

Utilizing Mobile Technologies to Realize “Learning by Doing”

Chengjiu YIN

Research Institute for Information Technology, Kyushu University, Japan

yin@cc.kyushu-u.ac.jp

Introduction

With the development of the mobile technology, mobile/ubiquitous learning becomes feasible and offers new benefits to instructors and learners. In the past decade, various mobile/ubiquitous learning environments have been implemented. These researches are all about utilizing these new equipments to improve teaching and learning in education.

“Learning by doing” is a natural study method which has been used since ancient times. Utilizing mobile technologies to improve this “learning by doing” is a good choice.

In this paper, we will introduce two prototype systems which were developed in the past. One of them is called ALGOS and the other is called JAPELAS. Then, we will introduce an ongoing system, called SONKULE. These systems are all using mobile technology that follows that same principle presented.

6. JAPELAS

It is very difficult for foreigner students to master Japanese polite expressions (JPE) because the expressions may turn out complicated depending on the context, for instance, hyponymy, social distance, and the formality of conversation. In order to help the foreigners understand JPE anywhere anytime, we developed a system, called JAPELAS.

7. ALGOS

We implemented a system to support the process of learning the sorting algorithms, called ALGOS. Making use of the ALGOS, the learner plays the role as a data in the simulation of sorting algorithm to visualize the data flow of computers in the real world.

Using this system, all the students stand in a line with a PDA each, and the teacher assigns an array of numbers to the students and asks them to sort these numbers according to a certain algorithm, and the new position of each step is sent to the server. Then, they receive these tasks, collaborate together and exchange their physical positions according to the algorithm.

8. SONKULE

In order to support learner to find learning partners for mobile language learning, we are currently developing a system called SONKULE. It is a website for language exchange and international communication. For example, when a Japanese is studying English and an American Japanese, they will be capable of correcting each other’s mistakes through this tool.

A novel approach using this relationship helps learners to find an appropriate person who is able to solve the problem even if he is a stranger, an appropriate request CF (Figure 1) will be recommended upon their request, and then they help each other through the SONKULE service. This way it can enhance personal relationship, expand network of friendship, and support knowledge sharing and knowledge creation.



Figure 1 CF.

9. Conclusion and future work

In this paper, we introduced 3 mobile learning systems, JAPELAS, ALGOS and SONKULE. All of these systems showed the effectiveness of utilizing mobile technologies on “learning by doing”.