AN ADAPTIVE DESIGN SUPPORT SYSTEM FOR INTERACTIVE IMAGE SEARCHING WITH DATA MINING METHODOLOGY

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1. Introduction

This study explodes a domain where the use of pictures is essential [Sabrina Kacher 2002]. Designers need a way to rapidly get image. Recent years, there are more and more companies start to store and sale images for designers. They try to use hypermedia or website system to support designers when they need images.

2. Exploration

This study focuses on the design of image source support website system. The goal of this research is to design a prototype system that expands image source supporting website with customization concept from each of designer before his choice. And to verify that is practicably an adaptive system supporting category of customization in design image source support tool. This research also proposed an implementation of system framework.

3. Review

Previous researches could be categorized into five issues: Data-Mining [Fayyad et al, 1996], Web Mining [Koutri et al., 2002], On-Line Analytical Processing (OLAP), Adaptive User Interfaces [Borowne et al. 1990], and customized web application, we want to apply those concepts and develop a supporting tool for designer.
4. Methodology

MULTI-SEARCH SYSTEM (MSS)

Our research focuses on how to help designers rapidly get images from large image source websites using a Multi-Search System (MSS). To achieve the goal described above, the first step is to record and analyze the interactive behaviors. The MSS analyzes each basket of user interactions and allows ranking which images are most relevant to the project now (Figure 1).

Figure 1: Multi-Search System concept

For achieving the goal described above, the first step is to record and analyze the interactive behaviors. We have written a spider program to mine the website server of VeryImage Company (http://www.veryimage.com) which sells images for customers’ accounts. Each of images has its own type (e.g. photographic, illustration, 3D image) and category (e.g. people, nature, travel, food…). We obtain an account’s shopping basket to analyze image’s type and category which were most picked up. The website adapts the index of image for the account from his choice. For example, Figure 1 type (B) and category (c) were most chosen. Therefore the image be adapted to first place which has type (B) and category (c) (Figure 2).

Figure 2: Illustrate analyze procedure

Figure 3: Adaptation image
5. Implementation

Adaptive website for client side: The website adjusts the organization of images when a user searches a type or a category. The changes are based on user image preference in order to approach user need and reducing search time. The system continually record user’s choosing onto the database for the next organization of image index. Therefore the image index will more and more approach the user’s need and classification by the user.

6. Conclusion

The purpose of the paper is to propose an adaptive system for users, easier access to websites. The system calculates user preference images based on user participation and provides a solution in two ways: supporting relation image for user or reducing selection time to user.

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