Aveiro Tech City Challenges

Urban Challenge #1

Trader Access and Occupancy Tax Payment Management System

URBAN CHALLENGES

URBAN CHALLENGE #1 – TRADER ACCESS AND OCCUPANCY TAX PAYMENT MANAGEMENT SYSTEM

SCOPE OF THE CHALLENGE:

The Municipality of Aveiro (CMA) is in charge of the management of markets and some fairs in the municipality. This is an economic activity, traditional, with great demand both for sellers and customers of Aveiro and neighboring municipalities. The annual Fairs plan includes the following:

- **"Feira dos 28"**, located in the Park of Fairs and exhibitions of Aveiro
- **"Feira das Velharias"**, located along the Côjo Canal, next to the Aveiro Forum, Manuel Firmino Market Square, up to The Pier of Fonte Nova
- **"Artes no Canal"**, located along the Côjo Canal, next to the Aveiro Forum, Manuel Firmino Market Square, up to The Pier of Fonte Nova.

At each of the fairs mentioned there is a set of rules for the management of access of fairs and their payment of the rights to sell their products at these events. It is up to CMA employees present at these fairs to ensure that operators comply with the rules of space occupied and that they are in full compliance with the payment of their access fees. This activity is carried out manually inefficiently, requiring an increased effort of control and management by CMA employees.

It is in this context that the challenge is framed: to dematerialize the process of management of licenses, accesses and payments of fairowners in the markets of Aveiro, ensuring mechanisms of data integration and local control, providing monitoring functions in mobile devices, reducing manual processing errors, increasing the efficiency of the process and integrating information already available in the municipal management system of Aveiro.

DEVELOPMENT OF THE CHALLENGE:

It is intended to obtain innovative proposals that dematerialize the supervision of the accesses of fairs and their payments of fees. Using identification card technology with NFC Mifare 1k technology (standard in individual identification services in municipal services in Aveiro), trade fair cards will be delivered that allow their unique identification. It is up to the company to develop a mobile application that ensures the following:

- Registration of incoming inspection session of traders choosing the fair / event previously loaded in backoffice;
- Reading the ID of the trader NFC card;
- Obtain and display identification data of the trader, as well as the state of payment of their fees, with alert in case of non-payment of fees;
- Allow payment registration on time if necessary;
- Register the entry of a trader in a market;
- Identify the area allocated to the trader and its location, in order to verify that it is occupying the correct area;
- Allow the login of one or more Municipality inspector, registering in "log" that can only be visible to the platform manager all the activity carried out by the inspectors, with the corresponding hours and dates

The mobile application should run on Android smartphones with NFC reader, and it must meet usability criteria and graphics that allow simple and functional use in environments with high brightness, avoiding buttons and fields of interaction of small dimension.

The competitor should also ensure that there is a web backoffice that allows the following functions to be carried out:
- Creation of "events" called "Fair", on a recurring or punctual basis in calendar and allow the registration of entry of traders (via mobile application) to these instances of markets previously created;
- Loading "batch" of trade show data with active card (currently has 383 registrations);
- Periodic batch (weekly or daily) loading of fee payment status data;
- Loading of data relating to the location of the area allocated to the trader (location, total area and limits);
- Visualization of a trader profile, with data from: Attendances at fairs (which and when); Payments made (monthly, annual, total and payment dates).
- Visualization of the fair profile, with data from:
    - Presence of traders (which and time of admission);
    - Revenue generated from fees charged on site (list of the various transactions made and totalizer);
    - [Reserved to the manager] Visualization of inspection logs carried out in a market (entries of traders with payment made and without payment made, payments on site and their hours).

- Market Dynamics Report: Number of Fairs held; Number of traders per fair; Analysis by configurable time period; Integration of report data in an open API to be accessed by the Aveiro Urban Data Platform.
- User management with two profiles: Manager (full access privilege) and Inspector (Mobile application only);
- Preference is given to solutions / competitors that commit to automate the import of fee payment data (from the fee management system of AIRC - TAX Module) by API / Webservices.

For the field implementation of this solution, the competitor must ensure the following means of computation and hardware:
- Hosting the backoffice solution, API and interfaces for the mobile application developed and support of operation and computer security in a period of 1 year after the completion of the challenge;
- Supply of 450 Mifare classic 1k cards with double-sided colour printing. The Municipality will provide a reference layout and an Excel file with the information to print on the cards;
- Provide 2 shock-resistant Android smartphones, high-light display, NFC card reading and minimum 1-day autonomy capacity, where the mobile app will work;
- Mobile application for inspecting activities running on the two smartphones referred to in the previous point, including technical support and computer security within 1 year of the end of the challenge.

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