

On the Assessment of Online Geolocated Social Content for the Identification of Landmarks in Urban Area

Context



Main mobile web-mapping service applications (e.g. Google Maps, Yahoo Maps, Apple Plans) provide **wayfinding instructions** (verbal instructions) exclusively based on **street names**.

Research in **spatial cognition** showed that humans better interpret wayfinding instructions that contain **landmarks**. Therefore, researchers try to develop solutions that automatically detect landmarks. They are called **Automatic Landmark Detection Systems (ALDSs)**.



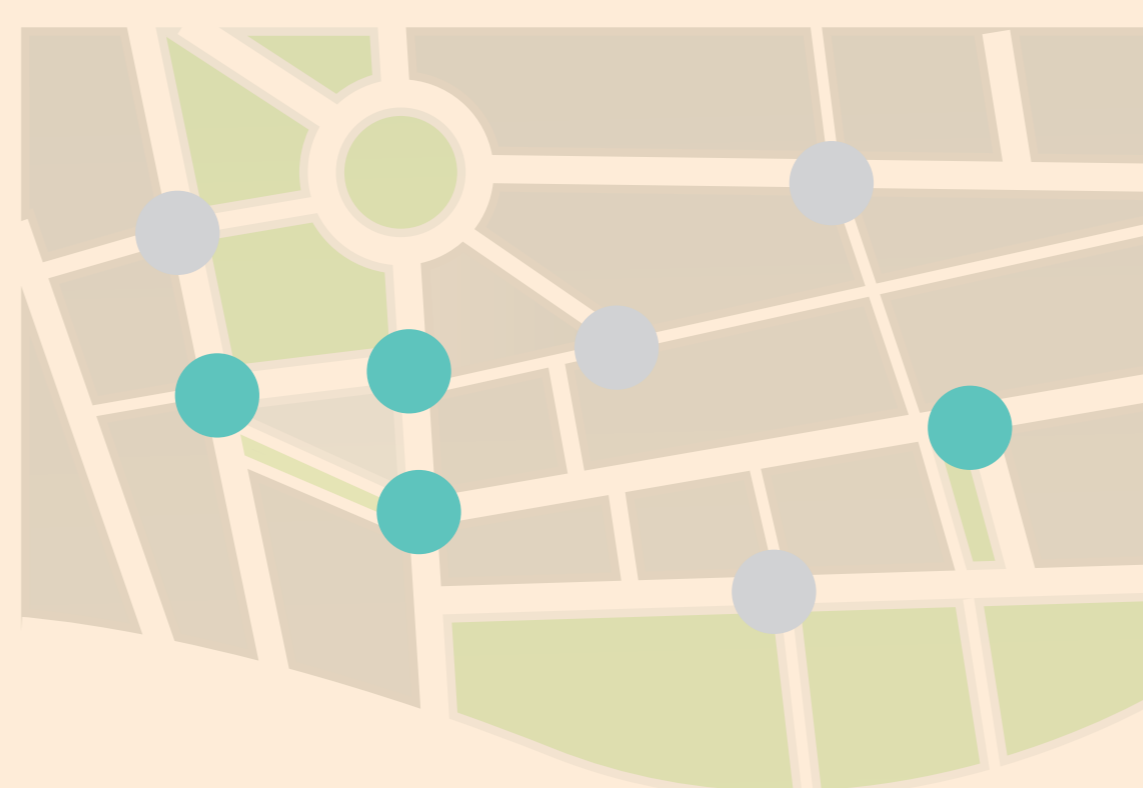
ALDSs detect landmarks using three criteria: visual, structural and semantic. **Visual** and **structural** attributes are easily measured through **static data**. However, ALDSs fail to take into account **Places' meanings** in the evaluation of **landmark semantic salience**.

Hypothesis

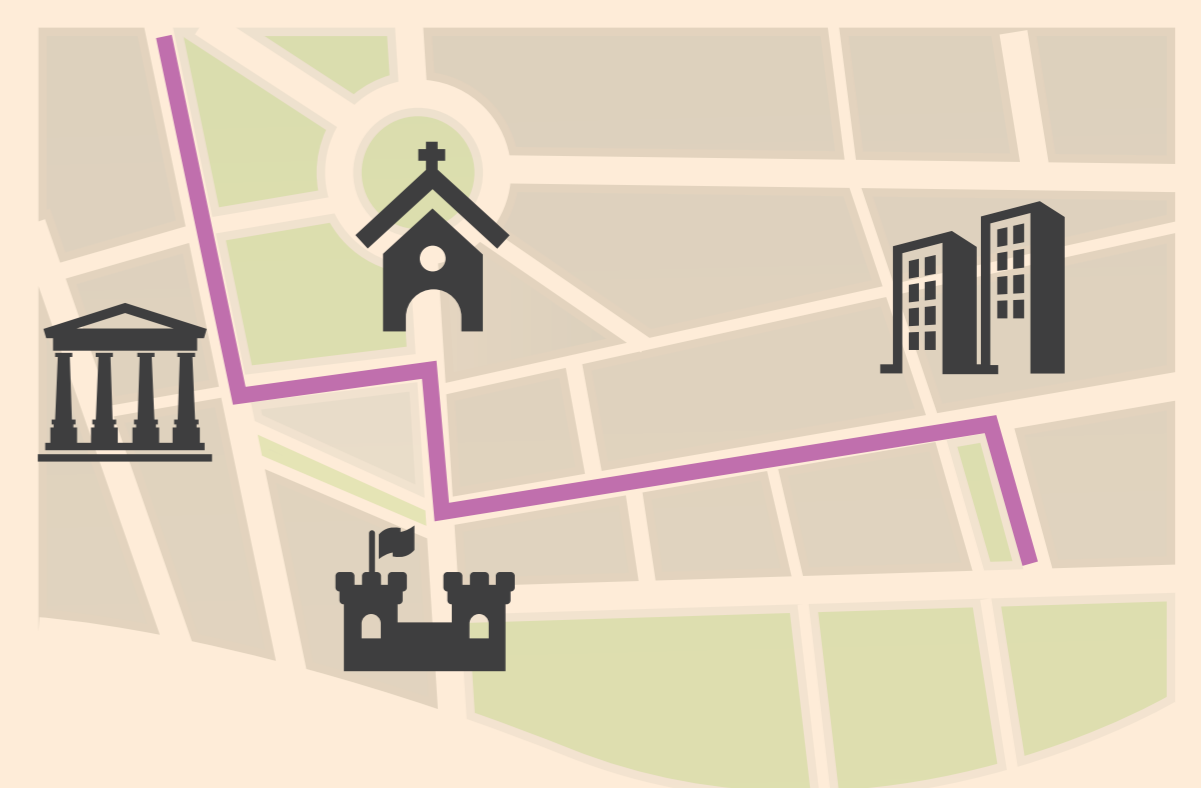
Location information shared on social media



Human Landmark Knowledge



Geosocial data-based Landmark Detection



Planned Experiment

In the context of our Ph.D. research, we plan to evaluate the reliability of **Facebook** and **Swarm** geolocated data through an experiment in **Quebec City**. Participants will be asked to **follow a route** and **select landmarks** along it. The objective is to verify if participants' selection match with landmarks determined through three scores: (1) an **estimation of landmark visual salience**, (2) a **uniqueness score** that takes into consideration the top-level category to which places belong, and (3) a **geosocial activity score** based on Facebook and Swarm check-ins, "like" mentions as well as the number of distinct users who have published one or more check-ins from a venue.