**Digital Technologies & Hangarau Matihiko 2.8**

**Level Two, Credits 6, Assessment Internal**

Introduction/Kupu Arataki

This assessment activity requires you to plan, develop and create a complex computer program.

You will be assessed on

* how effectively you use project management tools and techniques to plan and manage the development of a digital outcome
* how effectively you decompose the problem into smaller components, and test and refine your media outcome so that it is a high-quality response to the task
* how well you have addressed relevant implications
* how well you discuss how the information from the planning, testing and trialling of components assisted in the development a high-quality response to the task (e.g. well-structured, logical, flexible, robust and comprehensively tested program)

Problem Statement

My Chosen problem statement is the attractiveness of uncertain reward.

Here is the statement below;

*You are going to develop some educational software, to teach simple arithmetic skills. Here is the background. Why are games interesting? Recent research in neuroscience has shown that “uncertain reward” is attractive. In other words, an element of chance makes an activity more interesting. You will develop a prototype for a program which will set mental arithmetic problems for a student, and which will allow the student to “gamble” his or her winnings.*

My goal is to educate young people on gambling and the many risks and rewards that come with it. The game will highlight to users their chances of winning and how easy it is to gain or lose all your points. The game should simulate the ideas behind betting in real life, and the risks and rewards that come with it. The game will be based around a maths quiz. This should be appropriate to users with a more basic understanding of maths, so the questions will be set at the appropriate academic level that all high school students are able to use the software.

In my research many people support the idea of teaching children and teenagers about the risks that can come with gambling without having the real risks of losing money like in later life. According to one [article](https://www.gamblingsites.net/blog/why-you-should-teach-your-kids-about-gambling/) you should never gamble money you can’t afford to lose, it can in still this important lesson in them for life. This is vital in our modern society for our younger generation to learn this with the growing popularity of Casinos, Virtual Betting, Sports Betting and the stock market. Whilst at its core my program is a simple maths game, the ideas behind its betting elements with a coin flip teach the fundamentals of risk and reward.

Decomposing the outcome

* ***decomposing the digital technologies outcome into smaller components***

*Decompose your digital technologies outcome into smaller components and rank the priority of each component.*

*User stories is one method that is commonly used in an AGILE methodology*

|  |  |  |
| --- | --- | --- |
| **Math Quiz with attractiveness of uncertain reward.** | Maths Questions Generator | Randomly Generate Questions |
| Make Questions Reasonable for users |
| Answer Questions | Allow the user to answer each question |
| Tell the user if the answer was correct or incorrect |
| Coin Flip | Randomly flip a coin between heads and tails. |
| Ask the user to enter heads or tails |
| Score System | Point Tally |
| Point system per question |
| Reward generator | If the user lands heads double the user’s points, if not remove the users score |
| Display Menu | Polish the programme and make each step clear with instructions. |

**Chart

Description automatically generated with low confidence**

Graphical user interface, application, Word

Description automatically generated

For my project I am going to be using a Kanban board throughout the project. In the above screenshot I have placed all the cards I believe I need, however during the development this is likely to be edited with further cards being added as necessary.

Considering Relevant Implications

* ***addressing relevant implications.***

*What relevant implications do you need to consider in the development of your outcome? Describe which you will address in its development.*

For my project there are various relevant implications which need to be addressed for a successful final product. These will need to be addressed throughout the planning, designing, and building stages of the development. This should result in the final product addressing and resolving any possible relevant implications. I think that **cultural, usability, functionality**and**end-user requirements**are some of the most important implications for my program, however I will still consider the rest throughout the project.

Usability is critical for the design of my program. My usability research was conducted based on the article [What is usability and why is it important to application development, by Segue Creative team](https://www.seguetech.com/usability-application-development/). Usability is the process of finding users’ needs and ensuring the product can help achieve these specific tasks effectively and efficiently, which in turn will increase the success of the development. The article talks about the key pillars of testing which should always been considered;

* *Intuitive design and user interface testing*
* *Ease of learning*
* *Efficiency of use*
* *Memorability*
* *Error prevention*
* *User satisfaction*

For my project, I will integrate the key pillars throughout the development process. To address *memorability* and *ease of learning* I will make sure my program is clear with how to use it and does not leave the users questioning what to do. I will make sure the program does not have any error that will impact the users experience through comprehensive testing throughout and of the final product. This will help address *error prevention.* *User satisfaction* will be done throughout the sprints as I test multiple designs of certain aspects and gain feedback from various end users as to what provides the optimal experience based on the key pillars. I will make sure my program does not have slow or clunky interfaces that would otherwise impact the user's *efficiency of use*. This can be achieved by doing *user interface testing*. I believe that if I follow these key pillars it will lead to a refined final project that addresses usability well.

End-user requirements are about basing the design process on the users who will most use the software in the end development. [BBC Bitesize](https://www.bbc.co.uk/bitesize/guides/zt6jrwx/revision/1) has article discussing it for web development, however the same ideas for my program still apply. After being given the brief of my project I now know my target audience, that being young students, around year 9 (aged 13). For my maths quiz software this involves making the questions a suitable level for the target audience of my program. My set target audience is that high school students in Aotearoa should be able to complete the all the questions easily. This means setting the academic level of the questions appropriately. The end user requirements also integrate with usability as the quiz questions should also be easily usable by end users.

For my program I will base it on a national curriculum level of 4, which is the average learning ability of a Year 9 in New Zealand, according to [education NZ](https://parents.education.govt.nz/secondary-school/learning-at-school/the-national-curriculum/). However if someone else outside of my target audience wants to use my software they can, as though older individuals might find the quiz easy the betting conceptual idea still applies. It is key I keep the end users in mind throughout the development as they are key for my final version of the quiz program.

Functionality is also a further relevant implication I need to consider within my development. [Software architecture in practice](https://www.informit.com/articles/article.aspx?p=1959673&seqNum=2), discusses the concept in one of its chapters. Functionality is defined as the ability of the system to do the work for which it was intended. The article discusses how functionality is not one element, but a structure of a development achieved by dividing it up into elements. For my project this means sectioning off the code using the Kanban board as well as using sprints to section of the development. For my final project this will mean the math quiz does everything that is intended and all the elements, in this case the functions of the program work together cohesively to create a functional product. If the user enters an invalid input the software should know how to deal with this and respond correctly. This will integrate with my end user requirements as the software should be fit for purpose. To make sure the project can handle any invalid inputs I will use testing tables throughout the sprints and test each element to make sure there are not any software breaking errors that ruins its intended functionality. When adding features to my code I will consider if it is going to make the software any less functional, if so, I will not add it as based on prior knowledge functionality should always come first.

Cultural implications are critical in my design and final design. I have based the following information around culture on an article by [Sybren Wartna and Cynthia Risse “Designing for culture"](https://medium.com/@cynthiarisse/designing-for-culture-be0d8be92422" \t "_blank). It discusses how digital outcomes and designs need to consider cultural difference and local needs to individual target groups.

Throughout designing it is important to consider the language we use in the designs, and make sure it is appropriate for all users. The article talks about using different languages and tailoring the layout of the design for my target market. For me this means creating one tailored experience and focusing on that. I will do this by understanding my end users and using appropriate language for students. In one of my sprints, I will make sure the game description is culturally sensitive by testing out 3 distinctive designs and seeing which the users prefer to make the game inclusive. Since my project is based in New Zealand it might be appropriate to use Māori in the game menus, such as ‘Kia Ora’ to greet users.  If I do use Te Reo I will make sure the words are spelled correctly by asking my teacher or consulting Māori dictionary online. The final development should lead to all users felling inclusive when using the design based on its use of terminology, and language.

Sprint Tracking

|  |  |  |
| --- | --- | --- |
| **Sprint Number** | **Start Date** | **End Date** |
| 1 | 16/8/21 | 30/8/21 |

* ***using recognised and appropriate project management tools and techniques to plan the development of a digital technologies outcome***

# Planning

*What are you going to work on in this sprint?*

During my first sprint of code, I will work on everything placed in the doing box on my Kanban chart.

During the trial I am going to work on the basic code of my maths quiz game. This will lay the foundations with the following, as outlined in my Kanban chart:

* A functioning maths questions generator
* An input dialogue for users to be able to enter their answers
* A display to check whether the users input matched the correct answer to the question
* A basic text-based UI for users to interact with the program.

*Provide evidence (screenshot / photo) of your project management tool(s) being used to plan the development of your outcome at the beginning of your sprint here.*

I have shown the initial plan for my sprint, all tasks within the doing box with due dates will be completed during the sprint 1. Dark blue tabs mean high priority, green means medium priority and purple means low priority

*Graphical user interface, application

Description automatically generated*

# Development

**Dev Log**

18 August 2021

* Completed the first task on time, and have updated appropriately withing the GitHub project through version control. I have added the file ‘math\_foundation\_1.py, and also added a commit which updates some of the initial comments of the file.

20 August 2021

* Completed coding maths questions generator and coding the main function as to my scheduled time outlined on the Kanban board. I uploaded these changes on a new version which has been stored as a commit on GitHub.

21 August 2021

* Completed two tasks on the board, the first was coding the answer entry input which was done as scheduled. I also finished another task ahead of schedule, this was a miss timing calculation on my behalf as I should have realised It was a sort of two in one task that could easily be completed at the same time. Because of this I am going to most likely finish the rest of the development earlier than anticipated.

24 August 2021

* Graphical user interface, text, application, chat or text message

  Description automatically generatedI have completed the basic code of my program which is the basic quiz of the program. This is marked as version 4.0.0 of the software. This was completed on time and is working as expected. I have also written up the 3 student game descriptions, gained feedback and written these out on the document. This is different to what I had originally scheduled on the board. I moved these things forward and changed the priority levels on Trello as I initially didn’t realise that I should also write a game description for the teachers to explain the game. This was a clear oversight on my behalf. However as my development process is agile I was able to complete and prioritise finishing the student game description so I still have time during sprint 1 to complete my teacher game description. I have changed dates, priority of tasks and added more tasks to my Trello board to reflect this ( as shown in the screenshot).

25 August 2021

* Today was a large day of reflection, but strong progress in the development of the project. I completed the 3 teacher game descriptions that I rescheduled yesterday and gathered the corresponding feedback. I then started testing the code and faced a few unexpected errors. However I overcame these by adding the errors to my Kanban board, applying the fix to the code and retesting for a successful result.

***What components are you going to trial?***

During this sprint I am going to test a various range of game descriptions, that will end up in the README file. My goal with the game description is to provide a short explanation explaining the end purpose of my game, whilst also telling users how to play the game for the end project. There should be two game descriptions in the final project. One for Students and one for Teachers. The one for students should be fun and explain what they do to play. The teacher description should say how to play the game and talk about the lessons It teaches students.

*Provide evidence of the options you are going to trial.*

**Student Game Description Trial:**

1. Welcome!

This game is an exciting and educational way to learn the risks and rewards that can come with gambling. In this game you will complete a series of simple maths questions. Each time you get a question correct you get a point. Once you get a certain number of points the game lets you decide if you want to flip a coin. If the coin lands on heads you double your points! However if the coin lands on tails you lose all your points. You’ll learn that sometimes you’ll win but you can also lose everything. Good luck!

1. Kia Ora, and welcome aboard this game of exciting learning. Shortly, some simple and fun maths questions are going to be asked. Whenever you put in the mahi and get a question correct you get 1 point! After you’ve answered some questions the game will ask you if you want to flip a coin to double your points, however if the coin lands on heads lose all your points will be taken away by the Taniwha! You’ll have to start all over again.
2. Your keen to play the maths game of uncertainty I see? Look no further you’ve come to the right place! In a minute I’m going to throw you a set of simple maths questions. Now take your time with these as you definitely want to get these right. For every question you get right I’ll give you a token. After a few questions I’m going to ask you if you want to flip a coin. If the coin lands on heads your tokens will double! But legend has it if the coin lands on tails all your coins get taken away! You better not find out what happens then!

## Feedback

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| --- | --- | --- | --- |
| **Component** | Game descriptions – Student | | |
| **Name** | Sam Fernyhough (12 DTC student) | **Date** | 24/08/2021 |
| **Feedback** | Option 2 is the best by far, option 1 is too generic and boring and option 3 is good. However option 2 is best as it fitting for our setting in Aotearoa. It is also still an engaging description for kids to read. | | |

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| --- | --- | --- | --- |
| **Component** | Game descriptions – Student | | |
| **Name** | Lisa Wong (Parent) | **Date** | 24/08/2021 |
| **Feedback** | Option 2. I like it because it seems fitting for kids to read, and I like the clever use of the Taniwha who takes away your coins, very clever. I think you could come up with something better than coins though as a currency, (something Maori related perhaps?) | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Component** | Game descriptions – Student | | |
| **Name** | Sophie Crozier (12 DTC student) | **Date** | 24/08/2021 |
| **Feedback** | I like option two the best. I think it is simple but it addresses the cultural implication of being in NZ. It will also appeal for students and teachers to read it and it contains all the info the program needs. Maybe putting in brackets what mahi means as some kids and adults might not know. | | |

*What is the outcome of this feedback?*

* Based on the feedback from 3 possible end users they all mutually agreed that option 2 was the best. Based on this feedback I will definitely stick with this option. I think this is important for addressing the relevant implication of culture (as researched above in my implications) as the use of Maori terms seems very fitting for a New Zealand based game.

*Final Student game description:*

* Kia Ora, and welcome aboard this game of exciting learning. Shortly, some simple and fun maths questions are going to be asked. Whenever you put in the mahi (work) and get a question correct you get 1 koru! After you’ve answered some questions the game will ask you if you want to flip a coin to double your korus, however if the coin lands on heads lose all your korus will be taken away by the Taniwha! You’ll have to start all over again.

**Teacher Game Description Trial:**

1. Kia Ora Teachers and education providers. Our mission is to provide an engaging, yet educational way for students across New Zealand to learn and understand gambling, which is becoming ever more prevalent within New Zealand, with the likes of online gambling. Your students will be given a series of maths questions. Each time they get one right they will get a virtual point. After a few questions the game will ask the students if they want to gamble there points with a coin flip. If the coin lands on heads they double there points, however if the coin lands on tails they lose all there coins. Whilst these coins are virtual we encourage you to offer real life incentives to your students, to make the game even more engaging. We hope you enjoy this game.
2. Welcome. We are highly keen to have you use our software in the class room at your school. It’s an honour. This game will teach your students the high stakes that gambling involves, whether that be losing or winning. Whilst the game is only a mere simulation of real life gambling it teaches students the conceptional idea around gambling. Students will be shown a series of math’s questions on the screen. Every question they get right will give them a token. With these tokens they can choose to partake in a coin flip. If the coin lands on heads they get 2X the amount of tokens they had, however if the coin shows a tails the student loses all there hard earned tokens! This will help students understand that they can choose to risk it all for a large reward however they may end up losing it all.
3. The Game of Uncertainty and chance:

**Instructions**

* + A series of maths questions will be shown to the student on the screen
  + Each question Correct = 1 point
  + Students can choose to flip a coin, if it lands on heads you double your points
  + If it doesn’t land on heads you lose all your points

This game will teach the students the risk and reward that gambling offers in a fun and safe way where they aren’t putting real money at stake. We hope you enjoy the product.

## Feedback

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| --- | --- | --- | --- |
| **Component** | Game descriptions – Teacher | | |
| **Name** | Max Wong (University Student) | **Date** | 25/08/2021 |
| **Feedback** | I like the 1st option the best, whilst the 3rd option is clear with instructions it isn’t something I would want to read. The 1st option explains the game but also gives context as to why it is important to use the game. An improvement you could make would be telling teachers how to open the game on the student computers. | | |

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| **Component** | Game descriptions – Student | | |
| **Name** | Declan James (University Student) | **Date** | 25/08/2021 |
| **Feedback** | I think my favourite description for teachers is option 1. It’s the most engaging option and it offers a full description of the program and explains why a teacher should use it. Maybe add some more Te Reo to the description to fit make it further fit New Zealand. | | |

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| --- | --- | --- | --- |
| **Component** | Game descriptions – Student | | |
| **Name** | Jack Stall (Adult) | **Date** | 25/08/2021 |
| **Feedback** | I think option 3 is the best as when I look at instructions I like the to be precise and easy to read. However option 3 is boring compared to the others. | | |

*What is the outcome of this feedback?*

* 2 out of the 3 testers agreed that the first option was the best. The other tester did prefer option 3 however he said the other options were less boring. Based on this I have chosen to use the first option and make the changes that both testers suggested.

*Final Teacher report*

* Kia Ora Teachers and education providers. Our mission is to provide an engaging, yet educational way for students across New Zealand to learn and understand gambling, which is becoming ever more prevalent within New Zealand, with the likes of online gambling. Your students will be given a series of maths questions. Each time they get one right they will get a virtual point. After a few questions the game will ask the students if they want to gamble there Koru (points) with a coin flip. If the coin lands on heads they double there korus, however if the coin lands on tails they lose all there korus. Whilst these korus are virtual we encourage you to offer real life incentives to your students, to make the game even more engaging. We hope you enjoy this game. Note: Students must have python on their computer , [click here](https://www.python.org/downloads/) for a guide on how to download it.

Pārekareka ki te purei – Enjoy Playing

# Testing

***Brief Description of what you are testing***

*The two current input fields.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of test**  **(E, B, I)** | **Method to Test** | **Value(s) to enter** | **Expected result** | **Actual result (screen snip / time stamp)** | **Comments/ changes needed** |
| Unexpected | Question Answer input function | Hello | Ask the user to enter a valid input |  | The program gave an error. I need to change this by making sure to users can only enter an valid Integer (Added card to Kanban) |
| Unexpected | Question Answer input function | Hello | Ask the user to enter a valid input | Text  Description automatically generated | Worked as expected, added force number function to fix this error. |
| Expected | Question Answer input function | (Correct answer) | Tell me I got the answer correct | Graphical user interface, text, application  Description automatically generated | Worked as expected |
| Expected | Question Answer input function | (Wrong answer) | Tell me I got the answer correct | Graphical user interface, text  Description automatically generated | Worked as expected |
| Null | Question Answer input function | “” | Ask the user to enter a valid input | Graphical user interface, text, application  Description automatically generated | Worked as expected |
| Expected | Menu loop function | q | Quit the program |  | Worked as expected |
| Expected | Menu loop function | Q | Quit the program |  | It looped, I need to change it so it only checks for lower case |
| Expected | Menu loop function | Q | Quit the program |  | Fixed the previous error and logged it on kanban as a fixed bug. |
| Expected | Menu loop function | “” (press enter) | Ask another maths question |  | Worked as expected |

# Evaluation

*Sprint reflection and summary*

I am pleased with the progress I have made during sprint 1 of my development. I have followed the agile development process closely throughout this sprint. As outlined on [Adobe Workfront](https://www.workfront.com/project-management/methodologies/agile) I have decomposed and broken down the project. This meant breaking down the project into sprints and planning out my backlog which would be used during the sprint. As attached bellow I have used Trello as my chosen software to manage all my items in the backlog, and marked them with priorities. [Adobe Workfront](https://www.workfront.com/project-management/methodologies/agile) outlines doing daily stand up meetings which is short meetings where team members share what they have achieved on that day. For my project I have efficiently adapted this for a solo approach. This was shown through my development log, where I outline and reflect each day on the my progress. This is so I can decide and better understand what I need to achieve the following day. Throughout this first sprint I have adapted to new tasks that came up, as outlined in my dev log I oversighted certain tasks. I forgot that for my trials I would need a game description for both Students & Teachers, however in my backlog on Trello that was set out at the start of the project only a student description was included. As per agile development I effectively managed my time by re-ordering the priority of tasks and speeding up the earlier part of the project to allow for the correct amount of time for me to finish the rest of my backlog. This allowed me to finish as scheduled and with a high quality development.

*What major changes and achievements did you complete in this sprint?*

During this sprint I have achieved the basic code structure and base code of the maths quiz program. Currently the program is able to generate random maths addition questions to the user and ask the user for the appropriate answer. It can display real-time feedback to the user with correct or incorrect print statements. I have also achieved making the code robust through the use of a testing table. During this testing I found some unexpected bugs, however worked through this using the agile development process and my Kanban board (By adding the tasks to the board as the cropped up and actioning them appropriately when time arose). I also managed to write out 3 student game descriptions and 3 teacher game descriptions. I then took feedback from stakeholders and refined the best version to come out with a polished student and teacher game description. These will go in the README.md file. All of this has laid the correct foundations for further development of my program during later sprints and iterations of the code. The final version of the code for sprint 1 is called math\_quiz\_5.py in GitHub and marks a working maths quiz and version 5.0.0 of the software.

*What are you going to do in your next iteration?*

There are some changes I am going to make to my agile development process in my next sprint of the development. Initially I put dates on my Kanban board to help keep my daily progress on target for the end of the sprint. However throughout the development I was changing many tasks, moving them and adding new tasks as they cropped up, as per the agile development process. As a result this caused the dates to actually make the Kanban board process more confusing. With priority dates on the board as well it was sort of a double up of the same information. To correct this in sprint 2, I am going to only use priority colours and no longer have dates on the board. This is further supported by research I did on the matter around [agile development using Kanban boards](https://www.digite.com/blog/due-dates-in-kanban-systems/). The suggest that dates on Kanban boards compromise the quality and makes it more technical. During my next sprint I am going to continue with the main development of the code. This means finishing the game by adding a points system, a coin flip and finishing up the code. I am going to test what the best way of implementing this is by trialling multiple point systems and coins flips and gaining feedback from users to produce a final product that end-users will be happy with.

*Provide evidence (screenshot / photo) of your project management tool(s) being used to manage the development of your outcome at the end of your sprint here*

* I have used Trello as my project management tool of choice, as outlined earlier I am going to be removing dates in further sprints. Blue tags mean high priority, green means Medium priority and purple means low priority. The current to do list was in low priority as they weren’t being coded during sprint 1, however this will change in the next sprint. I added many cards during the development compared to the start of the sprint, and these can all be found in the done column.

*Graphical user interface, application

Description automatically generated*

*Provide evidence (screenshot) of your version control*

* I have used GitHub as my chosen tool for project management, at the end of each change to the code I upload the file with a new version and name to reflect the changes via a commit. This allows me to reverse any changes I may not be happy with and find errors that may appear that weren’t there in the previous versions.

Table

Description automatically generated with medium confidence

Sprint Tracking

|  |  |  |
| --- | --- | --- |
| **Sprint Number** | **Start Date** | **End Date** |
| 2 | 28/8/2021 | 11/8/2021 |

* ***using recognised and appropriate project management tools and techniques to plan the development of a digital technologies outcome***

# Planning

*What are you going to work on in this sprint?*

During this sprint I am going to work on the following that is outlined on my Kanban board below. I am going to add the point system and the coin flip. These are highly fundamental to my final project

*Provide evidence (screenshot / photo) of your project management tool(s) being used to plan the development of your outcome at the beginning of your sprint here*

Graphical user interface, application

Description automatically generated

# Development

*What components are you going to trial?*

*Provide evidence of the options you are going to trial.*

## Feedback

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| --- | --- | --- | --- |
| **Component** |  | | |
| **Name** |  | **Date** |  |
| **Feedback** |  | | |

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| **Component** |  | | |
| **Name** |  | **Date** |  |
| **Feedback** |  | | |

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| **Component** |  | | |
| **Name** |  | **Date** |  |
| **Feedback** |  | | |

*What is the outcome of this feedback?*

# Testing

***Brief Description of what you are testing***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of test**  **(E, B, I)** | **Method to Test** | **Value(s) to enter** | **Expected result** | **Actual result (screen snip / time stamp)** | **Comments/ changes needed** |
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# Evaluation

*Sprint reflection and summary*

*What major changes and achievements did you complete in this sprint?*

*What are you going to do in your next iteration?*

*Provide evidence (screenshot / photo) of your project management tool(s) being used to manage the development of your outcome at the end of your sprint here*

*Provide evidence (screenshot) of your version control*

Sprint Tracking

|  |  |  |
| --- | --- | --- |
| **Sprint Number** | **Start Date** | **End Date** |
|  |  |  |

* ***using recognised and appropriate project management tools and techniques to plan the development of a digital technologies outcome***

# Planning

*What are you going to work on in this sprint?*

*Provide evidence (screenshot / photo) of your project management tool(s) being used to plan the development of your outcome at the beginning of your sprint here*

# Development

*What components are you going to trial?*

*Provide evidence of the options you are going to trial.*

## Feedback

|  |  |  |  |
| --- | --- | --- | --- |
| **Component** |  | | |
| **Name** |  | **Date** |  |
| **Feedback** |  | | |

|  |  |  |  |
| --- | --- | --- | --- |
| **Component** |  | | |
| **Name** |  | **Date** |  |
| **Feedback** |  | | |

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| --- | --- | --- | --- |
| **Component** |  | | |
| **Name** |  | **Date** |  |
| **Feedback** |  | | |

*What is the outcome of this feedback?*

# Testing

***Brief Description of what you are testing***

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Type of test**  **(E, B, I)** | **Method to Test** | **Value(s) to enter** | **Expected result** | **Actual result (screen snip / time stamp)** | **Comments/ changes needed** |
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# Evaluation

*Sprint reflection and summary*

*What major changes and achievements did you complete in this sprint?*

*What are you going to do in your next iteration?*

*Provide evidence (screenshot / photo) of your project management tool(s) being used to manage the development of your outcome at the end of your sprint here*

*Provide evidence (screenshot) of your version control*

Project Summary

* ***addressing relevant implications.***

*How did you address the relevant implications in the development of this outcome?*

* ***discussing how the information from planning, testing and trialling of components assisted in the development of a high-quality outcome.***

*How did the process help to shape the development of your outcome? Provide evidence.*