Open standards and interoperability: GTFS case

Standards represent common agreements that allow communication between systems, and by sharing publicly their technical specifications, unrestricted access or implementation, they qualify as open standards.

Concepts of Standard and Open ranging from free collaboration agreements up to those meanings that allow charges associated with “reasonable and nondiscriminatory” costs; Aspect that, from our perspective, is not the most important to specify in its formalization. For us, the fundamental importance of the notion of open standard is the interoperability of systems, and in their implications for the field of open data. Many of the challenges we encounter in the world of open data, are associated with little standardization of formats, making it difficult and expensive, as a result, crossing processes of information from different sources.

The European Commission defines interoperability as the ability of disparate dissimilar and diverse organizations and systems to interact towards mutually beneficial and agreed common goals. This interaction implies that the participating organizations share information and knowledge across business processes through the exchange of data between their respective information and communications technology systems.

The benefits associated with interoperability of open standards allow the participating organizations:

- Freedom of choosing the application to be used without worrying about compatibility issues; for example, the format of the document to read if you are working with a text processor.
- The possibility that our systems can talk to other systems; for example, allowing exchange medical, educational information, etc. This is vital in the field of open governments.
- The development of complex software systems. The World Wide Web is, in this case, the concrete example, whose interaction standards have been developed by the W3C.

As stated in the article Open Standards and Open Source: Enabling Interoperability, open standards have enabled the development of new applications that combine multiple data sources and created new opportunities for innovation between different actors like governments, companies of different size and citizens. Example of open standards in the software industry include TCP, IP (IETF) in the area of computer networks; HTTP, HTML, XML (W3C) in the field of exchange of information on the web; SQL (ANSI / ISO) in the field of databases and ODF (OASIS) in the field of electronic documents.

A particular success on open standards, it is the general transit feed specification (GTFS) defines a common format for public transportation schedules and associated geographic information. GTFS “feeds” allow public transit agencies to publish their transit data and developers to write applications that consume that data in an interoperable way.

Originally known as Google Transit Feed Specification, GTFS initially emerged in 2005 as a collaboration between the transit agency in the city of Portland TriMet and Google, as a strategy
to integrate information from public transportation to Google Transit initiative. In 2006 the first version of the GTFS specification under a Creative Commons license was published. Thereafter, third parties innovated in developing software for different purposes based on the standard. These include multimodal trip planner applications, schedule systems, mobile systems and data analysis tools among others. Thus, in 2010 GTFS changed its name to General Transit Feed Specification for more accurately represent its use by different applications that are not part of Google. Currently, over 500 transit agencies and 1000 cities and regions around the world publish their transportation information under the GTFS standard.

The project for the promotion of innovation and competitiveness (FIC) to encourage the use of public transportation in the city of Arica-Chile, the researchers have prioritized the use of open standard based on GTFS applications. This has allowed us to have a wide variety of tools, mostly unrestricted (open source) to develop software components involved in the project. The main advantage of this option has been on the future possibility of incorporating new features based on products that adhere to the standard as already discussed. Currently, you can access the platform through the trip planner website www.sitpa.cl

In the future, it is expected to implement the GTFS-realtime, specification, which will allow companies of public transport in the city of Arica to provide real-time updates on their fleet to application programmers. The applications that are developed may well show the location of each bus, reporting delays, cancellations and route changes that occur at the last minute. A local example of the benefits of open standards and interoperability

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