

Project: Smart Catcher	Document: A location-aware application for smart cities
----------------------------------	---

1. Project overview

This project consists in the design, implementation and deployment of an application that allows a citizen to locate useful urban objects around him, such as bookstores, gas stations, hospitals, restaurants, hotels and so on as well as some basic related information.

The client side is developed under the Android mobile OS.

This application should query a complex provider infrastructure in order to retrieve a location based set of data, ordered by distance from the geo-referenced Android client. Distances will be updated during the citizen movements.

Users can define a subset of desired object categories via a personal profile.

The following topics are strictly involved in the project development:

- Software engineering of a client-server application
- Design of the client side (based on Android OS)
- Design of the provider side
- Scaling the provider side to a wide clustered context (this involves distribution as well as mirroring)
- Design of the related distributed data base
- Spatial queries optimization
- Data base indices design and testing

1.1. Smart Catcher schema

The following schema shows the idea behind the application.

