EDD Project Proposal

The lack of security in widespread ground areas is problematic, and even dangerous in many instances. For example BBC reported that there were 96 stowaways who boarded the plane from the airfield, of which only 26% survived the flight. This danger with stowaways can be largely attributed to the lack of security in the wide spread areas of an airport airfield.

Thomas, Maggie, & Scott

PROJECT LEAD THE WAY
PLTW

Why do we need ground security?

the potential consequences of insecure locations

The dangers of insecure grounds

Outdoor Security

Let us not look back in ***anger*** or forward in ***fear***, but around in ***awareness***.

~ James Thurber

Theft
People can take your stuff when you are not aware.

Tresspassing
Without security, people can get on your property.

Damage
Often times damage can happen without being able to hold anyone accountable.

Our Focus

Outdoor Security

Families need to have peace of mind and protections in all aspects of their home life.

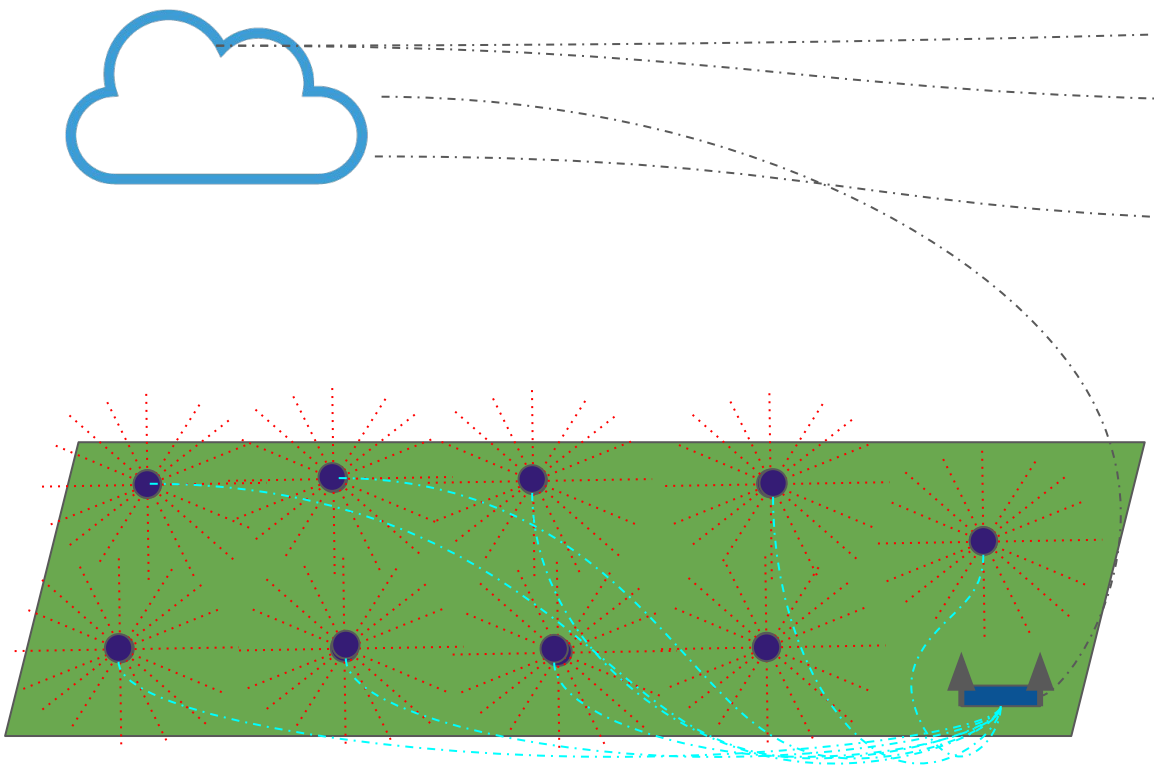
The Commonwealth need protection in their day to day life, keeping them safer, and the world better.

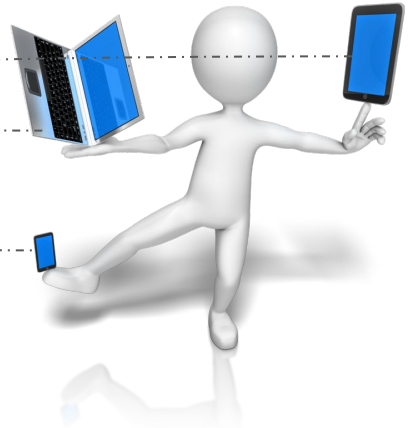
Businesses need protection, not only for their employees, but also to protect intellectual, and physical property.

We will go into what is needed to solve this problem.

What is involved?

Our IoT Solution for Ground Security

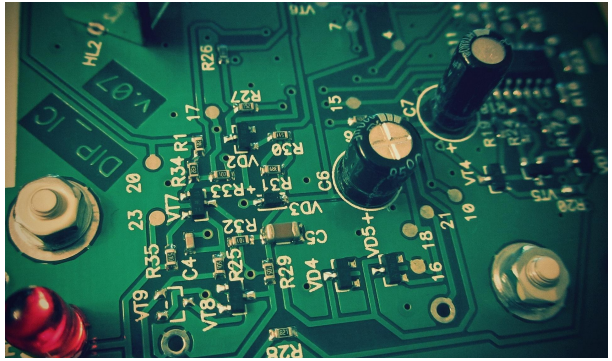




	Gateway
	Endnode Sensor (IR)
	Symphony Link (RF)
	Wifi

Research Design

Outdoor Security



We are going to be designing a device that will be installed in the ground and monitor ground movement. Over this course we are planning on building a proof of concept for our embedded device utilizing the Arduino Due. We are also going to be working on getting our end user interface in beta. While our product will not be in a marketable state after this course, it will be in a state that can prove to investors that this is a product worth developing and funding past the EDD course.

The Costs

- Arduino Due ($30-$50)
- Thermal IR Sensor Module ($50)
- 3D Printing Cases and components
- Thermal reflective surfaces (~$1000)
- Wires and Solder (~$15)
- Link Labs Gateway ($1100)
- Link Labs Evaluation board ($50)

Development Steps

Modifying the Sensors

We plan to design a complex mirror system to deflect IR Light around a 360 degree device. We plan to use a pre-existent module with our mirror design.

Building the Prototype

Based on the Arduino Due, we plan to build a proof-of-concept. The Due is the closest development platform to what our real end product would be

Developing the Firmware

Working on the Development Board, we need to develop the firmware to interface the sensors and report finding to the user

Developing the User Interface

We need to develop a way for clients to not only see the data that our sensors will collect but also get notifications when they need it.

What We Do

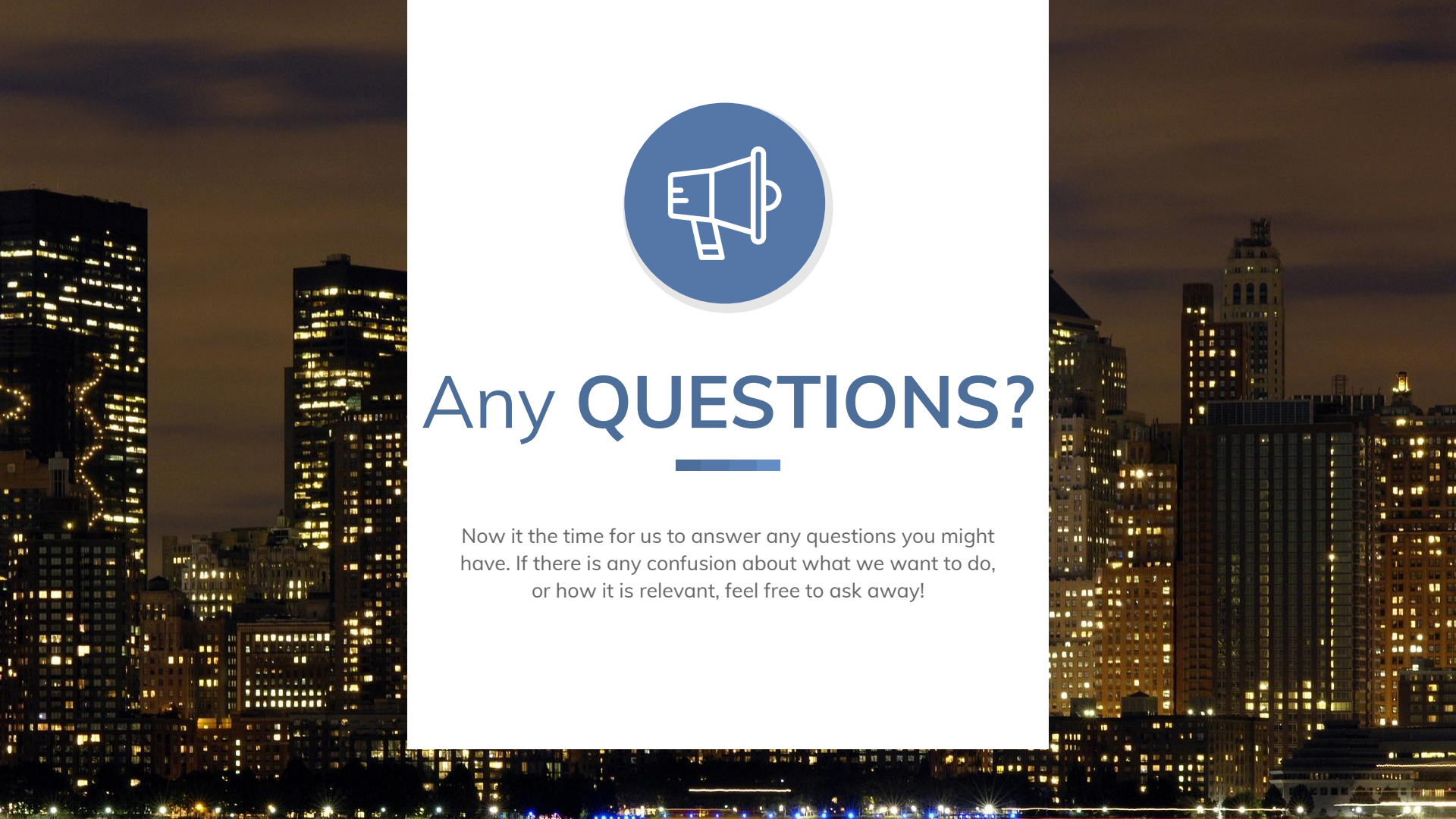
Outdoor Security

Inform

Act

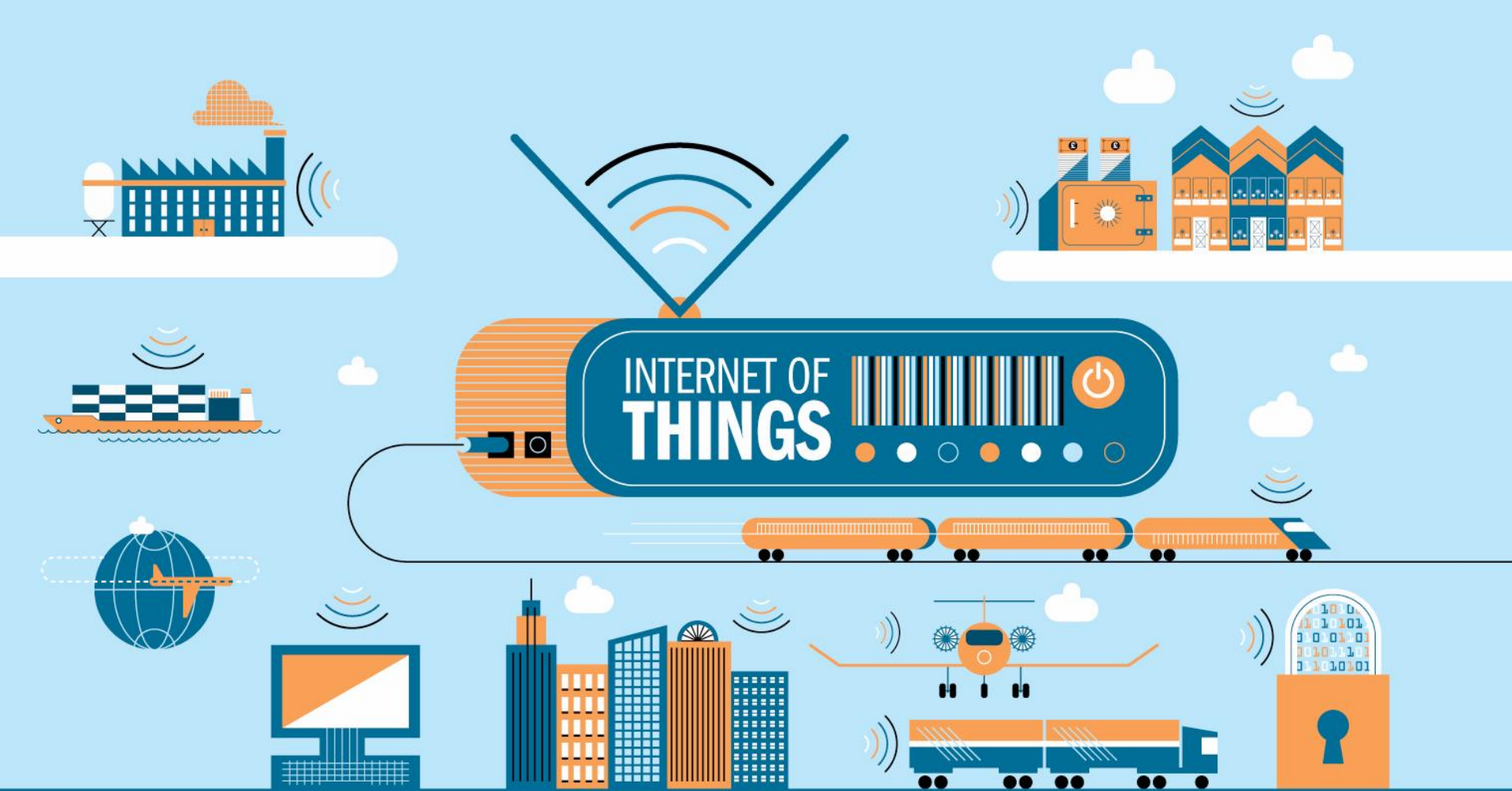
Target

Survey



Any **QUESTIONS?**

Now it the time for us to answer any questions you might have. If there is any confusion about what we want to do, or how it is relevant, feel free to ask away!



http://www.slideshare.net/iotdc/internet-of-things-dc-july-13-meetup-link-labs

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