

Virtual Warsaw - Urban Information System for Visually Impaired.

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Organisation: City of Warsaw

Country: Poland

Level of government: Local government

Sector: Social protection

Type: Digital, Partnerships, Public Service

Launched in: 2014

Overall development time: 2 year(s)

Link to the innovation's website

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Description

Virtual Warsaw is a system that offers a new solution to the problem of limited accessibility within public space by creating an open network of micro transmitters connecting with smartphones, whereby improving the quality of life and providing independence to visually impaired citizens. VW is a comprehensive, multifunctional answer to the barriers encountered in every metropolitan city, through the technology of the future, yet available today. When implemented, the system will allow every owner of smartphone receive written or verbal information on the location of the bus stops, number of an arriving trams, the entrance to the museum or taking the queue in the Municipal Office. This free, open network will be constantly developed by allowing SMEs to connect their business to the system and through offering a free Application Programming Interface incessantly increasing the managed by a diverse group of experts working for the city, consulting their steps with NGOs, SMEs and citizens.

The platform proposed allows to build a smart city for every citizen. The layer of physical beacons creates a virtual space accessible to mobile phone applications such as, but not only, the microlocation system. The system in context lets navigate very precisely inside buildings where the GPS system doesn't work. There can be any combination of information attached to the location presented. The ability to interact with such applications creates opportunities for more independence when faced with lack of eyesight. The dedicated Support System can bring much greater impact because of its personalized nature. Every person who becomes more independent needs less services and can contribute to the city at large.

Why the innovation was developed

- Every day visual impaired citizens work very hard to reach the same goals as those easily achieved by people with all 5 senses.
- To maintain a professional or university career and stay active in socio-cultural life, while staying independent needs not only a lot of determination, but also special support.
- To increase the accessibility to public space for visually impaired people.
- To reduce the degree of social exclusion of this group and support them on the field of professional career, access to socio-cultural life of the city, and new technologies.

Objectives

Improve access, Improve service quality, Increase citizen engagement

Main beneficiaries

People with disabilities

Existing similar practices

E-Adapt (Electronic Assistance for Disabled, Elderly Pedestrians and Travelers)

In other countries' public administrations

City of Stockholm

E-Adapt (Electronic Assistance for Disabled, Elderly Pedestrians and Travellers) implemented in Stockholm is a mobility solution to increase the accessibility in city for visually impaired citizens. E-Adapt can be used on mobile phones with additional positioning device. Warsaw solution is also based on mobile phones and does not force the visually impaired people to buy an additional device.

Results

Service quality

Accessibility:

Development

Design

The idea was generated by team Welfare and Social Projects Department of City of Warsaw. Virtual Warsaw idea was generated due to needs of visually impaired person in one of office (Capital Center for People with Disabilities) in Warsaw. In this case visually impaired people had a big problem with getting a queue number from queuing machine. We had thinking how to solve this problem, and then beacons (small BLE transmitters) appeared. After a lot of IT analysis and in-depth study of the visually impaired people needs we find a solution for more problems of visually impaired. We decided about first implementation, first pilot “ in Capital Center for People with Disabilities. During the testing phase we decided that we can solve more problems of visually impaired people, so we decided that we could implement beacons around the city.

Testing

- Pilot 1-2014 - The mobile app which allowed blind citizens to navigate indoor in one public building. Currently, we have installed the system in the CCPD (a public administration facility) and we are collecting information about how the application works.
 - Pilot 2-2014; The micronavigation was implemented on the route of one bus line. This means beacons installed in 30 buses and developing a dedicated application.
 - Pilot 3: beacons in public spaces Discovery Park near the Copernicus Science Centre, Multimedia Fountain Park and restaurants on Vistula Boulevards.
 - Pilot 4: tested functionality to organize a conference with and agenda and any other materials, and leading a person to seat.
 - Pilot 5: tested VR movie with beacons triggers. This pilot give us information about functionality of beacons with other apps or devices.
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Implementation

Tools used:

- Micronavigation system: it is a mobile application system tailor-made for persons with visual impairment that enables them to freely move around the city, including public transport, public administration infrastructure and tourist attractions.
- Support system “ it is a system of activities specially prepared to make the visually impaired people feel more independent both in public space and on the labour market.
- All the publicly facing online websites, forms and applications should meet the requirements of the WCAG 2.0.

Resources used:

- Project team consist of 4 persons, Group of 20 testers from ngos Group of 40 supporting experts (UX design, business models, accessibility, think tank), solution providers, 3 different SMEs
 - Initial 5 pilots 200 000 EUR, 6 pilot zones estimation 200 000 EUR.
 - Full implementation Metropolitan area: Warsaw + 24 municipalities ca. 10 mln EUR
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Challenges and solutions

- The system implementation transform the City of Warsaw into a space friendly to visually impaired people which provides a comprehensive support consisting of: accessible public space and special support system, enabling visually impaired people to find and maintain a suitable job.
 - A visually impaired person can easily move around the city using a mobile app (downloaded on a personal smartphone, if needed bought with a city support funding)
 - A visually impaired person can easily get information on city socio-cultural offer, entertainment, cinemas, theatres etc. as there is a map of those places and events accessible through a mobile app
 - A visually impaired person gets a special support in finding a job which consists of: consultations through a free of charge helpline (called support line), individual meetings with consultant to define the possible professional path, a help in finding a suitable internship
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Partnerships

Multiple partners

Academics and Research Bodies, Civil Society, Other Public Sector, Private sector

Within the Virtual Warsaw project we established cooperation with The Chance Foundation and Polish Blind Association. City of Warsaw gave a donation for activities connected with aims of project. Thanks to this cooperation we are building a society around the Virtual Warsaw project. NGOs organize conferences, trainings, meetings for visually impaired people. What’s more they helps us to build the micronavigation system. We are also cooperating with group of testers (visually impaired) and experts. By engaging a lot of representative of blind community our product becomes more valuable and more useful . Additionally we are cooperate with other officers responsible for social project implementation in cities in

Lessons Learned

Lessons Learned

- Problems of people with visual impairment are the same in every city. They need to overcome barriers to employment, be independent in their daily activities such as moving around or interact with businesses or public institutions.
 - Visual impairment impacts very significant are of human interaction, namely perception of the environment or access to modern forms of information. We can get closer to a significant improvement in quality of their life.
 - The first challenge can be overcome by the development of a micronavigation system which could be with success implemented in each city and enable more independent mobility.
 - The second challenge can be overcome by the development of a dedicated support system which consists of several trainings dedicated to the needs of people with visual impairment to improve their employment marketability.
 - The Warsaw case can be treated as a template to quickly introduce such services in any city without the burden of pilots and possible mistakes.
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Conditions for success

- For the success of the innovation the most important is motivation, human resources and leadership. When you have a motivation you can start the project.
 - You have to be brave to take risks, so it is important to have somebody responsible enough to take a risk.
 - Then you have to get human resources representing implementation team, stakeholders and potential end users. Alone you would not be able to implement anything.
 - The policy makers support are also important but at the start it is better to focus on problems and potential solutions.
 - Very important aspect is to look for a prove that your concept is working. Be honest with data and leave yourself space for failures. Mistakes help you to achieve success. Implementing innovations in public is a difficult and challenging path.
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Other information

People with visual impairment encounter many obstacles in everyday life, what strongly influence their daily functioning and sense of independence. About 84% of sight impaired people declare having a strong sense of dependency, for 90% of them someone else's support is very important. They need to spend their free time as other people: in the company of friends, do sightseeing, with a free access to socio-cultural offer and entertainment etc. At least 60-95 hours of work with individual trainer is required to learn how to move safely around the city. What is more, to be independent, they need to be able to arrange formalities by themselves (now only 17% of blind people are able to do it alone). Then, there is the issue of jobs and how to get one, especially suitable for one's qualification and specific abilities, resulting from the loss of major source of perception. There is little awareness of what is possible to perform on the job by blind or visually impaired people (81% are unemployed)