STUDENT ASSISTANCE SYSTEM BY CU LINK CARD

LYU1501 FINAL YEAR PROJECT DEMO
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Outline

- Backend improvement
- Kiosk
- New Function to Android Application
- iOS application
- Demo
- Real world deployment
Backend improvement

- MySQLi
  - Avoid SQL injection
- Changes in database structure
  - Student without NFC-enabled smartphone
  - Kiosk
  - New table in database (Student card UID, temporary login code [QR code])
The Kiosk

- Use of Kiosk
  - Serve users who do not have a NFC Android phone

- How to use?
  - User tap their CU Link on it
  - QR code generated and displayed on screen
  - Use mobile application to scan the QR code
Design of kiosk

- Parts:
  - Android Phone
  - NFC Antenna
  - Power Supply
New Function of Android Application

- In semester 1, only NFC supported Android phone can use the app
  - For not supported phone, the app will be hided from Google Play

- View coupon by QR code
  - Work with QR code shown on kiosk
  - NFC supported phone could also use QR code to view coupon by options in menu
Work with QR code

- **ZXing Barcode Scanner**
  - Download from Google play

- How to use?
  - Click “scan QR code”
  - Scan QR code on kiosk
  - View your coupon

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**Verification Code**

Scan QR code on kiosk to view your coupons.

arrison code

Detailed instructions:
1. Find the HW coupon kiosk outside SHB101.
2. Tap your student card to get the verification QR code.
Remark: You need to install Barcode Scanner to scan QR code.
iOS application

- Similar with android application, without NFC function
iOS application

- **Function:**
  - Scan QR code at kiosk
  - Get list of coupons
  - Decide want to consume or not

- Used frameworks to speed up development progress
  - QRCodeReader.swift
  - Ready to use template
Demo
Real world deployment

- Deploy in CSCI3100 in 2015/2016 term two

- Reasons why choose CSCI3100
  - Second term course
  - Homework coupon
  - Large class (225 students)

- Course starts at 11/1/2016
Deployment Method

- App uploaded to Google Play
- Both physical coupon & virtual coupon
- Submit homework: clip physical coupon & write down virtual coupon code
- Tutors email us the code
Deployment Method

- Leaflet
- No system crash / application not responding errors (Google Play)
**Project schedule**

- **December 2015**
  - 12/31/2015: Finalizing Android App
  - 1/14/2016: Android App: Version 1.0
- **January 2016**
  - 1/17/2016: Android App: Version 1.0.1
- **February 2016**
  - 2/1/2016: Software of kiosk can display temporary ID in numbers (instead of QR code)
  - 3/3/2016: Finalizing iOS App
  - 2/8/2016 - 2/16/2016: Chinese New Year
- **March 2016**
  - 3/12/2016: Software of kiosk supports QR code
  - 3/17/2016: iOS App supports scanning QR code
- **April 2016**
  - 4/5/2016: Kiosk ready at SHB 1/F
  - 4/20/2016: Last Lesson of CSCI3100
- **May 2016**
  - 5/3/2016: CSCI3100 Exam
  - 5/6/2016: End of course CSCI3100

**Dates and Notes**

- December 1, 2015: Confirmation of deploying this project in course CSCI3100
- 12/16/2015: First lesson of CSCI3100
- 1/11/2016: Last lesson of CSCI3100
- February 16, 2016: Chinese New Year
- May 7, 2016: CSCI3100 Exam
130 coupons have been distributed during classes

52 students get at least one coupon

Max number of coupons got by one student: 7
There are 29 downloads for our application
- 13% of the student have downloaded the application

Most of users (74%) have updated their application
7 Coupons have been transited from one student to another student

<table>
<thead>
<tr>
<th>fromStudentID</th>
<th>toStudentID</th>
<th>tranTime</th>
<th>fromCouponID</th>
<th>couponID</th>
<th>eventID</th>
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- 8 coupons is consumed
  - One of the student have used 4 coupons

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<th>couponNo</th>
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</table>
Statistics

- 45 different NFC cards have been tapped on the kiosk
  - While only 5 of the NFC cards contain coupons

<table>
<thead>
<tr>
<th>count(DISTINCT couponID)</th>
<th>studentID</th>
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<tbody>
<tr>
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<td>16CE634C</td>
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<td>1</td>
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