

Lesson 1

Specialization Overview

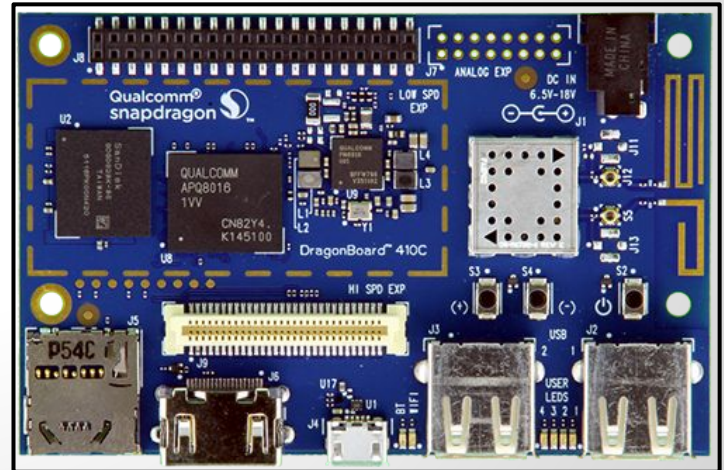
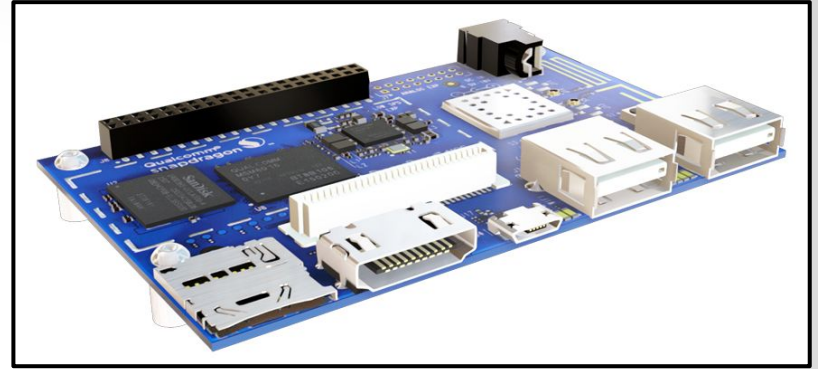
Lesson 1 | Specialization Overview

1 - IoT: What the heck is it?

2 - Build your own IoT

3 - Prerequisites

4 - Specialization Courses in a Nutshell

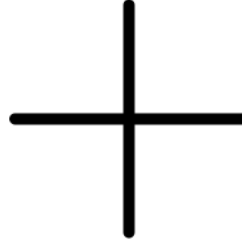


1 - IoT: What the heck is it?

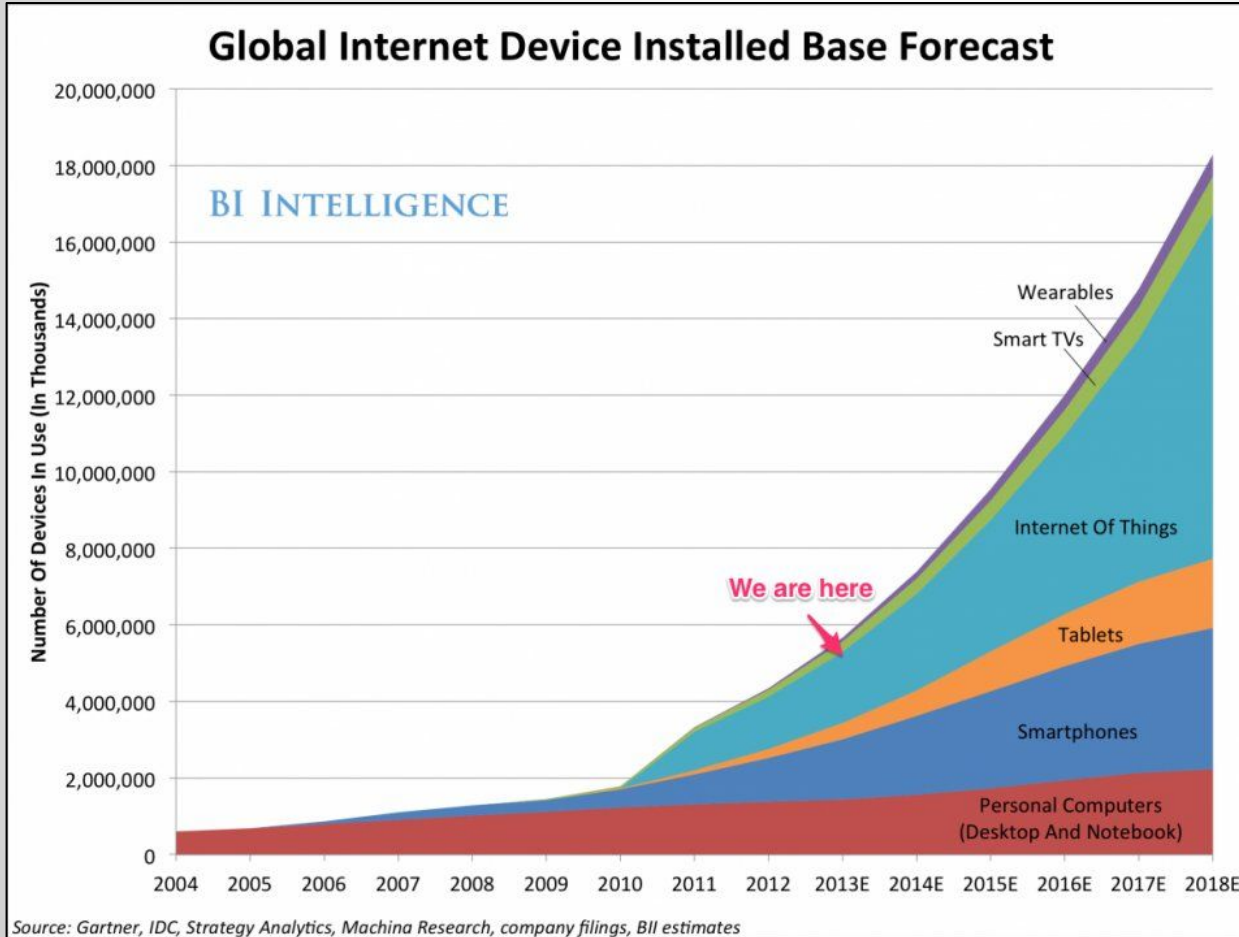
1 | IoT: What the heck is it?



What is this thing?

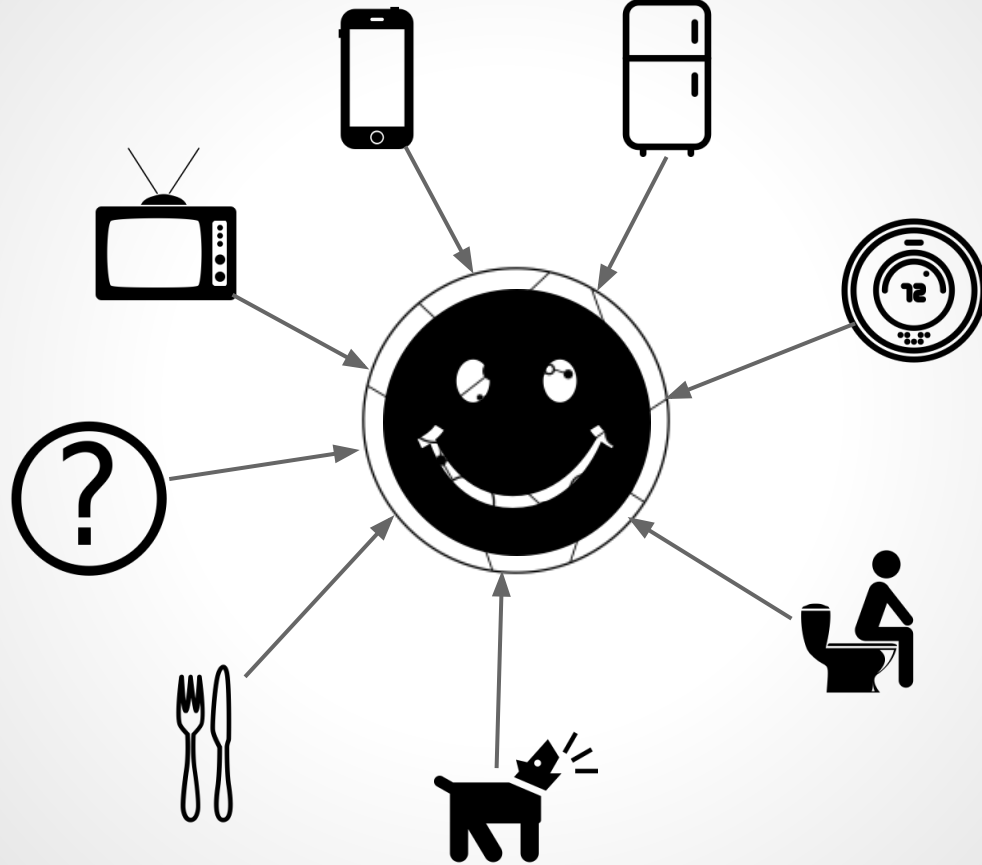


1 | IoT: What the heck is it?



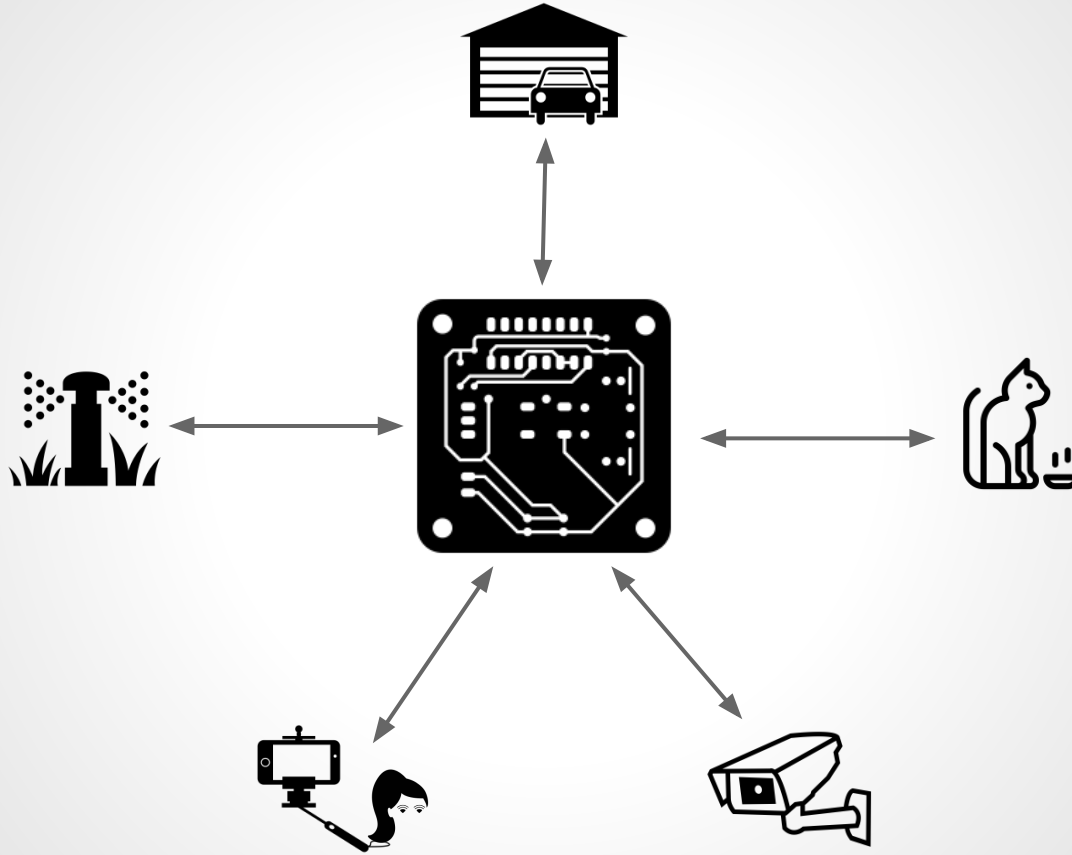
How many things?

1 | IoT: What the heck is it?



2 - Build your own IoT

2 | Build your own IoT

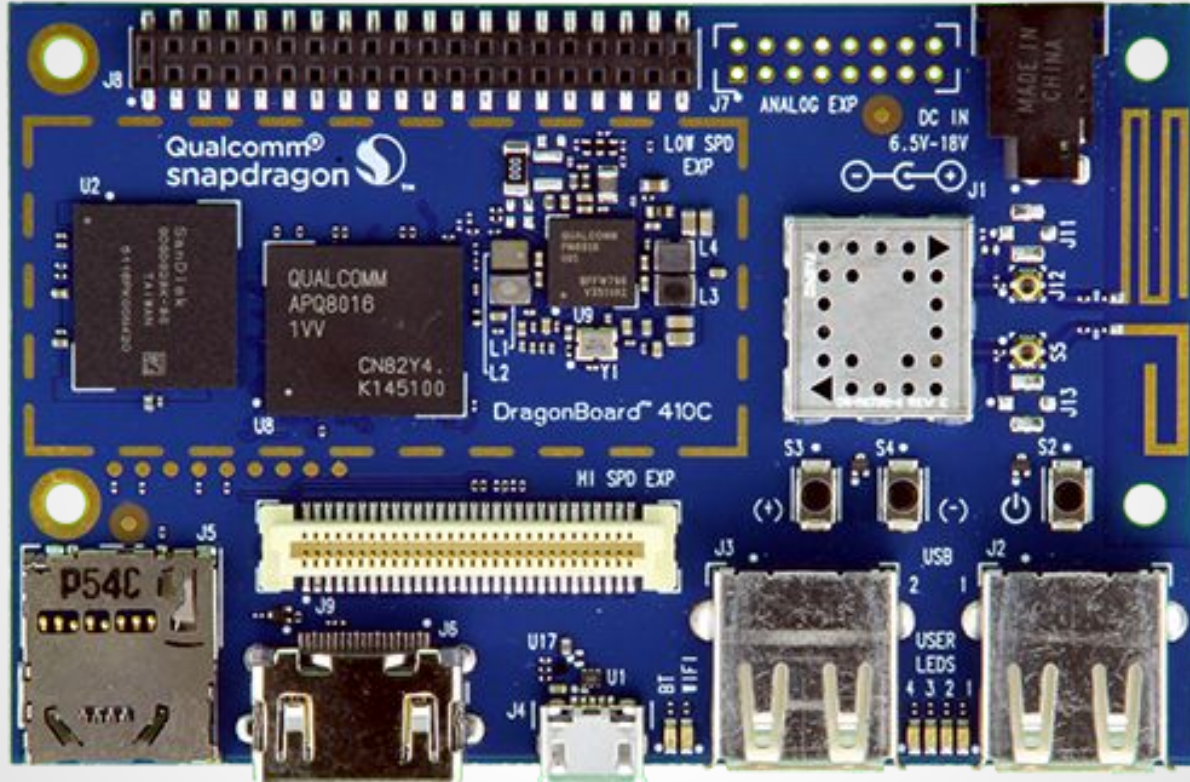


2 | Build your own IoT

Options:

- **Microcontrollers**
- **Single Board Computers (SBC)**
- **Smart Phones**

2 | Build your own IoT



DragonBoard™ 410c

2 | Build your own IoT



DragonBoard™ 410c: Single board computer

3 - Prerequisites

3 | Prerequisites

- **Programming skills:**

- Some programming experience in Java or Python.

- **Hardware:**

- Experience in tinkering with some hardware a plus but not necessary.

- **Platform Options:**

- Android/Linux/Java/Python

- Windows/Mac/Linux

4 - Specialization Courses in a Nutshell

4 | Specialization Courses in a Nutshell

- **Course 1** : this->Class
- **Course 2** : Setting up your Dragonboard 410c
- **Course 3** : Sensing and Actuation
- **Course 4** : Communication
- **Course 5** : Multimedia
- **Course 6** : Capstone

Lesson 2

Future of IoT

Lesson 2 | Future of IoT

1 - IoT in mHealth



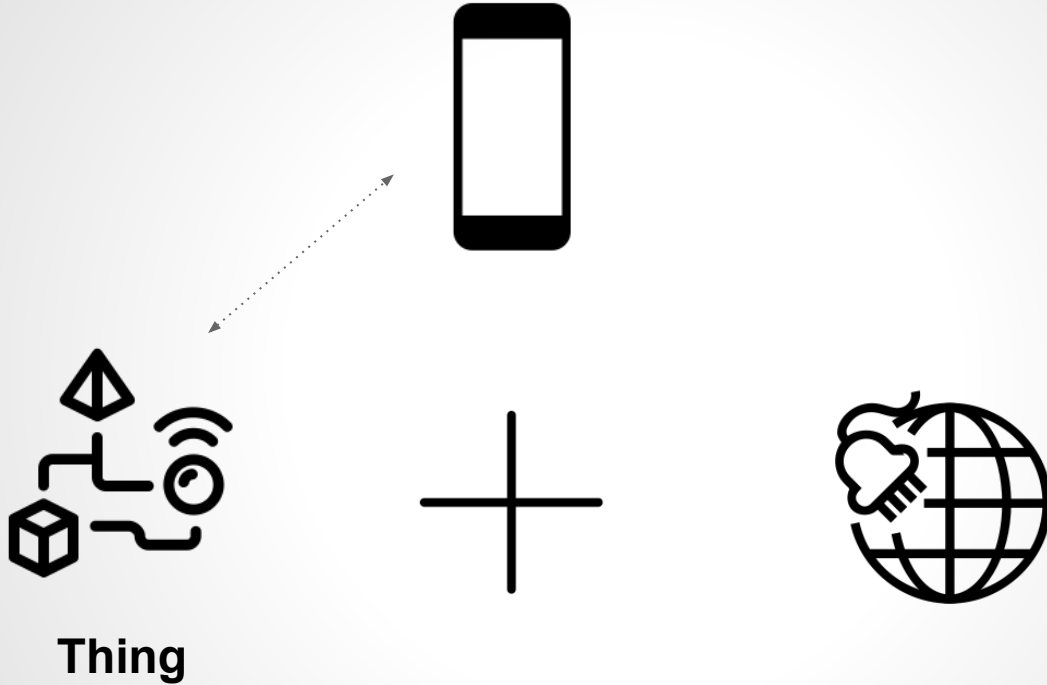
2 - Smart Homes



3 - Automotive



Lesson 2 | Future of IoT



1 - IoT : mHealth

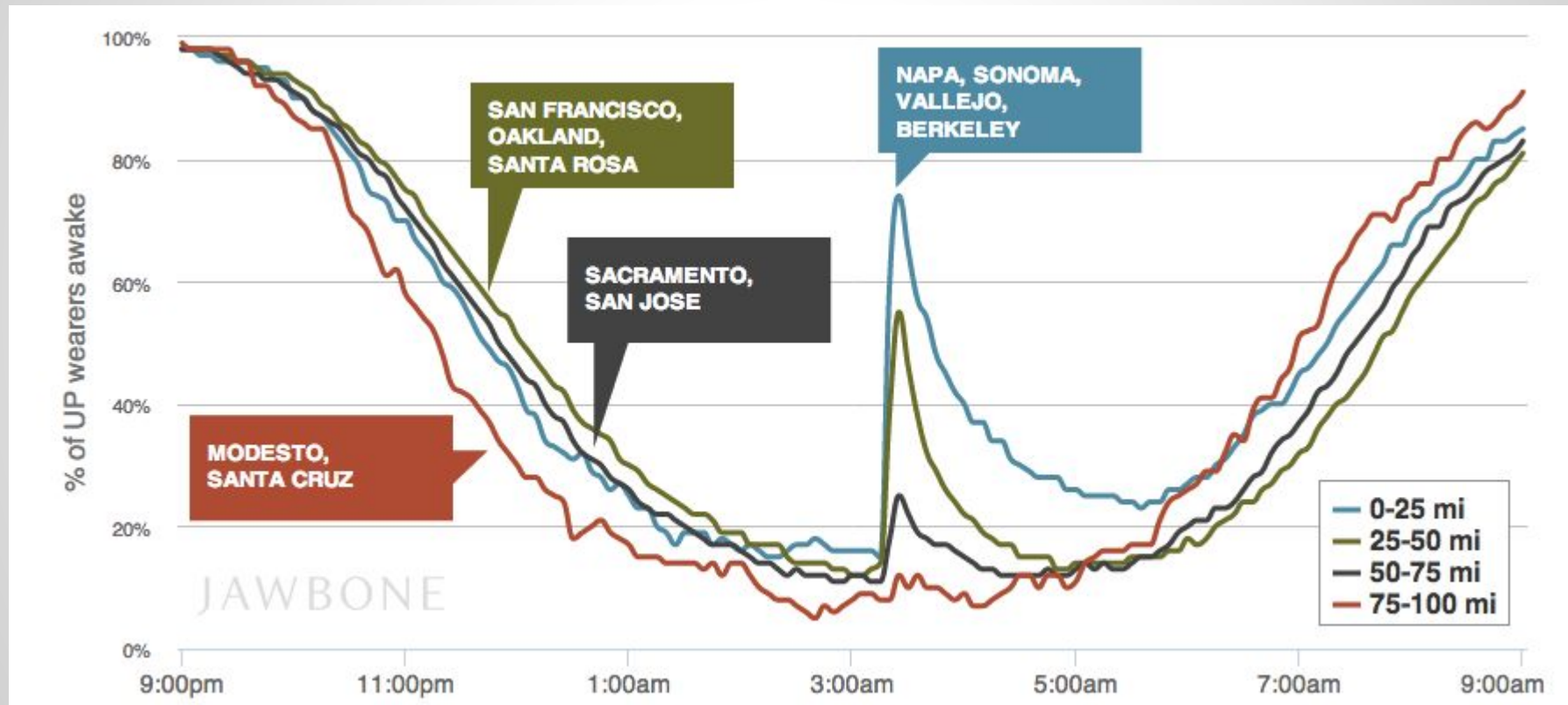
1 | IoT: mHealth



1 | IoT: mHealth

- **Big Data Analytics**
- **Target Store : Pregnancy Prediction**
- **Earthquake : Epicenter vs Sleep**
- **Settings -> Privacy -> Location Services -> System Services -> Frequent Locations (iOS)**

1 | IoT: mHealth



1 | IoT: mHealth



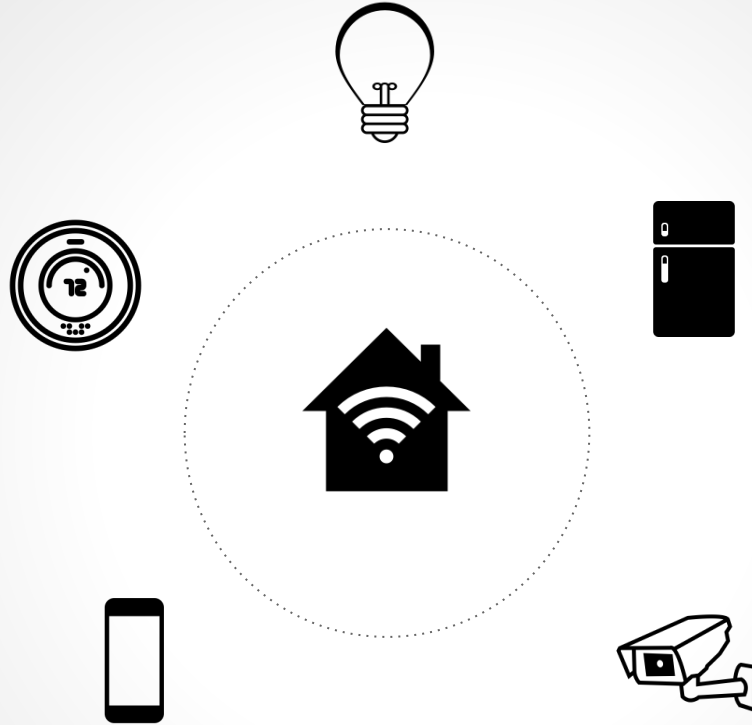
1 | IoT: mHealth

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2 - IoT : Smart Homes

2 | IoT: Smart Homes

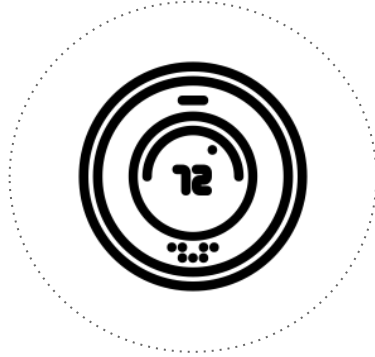


2 | IoT: Smart Homes

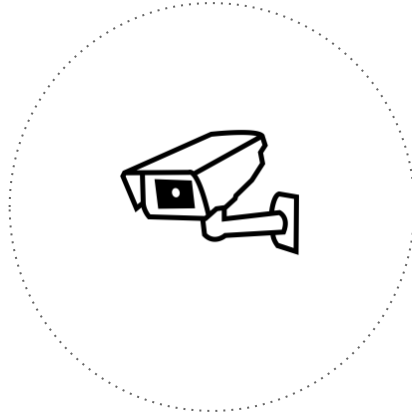
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<https://www.youtube.com/watch?v=Mp23j9rfhPw> (from 10sec - 30sec)

2 | IoT: Smart Homes

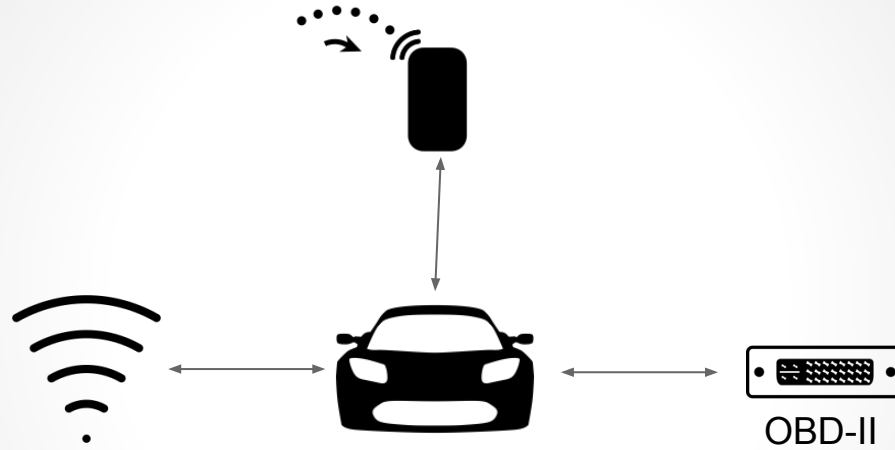


2 | IoT: Smart Homes



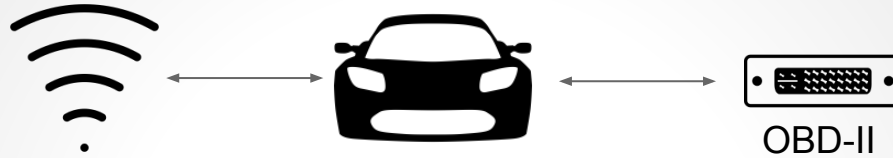
3 - IoT : Automotive

2 | IoT: Automotive



Car is 90% software 10% hardware

3 | IoT: Automotive



- **Airbag Deployment**
- **Door Unlock, Honk Horn, Remote Start, Stop Texting**
- **Vehicle Diagnostics**

3 | IoT: Automotive



- **Infotainment**
- **CarPlay (Apple), Open Automotive Alliance (Google)**
- **Vehicle to Vehicle Communication**