



NEW ZEALAND QUALIFICATIONS AUTHORITY
 MANA TOHU MĀTAURANGA O AOTEAROA

QUALIFY FOR THE FUTURE WORLD
 KIA NOHO TAKATŪ KI TŌ ĀMUA AO!

3

COMMON ASSESSMENT TASK

Level 3 Digital Technologies and Hangarau Matihiko, 2019

91909 Present a reflective analysis of developing a digital outcome

Credits: Three

Achievement Criteria		
Achievement	Achievement with Merit	Achievement with Excellence
Present a reflective analysis of developing a digital outcome.	Present an in-depth reflective analysis of developing a digital outcome.	Present an insightful reflective analysis of developing a digital outcome.

Type your School Code and 9-digit National Student Number (NSN) into the header at the top of this page. (If your NSN has 10 digits, omit the leading zero.)

Answer all parts of the assessment task in this document.

Your answer should be presented in 12pt Arial font, within the expanding text boxes, and may only include information you produce during this examination session.

You should aim to write between **800–1500 words** in total.

Save your finished work as a PDF file with the file name used in the header at the top of this page ("SchoolCode-YourNSN-91909.pdf").

By saving your work at the end of the examination, you are declaring that this work is your own. NZQA may sample your work to ensure that this is the case.

YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.

**Merit
 05**

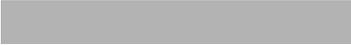


INSTRUCTIONS

Read all parts of the assessment task before you begin.

Choose any digital outcome that you developed during the year.

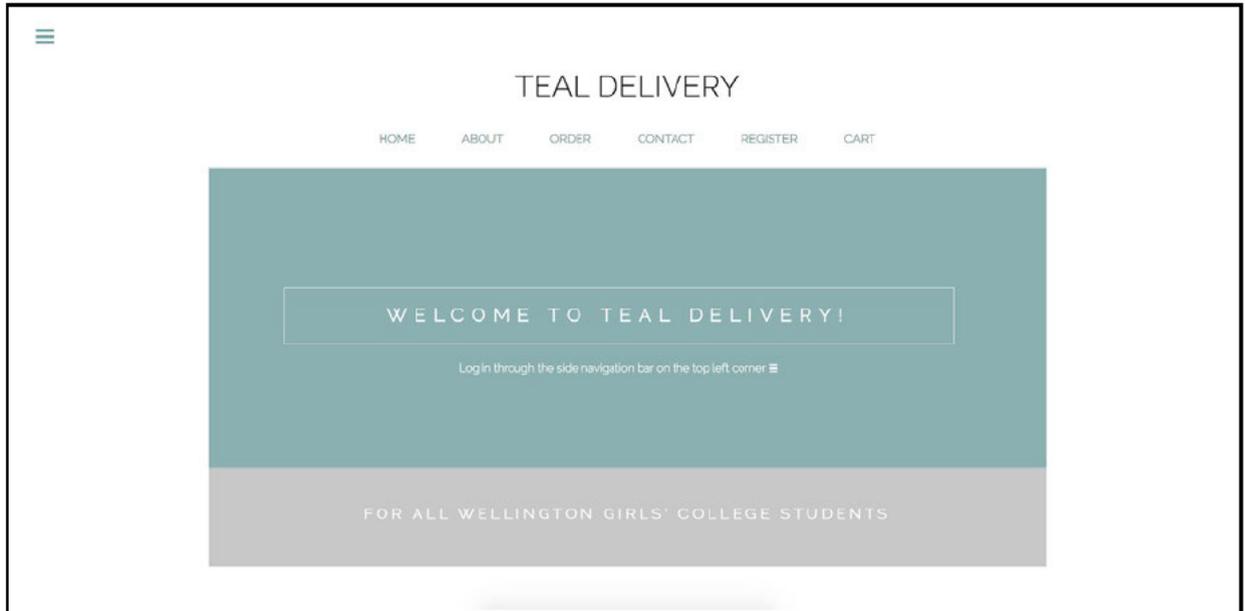
Type your chosen digital outcome in the space below:

Teal Delivery - A delivery service website for  students

Begin your answers on page 3.

ASSESSMENT TASK

- (a) (i) Describe and explain the digital outcome that you developed.

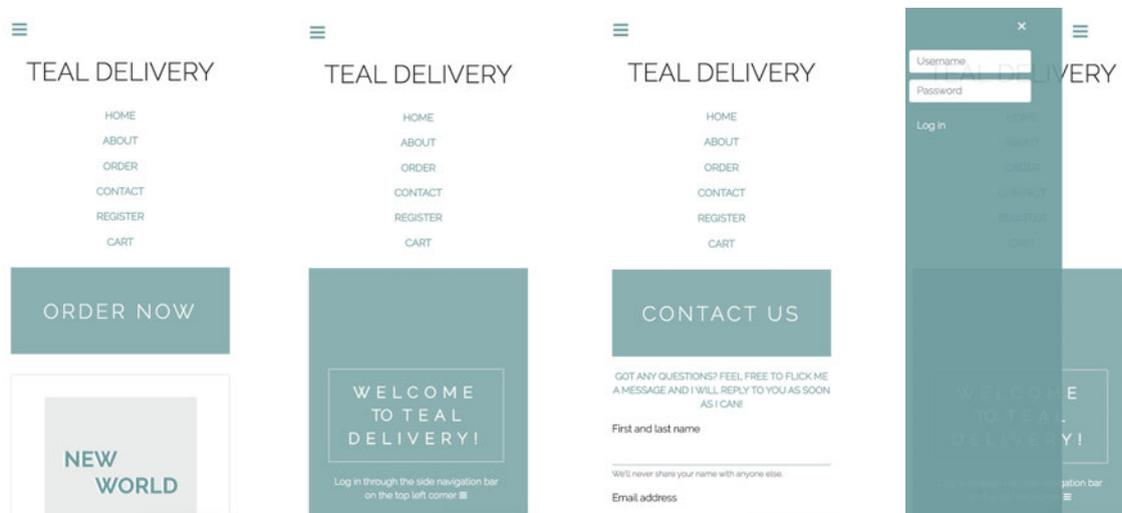


The digital outcome that I developed throughout the year is a delivery service website called Teal Delivery which aims to satisfy the needs of students at [redacted] ([redacted]). The reason why I made this is that I have heard the needs of junior students at [redacted] who are not happy with the canteen food and are wanting a greater selection from external sources. Teal Delivery only has 4 places available all located around the Thorndon area to make it easier for the seniors to go collect, however, one of them is New World which has an immense selection of goods to choose from. Currently, seniors from year 12-13 are the only students allowed out of school during lunchtime to get food, and most likely the ones are hunting to find an opportunity to earn money. Therefore, creating this website is a great way for a student to earn money by getting the food for themselves, as well as someone else at a profit. Whereas, the juniors who are students in year 9-11, all they need to do is go on the website, order, and pay a small delivery fee and then the senior will go pick it up for them. My website is only eligible to [redacted] students, however, it is inclusive as ANY student from any age level can use Teal Delivery, however, seniors are the only students who can go outside of school and get the food. This is fair because eventually as the juniors get older, they will have the opportunity to do the same. There are other delivery service websites such as uber eats and delivery easy who have similar attributes such as delivering food to a certain place at a cost, however, the issues that my clients face at [redacted], is that you must order the food well in advance as it takes up to 30minutes to arrive. Therefore, specifically creating a delivery service for students at [redacted] with only a selection of stores around the Thorndon area for them to choose from, will make both the cost of delivery and time of delivery so much faster.

(ii) Explain how decisions you made in the development process are **linked** to your chosen digital outcome's characteristics, referring to:

- the selection of the tools and techniques used to develop the outcome, AND
- ways of addressing implications and end-user considerations.

The **first decision** I made was based on the characteristic **responsive design**. The decision I had to make was whether I would develop my delivery website which would be more suitable for a desktop or a phone user. As I was coding on a desktop, and creating a digital outcome which was shown initially on a desktop, I worked with that. I was not considering what my website would look on a phone, and I would only see what it would look like on another device such as a phone when I started to inspect my code. Through the development process, and researching about characteristics, responsive design was so important as not every user has both devices, so it was crucial that I was able to suit everyone's needs. I was fortunate that I could use the tool/techniques which was bootstrap, which enabled me to copy certain features from their website to mine as it is open license, and therefore, I could use without asking for permission beforehand. Bootstrap has created code which is already responsive which made it more efficient for me.

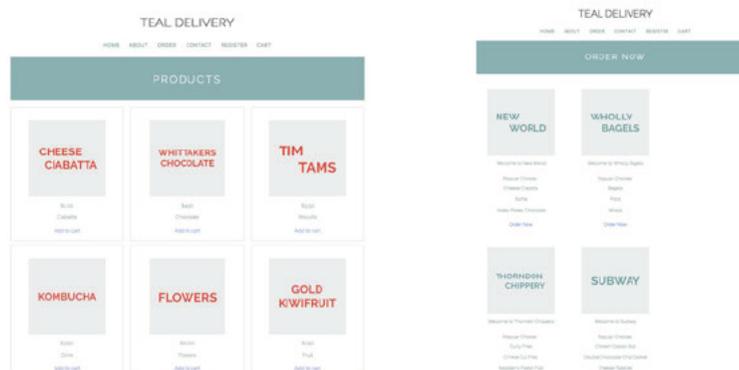


This leads me onto my **second decision** which was to use bootstrap to create **easy to use forms** on my website. As my website is specifically used for delivery, it is absolutely crucial that I have both a contact and a registration form as it is a service where you interact with others in order for the website to operate and work effectively. Bootstrap gave me the necessary code, in order for me to copy and paste, automatically becoming responsive and then I just needed to manipulate and change to fit what is necessary for my business and what information I needed to know. It was also just as important to have a contact page, as I want to be able to answer any questions which my users may be wondering about, and it also makes my delivery service more personal which is another aim of mine. Being able to have easy to use forms where the user could easily navigate through the different boxes and being notified if something was missing was also another characteristic I considered. Having easy to use forms which were easily able to be navigated was crucial for my end-users. Through the development process, I learnt more about user experience and making it clear and being able to clearly navigate the user in the right direction, therefore, after making the forms, I created warnings through code which meant that if the user did not fill out all of the boxes they would get a message which said "please fill out all the fields", or if their 2nd password

would not match with their 1st password, they would get a message. This is so there would be no difficulty in receiving misleading data from the user and I did not receive their name under the heading "email address" when they filled out the form.

The screenshot shows the registration page for 'TEAL DELIVERY'. At the top, there is a navigation menu with links for HOME, ABOUT, ORDER, CONTACT, REGISTER, and CART. A prominent teal button labeled 'REGISTER NOW' is centered below the navigation. Underneath the button, a small instruction reads: 'CREATE AN ACCOUNT NOW OR CLICK THE HAMBURGER IN THE TOP LEFT CORNER TO LOG IN'. The registration form consists of several input fields: 'First name' and 'Last name' (two columns), 'Email Address', 'Phone Number', 'School Year' and 'Yearning' (two columns), and 'Username'.

The **third decision** was using **pycharm** which allowed me to use the code python. Pycharm is an integrated development program meaning that it has a built-in database and tools allowing me to use multiple languages such as HTML and python as opposed to using brackets which only allows me to code with HTML. Having built-in tools also meant that I could beautify my code, which may have influenced the layout and accessibility of my delivery website which is a characteristic. Using pycharm was crucial in the development process as once I completed my forms and finished working through the aesthetics of my website on my HOME and ABOUT page, it was time to work towards creating a database for my products and users. By creating multiple databases, I did encounter a number of problems as some of my code was corrupted and aspects did not go my way, however, pycharm allowed me to deal with these problems and I was able to retrieve some of my code back through committing my files every so often. As Teal Delivery is a delivery service, there were a number of products which I had to list using cards, or tables. At the initial stages, I did list each product one by one which was very time consuming and not an efficient way to use my time, however, during the development process, I gained a greater understanding of the built-in database tools that pycharm offered, and allowed me to start listing multiple products into folders at one time which made my process so much easier and faster (better way to use my time wisely in such a little timeframe). It was also so important to create a database for my users meaning that all the information that my users filled out to register, it was all stored in one area meaning that I could go back and check what the user wrote if there were any questions or problems which may have occurred.



- (b) (i) Explain how decisions you made **affected** the development process of your chosen digital outcome's characteristics, referring to:
- the selection of the tools and techniques used to develop the outcome, AND
 - ways of addressing implications and end-user considerations.

During the first stages of my designing and creating my website, **responsive design** was not one of my main concerns. I had an initial idea by sketching mock-ups on XD on what I wanted my website to look like, and my end goal was to achieve that. Therefore, I started to code based on what my website looked like on a desktop. However, during the development process, I started to consider whether my website was necessary for a user who may only have a phone. From research, I soon discovered that around 54% use a desktop to browse, whereas the other 46% use a phone to browse. As having clients which are students at [REDACTED], and having a delivery website, I soon established that it was crucial to have a digital outcome that was both responsive on a desktop as well as a phone. I also considered that it is more likely that my user would be ordering food off their phone in class as opposed to a desktop as it is more subtle and easier to access, so it was my responsibility to meet able to meet these needs for my end-users. Therefore, I made the decision that during the development process, I would continuously code my website which would be responsive to both a desktop and phone. However, before I started furthering developing my website, there were certain features such as images and text which worked perfectly on a desktop but did not align when I changed to a phone. Therefore, during the development process, I did have to change parts of my code and learn more about responsive code so all my features could work well on both a desktop and phone.

Exploring bootstrap as a tool which was responsive and open license, it allowed me to explore a number of different features which I could add to my website during the development process. I was able to create easy to use forms which could be manipulated so two categories such as first and last name were on the same row but in two separate boxes, and I was also able to create a submit button which took me to another page. The decision of using bootstrap also allowed me to create cards for all my products which were easy to access and viewed on a phone without cards overlapping with each other. There were also other features such as warning boxes and colourful features as my submit button which allowed me to further extend the aesthetic and functionalities of my delivery service website. Not only did bootstrap strengthen the functional side, allowing my forms to work, but it also influenced the aesthetics and how my end-users see my website. This is so important as I want my end-users to be easily able to navigate and order through Teal Delivery without difficulty. It is also always nicer for the user when they are looking at a website which is aesthetically pleasing and attracts them to browse the pages as opposed to a website which is messy and hard to read.

Using pycharm with built-in database and tools made my development process so much more efficient which was very valuable during the timeframe that I had. Every period during the development process of making Teal Delivery was so useful, and I am happy that I used all of the extra tools such as beautify which pycharm had to offer to my advantage. As I mentioned earlier, listing each product one by one for all the different stores took an immense amount of time and I would barely be able to achieve much in a period as I was continuously repeating each step each lesson. As Teal Delivery is a delivery website meaning that I sold a number of different products, there would eventually be a time where I would have to cut down on the

number of products I could sell as it would use all my time in class and I would achieve nothing else. However, during the development process and being able to create a database which would automatically create a number of cards for each product if I entered all the necessary information such as an image, name and cost, I was able to efficiently eliminate time and achieved the exact same result or something even better.

- (ii) Explain how the development process of your chosen digital outcome was guided by the new knowledge and skills that you gained during that process.

Throughout the development process, I created a scrum which is essentially a slideshow whether I documented everything that I achieved in the week, what I wanted to get done in the next week, and what problems I encountered. This was very beneficial in my process, as it gave me an outlook on what was more important on my website, as well as seeing problems which I may have encountered before and how I fixed them. Doing the scrum also gave me an idea on how to use my time effectively. From being in a class with a ratio of 28 students to 1 digital technologies teacher, there were times where you had to wait in line to get help. Therefore, creating a scrum meant that whenever there was a time where I encountered a problem where I needed help but could not get the help in that certain period, I would look back at the scrum and see what I next had to achieve. I learnt some very valuable skills when I continuously updated my scrum as it gave me an indication and a realistic outlook of what was actually achievable given the timeframe. I did make a lot of changes throughout the development process and I am very happy with my final result.

Another skill/knowledge I learnt/gained was researching my direct and non-direct competitors. Straight away I knew delivery easy and uber eats were my greatest competitors and they are two well-known delivery service places which a number of customers use on a daily basis. My main goal was to differ from my competitors otherwise it defeats the purpose of creating Teal Delivery as it would never reach the standard of what they achieved so far in the industry. Therefore, my biggest difference is focusing solely on [redacted] students and only using Thorndon stores which make it easier and faster for delivery. From looking at my competitor's website, I find it very hard to navigate and you have to type in your address and log in before you can access the type of food or drink that they have to offer. Therefore, I wanted to create a website where you can browse your options and then decide whether you want to make an account or not.

- (c) (i) What could have been done differently to improve both the development process and digital outcome, and why?

An aspect I could have done differently to improve my development process and Teal Delivery may be to explore my social media options and advertise more through Instagram or Facebook. Nowadays, students, especially girls at [REDACTED] who are my clients, are nearly all on Instagram which is a social media platform where they can interact with each other. Right now, I am relying on word of mouth in order for my business to grow and expand, and having the website for just [REDACTED] students and listening to their needs of juniors wanting better food will come at a huge advantage. However, advertising through Instagram will be a great way to expand my business further and attract more customers. Therefore, I would create an account for free for Teal Delivery and then create an Instagram icon on my website so those who explore my website on a desktop or phone and can then click on the Instagram icon and it would navigate them to my Instagram account for them to browse at as well.

I also believe I could add more images to my website to make it more interesting for my consumers to look at. Due to copyright reasons, I was unable to get photos online of my possible product options. For example, Wholly bagels are one of my options as a store which the students can order from, however, I could not afford to buy every bagel just to take a photo of it for my website. There were a few images online, however, I did not have the rights to use it for my own website. Therefore, I ended up creating titles of my products to display on my website, which is clear and easy to read. This is an aspect which I could further explore if I were to improve my website for next time. I may not necessarily take a photo of every single product, but even just a photo of students with their food or seniors going to buy the food on the website might make Teal Delivery more personal and easier for the students to enjoy browsing through. This would also improve the aesthetics of my website.

- (ii) What conclusions can you draw from your completed digital outcome and / or the development process? In your conclusions refer to:
- the exploration of less-obvious implications, including intellectual property and cultural implications, AND
 - innovative connections.



I am very happy with Teal Delivery and the aesthetics of it. I believe it is easy to navigate influenced by the development process, and it is also easy to browse and all the aspects such as my forms and registering, all function smoothly. One of my biggest decisions was having a responsive design as I believe it is so important that my end-users can choose whether they want to successfully order on a desktop or phone. Using bootstrap helped me immensely to achieve this characteristic, and using pycharm and taking advantage of the built-in tools was very helpful in using my time efficiently. Intellectual property considerations did change my development process as initially I wanted to have an individual image of all my products to put on my website, however, this was found to be very difficult when I started creating my order page. Copyright in terms of the design of my website was not an issue as I was able to use fonts through google fonts which is open license, and I created my own website through updating, changing and deleting CSS. However, my only big issue was the photos I could use. Therefore, I only have a few images on my website which are my own, so that is an aspect I would further extend and look into for my digital outcome.

As my website is somewhat similar to delivery easy or uber eats, an exploration of a less-obvious implication may be to explore API by creating a number of routes where I could connect my server with other external servers. Currently, my website returns webpages, however, I could create routes so if a user wants to find something on delivery easy or uber eats in the Thorndon area, my website Teal Delivery could appear to make it faster for them.

Merit Exemplar 2019

Subject	Digital Technologies	Standard	91909	Overall grade	05
Q	Grade	Annotation			
		The candidate's answer enjoyed a good structure. A detailed, in-depth reflective analysis was given on how decisions affected the development process. The candidate explained how new knowledge and skills guided the development process. They did not demonstrate understanding of intellectual property, cultural implications and innovative connections, and therefore warranted a Merit grade.			