The One Pixel Project ■

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The One Pixel Project aims to develop new concpets in The Internet of Things. The core objective is to make existing objects more meaningful and more contextualised by utilising the simplest of interfaces, a single pixel.

Our life is complicated enough - but in our contemporary world that is made more confusing by the bombardment of notifications on our various screens and especially our mobile phones. Our days are spent with almost constant distractions from these alerts. It results in people living in a state of continuous low-level anxiety from the moment we get up until we go to bed.

The Internet of Things promised us a better world, and whilst powerful technologies allow us to create a myriad of connected devices, they all have one problem. The generate numerous notifications to our devices. What if we could make modern life simpler? Instead of sending an alert to a phone, what if an object to give us relevant information in the simplest, most contextual way. A single pixel. That pixel could be a light, or a glow. But it could also be a gentle sound or a vibration. Something discreet but highly relevant.

This is what led to this STEAM Fellows project - what one-pixel objects could we create? It wasn't just about the end result though, the project also aimed to create a collaborative process that brought in others to develop the idea. What follows are a result of these ideas - some One Pixel objects ■

Rainy-Day Coat Hanger ■

What's the problem?

You want to know if it's going to rain! We can use our phones, but checking them first thing in the morning means we tend to get sucked into messages or emails, and our day is already stressed before we leave the house.

What's the solution?

No more checking our phones. The hanger has a single light embedded behind the wood at the top. Hang it near the door and you'll immediately know if you need a coat that day (or even an umberella).

How does it work?

Inside the hanger is a tiny Arduino and LED. The hanger is set up initially by the phone. There is a choice of location for rain (taken from a weather feed) and a time-period for the light to some on. The hanger can also be set for other weather conditions such as snow or sunny days. It uses a Bluetooth connection to the p

The Better-Pill Bottle ■

What's the problem?

People forget to take their pills, yet missed medication has a major impact on the effectiveness of health care.

What's the solution?

This is a simple haptic solution, where the bottle gently vibrates in your pocket or bag. Whilst there are both apps and other caps that can be set for reminders, this one offers the most simple, yet discreet solution. No alrams going off, and the buzz makes it easy to locate in your pocket or bag. It's idea for any short course of medication, and you can easily add your own label or notes.

How does it work?

The cap has a tiny Arduino and vibration mechanism. It is set via a phone with parameters for times, frequency and duration of the medication. The information is sent to the cap via Bluetooh.

Your-Cup-of-Tea Coaster ■

What's the problem?

Many people forget to drink their tea before it gets cold (and most people like warm tea).

What's the solution?

Place the cup on the coaster and as themperature starts to drop, the coaster emits a short chirp at regular intervals.

How does it work?

A pressure sensor will detect the presence of a mug. A simple temperature sensor connected to an Arduino will measure the droop in temperature and a simple alarm will be activated.

Drink-Me Water Bottle ■

What's the problem?

People don't drink enough water! The average adult needs to drink around 2ltrs of water per day, which is best taken in small regular amounts.

What's the solution?

The water bottle will remind the drinker either by the cap glowing or a simple, discreet sound (water runnning, maybe).

How does it work?

The tech is burried in the cap. When the user fills the bottle there is a small button to activate the reminders. A simple timer will be activated to trigger reminders every hour for 8 hours.

Forget-Me-Not Keys ■

What's the problem?

We've all done it - we've gone out the house without our keys. Some people do this more regularly and could do with a reminder.

What's the solution?

A clip that attaches to the doorhandle that vibrates if you become separated from your keys. There will also be a fob for the keys.

How does it work?

Both the doorhandle clip and fob are connected by Bluetooth. If you approach the door and there's no signal from the fob, the clip will vibrate. An additional 'find-my-keys' function will be built into the fob, where it will vibrate when triggered by a smartphone in range.

Water-Me Plant Pot ■

What's the problem?

We sometimes forget to water our plants. And sometimes they die because of it.

What's the solution?

A plant pot that gives a simple glow when moisture is low.

How does it work?

A Raspberry Pi-based sensor is on the side of the pot, connected to a Pi and led light on the side. Warnings can be set to three levels - high, medium and low, depending on the plant.

Book-Smart Bookmark ■

What's the problem?

Sometimes we start to read a book and then forget about it. Maybe the book wasn't that good, or maybe we got distracted by something else?

What's the solution?

A bookmark that glows if you haven't finished the book.

How does it work?

A pressure sensor powered by a small Arduino and small LED. If the pressure sensor hasn't been released for a set amount of days, then the light glows.