

# Introducing The Internet of Things

The Internet of Things (IoT) is a huge theme in technology coming into 2015. Simply put, the Internet of Things is the interconnection of uniquely identifiable physical devices with the existing internet. The IoT involves development in personal stealth wear, virtual reality and artificial intelligence. The IoT will offer users extensive connectivity with their devices, going above and beyond machine-to-machine communications. Users will interact with the internet in new ways never before seen. There is expected to be 50 billion connected devices in the IoT by 2020 (Cisco, 2011)

The release of smart watches gave a small preview of what the IoT may provide. Smart watches now are effectively wearable computers that run mobile apps. These devices are also capable of making calls and answering calls. More recent models possess cameras, accelerometers, thermometers, pedometers and other sensors, enabling consumers to track their daily activities. Now consider having such features implemented on household items such as fridges, washing machines, clothes even cutlery.

For example, the HAPIfork is an electronic fork that helps users monitor and track their eating habits. Eating fast has been proven to lead to poor digestion and weight control. As such, the HAPIfork provides feedback to consumers on when they are eating too fast, by means of gentle vibrations and indicator lights. The HAPIfork records and uploads information of the user's meals via USB or Bluetooth to their online dashboard for tracking progress.

Another example is the Beam Brush, a 'smart' tooth brush that is intended to track and improve its user's dental health. The Beam Brush is also intended to provide parents notifications and trends on when their children brushed. The Beam Brush will act as a controller to play games while brushing, as an incentive to children.

This movement of electronics to everyday devices will make data accessibility and sharing more prominent. Of course with this increased connectivity and dependency on the internet, reliability and security will be of greater concern. This is especially true with the increasing penetration and development of mobile payment systems. Soon enough, mobile phones will be acting as credit cards.

The IoT far extends personal consumer use and can also be taken advantage of by utilities and manufacturers. There are ongoing talks on the development of a smart grid in Trinidad and Tobago, with a key focal point being 'the electrical grid needs to change to face today's challenges'. The IoT will support smart grid infrastructures by providing consumers, manufacturers and utility providers with easier means to monitor energy usage, as well as provide options to conserve resources. Such capabilities may change how energy regulation is performed and will become increasingly essential as electric vehicles become more prominent.

The IoT will find applications in almost every field, slowly infiltrating day-to-day lifestyles. How will you interact with these upcoming devices? Tracking your diets and activities for a healthier lifestyle? Controlling your home appliances remotely? Monitoring energy usage at home? The

floor will be opened to all and along with it comes endless possibilities limited only by imagination.

### **Centre for Enterprise Development**

The Centre for Enterprise Development (CED) is a flagship development of CARIRI which is aimed at facilitating Research, Development and Innovation. The Tekmania arm of CED accommodates Information and Communication Technology (ICT) project initiatives being undertaken by CARIRI that are geared towards enhancing the operational efficiencies of SMEs.

One function of Tekmania is the TekDev which provides innovative and out-of-the box software solutions to address the needs of Micro, Small and Medium Sized Enterprises (MSMEs) in Trinidad and Tobago. By using the latest technologies of Cloud Computing, Web, Mobile and Desktop Applications even the implementation of IoT devices, we will work with the entrepreneur to design and develop customized solutions that will leverage the maximum potential of the enterprise.

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