

## ***Heartfelt: Semester 2 Documentation***

Individual

Gayle - [GayleLee 17979580](#)

Jessica - [JessicaVea 17984028](#)

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### **Sunday 4th July 2020 -- semester break**

Called at 9:00pm (1hr and 30mins)

- Discussed Accelerator and what we plan to do
- Discussed about what we hope to do tomorrow during our call
- Found a Japanese student who invented a hug coat:  
[https://www.google.com/imgres?imgurl=https://www.slashgear.com/wp-content/uploads/2013/04/hug-coat.jpg&imgrefurl=https://www.slashgear.com/japanese-students-invent-hugging-coat-08276834/&tbnid=MzC-ObP1\\_YvCdM&vet=1&docid=WyVYSEF\\_EWNScM&w=280&h=175&q=coats+that+hug+you+back+japanese&source=sh/x/im](https://www.google.com/imgres?imgurl=https://www.slashgear.com/wp-content/uploads/2013/04/hug-coat.jpg&imgrefurl=https://www.slashgear.com/japanese-students-invent-hugging-coat-08276834/&tbnid=MzC-ObP1_YvCdM&vet=1&docid=WyVYSEF_EWNScM&w=280&h=175&q=coats+that+hug+you+back+japanese&source=sh/x/im)

### **Sunday 5th July 2020 -- semester break**

Called at 9:00pm (1hr and 9mins)

- Discussed design change for device to a teddy/pillow
  - Save hugs for later (like a answering machine)
- Use of bluetooth and phone for wifi connection
  - Will need an app
  - Maybe increased capabilities with the app? Like heartbeat tracking, location tracking etc. Will link to 'saving hugs' and hugs can be time stamped.
  - App to show how much battery is left in the teddy
- Need to buy and test heating pad for how much current is used (multimeter in series)
- GOAL: to have a working prototype by the end of the semester
- Use a rechargeable lithium ion battery and a usb port for battery

Next tasks to do:

- Get started on accelerator document

### **Tuesday 7th July 2020 (semester break) - First 3 weeks of semester 2**

3 weeks in we have been having meetings with Simon as well discuss our lexus and accelerator applications. Since our first contact we have

- Created a whatsapp
- Created a time on Wednesdays to have our meetings
- Had discussions around what we want to achieve

Documentation of our meetings with Simon can be found through this link: [Simon Meeting Notes](#)

### **Wednesday 8th - 9th July 2020**

Called together at 9pm (3 hours and 1min)

- We discussed what's needed for the accelerator application
- We discussed what questions we would ask Simon on our call later during the day.

### Thursday 9th July 2020

Called together at 10:30pm (1hour and 13minutes)

- Discussed the plan for tomorrow's call with Simon and what we want to talk about
- Decided that we will introduce our product and it's back story before telling him that we need help with our business proposal and how we could apply this knowledge for both our Entrepreneurship and Innovation paper along with our Creative Studio paper.

### Friday 10th July 2020

Met with Simon over call

- Discussed what we hope to achieve over the semester and what areas we needed help in.
- Gave us advice on the accelerator by watching Shark Tank and getting in touch with retirement villages.

Called together at 6:00pm (1 hour and 16mins)

- From our call with Simon we then went and did some research into the sites he recommended and also our group research:
  - 1)[https://open.spotify.com/show/22fi0RqfoBACCuQDv97wFO?si=F\\_A87TZsSve0H26zsGhHvw&fbclid=IwAR2JVovPIHW9F1lc6HAqnVfQ1tnEhqCOhcABjgqgwCGFfAjhxzx858Rt8N0](https://open.spotify.com/show/22fi0RqfoBACCuQDv97wFO?si=F_A87TZsSve0H26zsGhHvw&fbclid=IwAR2JVovPIHW9F1lc6HAqnVfQ1tnEhqCOhcABjgqgwCGFfAjhxzx858Rt8N0)
  - 2)[https://www.linkedin.com/in/sharon-hunter-83705841/?originalSubdomain=nz&fbclid=IwAR1at3nr-1Xrx6jsEZJndBnvJUp\\_JfSKcBaLjGBonY0XW4Z-FhUBWEgPhA0](https://www.linkedin.com/in/sharon-hunter-83705841/?originalSubdomain=nz&fbclid=IwAR1at3nr-1Xrx6jsEZJndBnvJUp_JfSKcBaLjGBonY0XW4Z-FhUBWEgPhA0)
  - 3)[https://www.femalefounders.global/?fbclid=IwAR25JdGfw\\_U1pEJ-u59t5j4CNuIKV21\\_WCXynOvr2zC78\\_228CU4Cm5F3o](https://www.femalefounders.global/?fbclid=IwAR25JdGfw_U1pEJ-u59t5j4CNuIKV21_WCXynOvr2zC78_228CU4Cm5F3o)
  - 4)[http://www.ideafarmventures.com/?fbclid=IwAR1SnoZkxe\\_jedb3cNf-oC8yEVb89a mlMZvYTK2RGmgO\\_9XwvUnYjkfNDAE#welcome](http://www.ideafarmventures.com/?fbclid=IwAR1SnoZkxe_jedb3cNf-oC8yEVb89a mlMZvYTK2RGmgO_9XwvUnYjkfNDAE#welcome)
  - 5)[http://www.ideafarmventures.com/?fbclid=IwAR2ZFk2WBO43kiM2\\_fxST4fPo1CEw1lcWDk-FZYWk4jEf-\\_JylnzDwv42Ds#welcome](http://www.ideafarmventures.com/?fbclid=IwAR2ZFk2WBO43kiM2_fxST4fPo1CEw1lcWDk-FZYWk4jEf-_JylnzDwv42Ds#welcome)
- Gayle then created our email and instagram pages as advised by Simon. Email for contact and instagram page for following similar projects like ours as it turns the feed into our moodboard. This was an awesome idea and we both were really excited about it.

- Fig.1 Username for gmail (Gayle owns this photo)

Choose username

You can always change it later.

HeartiHeartfelt ✓

Next

Friday

Studio

Need to do:

July 17th 2020

- Complete forms for Lexus -- Before the 13th August
- Start on presentation for Simon -- To be done before the end of Tuesday next week
- Start on the studio paper assessment due after next week -- Before the 18th August
- Watch lectures recordings -- Before the end of this week

Completed already

- Zenkit forms -- Gayle
- Meetings with Simon -- Jess & Gayle

Space and Sound

*Need to do:*

- Get the group together
- Get our research done
- What project are we doing

### **Tuesday 4th August 2020**

Called together at 4:00pm (1hour and 42mins)

- Researched and worked from home

### **Friday 7th August 2020**

Called together at 4:43pm (1hour and 24mins)

- Debrief on what we have been up to
- Update on what is left to do
- Planned what next steps to take

### **Monday August 10th 2020**

Called together at 4:00pm (28mins)

Studio

What to do:

- Accelerator application to be done by the end of this week
- Statement of content

Entrepreneurship

What to do:

- Use the slides from our very first presentation

Simon

What to do:

- No physical meeting this week but next week we will have an in person meeting.

### **Tuesday August 11th 2020**

Studio

- 40% is the formation section. There is no expectation to see that there is anything done. We are still looking at the learning outcomes. The same learning outcomes at the different stages.
- Seeing what we have done up so far.
- Updating our document by having bullet points under each header in preparation for submission.

### Friday August 14th 2020

Called together at 4:40pm (2 hours and 45mins)

#### Studio

- What we could do if we can't physically make it. We could make a parts list so that if we were to go back to campus we could have it ready. The state "if we could give our project to someone else. By doing this we could do it, but we don't have the actual components to do so. Then if we come into uni then we have the components ready and loaded.
- Need to fill out the form that Clint sent us. Need to think of the end goal and how we are going about this.
- Our project is based on the tangible feeling of someone's presence, example as seen in the video <https://www.facebook.com/watch/?v=985091655262594> , the teddy would be great but we shouldn't be thinking of the details we want someone to actually 'feel' emotionally connected to the device.
- Are teddy bear's the best way to go about this? Not too sure if this would be appropriate.
- Statement of content

Trying to come out from the rabbit hole:

#### *Technique:*

1. Created a list of attributes for our end product to have and then work backwards from there.
2. Do a second survey to get feedback from others

#### ENTR paper:

- Assignment that is due in September

#### Space image and sound

- Thinking of having

Break 4 - 7pm

#### Agenda for 8pm

- Start on the accelerator -- Due soon -- send things to Simon
- Studio 1 assessment -- already have a template so we could reuse that

## Saturday 15th August 2020

Called at 11:40am (41mins) + (1hour 8 mins)

- Arranged a time to meet with Simon
- Planned what we are going to be talking:
  - Target market
  - Business model
  - Revenue
- Research
  - 1) [https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome/healthyathome---mental-health?fbclid=IwAR2ZFk2WBO43kiM2\\_fxST4fPo1CEw1lcWDk-FZYWk4jEf-\\_JylnzDwv42Ds](https://www.who.int/campaigns/connecting-the-world-to-combat-coronavirus/healthyathome/healthyathome---mental-health?fbclid=IwAR2ZFk2WBO43kiM2_fxST4fPo1CEw1lcWDk-FZYWk4jEf-_JylnzDwv42Ds)
  - 2) <https://www.health.govt.nz/our-work/diseases-and-conditions/covid-19-novel-coronavirus/covid-19-health-advice-public/covid-19-mental-health-and-wellbeing-resources?fbclid=IwAR0HBVY3guiHJr88V8DqFVcJxE-a8DF7P0MSp0ci19dJxIR0Zhn4rxblLaRk>
  - 3) [https://www.who.int/publications/i/item/9789240003927?gclid=Cj0KCQjw7Nj5BR CZARIsABwxDKLbRZZkPXRjICQ60DxuyTdLG\\_GMGPSpThr0hRdO-Z3fCRmdMV sH5fgaAq9qEALw\\_wcB&fbclid=IwAR2ghSXw-SmDDL aEbrg-QS89vMTOERrW vU-876YhttQftJ8PCADWhne\\_EIQ](https://www.who.int/publications/i/item/9789240003927?gclid=Cj0KCQjw7Nj5BR CZARIsABwxDKLbRZZkPXRjICQ60DxuyTdLG_GMGPSpThr0hRdO-Z3fCRmdMV sH5fgaAq9qEALw_wcB&fbclid=IwAR2ghSXw-SmDDL aEbrg-QS89vMTOERrW vU-876YhttQftJ8PCADWhne_EIQ)
  - 4) <https://www.allright.org.nz/stories/sharing-the-love-during-lockdown?fbclid=IwAR 1ZXHJ3kBBcbqikTbGY0YMqAFP2C4bi-KgtGj9vvxDvc8EbOFE1U4RMLDw>

Target audience --

- [#HealthyAtHome - Mental health](#)
- [Sharing the love during lockdown | All Right?](#)
- Started on Accelerator forms to fill

## Monday 17th August 2020

Call at - 2pm (1 hour and 58mins) + (1 hour and 56mins)

- Wayband -- started with just 2 people and then they started to open and branch out -- This could be used for entrepreneur paper and Accelerator.
- Thinking of starting small within new zealand and then branching off once we have customers. Thinking about familiarizing ourselves with our current market in new zealand first before branching off to a wider market.
- Tried syncing in our calendar dates for both of our google calendars as Jessica wasn't receiving any notifications that we'd setup from our main calendar.

What to do next:

- Ask Sangeeta about using the company Wayband for one of the papers and compare it to how we would have used it for our business model and how we plan to implement it for the long run.
- Ask Claudine for IP advice since we would need advice for accelerator, studio and for lexis.

- Need to work on “How do you know this problem/opportunity exists?”
  - [News](#)
  - [Researchers study COVID's effect on relationships](#)
  - [Is Covid-19 changing our relationships?](#)
  - [Wellbeing Tips](#)
- Making a website for our project
- How much do doctors work on average
  - <https://www.mcnz.org.nz/assets/Publications/Workforce-Survey/434ee633ba/Workforce-Survey-Report-2018.pdf?fbclid=IwAR34yHkh7a6tfoNxa-hKe2OOTQuvI5l6gFG6DT92HbShGOdR4wdgow5r8K8>
  - <https://www.statista.com/statistics/1078063/new-zealand-average-hours-worked-general-medical-practice-by-age-and-gender/?fbclid=IwAR36QdKXiN4WHAGX9F94H4AUgB-UoS7GEWQOZ34HfeOsUI0tUpaZn-zV4Gw>
- The reason behind why females are working less could be because they have to have children that they have to take care of, e.g. picking up their kids from school. The other reason could be because there are many more stay at home mothers than working mothers.

#### Debrief:

- Finish off the accelerator as much as we can at least by tomorrow. Have a draft done (80%) of it. Then for the rest of the week we just need to add numbers and edit small things.
- Start studio tomorrow along with the accelerator! The faster we finish the accelerator the faster we finish the studio. We should aim to start this tomorrow.
- Mentoring session we have to do for this week -- lexus & Simon
- Call back at 8pm - 9:00 -- 9:30pm

#### Called at 8pm

- Did the pie charts as seen in Fig.2
- Used data from Jessica's family to form our pie charts.

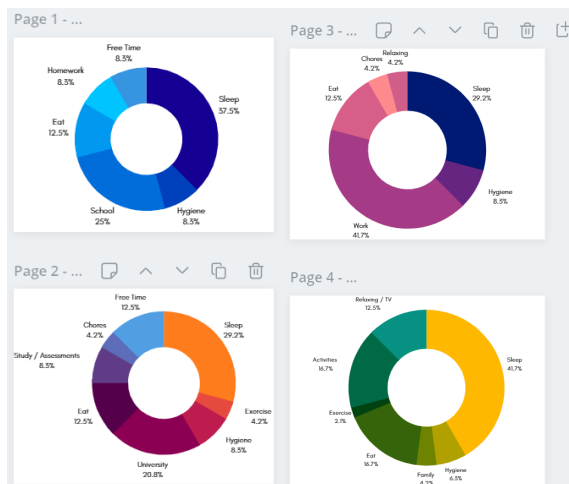


Fig.2 Pie graphs of our personas based on the information given by Jessica's family members.

**Tuesday 18th August 2020**

Calling 3:30pm (46minutes)

- Working on the accelerator.
- Why is staying connected important

- [Managing your mental health – why staying connected is so important](#)
- Humans are social animals. We crave connection.

## Plan for tomorrow's studio class

|                       |                                                                                                                                                         |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <u>9:30-9:45am</u>    | <u>Group Address</u>                                                                                                                                    |
| <u>9:45-10:00am</u>   | <u>Preparing your PDF for submission</u>                                                                                                                |
| <u>10:00-10:30am</u>  | <u>Design Sprints</u>                                                                                                                                   |
| <u>9:45 - 10:45am</u> | <u>Optional tutorial times -- Claudine -- Ask about Lexus. Ask also about accelerator things in which we are still stuck on or need overlooking on.</u> |
| <u>10:45am-12noon</u> | <u>Tutorials Booking and Self-directed</u>                                                                                                              |

## 12 noon Lunch Break

|                    |                                                         |
|--------------------|---------------------------------------------------------|
| <u>1:00-1:30pm</u> | <u>Lexus Crit Session</u>                               |
| 1:00-1:30pm        | Textile and Fashion Group                               |
| 1:00-1:30pm        | Tutorials Booking and Self-directed -- Sangeeta & Clint |
| 2:00 - 3:30pm      | Crit Sessions                                           |
| 3:30pm             | Closing Karakia                                         |

## Schedule

Meeting with Gayle -- 10:45am

- Updates on the accelerator forms and what we have done so far
- Run down of what's to happen later on during the day

Meeting with Claudine -- 11am

- Ask about the lexus award , what things are needed , confirmation with due dates
- Ask about accelerator , have a look over what we have so far and need improvement on.

Meeting with Clint

- Ask about our project and where we are at the moment.

### Meeting with Sangeeta

- Ask about the accelerator and her advice on our business approach.
- Ask about ENTR paper and what is needed for submission. Mention the company Waphand and how it's a company similar to our scope where it started with just 2 people.

### Next steps:

- Have meetings with lectures before hand in time next week
- Have experimented and researched that warmth and teddy bears bring comfort towards those who are lonely.
- I think it's safe to focus on one thing at this point. That one thing being the heart itself before adding experiments of the teddy bear. In saying that having a prototype of the heart first before adding other things on top of it.

### **Experiment** (for the addition of a teddy bear being added onto our project)

Target audience -- 8 years old and older.

Equipment -- heat bag, 2 teddy bears

### How will we conduct our experiment?

1. have both teddy bears placed in front of user
2. Tell the user to pick up both teddy bears and hug them
3. After this ask the user which of the two teddy bears did they feel connected with in terms of feeling comforted and it being similar to hugging a person.
4. Record stats and onto the next.

### Schedule

#### Tutorial with Claudine -- 1:15 - 1:30

- Submission next week -- contribution
- Lexus award -- confirmation -- more info
- Accelerator application

#### Individual contribution -- how we will go about it

- How we will approach the semester
- Assigning certain tasks to each one of us
- If it is an extremely contribution
- Strengths, similarities and research. How one person would be looking into one certain research topic.

- Talk about the summarized things on how you looked into it
- First person of what you've done so far

## Research

- You are talking about third person.
- We can talk about what we plan to do -- how we might want to give out individual contribution -- zenkit sort of thing

## Lexus

Online work submission --

Accelerator:

## IP

Automatically belongs to us

- A company might be sponsoring us to test our project BUT if not it all comes to us.

All IP belongs to Gayle Lee and Jessica Veal

- Hard drive that would have all our projects on it incase we lose the
- Not keeping our project out in the open

Teddy bear?

- Very much needs to be suiting your target audience. If more elderly people are older people.
- Basic objects that can suite every single person - A watch - or we could possibly make an object to suite the ages
- Plants
- Think about things that people use everyday and put it towards that.
- Could think of a locket idea -- issue would be the components and the size of the necklace.

Debrief -- 12:12pm

- Send Claudine the statement of content on trello
- Finish up the accelerator application

- Think about or ask around what objects do people use day to day non technological use -- This could be a survey we can send out sometime this week to inform our research.
- Studio

Lunch break 12:30 - 1:20pm

### **Crit preparation 1:30pm after lunch**

2pm crit session -- check photogrammetry apps , [hub.link/bqWvymn](https://hub.link/bqWvymn)

Sangeeta Crit session:

- Think about more wearables. This is a common pattern and want from most of the feedback we received back from our lecturers and peers. As wearables are things that people are using in their everyday lives it would be beneficial for us to integrate it into our design. Rather than having an object that you will just hold.
  - Locket
  - Bracelet
  - Charm for your bracelet
- Different charms can show different emotions or messages  
"Actions speak louder than words"
- Adjustable bracelet for multiple sizes of hands to use.

Debrief

- Accelerator thursday 1:30 - 1:45pm
- Milestones -- Jess to finish it off

Talk with Stefan at 11am -- Friday 21st August

Notes:

- His intake of our project and what's the best way to go about it?
- Making it portable and maybe inside a locket?

### **Wednesday 19th August 2020**

Called together at 11:30am (3hour and 48mins)

- Research
- Update on where we are at with our project
- Debrief

### **Friday 21st August 2020**

Stefan

- Internet of Things? Platform
- Choosing frameworks to facilitate that
- Read 3d dissertation
- Make paper mache heart
- 5V battery
- Affordance - design principle
- Smart led
  
- Shiftr
- Mqtt - message q telemetry
- Learn basic iot first
  
- Revisited and approved our components list.
- Also did some calculations and documentation of our call with Stefan through this link: [Components table](#)

Start with transmitting temperature or heart first through an led or processing sketch

Called together at 1:11am (1 hour and 22mins)

TO DO today:

- Do accelerator
- Finances
- Buff up the doc
- Choose doc design canva
- Finish donut charts
- Create milestones chart

To do prototyping:

- Buy parts
- Try connecting module to computer Processing sketch or led module (eg temperature or heartbeat -> led)
- Read thesis
- Research sites that Stefan suggested

Need to think about:

- How long will the heart be lighting up and warm?
- Could our device show how many times it had been touched?

Research:

- 1) <https://www.sciencedaily.com/releases/2017/06/170621125313.htm?fbclid=IwAR0yce3BeKz8mWMril-3-lcwHabRS9ZB-7puwBlxUj-X4bmviYNqOubmJOM#:~:text=Summary%3A,the%20analgesic%20impacts%20of%20touch>
- 2) <https://www.frontiersin.org/articles/10.3389/fphys.2019.00190/full?fbclid=IwAR1iZFJPJm8D-r7DDoS0p7XepiFQi3bCDGxezzCISalZctkFV3x1zoDDQ9Q>

### Saturday 22nd - Sunday 23rd August

Called together at 7pm (5 hours and 11mins) + (15mins) + (11mins)

Survey was sent and we received 43 responses. This survey got us thinking these two main points were brought from it:

#### *It being a blanket*

The other blanket will warm up when the other person tugs on it. A watch your habit is to look at your arm to see for the time or you check your phone for messages. For old people something that they instinctively do is having a blanket when they are cold they wear it. It is a thoughtful option for old people and what they usually use everyday.

#### *What is considered as 'comfort'.*

People perceive comfort very differently. From this question it also got me thinking what is considered a hug? People have different ways of hugging someone and therefore there is a possibility of people interacting with our product differently.

Thermistor will help to cut the circuit if the heart overheats from being connected with their partner.

Have the LED's shadow printed on one heart to the other.

Huggable pillow for kids? -- Teddy bear -- Nevermind

Different colours is more of a customization aspect rather than one that would explain the mood of a person the reason being is because

How can you tell that the object isn't detecting just the body heat of a person but rather them interacting with the project -- therefore we need to think of doing the level detecting it to be above normal heat

What if a pair is one household having 5 devices and then one person having one device.



Fig.3 - Communicating between paired devices instead of groups (owned by Gayle)

Need an app to collect data that when received a hug then it shows and so that this will help avoid different time zones. "You have 5 new hugs"

Heart if you lose it -- sort of like a bypass -- QR codes at the back of the heart to know which heart they are -- the code would be \_\_\_\_ and it would be used for both hearts and therefore when you lose one.

Can't just say that we would have an app cause not all people have a device or are tech savvy

What if they ask if the pandemic is over?

**Monday 24th August 2020**

Called together at 12:16pm (25mins)

Materials:

3D print

Nylon Filament

PET/PETG Filament - [PET-G 1.75mm Clear 1KG](#)

TPU Filament - [3D printing a human heart with TPU \(flexible\)](#)

We want the heart slightly squishy but not as squishy as tpu

PCTPE - [3D Printing Flexible Filament Comparison](#)

Super Pricey

<https://www.u-buy.co.nz/search/index/view/productebay/332466590515/s/taulman-pctpe-black-nylon-and-tpe-co-polymer-filament-1-75mm/store/used>

Arduino Nano vs Micro

- [Are there any reasons to pick Nano over Micro?](#)

- Choose the Nano since it has a RTC and has a lower minimum supply voltage

Materials - Silicone

Research:

- 1) <https://core-electronics.com.au/tutorials/compare-arduino-boards.html?fbclid=IwAR32RVgonza0btdNF5YOK-OuvJnsE8dclPdJRfwL2AvBMULTGPB4sRU-veY>
- 2) [https://www.dfrobot.com/product-1694.html?gclid=CjwKCAjwyo36BRAXEiwA24CwGbpPGm9aI2UAcs-M\\_1xtm8tZBbpDzt4XTNUVdYA\\_PJ5v3OmhMulvcBoCKS8QAvD\\_BwE&fbclid=IwAR00O5hBwlt1WzWzqCTR-xkTqbJ21DUZtDxPvPIX962qWsAmXRfD5sULo0l](https://www.dfrobot.com/product-1694.html?gclid=CjwKCAjwyo36BRAXEiwA24CwGbpPGm9aI2UAcs-M_1xtm8tZBbpDzt4XTNUVdYA_PJ5v3OmhMulvcBoCKS8QAvD_BwE&fbclid=IwAR00O5hBwlt1WzWzqCTR-xkTqbJ21DUZtDxPvPIX962qWsAmXRfD5sULo0l)
- 3) <https://www.liveplan.com/blog/the-best-way-to-forecast-sales-and-revenue/?fbclid=IwAR0kGRlwluT0tsjv2uZkL7mwrHqxHEy6ruLjYdVQ8NEBgsY0XUERgTF68vo>
- 4) [http://startuptrendsindex.kpmg.com/?fbclid=IwAR0n\\_MSn60rtIBRSEMbx3rKZopfTEim4U3VuUdc\\_rf2FhFQCnfd-XIK1nYg#TechTrends](http://startuptrendsindex.kpmg.com/?fbclid=IwAR0n_MSn60rtIBRSEMbx3rKZopfTEim4U3VuUdc_rf2FhFQCnfd-XIK1nYg#TechTrends)
- 5) <https://www.equidam.com/average-growth-rate-for-startups/?fbclid=IwAR2JVovPIHW9F1lc6HAqnVfQ1tnEhqCOhcABjgqqwCGFfAjhxzx858Rt8N0>

Edited our financials which can be viewed here: [Heartfelt Finance Spreadsheet](#)

### Wednesday 26th August 2020

- Lexus prep
- Next week crit session for prototypes

### Thursday 27th August 2020

- Crit with Sangeeta: Notes below and recording can be found in lecture videos.

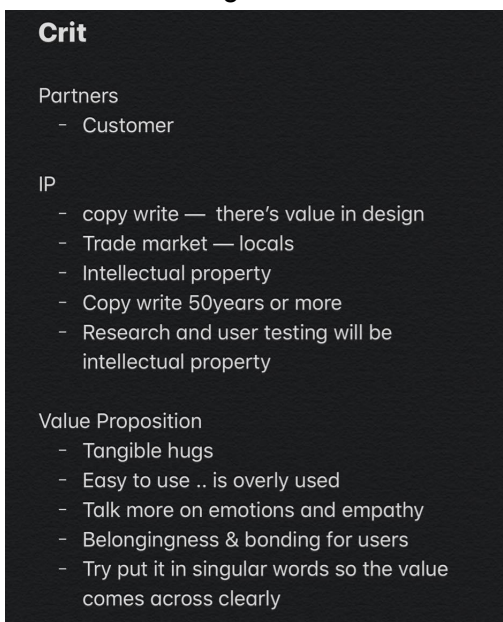


Fig.4 - notes from Entrepreneurship and Innovation class (owned by Jessica)

Call together at 10:00pm (2 hours and 2mins) + (14mins) + (20mins)

- Worked on our gantt chart

## Monday 31st August 2020

Called together at 10:00pm (4 hours and 42mins)

## Wednesday 2nd September 2020

## Crit session with Charles

Links:

- [https://www.dfrobot.com/product-1283.html?gclid=CjwKCAjw4rf6BRAvEiwAn2Q76qSPSIUFkliX6V2FiZ3-ili-mzeUfKhQljsCtmkwNusZk\\_EtQbwuiBoCz1wQAvD\\_BwE](https://www.dfrobot.com/product-1283.html?gclid=CjwKCAjw4rf6BRAvEiwAn2Q76qSPSIUFkliX6V2FiZ3-ili-mzeUfKhQljsCtmkwNusZk_EtQbwuiBoCz1wQAvD_BwE)
- [dfrobot.com/product-1284.html?gclid=CjwKCAjw4rf6BRAvEiwAn2Q76qQTYMiJjhZmOZOncbPCpOlwHha5zxdGO-WMmTGeXRY8ir\\_p2L-lphoChwYQAvD\\_BwE](https://www.dfrobot.com/product-1284.html?gclid=CjwKCAjw4rf6BRAvEiwAn2Q76qQTYMiJjhZmOZOncbPCpOlwHha5zxdGO-WMmTGeXRY8ir_p2L-lphoChwYQAvD_BwE)
- [pdf.sciencedirectassets.com/272127/1-s2.0-S1389945713X00115/1-s2.0-S1389945713011350/main.pdf?X-Amz-Security-Token=IQoJb3JpZ2luX2VjElb%2F%2F%2F%2F%...](https://pdf.sciencedirectassets.com/272127/1-s2.0-S1389945713X00115/1-s2.0-S1389945713011350/main.pdf?X-Amz-Security-Token=IQoJb3JpZ2luX2VjElb%2F%2F%2F%2F%...)
- [journals.plos.org/plosbiology/article/file?id=10.1371/journal.pbio.1000145&type=printable](https://journals.plos.org/plosbiology/article/file?id=10.1371/journal.pbio.1000145&type=printable)

Notes:

- Think of a blue sky it's worth looking into this although you don't have the materials but what you would like to look in to doing in the future regardless of the expenses
- Look into playstation and xbox controllers and the difference in where the things are at.
- Wireless charging a possibility ... but how? But for now we are just keeping to the batteries
- Meditation .. when you breathe in and out you will receive the feedback to the next person. HOWEVER, our heartbeat will be beating with light so it is almost the same.
- Night light -- giving our product another purpose -- we are giving our product to people and we unconsciously have to have them use it in their daily lives -- what habits do people already have and then build on those -- instead of creating another way of thinking and living we need to adapt to the habits people already have because then people won't be bothered in learning a new way of things.

Similar to this project you can carry it around --- wireless and portable night light.



*Fig.5 - Rechargeable 3D Print Moon Lamp 2 Color Change Touch Switch Bedroom Bookcase Night Light Home Decor Christmas Gift. (n.d.)*

This led to how we could possibly charge our product with the charger.

- Ask Charles and how his mother is doing with Booper.



*Fig.6 - Prototype of heart (Gayle owns this photo)*

### **Monday 7th September**

Today we updated the components list as we had feedback from both Krishna and Stefan.  
Called together at 10:40pm (2 hours and 42mins)



Krishna Khatri-chettri  
to me ▾

9:23 AM (13 hours ago) ☆ ↩ ⋮

Hi Jessica,

The lab may have a few of the smaller items (resistors, LED, etc.) but not sure about the other parts.

I can recommend Surplustronics for the cheapest wifi arduino boards  
<https://www.surplustronics.co.nz/search?utf8=%E2%9C%93&q=wifi+arduino>

BUT they can be a bit tricky to get working as they do not use the standard drivers. They are also worth checking out for your other Arduino parts as they will often have the same things as Jaycar but cheaper.

Don't forget Trademe is worth searching for an NZ seller for your parts as shipping from overseas could take 4-6 weeks.

Feel free to pop into the lab this week and hunt for any parts if you like.

Cheers

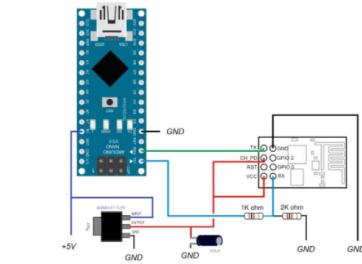
Krishna



Stefan Marks  
to me, gajwlee.r@gmail.com ▾

1:53 PM (8 hours ago) ☆ ↩ ⋮

Hi Jessica,  
Hm, contrary to what I might have promised, I don't think I have anything helpful. No Nano, no ESP8266 module, ...  
I have some things to consider, though:  
1. Heart sensor that cheap one from Amazon (<https://www.amazon.com/dp/B076444444>) is really sensitive to any change of finger pressure - I find it takes a long time for it to start measuring serious data. The other sensor you showed me last time (MAX30102) seems to be a) much more robust and b) does all the averaging/measuring/offset-compensation/etc in chip, so you simply read the results, rather than having to program all of that maths in Arduino.  
2. There are a lot of comments to the first Arduino-ESP8266 tutorial in that the power design is bad and doesn't work. That 10k resistor from 3.3V to the WiFi module looks really wrong to me. The internet is pretty divided how to properly wire the ESP8266 to a 5V Arduino. The things you need to consider:  
a. The ESP needs 3.3V, 3.6V max, NOT even 0.1V more, or you'll destroy it.  
b. When sending, the power consumption of the ESP can go up to 550mA, but the 3.3V output of the Arduino doesn't do that, so you might have dropouts.  
c. Therefore, it seems best to take the 5V from USB and regulate it down to 3.3V using an external and fairly powerful converter (LM1117, AMS1117) + a 100uF or 1000uF capacitor to iron out any transmission spikes.  
d. The 5V 7u from the Arduino can theoretically go directly into the Rx of the ESP, but people use a voltage divider to get the 5V signal down to 3.3V just to be safe.  
e. The 3.3V Tx from the ESP can go directly into the Arduino - The Arduino can understand the "lower" signal fine.  
f. I found this page has most of those tips integrated, so you'd better use this for wiring your circuit up: <http://baserepi.com/usage/wifi-with-esp8266/>



This Arduino/ESP combo has the advantage that the Nano can control all periphery using 5V, if that's what your periphery does. If, however, you end up with periphery that is 3.3V compatible, you could think about ditching the Nano and using a module like the Wemos (<https://www.aliexpress.com/item/1005002054000000.html>) directly.

Cheers,  
Stefan

From here we decided to search components in which we could buy in new zealand so that there will be fast tracking of it. From this we also found another wifi module in which we will be using instead of the EPS\_\_\_\_ as before in the original plan because as advised from Stefan and Krishna that would be a more difficult way to handle things and aren't in their specialties and so we decided to go with Arduino MKR wifi module.

## Registering for Lexus

### Research:

- 1) <https://www.digikey.co.nz/en/maker/projects/lumini-ring-hookup-guide/c248eec3492d4cbab81010af823fb172?fbclid=IwAR0qBgiLCXOy75RqXRlQMilu3R0AbWd8qDgXSPah9g5bIPZTPhsDiBskHp0>

- 2) [https://www.sparkfun.com/products/13314?fbclid=IwAR1ZHXJ3kBBcbqikTbGY0YMqAF\\_P2C4bi-KgtGj9vvxDvc8EbOFE1U4RMLDwhttps://www.sparkfun.com/products/13314?fbclid=IwAR1ZHXJ3kBBcbqikTbGY0YMqAFP2C4bi-KgtGj9vvxDvc8EbOFE1U4RMLDw](https://www.sparkfun.com/products/13314?fbclid=IwAR1ZHXJ3kBBcbqikTbGY0YMqAF_P2C4bi-KgtGj9vvxDvc8EbOFE1U4RMLDwhttps://www.sparkfun.com/products/13314?fbclid=IwAR1ZHXJ3kBBcbqikTbGY0YMqAFP2C4bi-KgtGj9vvxDvc8EbOFE1U4RMLDw)
- 3) [https://play.google.com/store/apps/details?id=com.pillowtalk&fbclid=IwAR25JdGfww\\_U1pEJ-u59t5j4CNuIKV21\\_WCXynOvr2zC78\\_228CU4Cm5F3o](https://play.google.com/store/apps/details?id=com.pillowtalk&fbclid=IwAR25JdGfww_U1pEJ-u59t5j4CNuIKV21_WCXynOvr2zC78_228CU4Cm5F3o)
- 4) [https://www.chiptech.co.nz/products/telecare-products/go/?fbclid=IwAR0ygzH9LZFADHykf1uZleXfisL8xfox3syOW\\_tSAG2w\\_O7cXu58BPYMGiU](https://www.chiptech.co.nz/products/telecare-products/go/?fbclid=IwAR0ygzH9LZFADHykf1uZleXfisL8xfox3syOW_tSAG2w_O7cXu58BPYMGiU)
- 5) [https://www.stjohn.org.nz/Medical-Alarms-OLD/Medical-Alarm-Devices/?fbclid=IwAR20fra5FY3D8ggBSKtrIkuvhZHCuD9N9LXqg-i7DrHaSiLMGsOJ\\_BIzvV8](https://www.stjohn.org.nz/Medical-Alarms-OLD/Medical-Alarm-Devices/?fbclid=IwAR20fra5FY3D8ggBSKtrIkuvhZHCuD9N9LXqg-i7DrHaSiLMGsOJ_BIzvV8)
- 6) [https://www.freedomalarms.co.nz/medical-alarm-equipment/?fbclid=IwAR3h-FlqZ66vn-g7f0Wj5ggpTWm\\_B5UFpQcyohr5zU4h3LWcKoC8bYxe1Dw](https://www.freedomalarms.co.nz/medical-alarm-equipment/?fbclid=IwAR3h-FlqZ66vn-g7f0Wj5ggpTWm_B5UFpQcyohr5zU4h3LWcKoC8bYxe1Dw)

## Tuesday 9th September

Called together at 3:00pm for any updates before our meetings (30mins)

### Research



Krishna Khatri-chetri

to me ▾

7:54 AM (13 hours ago)



Hi Jessica,

I had a second look over your list this morning and have a few questions.

"1 (or 2? Can it do double duty?" – what do you mean can the temperature sensor do double duty?

RGB led – I think we have some strips that came out of those box robots that you can try and get working.

Regarding your heating pad, for testing, you could also substitute out a high power resistor for your heating pad. Jaycar has them for 1-2\$ each, but it is essential you use ohms law to work out what is a safe resistance to use in your system. I have also made silicone heating mats in the past for a snowboard press; however, it may be possible for you to make a DIY version using resistance wire and Kapton tape. What do you need the heat pad to do?

Kind regards

Krishna

- Research into IoT
- Text Simon

What will be discussed tomorrow at 10am with Stefan:

- If the temperature sensor can do a double duty

### Discussed name change

Heartful instead of heartfelt because it has been used before.

### Pillow talk

- 2.5 out of 5
- Spent a lot of money on the product but it didn't work as it had needed to
- The device and app was not responsive to how it was supposed to work

What do elderly people use?

- Messaging thru their computers
- Alarm the booper medical alarm -- they have made it easy for old people to use -- base unit that connects to your telephone -- when you press the alarm it goes to the base unit.
- In rest homes they have phones -- but the issue is that the rest homes may not allow things
- They can call us but we can't call them.
- Mobile medical alarm -- chiptec

Message from Gayle:

- So pillow talk has an app too... Reviews aren't really good though  
[Pillow Talk - Apps on Google Play](#)
- Thermistor -- double

10am call with Gayle and Jess - preparing for call with Stefan

11am call with Stefan

Notes(Links):

- [analog.com/media/en/technical-documentation/data-sheets/TMP35\\_36\\_37.pdf](http://analog.com/media/en/technical-documentation/data-sheets/TMP35_36_37.pdf)
- TMP36\
- [chiptech.co.nz/products/telecare-products/go](http://chiptech.co.nz/products/telecare-products/go)
- [store.arduino.cc/usa/arduino-mkrzero](http://store.arduino.cc/usa/arduino-mkrzero)
- esp32

### Wednesday September 16th

Called together at 3:19pm (1hour and 4mins)

- Debrief, plan and arrange our components list thanks to the help from Stefan and Krishna.

### Thursday 17th September

Called together at 3:19pm (1hour and 4mins) + (1 hour and 50mins)

- Ordered components

### Friday 18th September

Accelerator meet

### Sunday 20th September

Call together at 10:15pm (1 hour and 11mins)

Reflection on feedback from Hayden

- Luxury section
- How can we have our device still function the same but in a different form

- What if our project was hugging the arm of someone
- Record documentation
- Military , elderly , long term relationships would still be our audience
- Think of little things -- not having the data collector -- if they had the wearable then there will be no need for the app or the data collector
- NEED TO NAIL DOWN WHAT OUR PRODUCT IS TO DO
- Need to start coding -- use the app to connect the phone to the wifi

### Wednesday 23rd September

#### Studio

- Our audience could be possibly those futuristic people. So there is a likely chance that our audience are those who are in this current age and therefore are most likely to have phones and so you could market for 2 years or 5 years time.

#### Lexus meeting

- Update with our project -- we have gotten the components and are currently testing the technical side of things
- Made a model
- Came up with a new design due to accelerator
- Talk about our project blind sighted
- Think about hacking a video -- you don't have the money or the power but you have the vision -- fake it to make it

#### Notes:

- Smelt the heart
- Bit more discrete --
- Competition -- apple watch -- indirect competition -- health tracker and an activity rather than an interaction.
- Issues with the distance - wifi
- Clothes and that this is a barrier -- thinking about people wearing short sleeves -- patch would be futuristic product for easier handling with the barrier.

### Monday September 28th

Called together at 9:40pm (1 hour and 52mins)

Working on the task that was given by Haydn:

Email:

*Hey guys,*

*Nice to meet you today! Just sending through a summary of some action points for next steps.*

*Choose user group based on market size (i.e. Family/elderly focussed or professional/relationship focussed)  
Go through a lean HCD process specific to this user group (see attached workbook) - just focus on market map, users/stakeholders, user journey and kano analysis.*

*Create a product requirements document list (see template)*

*Define internals to be housed in CAD to get an idea of product volume.*

*Once you have all the specifications for the product sorted, I can help you out with the product design next week and also look at that financials table a bit more. There might be some costs you could avoid - i.e. outsourcing 3D printing instead of purchasing one.*

*Have a good rest of your day,*

*Haydn.*

Research:

[https://foldingburritos.com/kano-model/?fbclid=IwAR3RJkwXklhfOouuEyUXOe9m1W4P-C-vF398wk4O9g7EYox9rmL\\_h6rk6gg](https://foldingburritos.com/kano-model/?fbclid=IwAR3RJkwXklhfOouuEyUXOe9m1W4P-C-vF398wk4O9g7EYox9rmL_h6rk6gg)

## **Tuesday September 29th**

Called together at 10:00 (14mins)

- Quick update and debrief

## **Wednesday September 30th**

- Trying to figure out that for elderly people they would need someone to set up their work.
- Prepare for Haydn

### Meeting with Haydn

- Potentially if someone sends a hug or someone doesn't this will give an opportunity for the person to video call. Enables conversations rather than competing with video calling.
- Needs to be clarified that
- Maybe on the app it will have a button or option to link to facebook for the person to use.
- We will be making two different products
- Professionals -- military and healthcare workers
- Family -- Elderly and young audience.
- Use a cellphone sim card? It would be easy to use -- the drawback would be having to pay for the sim card and maybe if they run out of data which will then create the issue of not being able to send -- therefore led to the homebase product for the elderly people to make it easier for use.
- The port will be at the bottom for charging necessities.'
- We will be creating the professional use of our product because for the other option you will need to create a base unit and we don't have much knowledge.
- You can mix and match for the products -- the numbers will track it
- Show the bigger picture.
- Add safety features --
- This could track how many times it has been activated

- Family package deals
- If family members were to order the product from rest homes they could get a discount.
  - connecting numbers to the other number -- for arduino parts
- Family members will set it up for each other
- How does saint John do with the beeper

Would people be comfortable to hold the product in their hand.

2 watches could be annoying therefore we aren't doing a watch

Is there a max usage of the product being portable? What makes it portable?

What temperature? 50 degrees - 45 degrees -- therefore people would know its

- Try and make it feasible for the product
- Size of the product -- size things down

### Requirements

- Technical requirements
- Environmental packages
- Usability

User Journey -- see's facebook and then clicks on add goes to website and buys it.

- How we are going to market our product
- If the users are confused -- construction guide -- support system -- 1 year warranty if they break or loose the product we can fix it for free.

Recycling ability

- Reusing the products for sustainability.
- Send the product back if they don't want it -- if you let people do it themselves there are many issues that can come with that.

What to do next:

- Defining the sizes
- Reorganizing the components -- technical bits the same but user requirements would be different
- CAD and other things need to be tested
- Sketches

### Thursday October 7th

Notes

- Wearable must have been included in the soccer ball
- Lost emotional appeal -- with the wearable -- the holding object you will need to trust with your strengths

- Is there a way that you could make it advanced -- better than what is already out there
- Making a keepsake (maintain the data that has been made)

Hearing , seeing , feeling -- how will you make it better than other things out there already

- Elderly people would -- you don't need to specify and you can use phones for the elderly it doesn't have to have validation
- Ideal scenario.

Design -- why is it important --

### Thursday October 8th

Call together at 10pm (1 hour and 9 mins)

- Started stroytech journey so that we can have a brand for our product
- Downloaded the story pack though it was for a day we were able to go through most of it.
- This helped us with our pitch and Entrepreneurship and Innovation paper as we needed to make a short and catchy brand that would specifically boost its image.

11th October 2020

Called together at 11:27pm (1 hour and 34mins)

12th October 2020

Called together at 2:30pm (5 hours and 53mins)

### Tuesday October 13th

Update:

- Lexus last week Thursday
- Submitted Lexus on Sunday Night
- Pitch training on Monday

Pitch training advice

- You can look into doing a product for young kids and toddlers that feel the warmth of their mother. Parent's are busy and want to sleep. This could be a product that can reach a larger target market.
- Need to write down the technicality of our product!

### Wednesday October 14th

We continued to research into the components as we hope to downscale our product in the near future. We also tried to find cheap and new zealand businesses to purchase our products from for fasting shipping and less expenses.

Research:

- [https://www.instructables.com/Blink-a-LED-With-Blynk-App-Wemos-D1-Mini-Pro/?fbclid=IwAR2ZFk2WBO43kiM2\\_fxST4fPo1CEw1IcWDk-FZYWk4jEf-\\_JylnzDwv42Ds](https://www.instructables.com/Blink-a-LED-With-Blynk-App-Wemos-D1-Mini-Pro/?fbclid=IwAR2ZFk2WBO43kiM2_fxST4fPo1CEw1IcWDk-FZYWk4jEf-_JylnzDwv42Ds)
- [https://makersportal.com/blog/2019/6/12/wemos-d1-mini-esp8266-arduino-wifi-board?fbclid=IwAR0KGHwUCqLIBm0iETEsyFDIKdts8dEYgJ\\_Tg5HZdFOBdTFRI6Qd4e5t\\_3I](https://makersportal.com/blog/2019/6/12/wemos-d1-mini-esp8266-arduino-wifi-board?fbclid=IwAR0KGHwUCqLIBm0iETEsyFDIKdts8dEYgJ_Tg5HZdFOBdTFRI6Qd4e5t_3I)

### Thursday 15th October 2020

Today:

1. Storyboard
2. Get S.I.S done
3. Working on ENTR 5pm onwards
4. Get studio tasks done
5. Reply to Haydn's email
6. Get edge award done

Research into components:

- [https://averagemaker.com/2018/03/wemos-d1-mini-setup.html?fbclid=IwAR3IM00ZTNLL\\_y\\_wkqIWnXhQuD6rQ21NzIXr9JqLxCIaKZcO3HqMppH\\_sVdY](https://averagemaker.com/2018/03/wemos-d1-mini-setup.html?fbclid=IwAR3IM00ZTNLL_y_wkqIWnXhQuD6rQ21NzIXr9JqLxCIaKZcO3HqMppH_sVdY)
- [https://arduino.stackexchange.com/questions/18176/peer-to-peer-communication?fbclid=IwAR1MimX2EcJ\\_1dY4Z0lxDrnM3Zoa3RaBL148SiiPc7V1INm7GFNDyPmGlaU](https://arduino.stackexchange.com/questions/18176/peer-to-peer-communication?fbclid=IwAR1MimX2EcJ_1dY4Z0lxDrnM3Zoa3RaBL148SiiPc7V1INm7GFNDyPmGlaU)
- <https://averagemaker.com/2018/04/how-to-set-up-wifi-on-a-wemos.html?fbclid=IwAR0Op5LSAR6lhuVc4af3ZCzMfGZ20eN5B1susJ2frll30Mxn-63LBFANEcs>

22nd October 2020

Today:

- Research into the revenue models
- [https://fi.co/insight/the-10-most-popular-startup-revenue-models?fbclid=IwAR2\\_khjZzk9AIUmj3plyX\\_Fym5wbeQM3MnLxXqeYFucCJLHyZL9LUSQohs](https://fi.co/insight/the-10-most-popular-startup-revenue-models?fbclid=IwAR2_khjZzk9AIUmj3plyX_Fym5wbeQM3MnLxXqeYFucCJLHyZL9LUSQohs)
- [https://www.profitwell.com/recur/all/11-popular-types-of-revenue-models-used-today?fbclid=IwAR0nhW8hJBbMGd9lycqWcLO9FwLAlol9\\_019H6\\_tHvoLZi-qopixASrHfQg](https://www.profitwell.com/recur/all/11-popular-types-of-revenue-models-used-today?fbclid=IwAR0nhW8hJBbMGd9lycqWcLO9FwLAlol9_019H6_tHvoLZi-qopixASrHfQg)
- Continue to work on Business models for Entrepreneurship and Innovation as well as Accelerator and Studio. We had to have 3 different documents for each area of Entrepreneurship, accelerator and studio because there was certain information that only one required. For the Accelerator we didn't create our brand until we had to for our Entrepreneurship class. From this we found the difference between a pitch and a branding story. The Branding story comes with a benefit for the user as though you are talking directly to the person trying to get them aboard. A pitch talks about the issue and solution it achieves. From this we found how important it is to have a branding story as this way would help you and the users will have a stronger connection as it relates more to the users.

Monday 27th October 2020

Research:

Finding the Tam Sam Som for our business model

- [https://www.pewresearch.org/fact-tank/2020/03/31/with-billions-confined-to-their-homes-worldwide-which-living-arrangements-are-most-common/?fbclid=IwAR1at3nr-1Xrx6jsEZJndBnvJUp\\_JfSKcBaLjGBonY0XW4Z-FhUBWEgPhA](https://www.pewresearch.org/fact-tank/2020/03/31/with-billions-confined-to-their-homes-worldwide-which-living-arrangements-are-most-common/?fbclid=IwAR1at3nr-1Xrx6jsEZJndBnvJUp_JfSKcBaLjGBonY0XW4Z-FhUBWEgPhA)
- [https://www.aarp.org/content/dam/aarp/research/surveys\\_statistics/life-leisure/2019/aarp-grandparenting-study.doi.10.26419-2Fres.00289.001.pdf?fbclid=IwAR38zip69kQYyaetiFQJxud4OjuvWQJqyoKk1Tg2Kux5UKSKhb6NbgwXAkQ](https://www.aarp.org/content/dam/aarp/research/surveys_statistics/life-leisure/2019/aarp-grandparenting-study.doi.10.26419-2Fres.00289.001.pdf?fbclid=IwAR38zip69kQYyaetiFQJxud4OjuvWQJqyoKk1Tg2Kux5UKSKhb6NbgwXAkQ)
- [https://www.statista.com/statistics/680688/new-zealand-internet-penetration/?fbclid=IwAR2U8GKxgH5mZXoeCDeHclWnmkd01XzGuZv1Hz5-1\\_aSP2kWLxSzV7CSIU8#:~:text=The%20internet%20penetration%20rate%20in,over%20the%20past%20few%20years](https://www.statista.com/statistics/680688/new-zealand-internet-penetration/?fbclid=IwAR2U8GKxgH5mZXoeCDeHclWnmkd01XzGuZv1Hz5-1_aSP2kWLxSzV7CSIU8#:~:text=The%20internet%20penetration%20rate%20in,over%20the%20past%20few%20years)
- [https://search.slidegeeks.com/powerpoint/Tam-Sam-Som?fbclid=IwAR0nhW8hJBbMGd9lycqWcLO9FwLAlol9\\_019H6\\_tHvoLZi-qopixASrHfQg](https://search.slidegeeks.com/powerpoint/Tam-Sam-Som?fbclid=IwAR0nhW8hJBbMGd9lycqWcLO9FwLAlol9_019H6_tHvoLZi-qopixASrHfQg)
- <https://forum.arduino.cc/index.php?topic=427136.0&fbclid=IwAR0Op5LSAR6IhuVc4af3ZCzMfGZ20eN5B1susJ2frll30Mxn-63LBFANEcs>
- <https://www.instructables.com/Arduino-Pulse-Sensor/?fbclid=IwAR38zip69kQYyaetiFQJxud4OjuvWQJqyoKk1Tg2Kux5UKSKhb6NbgwXAkQ>
- [https://www.kickstarter.com/projects/vaonis/vespera-the-new-way-to-observe-the-universe?ref=section-homepage-view-more-discovery-p1&fbclid=IwAR25JdGfww\\_U1pEJ-u59t5j4CNuIKV21\\_WCXynOvr2zC78\\_228CU4Cm5F3o](https://www.kickstarter.com/projects/vaonis/vespera-the-new-way-to-observe-the-universe?ref=section-homepage-view-more-discovery-p1&fbclid=IwAR25JdGfww_U1pEJ-u59t5j4CNuIKV21_WCXynOvr2zC78_228CU4Cm5F3o)

With a lot of research we were able to find our Tam, Sam and Som. There were many issues with who we choose for each of these areas as it could really depend on how each individual views the situation. We choose:

TAM (Total Available Market) - 5.8 billion (minusing the population of children under 14 years old because they aren't our main buyers)

SAM (Serviceable Available Market) - 4.57billion (internet users)

SOM(Serviceable Obtainable Market - 3.7million (connected to the internet, over the age of 17 and is NZ based)



## Studio

- Individual documentation
- Soldering the components
- Testing of the components
- Fritzing of the components

## Wednesday October 28th

Called together at 10:03pm (4 hour and 5 mins)

## **References:**

*Fig.1 Username for gmail (Gayle owns this photo)*

*Fig.2 Pie graphs of our personas based on the information given by Jessica's family members.*

*Fig.3 - Communicating between paired devices instead of groups (owned by Gayle)*

*Fig.4 - Notes from Entrepreneurship and Innovation class (owned by Jessica)*

*Fig.5 - Rechargeable 3D Print Moon Lamp 2 Color Change Touch Switch Bedroom Bookcase Night Light Home Decor Christmas Gift. (n.d.). Wish. Retrieved September 30, 2020, from [https://www.wish.com/product/rechargeable-3d-print-moon-lamp-2-color-change-touch-switch-bedroom-bookcase-night-light-home-decor-christmas-gift-59b0f7c91a0a663e7ac1e536?hide\\_login\\_modal=true&share=web](https://www.wish.com/product/rechargeable-3d-print-moon-lamp-2-color-change-touch-switch-bedroom-bookcase-night-light-home-decor-christmas-gift-59b0f7c91a0a663e7ac1e536?hide_login_modal=true&share=web)*

*Fig.6 - Prototype of heart (Gayle owns this photo)*

*Fig.7 - calculations to find TAM, SAM, SOM*

*Fig.8 - Calculated values of TAM, SAM, SOM*