ELECTRONIC PAYMENT SYSTEM BY PRESENCE

TECNOLOGÍA PATENTADA

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RESUMEN

The technology developed by the researchers consists of an automated payment system, in which neither the user nor the collector needs to intervene. The transaction occurs only through the physical presence of the user at the site.

The system is based on the use of an APP installed on mobile devices and the sensorization of the control area to detect the presence of users.

This system can be very useful for transactions that are carried out periodically or in places where congregate a large agglomeration of people and it is necessary to speed up the payment process.



INTRODUCCIÓN

There are multiple mechanisms to make secure electronic payments from different devices. Usually, these systems require the voluntary action of the user to carry out the transaction and interaction with a collector.

However, in some cases the intervention of the agents involved is not necessary to make the payment because this payment is made regularly or the amount is already pre-established, and agility in the service is a priority.

This is the case, for example, of payments in public transport services or in attendance at shows and events with a large number of people. The amounts are defined in advance and the mere presence of the user implies the provision of the service. In addition, in this type of services it is necessary that the entrance to the venue or vehicle occurs quickly to speed up the passage of all attendees and avoid queues or delays.

A system of this type faces two fundamental problems:

- How to identify the users who purchase the good or service.
- How to execute the monetary transaction without the intervention of buyer and seller.

Current systems require the express interaction of the user with an operator or with a payment machine. The present invention solves these problems and presents an efficient solution for executing a totally unattended and invisible payment.

DESCRIPCIÓN TÉCNICA

The invention developed consists of a completely invisible and agile payment system, ideal for payment in environments with a large number of people. The system is based on a distributed computing architecture and a solution to make the payment safely.

The system is made up of the following elements:

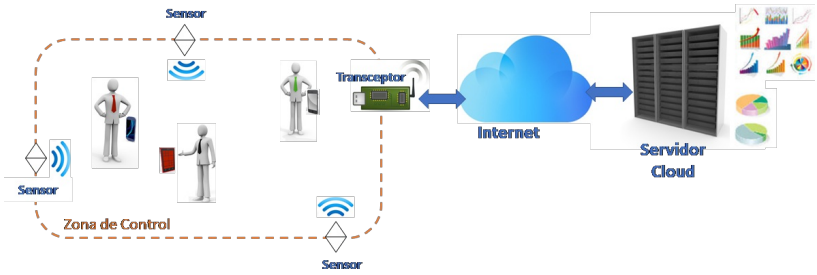
- User devices. Devices carried by users, mainly smart mobile phones, capable of running an application and capable of

communicating with sensors.

- Set of sensor elements. These elements are responsible for capturing data from user devices located in the control area.
- Transceiver. Equipment that is in charge of receiving the data set from all the sensors and interacting with the remote platform in the cloud.
- Cloud remote platform. This element is in charge of collecting all the payment transactions carried out, executing the business layer, the persistence layer and the administration and control layer.

To use the payment system, users must register in an application installed on their mobiles. When these are in the control area, the system detects and identifies the users present through a combination of WIFI, Bluetooth and GSM communication technologies. At that moment, it is detected that the user is enjoying the service provided and the payment is automatically executed based on the pre-established rates.

The system manages the control of attendees and validates the payments, managing the business process and storing the data in the cloud.



VENTAJAS Y ASPECTOS INNOVADORES

MAIN ADVANTAGES OF THE TECHNOLOGY

The main advantages of the technology are the following:

- It improves the quality of the service and reduces the time necessary to carry out payment operations in the sale and collection of goods and services.
- It facilitates the management for users of those services that are used periodically and with pre-established rates, for example, in the use of public means of transport.
- It eliminates queues and waiting times and speeds up user traffic. This system is ideal for implementation in events that involve a large accumulation of people and they must enter in the place in a limited time.
- It eliminates points of sale and reduce the amount of human resources (collectors or auditors) needed to provide the service.
- It facilitates the management of the business model, since the users are identified through the sensors and the payment is made automatically, storing all the data in the cloud. In this way, the process can be integrated with the company's own management computer systems.
- Different forms of payment can be defined as based on a previously specified rate known to the customer. For example, a fixed or calculated rate can be defined according to the user's presence time in the establishment.
- It allows the monitoring, continuous and in real time, of the attendance of people and the payments made.

INNOVATIVE ASPECTS

The main innovation of the technology is the implementation of an agile and secure payment system to carry out purchasing processes in very specific situations. This technology allows to control attendees and manage the payment of the service without the need to interact with users.

To do this, it establishes a system that allows the location and identification of the user and makes the electronic payment safely, using a series of sensors that identify the presence of the attendees at all times. These elements are integrated with a cloud platform that controls the process, making it easier for the company the automatic management of business operations.

ESTADO ACTUAL

The research group has developed a functional prototype of the system. The system can be adapted to different contexts and business models depending on the needs of the company.

APLICACIONES DE LA OFERTA

The technology is useful for information technology companies interested in developing a secure payment system. However, it may also be of interest, as users of the system, to companies of:

- Event management companies.
- Sports shows.
- Means of public transport.
- Any other company that provides a service based on the presence of the client in specific dependencies and that this service has characteristics such as periodicity in use, large accumulation of people or the need to speed up access.

COLABORACIÓN BUSCADA

We are looking for companies interested in acquiring this technology for commercial exploitation through:

- Patent license agreements.
- R&D project agreement (technical cooperation) to undertake technology-related projects.

DERECHOS DE PROPIEDAD INTELECTUAL

This technology is protected by **patent**:

- Title of patent: “SISTEMA Y MÉTODO DE PAGO ELECTRÓNICO ACTIVABLE POR PRESENCIA”
- Application number: P201930543
- Application date: 14/06/2019

SECTORES DE APLICACIÓN (7)

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