Blog Posts - Week 1 to 4 - Ryan Hutcheon

Week 1

This week we began our next module Creative Technology with Jon Rodgers and Martin Skelly. Hitting the ground running on Monday with a 9am start, the focus of the week was to, in my case, refamiliarise myself with Arduino after about a years break from using it for anything. Arduino was never really an avenue I'd considered going down last year for my Honours project so I was excited at the thought of getting to grips with it again for this module. Until, Jon and Martin announced that we had to come up with 50 ideas and associated circuits with them by Friday. Fuck.

In all fairness, however, they weren't strictly enforcing this hand in, and I actually really enjoyed the week and the style of teaching - running the class and module like a design practise and personal project was an approach that really suited me personally. I loved having the option to dip in and out of group work while being allowed to do my own thing and explore my own ideas without feeling pressured to contribute to a group. Because of this, I had 7 good ideas and circuits to match that I could see myself exploring for this project.

Our brief for this module was to explore ideas for IoT products that could fit into the spectrum of the Connected Home. We were given a number of scenarios to consider, including forgetful reminders for physical social networks, mindful fitness and wellbeing and shaping the camera of the future. A lot of my ideas fell into the forgetful reminders category and a lot of ideas began to flow as I played around with the board and played around with different components. Ideas ranged from a system to let your flatmate know you were going to bed, a ring for service button for guests in the home and a series of magnets that when pressed sent a reminder to whoever you lived with to buy a specific product - e.g. press the milk magnet to remind your flatmate to buy more milk.

By the end of the week, I had settled on an idea called The Good News Box that I was interested in exploring further in the coming weeks. The idea was to create a physical prop that acted as not only a reminder to share your good news with your household, but to make a flashy presentation of your good news - no matter how small it may seem to you. This was with the intent to create a meaningful product that would get people even more excited to share their good news with others, and build suspense which In the coming weeks is something I particularly want to explore.

So far however, I have created a circuit that when the button is pressed on the breadboard, 8 LEDs begin to light up and flash in a random sequence, a servo begins to move with a note indicating there's good news and has the board speaking to Processing to open the YouTube page for Kool and The Gang's song "Celebration". Next week will see me refine the code and explore the possibilities of neopixels rather than LEDs.

Week 2

Week 2 began with a tutorial where I fed back my concept from last week to Fraser and Martin. Fraser highlighted several points for me to consider for the project. This included looking at:

- What is the celebration that the project is highlighting?
- Is it for seasonal events only? Christmas? Easter?
- Who is it ideally for? Kids or adults?
- What sort of theme does the box adhere too?
- What is the main interaction with the box?
- How are the notifications of the box shared?

Martin also helped me refine where my project sat in terms of the connected home and IoT - I knew the scenario I was interested in was forgetful reminders for physical social networks. In that

case, the Good News Box is looking to use IoT to celebrate face to face conversations that share important announcements.

Another important point that came up during discussion was how to avoid the product becoming abused or coming across as gimmicky - if people could celebrate any small piece of news, what was to stop them taking the piss with the product and crying wolf? That's why it was suggested that I consider coming up with a strong hook. Finally, the possibility of the device recording days that there was good news was discussed, as that would give the project a bit more depth and move it away from being a gimmick.

For the rest of the week, I experimented more with Arduino and reflected on some of the points made by Fraser during the tutorial - in particular, who it was for, the interactions and how the notifications of the box would be shared. I drew inspiration from objects that are currently used in celebrations or when specifically announcing a piece of news - things like party poppers or champagne bottles. I also looked at old ways to announce news - specifically how newspaper used to be delivered and old PA systems and how IoT could be incorporated into it. Finally, I was also interested in creating an object that could be discreetly displayed in the home without drawing attention to itself. It was a lot to consider.

I highlighted 3 interactions that I wanted the product to do - announce the news, build suspense and record good news:

- Announcing the news - looking at using neopixels to create a light show of some sort, or make a flashy presentation
- Building suspense through notifications - using a potentiometer to allow the product or a part of the product to be twisted - I likened this to setting a timer which would then notify your household that you had good news to share. I also considered how neopixels would be used as a way to indicate that the notification had been sent to the household
- Recording good news - using the product as a way to keep track of all the good news for the week. Could this be displayed with indicator on the side of the product? If interacted with, would the product tell you how much good news there was for the week?

This week gave me plenty to think about and put me in good stead for creating a plan of action for the next week. My main focus would be to get neopixels working with a potentiometer and also look into exploring further what processing could do.

Week 3

I began week 3 by doing a bit of research to give my project a bit more of background and context.

Looking back to the previous week, I outlined 3 groups of people I was interested in designing my product for - families, flatmates and friends. I also included a 4th category that looked at long distance groups, either families or friends. After doing this, I listed possible types of news that are shared. This included things like sharing grade results, exciting or sad stories, external family news, job prospects (interviews, offers, promotions), work stories or home news.

I also looked at how people share news in the 21st century and why people like to share. With 750 million people actively using Facebook and over 200 million tweets sent each day, these communication channels allow us to share and send news instantly. A problem with digitally sending people news now however is that it can come off feeling impersonal, with physical ways of sending and receiving news (letters, postcards) are considered more personal and thoughtful.

According to a study commissioned by The New York Times, there a common basic motivations for why we shared information based on the results of an online survey they conducted that asked 2,500 sharers. They are:

Altruism - sharing valuable and entertaining content to others. We think about what people want to know.
Self-definition - Sharing to define ourselves to others - “you are what you share”
Empathy - Sharing to strengthen and nourish our relationships. Sharing show someone else that we’re thinking about them.
Connectedness - Sharing to get credit and feedback for being a good sharer - to feel valuable in the eyes of others.

Finally, to round off the research, I looked at why we should celebrate good news - it creates opportunities for us to be free from frustration and worry, it gives you more opportunities to be happy, it improves your relationships with others and it’s good karma - you reap what you sow. I compiled all of this research into a presentation that I took into my tutorial on Tuesday. I also summarised my project into a 100 word statement:

The Good News Box is a household beacon that uses IoT to encourage and celebrate face-to-face conversations that share important announcements by sending notifications to your household when interacted with.

With no context given to these notifications and only a time given to meet at the object to receive the news, the product aims to build suspense and gather the household in one place and build excitement at receiving this news - who is reaching for the box? Who had good news they need to share?

For the rest of the week, I focussed on getting the technology behind the interactions working. Utilising DJCADMake’s very own Ali Napier, he helped me come up with a new avenue to explore when using neopixels: activating them through touch and conductive materials instead of using a potentiometer. I felt this was a more intimate and subtle way of interacting with the project and so I played around with conductive paint and thread to light up the neopixels. Satisfied with this new interaction, I began to think ahead to next week and what I hoped to achieve in the last week.

Week 4

With the technology for the interaction working - sending out the notification to the household - I decided to begin experimenting with the form. On the Monday and drawing from the various inspirations over the weeks, I began creating cardboard models to to get an idea of the kind of shape I’d like to take further. I played around with geometric boxes and octagon shaped boxes to try and find a shape that would look interesting but also could sit discreetly in the home. I also played around with the idea of creating an object based on old PA systems and radios.

On the Tuesday, I’d book out a laser cutter to experiment with different shapes in wood for a nicer finish than cardboard. With a few samples cut, I cobbled together a wooden octagon shaped box to act as a prop as well as a very basic experience prototype with initial branding and conductive materials to explain my thinking for a tutorial with Martin later in the idea. It was at this tutorial that Martin reminded me that I’d neglecting the more important interaction - setting a time to gather up the household in place. He sent me code to experiment with using a potentiometer and the neopixels and this is what I did on the Wednesday.

I got the potentiometer working with the neopixels easily enough but I was very dubious about mashing up my two codes together and expecting it to work. I was pleasantly surprised when the two codes worked perfectly together first time, and exactly how I needed them too. With that headache solved, it was time to get back to creating a housing for the technology.

Going back to the laser cutter, I cut several attempts at a net to play about with it - I tried vertical, horizontal, creating weird oblong shapes. In the end, frustrated that it wasn’t working and after having several attempts snap on me, I ended up creating a form that resembled a mash up of a

radio and an alarm clock. Disgruntled by this point, I taped it all together roughly and slotted an offcut in the middle as a support to hold the shape and glued a base onto it to give it more support.

Taping another off cut from earlier onto the side, I created a wooden aerial that housed the neopixels in it. I think slotted in the breadboard and potentiometer on one side and the arduino in the other, carefully to ensure the wires still connected inside. I took one of the crocodile clips needed to ensure the capacitative sensor worked and taped it to the top of the box, using a post it note I'd used last week with conductive paint on it as the button for sending the notification to the household. While it wasn't prettiest prototype, I was fairly pleased with my Frankenstein's monster.

Satisfied with my prototype, I created my concept video for the project - I took rough, unedited shots of my product to show it working, as I wanted to experiment with a new way of shooting film that I'd never tried before.