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91909



Mana Tohu Mātauranga o Aotearoa
New Zealand Qualifications Authority

COMMON ASSESSMENT TASK

Level 3 Digital Technologies and
Hangarau Matihiko 2025

91909 Present a reflective analysis of
developing a digital outcome

Credits: Three

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 space below. (If your NSN has 10 digits, omit the leading zero.) It should look like '123-123456789-91899'.

SchoolCode-YourNSN-91909

Answer ALL parts of the assessment task in this document.

You should aim to write **800–1,500 words** in total.

Your answers should be presented in 11pt Arial font within the expanding text boxes.

The only resources you may access during this assessment are the three images you have prepared in advance. Access to your digital outcome, online or paper resources, and the Internet, is not permitted.

Save your finished work as a PDF file (SchoolCode-YourNSN-91909.pdf).

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

Merit

TOTAL 06

INSTRUCTIONS

The task in this assessment requires you to discuss a digital outcome you have developed within the past 12 months.

You are not permitted to access any resources (either in hard copy or online) other than those supplied in the assessment itself. Access to your digital outcome, AI material, online or paper resources, other Word or PDF documents, and the Internet is not permitted.

You must illustrate your answers with three .jpg or .png images you have prepared in advance:

- a single image of the digital outcome (e.g. a website, a brand identity package, an electronic device)
- a single sample image showing a relevant digital component of the outcome in the software used to create it, for example:
 - the HTML / CSS for a website in a text editor (e.g. VS Code, Notepad++)
 - the 'layers' view of a vector or raster graphic (e.g. in Inkscape / Illustrator, GIMP / Photoshop)
 - the source code for controlling an electronic device (e.g. in Arduino C, PBasic)
 - the CAD / CAM file for a 3D model (e.g. in Blender, Fusion 360, SketchUp)
 - the source code for an application in a suitable text editor (e.g. VS Code, Replit)
- a single image of your development process (e.g. agile development, a planning chart, etc).

If you developed your digital outcome as part of a group, you must only write about your role and your specific contributions to the project.

Read all parts of the task before you begin. Do not repeat your response in different parts of the question.

You must complete your assessment individually under teacher supervision, in accordance with the NCEA Assessment and Examination Rules and Procedures. The material submitted for assessment must be your own work.

You are not permitted to share or discuss this assessment or your assessment responses with any other schools, teachers, or candidates until after the final date for submission (12 September 2025).

The use of chatbots, generative AI, paraphrasing tools, or other tools that can automatically generate content is not permitted, and material generated by these tools should not be submitted as part of your work.

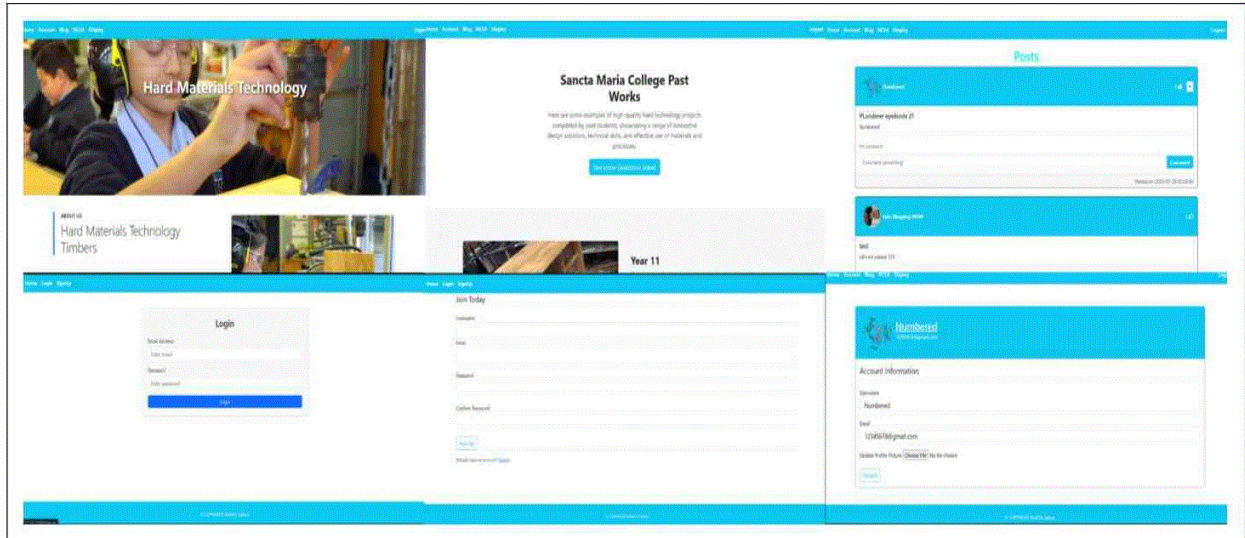
(Assessment Specifications, NZQA 2025)

ASSESSMENT TASK

Name the type of digital outcome you created (e.g. website, app, magazine, animation, etc.):

Website

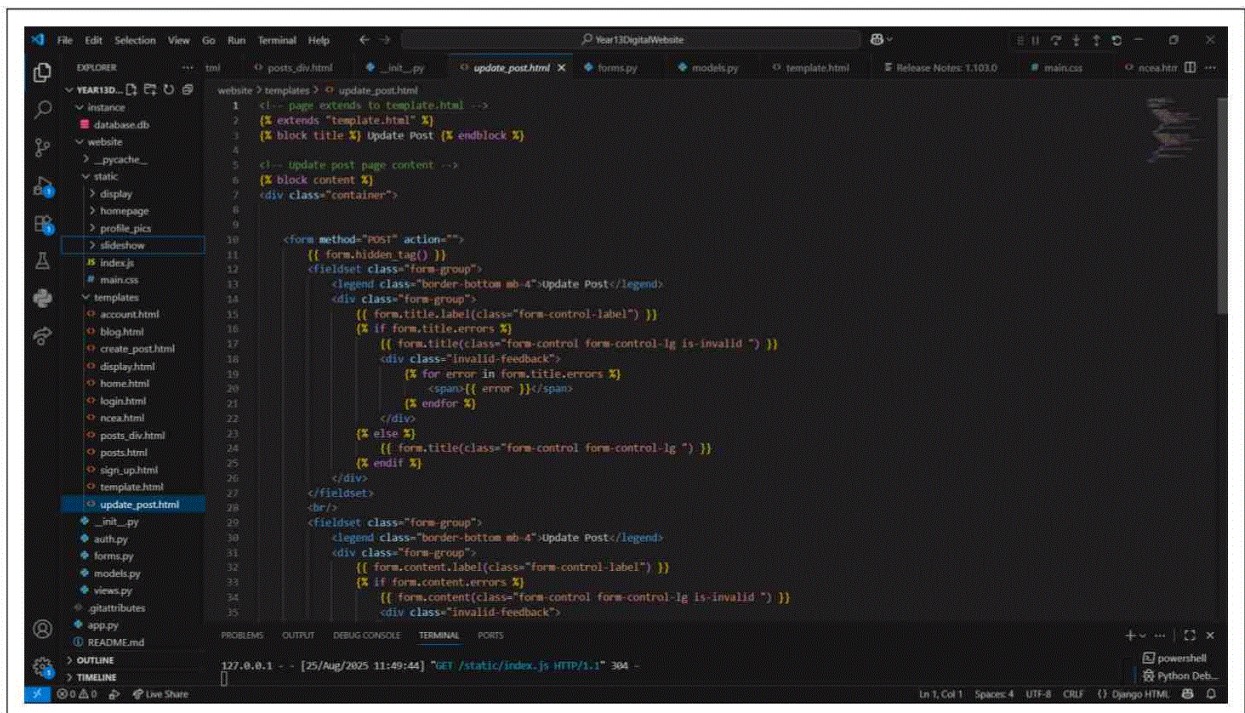
Insert the image of your digital outcome in the box below.



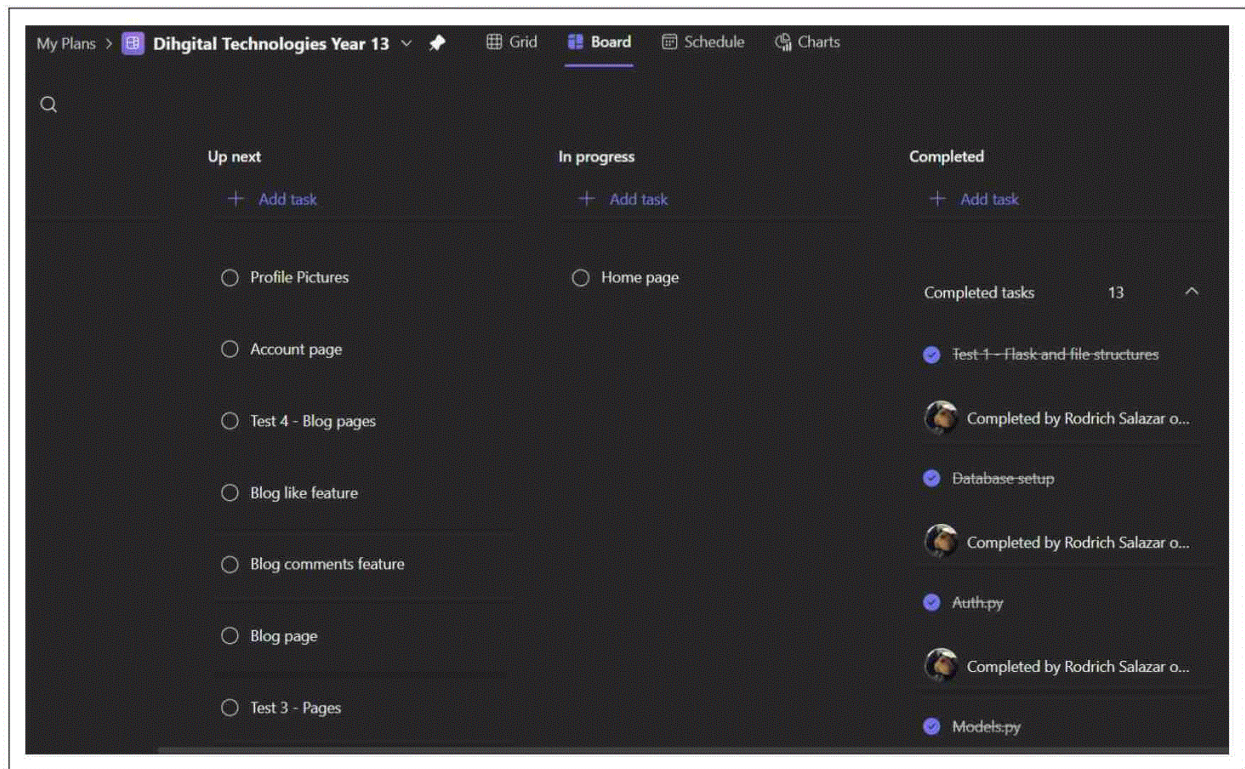
Name the main software used to develop the digital component of your outcome:

Visual Studio Code (VSC)

Insert the image showing a relevant digital component of your outcome in the software used to create it in the box below.



Insert the image of your development process in the box below.



Digital outcome

- (a) Explain the digital outcome you created, including its purpose and intended audience/users, the environment it is found in, its functionality, key features, and aesthetics.

I have created a digital website where students of Sancta Maria College mainly targeting Senior students (Year 11-13s) and future senior students (Year 10s) to use and learn more about subject available at the school, Hard Materials Technology. The digital outcome I have created is for students at Sancta Maria College to use to learn more about the subject Hard Materials and for them to use to ask questions about the subject or inquire help about the subject. For the subject Hard Materials Technology it is hard for students to learn more about the subject such as the type of work they could possibly doing. So, for the digital outcome I have created I have only included relevant information that could aid students to decide whether to take the subject or not. Another reason is because many students also lack the knowledge of materials, machinery and tools. Which in this website these students could use to ask and inquire about how to use these materials, machinery, tools directly to teachers and they could answer so other users could simply see the information already on there.

The Website contains 7 main pages a home page, a blog page, a dashboard page, a NCEA page, a Past Works page and the registration pages such as the Login page and the SignUp page. All these pages accessible via the navigation bar.

- The Home page is easily accessible via the navigation bar which contains all the pages and you can go on it without having to log in, this pages contains the main information about the subject like what it is about, the types of skills you may learn and the teachers you can get. It also contains a slideshow of images of students using tools and machinery to work on materials.
- The blog page is a page only accessible via navbar if users logged in. It is a page where

users can create blogs to ask questions or to post information and tips that could aid fellow users with their work. Users are able to create and delete their own blogs, see other peoples blogs, comment on their own and other peoples blogs, and also like their own and other people blogs.

- The dashboard page is a page only accessible via navbar if users are logged in. This page displays the users information that they inputted when registering such as the username and email. Users are able to change their username and email on this page and can even add their own profile picture to show off to other users.
- The NCEA page is a page only accessible via navbar if users are logged in. This page contains the key information of the standards that you may be doing for each year.
- The past works page is a page only accessible via navbar if users are logged in. This page contains the past works done by past students for different year levels to aid them on what they could possibly be doing and constructing.
- The Sign Up page is a page only accessible via navbar when users are not logged in. When users sign up this page is no longer accessible and will disappear when they log in. This page contains a form for users to fill out to sign up to the website where it will then store this information in the database. It does this via the GET and POST methods. If users already have an account it has a button which sends them to the login page to login.
- The login page is a page only accessible via navbar when users are not logged in. When users login this page is no longer accessible and will disappear when they log in. This page contains a form for users to fill out on to login to the website. Once logged in the page disappears from the navbar and will grant users access to the other pages which I have stated before. A logout button also appears once they log in which will log them out.

The Key features on my website is it having a blog page and registration pages such as a login and signup page. The blog page is for users to learn and ask questions about the matters of the subject of Hard Materials Technology. Whether asking them about what they will be doing or asking expert students or teachers for assistance. This is a page where students can learn more about the subject by simply either creating a blog of their own to ask or looking through blogs by other users to see the information or answers they display. The Login and Signup page is for users to register so teachers know who the student are so that they could help assist them with their questions and to improve the overall security of the website.

The overall aesthetics of my website is the colour pallete similar to the school website of Sancta Maria College. This is so users are familiar with the website for them to have a better user experience. The websites overall design is also consistent throughout staying consistent with the layout and colour pallete. And all features are easily learnt and can easily be used by users.

- (b) (i) Name a key feature, quality, or attribute of your digital outcome that relates to your choice in software used to develop it.

Interactivity

- (ii) Briefly describe a decision you made that relates to the key feature, quality, or attribute named in (b)(i) above.

A decision I made that relates to the feature I named above is developing and designing a blog page. This page is relevant to my website as it improves user interactivity among users as they will be able to post blogs to ask questions, or post blogs to display their knowledge and to help fellow students of Sancta Maria College. This relates to the choice in my software as to create the feature of the blog page I had to use multiple different coding languages at once. And in the case of the software I used, Visual Studio Code, this software has the ability where people can code in different languages at once without having to use any other external softwares or extensions. Visual Studio Code also has the feature where we are able to download extensions easily within the software. This was relevant in developing the feature of blog page as I required the ability to see the database to see if information are being stored correctly and properly. And I was able to do this by easily downloading an extension SQLite Viewer which allowed me to do so. This relates to the key features I stated before which is Interactivity as it improved the overall user experience as users are able to interact with one another and overall refined and improved the relevancy of my website as users are now able to help one another and to learn more from information posted by other users.

- (iii) Analyse the impact that your decision from (b)(ii) on page 4 had during the development process, and discuss how this decision affected the **functionality, aesthetics, and usability** of your digital outcome.

The impact of the decision that I made of creating a blog page affected the time it takes to create the outcome to be longer. As I had more features that I would need to test and refine on my website. However this helped me refine all other features as well as I would be able to see what features contains small bugs and errors that I may have overlooked and to see if the features I had was compatible among one another overall developing a more refined outcome.

- This decision of creating a blog page affected functionality of my outcome as it made my website have more functionality with more features that users can use. It made my outcome more interactive and responsive as I repeatedly tested and refine each feature. This also made my website more fit for its intended purpose as it now had more relevant information to provide users.
- This decision of creating a blog page did not affect the aesthetic of my digital outcome as I had stayed consistent with my overall website throughout the features of this page. Instead it had made my website more aesthetically pleasing as the features it contained was easy to use and easy to learn.
- This decision of creating a blog page affected the usability of my outcome as it made my website more user friendly and more usable for students. This feature made it so users can interact with one another and allow users to learn more about the subject which improved user experience of my website overall improving the usability of my website.

- (c) (i) Name a key feature, quality, or attribute of your digital outcome that relates to **cultural, ethical, sustainability, or future-proofing** implications.

User Security

- (ii) Briefly describe a decision you made that relates to the key feature, quality, or attribute named in (c)(i) above.

A decision I made that relates to the key feature I stated is developing and refining the registration pages. This improved the overall security of my website and the user experience on my website as it would let teachers know who the students are. Another decision that relates is by making it so that users have usernames instead of it displaying their emails, and I made sure that the website contained no information that could harm or cause anger to users by only displaying information that is relevant to the subject. . I also made sure to comment on all my code for my website to remain sustainable as other future admins can easily know how to edit the features and adjust the layout of my website. These decisions relates to the quality of my outcome as it made my website more secure and safe for users to use and made it more refined as it allows for other potential Admins to adjust and edit for their liking easily.

- (iii) Examine how the decision you described in (c)(ii) above influenced the way you developed your digital outcome, and explain how it affected the final outcome.

The decisions I made influence how I developed as it required me to do more research and more testing to make sure all the features I decided to include were compatible with other features and to make sure it is all responsive and functions properly. Overall making my digital outcome more responsive and user friendly.

- The decision of developing the registration pages improved overall security as it allowed teachers to know who the students are via email.
- The decision I made of making it display usernames instead of emails improved security as if it displayed the emails of the user instead, it could have risked users of leaking their emails (which is private) to other users who could possibly have malicious intent.
- The decision of making sure the website is safe and ethical made it more secure and safe for users to use and improved overall user experience
- The decision of adding comments to my code allowed the digital outcome to be sustainable as other Admins will know how to adjust and edit the website.

Overall these decisions I made allowed users to have a better experience on my website and allowed users to feel safe and secure while using it and the website more fit for its intended purpose as it only contains relevant information regarding to its purpose.

Knowledge and skills

- (d) Explain what new knowledge you gained and how you used your skills to apply this knowledge in practice, within your development process.

Note: Examples given can be of a positive or negative type.

New knowledge I gained was the knowledge of using the bootstrap framework with my code to make my website more responsive and easier to use.

In alongside using bootstrap framework I already had experience in using classes and CSS from past years to design my overall website, it allowed me to design and make my website more responsive and functional with the features bootstrap frameworks contains. Overall improving user experience and the functionality of the website. This having a positive impact on my website.

Another knowledge I gained was learning how to use WTForms to make my website more secure and aesthetically better in the registration pages and also using it so users are able to update their usernames and having their own profile picture allowed the outcome for users to have more freedom improving the users experience and interactivity among one another.

In using WTForms I already had experience in developing and creating forms for registration pages and other pages such as having notes from my past years using Flask. This overall just made it easier for me to adjust to this new style and this new knowledge overall made the layout structure of the registration pages better and it made my website better having a positive impact on the digital outcome. However this also contained a negative impact as I had to spend more time learning a new style which meant that I had less time to refine and test other features.

Evaluation

- (e) (i) Reflect on what could have been done differently in your development process, and how this would enhance the quality or effectiveness of your digital outcome.

One of the main things I could have done differently is having better time management. Often times during my development process I would spend too long on a certain feature and it would go over the time I had thought of doing it as I planned using the Microsoft Planner. Sometimes I would take too long and sometimes the feature did not even come to exist in the final outcome as I could not figure it out in time or the features just was not compatible at all. This issue that I had faced overall could have risked in the digital outcome to come out unfinished and unrefined however I managed to pull through but this instead caused unnecessary stress throughout the development process. Something that I could have done differently during my development process is researching more beforehand rather than during. This could greatly enhance the quality and effectiveness of my digital outcome as I would have more time to spend refining and testing rather than learning and researching midway the development. Other than the wastage of time during the development there is nothing else I believe that I could have done differently as all I was lacking during the development was more research. Next time I do a project similar to this I will make sure to do more proper research and just more research in general as this would reduce and minimize possible wastage of time on learning on how to do new features during the development process.

- (ii) Evaluate how problem-solving and your personal experience contributed to the successful development of your final digital outcome.

How my problem solving skills contributed to the successful development. My problem solving skills of learning how to solve errors and fixing bugs greatly contributed to the success of the development process. I was able to find bugs and small errors that I may have done such as a small typo or incompatibility of certain features and learning a way to fix it or finding a way to make it compatible greatly contributed to the success. The constant refining and testing I did throughout overall, alongside my problem solving skills just made my digital outcome more refine and overall more fit for its intended purpose.

The experience I had before in development in my past years greatly contributed to the successful development of my final digital outcome as I had used past skills and knowledge to eventually finish the outcome even with the issues I had faced during the development process. Without the experience I would most likely not have been able to finish the digital outcome and it would not have come out as refined as it is. If I did manage to finish the outcome it would have many unnecessary bugs and features that could risk in ruining user experience and made my website just unusable. Without the experience and knowledge I learnt throughout my past years the digital outcome would not have been successful.

Merit

Subject: Digital Technologies

Standard: 91909

Overall grade: 06

Grade	Marker commentary
M6	<p>The candidate analysed how development decisions impacted the website's functionality, aesthetics, and usability. For example, creating the blog page increased development time, but improved functionality through interactivity and enhanced usability for students. Decisions regarding User Security, such as registration pages and using usernames, improved overall security, user safety, and website sustainability via commented code.</p> <p>New knowledge such as using the Bootstrap framework and WTForms was integrated with existing CSS and Flask experience to guide development. Bootstrap made the site more responsive, and WTForms improved the security and aesthetics of registration. The candidate noted a trade-off, where time spent learning the new WTForms style reduced time for refining other features.</p> <p>To reach Excellence, the reflection would need to have been expanded and more sophisticated. For example, the candidate could have discussed specific unimplemented features or incompatible challenges that arose from poor time management or research, providing clear examples of what research or skills were missing to resolve those issues.</p>