Vancouver e-Recycling

PROJECT CLOSEOUT REPORT

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Executive Summary

The Vancouver e-Recycling project was an initiative under the Go Green Vancouver umbrella, aimed to raise awareness around electronic waste dangers, and educate the general public on how to dispose their old electronics responsibly. The vision of the project was to raise awareness through an interactive, virtual reality (VR) documentary on the proper recycling of e-waste, which would lead to a "greener" Vancouver.

There were three main deliverables planned for this project, consisting of a five-minute VR application and documentary, a showcase event for the documentary, and an event website that had more information around our initiative. We were able to deliver on 100% of these planned deliverables overall. Due to various issues that we will discuss in this report, some changes were made to internal aspects of these deliverables in order to complete the project by the deadline.

We delivered our project under budget. The cost of our project totaled $480.92, which was 67.5% of our planned budget with contingency of $712.07. Furthermore, due to an unexpected collaboration with an SFU club, we were able to cover an additional $223.45 of that cost. Therefore, the total out-of-pocket cost of our event was $257.47, which is 36.2% of our original budget.

In terms of scheduling objectives, we delivered our event on November 18, 2017 as planned. We did miss most of our interim scheduling objectives, including scouting film locations, interview filming, and editing. Therefore, we delivered on 25% of our scheduling objectives.

This document will report on all aspects of our event, including the baseline measures, project execution and complexity, the sustainability and promotion of our project, and the lessons we learned.

Baselines

This section will report on both the planned and delivered aspects of the Vancouver e-Recycling showcase. The planned aspects are also summarized on the project scope statement in Appendix J. This discussion will focus around the scope, quality, budget, schedule, and benefits to stakeholders. As well, any issues faced and resolved will also be discussed for each component.

Scope

As outlined in the project scope statement, there were three main deliverables planned for this project. Deliverable A was a five-minute interactive VR application and documentary that examined the rising issue of e-waste in Vancouver, and explained how to properly dispose of small electronics. In order to educate the public, deliverable B was to hold a pop-up event that showcased the documentary, along with providing the additional information on where Vancouver residents can recycle their small electronics. Finally, deliverable C was to create a website that provided more information on our initiative, our team, and our showcase event.

VR Application and Documentary

Within the five-minute interactive VR application and documentary, we planned to incorporate five main components. This included two interactive experiences, five interviews, 75 different pop-up stats, an interview and tour of an Encorp recycling facility, and to communicate five drop-off locations around the city.

Due to various issues, such as scheduling and stakeholder management, we were not able to deliver on all of these planned objectives. Our interactive portion consisted of one interactive experience that had users build an iPhone from its component pieces scattered around the globe. Each component was located where the piece was initially manufactured. The second portion was intended to have users break apart the iPhone back into its component pieces, and place the pieces where in the world they end up being recycled. We were not able to deliver the second portion, however, we did deliver a smaller interactive portion, where users answered a phone call to begin the VR experience. We were able to interview five different e-recycling leaders for the documentary, including:

- Vice-chair of the Vancouver Zero Waste Committee, Craig Hodge
- Salvation Army National Distribution Manager, Dan Kinsey

- GEEP representative Jeff Stasiuk,
- George Twarog, Engineering Assistant from the Vancouver Landfill
- Dr. Josh Lepawsky from the Geography Department at Memorial University

Unfortunately, we were only able to include three of these interviews in our documentary, as technical difficulties with audio resulted in Dr. Josh Lepawasky and George Twarog's interviews being unusable. We were also unable to deliver an interview or tour of Encorp, as they did not respond to our requests despite numerous attempts to make contact. Finally, we were able to communicate the five drop-off locations around the city through verbal communication, and delivered 67 virtual pop-up stats consisting of national numerics, historic facts and fun facts.

The main issues and challenges we faced with the VR application and documentary were centered around time-constraints and stakeholder management. Incorporating two interactive games was the critical path and had a very tight time-line. Due to the technical aspect of virtual reality, once we fell behind schedule there was no way to crash the task with other group members. Therefore, to resolve this issue we cut one of the interactive portions. Another issue we faced was dealing with interviewees. With the proprietary nature of this information, many companies did not wish to be filmed. To include the landfill video, we had to include a disclaimer stating our video did not appropriately represent the landfill. As well, since we were unable to secure Encorp for the tour and interview, we had to use the Salvation Army as a contingency. We filmed the tour at Salvation Army's recycling facility and also interviewed with Dan Kinsey as a replacement for an Encorp representative.

Showcase Event

Our pop-up showcase was intended to display the VR documentary, and include additional information to bring awareness to the growing problem of e-waste. We planned to hold our event on the weekend, in downtown Vancouver. We planned to have two VR headsets, two tables, light refreshments and snacks, marketing by news media and collaborators, and a newsletter sign-up for a one-time information blast after the event.

Our event delivered on most of the objectives that we set. We held our event on Saturday, November 18 at SFU Harbour Centre in the Teck Gallery, which is located in downtown Vancouver. Our event had two VR headsets playing our VR documentary, and two TV monitors showing the documentary to the audience not in the VR headset. There were two tables, with one featuring snacks and light refreshments for individuals waiting in line for the VR headsets. An email sign-up sheet was prepared for a one-time email blast that summarized all the information seen in the documentary. We were able to deliver on one news media marketing objective, with

Vivo Media sharing our event on their Facebook page. However, we never received a response from many media outlets, or were asked to pay a large sum for advertising space.
The main issue we faced with the showcase event was marketing. We sent out our press release 10 days before our event, which did not leave enough time for media outlets to get back to us. Particularly, the Peak wanted to write a story about our event but did not have enough time to publish it before our event took place. This resulted in less intended participants specifically coming to SFU Harbour Centre for our event. We resolved this issue by stationing one team member outside the venue pushing for walk-in participants.

Website

The website deliverable was intended to market our event, provide more information on our initiative and include information about our team. We also planned for the website to have a relevant domain name that represented our initiative.

The website delivered on all of our planning objectives. We created a website with the domain name, **www.we-recycle.tech**. Within the website there are three main pages: a homepage, an event page and an "About Us" page. The home page (see Appendix B) included more information about our initiative, outlining why it is important and pointing users to our event page. The event page included the what, where, when, why of our event and included a map of the event location. Finally, there was an "About Us" page that introduced each member of the team with a picture in our branded t-shirts.

The only issue to arise with the website was when we created our banner. The banner was printed with the incorrect website address, **www.we-rcycle.tech**. This was later resolved through buying a reroute link for $6.37.

Quality

In the project scope statement, our team listed two main quality measures for our event. A successful event would mean that at least 30 individuals went through the entire VR documentary and have at least 50 individuals signed up for the one-time newsletter email blast.

We had 29 individuals go through our VR documentary, missing our objective by one participant. Furthermore, we missed our newsletter objective by 16, as only 34 individuals signed up for the one-time email blast.

The main issues we faced in delivering these quality objectives was queue management and the public's pre-existing resistance to signing up for email messages. There were many occasions

where people were interested in participating in the VR experience, but both headsets were in use. With an eight minute run-time, many people were unwilling to wait around. As well, many rejected the offer for the email blast, explaining that they did not like to give out their email due to the possibility of spam.

Budget

As a team, we were under a restricted budget, and set a soft budget cap of $500. As a team, we also committed to an extra $250 if necessary. As per our project plan, our actual estimated cost was $712.07 with contingency.

Overall, we were able to deliver the project under budget. We did not have to use a contingency for any of the tasks in the project plan. The total cost of the project was $480.92. Appendix E shows a detailed breakdown of our budget in spreadsheet form. We also benefitted from an unexpected collaboration with an SFU club. Through this collaboration, we were able to cover the costs of the banner, posters, t-shirts and event location. As a result, the total out-of-pocket expense for the project was $257.47.

In terms of issues faced, there were limited roadblocks in delivering the project under budget. One preliminary issue was team member apprehension to spend money out of their own pockets. As a team, we understood that each member's propensity to spend would decrease as the project went along. To mitigate this risk, we had everyone put $100 down at the beginning of the semester and assigned an accountant for the group. Their role was to hold all the money, record all costs, and hold on to receipts. We then scheduled a final budget meeting where everyone received a portion of their money back.

Schedule

The schedule planned for this project as per the scope statement is outlined in Table 1.0 below:

September 20 – September 25	Framework built for VR experience
September 20 – September 30	Scout film locations and schedule interviews
October 01 – October 28	Film all 360 and 2D footage
October 25	Book event location
October 25 – November 18	Advertising for event
November 10	VR app and immersive mini-documentary complete
November 15	Finish 85% of presentation (everything other than the post-mortem)
November 18	Showcase event completed
November 20	Finish presentation for class
November 22	Present in Class
November 25	Project Report complete
November 27	Hand in Project Report

Table 1.0 Scope Statement Schedule

Overall, the documentary and event were delivered on time on November 18. However, most of the intermediary schedule objectives were missed. The first schedule we missed was scouting film locations and interview filming. The interview filming process was finished one month late, on October 31. This led to its dependency, editing, also falling behind significantly. In addition, we missed the advertising objective, as marketing did not begin until November 6.

The issues we faced began with an ambitious project from the beginning. Our filming and editing process was the critical path, which left very little room for error. Furthermore, our research did not yield a clear concept or storyboard for our video. Therefore, we relied heavily on our interviews to lead us to our next interview or company to research. Our schedule did not allot for this waterfall-type of film making; contacting a new interviewee and scheduling another interview took additional time. To solve this issue, we added additional resources to the VR team. Muhammad took on narration and helped out with motion graphics. We also made the decision to cut out one of our interactive games. Finally, in order to finish the video, our VR team worked significant hours in the final weekend.

In terms of marketing, we could not begin to market our event until we had a clear concept of the product we would be delivering. We did not foresee this dependency at the beginning, resulting in marketing being behind schedule. We solved this issue through adding labor hours to marketing. We were able to get the website up, Facebook up and contact media outlets in a three-day period. However, we were unable to recoup the lost time that we could follow up and speak with news agencies. Our delay in marketing didn’t allow ample time for participants to plan to come to our event.

Benefits to Stakeholders

The three intended benefits to stakeholders were education on e-waste and small electronic recycling, an interactive VR experience, and awareness and information on how to go green in Vancouver. This focused on the community/participants as the main stakeholder in our project.

The project delivered on all three of these objectives. The VR documentary delivered extensive education on e-waste and electronic recycling, with three e-waste experts and 67 stats about e-waste. Participants also received the benefit of experiencing an interactive VR experience through a virtual game where they built an iPhone from its component pieces. As the final objective, participants were verbally informed on the various drop-off locations in Vancouver and the one-time newsletter blast providing information on how to make Vancouver green by reducing e-waste.

As a project team, we faced the issue of focusing too much on participants as our only stakeholders. In the project plan, we failed to foresee the importance of interviewees as

stakeholders. We had to find and communicate benefits for these individuals and organizations to secure interviews. We solved this through communicating the benefit of how being featured in our documentary would lead to more awareness and free advertising for their organization.

Project Execution

In this section, we will discuss the execution of our project. We will begin by outlining our project process, and then discuss both our risk and communication management.

Project Process

With a project of our size and complexity we felt our team needed to have focused sub-teams. We were split into two sub-teams with one floating person to liaise between the two groups. One group focused primarily on the technical aspect of the project whereas the other group focused on the marketing and logistics of the event. Communication was something that we emphasized early on in the project in order to succeed. We took steps to allow for natural communication to occur both within sub-teams and throughout the team as a whole by using the cloud-based collaboration tool, Slack. We employed the "#channels" feature of Slack to keep focused sub-team conversations separate from team-wide conversations, allowing for greater communication throughout the team. Alongside Slack we paired an online project management application Trello (see Appendix G), to keep track of action items and to have a repository for completed tasks.

Running in parallel to these applications were weekly checkpoint meetings on Sunday mornings at 10:45am in which sub-teams would update the team about their progress, and action items would be formulated and assigned. A weekly agenda (see Appendix A) was created every week to provide focus for the team throughout the week. Minutes were taken to ensure discussions during the meeting were captured, recorded, and made actionable. Sub-teams were also encouraged to meet on a regular basis, with the event team meeting on Monday afternoons to discuss event specific topics.

With regards to document storage, we employed a series of tools. For project documents (i.e. meeting minutes, scope document) we used Google Drive due to the team's familiarity with the tool. The technical team also used OneDrive, as they often dealt with files in excess of 100GB. An external hard drive was also used to transport files and to serve as a physical contingency.

Risk Management

With a project running on an expedited timeline, there were many risks that were anticipated, encountered and mitigated throughout the project. This section will highlight some of the overarching risks that persisted or consistently came up throughout the project.

Budget Risks

Budgeting for this project was discussed early on. With the use of a relatively new technology (VR), the uncertainty behind cost was very high. The team decided to have a soft cap of $500 to cover for costs and a hard cap of $750 to account for unseen costs. After looking at venue prices we realized that collaborating with a student group would be best to mitigate some of the costs. Working with a student group had its fair share of risks and constraints, however the team benefitted greatly from this partnership.

Content Risks

When filming a documentary the primary concern is content. One of the concerns brought forth by the technical team was the need for good content, both with regards to interviews as well as B-roll film for the documentary. To alleviate some of the stress with regards to content, the non-technical team assisted in finding experts to be interviewed and occasionally assisted the technical team in filming the interviews. The team also found extra experts to interview as contingency just in case an important interview fell through. With regards to B-roll, not much was done to mitigate this risk, resulting in a shortage of B-roll. However, this did not have a large effect on the overall project.

Communication Management

Communication with the stakeholders during the event did not change. Experts were contacted via phone and email to set up interviews. This was followed up with a thank you/invite card (see Appendix C) inviting experts to attend our event. Participants were verbally informed of the various recycling depots located around Metro Vancouver. After completing the interactive documentary experience participants were asked to sign up for a one-time email that would highlight and summarize everything that was put into the documentary.

Project Complexity

According to the Project Complexity Model, Project Complexity is determined by various factors such as time, cost, schedule, flexibility of cost, time and scope and risks involved. In this section, interim deliverables, technical complexity and shareholder complexity outlines the project complexity.

Interim Deliverables

With three major deliverables, the VR documentary, showcase event and a website, Vancouver e-Recycling was a complex project to complete under three months. In order to deliver these, it required several interim deliverables.

The VR documentary contained interim deliverables such as the film script, b-roll and interview footage, motion graphic designs, interactive portions, a list of statistics and narration, with each contributing to the content and quality of the documentary. The film script was one of the earliest deliverables, and it helped define the structure and message of our documentary. The interview footage provided essential information about electronics waste recycling in Vancouver from experts in the field. Lastly, the documentary experience was stitched together with b-roll footage, narration, motion graphics with fun facts, and interactive portions to engage the users.

Interim deliverables for the showcase event included our logo, t-shirts, posters and banner designs (see Appendix H), social media sites, invitation and thank you cards (see Appendix C), press releases (see Appendix F) and an online sign-up sheet (see Appendix I). The logo was the earliest deliverable, and was created to brand our product across banners and posters serving as marketing tools to advertise our event to the community. Invitation and thank you cards were prepared to formally invite and thank the many experts in electronic recycling who contributed to our documentary content. The press releases were prepared to advertise our event through media channels such as Daily Hive and Metro/24 Hrs. Finally, the online sign-up sheet served as a success measure for our showcase, as it recorded the number of registrations for a post-event newsletter.

Technical Complexity

Our project made use of spreadsheets, research, virtual reality technology and various software to create our product. The project heavily relied on online documents, such as the budget (Appendix E) and statistics spreadsheets (see Appendix D), and living documents such as the project plan to make organized and accessible information for all team members. The budget

spreadsheet was used to record and keep track of group expenses, while the statistics spreadsheet was used to list and categorize a variety of statistics to be used in the documentary.

Decisions made regarding project deliverables were highly influenced by research. Research was conducted while producing the virtual reality documentary as it assisted in creating a script for the documentary, obtaining relevant statistics, creating connections with potential sponsors and in obtaining contact information for interviews. In preparation for the showcase event, research was done to find a suitable venue for event, looking up marketing strategies and obtaining instructions on writing a press release.

The creation of the Virtual Reality experience was split into two components, 360-video and interactivity. In order to actively engage our audience, we created two interactive portions within Unity3D. The 3D assets for the experience were either acquired from the Unity Asset Store, or contracted out to a 3D artist. The first activity we created was a tutorial to onboard and orient the user to the hand controllers within the virtual environment. This was done through tasking them to pick up a phone to start the experience. The second interactive section required the user to pick up phone components off a world map to build a smartphone.

A variety of cameras such as Samsung Gear360, Sony A6500, GoPro Hero 4, and Canon T3i were used for filming. We also made use of additional audio recording equipment, including a Zoom H4n to capture and spatialize high quality audio in our virtual reality experience. Adobe's Creative Cloud suite was used to edit the documentary. The 360-video portion of the documentary contained informative motion graphics to guide the user's attention, and to supplement the contents of the video. To create a seamless experience, the documentary was combined with the interactive experience using Unity3D.

Stakeholder Complexity

Due to the large scale of our project, it involved the influence of many key external stakeholders, including interviewees, the community and event participants.

As discussed above, we contacted many experts in the field of electronic recycling. A lot of time and planning went into building connections and coordinating with the interviewees as their expertise and opinions played a large role in the message that the project aimed to deliver.

Key stakeholders from our SFU community included various SFU departments and the SFU XR club. Throughout the project the team communicated with Facilities Services, the Sustainability Office and the Simon Fraser Student Society (SFSS). Facilities Services assisted the project by providing information on SFU's current initiatives on recycling and sustainability, while SFU Sustainability Office provided our event with a "Zero Waste" tablecloth and banner. We worked

very closely with XR club, a virtual reality club founded under SFSS, who helped fund us and provided assistance in booking a venue, printing banners and t-shirts.

Key organizations that assisted and sponsored the documentary and showcase event included Coal Car Studio and the National Film Board (NFB). Coal Car Studio sponsored the virtual reality equipment for the event, while NFB's experts provided guidance in the creation of the storyboard for the documentary at the early stages of the project.

Event participants played a key role during the showcase event, with their attendance being a result of our marketing efforts before and on the day of the event. Communication and engagement with participants started two weeks prior to the event date through Facebook and event website, and through Snapchat during the hours of the event.

Sustainability and Promotion

Promotion and sustainability efforts were a priority for the project. Promotion was focused on increasing event awareness and attendance, while sustainability efforts were focused on allowing these participants to continue to engage with the event and initiative afterward.

Promotion

Promotion efforts were varied, and attempted to target to a number of audiences, including confirmed event participants, interviewees, and the general public. Both online and in-person channels of communication were used for promotion. Online, a Facebook event allowed our participants to confirm attendance to the event, while also providing ongoing updates and advertisement. On Facebook, 32 people were listed as going to the event. We also created a website, which provided event details and further information. Furthermore, online promotion through Snapchat filters were pursued, in order to increase event attendance and awareness. A press release for the event and documentary was prepared, and sent out to the media outlets Daily Hive, Metro, and 24 Hours. We also followed up with our experts through thank you letters providing more information about our event. As well, invitation cards providing more information about our event were prepared for high priority participants and our classmates. Finally, banners and t-shirts were used to promote the event in-person.

Sustainability

Long-term sustainability was considered important for our project, as one of the sub-deliverables was to provide additional information and resources on how to “Go Green” in Vancouver. A one-time e-mail newsletter was sent shortly after the event, which summarized our documentary and had information about where participants could drop off their electronics. Our website also provided this information, and links to this were shared on Facebook, email, and during our event. The Facebook event page served as a touchpoint for continued communication with guests. Thank you cards were prepared and distributed to participants to facilitate goodwill, and provide further event details about documentary subjects and other stakeholders. Our efforts to bring awareness to further drop off locations can help our goal of decreasing e-waste. As well, it can provide participants with a long term and sustainable takeaway from our project.

Lessons Learned

Lessons learned outlines the learning and knowledge gained from performing the project. Three of our main lessons learned included establishing project quality and scope expectations, planning with contingency and formalizing a documenting and review processes.

Establish Quality and Scope Expectations

One of the main lessons learned throughout the project was to establish quality and scope expectations early in the planning process. This is important as it sets the project scope, individual responsibilities, as well as the expectations for the deliverables.

As a group, we discussed the project having three main deliverables, including a five-minute virtual reality documentary, showcase event and a website. However, we did not define the quality expectations of each of these deliverables. For example, there are many ways to create a five-minute documentary. It could have poor motion graphics, rushed editing and low-quality cinematography, but still be a virtual reality documentary. Failing to define the quality expectations led to ambiguity, leading to many heated discussions midway through the project, with each team member expecting something different from the deliverables.

Secondly, spending little time defining quality and scope expectations during the project's planning phase led to the project having a scope larger than appropriate for the time available. The large workload resulted in having little to no slack in all the deliverables, which led to the group missing many intermediate deadlines outlined in the project schedule. In the end, we had to make the decision to compromise, and cut back certain aspects of each deliverable in order to showcase our project on time.

In hindsight, establishing quality and scope exceptions in depth would have saved the group the confusion and the time spent on re-discussing set goals, which instead could have been used to focus on areas such as marketing.

Planning with Contingency

While some of the issues rose from unexpected circumstances, most were a result of poor planning during the early stages of the project. The many issues we faced with technical complexity, filming, and marketing was an indication of the importance of having a strategic plan with fully thought out contingency plans.

During the initial stage of planning, our group had set out certain deadlines and interim deliverables required to complete the project, but most of it was set without accounting for any

unexpected occurrences. With our project being heavily dependent on external factors, such as information from experts in the field of electronics recycling, we spent majority of the time filming. We did not build enough contingency for the risk that we would not be able to coordinate an interview time that would work for both us and the expert, or the fact many experts took a long time to respond. This led to an imbalance in time allocation in the planning phase, which resulted in insufficient time to do user testing for the interactive component of the documentary and the marketing of our product.

Spending more time in the planning phase to fully develop our ideas, assess risks, and place alternative strategies would have mitigated our risks of falling behind schedule and not delivering on all our deliverables. Had we successfully carried out our marketing campaign, our event showcase would have attracted more people, thus leading to a more successful event.

Formalizing Documentation and Review Process

Some of the issues we faced through the project highlighted the importance of having formalized documentation and review process throughout a project's timeline. Documenting refers to keeping records and progress of meeting discussions and agendas for each week, and a review process refers to the practice of each member signing off on documents that are to be published.

During the early stages of the project, we established the practice of documenting meeting minutes and agendas each week during team meetings. This practice paid off when debating on quality and scope expectations midway through the project, as it allowed us to retrace our steps back to the initial goals set, and keep us from going off track. As well, outlining each group member's action items for the week on the agenda kept everyone on task and contributing to the project.

The lack of a review process during the project resulted in mistakes being made in documents that were published. A good example is the error in the URL of our website on the banner we printed, which was sent to printing without each member examining the content. The issue was later solved by redirecting the wrong domain to the right one.

We learned that documenting meeting minutes is crucial to keeping the group on track, and provide proof of initial goals set for the project. As well, we learned that having a formalized review process have helps avoid careless mistakes that impact the quality of our project.

Appendix

Appendix A - Meeting Agenda (Sample)

Meeting Agenda & Minutes (#11)

Objective: Update on Action Items + To Do for next week

Date:	November 12, 2017	**Location:**	Skype
Time:	4:30 pm	**Meeting Type:**	Skype
Start Time:	4:30 pm	**Facilitator:**	Muhammad
Finish Time:	4:55 pm	**Scribe:**	Chamodi
Called By:	Team	**Time Keeper:**	Maxwell

Attendees: Muhammad, Chamodi, Max, Jordan, Shane

Agenda

1) General Discussion
2) Updates on action items
3) Final report progress
   a) Due dates
4) Event day procedures
   a) Assigned jobs
   b) Approximated participants
5) To do for next week

Minutes (Last Week Action Items)

Muhammad

1. TODAY:

~~a. Give feedback on Press Release~~

b. Peak pitch

2. TUESDAY: ~~Follow up with SFSS~~
3. NEXT WEEK:

. **Narration with Shane** - In progress

~~a. Email Vivo~~

~~b. City of Vancouver~~

~~c. Free Geek~~

~~d. Update website~~

e. Send out cards - In progress

Shane

1. TODAY:

~~a. Rough cut of the video~~
~~b. Work on statistics with Max~~
~~c. Coordinate with Max on motion graphics~~

Chamodi

2. TODAY:

~~a. Follow up with Jeff~~
~~b. Finish press release~~
~~c. List for invitation and thank you cards~~

Jordan

1. TODAY:

~~a. List for invitation and thank you cards~~

2. NEXT WEEK:

~~. Work on Facebook page~~
~~a. Distribute final project work~~
~~b. Look into other social media platforms~~

Max

1. NEXT WEEK:

~~a. Statistics with Shane~~
b. Motion graphics - in progress
c. Info panels - In progress
~~**d. Bring camera on Wednesday**~~

To do for Next Week

Group

- WEDNESDAY (Nov 15) - Bring shirts!!
- FRIDAY(Nov 17) - Group meeting/ presentation practice

Muhammad

- TUESDAY
  - Send out invites and thank you cards
- WEDNESDAY
  - Finish final report section
- NEXT WEEK
  - Reddit posts with **Max**
  - Narration with **Shane**
  - Sign up sheets for newsletter
  - Presentation slides with **Jordan**

Chamodi

- MONDAY
  - Write messages for invites and thank you cards
- WEDNESDAY
  - Finish final report section

Jordan

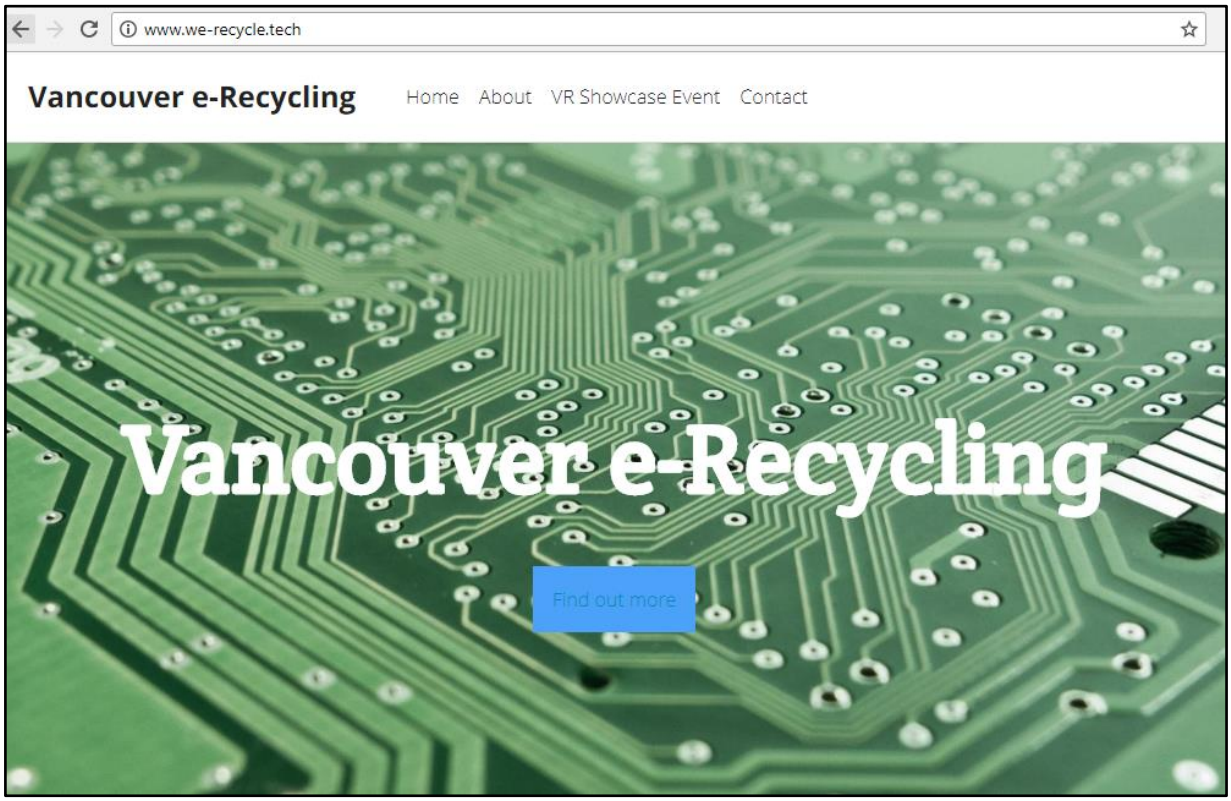
- MONDAY
  - Order snapchat filter ($15)
- WEDNESDAY
  - Finish final report section
- NEXT WEEK
  - Presentation slides with **Muhammad**

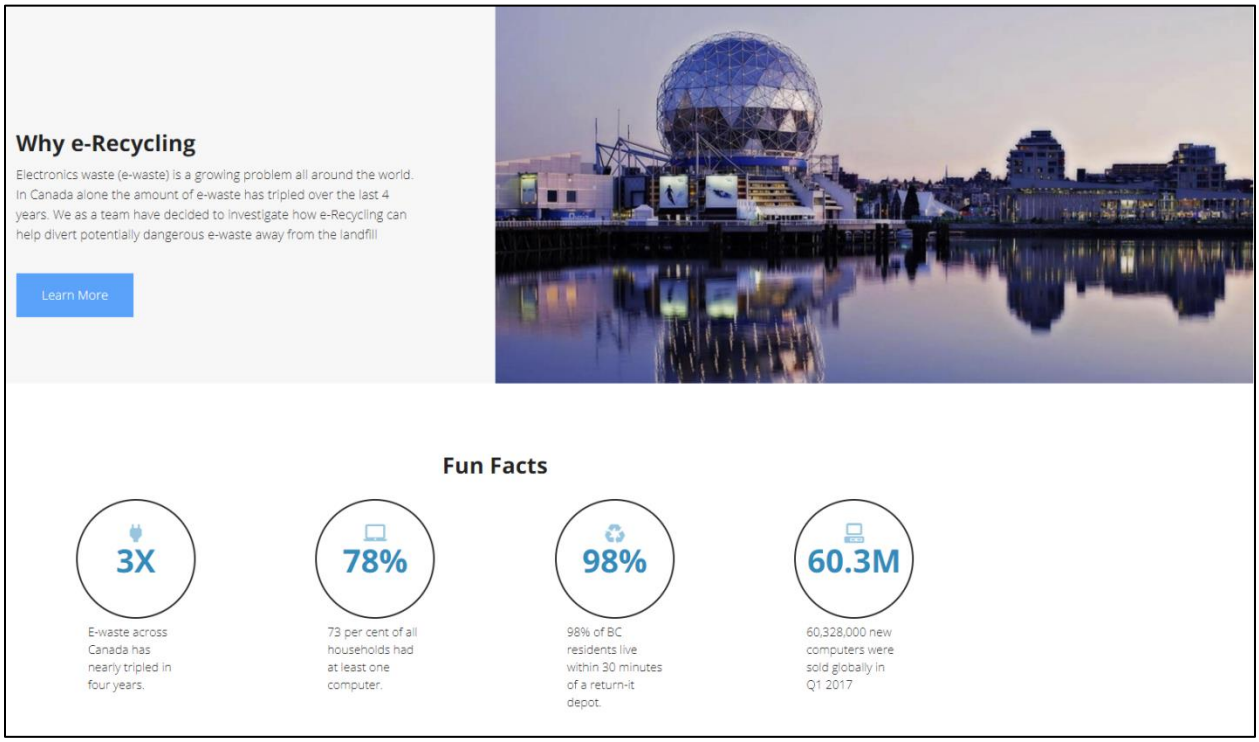
Max

- MONDAY
  - Finish statistics and 30 variations
- WEDNESDAY
  - Finish final report section
  - Bring camera!!

Appendix B - Website

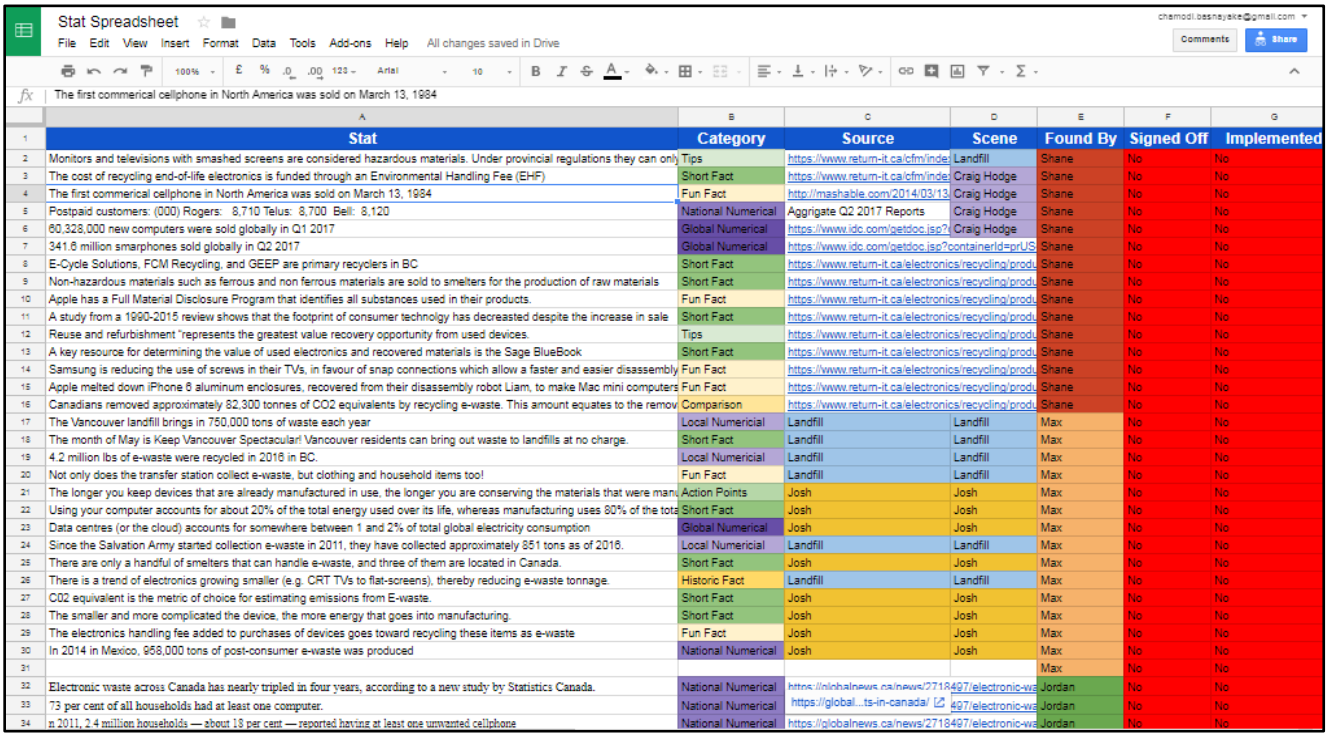
www.we-recycle.tech





Appendix C - Invite and Thank You Cards

Appendix D - Statistics Spreadsheet



Stat Spreadsheet

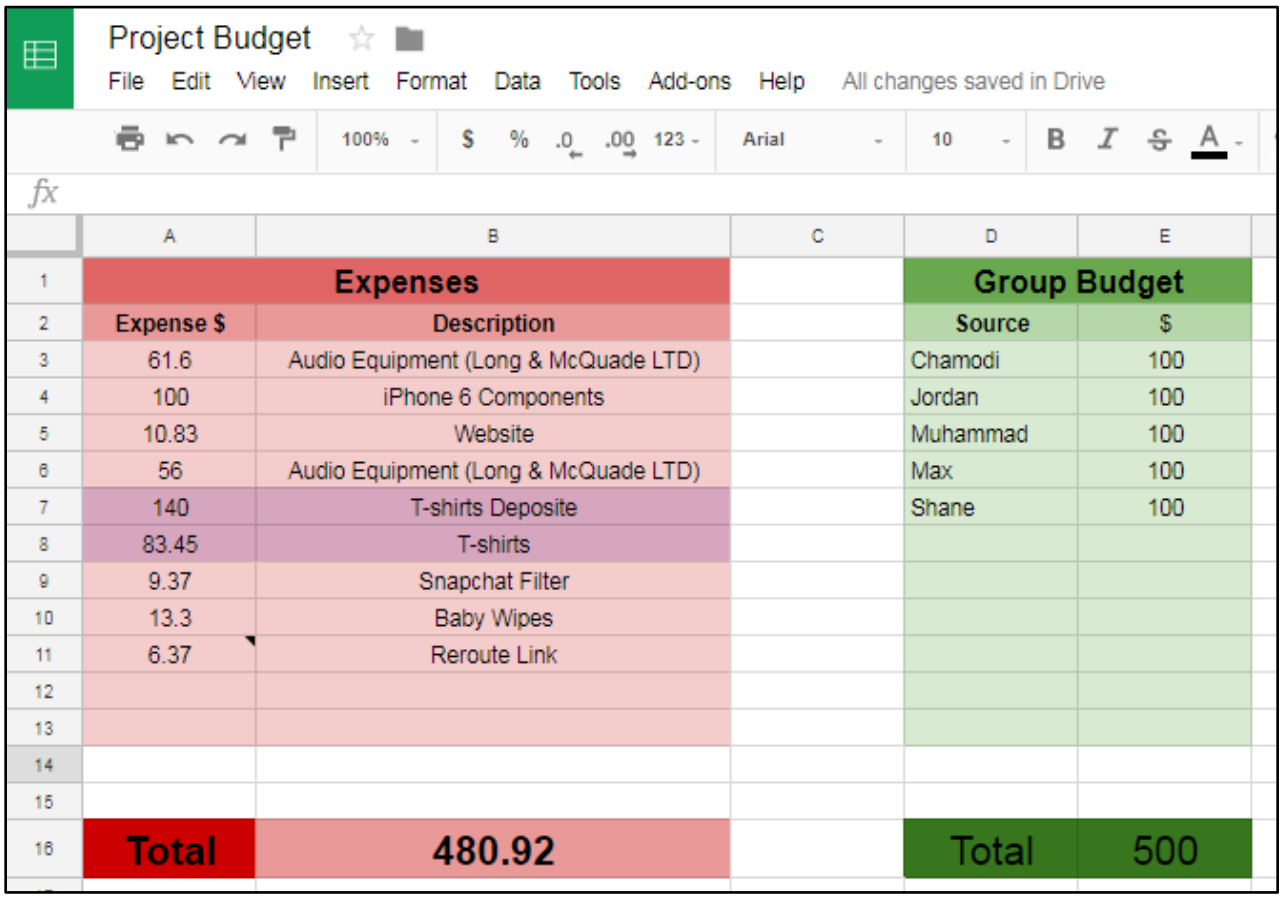
File Edit View Insert Format Data Tools Add-ons Help All changes saved in Drive

The first commerical cellphone in North America was sold on March 13, 1984

	Stat	Category	Source	Scene	Found By	Signed Off	Implemented
2	Monitors and televisions with smashed screens are considered hazardous materials. Under provincial regulations they can only	Tips	https://www.return-it.ca/cfm/inde	Landfill	Shane	No	No
3	The cost of recycling end-of-life electronics is funded through an Environmental Handling Fee (EHF)	Short Fact	https://www.return-it.ca/cfm/inde	Craig Hodge	Shane	No	No
4	The first commerical cellphone in North America was sold on March 13, 1984	Fun Fact	http://mashable.com/2014/03/13	Craig Hodge	Shane	No	No
5	Postpaid customers: (000) Rogers: 8,710 Telus: 8,700 Bell: 8,120	National Numerical	Aggrigate Q2 2017 Reports	Craig Hodge	Shane	No	No
6	60,328,000 new computers were sold globally in Q1 2017	Global Numerical	https://www.idc.com/getdoc.jsp?	Craig Hodge	Shane	No	No
7	341.6 million smarphones sold globally in Q2 2017	Global Numerical	https://www.idc.com/getdoc.jsp?containerId=prUS		Shane	No	No
8	E-Cycle Solutions, FCM Recycling, and GEEP are primary recyclers in BC	Short Fact	https://www.return-it.ca/electronics/recycling/produ		Shane	No	No
9	Non-hazardous materials such as ferrous and non ferrous materials are sold to smelters for the production of raw materials	Short Fact	https://www.return-it.ca/electronics/recycling/produ		Shane	No	No
10	Apple has a Full Material Disclosure Program that identifies all substances used in their products.	Fun Fact	https://www.return-it.ca/electronics/recycling/produ		Shane	No	No
11	A study from a 1990-2015 review shows that the footprint of consumer technolgy has decreasted despite the increase in sale	Short Fact	https://www.return-it.ca/electronics/recycling/produ		Shane	No	No
12	Reuse and refurbishment "represents the greatest value recovery opportunity from used devices.	Tips	https://www.return-it.ca/electronics/recycling/produ		Shane	No	No
13	A key resource for determining the value of used electronics and recovered materials is the Sage BlueBook	Short Fact	https://www.return-it.ca/electronics/recycling/produ		Shane	No	No
14	Samsung is reducing the use of screws in their TVs, in favour of snap connections which allow a faster and easier disassembly	Fun Fact	https://www.return-it.ca/electronics/recycling/produ		Shane	No	No
15	Apple melted down iPhone 6 aluminum enclosures, recovered from their disassembly robot Liam, to make Mac mini computers	Fun Fact	https://www.return-it.ca/electronics/recycling/produ		Shane	No	No
16	Canadians removed approximately 82,300 tonnes of CO2 equivalents by recycling e-waste. This amount equates to the remov	Comparison	https://www.return-it.ca/electronics/recycling/produ		Shane	No	No
17	The Vancouver landfill brings in 750,000 tons of waste each year	Local Numericial	Landfill	Landfill	Max	No	No
18	The month of May is Keep Vancouver Spectacular! Vancouver residents can bring out waste to landfills at no charge.	Short Fact	Landfill	Landfill	Max	No	No
19	4.2 million lbs of e-waste were recycled in 2016 in BC.	Local Numericial	Landfill	Landfill	Max	No	No
20	Not only does the transfer station collect e-waste, but clothing and household items too!	Fun Fact	Landfill	Landfill	Max	No	No
21	The longer you keep devices that are already manufactured in use, the longer you are conserving the materials that were manu	Action Points	Josh	Josh	Max	No	No
22	Using your computer accounts for about 20% of the total energy used over its life, whereas manufacturing uses 80% of the tota	Short Fact	Josh	Josh	Max	No	No
23	Data centres (or the cloud) accounts for somewhere between 1 and 2% of total global electricity consumption	Global Numerical	Josh	Josh	Max	No	No
24	Since the Salvation Army started collection e-waste in 2011, they have collected approximately 851 tons as of 2016.	Local Numericial	Landfill	Landfill	Max	No	No
25	There are only a handful of smelters that can handle e-waste, and three of them are located in Canada.	Short Fact	Josh	Josh	Max	No	No
26	There is a trend of electronics growing smaller (e.g. CRT TVs to flat-screens), thereby reducing e-waste tonnage.	Historic Fact	Landfill	Landfill	Max	No	No
27	C02 equivalent is the metric of choice for estimating emissions from E-waste.	Short Fact	Josh	Josh	Max	No	No
28	The smaller and more complicated the device, the more energy that goes into manufacturing.	Short Fact	Josh	Josh	Max	No	No
29	The electronics handling fee added to purchases of devices goes toward recycling these items as e-waste	Fun Fact	Josh	Josh	Max	No	No
30	In 2014 in Mexico, 958,000 tons of post-consumer e-waste was produced	National Numerical	Josh	Josh	Max	No	No
31					Max	No	No
32	Electronic waste across Canada has nearly tripled in four years, according to a new study by Statistics Canada.	National Numerical	https://globalnews.ca/news/2718497/electronic-wa		Jordan	No	No
33	73 per cent of all households had at least one computer.	National Numerical	https://global...ts-in-canada/	497/electronic-wa	Jordan	No	No
34	n 2011, 2.4 million households — about 18 per cent — reported having at least one unwanted cellphone	National Numerical	https://globalnews.ca/news/2718497/electronic-wa		Jordan	No	No

Legend			
Category	Found By	Scene	Sign Off/Implemented
Local Numericial	Shane	Intro	Yes
National Numerical	Max	Craig Hodge	In Progress
Global Numerical	Jordan	Landfill	No
Local Date	Chamodi	Stream	
National Date	Muhammad	Mall	
Global Date		Dan	
Fun Fact		Downtown	
Comparison		Josh	
Historic Fact			
Tips			
Action Points			
Short Fact			

Appendix E - Budget Spreadsheet



Project Budget

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	A	B	C	D	E
1	**Expenses**			**Group Budget**	
2	**Expense $**	**Description**		**Source**	**$**
3	61.6	Audio Equipment (Long & McQuade LTD)		Chamodi	100
4	100	iPhone 6 Components		Jordan	100
5	10.83	Website		Muhammad	100
6	56	Audio Equipment (Long & McQuade LTD)		Max	100
7	140	T-shirts Deposite		Shane	100
8	83.45	T-shirts			
9	9.37	Snapchat Filter			
10	13.3	Baby Wipes			
11	6.37	Reroute Link			
12					
13					
14					
15					
16	**Total**	**480.92**		Total	500

Appendix F - Press Release

SFU Students to Host a Virtual Reality E-Recycling Showcase

Location, Date:- Vancouver E-Recycling will be hosting a virtual reality documentary showcase at the Teck Gallery, located at SFU Vancouver's Harbour Centre campus, on Saturday, November 18 from 11:00am to 3:00pm. The event is free of charge.

The "Virtual Reality E-Recycling Showcase" is an opportunity for residents of Metro Vancouver to learn about disposing electronic waste responsibly via an interactive virtual reality documentary. The fiveminute interactive experience is designed to engage participants through the life cycle of small electronics and showcase how they can contribute to making Vancouver more sustainable and green.

Electronic waste refers to electronic products nearing the end of their useful life. While it has become increasingly common to upgrade smartphones and other electronic devices on a regular basis, there is a lack of awareness on what happens to old devices. Many of these products can be reused, refurbished or recycled, but in Canada, the majority of old electronics are stored in households and wasted away. With the help of some of the leading waste recycling companies in Canada such as Salvation Army and GEEP, this documentary brings awareness on how the community can contribute to tackle the growing problem of electronic waste.

The Virtual Reality E-Recycling Showcase will commence at 11:00am with registration for the VR experience. The five-minute documentary experience with VR technology will be monitored and facilitated at all times to guide and provide the best experience. Further information about the team's future initiatives will be provided at the information desk.

About Vancouver E-Recycling

The Vancouver E-Recycling is a project lead by a student group from Simon Fraser University, formed with the goal of taking initiative towards building a greener Vancouver. The Virtual Reality E-Recycling Showcase is part of a four-month project to raise awareness on electronic waste recycling in a creative matter with the use of VR technology.

Media Contact

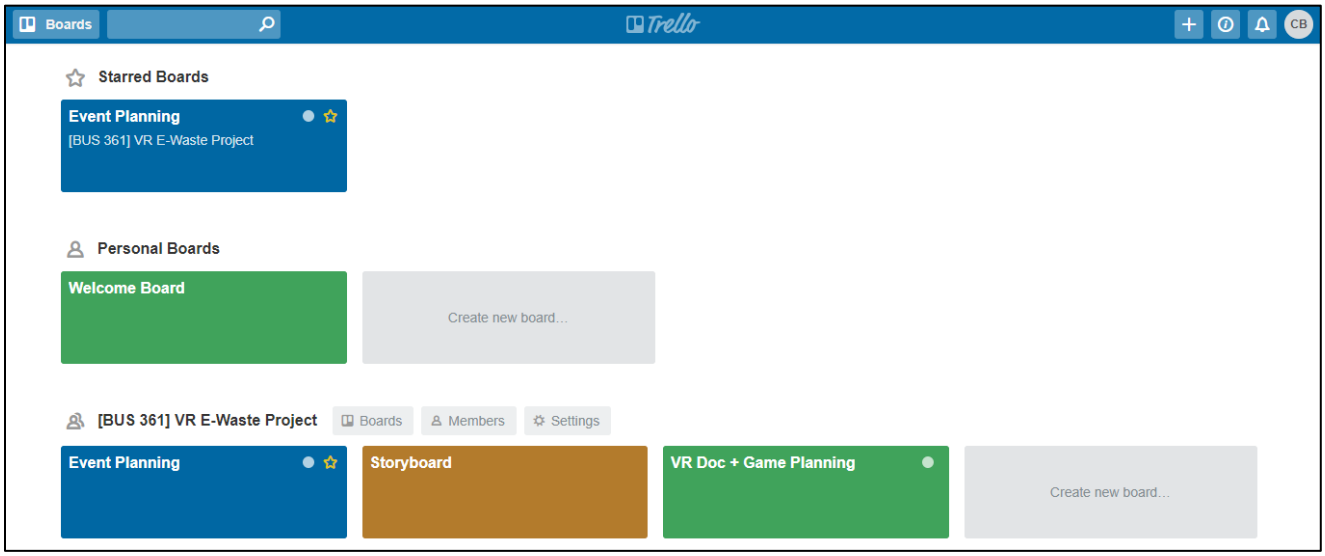
Chamodi Basnayake

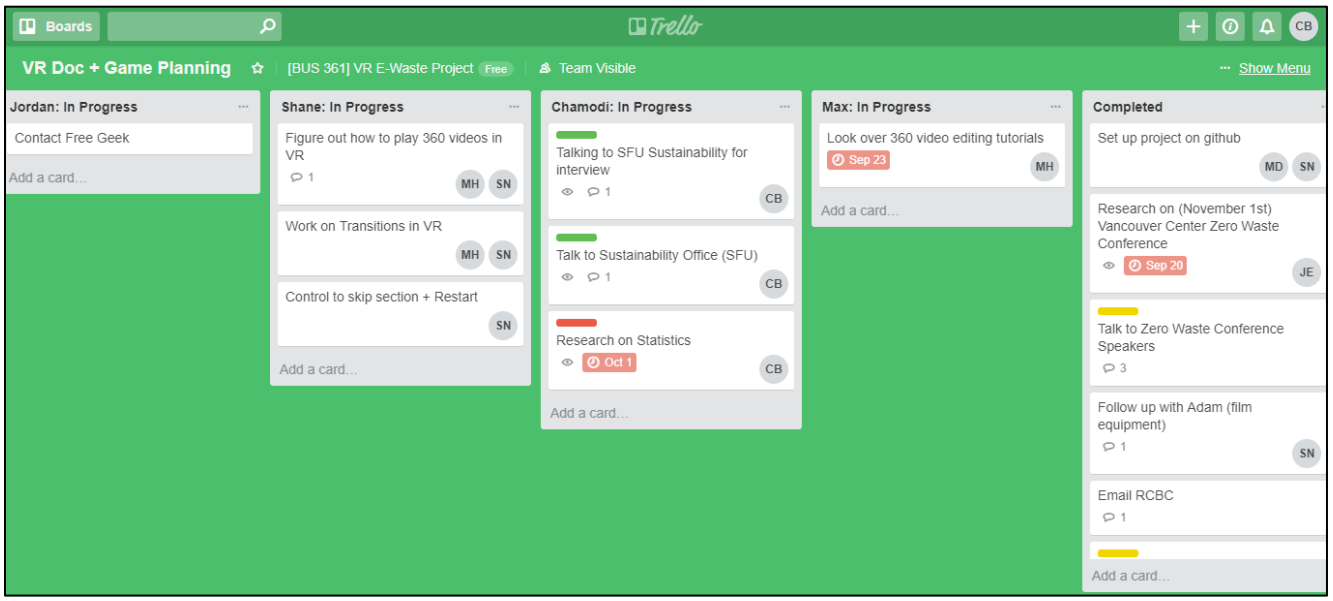
cbasnaya@sfu.ca

(778)-837-3540

www.we-recycle.tech

Appendix G - Trello Board

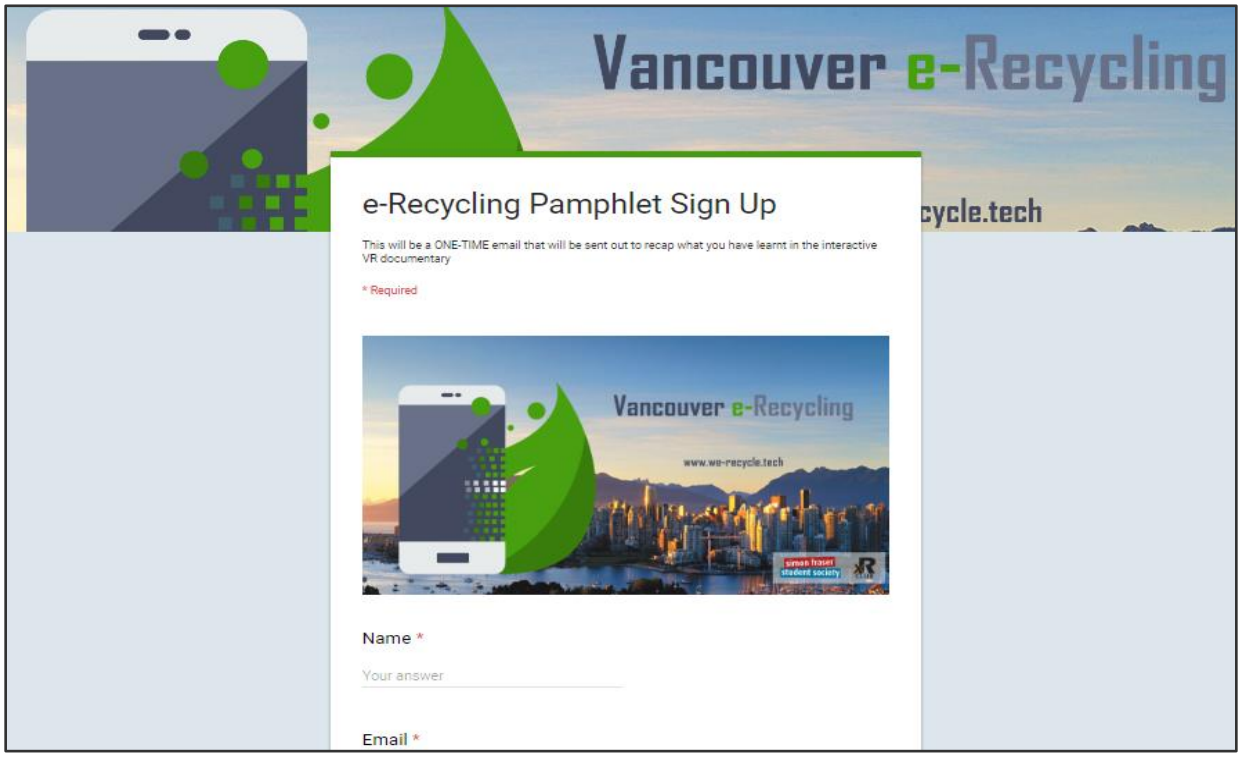




Appendix H - Poster/Banner

Appendix I - Online Sign-Up Sheet

https://docs.google.com/forms/d/e/1FAIpQLSce0av_Niy88UoRRB2Wz4PB30F6yo74ulOwWf6QUuGkHOqv5Q/viewform?usp=sf_link

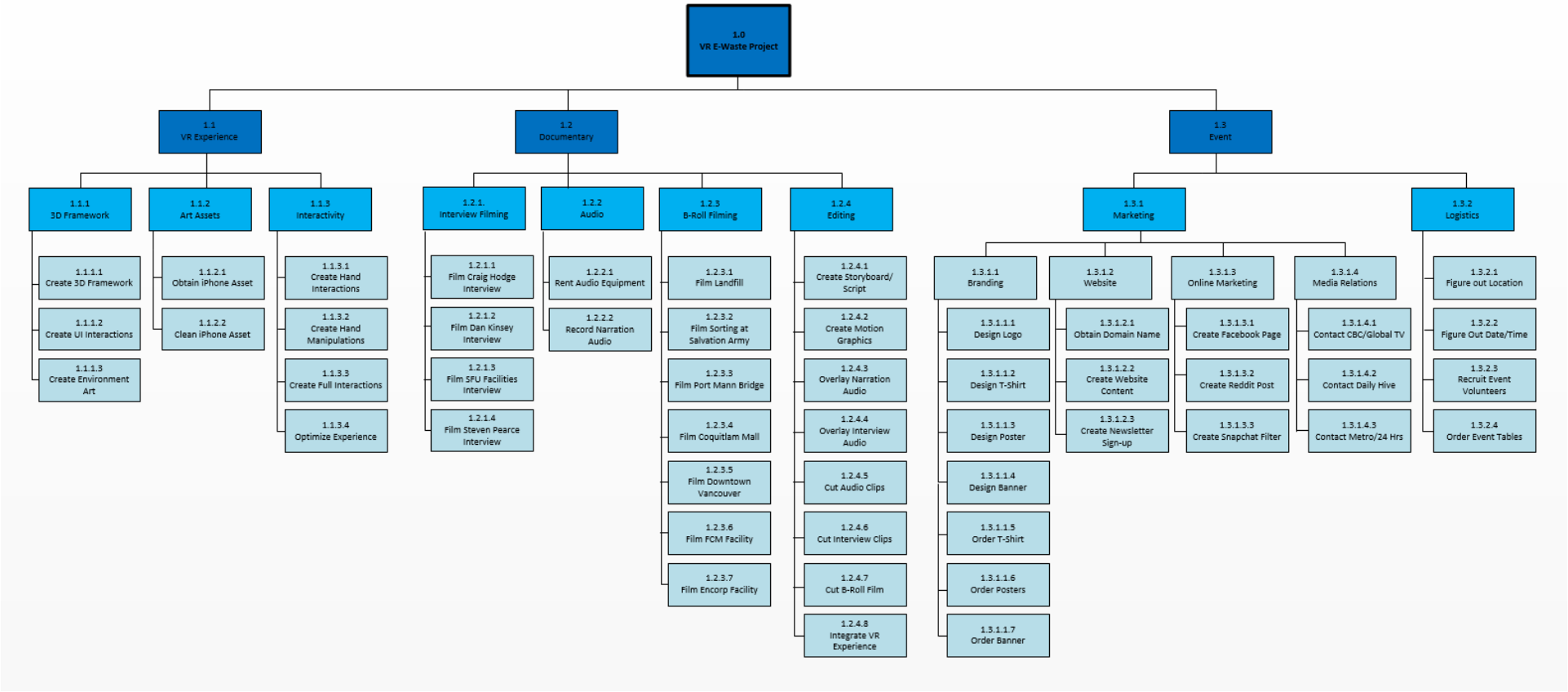


Appendix J - Project Plan

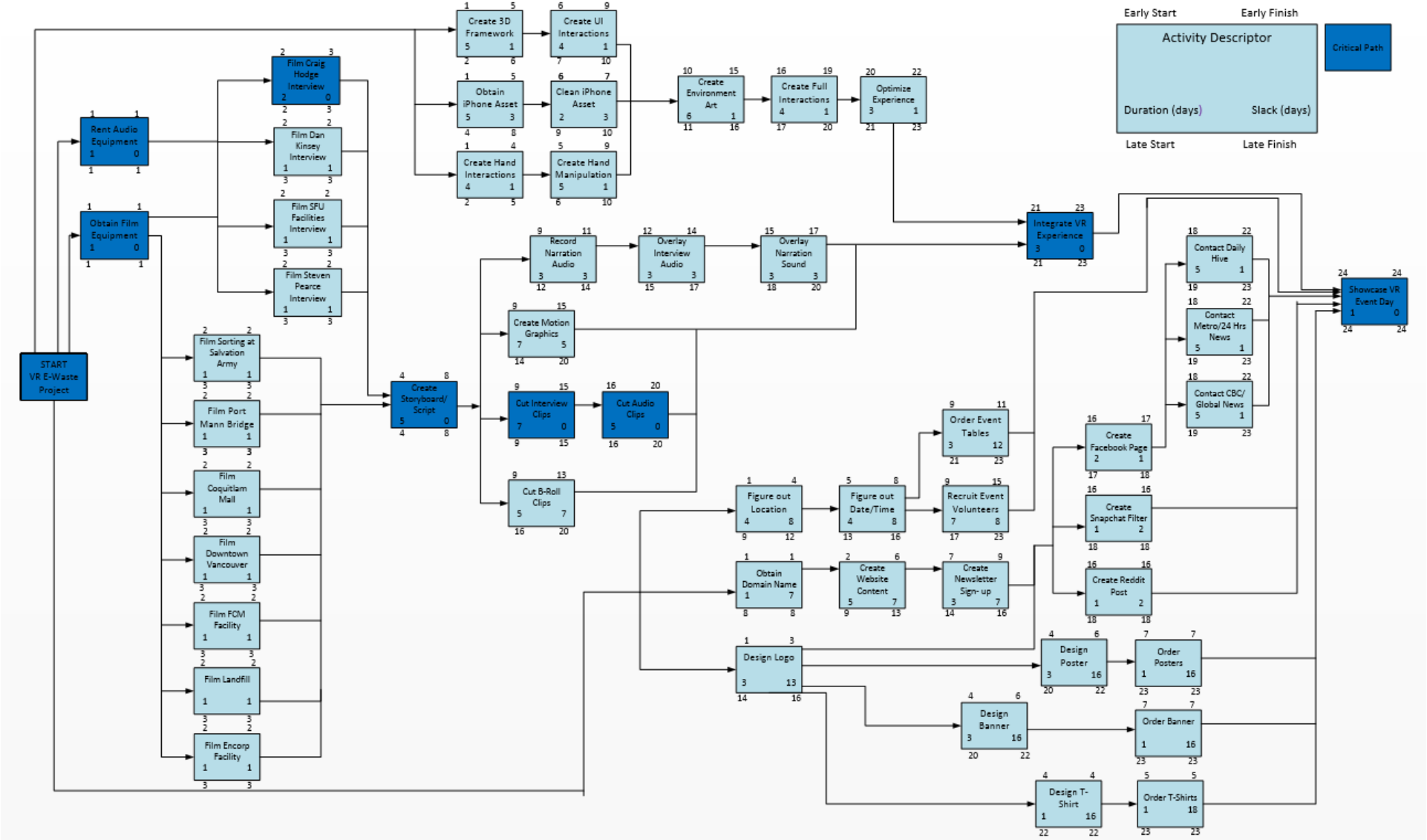
SCOPE STATEMENT

Project Justification:	There is a growing issue with regards to upgrading smartphones and other electronic devices on a regular basis without the awareness of what happens to old devices. The aim of this project is to educate the general public on how to dispose of their old electronics responsibly. This project has the aim of helping to make Vancouver more sustainable and green.	
Statement of Work	This project is aiming to produce a VR documentary experience raising awareness on electronics recycling, as well as a pop-up event to demonstrate this.	
Project Deliverables:		
Deliverable A	A 5-minute interactive VR application and documentary.	
Deliverable B	A showcase event to demonstrate the documentary and VR experience. This will also include additional information and resources to raise awareness.	
Deliverable C	A website with information about us, our initiative and our showcase event.	
Known Exclusions	- E-recycling of large appliances - Access to VR application beyond showcase event - Additional length beyond 5 minutes for documentary	
Measures of Performance:	This project is aiming to produce a VR documentary experience raising awareness on electronics recycling, as well as a pop-up event to demonstrate this.	
Benefits to Client	- Education on E-waste and recycling - An interactive VR experience - Awareness and information on how to go green in Vancouver with additional information	
Cost Objectives	Total soft budget cap of $500, with a hard budget cap of $750, with costs going towards marketing, VR equipment, showcase event expenses.	
Schedule Objectives	September 20 – September 25	Framework built for VR experience
	September 20 – September 30	Scout film locations and schedule interviews
	October 01 – October 28	Film all 360 and 2D footage
	October 25	Book event location
	October 25 – November 18	Advertising for event
	November 10	VR app and immersive mini-documentary complete
	November 15	Finish 85% of presentation (everything other than the post-mortem)
	November 18	Showcase event completed
	November 20	Finish presentation for class
	November 22	Present in Class
	November 25	Project Report complete
	November 27	Hand in Project Report
Quality Measures	- Success measure 1: Success of the project determined by 30 people going through the full interactive experience during the event - Success measure 2: Success of the project determined by 50 people signing up for 1-time email blast about e-recycling	
Other Notes about the project	The VR aspect of the project is our unique selling point and will be the key to engaging our audience. We are relying on resources within and outside of Simon Fraser University such as Encorp, the Salvation Army, and the SFU Sustainability Office. Our project relies on obtaining interviews and footage. The VR aspect of the project is critically important. It may be challenging to create a VR documentary given that it is a new and relatively unproven technology to work with. It also may be difficult to coordinate a successful event with this technology, as there is a potential for product failure or error.	

WORK BREAKDOWN STRUCTURE



NETWORK DIAGRAM



COST ESTIMATES

COMBINED TOTAL COST: **$712.07**

FIXED EXPENSES							
WBS I.D.	ITEM NAME	ITEM DESCRIPTION	UNITS	$ / UNIT	TOTAL $	% CONTINGENCY	TOTAL W/ CONTINGENCY $
1.3.1.1.7	Order Banner	A banner with team name and logo to market our product during the event	1	300	300	10%	330
1.1.2.1	Obtain iPhone Asset	iPhone 6 components purchased for VR interactive section	1	100	100	5%	105
1.3.1.1.5	Order T-Shirts	Branded T-Shirts	5	15	75	5%	78.75
1.3.1.2.1	Obtain Domain Name	A website domain purchased to represent the project, with documentary trailer, about us.	1	10.83	10.83	0%	10.83
1.3.311.6	Order Posters	Letter sized color-printed posters to be put up prior to the event with event name, logo, date, and time	25	0.30	7.50	10%	8.25
			FIXED EXPENSES TOTAL				$ 532.83

VARIABLE EXPENSES							
WBS I.D.	TASK NAME	TASK DESCRIPTION	UNITS	$ /UNIT	TOTAL $	% CONTINGENCY	TOTAL W/ CONTINGENCY $
1.2.2.1	Rent Audio Equipment	Renting equipment for interview recordings	48 hours	2.45	117.6	15%	135.24
1.3.2.4	Order Event Tables	Renting Tables for our Event	2 items	20	40	10%	44
			VARIABLE EXPENSE TOTAL				$179.24

COMMUNICATIONS PLAN

Key Stakeholders	Stakeholder Issues	Key Messages to Communicate	Communication Method	Description of Communication	Frequency of Communication	Owner
Participants	-High stakes -Participants' reception determines the success of our documentary and event	- Final product: VR documentary on recycling e-waste -Purpose of our event, how to join our initiative and contribute to the community	- One-on-one (during the event) - Event day marketing: banners, signs -Electronic (email)	- Showcasing the documentary - Marketing posters and banners: our initiative, our social media and website links - Engaging with participants by answering questions on our initiative -Sending a one-time email to participants who signed up	- November 18, through event showcase (once) - Event timing and location and our platforms of marketing will affect who visits our event and views our documentary.	Max
Interviewees	-High stakes -Contribute to the documentary	- Our deliverables - Their role in our project	- One-on-one (phone, in-person) - Electronic (email)	- Our initiative - What role they play in documentary - How they can help	- Communicate as required, ensuring an adequate buffer for schedule conflicts - Possible schedule conflicts, depending on their availability	Chamodi
Project Team Members	-High stakes -Determine project scope, decisions, and deliverables.	- Project scope - Project status and updates - Project direction	- Group meetings (in-person and online) - Electronic (email, Slack chat, Skype calls)	- Specific documentary details (format, content, script, graphics, ideas) - Specific showcase event details (date, time, venue, design, marketing) - Sponsors, budgeting	- Weekly group meeting on Wednesdays - Weekly online meeting on Sundays. - Weekly Friday event meeting with team members - Coordinating schedules for working on assignments and required extra work on project.	Muhammad
Suppliers	-High stakes -Provides audio and video equipment crucial for filming	- Details on equipment and resources required	- One-on-one (in person, phone) - Electronic (email)	- Quality, quantity, and duration of equipment rentals - Pricing information - Any required technical assistance or troubleshooting.	- One day before interview filming (October 2 & October 12) - Time dependent on their store hours and renting availability/timing	Shane
Community	-Medium stakes -Community reception will affect the success of our documentary and event	- Marketing campaign: Purpose of event, and where to find more information	- Electronic (via marketing efforts) -Marketing posters -News outlets	- Communicate our initiative, date, time, location of event -How their participation can help educate the community	-October 25 and onward, with marketing campaign. -Weekly Facebook posts, multiple posts from other media outlets	Jordan

RISK PLAN

Event	Risk	Unmitigated Likelihood	Unmitigated Impact	Unmitigated Risk Score	Mitigated Plan	Mitigated Likelihood	Mitigated Impact	Mitigated Risk Score	Owner
Unable to hold pop-up event outside due to weather	Unable to educate people on e-waste recycling	3	5	15	Hold the event indoors to avoid weather complications	1	5	5	Jordan
Unable to rent a place outside of SFU	Unable to showcase our product to a wider audience	3	3	9	Showcase event at SFU	1	3	3	Jordan
Unable to produce VR interactive portion by deadline	Unable to encourage engagement through VR interaction	4	3	12	Accept no VR interactive portion	4	3	12	Shane
Unable to interview planned companies/people	Unable to educate people on e-waste recycling	3	3	9	Line up alternative company interviews as contingencies	1	3	3	Chamodi
Unable to find an audience for our pop-up event	Beats the purpose of reaching and educating people	3	5	15	Start marketing through social media and news papers	2	5	10	Jordan
Unable to finish editing the documentary on time	The finished product is rushed and incomplete	3	4	12	Remove parts not essential to the documentary (i.e. additional editing to increase quality of documentary)	2	4	8	Max
Technical difficulties with VR technology	Unable to showcase our documentary	2	5	10	Bring an extra VR kit	1	5	5	Shane