An Enabling Ecosystem for IoT Use + Monetisation

Agenda

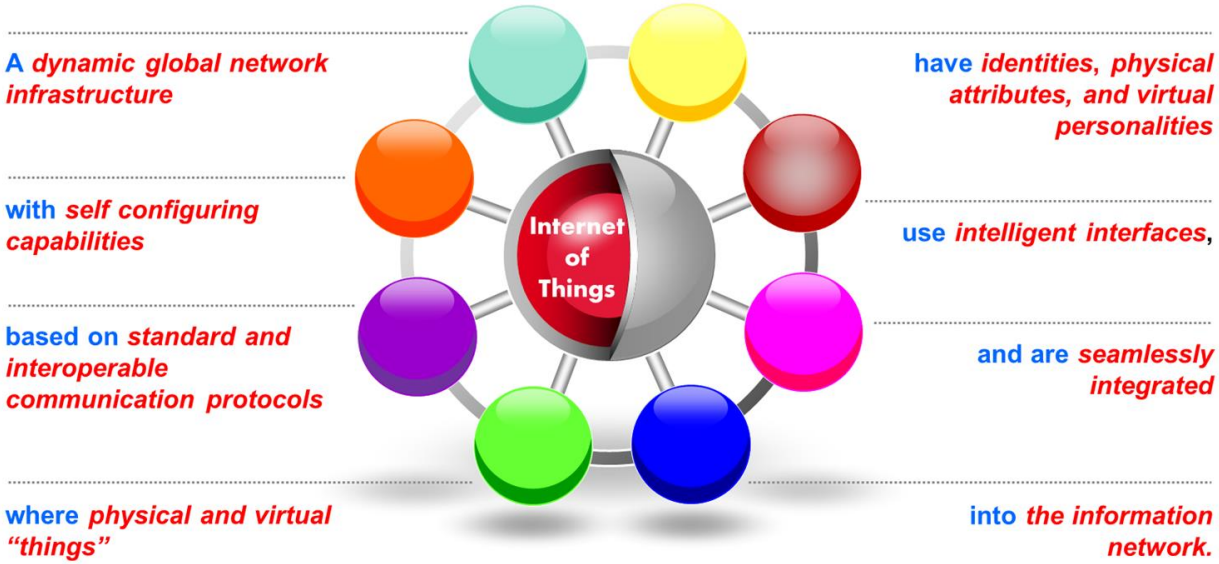
Framework

Context

Constructing

Partnering

Framework setting



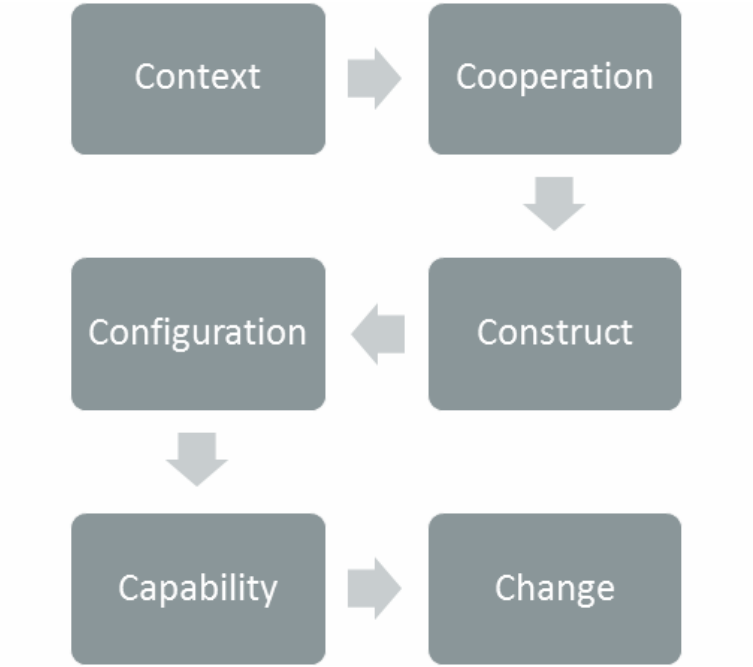
Definitions - IoT

The IoT Ecosystem

The IoT based business ecosystem should comprise an interdependent community including **industrial players**, **government**, industrial associations and other customers, beyond the boundaries of traditional industry relations.

Within such a complex system, **how it works** and how all those stakeholders can **co-evolve** with each other has arisen as key concerns by both academia and practitioners.

Framework for an IoT Ecosystem



Understanding business ecosystem using a 6C framework in Internet-of-Things-based sectors

5 authors, including:

Ke Rong
Tsinghua University
32 PUBLICATIONS **115** CITATIONS
SEE PROFILE

Yong Lin
University of Greenwich
28 PUBLICATIONS **262** CITATIONS
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Yongjiang Shi
University of Cambridge
107 PUBLICATIONS **957** CITATIONS
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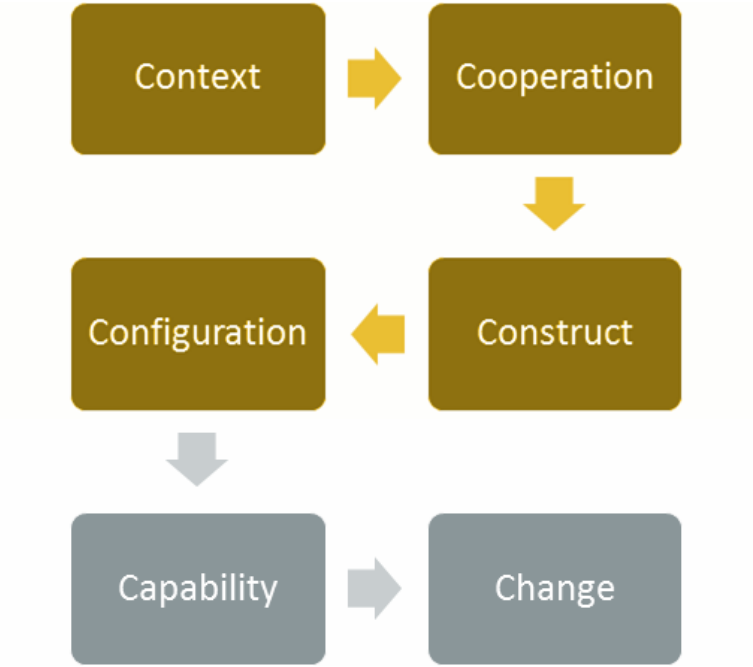
Framework for an IoT Ecosystem



The experiences my team and I have had have brought us to the configuration stage.

Context

Relevant Projects

Who am I

Software Developer

- Built for web, mobile, desktop & cloud

Software Advocate

- Evangelising, Teaching, Training

Context

Parliamentary call

Parliamentary call

Motivation

"Mr. President, the point is when we are on an **instance of a burning need** to use registration and license plates and RFID tags for all vehicles in this country to assist in crime, thereby—Mr. President, if you look at the hundreds of thousands of cars on the road, the use of technology with every car being tagged everywhere you are, under every traffic light in this country **automatically expands the police force in this country**, and therefore reduces the need for certain aspects of foot pounding-pavement manpower"

Sen. F. Al-Rawi

Tuesday, April 09, 2013

Parliamentary call

Is it real?

Can the tech support the minister’s demand?

In Trinidad?

What do you need?

Construct

Making this happen

Construct - First attempt

Results of this awareness

MSc project

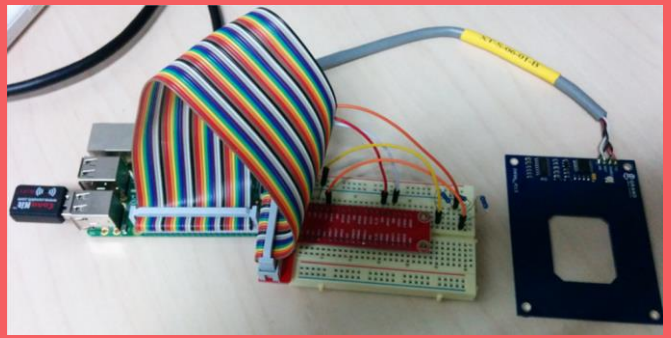
Project goal: Use RFID to track vehicles

Reasoning: Tabled in Parliament in 2014

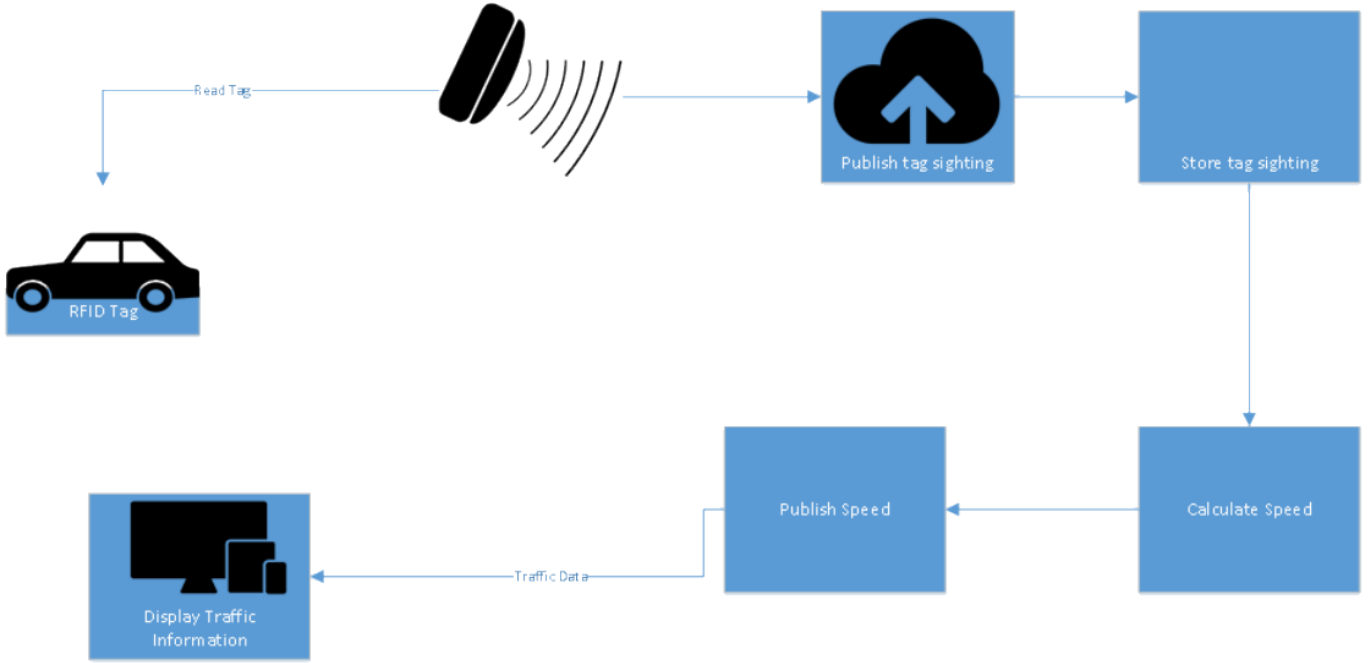
Rationale: Seen evidence of it during traveling

Construct - the solution

Driving IoT



The Solution



The Solution

Technologies involved:

RFID

Single-board computers

Web-based communication

Cloud services

The Solution

Costs

Tags

- Acquired outside TT
- Per unit cost low (passive)
- Can be printed locally

The Solution

Costs

Readers

- Acquired outside TT
- Per unit cost high
- Far fewer needed based on solution deployment

The Solution

Costs

Processing units

- Acquired outside TT
- Per unit cost relatively low
- Far fewer needed based on solution deployment

The Solution

Costs

Data

- Transmission over GPRS network
- 2G speeds sufficient (sends text; for now)

The Solution

Costs

Cloud

- Bandwidth
- Data storage
- Processing
- Cost varies linearly with usage, of course, only paying for what's consumed.

Configuration

Discovering partners

Opportunities and Challenges

Presenting on IoT futures at MSFT

Ways this solution can be used

- Speed measurement
- Arrival times
- Parking meters
- General entity monitoring in spaces

Partners

Existing grant facility

Attracting grant

Successfully demonstrating capacity

Partners

Understanding regulatory requirements

IoT means “real world”

Accessing information about limits

Determining what adjustments needed to be made in equipment & solution configuration

Partners

Determining the reality of interest

Coming out of initial partnership, approaches to several stakeholders in government have been made.

Possibility of pilot/new opportunities