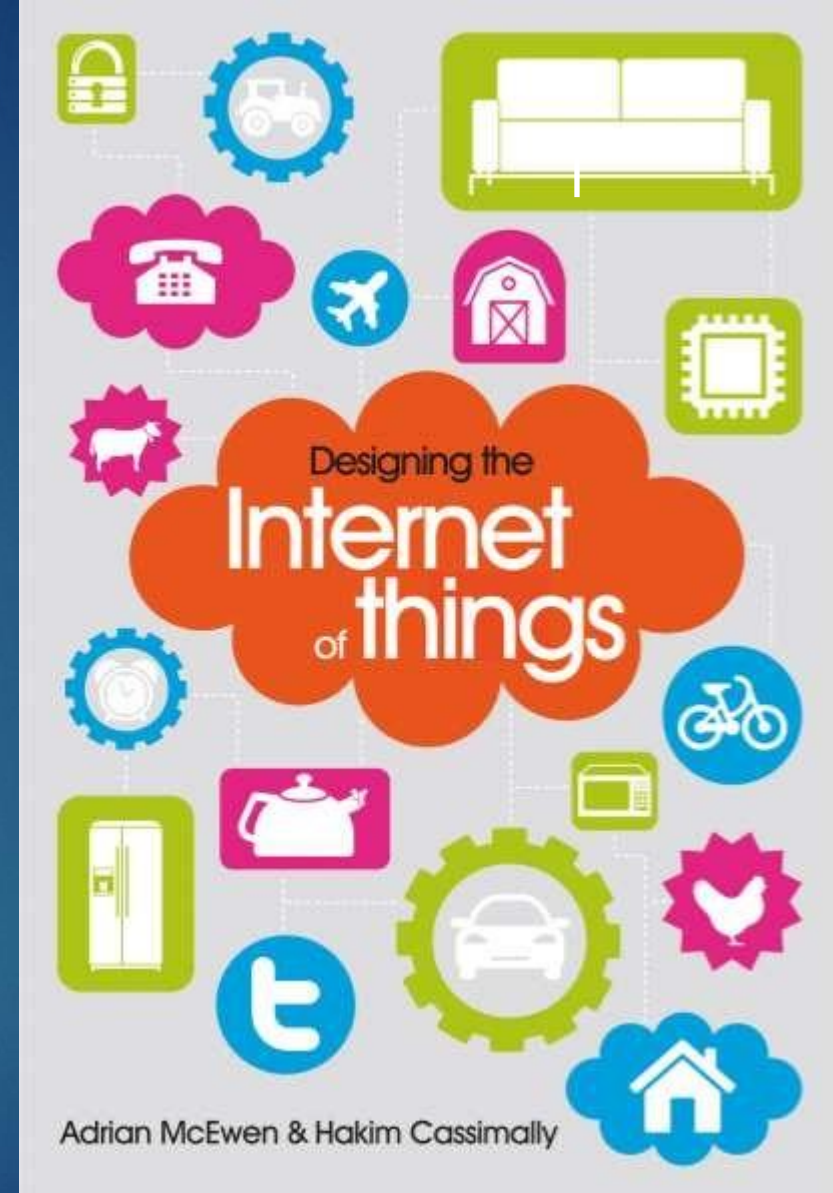


INTERNET OF THINGS

TYBSC IT- SEM V

UNIT I



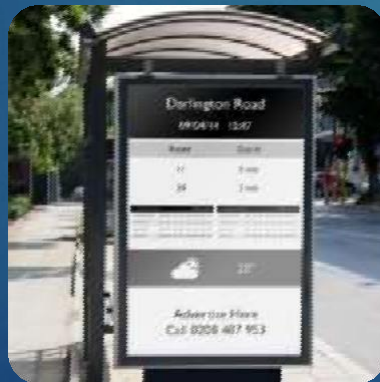
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CHAPTER 1: THE INTERNET OF THINGS: AN OVERVIEW

- THE FLAVOUR OF THE INTERNET OF THINGS
- THE “INTERNET” OF “THINGS”
- THE TECHNOLOGY OF THE INTERNET OF THINGS
- ENCHANTED OBJECTS
- WHO IS MAKING THE INTERNET OF THINGS?

THE FLAVOUR OF THE INTERNET OF THINGS

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THE “INTERNET” OF “THINGS”

- All the cases we saw used the Internet to **send, receive, or communicate information.**
- And in each case, the **gadget that was connected to the Internet wasn't a computer, tablet, or mobile phone but an object, a Thing.**
- So the idea of the Internet of Things suggests that rather than having a small number of very powerful computing devices in your life (laptop, tablet, phone) • you might have a large number of devices which are perhaps less powerful (umbrella, bracelet, mirror, fridge, shoes).
- That is to say, such a device is an intelligently programmed computer processor, driven by sensors in the real world, and driving output in the real world, all embedded into an everyday object.
- The Thing is present, physically in the real world, in your home, your work, your car, or worn around your body. • This means that it can receive inputs from your world and transform those into data which is sent onto the Internet for collection and processing.

THE “INTERNET” OF “THINGS”



Equation for the internet of things

$$\begin{aligned} & \text{Physical Objects} \\ & + \\ & \text{Controller, Sensor and Actuator} \\ & + \\ & \text{Internet} \\ & = \\ & \text{Internet of Things} \end{aligned}$$

THE TECHNOLOGY OF THE INTERNET OF THINGS

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- As **technology has progressed**, new categories of objects have been created
- In the electronic age, they were telephones, radios, televisions, computers, and smartphones. •
- **As with most new technology, these devices tended to start out very expensive and gradually come down in price.**
- Ultimately, it becomes not just possible but also feasible to include functionality that would previously have required its own dedicated device inside another one.
- Mere **computing power** isn't a sufficient precondition for the Internet of Things.
- Rather, we are looking at computing power linked on the one hand to **electronic sensors and actuators** which interact with the real world and on the other to the Internet.
- It turns out that the **rapid sharing and processing of information with services** or other consumers is a huge differentiator.

ENCHANTED OBJECTS

- various objects drawn from fairy tales and fantasy literature in ways that apply as much to technological objects.
 - Human Connection
 - Effortless Mobility
 - Location Tracking
- So, technology has always been associated with magic, and so this will be true almost by default for the Internet of Things.
- A key element of many enchanted objects is that above and beyond their practical enchantment they are given a name and a personality—implying an intelligence greater than strictly necessary to carry out the task for which they are designed.
- So our connected devices, or Things, have processing and communicating capabilities well beyond the needs of the average lamp or umbrella.



WHO IS MAKING THE INTERNET OF THINGS?

There are many crossover points between all the disciplines listed.

- **Artists** may collaborate with **designers** on installations or with traditional **craftspeople** on printmaking.
- **Designers** and **engineers** work closely to make industrial products, and **hobbyist “hackers”** (in the sense of tinkerers (**unskilled person**)).
- A **software developer** might write the online component;
- A designer might turn the ugly prototype into a thing of beauty, possibly invoking the skills of a craftsman
- And an engineer might be required to solve difficult technical challenges, especially in scaling up to production.

Thank you