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## Self-Service Technologies

The technological advance we have experienced during the last two decades has boosted the development of new self-service technologies, widening their development area to a great extent.

In Spain, the development of this technology emerged in the late 80s, when the existing phones base of the commuted network, based in the pulse dialling, goes through the different development stages: discreet word recognition: touch-tone, recognition by means of the extraction of linked simple phonemes, voice synthesizing, linked word recognition, until finally reaching the natural recognition of language, the stage we are nowadays, well into 21<sup>st</sup> century.

This technological progress has made self-service systems, under the form of voice channels, to go from the "Guided Menus" with response recognition to the "General Question" with recognition and interpretation of the service or information requested through different engines for natural voice recognition included in the current technological infrastructure provided by the different phone operators in Spain, both in fixed and mobile infrastructure.

At the end of eighties, burns into Spain a technology able to offer a very specific service of information, by means of systems for the recognition of pulses generated by the dialling of a number included in the phones of that stage.

The change of technological infrastructure provided by the company Telefónica, from Spain, at the beginning of the nineties, installing electronic public stations and, above all, user phone devices with touch-tone, spectacularly opens the possibilities for self-service systems through voice channels. We go from systems able to recognise the user's response with a reliability of seventy per cent of correct answers, to practically have a one hundred per cent success in the recognition of the selection.

A new factor appears in the voice services area by means of the technology of recognition of the calling subscriber number through CTI (Computer Telephony Integration) supports. This fact adds a factor of agility and security to these intelligent self-service systems, making possible the reduction to a great extent of the selection sample within the large universal group of potential users or callers.

Something as simple as having the geographical location of the call speaker, the country of origin, the region or province, give up being variable factors within the decision trees of the selection menus, therefore reducing the time of response to a great extent. We must not forget that one of the great rejections of users to use the voice channel self-service is the number of selections and responses he must do in order to reach the point of information required. Every improvement aimed at reducing this process is a factor of service quality for the user which, besides, positively affects its approval.

Nowadays, systems do not only provide us with an information or a service in accordance to a predefined menu, but also offer us the possibility of easily and quickly creating our own and personal menu adapted to our profile, as well as the incorporation of intelligent exploitation modules capable of a feedback in order to provide the most frequent services used by the user.

By means of voice channel, we can do now some formalities which, only two decades ago, were unthinkable for a great part of the users of the stage. When the user felt happy for requesting the butane gas cylinder through this channel, knowing the balance of the bank account, sending the electricity meter reading, or consulting the details of the processing of a formality in the private field or official institution, it was difficult to think of the development and facilities that this system might offer with the development of the technology implied in these processes.

Self-service systems have progressed from the platform of a specific phone number, linked to a service or body, to the multi-service mode. Nowadays, by means of a specific phone number, we can reach services of different indexes and subjects of use, which is the so-called "Voice Portals".

Both the place and the environment are no longer a barrier. Current voice portals can provide their service through a wide range of diffusion means, therefore covering all the circle of the current habitat.

The current self-service technology makes possible:

- Voice dialling
- Calling user recognition by means of CTI technology
- User certification by means of voice technologies
- Dialogue encryption for privacy and security
- Knowing the state of the airport parking
- Knowing the flight delay
- Changing the return ticket
- Doing financial transactions with economic repercussions
- Reading voice mails

We are in an age when the place and the moment we need a service do not matter. New IMS (IP/Internet Multimedia Subsystem) models in process of liberation by the traditional phone services operators will make possible the incorporation of a great number of self-service functionalities independent from the means of transport and distribution, as well as of access.