SOCIALIZATION OF OBJECTS THROUGH INTERNET

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Abstract- The purpose of social internet of things is (SIOT) to allow objects to have their own social network, to protect people's privacy by imposing rules. The main contributions is to identify the appropriate policies for the establishment and the management of social relationship between objects and to describe a possible architecture for the internet of things that includes the functionalities to integrate things into social network. It is augmented to discover, select and use objects with their services in the IoT through the SIoT paradigm.

Keywords- Social Networks, Internet of Things, Gateway,

I. INTRODUCTION

The Internet of Things (IoT) integrates a large number of Technologies and envisions a variety of things or objects around us that, through unique addressing schemes and standard communication protocols, are able to interact with each other's and cooperate with their neighbors to reach common goals [1].
With the enlargement of this concept, "internet of everything" is being talked. We are in a way to build smart cities, smart homes shortly smart everything around us. The power of internet comes from easily connecting everything each other.

II. SOCIAL INTERNET OF THINGS

Nearly %80 of time spend on smart phones are passed by social media related applications. Today's trend encourage developers to develop social applications on IoT enabled devices. This situation is definitely turns smart phones into a control panel. With this thought, smart phones are called control panel devices with social media button.

The information which processed from iot devices and social media will be very much valuable in the future. It is predicted that there will be nearly 6.4 billion IoT device at the end of 2016. This value has a %30 increment of previous year. At the end of 2020, estimated number of IoT devices is 20 billion. Every new device comes with more ability to do more complex and completed works.

In fact, applying the social networking principles to the IoT can lead to several advantages:

•The SIoT structure can be shaped as required to guarantee the network navigability, so as that the discovery of objects and services is performed effectively and the scalability is guaranteed like in the human social networks;
• A level of trustworthiness can be established for leveraging the degree of interaction among things that are friends;
• Models designed to study the social networks can be re-used to address IoT related issues (intrinsically related to extensive networks of interconnected objects).

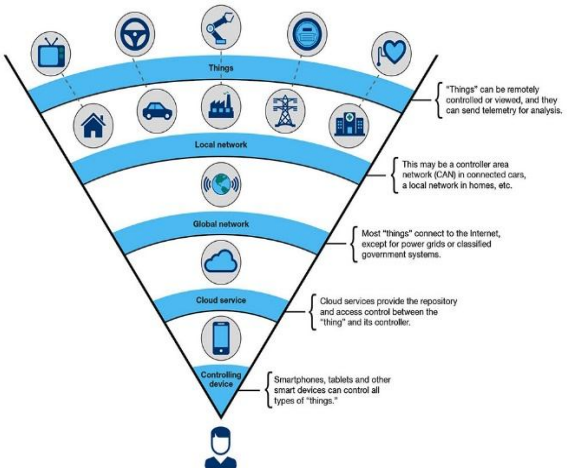

Fig.1. IBM Model for IoT

The exact definition of what constitutes the "T" in the IoT world is still in flux, but IBM has posited an IoT framework that draws a distinction between smart devices (such as tablets, phones and watches running Android or iOS and loaded with mobile apps from Google Play or the App Store) and other "things," such as pacemakers and oil level sensors in cars. This is illustrated in the Figure 1[2].

III. GATEWAY AND OBJECTS

In Gateway and Objects systems, the combination of layers may vary mainly depending on the device characteristics. The following three scenarios can be foreseen. In a simple one, a dummy Object that is equipped with a functionality of the lowest layer, is only enabled to send simple signals to another element (the Gateway). The Gateway is equipped with the whole set of functionalities of the three layers. In another scenario, a device (e.g., a video camera) is able to sense the physical world information and to send the related data over an IP network.

The object would then be set with the functionality of the Network Layer other than that of the Application one. Accordingly, there is no need for a Gateway with Application Layer functionality. An Application Layer in a server, somewhere in the Internet, with the gateway application layer functionality would be enough. According to a third scenario, a smart object (e.g., a smart phone) may implement the functionality of the three layers so that the Gateway is not needed, but for some communication facilities targeted to maintain the Internet connectivity of the object. This is the case of a smart phone, which has enough computational power to perform all the three- layer operations and that may need a Gateway for ubiquitous network connectivity. [3]

IV. TRENDS

Internet of Things has been identified as one of the emerging technologies in IT as noted in Gartner's IT Hype Cycle (see Fig. 2). A Hype Cycle [4] is a way to represent the emergence, adoption, maturity, and impact on applications of specific technologies. It has been forecasted that IoT will take 5–10 years for market adoption. The popularity of different paradigms varies with time.

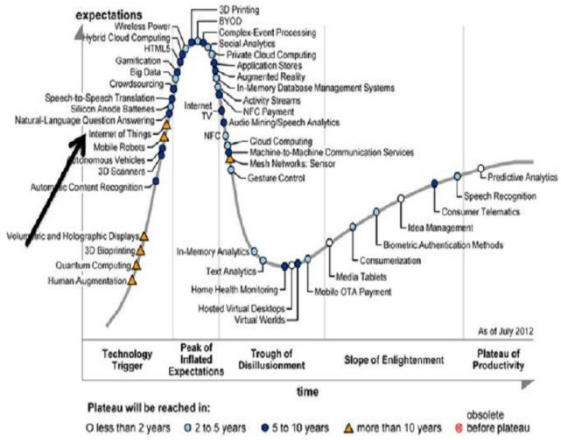

Fig.2. Gartner's IT Hype Cycle

The web search popularity, as measured by the Google search trends during the last 10 years for the terms Internet of Things, Wireless Sensor Networks and Ubiquitous Computing are shown in Fig. 3 [11]. As it can be seen, since IoT has come into existence, search volume is consistently increasing with the falling trend for Wireless Sensor Networks. As per Google's search forecast (dotted line in Fig. 2), this trend is likely to continue as other enabling technologies converge to form a genuine Internet of Things.[5]

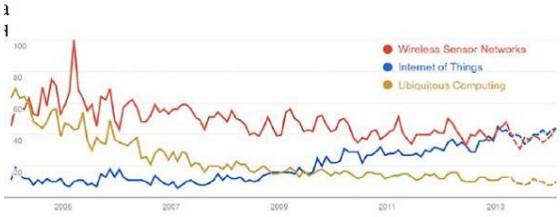

Fig.3. Google search trends since 2004 for terms Internet of Things, Wireless Sensor Networks, Ubiquitous Computing.

With these mobile services, a student can see his class schedule. When he clicks the course code, he can see the course details such as instructor and course definition. Timetable is shown in a weekly day format.

V. RESULTS AND CONCLUSION

The proliferation of devices with communicating–actuating capabilities is bringing closer the vision of an Internet of Things, where the sensing and actuation functions seamlessly blend into the background and new capabilities are made possible through access of rich new information sources. The evolution of the next generation mobile system will depend on the creativity of the users in designing new applications. IoT is an ideal emerging technology to influence this domain by providing new evolving data and the required computational resources for creating revolutionary apps. Recently, the SIoT has been the subject of several independent research activities as it promises to achieve scalable solutions in networks interconnecting trillions of nodes and to support new interesting applications.

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