

A New Service for Customer Care Based on the TrentoRise BigData Platform

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ABSTRACT

In this paper, we give an overview of a platform implemented in collaboration with the University of Trento to deliver an innovative family of customer care services.

1. INTRODUCTION

The Internet of the Web 2.0 era has radically changed the way people interact and behave in business and everyday life. It has been a profound revolution, affecting the way people conduct business and interact with society. Social applications have radically changed the way people interact by creating new behavioural dynamics. A new wave of devices, like smartphones and tablets, have enticed people to stay online and to use the Internet for everything, almost as if it were a necessity. All of this has changed the dynamics of CRM processes, enabling new ways to profile our customers, identify their needs, and give them suggestions, thus engaging them in doing business with us. The Internet is our largest source of behavioural data. We just need to get those data and try to extract more value from them, while respecting people's privacy.

2. CUSTOMER CARE PLATFORM

At athilab we think that the new frontier of customer care consists in getting value out of the huge amount of data that the Internet allows us to collect and store, and in making prescriptive analytics targeted to individual customers.

Our idea is to offer a customer care service platform that is able to dive into this large amount of structured and unstructured data through the most advanced big-data technologies, and look for useful behavioural patterns.

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*Proceedings of the VLDB Endowment, Vol. 6, No. 11
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Those behavioural patterns, enriched with information collected from the final customer through specific questionnaires, let us build a specific profile that can be used to target the customer interest toward specific product offerings. The idea is to guide the interested customers, based on their profiles and usual behaviour.

Nothing new, someone may argue! The main point is that we are able to integrate and correlate all the information collected, to each individual; moreover, using semantic technologies from University of Trento, we are able to store and correlate each type of information (multimedia, stream, text, etc.) making all of them available for integrated analysis. Indeed, to develop this innovative service, athilab is cooperating with the University of Trento to explore the most interesting and advanced technologies that can add value to this platform.

The platform is made up by a set of backend services and a frontend app, which allows the user to interact with the system.

The frontend app has two goals. The first is to establish a better relationship with the customer through a set of customized services. These opportunities and offers can be liked and/or shared through the social media channels; these interactions with the social channels can be tracked, thus giving the system a valuable set of information. The second goal is to handle the customer profile by giving the user the possibility to interact with it and quickly update profile data to reflect new or changed personal interests.

The use of a smartphone instead of a web portal to interact with the final user is because it is the most immediate and intuitive way to do this. Smartphones are in everyone's hands and the use of these devices as entry points to the system is easier and friendlier; it gives more chances to be rapidly appreciated and used more often. Moreover the link between the app and the geolocalization services offers an interesting opportunity to immediately target incoming offers proposed by our app to local points of interest.

The backend is a set of services that help in building and improving a customer's profile with the objective to segment the customer base and automatically associate any product offer that can be relevant or of interest to a specific customer segment. A customer profile is built by considering all the following variables.

- The user profile built by integrating the profile information that came from the app with the data related to the history of the interaction with this user. (This must be taken by the information system data.)
- The user behaviour in terms of navigation through the different services made available on the app.
- The user interaction with the social media sources.

By taking into account all of these variables and by using behavioural algorithms developed by universities, the system defines clusters of customers and associates the offers that best match their needs to them.

Because of the need to analyse a big set of data we make

extensive use of BigData technologies like Hadoop.

The framework is used to store all the unstructured data coming from app navigation and from social network crawling; all of these data are analysed with specific algorithms for classification, tagging, quality check and so on to extract information needed to build and maintain a complete customer profile.

The work done so far has highlighted the inherent complexity of analysing in a fully automatic way large amounts of data, which vary continuously, in order to provide services in real time.

Thanks to the collaboration with the University of Trento, that has benefited us by providing new and promising technologies that are not available in commercial systems, we now offer in the cloud, a "customer caring" service to all those companies that, not having hoarded in time information about their relationship with their customers, know very little about them and are risking to lose them, without even knowing it.