Chapter 6
Real–Time Notifications:
Marketing Applied to the Internet of Things

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ABSTRACT

Consumers have become better informed, forcing companies to offer products and services that fit their tastes and preferences. The technologies in the context of internet of things (IoT) have been in increasing demand, by allowing the adaptation and customization of products and services contextualized with the location of consumers functioning and operating in real-time context and location of consumers. In this chapter, two relevant real-time content notification systems based on IoT systems are analyzed. It was concluded that, despite all the advantages associated with the use of these notification services, there are some security limitations: large amount of information collected, it is necessary to manage quickly and effectively to deliver relevant content in a timely manner; need for high bandwidth; considerable reduction of the autonomy of the batteries of the smartphones, of the users due to the necessity of activation of the GPS and the Bluetooth.

INTRODUCTION

Real-time notification systems based on IoT technologies can be applied to the most diverse areas by adding value propositions to their users.

The IoT market suffers from the lack of interaction between existing IoT products, providing an opportunity for the creation of aggregate solutions that bring true value and based on user information. Many Iot products are considered expensive, complex, and it takes several hours for the average consumer to configure the products. Users are also concerned that the products are unsafe and that unauthorized third parties access their privacy and data. These obstacles need to be addressed through the construction of easy, quick-to-configure devices with high safety standards (Hosek et al., 2017).

In Bangladesh, an IoT Notification System was developed to detect and track the occurrence of fires. When the system detects a fire, it takes photographs for confirmation from a system administrator. In case of confirmation, the system will trigger the alarms and send a message to the nearest fire brigade. The development of this type of systems can be advantageous for factories, avoiding the loss of life and destruction of facilities in case of fire (Imteaj, Rahman, Hossain, Alam, & Rahat, 2017).

IoT systems can be applied to commercial establishments to measure the size of queues, notifying staff only when it is critical. Allowing service to be faster and with quality (Viriyavisuthisakul, 2017).

IoT systems can be used to inform your users of interesting events nearby, enabling a higher value offer. These types of systems face major challenges, such as dealing with large data flow (Big Data) and the need to treat data in real time to provide relevant information to users. Another challenge is that users are constantly changing places, the system must update the data so that it remains relevant (Qader, 2017).

IoT notification systems can be used to monitor the state of degradation of sports equipment, notifying companies when they need maintenance, avoiding injuries to users (Sun, Hung, & Huang, 2017).

They can be used to only send notifications in a schedule with a greater probability of opening by the users, increasing the click rate (Gudla & Bose, 2016).

They can be applied to agriculture, in autonomous irrigation systems, to inform those responsible, of problems that are detected through sensors, facilitating the management (Imteaj, Rahman, Hossain, & Zaman, 2017).

They can be applied to security systems to detect intruders and collect evidence through video, and inform the police (Park & Cheong, 2017).

In systems and products development, it is necessary to pay close attention to how users react emotionally with the interfaces. It is indispensable to satisfy users through unique and meaningful experiences.

BACKGROUND

Currently, people use the Internet mainly to search information, send and receive e-mails, access multimedia content (eg music and videos), play online and interact on social networks (Miorandi, Sicari, De Pellegrini, & Chlamtac, 2012).

The concept of internet has been evolving, allowing new forms of interaction. Smart objects are everyday objects with built-in electronic components that extend the capabilities of the Internet and objects themselves (Miorandi et al., 2012). Smart objects produce and consume information from the relationships they establish with other smart objects, with the Internet and with users, thus forming an interconnected, dynamic and distributed network (Miorandi et al., 2012).

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