

LYU1402 Indoor Location Service with iBeacon

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2014-2015

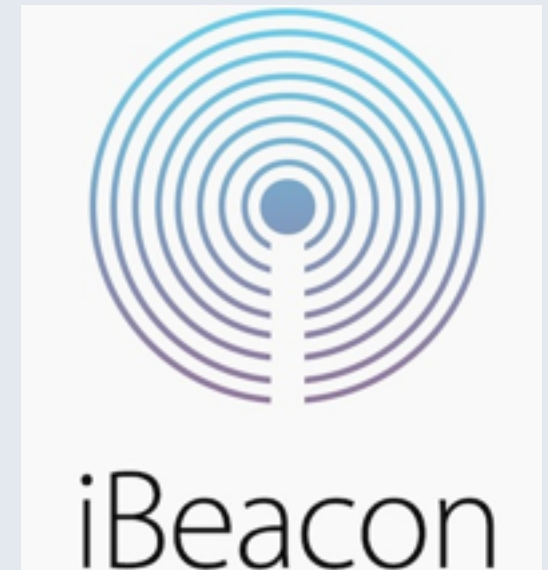
Term 1

Final Year Project
Presentation



iBeacon

- Trademark of Apple @2010
- Bluetooth Low Energy (BLE)
- Transmitter + smart phone
- Approximate my location



Specification

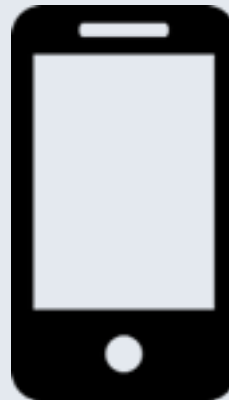
Fields	Size	Description
UUID	16 Bytes	Application developers should define an UUID specific for their app and deployment use case.
Major	2 Bytes	Further specifies a specific iBeacon and use case. For example, this could define a sub-region within a larger region defined by the UUID.
Minor	2 Bytes	Allows further subdivision of region or use case, specified by the application developer.

Comparison between NFC & BLE

	NFC	BLE
Range	4 - 20 cm	20 - 35 m
Platform	Not supported by Apple Devices	Cross Platform
Mode	Active (Need to touch)	Passive

Use case

- Walking into an Starbucks
- Starbucks with iBeacon installed
- Turn on Bluetooth
- Starbucks mobile app will know
- Starts up by itself



Other applications

- Not just Starbucks
- Applied into different places
- Museums
- Zoos
- Hospitals
- Airport
- Retails shop
-



With such useful device...

- Can we make money from it?

- See the ads within the app?
- Mobile advertising platform invented by Apple
- Allow developers to add it into their app
- Shows ads according to purchasing history
- ..or location collected with GPS

iAd disadvantages

- Bad user experience
- No selection policy
- Need an application to show the advertisement
- less interaction

- Use iBeacon to show advertisement
 - ads according to the location
 - Without the needs of having an app
 - Further interactive with the ads



- Notification with iBeacon
- Push notification - current location & advertisement
- Can be used by both iPhone & iPad. Since iPad has a larger screen, we use iPad for demonstration.

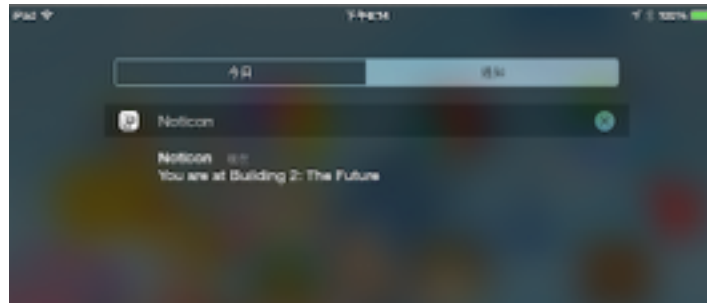
Scenario

- Install iBeacon inside the lifts
- When enter the lift, iBeacon triggers the phone to push a notification
- Interact with the poster easily.



Demo





1. Get near to an iBeacon

2. Push a notification

3b. Ignore

3a. Click on the notification



4. display the ads



5a. ranking

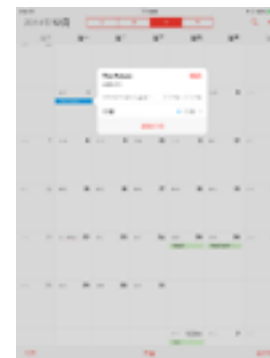
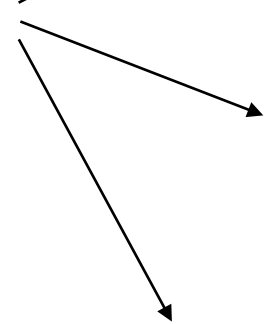


5b. feedback

5c. Save for later



6. View again



5d. Add to Calendar

Program Flow

User Interface

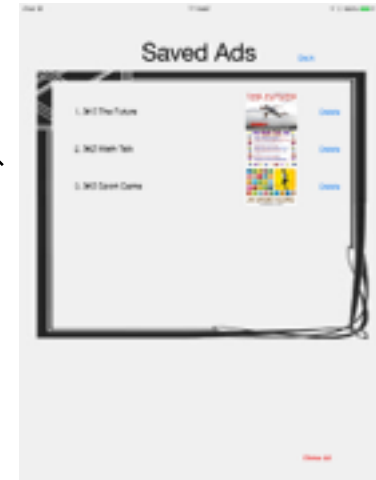
1. AppDelegate



2. Menu



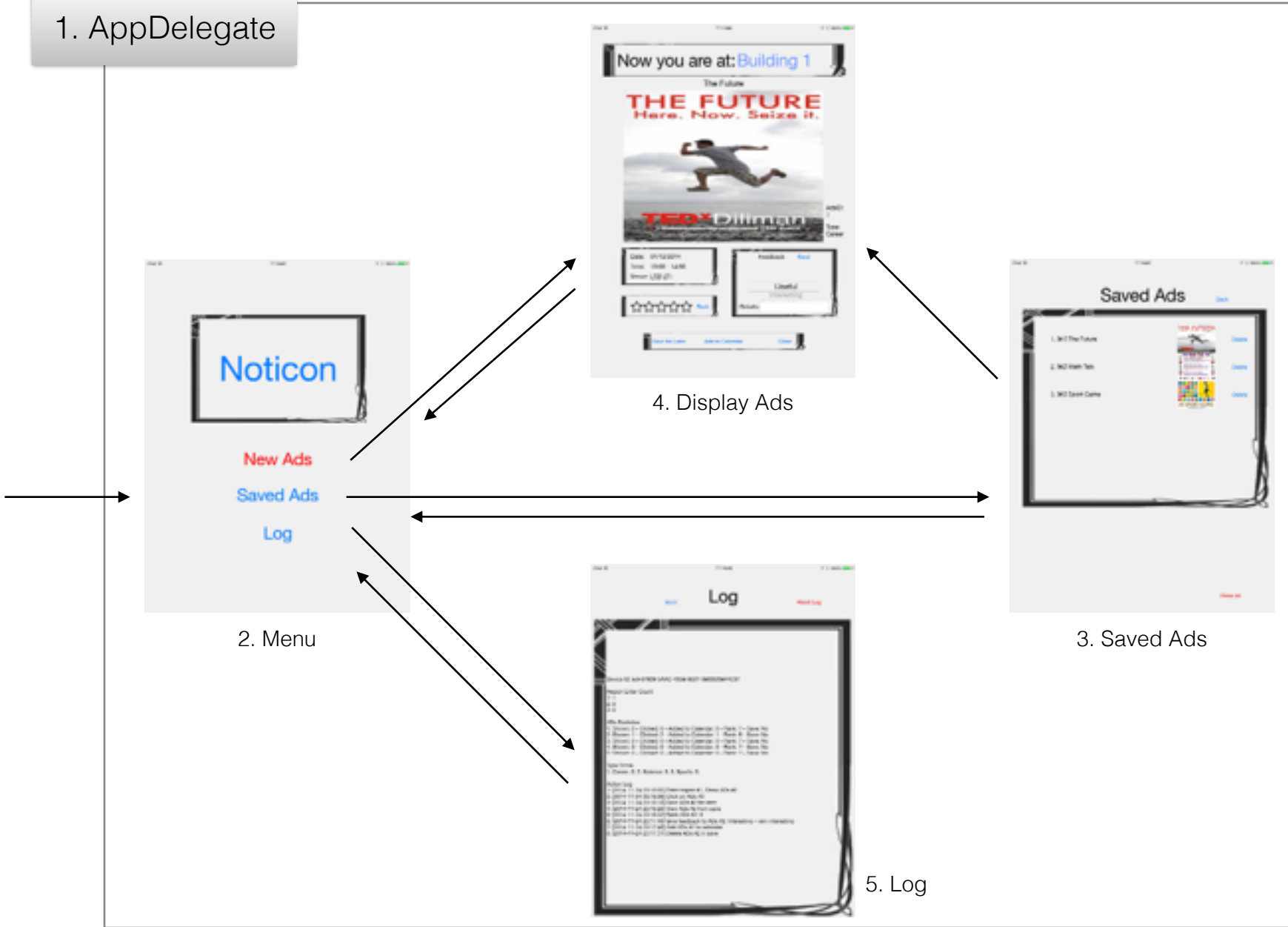
4. Display Ads



3. Saved Ads



5. Log

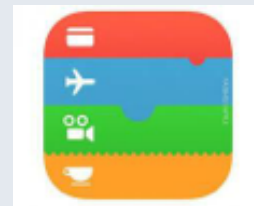


Selecting an ads

- If the user ranks 4-5 stars or add the event to calendar, it means the user may like that type of ads.
- Next time display an ads of the same type.
- Also if ranks for 1-2 stars, the user may not like that type of ads, the app will display another type of ads.

Further implementation

- Create a library
- Update region / ads from server
- Send log to server for more analysis
- More dynamic layout for displaying the ads
- Include Passbook



Q&A