Design of Learning Software Based on GPS Mobile Terminal

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Abstract. The GPS-based mobile terminals provide available hardware for online learning. Some learning software can be applied on the GPS-based mobile terminals to help people learn at any place and any time. The data in the software is properly managed and intelligently processed to help the users including online learning and communication with people of the same interests. The software can be designed with a user-friendly interface. In this study, we briefly discuss the main functions of the designed learning software including on-line learning, data management and data association. In addition, the basic structure and procedure of the learning software is explained with a three-stage steps of login, learning, and communication. With the help of the designed learning software on the GPS mobile terminals, the overall learning efficiency and effectiveness can be improved.

1 Introduction

With the fast develop of global positioning system (GPS) [1][2], the locations of people or some places become easy to access. Many flexible GPS mobile terminals are available for people daily life such as mobile phones. With the help of GPS mobile terminal, many applications can be used such as on-line e-learning. As reported in literatures, many e-learning software or applications have already been developed and used [3-10], which greatly enriched the information in people's daily life. The software is installed on the mobile terminal to help people learn anywhere at any time. In this way, the concept of fragmented learning can be applied to help people learn more knowledge. For a concrete learning software installed on a GPS mobile terminal, it should be designed with proper functions and convenient operations so they can be used by people [11-16].

In this study, we study of the design of online learning software based on the GSP mobile terminals. At first, the main functions of the designed learning software are described including online learning, data management, and data association. The three parts are closely related to provide the best user experience. In detail, the online learning is the basic capability for the acquisition of special knowledge or skills. The data management stores the available data to provide for the users so people can access the historical or newest knowledge at the first time. The data association capability aims to associate the related topics for the users so more information can be provided. In addition, it can recommend suitable partners for a special user. The structure and implementation structure of the designed learning software are explained afterwards. In detail, the users first login in the software based on their accounts. After the identification of the accounts, the users can use the software for online learning.

In the meantime, some special notes can be taken smoothly with corresponding tools. The related users who are interested in the same topic are associated by the software and recommend to each other. Then, they can communicate with each other to learn together. So, the overall learning efficiency and effectiveness can be significantly improved. Therefore, through proper use of the designed online learning software on the GPS mobile terminals, people could get more flexible ways to learn and make friends.

2 Main Functions

2.1 Online Learning

Online learning can be seen as the basic capability of the designed learning software. It provides a large amount of knowledge or skills for people from different backgrounds, education levels, places, etc. For the users, they can get easy access to their interest information and store them for further use. The historical data should be marked for the users for spare. In addition, the users could post their questions on the software so others could help them. Some tests are provided from time to time so the users could examine themselves to properly evaluate the learning performance. With the online learning function, the users could meet their basic demands for special knowledge or skills in order to improve themselves.

2.2 Data Management

There are massive data in the software with the increase of users. In this case, the data management function is necessary for the learning software. All the data in the server of the learning software is categorized into several types such as accounts, skills, latest news, etc. When the

users have some special requests, the server can respond at the first time to provide the best results. In addition, in order to provide the correct and precise information for the users, the data management should also perform the correct capability so the wrong information or skills can be removed in time. It can receive the suggestions from the users to update the present database. In addition, the historical data of the users are also stored and analysed for the further recommendation for the users.

2.3 Data Association

With the GPS location capability, people far from each other can study on the same subject. The data association function aims to related the data and people to improve the learning efficiency. On one hand, for a user learning a

special skill, the same type of information or knowledge can be recommended to him so he could get more sources for further learning. On the other hand, for people with same interests, they can be related together and communicate with each other. With the mutual help, the learning efficiency can be improved.

Fig. 1 shows the relationship between the three main functions of the designed software. A database is first established by collecting massive information from the internet or other expert databases. Afterwards, the three functions cooperate with each other to enhance the overall capability of the designed software so the users could get the best experience from the software. With the enrichment of the database and automation technologies, richer and fast service can be provided by the designed software.

Fig. 1 The relationship between the main functions of the designed learning software.

3 Structure and Procedure

3.1 Login and Identity Confirmation

During the practical use the designed software, the first step is the confirmation of the identity. The users should first sign for an available account and sign in with it. Then, the database matches the input account and password with the existing ones to confirm the identify. Once the account is legal, the user can login and use the learning and communication tools in the software. Therefore, the identity confirmation procedure can help protect the privacy of the users as well as the data.

3.2 Learning and Noting

After login in the software, the users could properly make use of the data in the database of the software. They can search for their interest topics and comments on them. Some important issues can be taken notes to strengthen the importance. Some bookmarks can be set during the learning so the users could get back to the topic quickly.

The software could automatically remember the historical data of the users. The learning contents are associated with the database so some related information can be recommended to the users.

3.3 Communication

With the help of data association function, people with same or similar interests can be recommended to each other for mutual learning. With a proper recommendation and selection, the users could communicate the others to study and discuss together. They can share their materials through the on-line learning software. In addition, a ground can be setup for people with common interests. Therefore, through proper communication, the learning efficiency can also be enhanced.

Fig. 2 shows the basic procedure of the designed learning software. The users login and learn the interested topics. The useful material is stored and noted for further use. With the recommendation of the software, some users communicate with each other to study on the same topic. Therefore, with the smooth operation of the designed procedure, the learning efficiency can be improved.

Fig. 2 Basic procedure of the designed learning software.

4 Conclusion

The design of learning software based on GPS mobile terminal provides a new choice for learners to learn at any place and any time, which can meet the needs of learners to use fragmented time learning, which is conducive to the popularization and dissemination of lifelong learning concepts. In this paper, we discuss the main functions and basic procedure of the designed learning software on GPS mobile terminals. With the help of the software, people could acquire their interested knowledge or skills. In addition, through proper data management and association, some on-line friends with same interests can be recommended. So, the learning effectiveness can be improved by studying and discussing together. In the future, more details of the designed learning software can be analysed in detail. In addition, more functions can be incorporated in it based on the more intelligent algorithms.

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