WP6

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1 Application and Goals Overview

1.1 Outline

As online retail sales continue to increase, traditional physical retail stores are seeing margins dissipate as they struggle to offer discounts to combat against sales lost to online retailers. Sales are being lost to online for a myriad of reasons. One key reason is that traditional stores are unable to match the level of personalisation delivered by online retailers that can access a rich pot of information about their users. Traditional retailers need cloud-based services that customers can use to replicate the online shopping experience when they are in-store using their mobile devices.

This use case will examine the role that recommendation systems and data analytics can play in providing a shopping experience for a user. OPENi enabled applications will allow a cloudlet collect data around a user's preferences and activities. Applications that are allowed access to this information can tailor shopping experiences towards the user.

This use case is reliant on the combination of information from several different social networks, apps, and services. Additionally, various cloud-based services will be accessed via the OPENi APIs and combined with information stored in consumers' individual OPENi personal cloudlets to deliver product recommendations. Without access to this disparate information or to the various cloud-based services this application could simply not exist.

There are numerous challenges to be overcome if this app is to be realized. These include issues regarding the security and privacy of the consumer but the real challenges to be overcome are of a technical nature. To provide relevant recommendations on a mobile device, based on the purchase history and social connections of a consumer, is an incredibly complex problem. Likewise, the ability to perform analytics on the data gathered and provide retailers with useful information presents many challenges in terms of both data processing and also data storage.

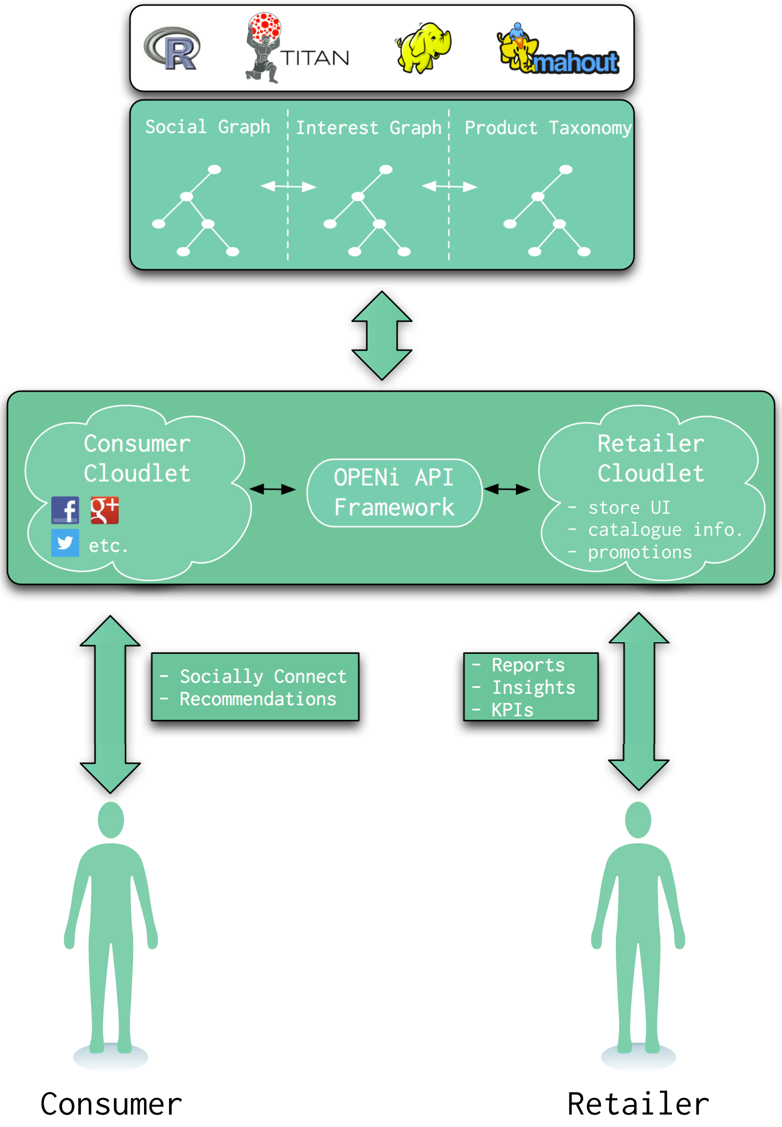


Figure 1: App concept

1.2 OPENi Solution

The Personalised In-store Shopping Experience will use OPENi to deliver heavily personalised in-store shopping experiences. This use case will validate that OPENi can enable the delivery of personalised shopping experiences on a mobile device through demonstrations of working prototype apps in a virtual in-store environment. The use case clearly describes how information from many different social networks, app and services can be combined to power a service that could not exist without that information.

A user enters an electronics retail store with a Personal Shopping Assistant (PSA) app on their smart phone. The PSA detects what store the user is in using the Facebook places API. The PSA knows that user is a member of a Sociable Loyalty Club (SLC). The SLC automatically (based on existing user granted permissions) checks the user into the store on Facebook and the user receives SLC loyalty points for checking in and letting their friends know that they are in the store.

The PSA then reads personal information from a disparate set of services through the OPENi API and manipulates it to present the user with a set of personalised purchase recommendations including:

- Friends bought shows a list of available products that friends bought (uses SLC purchase info, Facebook friend info and the stores inventory cloudlet)
- Wishlist Items shows a list of products that the user has added to their My Wishlist cloudlet while browsing the web, scanning barcodes of items they have seen advertised on TV or print media (uses the My Wishlist info)
- You Might Need shows a list of newly available accessories for the electronic devices that the user has bought in the last 12 months (by matching items from the users Payments History Cloudlet and the stores inventory cloudlet)
- Recommended - shows a list of items available in-store from manufacturers that the user has liked on Facebook (uses Facebook likes info and the store's inventory cloudlet)

The user purchases a device from the My Wishlist items using the OPENi Wallet service through the PSA app. The PSA app then shares the purchase on the users Facebook wall and writes to other relevant APIs through OPENi to register loyalty points on the SLC, to remove the Item from the MyWishlist service and adds the device warranty to the users My Warranties cloudlet.

The use case not only benefits the retailer by allowing them to offer a personalised in-store experience but also assists the user by managing warranty registration etc. and by conveniently allowing them to share information into their social networks.

1.3 Simplified App Flow Overview

- User enters store and they/the app checks in
    - Logged in via fb
    - checking into the store gets them reward points
- Then user can then see
    - Friends bought
        - checks users friends list against users that checked into the store
        - if it finds a match it displayers their purchased items
    - Wishlist
        - need to think more about this
    - Recommended items
        - a simple version would be checking what companies the user has 'liked' and matching this to products stocked in-store

The following figures highlight the core pages/elements of the PSA app.

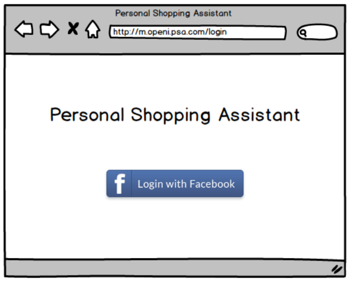
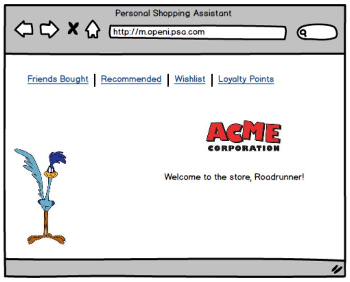
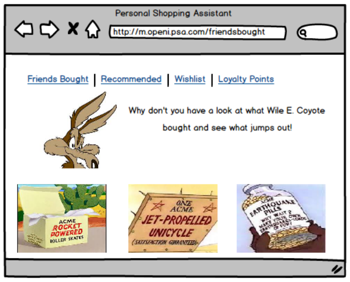

Personal Shopping Assistant
http://m.openi.psa.com/login
Personal Shopping Assistant
Login with Facebook

Figure 2: Login Page


Personal Shopping Assistant
http://m.openi.psa.com
Friends Bought | Recommended | Wishlist | Loyalty Points
ACME CORPORATION

Welcome to the store, Roadrunner!

Figure 3: Home Page


Personal Shopping Assistant
http://m.openi.psa.com/friendsbought
Friends Bought | Recommended | Wishlist | Loyalty Points
ACME ROCKET POWERED ROLLER SKATES
ONE ACME JET-PROPELLED UNICYCLE (SATISFACTION GUARANTEED)
ACME EARTHQUAKE PILLS WHY WAIT? MAKE YOUR OWN EARTHQUAKES-LOADS OF FUN!

Why don't you have a look at what Wile E. Coyote bought and see what jumps out!

Figure 4: Friends Bought Page

2 App Feature Mapping to Use Cases

Points to cover

- Mapping envisioned app features to WP2 use cases (with covering %)
  - Of the 15 relevant user stories identified in D2.5 we aim to address all of them in the development of the prototype
- Which WP5 SE will be used
  - Recommender
  - Analytics
  - Timeline?

2.1 Mapping to WP2

D2.4 describes three particular scenarios in the context of this app, and each of these will be addressed in the development of the prototype

1. Retailer Signup
2. Consumer Experience
3. Retailer Analytics

2.1.1 Retailer Signup

During the online signup process the retailer supplies details to OPENi. These include basic registration information such as primary company contact details, information pertaining to its inventory, along with their web site and social network information. This information includes

- It's catalogue of items for sale
- A set of custom assets associated with its brand
- Participating social network details
- Details of its loyalty program

2.1.2 Consumer Experience

The consumer experience centres around the following proposed features

- Friends Bought
- Recommended Products
- Loyalty Rewards

2.1.3 Retailer Analytics

Consumers that have interacted with Acme Inc. through the personal shopping assistant application will have generated a significant data trail in the form of purchase intenet information (products viewed, products liked/shared, comments made etc.). This data will be analysed and a set of reports generated. The source data for these reports is held as metadata within the retailer's cloudlet and also within the consumers' cloudlet. Acme Inc. will use the analytics on an on-going basis to update the products available to OPENi and also the branding and messaging delivered through the OPENi consumer applications.

3 Components Based Effort Allocation

Points to cover

- Key features/tasks of the app that corresponding partners will be involved with
  - Betapond
    - UI/UX, Analytics SE integration
  - NTUA
    - Recommender SE integration
  - WIT
    - Cloudlet/Cloudlet communications?
  - Ambiesense
    - Timeline SE integration?
- Verify and report on task partners interests given current project evolution
  - Still needs to be done