OPEN INNOVATION IN THE MOBILE APP ECOSYSTEM: OPENi PERSPECTIVE ON APIs & SOCIAL WEB

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OPENi consortium

7 EU R&D partners
Academia (3) + Industry (4)

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Start date: October 2012
Duration: 30 months
**OPENi – high level objectives**

- bring innovation in the mobile applications industry
- radically improve the interoperability of cloud-based services
- radically improve trust model in personal cloud storage
- develop a consumer-centric, open-source mobile cloud applications development framework & platform

**OPENi - 3 high-level use cases for social web applications**

- **MyLife**: applications that produce/use consumers daily produced data for sharing with social graph (*PhotoLife, MedicalLife, FinancialLife, MessageLife*)
- **Consumer-Controlled personalized advertising services**: applications that monetize through context based personalized advertising with explicit fine-grain control from end-consumers
- **Personalized in-store shopping experience**: applications that build personal assistance and recommendation

**OPENi in a nutshell**
OPENi challenges for the social web and mobile app ecosystem

- reduce complexity for application developers – one API (flexible & extensible)
- enable a new wave of innovation for social web/app developers (build context)
- enable privacy by design while retaining sharing from consumers (enable privacy)

OPENi vision:
a consumer-centric, open source mobile cloud applications solution that will be the catalyst for mobile application innovation advancement.

OPENi platform/framework:
consumers hold their personal data in their OPENi cloudlets (by copy or by reference)

OPENi platform allows developers to use OPENi cloudlet data if consumers opt-in

OPENi framework offers a universal API to access related cloud services and data for developers

OPENi GRAPH API & CONTEXT API
Open Source, Web-Based, Framework for Integrating Applications with Cloud-based Services and Personal Cloudlets.

OPENi GRAPH API – model Cloudlets & APIs

Graph API

- Simple Triples
- Social objects

Location API

Activity API

Profiles API

Media API

Products & Services API

Activity Streams

OPENi

- foursquare
- Google Places
- Instagram
- last.fm
- YouTube
- tumblr
- Dropbox
- SkyDrive
- Etsy
- eBay
- RunKeeper
- Facebook
- Twitter
- Google Contacts
- Google admob
- Google Analytics
- CITYGRID
- mixpanel

OPENi GRAPH API

- Activity API
- Location API
- Profiles API
- Media API
- Products & Services API
- Simple Triples
- Social objects

OPENi GRAPH API - activity streams/graph

- JSON format (extension or not)
- Actors
- Objects Types
- Properties serialization

+ context
+ non-social objects, connections, aggregations

- Objects
- Aggregations
- Connections

Facebook Graph API

Activity Streams

CRUD (verbs)
**OPENI GRAPH TO MASH-UP CONTENT**

**Universal index**

- API_PATH/users
- API_PATH/me
- API_PATH/me/objects
- API_PATH/me/activities

**Cloudlet resolver**

- API_PATH/[ACCOUNT_ID]
- API_PATH/[ACCOUNT_ID]/objects
- API_PATH/[ACCOUNT_ID]/activities

- API_PATH/[OBJECT_ID]
- API_PATH/[OBJECT_ID]/objects
- API_PATH/[OBJECT_ID]/activities

- API_PATH/[AGGREGATION_ID]
- API_PATH/[AGGREGATION_ID]/objects
- API_PATH/[AGGREGATION_ID]/activities

*Filter by account

Service specific

**OPENi GRAPH API – universal index**
JSON EXAMPLE : GRAPH DATA FOR PHOTO

```
{
  "object_type": "photo",
  "service": "openi",
  "id": "1231232142450054",
  "url": "http://api.openi-ict.eu/1231232142450054",
  "profile": {
    "title": "This is the title of the picture. If any.",
    "description": "This is the description of the photo. If any.",
    "format": "JPEG",
    "size": "5Mb"
  },
  "properties": {
    "width": 145,
    "height": 150,
    "tags": "Athens"
  },
  "from": {
    "id": "5555",
    "username": "myname",
    "service": "openi",
    "object_type": "person",
    "url": "http://api.openi-ict.eu/5555"
  }
}
```

OPENi object fixed parameters

predefined sets of properties

object specific properties

actor: AS-based
OPENi context API goals:
- Context API will correlate OPENi graph objects with metadata
- Metadata will be varied per OPENi application allowing application providers to model different context for each OPENi object depending on the utility they would like to offer

OPENi contextual data:
- [location], [user], [favorite], [tag], [area], [note],[time], [popular], [suggestion] [custom per application]

OPENi Context API example cases:
- **MyLife app**: two close family members are connected to share photos in a OPENi enabled social network, the app identifies context and shows photo higher in users’ feed
- **consumer-controlled personalized advertising**: advertisers can target opted-in football club fans with promotions for their off ticket season if the users have not bought tickets (from another OPENi enabled app)
- **personalized in-store shopping experience**: recommendations are provided to in-store customers based on what their close friends have bought through OPENi enable applications
Defining Context API e.g.,
- W3C Ubiquitous Web Domain Delivery Context (DCO)
- Activity Stream Working Group
- Intel Cloud Service Platform

Social API e.g.,
- Mozilla Social API
- Yahoo! Social API
- Drupal Social API

Social-aware Context API framework
- Social graph with weights the context of that connection.
- Combining social-aware contextual information from one application with another.

One API & Privacy e.g.,
- W3C Customer Experience Digital Data Community Group
- GSMA One API

How to build a Social-aware Context API....?
“Open-Source, Web-Based, Framework for Integrating Applications with Social Media Services and Personal Cloudlets”

www.openi-ict.eu

ITs BEEN A PLEASURE!