

# IWA Assignment 1

## Project Proposal

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### **General idea: what should the App do?**

The idea at the base of this proposal is to build a Web Application capable of locating events in the Netherlands in a neighborhood-based way and provide information about them.

The application targets every kind of user, and provides them with the possibility of viewing, almost real-time, what are the events and the activities in the vicinity that could be interesting to attend. By showing these events on a map the user can easily select them based on his current (or his desired) location, and access the additional information (time of the event, what kind of event is and so on).

The idea is to expand this information with external data: for example it would be interesting to know who *tweeted* about that particular event, and what did they say.

### **Datasets considered**

The main dataset at the base of this idea is the one provided by ArtsHolland (<http://dev.artsholland.com>) that contains information about events and venues in the Netherlands' biggest cities, publicly accessible cultural heritage sites, and reviews, articles and blog posts on these entities.

The data is stored in RDF format, thus obtainable with SPARQL queries, and manageable in XML or JSON. This makes it highly suited for this project and easily integrable in a web application.

Through this dataset it is possible to obtain various information, such as:

- exact date, starting and ending time of the event
- the genre of the event (exhibition, etc..)
- the name of the event
- the description (both short and long)
- the location address (both in text and coordinates) and its telephone number
- transport information to the event
- the webpage of the event

### **Vocabularies**

The main vocabularies used are the following:

- ArtsHolland (<http://purl.org/artsholland/1.0/>)
- RDF (<http://www.w3.org/1999/02/22-rdf-syntax-ns#>)

- RDFS (<http://www.w3.org/2000/01/rdf-schema#>)
- OWL (<http://www.w3.org/2002/07/owl#>)
- FOAF (<http://xmlns.com/foaf/0.1/>)
- Geo ([http://www.w3.org/2003/01/geo/wgs84\\_pos#](http://www.w3.org/2003/01/geo/wgs84_pos#))

## Data Integration

The data obtained from the SPARQL queries needs to be integrated inside the web application. In particular with the data obtained from two other sources:

### Twitter

The tweets about a particular event can be retrieved through the Twitter API, that provides RESTful operations to obtain trend or location based data. The tweets are returned in a JSON format.

### Google Maps

The Google Maps API provides an easy way to integrate a geographical visualization of the events on the client-side of the web application. Every pointer to a location is then expandable with information on the location itself.

The server side of the web application has the task of retrieving the data from ArtsHolland through SPARQL queries; once the list of events and the relative information has been obtained, the server will recover tweets relative to those particular events.

These data will be then returned to the client-side, that will proceed to integrate them with the Google Maps API, to present them to the user as a map representing the diffusion of events.

## Advantages of Data Integration

Considering that the data about the events is already available in one single dataset (ArtsHolland) a logical remark to this proposal would be “*Why do we need to integrate it with additional data?*”. The answer is quite simple: to provide additional personalization and enhance a *social* perspective on these events.

By providing the user with a geographical visualization of the events, it can not only be offered a simple and immediate view, but also allow personalization. The web application can in fact allow the user to specify a determined city or location on the map from which to choose the events (i.e. “all the events in a 5km range from Leidseplein, Amsterdam”), or even use geolocalization to provide the user information on what is going on around them.

By showing *tweets* about the events along with other information, the web application provides the user with a *social* view of the event: the user can be informed of what is the general opinion on that event, and even be compelled to attend if they discover that people they know are already intent on going.

## Conclusion

The advantages of building such an application reside in its scalability in size. It is easy in fact to adopt a spiral approach, given the limitations in time, and develop a first Minimum Viable Product capable of performing the basic functions of retrieving events and place them on the map with all the additional information (*tweets* included). However the application is expandable at will: a nice idea for a second stage of the spiral would be to provide the user with facets, in order to visualize for example only certain kinds of events.