

## **Lazarillo GPS**

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### **Introduction**

Lazarillo is a common word in Spanish, used to describe people who act as guides for disable people. The word originates from the story, 'El Lazarillo de Tormes' about a blind man called Tormes who was always followed and guided by Lázaro, a young boy and from which the word Lazarillo appeared. This project, as the title announces, is part of a prototype which rebuilds the guide figure for wheelchair users with a GPS - as if it were the 'Lazarillo'.

### **What was our thinking?**

To begin with, it is best to give some definitions to help understand our thinking in the project.

*Tourism* means travel for recreational, leisure or business purposes. The World Tourism Organization defines tourists as people who 'travel to and stay in places outside their usual environment for more than twenty-four (24) hours and not more than one consecutive year for leisure, business and other purposes not related to the exercise of an activity remunerated from within the place visited'.

Around the world, there are thousands of different types of tourism and *adjectival* tourism refers to the numerous niche or specialty travel forms of tourism that have emerged over the years - each with its own adjective. Many of these have come into common use by the tourism industry and academics. Others are emerging concepts that may or may not gain popular usage. Examples of the more common niche tourism markets include: *Culinary* tourism, *Dark* tourism, *Disaster* tourism, *Ecotourism*, *Heritage* tourism, *LGBT* tourism, *Medical* tourism, *Nautical* tourism, *Sex* tourism, *Space* tourism, *War* tourism

## **Advantages and disadvantages of Accessible tourism**

*Accessible* tourism is the ongoing endeavour to ensure tourist destinations, products and services are accessible to all people, regardless of their physical limitations, disabilities or age. It encompasses publicly and privately owned tourist locations where improvements not only benefit those with permanent physical disabilities, but also parents - pushing buggies, elderly travellers, people with temporary injuries, such as a broken leg, and their relatives, friends and other companions.

As of 2008, there are more than 50 million people with disabilities in Europe, and more than 600 million around the world. When expanded to include all potential beneficiaries of accessible tourism, as defined above, the number grows to some 130 million people in Europe alone.<sup>1</sup> In addition to the social benefits, the market represents an opportunity with new investment opportunities and new service requirements - rarely provided by the regular travel agencies, transport providers and other key players in the tourism sector.

## **Accessible tourism's specific needs and requirements**

Specific problems found by the disabled tourist when booking a holiday include:

Inaccessible, or only partly accessible, web sites

Lack of accessible airport transfer

Lack of wheelchair accessible vehicles

Lack of well-adapted hotel rooms

Lack of professional staff capable of informing and advising about accessibility issues

Lack of reliable information about a specific attraction's level of accessibility (church, castle, exhibition, etc.)

Lack of accessible restaurants, bars, etc ...

Lack of adapted toilets, in restaurants and other public places.

Inaccessible streets (cars parking etc)

Lack of disability equipment (wheelchairs, bath chairs, toilet raisers, electric

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<sup>1</sup> According to ENAT - the European Network for Accessible Tourism, this includes:

Barrier-free destinations: infrastructure and facilities.

Transport: by air, land and sea, suitable for all users.

High quality services: delivered by trained staff.

Activities, exhibits, attractions: allowing participation in tourism for everyone.

Marketing, booking systems, Web sites & services: accessible for all (i.e. accessible information).

scooters).

## Our solution

After analyzing this data, and seeing the wide range of needs within the accessible tourism industry, *LazarilloGPS* emerged. *LazarilloGPS* was a prototype project launched with the help of Media lab-Prado as an idea to develop accessible tourism for disabled people within urban contexts and the mapping of a city.

Last November, a project with wheelchair users and the use of GPS took place. We developed a web site to visualize tourism tours taken by wheelchair users around Madrid. The visualization showed their tracks on a map and also how users 'reviewed' specific things they found on their way, either good (e.g. places or bars they liked) or bad (locomotion problems they found). See <http://lazarillo.medialab-prado.es/>

The idea is that this site will promote tourism for wheelchair because it goes beyond what they are currently offered by tourism offices (typically 1-2 predefined tours), and, by combining the experience of many users, will provide useful information.

Background information - both inspiring and focusing our project include:

*Barcelona Accessible* (<http://www.zexe.net/>) where Antoni Abad, a Spanish artist makes a project with mobile phones to reveal the problems disabled people go through in their daily life. This project was much more about revealing a situation than giving solutions, and was only focussed on the negative aspects they experienced. *Accessible Madrid* (<http://www.esmadrid.com/>) is the tourist's office website which offers organized tours for wheelchair users. The website *Every Trail* (<http://www.everytrail.com/>) shows that there are fixed categories of subjective tourism, and conspicuously - no mention of wheelchair users.

We developed a project with a set of short-term objectives. This included collecting data from a few wheelchair users. The idea was to find wheelchair people at the tourist office, ask them to do a tour with us, and collect the data. Interview a few wheelchair users and get feedback about the project. Finally to design and develop a web site where data would be visualized.

A possible design for the website already existed (*Every Trail*) but we had to link our category *Wheelchair users* onto their site. However as our project continued to develop we decided to begin a new site where the first map drawn can be printed out.

The long term objectives include creating a community-oriented platform where wheelchair users have the ability to provide independent data about their tours to the system and share them with the others. A possibility would have been to connect to existing platforms that enable people to share information about tours (GPS tracks, pictures, comments) - see for example [www.everytrail.com](http://www.everytrail.com) - and ask them to provide sections for wheelchair users. Another possibility would have been to write a mobile phone application (along the lines of those provided by *Every Trail*) dedicated to collecting all data directly from the user and then upload them to the web site.

### **The data (status, where people come from) within the development of our project**

The Data to be collected is, and was during the prototype:

GPS track logs of wheelchair users following touristic tracks in Madrid;  
geo-located pictures taken by wheelchair users while following the route, together with free comments on good things they saw or that helped them, problems found, or something other; a vote (good or bad) given on the web regarding the place in the picture;  
Symbols in colour code (red, green) to indicate the city sites every 10 meters in the touristic route.

The GPS tracks are visualized together on the same Google map with placeholders to access the geotagged pictures, comments and ratings. The placeholders will use colour-coding to show the rating (e.g. red = bad, green = good). Each track segment between two pictures will be coloured according to the changes in elevation (as logged by the GPS) to show if a track segment was plain (that means easy for wheelchair users) or not (e.g. it is steep). The user will also have the opportunity to visualize specific tracks in a separate map and download GPS tracks made by other users if they want to repeat a certain tour.

Besides this we created a whole 2D map with codes and reference symbols which can be observed in the web site - from which the wheelchair tourist can get an idea of the route before starting it. The plan is to focus on their needs as disabled people who might have problems when moving around the city travelling.

### **The first prototype**

When making the prototype, we came across a wonderful group of people - the association *Debajo del Sombrero (Under the Hat)* who made us change some aspects during our analysis and experimentation. This association is an arts and psychology group of people who work with art therapy with disabled people in Spain. We worked with them when testing our prototype map, and came across two beautiful people - Carlos and Amanda. Carlos is a mentally disabled boy and Amanda his tutor. Carlos cannot speak so he communicates through a communication panel with which Amanda explains what he says with his eyes.

From the experience of working with them, our prototype shifted to a new dimension: we saw Carlos worked with a transparent plastic to communicate with his tutor, and so our new development -when printing the map - included the option to print maps in acetate or transparent plastic thus enabling people to communicate within their medium (i.e. acetate map, and communication panel). What we learnt when testing our digital/analogical map, was that although we had lots of ideas, it was not until people actually worked with them that we could observe their reactions.

### **Conclusion**

This project of mapping the city in a touristic way for disable people was a challenge for me and for the group we worked with at Medialab, and fortunately it was a very strong theme to begin working from.

Coming from the fields of arts and tourism - as regards my background and studies - it was an amazing experience to be able to join artistic thinking with the planning of drawings of maps that will be useful to disabled people and may have a broad application within the tourism industry. We are beginning to build an art-electronic platform that will help solve some social problems.

The opportunity of presenting our work here at ISEA2009 is a perfect forum to open up and debate issues such as the importance of conscience in the electronic world with regard to disabled people.

Finally, my vision is to continue to work in the electronic field to make a live, active platform, with an easily downloadable GPS solution - so as to make the maps accessible for everybody. Future work would include the use of GPS applications on cell phones, thereby making things even more accessible.

Thank you.

### **References**

<http://lazarillo.medialab-prado.es/>

<http://www.zexe.net/>

<http://www.esmadrid.com/>

<http://www.everytrail.com/>

<http://www.visualcomplexity.com/>