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Location-based Service Technology for the Vitalization of Lifelong Learning Participation of Adult Learners

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Abstract

The purpose of this paper is to develop a location-based service algorithm for the vitalization of lifelong learning participation of adult learners in order to provide lifelong learning information that will allow learners to learn what they want from the nearest lifelong learning center around them. It is very important for adult learners who completed formal education to learn continuously in order to acquire new knowledge and information for successful retirement and life design n a rapidly changing information age. In addition to each individual's own internal learning characteristics, environmental factors such as lifelong learning centers where lifelong learning activities take place should be considered in order to support lifelong learning for adult learners. A lifelong learning center provides lifelong learning opportunities and manages programs that are tailored to local characteristics to foster local talents, improve the quality of life for local residents, and contribute to social integration and development. Based on the importance of such a lifelong learning center, this paper aims to provide lifelong learning information to enable learners to learn their desired program in the nearest lifelong learning center by applying the location-based service technology in smartphones to local lifelong learning centers. Also, it aims to help design customized learning plans for each life cycle based on the learner's accumulated information and learning experiences

1. INTRODUCTION

In the modern society, location-based services utilizing high-performance sensors built in smart phones are advancing due to the mass marketability of smart phones, and consequently, the development and utilization of application contents based on location-based services are increasing. A location-based service is a concept that collectively refers to a service that provides useful functions to a user by utilizing location information obtained through mobile communication networks, and it is meaningful that it connects service users and service providers in the same space. The development of smart technology has been converging and

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generating in various fields to create a new paradigm throughout not just individual daily life, but across economy, society, culture and education.

In particular, socio-economic changes such as the emergence of knowledge-based society and aging, ICT technological innovation, short life-cycle of knowledge and function, and flexibility of the labor market cannot be sufficed merely by the knowledge and skills learned at school, Instead, they have come to require a lifelong learning society, in which learning has to occur throughout one's entire life. Sunyoung Jun (2013) suggested that in order to lead adult learners to lifelong learning and to help them develop into sustainable lifelong learners, it is necessary to establish integrated support policies that consider each learner's internal learning characteristics, the external environmental, and the environmental factors of lifelong learning centers where lifelong learning activities take place and emphasized the role of lifelong learning centers as a support system. Lifelong learning centers contribute to the development of local communities and provide the local residents with an opportunity for continuous lifelong learning by running programs that are tailored to local characteristics.

However, according to a survey by the Korea Educational Development Institute (2017), adult learners do not participate in lifelong learning due to the absence of educational institutions nearby and insufficient time due to work. Therefore, it is necessary to establish an infrastructure that provides lifelong learning information so that adult learners can participate more actively in lifelong learning. For this reason, in this study, a location-based service algorithm was developed to provide information of the desired program and the closest lifelong learning center in the current location of the learner and applied to local lifelong learning centers so that adult learners can more actively be involved in lifelong learning. Moreover, based on the learner's accumulated data and learning experience, it will provide customized learning information tailored to each individual's characteristics.

2. SYSTEM MODEL

This study utilized the smartphone location-based service so that adult learners can search the closest lifelong learning center from their own location and participate in their desired lifelong learning program and applied this to local lifelong learning centers in order to vitalize adult learners' participation in lifelong learning.

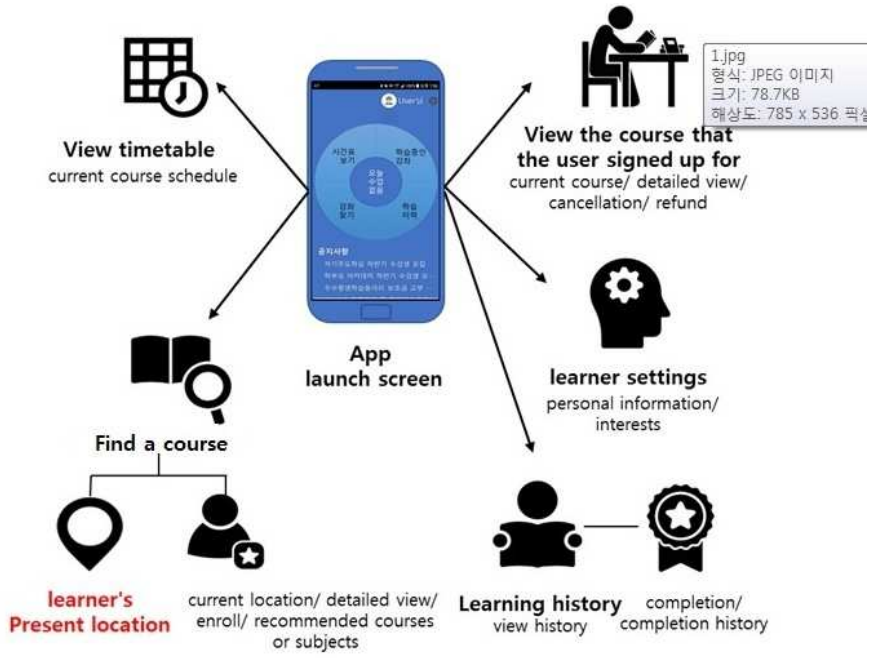


Figure 1. System Model

Figure 1, which expresses the system model, was designed by combining the advantages of location-based service using smartphones and map application technology. When a learner searches his or her desired lecture through the 'Find a course' field, it is possible to find the nearest lifelong learning center from the learner's current location. Such information is synchronized with the homepage of local lifelong learning centers, so it is possible to check real time. Also, the learner can manage the schedule of the courses that he or she has already enrolled and can receive recommendations for new courses based on the fields of interest. Once the course is completed, learning history and completion history can be managed, and career management is possible based on accumulated data.

3. RESEARCH RESULT

In order to vitalize adult learners' participation in lifelong learning, this study applied location-based service to local lifelong learning centers so that adult learners can search the closest lifelong learning center from their own location using their smartphones. Through this system, adult learners can participate in their desired lifelong learning program in accessible lifelong learning centers.



Figure 2. App Lauch Screen

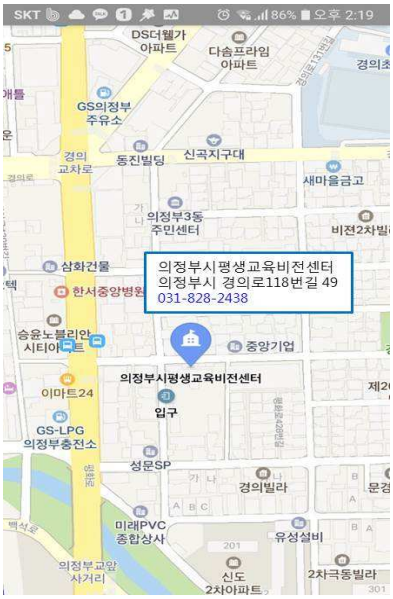


Figure 3. Find a Lifelong Learning Center

The research is carried out to obtain the affecting factors while adoption of e-Government by Citizens. For this propose, conceptual model was suggested to carry out survey. In this research, according to the Figure 2, five independent variables Trust, Website Quality, Performance Expectancy, Effort Expectancy and Social Influence are used to determine Behavior Intension, whereas Facilitating Condition and Behavior Intension are used to determine dependent variable Use Behavior. Beside these, four moderate demographic variables Age, Gender, Experience and Voluntariness of Use are used for in-depth analysis.



Figure 4. Program Menu Screen



Figure 5. View Enrolled Courses

In the 'View Timetable' field in Figure 4, it provides notification service based on the timetable to help users manage their current course schedule. Figure 5 demonstrates a learner who has received a notification viewing the current course schedule.



Figure 6. Program Menu Screen



Figure 7. Detailed View of Current Courses

In the 'Current Course' field in Figure 6, users can get a detailed view of the current course and in Figure 7 can cancel and receive a refund for the course. Also, based on the personal information and interests that the users set in the beginning, it provides notification service when a new course opens.



Figure 8. Program Menu Screen

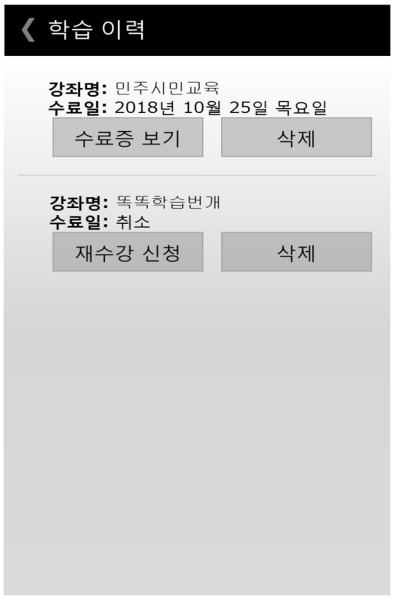


Figure 9. View Learning History

In the 'Learning History' field in Figure 8, users can register their learning history to efficiently manage their careers. As in Figure 9, they can view completed courses and cancellation history.

4. CONCLUSIONS

In this study, for the purpose of vitalization of adult learners' lifelong learning participation, a location-based service algorithm was developed and applied to local lifelong learning centers so that learners can conveniently use their smartphones to achieve their desired learning in the nearest lifelong learning center in their area. This location-based service allows easy and convenient access to lifelong learning by combining with a smartphone map application that provides the user's current location. Currently, only lifelong learning program information provided by the lifelong learning centers is provided, but it will gradually provide customized learning information based on the accumulated learning experience and information of the learner. It will also enable systematic career management to plan and develop careers needed in the present and future. However, there are risks of personal information leakage due to the use of location-based services and commercial usage, so it is of primary importance to establish technical countermeasures to prevent these risks.

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