

Semantic Traffic Diagnosis with STAR-CITY: Architecture and Lessons Learned from Deployment in Dublin, Bologna, Miami and Rio

Reference:

F. Lecue, R. Tucker, S. Tallevi-Diotallevi, G. Liguori, M. Borioni, R. Nair, Y. Gfoukas, A. Rademaker, L. Barbosa, "Semantic Traffic Diagnosis with STAR-CITY: Architecture and Lessons Learned from Deployment in Dublin, Bologna, Miami and Rio", in the 13th International Semantic Web Conference (ISWC 2014), Trento, Italy, 2014, pp. 292-307.

Abstract:

IBM STAR-CITY is a system supporting Semantic road Traffic Analytics and Reasoning for CITY. The system has been designed (i) to provide insight on historical and real-time traffic conditions, and (ii) to support efficient urban planning by integrating (human and machine based) sensor data using variety of formats, velocities and volumes. Initially deployed and experimented in Dublin City (Ireland), the system and its architecture have been strongly limited by its flexibility and scalability to other cities. This paper describes its limitations and presents the "any-city" architecture of STAR-CITY together with its semantic configuration for flexible and scalable deployment in any city. This paper also strongly focuses on lessons learnt from its deployment and experimentation in Dublin (Ireland), Bologna (Italy), Miami (USA) and Rio (Brazil).