PSAB
An open source Participatory Sensing App Builder

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Motivations

Provide a tool in order to create customized applications for data collections, which the following characteristics:

- Easy to use
  - No special skills required, only a web browser is needed
- Open Source
- Multi-platform
  - Web
  - Android
  - iOS (work in progress)
- No data-silos
  - Metadata are published taking advantage of existing standards
Architecture & Software stack

- **Django**: djangoproject.com
- **WQ**: wq.io (Django)
- **pycsw**: pycsw.org
- **PostgreSQL + PostGIS**: httpd.apache.org
- **HTTPD**: httpd.apache.org
- **Cordova**: cordova.apache.org
- **Web Server**: Django
- **App 1**: pycsw.org
- **App 2**: pycsw.org
- **App 3**: pycsw.org
- **Metadat**: a
- **Catalog**: pycsw.org
- **PSAB Manager**: Django
- **DB 1**: httpd.apache.org
- **DB 2**: httpd.apache.org
- **DB 3**: httpd.apache.org
- **Synchronization via REST APIs**: httpd.apache.org
- **Clients (web)**: httpd.apache.org
- **Clients (web)**: Cordova

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**PRIN PROJECT**: URBAN GEOmatics for Bulk Information Generation, Data Assessment and Technology Awareness
“XLSForm is a form standard created to help simplify the authoring of forms in Excel. Authoring is done in a human readable format using a familiar tool that almost everyone knows - Excel.” -- [http://xlsform.org/](http://xlsform.org/)

- How to create an XLSForm?
- Web tools (easy to use, but limited)
- Manual editing (useful to extend simple forms)
# How it works

## Home

### Projects

<table>
<thead>
<tr>
<th>Application</th>
<th>Description</th>
<th>Tags</th>
<th>Creator</th>
<th>Creation</th>
<th>Downloads</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bike parking</td>
<td>Bike parking survey</td>
<td>bike, parking</td>
<td>frafra</td>
<td>March 20, 2018</td>
<td>GeoJSON, Metadata, Android</td>
<td>Manage</td>
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<td>Landcover</td>
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<td>maria</td>
<td>March 20, 2018</td>
<td>GeoJSON, Metadata, Android</td>
<td></td>
</tr>
</tbody>
</table>

### Services

- CSW endpoint: psab.localhost:8080/GetCapabilities
Create a new application

Fill the form

Title

Coverage

Description

Tags

A comma-separated list of tags.

Upload

Create (and wait)
PSAB app (example) - Add new data

Notes:

- Position can be manually set moving the pinpoint for better accuracy
- Data are stored locally and synchronized when an internet connection is available
Metadata

Dublin Core Metadata Element Set 1.1 - http://dublincore.org/documents/dces/

<table>
<thead>
<tr>
<th>Provided by the user</th>
<th>Computed automatically</th>
<th>PSAB defaults</th>
</tr>
</thead>
<tbody>
<tr>
<td>title, subject, description, coverage</td>
<td>creator, identifier, date</td>
<td>contributor, publisher, type, format, language, rights</td>
</tr>
</tbody>
</table>

Notes:
- **identifier**: URI to the resource (GeoJSON file)
- **subject**: list of tags/keywords
- **rights**: link to ODbL v1.0
Known issues and future improvements

- PyCSW incompatibilities with Python 3
- iOS support is on the way
  - Can be provided using Phonegap + iOS key
- Icons for multiple choices are not supported currently
- Better overall consistency, theming and customization
Thank You!

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