

dbrec — Music Recommendations Using DBpedia^{*}

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Abstract. This paper describes the theoretical background and the implementation of dbrec, a music recommendation system built on top of DBpedia, offering recommendations for more than 39,000 bands and solo artists. We discuss the various challenges and lessons learnt while building it, providing relevant insights for people developing applications consuming Linked Data. Furthermore, we provide a user-centric evaluation of the system, notably by comparing it to last.fm.

Key words: Semantic Web Applications, Linked Data, Recommendation Systems, Semantic Distance, DBpedia

1 Introduction

Since its first steps in 2007, the Linking Open Data (LOD) cloud has grown considerably, as shown in Fig. 1¹. However, besides recent initiatives outreaching how to build applications using it [5] [7], there is still room for more end-user applications (*i.e.* not semantic search engines nor APIs) that *consume* Linked Data. While we can argue that the data itself is the most valuable component, building innovative applications would lead to a virtuous circle enriching the value of this global network, by analogy with Metcalfe’s law [11].

In this paper, we describe dbrec — <http://dbrec.net> —, a music recommendation system based on Linked Data (in particular on DBpedia) offering recommendations for more than 39,000 bands and solo artists. In addition, a core component of dbrec is its explanation feature, provided as a side effect of using Linked Data for computing the recommendations. We provide a user-centric evaluation of the system in order to identify how it compares to existing systems, in particular with last.fm², and how users rate its novel recommendations. Furthermore, besides presenting the theoretical background and the architecture of the system, we also discuss some lessons learnt when building it, in terms of

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¹ Based on [2] and <http://richard.cyganiak.de/2007/10/10/10d/>

² <http://last.fm>