

Smart city ontology: Where are we living?

Ontologies and Semantic Web: Semester work

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1 Introduction

Modern cities are collecting a lot of data to fulfil their majors' promises about SmartCities. Unfortunately most of that data is still stored separately without any level of integration so it does not really server its original purpose. This work if focused on data and ontology about neighbourhood where you live and working with many interesting sources of multiple information fields. Prague - Czech capital - was selected as the best choice to start with, because there are many information sources, which can be used and mined.

Ultimate goal of this work is to design an ontology which covers interesting information about a certen location in a city as weather, parking spot status, future projects or public transportation and traffic limitation. Such information collection can server to anybody, who is looking for a new place for living as well as creating statistics about life quality.

2 Available data

Prague has really open policy about sharing data, so there are many sources that can used for the purpose of this semester work. As a research for this, following data access points were used:

1. Prague OpenData portal - [26]
2. Prague Geo portal - [6]
3. Technicka Sprava Komunikaci - [2]
4. Culture portal Kudy z nudy - [12]
5. Culture Prague portal Informuj - [1]
6. Dopravni podnik mesta Prahy - [5]
7. Cesky statisticky urad - [10]
8. Tenderarena - [14]

Within this data sources multiple interesting data sets were identified which are listed below in related categories. You can also find examples of the data in appendix and the data sets which are seriously considered for further work are recognisable with bold name.

- Parking
 - **Parking for handicap people** - [23, 22]
 - Parking for people with special privileges as diplomats or police - [25]
 - Parking for suppliers - [24]
 - Parking restrictions - [29]
 - **P+R parking** - [27, 28]
 - Paid parking - [32, 31]
- Nature
 - **Public parks** - [15]
 - **Flooding potential** - [30]
 - **Noise** - [8, 9]
- Culture - [12, 1]
- Ecology
 - **Waste collection** - [19, 7, 13, 20]
 - Separable waste - [18, 17]
- Public transportation
 - **Stops** - [21]
 - Delays and changes - [4, 3]
- Economy
 - **Common product price** - [11]
 - Flat price - [16]
- Future projects - [14]

Most of the sources can be merged on geo information, but more challenging is the section of Ecology to integrate all tables of all Prague parts and this will be the main focus of this work.

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