

Research on Electronic Commerce Platform Construction under the Mobile Internet Background

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Abstract. With the development of mobile communication technology and the constant improvement in electronic commerce market environment, mobile internet electronic commerce is becoming the new growth point. Popular electronic commerce portals such as Amazon and eBay require user individual data to be deposited on their servers for serving these users with personalized recommendations. Therefore, electronic commerce platforms need an automated shopping assistant to support people reduce the cost of shopping, decrease the time spent on shopping and make it interesting. After the brief introduction of mobile e-commerce personalized platform system concept, the architecture of electronic commerce platform construction under the mobile internet background is put forward. We outline the evaluation framework that we are currently employing to carry out this calculation.

Introduction

In the development of Internet in China, PC Internet is becoming saturated, but mobile Internet is showing blowout development. Prospective industry Research Institute released the "China Mobile Internet market outlook and investment strategic planning analysis of prospective report" data show that until the end of 2013, China's mobile phone users more than 5 billion, accounted for 81%. With the decline in the price of mobile terminals and the widespread laying of Wi-Fi, mobile Internet users show an explosive trend.

The users of large e-commerce platforms often encounter the problem of information overload; the source of the overload information is the product and the transaction information. A large number of products, customer and transaction information to customers search and selection of goods difficult, and the supplier will face up in a timely manner to deal with vast amounts of information and how to push customers to information related to the pressure. If the products will be regarded as the source of information, users to buy and recommended actions regarded for interaction with the information between the source, you should can design an information system the user information, sources of information, interactive information input to the system, after treatment system, the output a group of users are most likely to interact with the information source, this is the electronic commerce recommendation system of the basic principles. Good design of the recommendation system can effectively alleviate the information overload problem of supplier.

Mobile Internet

Mobile Internet is a through intelligent mobile terminal, the mobile wireless communication way to obtain services and emerging business, contains three levels of terminals, software and applications. The terminal layer includes the smart phone, tablet PC, e-book, MID, etc. the software includes operating system, middleware, database and security software, etc. Application layer includes leisure entertainment, media, business finance and other applications and services. With the development of technology and industry, in the future, LTE (long term evolution, key technologies of 4G communication technology standard of) and NFC (near field communication, mobile payment support technology such as network transmission layer will also be included in the category of mobile Internet.

With the rapid development of broadband wireless access technology and mobile terminal technology, it is urgent for us to be able to even be able to anywhere easily from the Internet access

to information and services in the process of moving, and the rapid development of mobile Internet came into being. However, the mobile Internet is also facing a series of challenges in the aspects of mobile terminal, access network, application service, security and privacy protection, etc.. The basic theory and the research of key technology have important practical significance for the whole development of national information industry.

E-commerce platform system

Demand analysis.

There are two main objectives of the e-commerce website platform system: (1) to promote sales. Attract more customers to purchase, purchased in the user when implementing cross selling, gives the best fit to the users of goods, auxiliary site timely introduction of characteristic commodity sales potential, and differences in the sales of other sites. (2) Improving customer relationship and promoting the brand value of the website. Platform system to be able to in the process of the use of a user as far as possible to meet the user's demand, in real time, and the user keep interaction and contact, attract potential customers, and according to the user feedback information for learning and self - improvement. The explosive growth in the volume of the modern information society, so that consumers are more dependent on the brand effect make consumption decisions. Therefore, in design recommendation system should breakthrough single to recommend the best products as the goal; the different needs of the user identification and intelligence are to provide personalized recommendation service.

User process.

In order to achieve the main goal of the recommender system, the user flow chart of the recommendation system is shown in Figure 1.

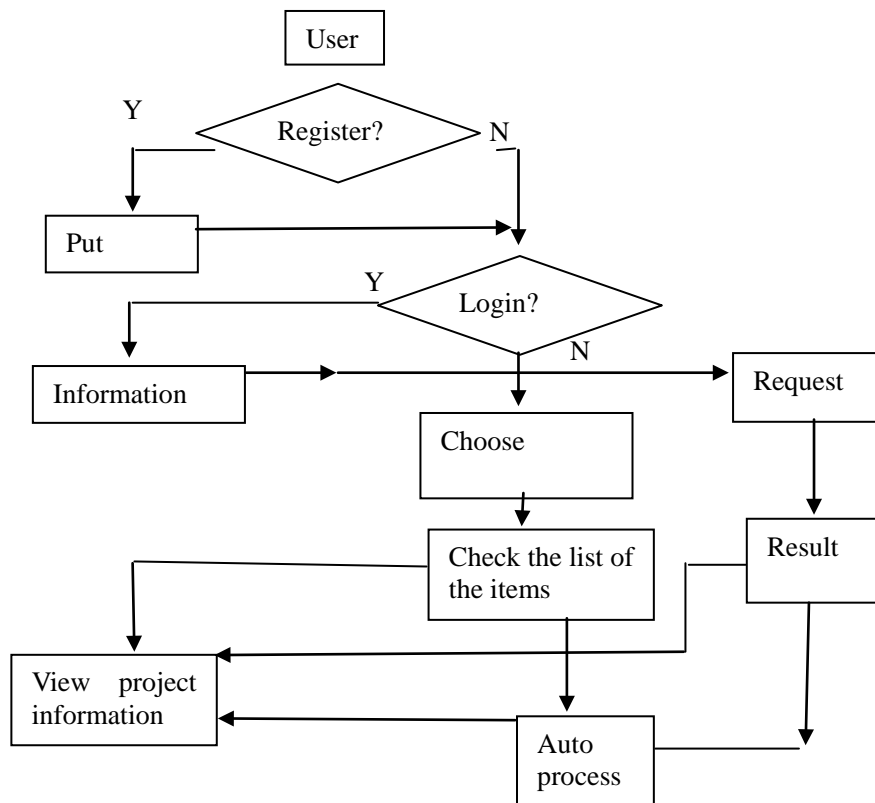


Figure 1 user process

At the same time for both registered users and non-registered users to provide services. The traditional recommendation system for the user registration of the hard requirements will be a lot of simple to collect information as the target; do not want to spend more time to the user block outside. This is detrimental to the goal of improving the website brand effect of the smart business

recommendation system. Do not force user to project score. The recommendation system based on collaborative filtering algorithm, requiring the user after registration, many projects in advance to score, and then to provide users with recommendation. This is because the collaborative filtering algorithm is a cold start problem, a friendly recommendation system; it should be in the interaction with the user to learn to improve, as much as possible to reduce the mandatory requirements for the user. Therefore, the cancellation of mandatory users of the project to make a score, only in the interface prompts the user to advance the score can improve the system recommended effect.

Process analysis.

The platform system mainly has the following processing: behavior record, personalized recommendation, purchase of goods, the commodity score, etc. The first layer data flow graph is shown in Figure 2.

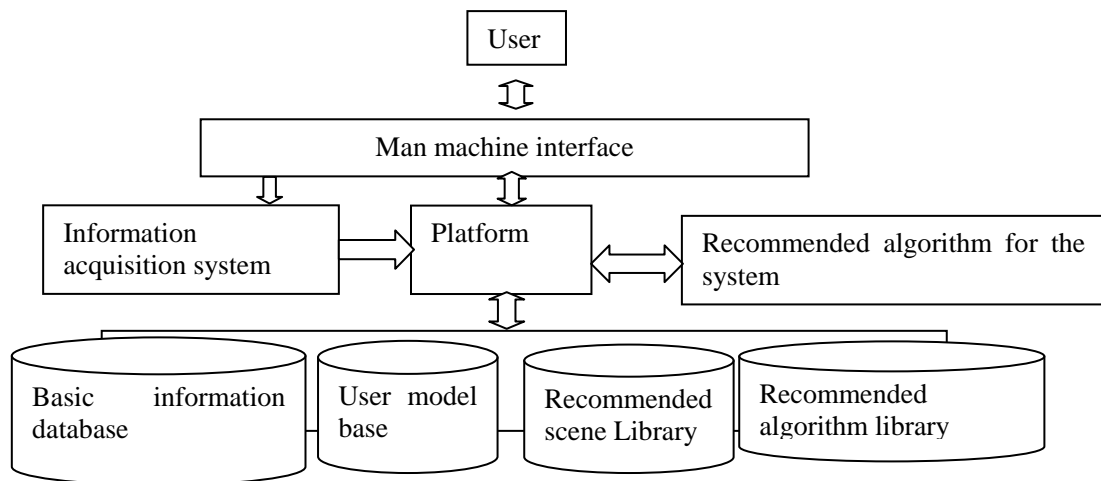


Figure 2 process analysis

Processing platform system according to user ID and request information related information for the database of mining, recommendation algorithm is applied to users and other users and product information by comparing the obtained Recommendation sets, by the "output" treatment of Recommendation sets the formatted output recommendation results.

Platform system design.

Based on the analysis of the recommendation system above, the basic framework of the business system shown in Figure 3 is presented.

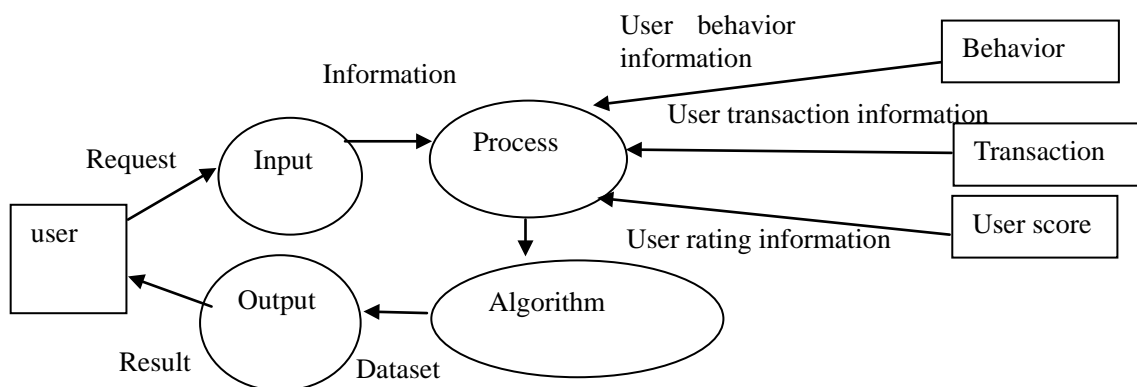


Figure 3 E-commerce platform system

The man-machine interface of the whole system is directly with the user communication subsystem. It is responsible for collecting all kinds of background information (such as project information, user of project score), in response to user request recommended, to show the user recommendation results, collect user feedback.

Collection of user rating of the project; collect the user review of the project, on the recommendation of the feedback, user behavior records, and relevant background knowledge; to

collect all kinds of information processing, mining user characteristics and implicit score. Directly to the information and knowledge stored in the database, the user model database, for recommendation algorithm using. If dig out information such as implicit score modify of user rating data, stored in the database at the same time, triggering the recommended tasks within the system processing system, please call the recommendation algorithm, based on new information modify user model database of recommendation model.

Conclusion

With the development of mobile communication technology and the constant improvement in electronic commerce market environment, mobile internet electronic commerce is becoming the new growth point. Popular electronic commerce portals such as Amazon and eBay require user individual data to be deposited on their servers for serving these users with personalized recommendations. Therefore, electronic commerce platforms need an automated shopping assistant to support people reduce the cost of shopping, decrease the time spent on shopping and make it interesting. After the brief introduction of mobile e-commerce personalized platform system concept, the architecture of electronic commerce platform construction under the mobile internet background is put forward.

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