



Mobile tourist recommendation system for Metro do Porto

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Abstract. The metro is a means of transportation valued by tourists visiting the city of Porto. This project focuses on heritage as a resource to be valued and potentially differentiating resource for Metro do Porto. It is important to highlight the role of the information professional who, using information and communication technologies, can act in areas that are based on informational heritage. A mobile recommendation system was created that would convey to its user's information about the heritage of touristic and cultural interest that can be found nearby the metro stations. The project presupposed the analysis of all metro lines and stops; identification and description of points of touristic interest; determining the area of influence of each stop; creating categories to aggregate different points of interest; comparative study of online platforms to create the app.

Keywords: Recommendation systems, Informational Heritage, Tourism, Information professionals.

1 Introduction

We live in Portugal a time of development of tourism, being the city of Oporto, in the north of the country, its epicenter. In fact, tourism is, according to [1] a leading sector worldwide and in Europe, one in ten enterprises of non-financial nature belongs to tourism industry and employ around 12 million people.

According to the entity Turismo do Porto [2] users of Metro do Porto during the month of October exceeded six million passengers, which corresponds, according to the company, to a new maximum monthly demand. According to the same note of the company, the six lines of the Metro were used by a total of six million and 126 thousand people, a "historical maximum" of demand that represents a growth of more than 400 thousand validations, corresponding to another 8.3% of the than in the same month of last year.

Also, the average value of working day validations will have reached an "absolute record" with 237 thousand registered in October. The company explained that the numbers of the last months indicate that 2018 will be "the best year ever" in the search for the Metro. "According to the company," By the end of October, the number of customers has already reached 52.1 million, which represents an increase of close to two million and in the order of 3.6% over the previous year ". According to the company added, 2017 was the "best year ever" since 2003, when it started the commercial operation, with more than 60.6 million validations." [3]

Since the metro is a means of transportation highly valued by tourists visiting the city of Porto, it seems natural to develop a mediating platform of recommendation that provides tourists and other daily users with information about the heritage of touristic and cultural interest that can be found nearby the different metro stations. Effectively tourism of patrimonial, cultural and ethnographic value lives by the information that others have and is currently considered strategic for local development and it was based on this premise that this project was developed.

According to [4] the tourism industry has experienced enormous growth in the recent years boosted by the rapid evolution of information and communication technologies and internet access which simplified the access from users to large amounts of information regarding points of interest, travel plans, destinations. Indeed, recommender systems aim to assist users in finding services, places and items of their interest by mediating access to valuable information.

Tourism recommendation systems can be based on the implicit input of information through, for example, the detection and analysis of online tourist activity or explicit input through directly formulated requests for information [5] through which needs and wants are identified. And in the case of recommendation systems, mobile computing seems to provide ubiquity to mobile platforms [6];[5].

It is also pertinent to mention that providing information in a quick, safe, structured, targeted and convenient manner can provide not only tourists but all potential users (by the inhabitants and workers of that area) [7] a way for them to know the patrimony that is located near the stations of the metro of Porto that they use.

The increasing importance of the information heritage as an agent that generates value and a differentiating identity is nowadays an essential element for the creation of services and products offered by certain organizations. The Practicum Committee of the Degree in Information and Documentation Sciences and Technologies (IDST) of the Polytechnic Institute of Porto contacted the Metro do Porto in order to develop a project, in the course unit of Practicum related to the creation of a mobile tourist recommendation system associated with Metro do Porto.

It will be necessary to identify points of interest (POIs) that are near the Metro do Porto stations, thus promoting the use of the Porto metro through the connection of its stations to the heritage of tourist interest. After identifying the POIs, it will be necessary to gather information associated with these points of interest, analyze and structure this information and, finally, create an app in order to make this information available to tourists and others who use the Metro as a means of transportation in the metropolitan area of Porto.