International Journal of Engineering & Technology, 7 (2.33) (2018) 115-118

International Journal of Engineering & Technology

Website: www.sciencepubco.com/index.php/IJET

Research paper

A study on the layout design of the domestic portal site APPS

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Abstract

Background/Objectives: Even just a few years ago, we took care of a lot of things through PC, from writing simple documents to checking our email and doing online shopping. But many of these tasks are now done on smart phones.
Methods/Statistical analysis: It has become difficult to imagine a world without smart phones these days. This has led to all websites considering a smart phone environment when designing their sites. The layout which has the greatest range of change depending on the screen size is now an important element in design. As such, a comparative analysis was conducted on the layout design of the main screens of Naver and Daum, two of the leading portals in Korea.
Findings: The layout of the mobile portal site by Naver and Daum had similar menus without a big difference. However, there was a slight difference to the menu laid out around the search window. First, Naver had the search window located immediately below the site name and the menu was laid out so that news could be viewed by category. The menu can be moved left and right to enter into the categories. Major articles are shown under the menu. Scrolling the entire window up and down allows you to move to a screen to see more information. Under major articles are photos considered hot topics under 'hot menu items'. Below the photo is weather forecast in a large font size, which would be of interest to many users. Daum, too, has the search window under the main logo but unlike Naver, has the real-time search ranking under the search menu instead of the main menu. In addition, the main menu located under the real time search words draw attention with its head font and color of the logo. This can be moved left and right to expand the menu. The remaining structure is similar to that of Naver, consisting of major news, hot topic photos and weather forecasts.
Improvements/Applications: There were almost no ornamental elements on the main page of Naver or Daum. There were only text and information, as well as related photos.

Keywords: *Portal Site; Naver; Daum; Layout; App Design.*

1. Introduction

In the early stages portal services categorized numerous internet sites using a directory method in the form of a search engine where users could find the website or document they're looking for. As the internet became an important business tool, portals progressed into a comprehensive place where various services are offered.[1]Efficient layout and use of area becomes very important to promote convenient use of the portal site by users. In particular, as smart phones with various features become an essential device in daily life, users visit portal sites multiple times a week to search for information or check email. Smart phones have a drastically smaller screen compared to the PC. As such, smart phones are limited in their ability to show many information that could be shown on PC's. Since smart phones also use wireless internet, the speed of downloading information can also be slower than that of PC's. Because of this, the selection of content to be provided in mobile format becomes important.2As such, this study seeks to analyze the layout of the main screens of Korea's leading portal sites, Naver and Daum as they are shown on smart phonesin figure 1. Measures used by mobile sites that do not have the luxury of a wide screen as on a PC will be reviewed through a comparative analysis of the two sites.

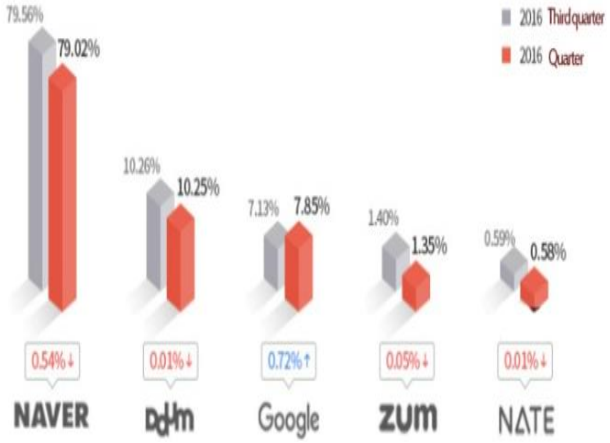


Fig. 1: Search Engine Average Inflow Rate13.

2. Materials and methods

Regarding usability, which is a core trait for the evaluation of interface design, Jakob Nielson noted, "First, it must be easy to learn. Second, it must be efficient. Third, it must be easy to remember. Fourth, errors must be minimized. Fifth, it must satisfy users."[3]Well composed layout design that takes into account such user traits play an important role. It is not enough to lay out effec-

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tively in a limited space each composition element such as letters, images, symbols and photos in the design, advertisement and editing. Basic conditions such as garnering attention, readability, aesthetics and creativity must be given sufficient consideration. Moreover, comprehensive composition and combination abilities are also important to ensure a new space. The independent roles of each composition element and the overall sense of uniformity must be brought together for a visual effect that meets the purpose.[4]In particular, the purpose of an interface is to improve usability which must be evaluated by taking various things into account. What is most important in usability is to be intuitive, simple, consistent and visible.5.

2.1. Elements of layout

Layout is a technique that effectively arranges each component such as characters, pictures, symbols, and photographs in a limited space in design, advertising, and editing.For a good design, it is not enough to regularly arrange the components of the layout. Therefore, it is necessary to consider the basic conditions of attention, readability, clarity, formality and creativity.Inaddition, a comprehensive composition and combining ability is required to be a new space. In combination, it is important to have a unique role for each component as well as a layout with a uniform sense of order as a whole. It is also important to consider the visual effects so that they are suitable for the purpose. [6].

2.2. Elements of layout

2.1.1. Text

Itis a symbol that can read the word by eye. It is a combination of symbols such as Hangul, alphabet, kanji, number, and punctuation which can be displayed on the screen by pressing the keyboard.It also shows a short message to another person using a cell phone keypad.[7]In layout, a character is one of the most accurate information transfer elements.

2.1.2. Drawing

Drawingis images of people, objects, landscapes or emotions or imaginations using lines or colors. mages.[8]In layouts, pictures represent all images, such as illustrations, illustrations, and photographs.Imageshave the advantage of being easy to understand their meaning without language learning.

2.1.3. Sign

Itis a concise form rather than a picture, which is a combination of symbols, pictures, and characters used to express some meaning or to direct objects.[9]

2.1.4. Photo

It makes semi-permanent images of an object directly or indirectly on the photosensitive surface by the action of visible light, ultraviolet light, infrared light, ´Y line, electron beam, etc., as a picture of positive or negative Technology.It also includes the entire process of recording and expressing the light of an object using a camera as a combination of the Greek phos and graphos 'light' and 'painted.[10]Photography is an artistic field that has a good ability to transmit phenomena.

2.3. Requirements for mobile web layout

Depending on the position of main components in layout, visual attention can be different. When main components are positioned on the upper side of a page, users feel senses of refreshing and activity, and have strong attention because their eyes move from the upper side to the bottom side. On the contrary, when they are positioned on the bottom side of a page, users feel senses of stability, heaviness, and stillness, but have the weakest attention. When components are positioned on the middle side, the page looks balanced and stable and users have moderate attention.

2.3.1. Attention

Itis the element of the main content that focuses attention when users use mobile web.The core elements are different depending on the purpose and nature of the site.For example, the search window on portal sites, the latest news on news sites, the search box on shopping mall sites, and planning products and events will be particularly important factors.11Layout is not merely a pursuit of beauty, but a way of attracting the attention of users.Place important content in the area where the gaze first comes.Later, when you place the downward-oriented content downwards, your gaze naturally flows from the top to the bottom.If there is a part that you want to emphasize in the natural flow, make sure that the important part stands out and the non-important part is not emphasized.So, you have to give points so that you can easily find important parts even in big currents. [12].

2.3.2. Readability

Readability is the degree to which the user does not feel uncomfortable when reading a text.Especially, in the mobile which has limited space, the size and shape of the characters greatly affect the readability.

2.3.3. Formability

Formality is the whole harmony, including the relationship between all elements. It is also very important in expressing beauty.

2.3.4. Creativity

Creativity is a part of originality and personality that requires new creative outcomes that break the existing form.

3. Results and discussion

There were almost no ornamental elements on the main page of Naver or Daum. There were only text and information, as well as related photos. However, there were thin lines of light grey to divide different categories. On specific days such as public holidays, illustration would be added around the main logo related to that date. In terms of the overall structure, main content could be verified by scrolling up and down, and menu composition could be viewed by scrolling left and right.

The layout of the mobile portal site by Naver and Daum had similar menus without a big difference. However, there was a slight difference to the menu laid out around the search window. First, Naver had the search window located immediately below the site name and the menu was laid out so that news could be viewed by category. The menu can be moved left and right to enter into the categories. Major articles are shown under the menu. Scrolling the entire window up and down allows you to move to a screen to see more information. Under major articles are photos considered hot topics under ‘hot menu items’. Below the photo is weather forecast in a large font size, which would be of interest to many users. [table1].

Daum, too, has the search window under the main logo but unlike Naver, has the real-time search ranking under the search menu instead of the main menu. In addition, the main menu located under the real time search words draw attention with its head font and color of the logo. This can be moved left and right to expand the menu. The remaining structure is similar to that of Naver, consisting of major news, hot topic photos and weather forecasts. [Table 2] Table 2: Analysis of the main screen about Daum15.

Table 1: Analysis of the Main Screen about Naver14

Main Screenshot	Configuration	Content analysis
	Site Name	Branded color background and white brand logo
	Search Window	Location under the brand logo
	Menu	Enabled menu is displayed in brand color
	Main article	Main article location between thin lines
	Real-time search word	Publish popular searches in real time
	weather	Weather and fine dust levels posted
	Major photos	Publish major articles with images

Table 2: Analysis of the Main Screen about Daum [15]

Main Screenshot	Configuration	Content analysis
	Site Name	Brand logo on white background
	Search Window	Location under the brand logo
	Real-time search word	Publish popular searches in real time
	Menu	Enabled menu is displayed in white color
	Main article	Main article location between thin lines
	Major photos	Publish major articles with images
	weather	Indication of today's weather and tomorrow's weather
	Advertising	Post an ad

4. Conclusion

The analysis showed that there was a difference in the location of real-time search words. Naver has real-time popular search words shown following major news but Daum has a separate section that shows the ranking of popular search words under the search bar and in lieu of a main menu. Both portal sites had almost know ornamental images used, which seems to be a way to reduce the loading time and make use of the small screen. In addition, there was no big difference in the overall composition or menu. The menu could be expanded through scrolling on the left or right. Overall content composition could be seen by scrolling up or down.Two portal sites do not show significant difference in many aspects. However the location of the real time search words was different. Neither of the sites had decorative elements. This seems to be to reduce the loading time and secure enough space in a limited area. As smart phones offer an increasing array of services and functions, users, too are demanding more features from smart phones. Given this situation, website designs give priority to the mobile environment rather than the PC environment as most things that used to be done on a PC are now increasingly done on smart phones. This has led to frequent cases where the font or image becomes too large on the PC or the overall site becomes too simple. The features and functions of smart phones will only increase to meet various needs in our busy lives. As such, the layout design of websites is expected to become more simple to support convenient functions.

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