天主教輔仁大學英國語文學系學士班畢業成果
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Apple & Delta – Tech Giants on SDGs

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Learning Outcome Demonstration Report

Technology Assisted Instruction and Presentation

Apple & Delta – Tech Giants on SDGs

Henry Chang

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Learning Demonstration Outcome Report

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Apple and Delta – Tech Giants on SDGs

I.   Introduction of Group Project

A.   Background and Purposes

The overall idea of the final project is originated from the class introducing SDG and ESG. Dr. Chen mentioned Delta to our group during the class, saying that it is one the well-acclaimed corporations in Taiwan which devoted themselves into CSR and ESG. Therefore, when it came to the brainstorming session for the topic of the project, it was natural for us to take Delta into consideration. After reading the Sustainability Blueprint of Delta, I proposed an idea that we could draw a comparison between Delta and Apple and see what they have done on different goals of SDGs. In this way, we could understand both the companies and the Sustainable Development Goals better through the project. With our research on the two companies and different targets of SDGs, there were three main purposes we wanted to achieve.

Purpose 1: Promote SDGs knowledge to more people; call more attention and actions to the significance of sustainable development

Purpose 2: Increase people's understanding to Apple and Delta not only as

technology corporations but also operators which facilitate and enhance sustainable

development as a support the different communities.

Purpose 3: Provide different perspectives on Apple and Delta, both positive

progress and negative news of the two companies

B.   Short Introduction

The final project focuses on two global technology corporations, Apple and

Delta. Apple is a multinational technology company which specializes in consumer

electronics, software and online services from the US. Apple revolutionized

personal technology with the introduction of the Macintosh, the first personal

computer, in 1984. Today, Apple leads the world in innovation with various kinds

of personal products, productivity tools, and software platforms. The other

company Delta, founded in 1971, is a global provider of power and thermal

management solutions. Its mission statement, "To provide innovative, clean and

energy-efficient solutions for a better tomorrow," focuses on addressing key

environmental issues such as global climate change. As an energy-saving solutions

provider with core competencies in power electronics and automation, Delta's

business categories include Power Electronics, Automation, and Infrastructure.

On Delta's website, seven SDGs, on which the company has decided to focus

as its key development direction for the future are listed. They are SDG 4, 7, 9, 11,

12, 13, and 17, and we used the first six SDGs to draw a comparison between the

two companies. After studying and collecting what Apple and Delta have done on

sustainable development with the six SDGs, we presented the outcome through

Google Site, one of the creation tools taught in the class.

II.   Project Content Explanations

A.   Minor Focus of Group Website

Our site is divided into three main parts: Apple on SDGs, Delta on SDGs, and

group members' self-introduction pages (see Table 1 and Fig. 1 & 2). Table 1

shows work division of the final project of each member in the group; individual

website main subpage link and interactive components of everyone are listed. Table

1 is the welcome page of our website; table 2 is the guide map of our site. Each

member uses different tools to conduct his/her parts on both company pages and

personal pages. The used tools include Canva, Codenames, Evercam, EZGIF.com,

Final Cut Pro, Infogram, Loom, PowerPoint, Powtoon, Prezi, StoryMaps, and

XMind. The site not only serves as an introduction to the two companies, it is also

embedded with multiple kinds of multimedia so that viewers can learn through

operations and interactions with the materials on the site. With the aforementioned

tools and services, our group tries to create pages in Apple and Delta styles,

respectively. From font use to picture layout, we wanted to create a sense of Apple

and Delta, making viewers connect to images of the company when browsing on

our sites.

Table 1. Group Work Division

Name	Stu. No.	Duty	Individual website main subpage link	Interactive Components

Henry Chang	408110649	1. Apple on SDG 4, 7, and 9, including:
		• Apple and Education
		   ◆ K-12 Education
		   ◆ Higher Education
		   ◆ College Students
		• Overview of Apple 2021 Environmental Progress Report
		• Apple Using Renewable Energy
		   ◆ Plan by 2030
		   ◆ Apple and Green Bond
		• Apple and Innovative Industrialization
		• Scandals
		2. Self-introduction pages
		• About Me
		   ◆ Interest and Habit
		• Curriculum
		   ◆ Composition and Conversation
		   ◆ Language Acquisition and Teaching
		• Extra-curriculum
		   ◆ Graphic Design
		   ◆ Theatre Life
			https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/apple-and-education.	1. Animated avatar
				https://drive.google.com/file/d/1KRkZbw7tOs3glmDsThFF06TFjnEPP1lC/view?usp=sharing.
				
				2. Embedded videos
				a. https://www.loom.com/share/444c43a1cdd44557a15807c981ff8c41.
				b. https://www.loom.com/share/75f88066d77a48ee99d68d204a06b365.
				
				3. Infographics
				a. https://infogram.com/apple-and-education-in-different-stage-1h7k230my0m3g2x.
				b. https://infogram.com/note-board-1hxr4zxwdzjyo6y.
				c. https://infogram.com/step-by-step-charts-1h7g6k0o83zv02o.
				d. https://infogram.com/report-1h7z2l8o7q1pg6o.
				
				4. Mind map

				https://drive.google.com/file/d/1k6ZJ2AD7IMJ-ijvqQ2wq0VbyQ9AZa1IS/view?usp=sharing.
Betty Shen	407560081	1. Apple on SDG 11, 12, and 13 2. Self-introduction pages	https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/apple-sdgs-mind-map-betty?authuser=0.	1. StoryMaps 2. Mind map 3. Embedded video 4. Codenames game
Ryan Chen	408110089	1. Delta on SDG 11, 12, and 13 2. Self-introduction pages	https://sites.google.com/view/taipg3/apple-delta-sdgs/delta-on-sdgs/delta-sdgs-mind-map-ryan.	1. StoryMaps 2. Mind map 3. Codenames game
Yoyo Wu	408110663	1. Delta on SDG 4, 7, and 9 2. Self-introduction pages	https://sites.google.com/view/taipg3/apple-delta-sdgs/delta-on-sdgs/delta-sdgs-education-yoyo?authuser=0.	1. Powtoon animations 2. Infographics 3. Embedded videos 4. Google Map

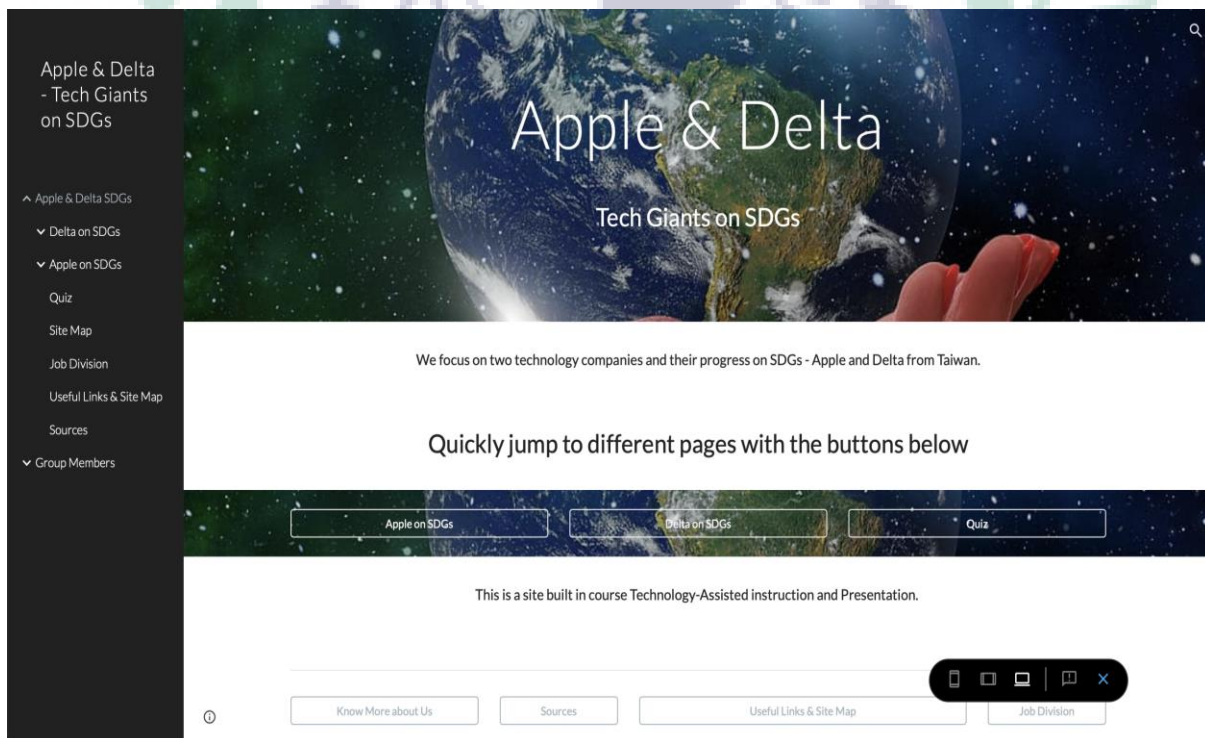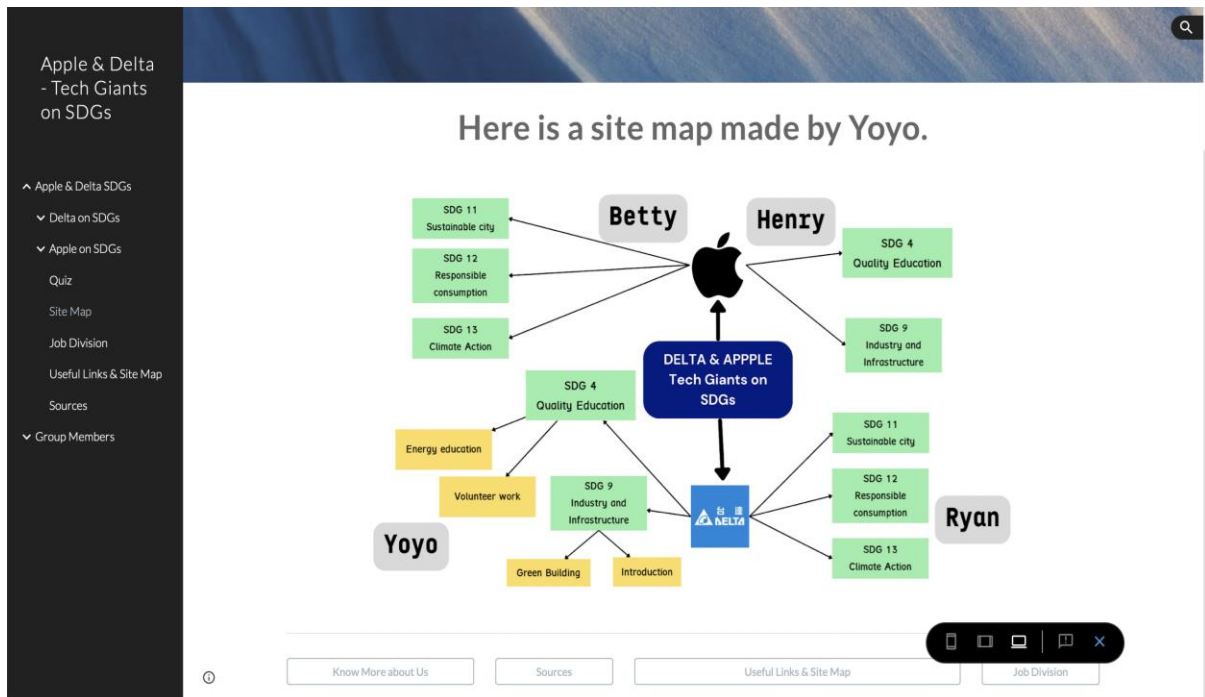Figure 1. Group Main Page Figure

Figure 2. Website Roadmap Figure

B.   Main Focus of Website Pages I Created

Table 2 is the collection of the links to every subpage I have created. Link to the

group site homepage is also included. The oral presentation as well as self-

introduction part of the final project were uploaded onto YouTube, and the links are

listed below in the table.

Table 2. Links of Website Pages I Created

Group Site Homepage	
https://sites.google.com/view/taipg3/apple-delta-sdgs.	
My self-created subpages	
Apple on SDGs	https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs.

Apple and Education	https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/apple-and-education.
Overview of Apple 2021 Environmental Progress Report	https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/overview-of-apple-2021-environmental-progress-report.
Apple Using Renewable Energy	https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/apple-using-renewable-energy.
Apple and Innovative Industrialization	https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/apple-and-innovative-industrialization.
Scandals	https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/scandals.
Henry (Self-Introduction)	https://sites.google.com/view/taipg3/group-members/henry.
Project Oral Presentation Link	
https://youtu.be/JGeru4QPpmo?t=263.	
Project Self-introduction Link	
https://youtu.be/JGeru4QPpmo	

1.   Pages Design Concepts

I created 18 subpages in total on the stie of our final project. Since I wanted to

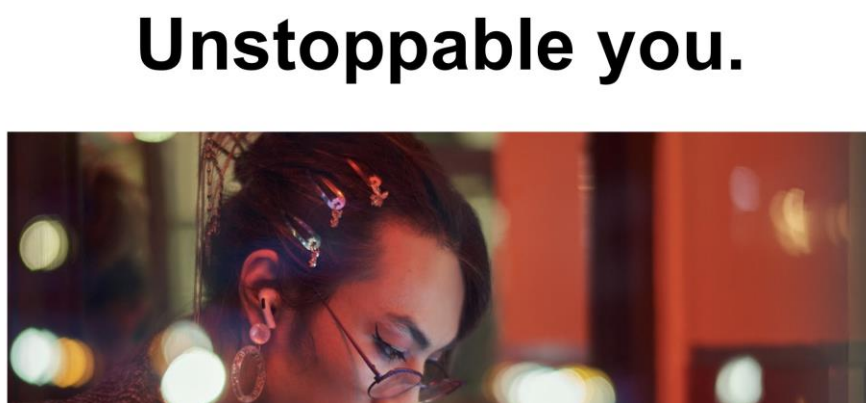build the Apple style webpages, I used a lot San Serif fonts in bold typefaces,

trying to imitate the one on Apple official websites when a product is introduced
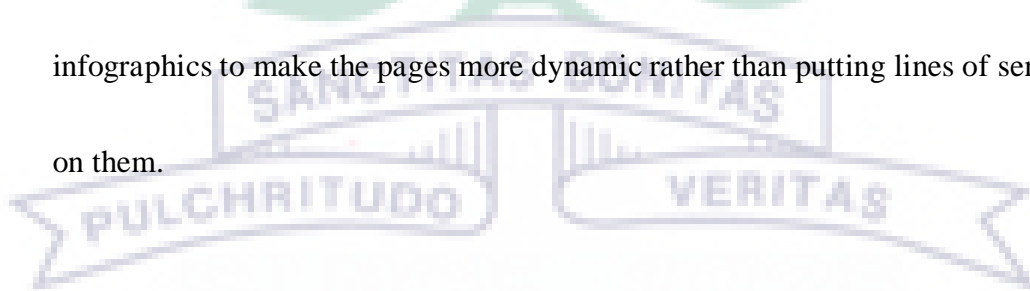
(see Fig. 3 & 4).

Figure 3. Apple Official Website Font Use Figure

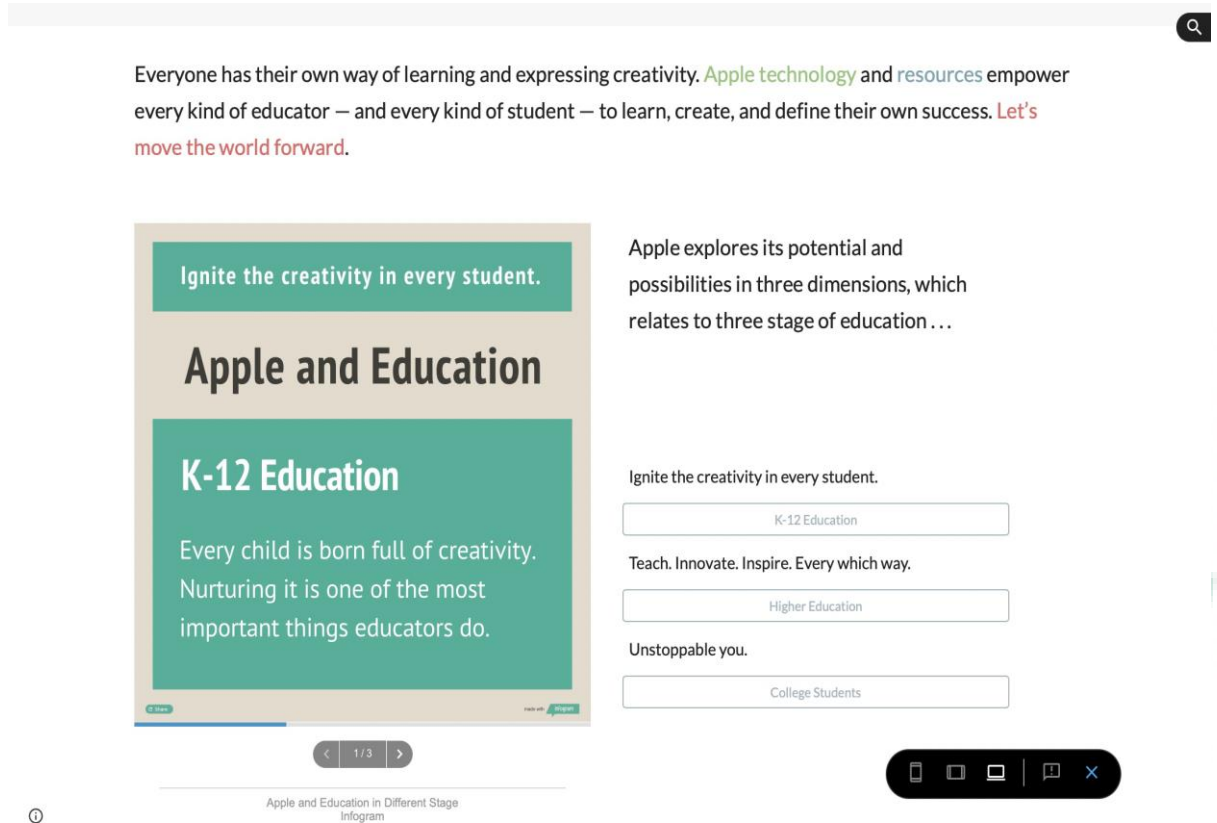Figure 4. Use of San Serif Font on My Subpage

Similarly, to imitate Apple style, I also put a lot of pictures and some

infographics to make the pages more dynamic rather than putting lines of sentences
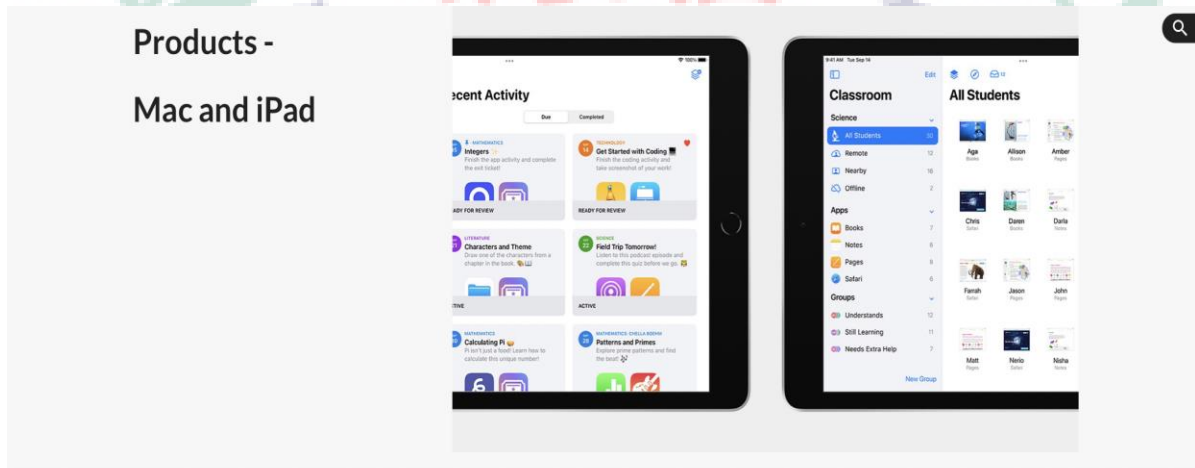
on them.

2.   Apple and Education

Figure 5. Using Infographics to Summarize Apple Education Policies

Apple and Education in Different Stage Infogram

       As for the content per se, I organized my part into three: Apple and Education,

Apple Using Renewable Energy, and Apple and Innovative Industrialization,

corresponding to SDG 4, 7, and 9. In Apple and Education, Apple's investment on

three stages of education were listed, and I divided them into three subpages, which

were K-12 Education, Higher Education, and College Students. The main goal

Apple wants to achieve through their technology and resources are to "ignite every

kind of mind," including educators and students (see Fig. 5).

Apple is confident that their products can aid each stage of learning and

teaching, and the company also provides free program like Apple Teachers and

complimentary curricula like Everyone Can Create and Teaching Code for both

educators and students to assess and learn (see Fig. 6).

Figure 6. Apple Products Serves as Productivity Tools for Students

3.   Energy Policies of Apple

In addition to Apple and Education, Apple Using Renewable Energy was

another main topic of my part. Using renewable energy and related energy policies

are parts of Apple's Plan by 2030; the company has committed to be 100 percent

carbon neutral for its supply chain and products by 2030. That is, by 2030, every

Apple device sold will have net zero climate impact (see Fig. 7).

Figure 7. Apple Using Renewable Energy Is Part of Its 2030 Plan

100% RENEWABLE ENERGY

Until March 2021, there are over 110 of Apple's manufacturing partners around the world are moving to 100 percent renewable energy for their Apple production, with nearly 8 gigawatts of planned clean energy set to come online.

15,000,000 TONS OF CO2 EMISSION

Once completed, these commitments will avoid over 15 million metric tons of CO2e annually — the equivalent of taking more than 3.4 million cars off the road each year.

"We are firmly committed to helping our suppliers become carbon neutral by 2030 and are thrilled that companies who've joined us span industries and countries around the world, including Germany, China, the US, India, and France,"
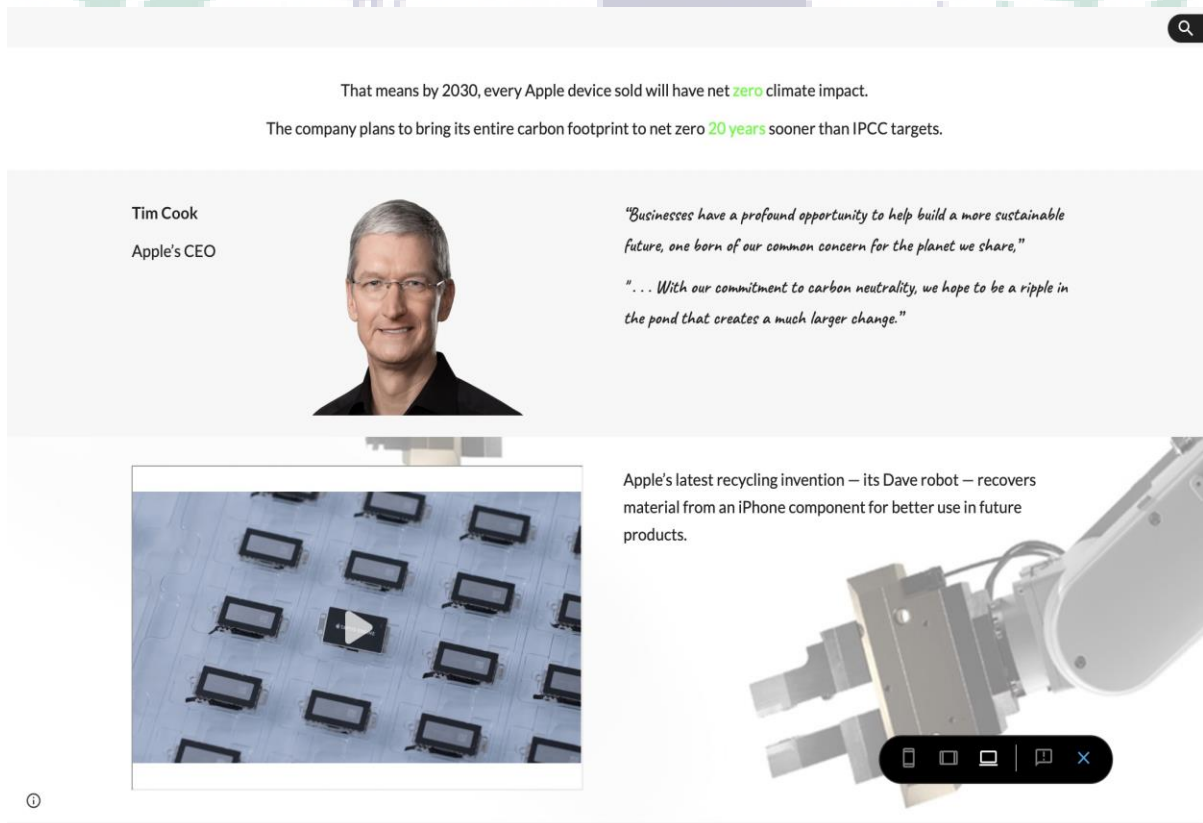
Lisa Jackson

Apple's vice president for Environment, Policy, and Social Initiatives.

PLAN BY 2030

To achieve the goal, Apple has implemented latest innovation for product

recycling, recovering key materials for the second use. Also, it has invested more

than $4.7 billion on Green Bond, which enables capital-raising and investment for

new and existing projects with environmental benefits, bringing clean energy to

local communities while reducing carbon emissions (see fig. 8 and 9).

Figure 8. Apple Using Robots for Product Recycling

That means by 2030, every Apple device sold will have net zero climate impact.
The company plans to bring its entire carbon footprint to net zero 20 years sooner than IPCC targets.

Tim Cook
Apple's CEO

"Businesses have a profound opportunity to help build a more sustainable future, one born of our common concern for the planet we share,"

". . . With our commitment to carbon neutrality, we hope to be a ripple in the pond that creates a much larger change."

Apple's latest recycling invention — its Dave robot — recovers material from an iPhone component for better use in future products.
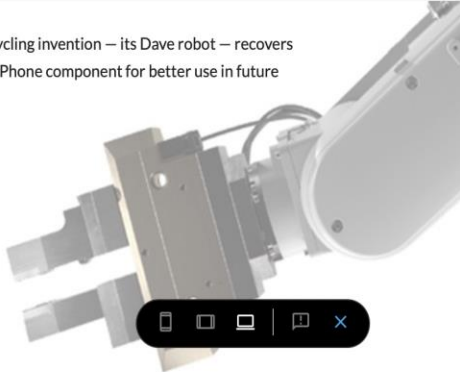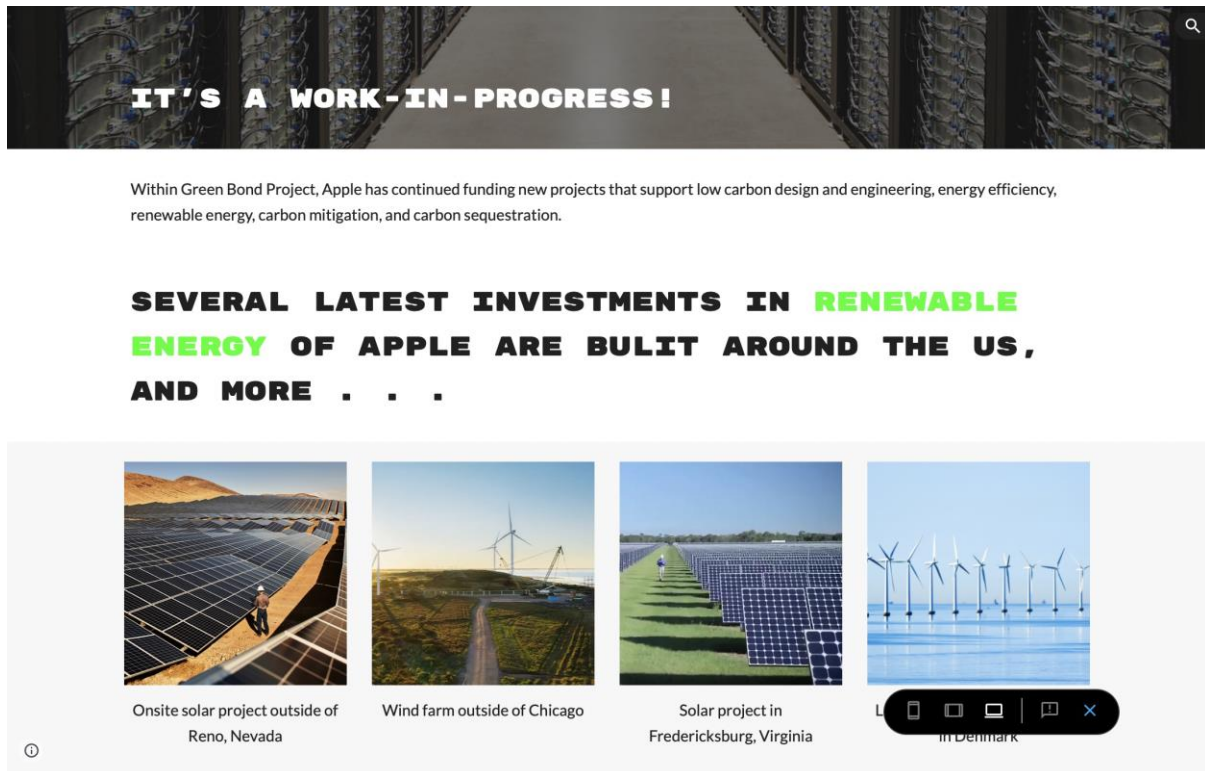
Figure 9. Apple Funds Several Energy Projects through Green Bond

4.   Apple and Innovative Infrastructure & Company Scandals

Not only Apple's manufacturing partners around the world are moving to 100

percent renewable energy for their Apple production, but Apple itself is also

developing renewable energy on its own, and it connects to the company's

investment on SDG 9: build resilient infrastructure, promote inclusive and

sustainable industrialization and foster innovation.

Figure 10. Apple Park and Its Innovative Design and Energy Use
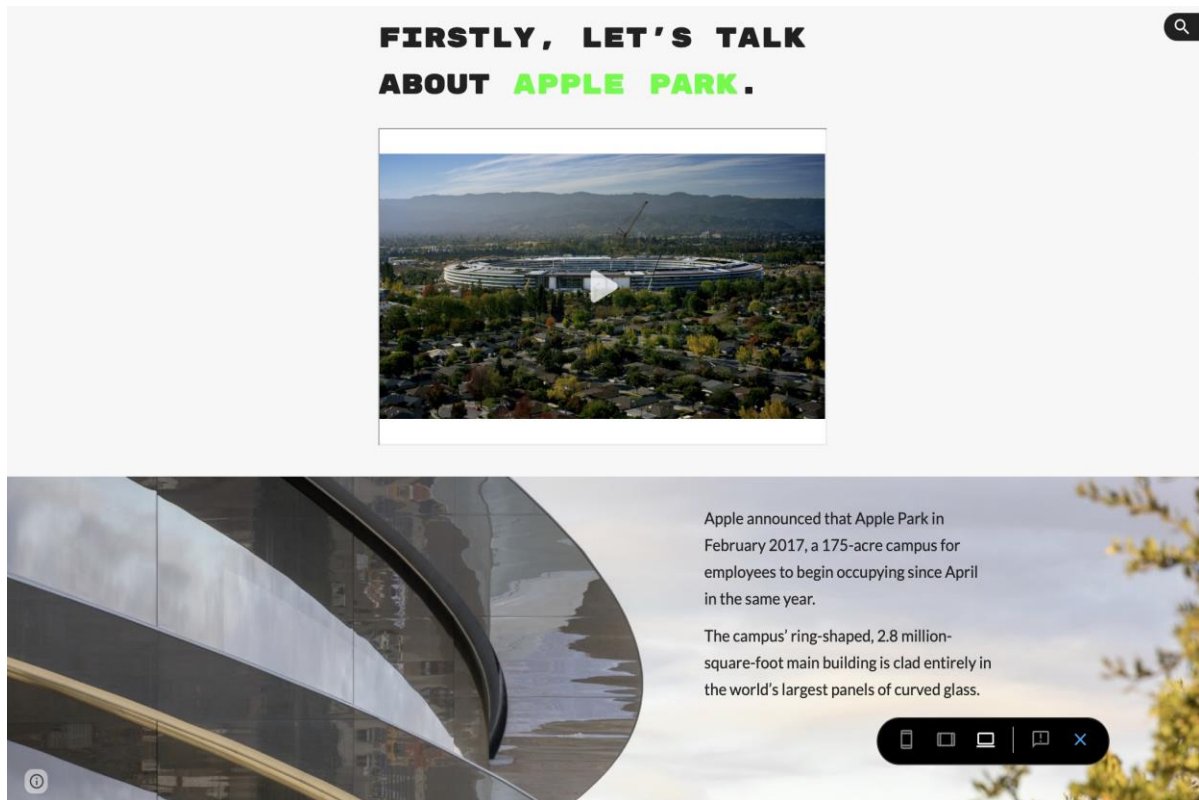
The campus of Apple's headquarter, Apple Park, is running entirely on their

own with the solar panels built on the roof of the ring building (see Fig. 10).

Moreover, Apple also explores different opportunities in smart infrastructure and

financial infrastructure with the industry-leading OS system, Apple Pay services

and its user base on which there is still room to expand (see Fig. 11 & 12).

Figure 11. Apple's iOS system Helps It Develop More Market
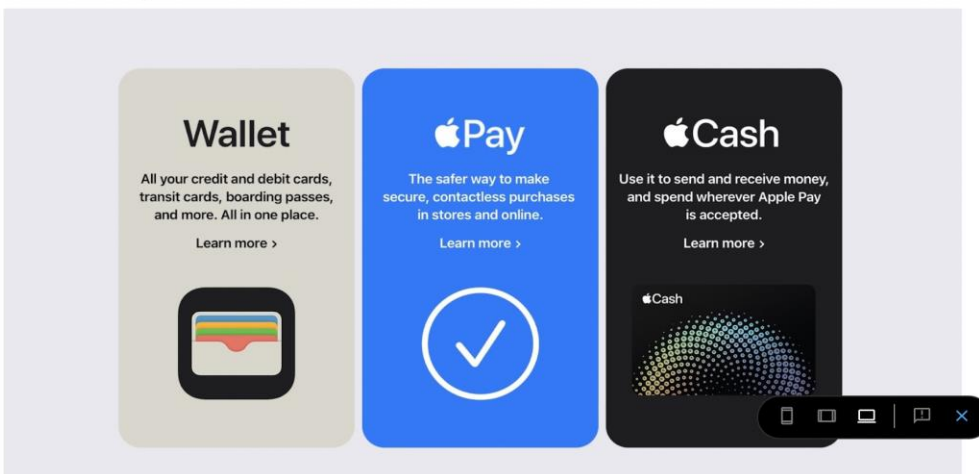
Figure 12. Apple Pay and the Related Ecosystem Is the Company's Edge in Financial Infrastructure

Last but not least, I created a subpage called Scandals, including a more

notorious side of Apple about the relationship between its pricing strategies and

brand image and the latest antitrust charges towards Apple Pay services of the

company (see Fig. 13).

Figure 13. Regulators Said Apple Blocks Opponents from Access to Technology in iPhone
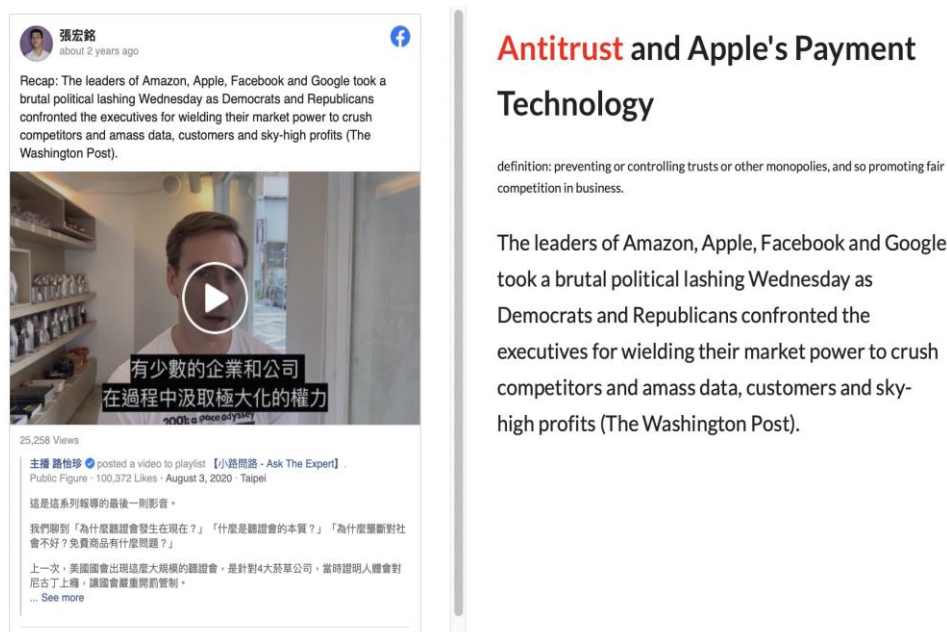
C.   Self-Evaluation of the Group Project

The project is basically divided into two main parts with 6 SDGs, corresponding to

two companies. I am responsible for Apple part with SDG 4, 7, and 9, exploring

what the company has done to help fight against crisis of global warming and

climate change. When working on the final project with my group members, I was

usually the one who initiated discussions or opinion sharing. In fact, some of the

group members are relatively quiet and passive that they would not send any

message to the group's chat room if they were unclear about something. Therefore,

another group member, Yoyo, and I tended to have a discussion between ourselves

in advance to ensure there was no confusion, and then we would inform or remind

others in the group's chat room. Nevertheless, I would say it was easy to work with

my group members as a team. We interacted effectively and cooperated well, and I

enjoy the time being in the team environment. However, I still confronted some

difficulties and limitations of my own when carrying out the final project with the

group. Though the group had compiled a schedule for the progress of the project, I

was too confident in the beginning to follow the time table; I was about two weeks

late throughout the production. The main reasons of being behind the schedule

were two: problematic time management and procrastination. I underestimated the

overall workload, so I started working on my subpages two weeks before the final

presentations, and it was during the time when final projects and assignments of

other courses were also about to be presented and submitted. A lot of things

crammed and piled on me, bringing me terrible sleep and poor health, which led to

delay of the production. A better time management was what I could have

improved, and I should have sticked to the schedule set by the group so that it was

possible for me to complete the project more at ease.

III. Apps and Software Adopted in the Group Project

Table 2 shows the links to every multimedia I created with different tools on the site. By

follow the link below, it will lead to the page where the specific multimedia is.

Table 2. List of Links to My Google Site Production of the Apps/Software Adopted

Apps/Software	Link to My Google Site Production of the Apps/Software
Google Site	https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs.
EZGIF.com and Final Cut Pro	https://sites.google.com/view/taipg3/group-members/henry/about-me.
Loom and PowerPoint	https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/apple-and-education/higher-education.
Infogram	1. https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/apple-and-education. 2. https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/apple-and-education/college-students. 3. https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/apple-using-renewable-energy/plan-by-2030.
XMind	https://sites.google.com/view/taipg3/apple-delta-sdgs/apple-on-sdgs/overview-of-apple-2021-environmental-progress-report.

The applications and services I used for the production for the final project are EZGIF.com, Final Cut Pro, Infogram, Loom, PowerPoint, and XMind; Google Sites is the platform our group created and published the final project. Only EZGIF.com and Infogram are online services which require internet connection, and the others are applications which can be accessed and installed on laptops.

I only chose a few kinds of tools throughout the project production, and there are specific reasons why I used them to create multimedia on the site. Firstly, I want to introduce Google Sites, the platform and tool we used for presenting our work. Though Google Sites is only available as a web application, it is deeply integrated with other Google cloud or online services like Google Drive, making it superbly convenient for website builders to access their documents linked with the signed-in Google account (see Fig. 14). Also, Google Sites is good for coediting even at the same time, yet not supporting pictures in WEBP format is what it can improve.

Link to Google Sites: https://sites.google.com/view/taipg3/apple-delta-sdgs.

Figure 14. Google Sites Main Page
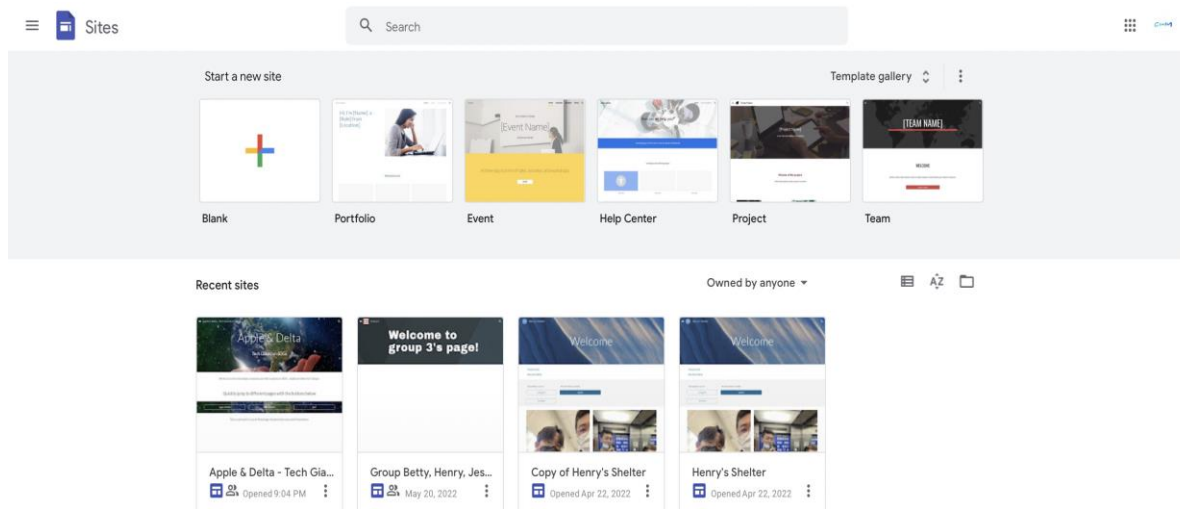
EZGIF.com is an online service for image converting and editing I serendipitously

found on the internet. However, the website is so useful that it becomes my favorite GIF

editing tools; with it, one can create, resize, crop, reverse, optimize, and even apply some

effects to GIFs (see Fig. 15). Surprisingly, EZGIF.com is updated regularly, the developers

renew the release note on their Twitter account, and I think it is user-friendly.

Link to EZGIF.com: https://ezgif.com/.

Figure 15. Whatever You Want to Do, EZGIF Can Help

The video I upload onto EZGIF.com is an Animoji video saved from my cellphone, and

I used Final Cut Pro to adjust the length of the clip and add a blank layer under my animated

Animoji. The application I used is Final Cut Pro, a professional non-linear video editing

software published by Apple, and it can only operate on Apple's computers. I bought it with

the Pro Apps Bundle, which came with an educational discount when I bought MacBook on

Apple official website, and I deem it totally worthy of the price. Most importantly, editing

video in it is intuitive. The main track in the middle is the major timeline, and it can be seen

as the different layers of the video. For example, if I drag a clip on the main track, and the

other clip put on the track below will appear underneath the other clip (see Fig. 16). As for

the length adjustment, I duplicated the original clip once so that the animation of the GIF file

would replay again.

Try Final Cut Pro Free for 90 Days: https://www.apple.com/final-cut-pro/trial/.

Figure 16. Intuitive Timeline Concept in Final Cut Pro
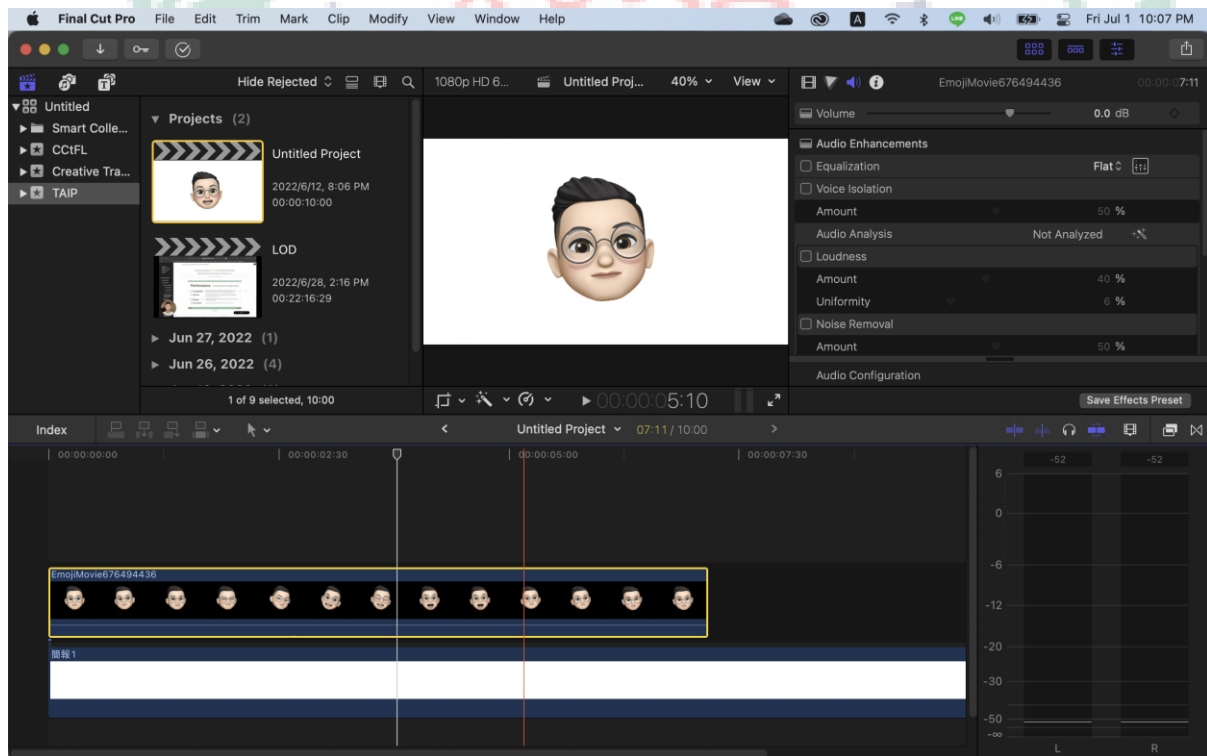
On my subpages, I had embedded two videos recoded via Loom with the slide created

via PowerPoint, and I used them to introduce how MacBook Pro and the suite of iPad Pro and

Apple Pencil increase students' productivity. In PowerPoint, I applied Morph transition

between each slide, and it animates smooth movement from one slide to the next, similar to

what Apple does on their product keynotes. After that, I used Loom to record both the spoken

brief introduction and the whole screen with the aforementioned slide on my laptop. One

thing worthy of mentioning is that when I use Loom, I always use the shortcut Shift +

Command + L to quickly start recoding a video so that the mouse click would not appear on

the screen (see Fig. 17).

Link to My Workspace on Loom: https://www.loom.com/profile/宏銘-6074b024-990f-4aed-

a3c9-92528256cdd8.

Download Loom App on Devices: https://www.loom.com/desktop.

Figure 17. Basic Settings of Loom
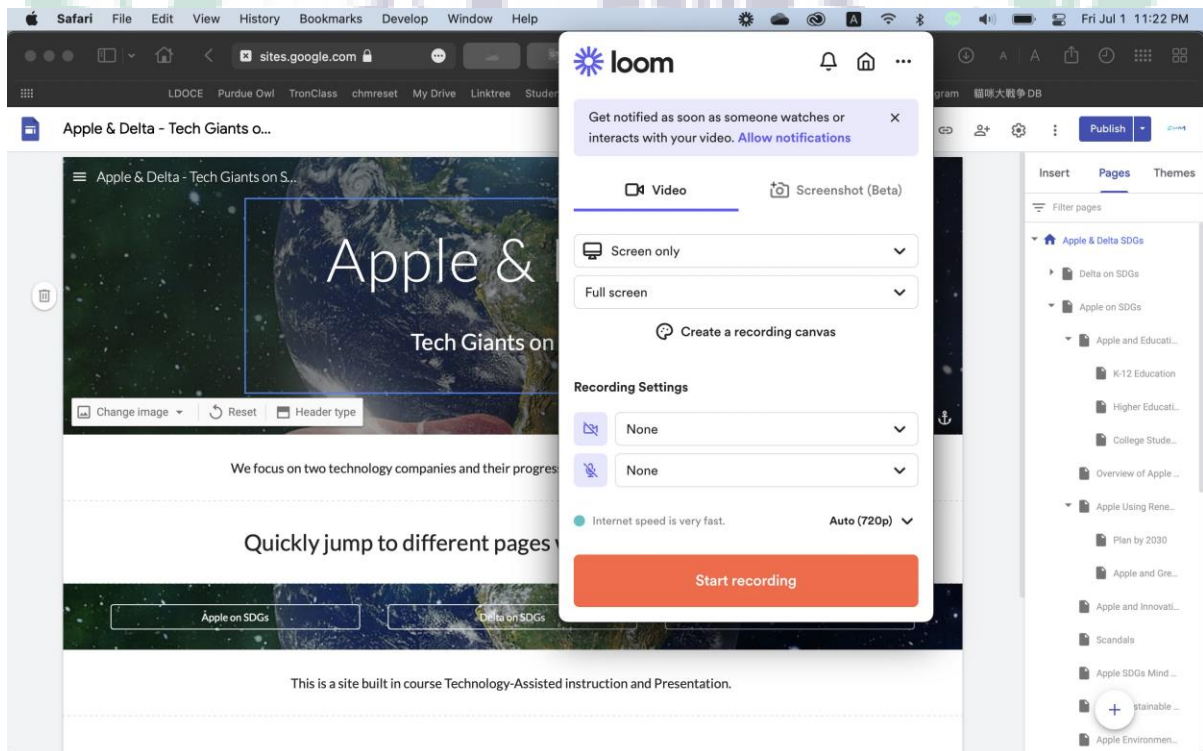
Infographics were another key element embedded on my pages, and they were all created with Infogram, an online web-based data visualization and infographics platform. In the very beginning when I was thinking that I should use Powtoon or Infogram to create infographics and animations, it was internet connection stability of Infogram made me chose the tool. Powtoon is a great tool with lots of preset templates and characters, yet the terrible experience when I learnt it in class had made me retreat. Infogram, on the other hand, has covered almost every disadvantage Powtoon has, and even comes with more refreshing functions which I have only found in some other professional applications. First of all, there were a lot of templates in different styles to choose. Second, it allows user to adject the transparency of an object, line height, and line spacing. Third, you can align multiple objects at once and even create animation for every object and word box (see Fig. 18). Last but not least, Infogram does not require strong internet connection, which is very user-friendly, and user can also embed their work on a webpage with a link. Overall, I would say that Infogram is one my favorite tools I used for the final project, and without being in the course, I might not get to know it and understand how useful it is.

Link to My Library on Infogram: https://infogram.com/app/#/library/.

Start Your Project on Infogram: https://infogram.com/signup.

Figure 18. Infogram Provides Animation Library for Users to Choose
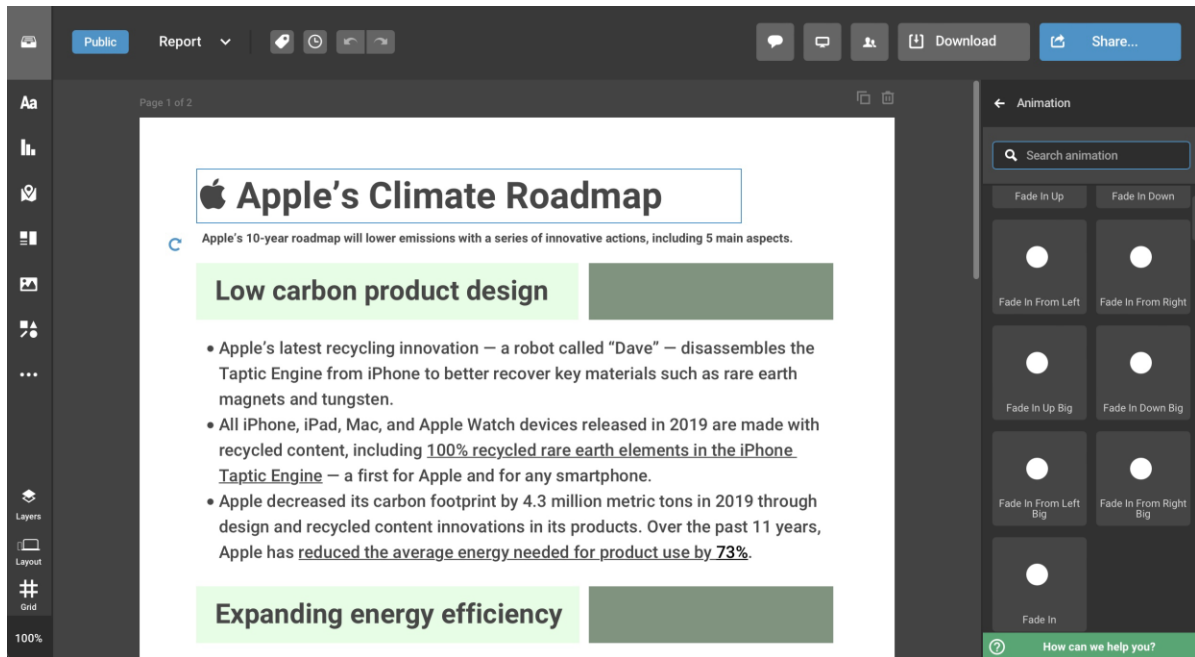
The last tool I want to introduce is XMind, a popular mind-mapping and brainstorming

software. The operations on XMind are also intuitive; with one click on the canvas, one can

start creating a mind map with the templates provided. The main reason why I chose XMind

to create a mind map rather than other software was that I already installed it on my laptop

years ago. Besides, the application is easy to use with its clear layout and outline list function

(see Fig. 19).

Download XMind on Its Official Website: https://www.xmind.net/.

Figure 19. Outline List Function on XMind Keeps Mind Map Organized
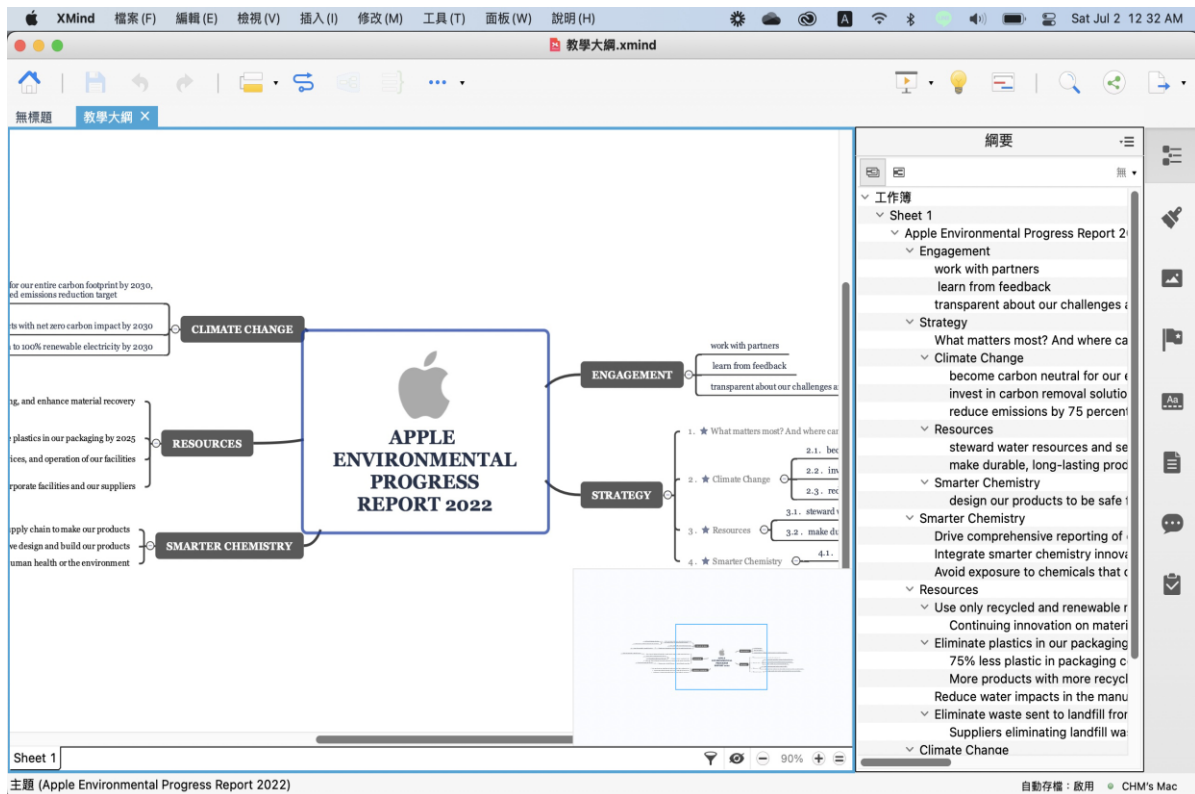
IV. When I First learned the Apps/Software/Platform

In the TAIP course this semester, I learnt XMind in class during week 2 – 4. Dr.

Chen introduced the class some mind-mapping tools like Cacoo and XMind first, and

asked the class to create the mind map of a documentary about stress. On the weekly

log, I compared Cacoo and XMind, saying that the two software have a lot in common;

Cacoo is better for coediting while XMind is better for data visualization. More than

that, I also mentioned that Cacoo sometimes seems to be too shabby in its UI design and

XMind is relatively more complete in its overall layout and template. That is, I realized

that both of them have their strengths and shortcomings, and I chose XMind for final

project eventually since it had been installed on my laptop already.

Figure 20. XMind Exports Small PNG File

One of the disadvantages of XMind is that the images it exports cannot be resized or enlarged

(see Fig. 20), and if one wants to export the mind map into other formats than PNG, an extra

fee or a subscription will be requested.

Figure 21. Change the Layout or Structure of Mind Map with Only One Click in XMind
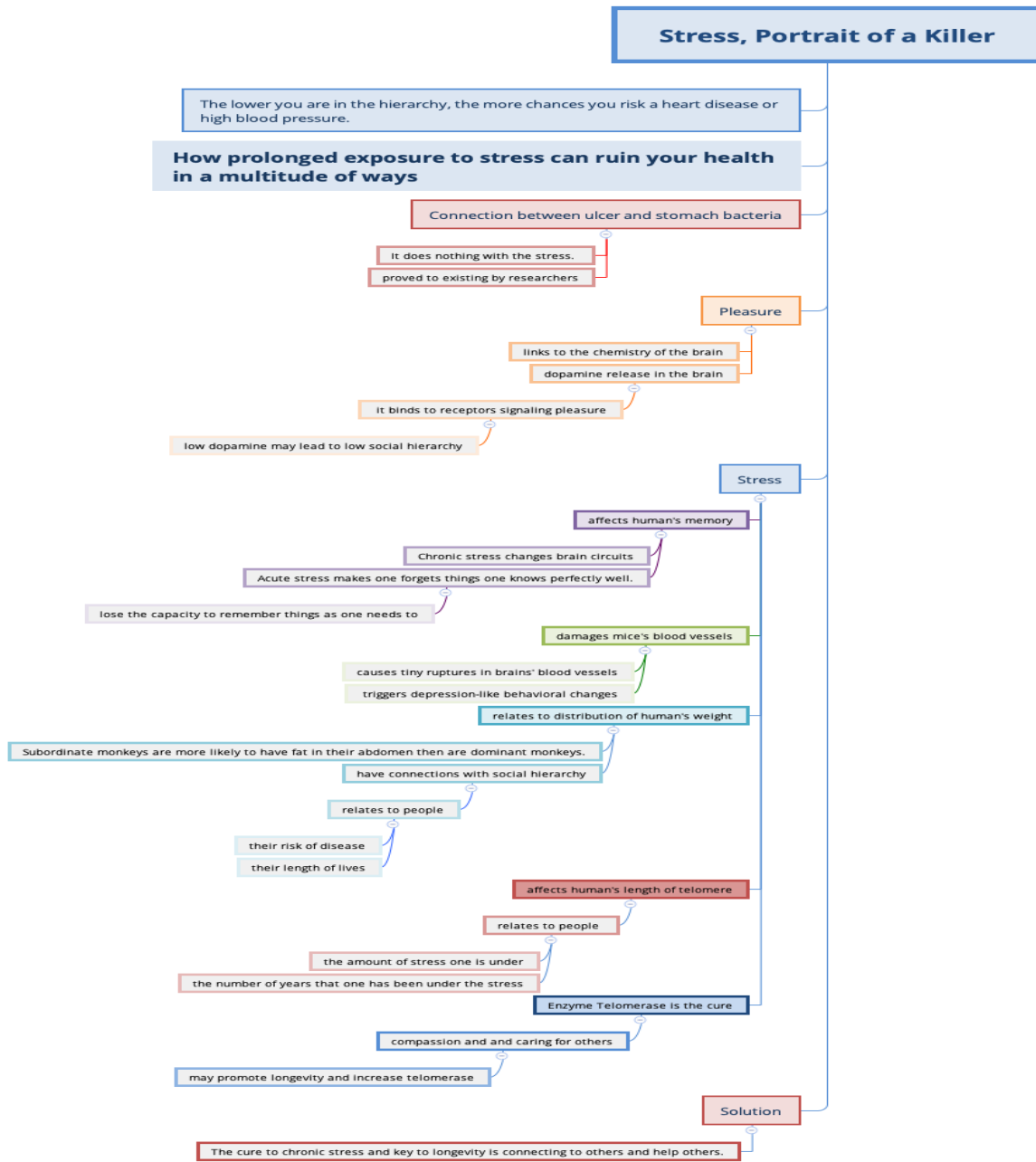
Changing the structure of a mind map is simple in XMind; I was surprised at the function

when I first knew it in class (see Fig. 21).

During week 6 – 9, the class was taught how to use Google Sites. We started from

building our own personal pages, trying to create a website introducing ourselves. However,

our group did not notice that Google Sites does not allow copy and paste between two

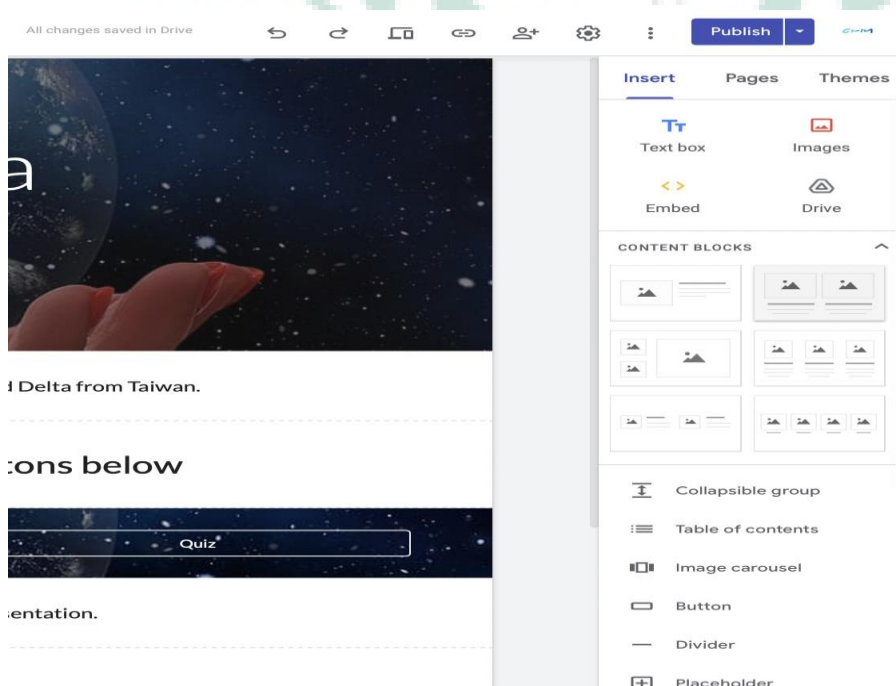different sites, even different subpages within a site. Therefore, in order to merge the sites of

all group members, we used my site as a base at Dr. Chen suggestion, and I added others as

collaborators to build their content again on my site. The circumstance pointed out that it is

essential to understand a tool comprehensively before using it. Most importantly, credit must

go to Dr. Chen for providing such precise alternative so that all of us did not have to build

everything again.

Link to Google Sites: https://sites.google.com/new?authuser=0.

Link to our final project: https://sites.google.com/view/taipg3/apple-delta-sdgs.

Figure 22. Google Sites Operation Panel

Google Sites allows users to build the site with different segments it provided (see Fig. 22),

and it is like piling up a work with little LEGO bricks; all you need is "creativity."

V.   Conclusion: Reflections and Thoughts for Creating This Project

"I could have done better" is what lingered in my mind throughout the whole

production of the final project. When I heard from Dr. Chen that we had to build our

own sites on Google Sites, I was delighted that there was another place for me to

manage my creativity, which was what I enjoyed doing for a long time, and it did inspire

and somehow boosted my confidence. Howbeit, the originally positive confidence

gradually became excessive and detrimental to my performance and progress on the

final project. In fact, I was thinking that the project was as simple as other projects I had

completed; therefore, I procrastinated a lot and failed to follow the schedule our group

had discussed for everyone to follow. It was not until two weeks before the presentation

that I found that I must keep up the pace to adhere to the original schedule. With more

time and effort put in for the final project, I successfully reached 100 percent of the

production in the final week of the class.

I have learnt several tools and techniques from Dr. Chen in the course; I already

knew some of them, while there were still some others of which I never heard, and I am

glad that I gave all of them a try. In my opinion, the most important thing is not how

many tools I have learnt to use. It is how well I understand and utilize those functions

and techniques that matters. Ultimately, if I can practice the tools more in the future and

use them effectively and precisely for more projects or employing them in my futural

professions to make them combined, that will be the lasting value of learning in this

course.

VI. References (Works Cited - Divide your references into categories)

A. Text sources

1. Apple Environmental Progress Report
2. Apple Education
3. Apple Environment
4. Apple Product Environmental Report - iPhone 13
5. Apple charges forward to 2030 carbon neutral goal, adding 9 gigawatts of clean power and doubling supplier commitments
6. Apple expands the use of recycled materials across its products
7. Sustainable Development Goals – Overview

B. Photo/picture sources

1. https://ec.europa.eu/eurostat/web/sdi.
2. All photos without citing sources on my site were fetched and downloaded directly from Apple Official Websites (https://www.apple.com/,) and they are all in public domain, meaning that they are not protected by copyright, have no limitations on use, and no fees for any type of usage.

VII. Appendixes

A. Useful Links and Extended Readings

1. Learn more about the Creativity in Learning highlights (PDF)
2. Read SRI Education's research on the Apple and ConnectED Initiative

3. <u>Watch the video about using iPad to learn from anywhere</u>

4. <u>K12: Online Public-School Programs | Online Learning</u>

5. <u>Creativity in Learning</u>

6. <u>Every product carbon neutral by 2030 | Apple</u>

7. <u>iPad and Mac in Education Results</u>

8. <u>Green Bond Introduction by Taipei Exchange</u>

9. <u>The Green Bond Principles 2021</u>