A mobile environment for Chinese language learning

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Chinese language was usually considered difficult to learn, because of its complicated shape, different pronunciations and multiple meanings. In recent years, the amount of female spouses from Southeast Asia increased rapidly in Taiwan. To acquaint them with local society, some institutions were asked to give Chinese courses regularly. There have been some researches showed that using mobile devices in the course can improve learners' performance and arouse their motivation. Compare to traditional desktops, mobile devices possess several merits- 1) mobility, 2) instant feedback, 3) interactivity, 4) context awareness. According to our requirements, a mobile environment can make communication between teacher, learner, system and user's surrounding. The main contribution of this paper is to propose a mobile environment on PDA for foreigners to learn Chinese. Besides technologic aspect, the investigation into human-computer interaction (HCI) will be stressed through whole design process.

Keywords
mobile learning, Chinese learning, human-computer interaction, scenario-based evaluation

1. Introduction

Owing to the diversity of mobile devices and wireless network's progress, mobile learning has become a possible and convenient method to support teaching activities, whether it was in or out of classroom. Some researches have demonstrated that using such devices in the courses can improve learners' performance and arouse their motivation, cases like bird watching, plant observing, museum navigation and tourist guidance[3, 4, 5, 6, 7, 9]. According to our requirements, a mobile environment can make communication between teacher, learner, system and user's surroundings.

Follows are those researches on mobile assisted language learning, Duke University adopts ipod as their assistant teaching devices in Spanish lessons[1]; BBC provides students with java games and mp3 files on their GCSE website to help them learning English, French, Germany and Spanish[9]; Griffith University in AU uses SMS to advance students' understanding of Spanish vocabularies[8]; National Century University in Taiwan assists teachers and learners with the teaching and practice of English courses via e-dictionary[11]; Tokushima University in Japan combines PDA and PHS to form a teaching environment in real lives[12].

Chinese is usually considered difficult to learn because of its complicated shape, different pronunciations and multiple meanings. Recently the amount of foreign spouses from East Southern countries is increasing; this raises some critical problems. In order to remove the obstacles caused by different cultures and help these female immigrants express their own opinions, Chinese ability indeed is an important issue to consider. Therefore, this study will develop a learning environment for Chinese language learning on PDA by scenario-based evaluation methods, and will focus on the human-computer interaction issues on mobile devices and integrate suitable teaching strategies for adults.

2. Scenario-based evaluation

When we mention about scenario-based design, that includes actor, goal, setting, object and human actions; and this is a way to deduce the structure or appearance of software, just like telling a story[10, 13]. One of the important conditions to reach successful design is the early participation of target users.

Through observing the descriptions of scenarios, everyone has equal opportunity to propose his/her own suggestions and criticisms to find out the real needs of users, which is critical to draw out the final appearance of the system. Scenario-based design not only provides a list of functionalities, but explains why these functions should exist and how users interact with them[2]. The target users of this study are those foreign spouses currently attend Chinese language classes. Before stepping into the prototype phase, researchers have conducted several semi-constructed phone interviews to generate some design suggestions, and the questions are as follows: 1) why do you want to learn Chinese? 2) Which function on PDA will be helpful to learn Chinese? 3) Will you feel depressed if other people cannot communicate with you smoothly?

3. Pedagogy issue

To foreign spouses in Taiwan, it didn't have many chances to learn Chinese in formal classroom; many researches indicated that language difficulty is the biggest question they confronted. As the amount of population increased year by year, the government also notices this problem and plans a series of courses. But after all, the adult education is obviously different from children, and most of these female immigrants were not illiteracies in their countries. Besides enhancing their language abilities, giving people opportunities to voice out is more important. The study will implement task-based learning theory into course design; this approach on the one hand helps them acquaint local society, and encourages these people to share their foreign opinions on the other hand.

4. System architecture

The design concept of this system derived from name card exchange, people use PDA to explore the city they live, gradually find and exchange tag messages around them. There are two main user interfaces on PDA: city map and frequently used sentences. The former urges people to deliver information actively in the virtual space and share their feelings and thoughts about the real world. Once they approach the locations where tags exist, system will inform them by non-compulsory notifications; the later help learners search for the practical sentences quickly to communicate with local people under various kinds of situations. Collocating with sentence marker, each learner can establish personalized sentence depository according to the frequencies she has marked.

5. Scenario design

Mary is a 25 years old foreign bride from Vietnam, and she has been to Taiwan for only six months. She was introduced by her friends and left her hometown to Taiwan for better lives. She didn't know that she has to learn and adopt so many different things in Taiwan until being here. Mary's husband is a 40 years old blue-collar worker, and he started working after graduating from senior high school. Because of his two friends' experiences, he knew Mary in marriage bureau. After dating with each other for a period of time, they decided to get married. Compared with other foreign brides, Mary is much luckier. Her family members often encourage her to go outside at her leisure time and take chances to teach Mary simple Chinese words. In order to make Mary more communicative, her husband decided to send her to the formal Chinese course which held by community college for foreign brides.

Today's topic is about shopping, and every learner got a PDA in class. Everyone can operate some functions easily after learning for couples of times. At this time, the teacher proposes a task to them: go to one of markets

in this city and bring an object which can makes you associate with Taiwan. Mary thinks for a while and decides to go to flea market. She takes PDA out and open the city map, tags the relative location between classroom and flea market. After she is sure of the route, she starts off. Because the distance wasn't too far, Mary decided to walk there. On the way she passed a coffee shop where her husband sometime takes her with on holidays, suddenly she came up with some leisure places where her classmates ever mentioned in class; Mary can't help sharing this coffee shop with them. She took some photos of the shop

front and annotated that latte is her favorite flavor and her reflections about coffees, then she used "coffee" and "latte" as tags, finally uploaded the information to the server via wireless network and finished the information delivery in virtual space's coordinates.

After being busy for a while, Mary continued her way to the flea market. Once she arrived at the market, she was dazzled by the scenes in front of her. Various kinds of strange objects were laid on the floor for people to choose. After strolling for couples of times, she was attracted by an old Taiwanese puppet. Mary opened the frequently used sentence and entered the "shopping" category and picked some useful sentences. After practiced for a while, she completed the transaction with the vendor successfully. Mary then marked several sentences she just used for this time and waits until next time she can share her shopping experience with the teacher and her classmates in class.

When she passed the coffee shop again on her way home, Mary noticed a new message emerging on PDA and clicked to browser the contents. It's her classmate Linda who read Mary's recommendation by searching for the keyword "coffee" and also left message at the same coordinates as below: "try the cheese cake too!" After reading this message, Mary clicked Linda's name owing to curiosity and the interface of city map exhibited all the coordinates Linda ever release messages. Mary hoped that one day she can have so many reflections on this city she lives to share with others!

6. Conclusion

People usually consider the Chinese class as a way to assimilate foreign spouses who originally have their own thoughts, and possess a bias that these females' major objective is to foster and educate the child. In the process of phone interview, we discovered that most of their families were not willing to let them expose to the local society too much and have no confidence in them. Next step we will take a thorough usability testing toward our system, and design more teaching activities that can bring mobility into full play.

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