



Personalized interface agent for online book shop

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ABSTRACT

This paper, we describe the application of a personalized interface agent for online book shops. Nowadays, due to the huge amount of information on different media, there is a serious overload problem. Users do have a lot of information but they do not have any tools that allow them to classify it and find what they exactly need. Agent technology can be used to overcome information overloading problem. Agents help the user to retrieve information from the World Wide Web. Agents is a software program that uses Artificial Intelligence. This system is intended to develop an interface agent that performs interaction between the user and online book shops. The system is also intended to develop a personalized agent that can perform searching, filtering and displaying customized information for each user autonomously.

Keywords— WWW, Information filtering, Searching, Interface agent

1. INTRODUCTION

More recently, the development of Internet Technology is increasing rapidly and the number of products and services available on the Internet is also increased enormously. As a consequence, there exists a lot of information that users could inspect, although only a restriction that numbers of them contain information relevant to the user.

Most of the application on the Internet is a web-based system and the information is displayed as web pages. To retrieve the relevant information from the internet, the user can use intelligent software agent technology. An intelligent agent is a software program but it different with normal software system is that it can perform autonomously without user interaction. Interface agent is a kind of Intelligent Agent that can work mediator between user and application system to get relevant information in a short time. Inference Agent performs to get user interesting books from online book shops without user interaction. Interface Agent is a type of intelligent agents. Interface agents are computer programs that employ AI methods to provide active assistance to a user of a particular computer application. The metaphor used is that of a personal assistant who is collaborating with the user in the same work environment. The assistant becomes gradually more effective as it learns the user's interacts, habits and preferences.

2. BACKGROUND THEORY

2.1 Intelligent Agent

Intelligent Agents are software entities that carry out some set of operations on behalf of a user or another program. The purpose of an Intelligent agent is to facilitate communication between computer and user. The characteristics of Intelligent Agent are:

- **Autonomy:** Agents should be able to do most of their tasks without any direct assistance from human and other agents.
- **Social Ability:** Agents should be able to interact with, when they deem appropriates other software agents and humans.
- **Responsiveness:** Agents should respond in a timely fashion to perceived changes in the environment and the physical world, other agents or the Internet.
- **Proactiveness:** Agents should be able to exhibit goal-directed behaviour. There are many applications that make use of intelligent agents. This range includes personalized information management (such as filtering email), electronic commerce (such as locating information for purchasing and buying), and management of complex commercial and industrial processed (such as scheduling appointments and air traffic control).

2.2 Personalization

Personalization is a process of gathering and storing information about site visitors, analyzing the information, based on the analysis, delivering the right information to each visitor at the right time. A number of personalization techniques, with more on the way, can enable your site to target advertising, promote a product, personalize news feeds, recommend documents, make appropriate advice, and target email. Providing personalization for real-time applications affects system performance.

2.3 Filtering Techniques

Filtering techniques employ algorithms to analyze metadata and drive presentation and recommendations. The three most common filtering techniques are simple filtering, content-based filtering and collaborative filtering.

2.3.1 Simple Filtering

Simple filtering relies on predefined groups, or classes, of visitors to determine what content is displayed or what service is provided. An example of simple filtering is managing access to operating information. For example, in this system, books are shown to users according to their preferences.

2.3.2 Content-based Filtering

Content-based filtering works by analyzing the content of the objects to form a representation of the visitor's interests. Generally, the analysis needs to identify a set of key attributes for each object and then fill in the attribute values. One example is a document filtering system that analyzes documents based on keywords. Recommending video movie purchases is another example of content-based filtering.

2.3.3 Collaborative filtering

Collaborative filtering collects visitors' opinions on a set of objects, using either explicit or implicit ratings, to form like-minded peer groups and then learns from the peer groups to predict a particular visitor's interest in an item. Instead of finding objects similar to those a visitor liked in the past, as in content-based filtering, collaborative filtering develops recommendations by finding visitors with similar tastes. Recommendations produced by collaborative filtering are based on the peer group's response and are not restricted to a simple profile matching. For product recommendations, collaborative filtering is most suitable for homogeneous, simple products, such as books, CDs, videos.

3. DESIGN AND IMPLEMENTATION OF THE SYSTEM

3.1 Overview structure of the proposed system

In our proposed system, we use a simple filtering technique to filter book information. The overall structure of the proposed system is shown in figure 1.

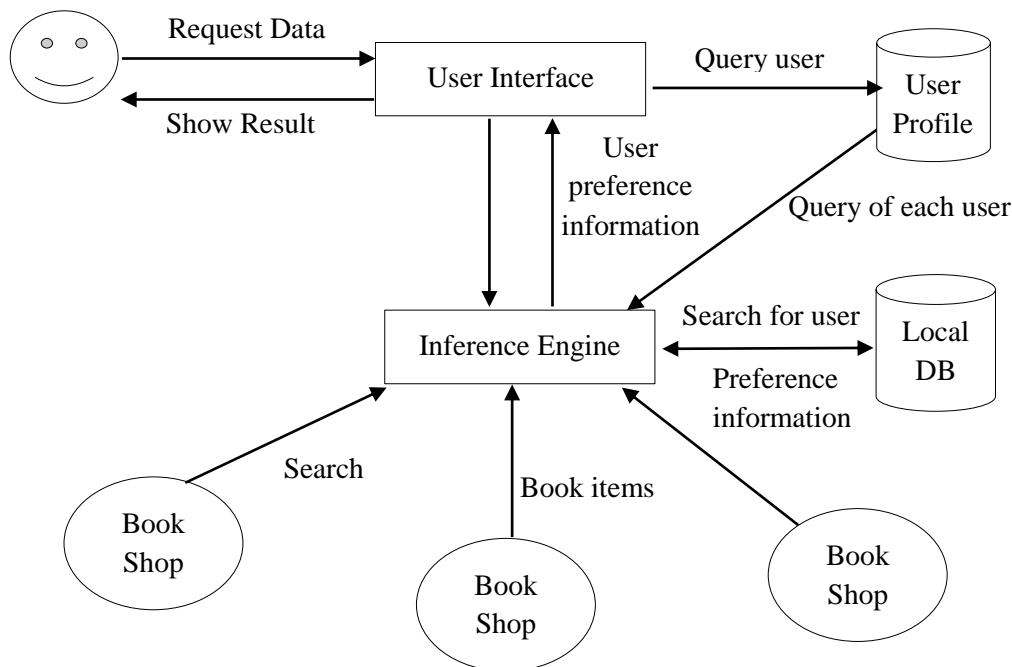


Fig. 1: Overview structure of proposed system

3.2 System Architecture

In our system, we describe the personalized search for online book shops. If the user is an administrator, he can update books information and notify the user about new books. If the user is an old user, he can log in into system successfully. The system can show his past history information. The user can search for another book's information. If the user is new, he can register into the system. The user search requires books and give rating according to likes or dislikes. The system learns user preferences by calculating rating and store rating in the user profile. According to the rating of the user, the system can recommend another book's information. The system flow chart of the proposed system shows the following figure 2.

4. CONCLUSIONS

Agents will observe what human users do when they interact with interfaces and provide assistance by manipulating the interface themselves, while the user is thinking or performing other operations. Increasingly, applications will be designed to be operated both by users and their agents, simultaneously. Interface agents can be classified according to the role they perform, the technology they use or domain they inhabit. Interface Agents are moving from to commercial exploitation, significantly increasing the roles and domains for agents as entrepreneurs find new ways to exploit new markets. The fundamental technology behinds the agents, however, is undergoing less radical change and thus provides a more stable basis on which to build a useful taxonomy. On this basic, a survey of current interface agent technology has been performed. The result is a non-exclusive taxonomy of the technologies that specific agent systems support.

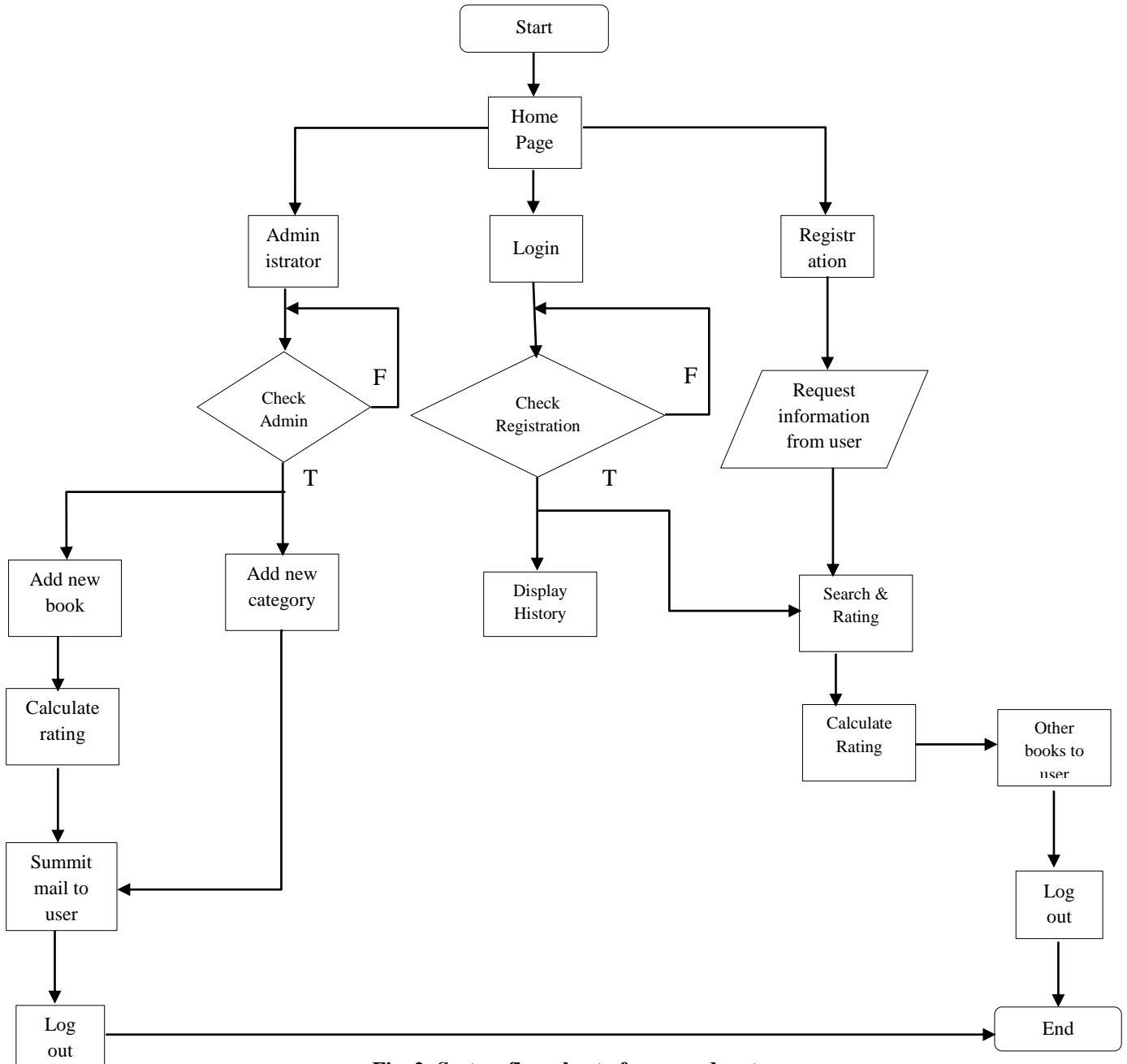


Fig. 2: System flow chart of proposed system

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