

Another RSS Reader with Visualization of Structured Documents and Effective Navigation

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Abstract: As the number of weblog users increase, RSS readers, which collect update information delivered as RSS feeds from such web sites, become popular to be used. Most of the commonly used RSS readers are in a tasteless style. In contrast, we aim to make a new type of RSS readers with the concepts of 'pleasure' and 'comfort' in mind. This paper describes two types of visual RSS readers with a high regard for unconscious views. The one is called 'RSSViewer', which tempts the people around it into seeing it passively, and the other is called 'RSSwalker', with which users can choose articles by moving their viewpoints actively with emphasis on pleasure and comfort.

構造化文書の 3 次元可視化と効果的なナビゲーションによる癒し系 RSS リーダーの開発

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概要: 近年の blog の広がりに伴って RSS や RSS リーダーが認知され利用も広がりつつある。現在多く用いられている RSS リーダーは、シンプルで事務的な外観・形式のものが多い。そこで、本研究では「楽しさ」や「癒し」をコンセプトとした新しいタイプの RSS リーダーの開発を行った。RSS の持つ階層構造に着目し、そうした構造を柱とその周りをとりまく球体とで 3 次元空間に可視化する。そうした空間を利用し、2つの新たな機能を持った RSS リーダーの作成を行った。本稿ではそうした RSS リーダーの機能として、ユーザが操作することがなくパソコンの余剰時間を利用できるアプリケーションとして、周囲の人間へ受動的視聴を促す「RSSViewer」という機能と、能動的な選択手段にさらに「癒し」「楽しさ」についても考慮し、空間内を視点が移動することによって記事を選択することができる「RSSWalker」という機能について述べる。

1. Introduction

In recent years, most PCs are always on-line because of continuous connections to the Internet. Such the way of using PCs does not require "Look at" nor "Peer into" like traditional ones but "unconscious vision" [1]. As the amount of information increases, the way of using PCs seems to change from "desperately seek" to "find out in daily life" so that users just see to gain appropriate information. A PC works without having any operations, and presents some information all the day. A user just sees it to possibly obtain some information. A new method of using PCs has been proposed such that PCs are considered as a part of environments for users to obtain information via unconscious vision.

As the number of weblog (web logging) users increase, RSS readers, which collect update information delivered as RSS feeds from such web sites, become popular to be used.

So far, there are commonly used two types of RSS readers. One is a mailer type [2][3][4] with which users actively choose articles from a list, while the other is a ticker type [2][5][6] that resides in desktop to present update information. RSS readers are used mainly for getting updated and minimally necessary information out of huge numbers of web sites, and

most of them have a simple outlook with minimum functions. In this paper, we propose a new method for browsing information. The concept of our application is a tool to enjoy accessing the information.

First we introduce a style of 'information via unconscious vision' as accessing and browsing RSS, and propose an RSS reader that can be used both passively and actively. Aiming at the casual application that naturally fits in living space to eventually get attention of people, we propose a new type of RSS readers, which make users feel soothing rather than tasteless, with the concepts of 'pleasure' and 'comfort' in mind. We also introduce a style of applications which layout articles within a virtual 3D space so that people gaze blankly at or drive around the 3D space to get information. This paper describes two types of visual RSS readers with a high regard for unconscious view. The one is called 'RSSViewer', which tempts the people around it into seeing it passively, and the other is called 'RSSwalker', with which users can choose articles by moving their viewpoints actively with emphasis on pleasure and comfort.

2. New styles of RSS readers

2.1 New RSS reader

We develop a new type of RSS readers, which differs

from commonly used ones. Most of the commonly used RSS readers are in a tasteless style. In order to improve the tasteless overview of RSS readers, we utilize the fact that the sentence constructions of RSS readers have a hierarchical structure, and visualize the structure in a 3D space in the form of a pillar and spheres, which go around it.

Most of conventional RSS readers are divided into two types. One is the mailer-type being used actively, while the other is the ticker-type encouraging users to receive messages passively. We added new functions to an RSS reader so that it can have the merit of both types. The first function we added is RSSViewer, an extended ticker-type reader. RSSViewer displays articles, which are randomly selected from the space described above, to tempt the people around a PC as well as a person in front of the PC. In order to use the advantage of the mailer-type ones, we add the other function, which enables users to actively select each article by looking around the space according to the users' operation. In this way, we implement the two functions of RSS readers that utilize the idle time of PCs.

The registration of RSS feeds displayed in the 3D space is one of the necessary functions for RSS readers. As the form of the registration dialog, we adopt the mailer-type design so that we can browse the information about the registered RSS feeds. Using this dialog, users can look through not only the registered RSS feeds list but also the information written in the RSS feeds delivered by individual sites, such as the title or abstract of each article. Furthermore, this dialog has a simple browser so that it can also be used as a stand-alone RSS reader. This component enables the users to look through images and other web contents in those feeds as well as description elements. To manage RSS feeds more easily, users classify them into folders using the registration dialog. For the management of registered RSS, a database created by XML is used.

2.2 Creation of the virtual 3D space

2.2.1 Developing environment

Our RSS reader is implemented with Java for the execution of multiple platforms. The virtual 3D space is generated with Visualization ToolKit (VTK) [7]. VTK is a C++ class library to have several interpreted

interface layers including Java, Python, and Tcl/Tk. With VTK, programming is performed by using visualization pipelines, which connect objects in the order of given procedures. The pipeline we constructed in this paper for the 3D space is to connect a pipe from each of the pillars, spheres with articles, lines between spheres, and displayed titles to the actual display screen.

3 . RSSViewer

3.1 The unconscious view

Unlike the existing RSS readers, we propose the RSSViewer as an RSS reading tool that tempts people around it into seeing it passively. People just take a view of them to gain appropriate information. We call this kind of views "an unconscious view".

The unconscious view tool differs from Internet surfing in that the former does not require any operations while the latter forces users to directly operate it to obtain information. We define the unconscious view as receiving information from the environment without doing anything but viewing. In this definition, posters and advertisements on the train or on the street are considered as examples of receiving information with the unconscious view.

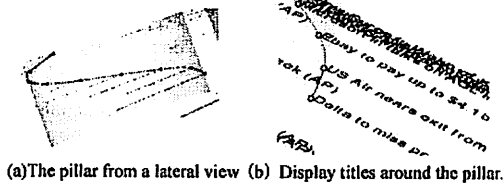
Recently most of PCs are connected to the Internet and the connection makes the PCs idle when users do not use them. We consider the effective use of the surplus CPU power to propose the RSSViewer as an unconscious view tool which utilizes the surplus powers.

We believe that continuous and gradual change of display information is effective to tempt people into seeing the information passively. If a memo is stuck on a wall all the time, people may recognize it as a part of the scenery with the passage of time, and forget the existence of the memo. For the above reason, we focus our attention on RSS that have an advantage of receiving updated information. A Visual RSS reader with a high regard for an unconscious view is a useful tool in tempting people in seeing it passively.

3.2 RSSViewer

Using the fact that an RSS is a structured text, we render a site as a pillar to put spheres representing articles in the site and their titles around the pillar spirally as shown in Fig.1 (a)-(c). Such pillar is

created for every RSS feed and put in the 3D space randomly. As a result, users can visually understand the construction of each RSS: watching each pillar through the time axis, for example. In addition, users can also know just the new information of each site by



(a)The pillar from a lateral view (b) Display titles around the pillar.

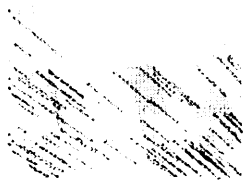


Figure.1 : (c) Pillar and sphere of articles watching the articles from the top of the pillar. Usually the targeting object is generated at a random position and floats in the 3D space for a fixed length of time as shown in Fig.2. By the contact of a target object and a sphere (article), descriptions of the article are displayed in the sub-window to tempt users in reading them passively. As targeting objects float in the 3D space, a sphere is designed as the image of soap bubbles presenting “soothing”. All of the objects are drawn with pastel vision to avoid unnecessary stimulation of eyes and to soothe people.

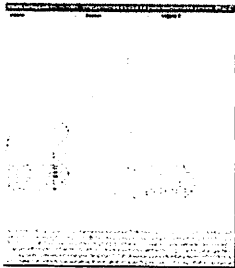


Figure.2 : RSSViewer

4 . RSSWalker

4.1 The walk in an information forest

In this section, we propose another style of RSS readers which layouts articles within a virtual 3D space so that users feel as if they walk around a forest

of information.

Since we aim at producing a tool to comfort people to obtain information, easy and intuitive operations are required. As a tool to make people interested in scattered objects (information) in the 3D space (forest), we envision a walking navigation system. We consider lines which link spheres as forest paths. Based on the 3D space composed by RSSViewer, it enables users to search information by dropping in each article and tracking the forest paths.

3.2 RSSWalker

Using the virtual 3D space generated by RSSViewer, we propose ‘RSSWalker’ which changes the way of displaying information by the movement of users. For that purpose, we introduce a car-navigation-like system that enables the users to select each article by looking around the 3D space according to the users’ operations.

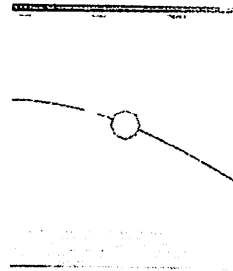


Figure.3 : RSSWalker

For a target article, it moves the camera so that the sphere with the article fits into the viewing range. While keeping such the condition, it can also move the range of camera from one article to another according to users’ operations. Furthermore, it displays the title and update time of the target article from the current viewpoint. The ‘description’ element of the article is shown in the lower sub-window as the detailed information. If users are not interested in the present target article, they actively walk to the next ones.

5 . Discussions

In Internet surfing, while users can search and browse there interesting sites, it may take a long time to get the information they want. Using RSS readers, users effectively get objective information from pre-registered sites. There are ticker-type designs as the existing RSS readers which urge users to receive it

passively. However, this type of RSS readers can display only updated information, and the users cannot select from the information which the reader has. Recently, some of ticker-type readers are possible to display the information delivered a short time ago as well as just updated ones. However, such readers need operations by users.

RSSViewer tempts people around it in seeing it passively as the ticker-type readers. This reader is designed with the concepts 'pleasure' and 'comfort', and gives people old information without forcing any operation. In addition, users can enjoy the collection of interesting information easily using RSSWalker. We believe that our RSSViewer and RSSWalker are used to enjoy the collection of information by anybody.

Aiming at the comfortable application, it needs to be operated easily. Users see and walk to feel no stress to lower the operation cost with RSSViewer and RSSWalker.

The same is true for the method of display information. We must develop the way of displaying information by which users can understand more information intuitively just with unconscious views. Furthermore, we must develop the way of displaying information more clearly and seeking information without missing the concept of 'pleasure' and 'comfort'.

We know that there is room for improvement in the method of moving in the virtual 3D space. Since RSSWalker switches articles in a moment, the movement between the articles is recognized only by small changes of the landscape such as the differences of the text and the aspects of overlapping of pillars. Unlike the car navigation system which shows the route from the starting point to the goal, RSSWalker does not show the process of moving between two points. People may look on such an idle time as an unnecessary time for the quick selection of information. However, we regard it as a process necessary for users to feel moving in the virtual 3D space, because RSSWalker focuses on amusement and comfort rather than quick search of information.

6. Conclusions

This paper described two types of visual RSS readers as the new styles for receiving information.

The one is 'RSSViewer', which focuses on the collection of information with an unconscious view. The other is 'RSSWalker', by which users enjoy the collection of interesting information as if they walk in an information forest. To reduce the stress caused by complicated operations, a more simplified operation procedure and an improved display method of information are required.

Furthermore, since the targets are generated at random positions in RSSViewer, there may be a case that articles do not contact to the spheres of target for a long time to display the same articles. On the other hand, since the targets only move upwards and the radiuses of the pillars are randomly determined, there may be also a case that articles move closer to each other to change displaying various articles very frequently. We have chosen the random generation of articles as the way which does not reflect the interests of users. However, we have to solve such problems.

In RSSWalker, we must research on how to move viewpoints to make users feel walking in an information forest without overloading of CPU power.

In addition, we should include new functions which enable users to enjoy the collection of information. For example, data mining is a promising method to classify the weight of articles in RSSViewer according to the interest of users, and to create better routes automatically in RSSWalker.

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Reference

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