Building Intelligent Edge Solutions with Microsoft IoT

Dr. Joe Lin
Greater China Region Lead
IoT Solutions, Microsoft
The IoT Revolution Is Now

Technology Adoption Life Cycle

- Innovators
- Early adopters
- Early majority
- Late majority
- Laggards

The “Chasm”

80 Billion
Connected “things” by 2025 - IDC

180 Zettabytes
Digital data by 2025 - IDC

$457 Billion
Global IoT market by 2020 - Gartner

IoT in Action
Innovation at Work: Real IoT Use Cases
IoT Enables a Digital Feedback Loop

- Engage customers
- Empower employees
- Transform products
- Optimize operations

Data + intelligence

IoT in Action

Microsoft
Microsoft is simplifying IoT
Microsoft is simplifying IoT

- Easier to build secure, scalable solutions from device to cloud
- Easier to provision devices at scale
- Easier to secure devices at scale
- Easier to manage devices at scale
- Easier to find insights from your IoT devices
- Easier to run cloud services on devices
- Easier to benefit from IoT
Microsoft is simplifying IoT

Azure IoT Central + Microsoft Dynamics 365
Tommy Wu
Greater China Region
IoT Solution Architect
Scenario #1: Notification of Unsafe Conditions
Seeed ReButton

IoT development tool

- Momentary button
- Multiple click scenarios
- Indicator LED
- Wi-Fi enabled
- Extensible with Grove sensors

http://www.seeedstudio.com
Scenario #1: Notification of Unsafe Conditions

Seeed Button

Azure IoT Central

Microsoft Dynamics 365
ReButton Music Player Architecture
-Play your idea anywhere through Azure IoT technology

Azure IoT Central

Single Click-Do
Dbi Click-Re
Triple Click-Mi
Fourth Click- Fa
Fifth Click - So

WebHook
Post Action

Azure Web App

Microsoft Azure

OTA Update
CRC/Size
Generation

Visual Studio Code

Short Press – Button Power On
Long Press – AP mode & Settings

Microsoft

RePlay

Play Sound
Queue Melody

ReButton

Short Press – Button Power On
Long Press – AP mode & Settings

Short Press

OTA Update
CRC/Size
Generation
Scenario #2: Protecting Worker Hearing

- Spill Notification
- Excessive Noise Alert

Value Realized
Choosing PaaS vs. SaaS

PaaS

SaaS

Extensibility Points

One Continuum for IoT Solutions
Scenario #2: Protecting Worker Hearing

**Things**

- Ear defenders
- IoT sensors

**Insights**

- IoT Hub
- Azure Stream Analytics
- Time Series Insights
- Power BI

**Actions**

- Notify worker of danger
- Light signal
- Real-time reporting
- Operational & compliance reporting
Scenario #2: Protecting Worker Hearing

Value Realized

Spill Notification

Excessive Noise Alert

Microsoft
Scenario #3: Ensuring Protective Gear Compliance

- Spill Notification
- Excessive Noise Alert
- Safety Gear Warning

Value Realized

IoT in Action
## Scenario #3: Ensuring Protective Gear Compliance

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<th>Things</th>
<th>Insights</th>
<th>Action</th>
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<td>• Operational &amp; compliance reporting</td>
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*Image: Microsoft*
Scenario #3: Ensuring Protective Gear Compliance

- Spill Notification
- Excessive Noise Alert
- Safety Gear Warning

Value Realized

IoT in Action

Microsoft
Anatomy of a Solution built off an Accelerator

- **Architectural Component**: Infrastructure for any IoT solution – a generic capability not specific to a solution or use.

- **Specialization Component**: Partner customization for customers’ needs – a solution differentiator.

- **Functional Component**: Builds on the foundation making the capability specific to a solution or use case.
Is there a solution accelerator for Safety?
We had an Idea
Ben Kotvis
Managing Architect, IoT
Demo
Safety Notification & Response Platform Solution Accelerator

D2C Events
intake from devices that listen, see, or activate by touch

Communicate via device twins to connected devices. (e.g., bulbs, smart locks, etc.)

Administration Portal
Application that integrates with emergency response platforms, creates the communication channel and manages connected devices

Microsoft Azure Cloud Platform

Communication App For an affected community

https://github.com/litebulb/ProjectEdison
Thank you!