Eksibition
Virtual Exhibition Guide on Smart Phone
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3. Google Maps Integration
4. News System
5. Account Management
6. Multiple Language Support
7. Web Admin Panel
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Term 1 Recap

Features Developed in term 1:

• Showing information for closest item automatically
• Ticketing System supporting Apple Pay and Apple Wallet
• In-door navigation indicating user’s location
• Counting the number of like and share of each item
• Force Touch shortcut
Term 2 Objectives

- News System
- Account Management
- Map Integration
- Multiple Language
- User Behavior Analytics
- Web Admin Panel
Maps
Google Maps SDK for iOS

Integrate base maps, 3D buildings and indoor floor plans

Add custom markers, info windows and polylines
Custom Markers & Info Windows
Custom Markers & Info Windows
Direction Mode
Info Panel

- Estimated time: 15 mins
- Estimated distance: 2.5 km
- Exit direction mode
News
News List Design

Front

Back

Background Image

Labels

Gradient Layer
The 7th Anniversary of Professor Charles K. Kao's Nobel Prize

In 2009, Professor Charles K. Kao, former Vice-Chancellor of CUHK (1987-1996) and ‘Father of Fibre Optics’, received the 2009 Nobel Prize in Physics from Swedish King Carl XVI Gustaf at the Concert Hall in Stockholm, Sweden on 10 December 2009 amid warm applause.
Apple Push Notification Services
Pushing Notification With Node.js

- Node.js Module: APN Agent
  - Permanent Connection
  - Device Token
- Notification Payload: JSON object
Core Data for Offline Mode

Server Side

Client Side

Local SQLite Storage

newly fetched news data

last fetching time

update last fetching time
Account Management
Account Types

• Register with email address

• Register with Facebook account
Client Side Design
Account Manager Singleton

<table>
<thead>
<tr>
<th>AccountManager</th>
</tr>
</thead>
<tbody>
<tr>
<td>isLoggedIn() -&gt; Bool</td>
</tr>
<tr>
<td>logOut()</td>
</tr>
<tr>
<td>logIn(withAccessToken token: String, userId: String, nickname: String, imagePath: String)</td>
</tr>
<tr>
<td>accessToken() -&gt; String</td>
</tr>
<tr>
<td>userId() -&gt; String</td>
</tr>
<tr>
<td>nickname() -&gt; String</td>
</tr>
<tr>
<td>imagePath() -&gt; String</td>
</tr>
<tr>
<td>printCurrentUserUserInfo()</td>
</tr>
</tbody>
</table>
Register

1. register API is called

2. email & password provided?
   - Yes: email not used?
     - Yes: save as a new user
       - success: response with user data
       - fail: response with fail code 480
     - No: response with fail code 481
   - No: response with fail code 480
Login

login API is called

- type
  - facebook
    - response with fail code 480
  - email
    - email & password provided?
      - No
        - response with fail code 480
      - Yes
        - Check email & password in database
          - response with fail code 480
          - success
            - response with fail code 481
            - response with user data and token
    - facebookld provided?
      - No
        - response with fail code 480
      - Yes
        - new facebookld?
          - No
            - response with fail code 480
          - Yes
            - save as new user account with facebookld
              - response with user data and token
Multiple Language Support
Local Text

- Language Control Singleton

<table>
<thead>
<tr>
<th>Localize Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>initAppLanguage()</td>
</tr>
<tr>
<td>appLanguage() -&gt; String</td>
</tr>
<tr>
<td>setAppLanguage(language: String)</td>
</tr>
<tr>
<td>localizeString(key: String) -&gt; String</td>
</tr>
</tbody>
</table>

en-US: English
zh-hant: Traditional Chinese
zh-hans: Simplified Chinese
Text from Server

- Language dictionary in returned JSON object

```
"title": {
  "languages": {
    "zh-Hans": 2,
    "zh-Hant": 1,
    "en-US": 0
  },
  "content": [
    "University Station Exit A",
    "地鐵大學站A出口",
    "地铁大学站A出口"
  ]
}
```
Text from Server

- Refined database schema

```
Item:
...
title: String,
description: String,
...
```

```
Item:
...
title: String,
description: String,
...
title_zh_t: String,
title_zh_s: String,
description_zh_t: String,
description_zh_s: String,
...
```
Admin Panel

Sign in

YOUR USERNAME OR EMAIL
Username

PASSWORD
Password

LOGIN

SIGNUP

Forgot password?
Backend Code Revision

- Standardize HTTP Response
  - New Module: AppHelper
- Protecting APIs with Middleware
Video Demonstration
Summary

• All features listed in term 1 report are developed:
  • Maps & News
  • Account Management & Multiple Language Support
  • User Behavior Analytics

• We also make some other optimizations:
  • Integrated Soundtrack Player
  • Web Admin Panel
  • Backend Code Revision

• Possible future development:
  • Multiple languages support in push notifications and soundtrack
  • Support more complex news format
  • Bind Facebook account with email account
Thank You