to contain a hierarchy of feeds and the other to show contents of feeds. The content pane combines titles with their contents (somewhat like a newspaper). It lets users scan all contents by scrolling down without clicking a mouse.

2.6.3.2 Web Tab

Before BlogExpress was available, all blog readers either had a Web browser in their content pane (of their three-pane interface) or did not embed a Web browser at all. For a blog reader that has a Web browser in its content pane, when a user clicks on a link in the pane to follow its content, the content pane navigates to a Web page. While the page is still loading, a user cannot read another feed simultaneously, otherwise she will lose the unfinished page. This is because, if switched, the content pane will display the contents of another feed in place of the navigated Web page. Specifically, three-pane readers use their content pane for two overlapped tasks: one for Web browsing and another for feed display. BlogExpress is the first reader that separates Web browsing task from content reading task. It puts Web browsing task into Web Tab. Web Tab is named for a tab interface in BlogExpress where each tab is an embedded Web browser. A tab interface for Web browsing has been used in Web browsers such as Opera and MyIE2 prior to BlogExpress. However, BlogExpress is the first to incorporate a tab interface into the interface for blog reading. Presently, many blog readers include a Web browser with tab interface similar to BlogExpress. Undoubtedly, BlogExpress has contributed an interface innovation to the developer community.

2.6.3.3 Single Subscription Dialog

One of the major tasks a user performs when using a blog reader is to subscribe to a feed. Many blog readers implement the process for this task as a series of dialogs. Most use wizard-style interface in which a user answers question dialogs in series until she reaches a "Finish" one. The implementation of BlogExpress follows a principle in Human-Computer Interaction (HCI) such that "Make simple tasks simple, make complex tasks simpler." Subscribing to a feed is in fact a simple task. Nonetheless, using a series of dialogs makes the task seem complex. BlogExpress makes this simple task simple by using only one dialog for a user to complete this task.

2.6.3.4 Readability Comes First

Following the development of many blog readers, it is obvious that the developers of most readers pay attention to adding new features. Several new functionalities are essentially only bells and whistles. In contrast, only few focus their efforts on improving usability of their products. Unrealized by many, the development of a blog reader is about to face a critical problem. Most current blog readers are modelled after email applications. This works fine when there are few Web sites that publish their contents in RSS formats. However, as the number of RSS sites grows exponentially, it appears likely that a user who subscribes to thousands of feeds will not be able to keep up with the flow of information. Consequently, this study suggests that a user's ability to perceive information reduces greatly when the user subscribes to a greater number of feeds. Although it has not yet been scientifically proven, this study suggests that this scenario is very likely; and the problem eventually will challenge the developers of blog readers. As a result, this study focuses the development of BlogExpress to improving readability.

3 Usability Testing Plan

This section explains usability testing plan of this study. The topics include, testing purpose, user profile, procedures, scenario testing design, test environment and equipment, evaluation measures, and severity ratings.

3.1 Purpose

The purpose of the BlogExpress usability evaluation is to study user performance and satisfaction in interacting with BlogExpress interface.

3.2 User Profile

Five senior students (one male and four females) from the Faculty of Management Sciences, Prince of Songkla University volunteer to participate in this study. Their ages are in the range of 21 to 22. All participants speak Thai as their native language; however, they also have a moderate ability in reading English. They are Internet and computer expert users and have basic understandings of Human-Computer Interaction and blogs.

3.3 Procedures

Participants first fill out a pre-test questionnaire aimed to qualify and gain user information regarding to their demographic, computer usage, Internet usage, proficiency of BlogExpress or similar products, and blog reading and writing experiences. They are then given a brief description of a usability lab, blog terminologies, the test procedures, the scenarios, and the think-aloud procedure. Afterward, each participant tests the software individually. After finishing each scenario testing, each participant fills out the post-task questionnaire to rate their satisfaction on the recently finished task. The post-test questionnaire to evaluate overall satisfaction on the product is given at the end of the test session. They are also interviewed to gain more user comments. Each session, which contains five scenarios, takes about one hour to complete.

3.4 Scenario Testing Design

Usability testing of BlogExpress contains five scenarios as follows:

- Scenario 1: First impression (allocated time: 3 minutes)
  - Task 1: Open the application.

  - Task 2: Look around the application and explore its interface.
- Scenario 2: New subscription (allocated time: 5 minutes)
  - Task 1: Create new folder named “Companies”.
  - Task 2: Add the following RSS feed, http://usablelabs.com/rss.xml, into the newly created folder.
- Scenario 3: Blog reading (allocated time: 3 minutes)
  - Task 1: Find the newly subscribed feed.
  - Task 2: Find the feed item entitled “BlogExpress v1.54 (Major Update)”.
  - Task 3: Find the BlogExpress user manual information from such feed item.
- Scenario 4: New subscription by drag-and-drop approach (allocated time: 5 minutes)
  - Task 1: Open new Web tab.
  - Task 2: Type this URL, http://WeatherFeeder.com
  - Task 3: Add the RSS link from such Web site into BlogExpress by drag-and-drop approach
- Scenario 5: Feed synchronizing and catching up (allocated time: 3 minutes)
  - Task 1: Update (synchronize) new feeds from UsableLabs News.
  - Task 2: Update new feeds from all subscribed Web sites.
  - Task 3: Check (catch up) all subscribed feeds as already-read feeds.

3.5 Test Environment and Equipment

The test is conducted at the Faculty of Management Sciences, Prince of Songkla University. The evaluation room is equipped with a video camera and a computer running Microsoft Windows XP and a broadband Internet connection.

3.6 Evaluation Measures

Usability evaluation measures consist of quantitative data and qualitative data. Quantitative data include time to complete each scenario, number of participants finishing tasks within allocated time, number of participants finishing the tasks with extra time, and number of usability problems. Qualitative data consists of think-aloud comments, facial expressions, behavioral signals, and written comments in post-task questionnaires and post-test questionnaires.

3.7 Severity Ratings

The seriousness of an existing usability problem is rated with the following levels:

- 0: Do not think this is a usability problem
- 1: Cosmetic problem
- 2: Minor usability problem
- 3: Major usability problem; important to fix
- 4: Usability catastrophe; imperative to fix

4 Findings and Recommendations

This section contains findings and recommendations of this study. The findings are categorized into timing results, usability problems, feedbacks from each scenario, post-test feedbacks, and a summary of comments.

4.1 Timing Results

Table 2 shows the number of minutes participants used to complete each scenario. On average, participants spend 14.66 minutes in completing all five scenarios. In the scenario 4, two participants needed more extra time to finish the tasks.

Table 2: Timing Results

	Scenario 1 (3 min)	Scenario 2 (5 min)	Scenario 3 (3 min)	Scenario 4 (5 min)	Scenario 5 (3 min)	Total time (19 min)
Participant1	3.00	4.00	2.27	5.40	2.40	17.07
Participant2	3.00	2.16	0.50	4.78	1.40	11.84
Participant3	3.00	3.22	1.45	5.00	1.30	13.97
Participant4	3.00	1.58	1.17	4.10	1.59	11.44
Participant5	3.00	4.00	2.52	7.00	2.45	18.97

4.2 Usability Problems

Table 3 presents problems encountered in the usability testing of BlogExpress along with the number of participants affected and their severity levels. Nineteen problems are reported. Among those, five problems are imperative to fix, eight problems are important to fix, and six of them are rated as minor usability problems.

Table 3: Usability Problems

Usability Problems	Number of Participants Affected	Severity Level
1. Participants were unable to drag the RSS link and drop onto the subscription icon.	5	4
2. Participants were unable to create a sub-category instead of a main one.	2	4
3. Participants expected to be able to do other tasks while waiting for feed synchronization.	3	4
4. Participants didn't read the whole description of an icon.	5	4
5. Participants expected to see synchronization and catching up in other menu, not the "View" menu.	3	4
6. Participants typed a URL by not deleting the default wording, "about:blank".	3	3
7. Participants were unsure if the two icons for new Web tab have similar functions.	5	3
8. Participants were unsure the functionality of the donation icon.	5	3
9. Participants expected to have a search feature.	2	3
10. Participants expected to have a quick help.	3	3
11. Participants expected a "Catch up all" icon and a "Catch up this subscription".	4	3
12. Participants expected to be able to drag RSS url into a subscription dialog.	2	3
13. Participants expected a "Back" button at the overview Web tab.	2	3
14. Participants were unsure if items in the left pane were clickable.	1	2
15. Participants expected to have the left pane in every Web tab.	2	2
16. Participants expected to be able to sort feed items by titles.	2	2
17. Participants were unsure if the pop-up dialog was clickable.	2	2
18. Participants expected to know information about category number in the pop-up dialog.	1	2
19. Participants expected to have a separated line between a group of the left pane icons and a group of the right pane icons.	2	2

4.3 Post-task Feedback Summary

After completing each scenario, participants rate the usability of BlogExpress based on the recent tasks. In the first scenario in which they are required to explore the interface of BlogExpress, they satisfy with the interface of this software. In the second scenario for testing new feed subscription, participants positively rate usability in performing the tasks in this scenario. In the third scenario for testing blog reading, generally, they agree with the ease of use in performing the tasks in the third scenario. However, one participant disagrees on this matter because he or she

expects BlogExpress to have a search feature. In the fourth scenario where participants are required to add new subscription with the drag-and-drop approach, even though opening new Web tab is quite simple, participants report that adding new feed subscription is difficult. Wordings and graphics are the reasons for this trouble. In the last scenario for testing synchronizing and catching up feeds, participants agree that the tasks are easy due to clear wordings and graphics.

4.4 Post-test Feedback Summary

Table 4 presents post-test usability rating feedback after participant complete all five scenarios. Participants agree that BlogExpress is easy to use, easy to learn, easy to remember its functions, and eye pleasing. In addition, they also positively rate readability of BlogExpress. However, they neutrally rate the graphic design of this software. Further, open-ended comments of participants conclude that more than half of participants like BlogExpress font style, color scheme, text layout, Web tab, and single synchronization dialog. In contrast, they dislike BlogExpress graphic design.

Table 4: Post-test Feedback

	Totally agree	**Agree**	**Neutral**	**Disagree**	**Totally disagree**
BlogExpress is easy to use.	1	3	1		
BlogExpress is eye pleasing.	1	4			
BlogExpress is easy to learn.	2	2	1		
BlogExpress easy to remember its functions.	2	2	1		
Text is easy to read.	4	1			
Layout of text is clear.	4		1		
Graphics are clear.			5		

4.5 Comment Summary

User comments are summarized and categorized under the usability heuristics of Nielsen (1994).

4.5.1 Visibility of System Status

Examples of user comments are "*the pop-up dialog provides me precise information, which helps me know how many new items I have*" and "*the "New" indicator is great one. I know immediately that I have new feeds to read*."

Other than common visual feedback such as different colors of visited links and unvisited links, dimmed colors for icons and menus for disallowed tasks, and error messages, BlogExpress emphasizes the importance of visibility of system status in many particular features of blog reader software. For instance, while synchronizing, BlogExpress displays its synchronization dialog which shows simultaneously synchronizing up to six feeds at a given moment. Another example is the pop-up dialog which indicates the number of updated feed items. This pop-up will show at the bottom-right screen corner. Participants report that this pop-up distracts their attention from the main window. Nevertheless, they expect to receive important information. However, only the number of new feed items is not adequate. Users report that the number of updated categories is also important. Moreover, such message must be clickable and direct users to the particular feeds.

4.5.2 Match between System and the Real World

Examples of user comments are "*Imitating Internet Explorer look-and-feel helps me get used to with this software faster*" and "*Icons are nicely designed but some are meaningless…*"

The design of BlogExpress aims to provide users with familiar wordings, graphics, and layouts to accelerate learnability in using this software. For example, BlogExpress lets users categorize feed subscriptions in which categories are arranged hierarchically and shown in the tree view. This way of categorization is modelled after Windows Explorer. A user can perceive that a category is a folder and a feed is a file. Moreover, all BlogExpress icons are originally designed by the developer attempting to represent the closet worldwide meanings of icons. For

instance, updating or synchronizing all subscribed feeds is represented with the arrow-with-star toolbar button. Nevertheless, BlogExpress receives a number of critical comments in icon design. Participants have a problem in guessing meaning of icons. Some icons descriptions are quite long that make users automatically ignore reading until the end of sentences. Thus, this causes participants to spend long time in testing drag-drop approach of a feed link over a subscription icon. Further, some participants realize that there are one icon for synchronizing single subscription and another one for synchronizing all subscriptions but there is only one icon for catching up all subscriptions, not for catching up one subscription.

4.5.3 User Control and Freedom

Examples of user comments are "*I really have no idea where I should drop this link over…*" and "*hotkeys and right-click menus are really helpful.*"

BlogExpress provides users with various interaction options: keyboard shortcuts, menu items, right-clicking menus, and drag-and-drop over icons. If using a Web Tab, for instance, a user can drag a link to the "New Subscription" button in the Web Tab toolbar. This drag-and-drop feature works from all applications. It means that a user can drag a link from Internet Explorer or any other browsers. This is the reason why drag-and-drop is the preferred method for doing feed subscription. Nevertheless, participants show troubles in adding new subscription with drag-and-drop approach. They report that they do not realize that they can drag feed URLs over the icons, even though there are descriptions when placing a mouse over such icons. In other words, they expect to have the tree-view pane on the left side along with each Web tab. Then, they can drag feed URLs to such pane to subscribe new feeds.

4.5.4 Consistency and Standards

Examples of user comments are "*Great job on its readability. I can find feed titles and feed items easily*" and "*The current theme is readable, but it will be more fun if I can choose themes.*"

BlogExpress promotes consistency in interface design. The use of consistent font styles, font sizes, font colors, text layouts, and graphics throughout the entire application increases ease of learning in using blog reader tools. The choice of serif font and blue interface are used as of the developer's preferences as serif fonts are more readable than sans serif ones. The consistent design extremely aids readability of an information-intensive application like blog reader software. Nevertheless, with the disagreement of participants on font preferences, they suggest allowing users to customize the look-and-feel of BlogExpress. Some other minor usability problems also exist. For example, icon description for drag-and-drop approach is not consistent in the subscription icon comparing with the Web tab icon and the launching-outside-browser icon.

4.5.5 Aesthetic and Minimalist Design

Examples of user comments are "*I think it is light on features. However, I love its simplicity. I think it's very easy to use*" and "*…very clean feed reader!*"

Participants report positive feedbacks on the clean and simple look-and-feel of this application. Minimalist is one of design purposes of BlogExpress. For instance, only necessary information is presented on the screen. In addition, menu options and graphic descriptions are concise and clear. Further, groups of icons in the left pane and the right pane are separated by noticeable white space.

4.5.6 Help and Documentation

Examples of user comments are "*I think that I can find a user manual at the help menu*" and "*quick help should be on top of the overview tab.*"

The current version of BlogExpress has no built-in help and documentation. While testing, participants are expected to use help to search for how to drag and drop feeds for subscription. Additionally, quick tips are expected to be easy to access while using the software.

4.6 Recommendations

Followings are the recommendations for improving BlogExpress based on the usability findings.

- Redesign some graphics and provide mouse-over short descriptions,
- Provide some personalization features e.g. enable skinnable interface,
- provide various ways in sorting blog items and blog titles,
- Include search capabilities,
- Allow external browser selection,
- Enable performing other tasks while synchronizing subscribed blogs,
- Notify users when BlogExpress is minimized to the system tray,
- Provide a built-in help or a user manual,
- Enable the tree-view pane on the left side on every Web tab,
- Archive feed items, and integrate blog writing capabilities

5 Discussions and Conclusions

The findings of this study suggest that overall participants' scenario-based performance and ratings of usability are satisfactory. However, the graphic design and the drag-and-drop capability of BlogExpress cause some difficulties. Recommendations for further improvements are worthy to implement because the explosive growth of knowledge management and blog reading in the US and many major nations drives a strong demand for software like BlogExpress. In addition, this study addresses some recommendations in conducting usability testing. First, the think-aloud approach becomes quite difficult when using with participants from countries that their cultures value in social status, seniority, and face saving. Based on the observation, the social status difference between the usability evaluator and the participants may affect the level of tension among the participants. The participants tend to be reluctant to think aloud. Nevertheless, they write detailed comments along with explanations on their behavior when performing the tasks. The think-aloud approach by two persons working together may encourage them providing more feedback during the test. Second, to balance out any potential cultural biases, the evaluator should encourage the participants to provide both positive and negative comments regarding to the test. Third, employing technologies during the evaluation session such as video cameras may create participant anxiety. Therefore, the evaluator must possess communication skills to relieve tension among the participants. Lastly, monetary rewards should be offered instead of class-related ones because student participants intuitively concern that the test has an impact on their educational performance. Certainly, the lessons learned from this scenario-based testing are worthwhile as well. Moreover, the results of this study also contribute to the design of these blog software tools.

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