

Pocket Note Sharing System: A Summary Sharing System on Android Platform Supports Mobile Assisted Seamless Learning

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摘要

學習在現在而言已經不只是傳統單方面的教師教授了，越來越強調的是每個人都可以有不同的學習風格並讓它成為社交分享的一環，以便於讓學習者間能互相交流與學習。找出關鍵字並寫出一段簡潔的總結常常是自我學習中最重要的部分之一。在這篇論文中，我們基於安卓系統建立了一個分享平台讓學習者可以自由分享與記錄課堂的筆記並從中互相學習，此系統稱之為口袋筆記分享系統。系統使用者可以隨時隨地利用我們的系統在行動裝置上作筆記與總結，並可以利用此系統分享與討論相關的議題，甚至於互動學習如何做出簡潔的課堂總結。此系統也可以提供教師分享筆記範例與即時修正學生筆記錯誤的用途。

關鍵字：社交分享活動， 口袋筆記分享系統， 安卓系統

Abstract

Learning nowadays is not a one way route, except for learning materials in a classroom, we more emphasizes it is a personal lifestyle and should become a part of social sharing activity so that everyone can learn more from each other. The abilities of finding keywords and make a short summary are the most important parts of learning by oneself. In this paper, we construct a sharing platform, Pocket Note Sharing System (PNSS), to record/share the notes of every student in a class directly on an Android mobile device. We proposed students to use our system to take notes/make summaries from the learning material anytime and anywhere. They can share/discuss and even learn how to make a compact summary through a social process. This system can also been used by instructor to do immediate note correction for their students or share note examples to everyone.

Keywords : Social sharing activity, Pocket Note Sharing System (PNSS), Android

I. Introduction

Learning is actually a personal activity, and can include different learning styles for different learners. Some papers emphasized the importance of interactions between learners and instructors or even among different learners. (*Zhang and Nunamaker, 2004*), indicated the learner-centered activity can be as efficient as conventional classroom learning. Learning can involve more personal styles. (*Corbeil and Valdes, 2007*), mentioned the benefits of mobile learning. By use of the portable computing / communication devices, user increases the learning flexibility and gets even more opportunities for interaction. Eventually, it may support all learning experiences that are collaborative, accessible and integrated among different learners. Learning can become a personal lifestyle, and learners should try to learn more from each other.

In this paper, we proposed to use the most popular mobile platform "Android" to implement a learner summarization sharing system, Pocket Note Sharing System (PNSS). We constructed an environment for user to take/share their notes in a class and a place to discuss specific learning topic.

The remainder of this paper is structured as follows. Section II presents the related work. Section III shows the architecture and abilities of our system. Section IV concludes the paper. Section

V highlights future works to be undertaken.

II. Related Works

(*Friend, 2000/2001*), indicated summary written has four defining features : (a) It is short, (b) It tells what is most important to the author, (c) It is written "in your own words", and (d) It states the information "you need to study." which let students to think about the passage and relate the ideas to one another for constructing a summary. (*Hidi and Anderson, 1986*), states a good summarization, which is written for others (reader-based), can help facilitate learning that it helps readers clarify the meaning and significant of discourse. (*Kaplan and Chisik, 2005*), provided a prototype system "Alpha" which supports rhetorical marks and note writing which suggests future digital libraries to create dynamic and social reading environment. It expands the summary writing to digital libraries.

Recently mobile devices with ability to access wireless network are popular. As we know "Android" is the most success system used on current mobile devices. It has some key features: (a) It is open source; (b) It breaks down application boundaries; (c)The application develop is fast & easy; (d) It considers low power consumptions for mobile devices. (*Kundu and Paul, 2010*), (*Gavalas and Economou, 2011*).

Based on above literatures we developed a learner summarization sharing system to share the summary in class to every user. It is constructed on the Android so that it is very easy to be installed onto most of the mobile devices. Students can use our system to learn sharing & maintaining personal profile. Instructors can get control of students' learning progresses and express positive or negative summary examples to their students.

III. System architecture

Pocket Note Sharing System (PNSS) is an application based on Android, and the system structure is a 3-Tier Client/Server, due to it is usually not suggested to communicate system with database directly, and this way we can reduce the client loading as well.

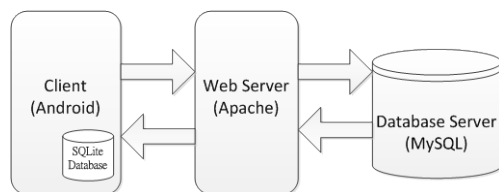


Fig1. System architecture

Client

Client is a mobile platform of Android system. Learner use mobile device to execute PNSS which is developed by eclipse platform in JAVA language. In order to communication with web server by http protocol, should insert associated classes about apache, as follows:

```

import org.apache.http.client.ClientProtocolExce
ption;
import org.apache.http.client.entity.UrlEncodedF
ormEntity;
import org.apache.http.client.methods.HttpPost;
import org.apache.http.impl.client.DefaultHttpCli
ent;
import org.apache.http.message.BasicNameValu
ePair;
import org.apache.http.protocol.HTTP;
import org.apache.http.util.EntityUtils;
import org.apache.http.HttpRequest;
import org.apache.http.HttpResponse;
import org.apache.http.NameValuePair;

```

Web server

Web server is constructed of apache, and in our work we used PHP language. PNSS can use the network to store and retrieve data on web-based services. That is web server plays a communication bridge between client and database.

Database server

Originally, Android system provides SQLite database to save persistent application data. SQLite is small, fast, and small memory footprint. Taking into account that the learner should change information and interaction each other, but SQLite is more suitable for stand alone, so that this study primary database is using MySQL of database.

IV. Conclusions

In order to let students share their notes, learn how to make a compact summary, and actively maintain their

learning profile. We develop a summary sharing system, PNSS, which can provide every student a sharing platform to interact. The sharing system is built by the Android system so that every user can use mobile device to edit their learning profile very easily.

V. Future Works

Our system indeed supports basic text reading/editing function for user to create their summaries and discuss on the related topic, but we still can't support some usual document formats, such as Word, PDF, Excel or Power Point. It will be good if we can support these formats due to they are usually used on a class material.

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