PROMOTING INTERACTION IN CLASSROOM VIA BLUETOOTH MOBILE MESSAGING FEEDBACK SYSTEM (MMFS)

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ABSTRAK

Interaksi di dalam kelas telah menurun di luar jangkaan sejak kebelakangan ini. Situasi ini telah menimbulkan suatu ancaman serius terhadap suasana pembelajaran kerana interaksi memainkan peranan penting di dalam kelas. Justeru itu, suatu langkah inovatif diperlukan untuk membangkitkan interaksi di kalangan pelajar di dalam kelas. Kajian ini menerangkan kegunaan sebuah prototaip iaitu "Mobile Messaging Feedback System" atau MMFS yang berasaskan sistem klien-server untuk menggalakkan interaksi di dalam kelas melalui penggunaan telefon bimbit dan teknologi "Bluetooth". Berdasarkan tinjauan kesusasteraan, prinsip-prinsip rekabentuk telah berjaya diperolehi dan digunakan untuk menangani rintangan-rintangan terhadap interaksi dan juga untuk membangunkan prototaip tersebut. Seterusnya, prototaip ini telah diuji di dalam kelas pengaturancaraan Java di Institut Informatics. MMFS membolehkan pelajar-pelajar menghantar soalan-soalan dengan menggunakan telefon bimbit mereka melalui teknologi "Bluetooth" ke komputer riba pensyarah. Pensyarah boleh melihat maklumbalas tersebut pada komputer ribanya dan beliau boleh meneruskan interaksi dengan menjawab secara lisan kepada soalan-soalan yang ditujukan. Sistem ini juga boleh menyimpan kesemua maklumbalas pelajar-pelajar untuk sesuatu pelajaran ke dalam pangkalan datanya supaya dapat dirujuk semula pada masa hadapan. Pelbagai cara seperti eksperimen, pemerhatian, temuramah dan kaji selidik telah digunakan untuk memastikan samaada interaksi di antara pelajar-pelajar dengan pensyarah dapat dipertingkatkan dengan penggunaan MMFS.

ABSTRACT

Interaction in the classroom has decreased unexpectedly in the recent years. This situation creates a serious threat to the learning environment because interaction plays an important role in shaping students' learning. Hence, an innovative approach is required to elicit student interaction in class. This research describes the use of Mobile Messaging Feedback System (MMFS), a client-server prototype system developed to promote interaction in class via mobile phone and Bluetooth technology. A set of design principles based on literature was employed to address the challenges to interaction and to build this prototype. This prototype was later experimented in a Java programming class, which was conducted in a computer lab at Informatics Institute. MMFS enables students to anonymously send questions using their mobile phones via Bluetooth to the lecturer's laptop. The lecturer sees the feedbacks in real time on her laptop and she can develop the interaction further by verbally addressing the feedbacks. The system is able to save all the students' feedbacks for a particular lesson into a database file for future review. The experiment, observation, interview and survey validate whether or not the students-lecturer interaction could be increased with the usage of MMFS.

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LIST OF ABBREVIATIONS

3G	Third-Generation Wireless Technology
ASP	Active Server Pages
GPRS	General Packet Radio Service
GSM	Global System Mobile
HTML	Hypertext Markup Language
ICT	Information and Communications Technologies
IrDA	Infrared Data Association
J2ME	Java 2 Micro Edition
LCD	Liquid-Crystal Display
MMFS	Mobile Messaging Feedback System
MMS	Multimedia Messaging Services
PC	Personal Computer
PDA	Personal Digital Assistant
RAD	Rapid Application Development
SMS	Short Messages Services
SPSS	Statistical Package for Social Sciences
SQL	Structured Query Language
WAP	Wireless Application Protocol
WiFi	Wireless Fidelity
WML	Wireless Markup Language

Chapter 1

Introduction

1.1 Preface

We learn best when we understand and able to engage with the subject (Garcia, 2001). Hence, it is important to promote or encourage interactivity, feedback and involvement in class to build a sense of community. Consequently, this will enable students to give feedback to lecturer concerning their doubts or level of understanding and on the lecturer's part, he or she will be able to answer questions to clear students' uncertainties or take the necessary action to correct his or her delivery method. For example, the lecturer may change the pace of the lecture or by providing more examples and explanations when requested to do so.

However, it is common that students having questions to ask a lecturer, but do not want to be seen asking the question or even worse, they are lost during a lecture and are afraid to admit and keep silent. The fear of appearing dumb in front of the rest of the class has caused students not to interact with the lecturer.

The contents of the thesis is for internal user only

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