SEARCH FOR PARTNER

HORIZON 2020 – ICT 2015 – INFORMATION AND COMUNICATIONS TECHNOLOGIES

Topic: Pre – commercial procurement open to all areas of public interest requiring new ICT solutions.

CALL FOR PROPOSAL ICT – 36 - 2015

This specific challenge addresses the lack of public demand driven innovation in Europe needed to close the gap between supply and demand for innovative ICT solutions. It targets consortia of procurers with similar procurement needs of common European interest, to drive innovation from the demand side and reduce fragmentation of public sector demand in Europe, by together challenging the market to develop innovative ICT based solutions. Joint pre-commercial procurement enables consortia of procurers to share the costs of procuring high-tech R&D and to speed up the time-to-market for promising research outcomes that can provide best value for money and solutions for concrete public sector needs. The aim of engaging in such more forward looking R&D procurement strategies is to modernize the provision of public services faster whilst creating opportunities for industry and researchers in Europe to take international leadership in new markets.

Scope: The objective is to bring radical improvements to the quality and efficiency of public services by encouraging the development and validation of breakthrough solutions through Pre-Commercial Procurement. This specific challenge is open to proposals requesting EU cofunding for pre-commercial procurement in all areas of public sector interest requiring innovative ICT based solutions, complementary to PCP Cofund actions foreseen under other challenges in ICT LEIT. It is open both to proposals requiring improvements mainly based on one specific ICT technology field, as well as to proposals requiring end-to-end solutions that need combinations of different ICT technologies.

Expected impact:

· Reduced fragmentation of demand for innovative solutions by enabling public procurers to collectively implement PCPs in areas, which due to their nature are better addressed jointly, or which they would not have been able to tackle independently.

· Increased opportunities for wide market uptake and economies of scale for the supply side through the use of joint specifications, wide publication of results and where relevant contribution to standardisation, regulation or certification to remove barriers for introduction of PCP innovations into the market.

SUMMARY:

This project provides a solution of local mobility assistance based on artificial intelligence techniques, and working in real time, without requiring teams of technical experts to maintain traffic and transport information.

This project "IRMAPP, App for Intelligent Management of routes", intends the development of a mobile application to provide routes information, shared displacements offers, alerts about the transport network in real time, and suggestions on car sharing, cab sharing, public transportation and commercial information.

Our target market comprises people moving in metropolitan areas who are looking forward to having a tool to enable their daily displacements.

BRIEF PROJECT DESCRIPTION – MAIN RESULTS AND IMPACT:

There are plenty of applications that have been developed in urban contexts for routes management. In general these applications use information about schedules and public transport lines previously collected and includes a notification system of incidences from a service centre in real time.

This kind of tools for smart phones has embedded urban data, thanks to local authorities and reinvents the urban management today. Theses apps are more and more useful, because they allow citizens to find incidences in the place they are located in real time.

They also allow citizens to know instantly if there is a lot of traffic in some places, in one specific point of the route, due to a possible last-minute incidence, as accidents, detours due to constructions, in order to avoid such events. They can get to know if there is a traffic jam in their usual route, an accident, if there are construction works, or if they could be stuck just because it is rush hour. Likewise, the app provides the alternative route for their destination at the time.

The problem of these apps is that, nowadays, they are only possible in big cities with the collaboration of local authorities. This situation, in general, makes it difficult to implement this solution since it requires teams of experts for the maintenance of information.

This project "IRMAPP, App for Intelligent Route Management ", supposes the development of artificial intelligence algorithms applied to achieve optimal mobility among users. It uses cloud computing techniques and data as a service. (In this case, the source information comes from the users' app and they are related to their mobility, and they can similarly send it back to the cloud.)

Objectives

This projects aims at making an important qualitative leap in the state of the art in order to offer an application that allows the maximum performance of artificial intelligence techniques in solutions of local mobility, providing a "global awareness" beyond the users' perceptions, meditations or decisions, in real time, without requiring teams of technical experts to maintain traffic and transport information.

To achieve the previous goal, the system architecture will require:

A personal app installed in the users' smart phones, with functions of artificial intelligence that can "Learn" the movement patterns of the users, interpret the situation related to the users' mobility in real time, propose options and suggest new itineraries and tours.

The connection to the app with a specific clod, to transfer data and interpret those, (cloud computing), and to send the global information back to the users.

The connection between users of the app.

The previous development takes into account not only the trips by public transport or private vehicles on roads, but also makes it possible the development of shared vehicles in urban areas. It is well known that most vehicles around urban roads are only occupied by the driver. The search for alternatives that facilitate minimizing the number of vehicles in urban areas

will have significant benefits for improving air quality in cities, for reducing noise and, therefore, for fighting against global warming.

If we analyzed the mobility of citizens, one by one, along one day, we would be surprised at the huge coincidences that occur in the habits of many people who, in addition, live very close to each other. Schools, workplaces, etc. are the main centres of attraction that justify such "coincidences ".

The development of specific functions that suggest the use of shared vehicles, and even that take into account the user's profile, could make a significant contribution in the field of mobility. The IRMAPP application could reinforce the use of shared vehicles in the urban areas, since it will be an app that suggests proactive actions to share routes. The development of specific applications for cabs is also considered. The application includes actions aimed at facilitating taxi demands, and even actions to share cabs.

This app should also incorporate specific sub-functions for electric vehicles, for cab managing, car rental or car-sharing services.

The application allows the connection between users and public organizations to provide general information about events, calls, etc…

Technical description

This project includes, on the one hand, the necessary activities of cloud computing, reception and temporary storage of data, and, on the other hand, those activities corresponding to the users' app, complementary to cloud-computing.

The users' management of software is considered via an app for smart phones and android tablets, downloadable from play store.

The computation of the functions of artificial intelligence will be programmed in the cloud. The app Girapp in software architecture appears as intermediate application between the cloud and the user. In this architecture, the positioning is the key, therefore the hardware must have GPS.

It should be noted that the successful implementation will depend on two major aspects:

On the one hand, the right development of the artificial intelligence functions able to interpret the users' displacements and, in particular: Determine the type of transportation being used: public, private, vehicle, bike, etc. Determine users' displacement habits. Forestall users' displacements by settling the adequate alerts. Suggest alternative itineraries. Filter and

detect the best offers of transport sharing or public transportation that the user can benefit from.

On the other hand, the cloud computing functions able to: Make an appropriate treatment of mobility information in real time. Update accordingly the information.Interpret the traffic status depending on the data received. Send information to the users. Create an adequate database with commercial offers and specific events in order to send them to the users when they are passing by those locations.

Both aspects, at the same time, will depend on the deep knowledge of traffic and transportation engineering.

The main menu of the app Girapp enables a quick access to the main functions of the application approach. In this menu, we have access to the system settings, routes information, development of shared displacements offers, menu of alerts about the transport network, and suggestions on car sharing, cab sharing, public transportation and commercial information. Now, we will analyse the aforementioned aspects :

The section settings rules to a large extent the type of information to be received, as well as the information to be obtained from the users when they make offers to share vehicles. It will also allow transport professional to make offers or put commercial ads. In addition, it allows to modify the visual appearance of the app.

The section consult route enables to see the traffic status and the incidences in real time.

The section alerts represents the most important incidences for the users, related to usual routes that they use or that they have consulted.

The section suggestions provides with the main suggestions about offers of shared displacements, shared cabs, public transportation, commercial information and events.

ADDITIONAL INFORMATION

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Determine the type of transportation being used: public, private, vehicle, bike, etc.

Determine users' displacement habits.

Forestall users' displacements by settling the adequate alerts.

Suggest alternative itineraries.

Filter and detect the best offers of transport sharing or public transportation that the user can benefit from.

On the other hand, the cloud computing functions able to:

Make an appropriate treatment of mobility information in real time.

Update accordingly the information.

Interpret the traffic status depending on the data received.

Send information to the users.

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As we can see, the app settings are straightforward, intuitive and direct.

The software enables a parallel virtual world where mobility date are geo-located in real time and the commercial information as well as the events are also located in coordinates.

This dual aspect makes the software commercialization succeed, since on the one hand, users will be able to receive very useful information for their displacements and completely free but, on the other hand, they will be able to put commercial ads using virtual locations in the space, in exchange for the proper economic compensation.

When users register in the app, they are required to accept that their mobility data may be used for computing mobility global data; for this reason, when they install the app, the user receive the following alert: "when installing the app, you accept that your mobility data may be computed without revealing your identity for global mobility options".

From the menu setting we can have access to different parts of the app that are very interesting, as we can see in the following image.

As we can see, from this menu we can have access to make transport offers and place ads. The visual aspects enable to change the background colours of the app.

In order to receive offers of shared services, users will be asked for some minimal information such as: It will be the information given by the users that will reach other users when the first ones make offers of shared displacement, except for the e-mail, phone number, address and age.

On the other side, transport professionals, like cab drivers, should introduce much more complete information, including license number and data of the company they work at or tax data for freelancers. This way we avoid false offers and we guarantee responsibility for that.

If we compare our propose system to the current state of the art we will notice the advantages:

IRMAPP offers considerably more accurate data of traffic status.

Traffic prediction is enabled by the use of intelligent algorithms and the interpretation of prior storage data

It offers better routing suggestions.

Provides additional mobility services.

The market is defined by metropolitan areas and provincial zones. Nowadays we can find several tools for smart phones that have embedded urban data. These apps allow citizens to find incidences in the place they are located in real time.

The problem of these apps is that, nowadays, they are only possible in big cities with the collaboration of local authorities. This situation, in general, makes it difficult to implement this solution since it requires teams of experts for the maintenance of information.

This project "IRMAPP, App for Intelligent Route Management ", however, does not require any additional infrastructure to provide mobility services as it supposes the development of artificial intelligence algorithms applied to achieve optimal mobility using cloud computing techniques and data as a service. This makes possible a fast spread and implementation of this application in multiple metropolitan areas.

PARTNERS - PROFILE

Public organizations involved in the welfare of people, mobility, or similar issues in metropolitan or provincial areas.

FUNDING RATES (aproximated)

The Union contribution will be limited to maximum 70% of the total eligible costs for the 'eligible activities' defined above, on condition that the PCP is executed in compliance with Annex E. Eligible costs include the price of the R&D services procured via the joint PCP and the costs of the eligible coordination and networking activities defined above. Eligible costs may include in-kind contributions of third parties linked to the grant beneficiaries (e.g. corresponding to resources put at the disposal of grant beneficiaries to carry out the project). VAT is an eligible cost except for beneficiaries that can deduct it. The requested reimbursement of the estimated eligible costs of coordination and networking activities may not exceed 30% of the requested grant. The consortium may choose to use part of the Union contribution to increase the support to coordination and networking activities as long as the Union contribution does not exceed 70% of the sum of those costs and the price of the PCP call for tender. The consortium may choose to use part of the Union contribution to increase the support to the budget for the PCP call for tender as long as the Union contribution does not exceed 70% of the sum of those costs and the costs of the coordination and networking

activities. Indirect eligible costs are calculated as a flat rate of 25% of direct eligible costs, excluding direct eligible costs for subcontracting and the costs of resources made available by third parties which are not used on the premises of the beneficiary. Thus, on the price of the PCP procurement carried out during the PCP Cofund action, no indirect costs are eligible.

Partner budget: 1.000.000 – 1.500.000 €.

Co - funding rates: ± 70%. (30% allocation staff and general costs, 25% indirect cost flat rate).

DEADLINE

Manifestations of interest deadline: 3rd March 2015

Deadline for proposal submission: 20th April 2015

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