If any information is missing look for it in once of there places as it will have been logged there somewhere (try using a keyword search with in my Repo)
https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/
https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues?page=1&q=
Or check for issue with labels of 3.7 or 3.8

Or if you dont know how to use github i have added all to a google doc (the maybe the odd formatting issue)
https://docs.google.com/document/d/18i7r6FDUm2NnaW7tX2osDDcfcMaJmfYflJPwUAAQ3Jc/edit#

Project overview
https://youtu.be/X6soR0ZIsdU

Implications
https://youtu.be/VuXKZyuU8Dc

Evidence Gathering Internal Achievement Standard Assessment Template			
Learner Name			
NSN			
Subject	Digital Technologies - DTHM	Level	3
Standard No.	91906	Version	1
Standard Title	3.7 Use complex programming techniques to develop a computer program		

PROGRAMMING (6 CREDITS)		
Achieved	**Merit**	**Excellence**
Use complex programming techniques to develop a computer program	Use complex programming techniques to develop an informed computer program	Use complex programming techniques to develop a refined computer program

Key requirements: (list)	A	M	E

The student: ● **wrote code for a program that performs a specified task** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/master/README.md** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/tree/master/CODE**			

- **used complex techniques in a suitable programming language**

- **programming or writing code for a graphical user interface (GUI)**

  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/23
  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/21

  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/tree/master/CODE/Release/WebServer

- **reading from, or writing to, files or other persistent storage**
  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/21#issuecomment-697139833

  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/21#issuecomment-697219666

  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/dcd891941f50d60008e7fb5fa4e514a2ba644cf8/CODE/Release/WebServer/assets/Control.php#L62

  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/dcd891941f50d60008e7fb5fa4e514a2ba644cf8/CODE/Release/ROMS/ROMS.ino#L107

  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/dcd891941f50d60008e7fb5fa4e514a2ba644cf8/CODE/Release/WebServer/upload.php#L36

  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/master/CODE/Release/ROMS/Smooth.h

  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/2d515e2c6fcd235fcc65047cec1b4944fb760cea/CODE/Release/WebServer/hid.php#L16

- **object-oriented programming using class(es) and objects defined by the student**
  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/12

- **using types defined by the student**

  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/dcd891941f50d60008e7fb5fa4e514a2ba644cf8/CODE/Release/RPI/RPI.cpp#L51

  https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/dcd891941f50d60008e7fb5fa4e514a2ba644cf8/CODE/Release/ROMS/ROMS.ino#L46

- **using third party or non-core API, library or framework**

https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/17#issuecomment-670987400

https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/30

- **using complex data structures (e.g. stacks, queues, trees).** https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/17#issuecomment-675432497 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/17#issuecomment-683217215 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/dcd891941f50d60008e7fb5fa4e514a2ba644cf8/CODE/Release/ROMS/ROMS.ino#L701			
• **set out the program code clearly and documenting the program with comments** https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/tree/master/CODE/Release			
• **tested and debugged the program to ensure that it works on a sample of expected cases.** https://youtu.be/lkk4JO5-xGo https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/master/CODE/Release/RPI/RPI.cpp **not mention in the video but also another valid example** https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/master/CODE/Release/WebServer/upload.php			
• **documented the program with appropriate variable/module names and organised comments that describe code function and behaviour** https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues?q=label%3A3.7 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/tree/master/CODE/Release			
• **followed conventions for the chosen programming language** http://www.cplusplus.com/forum/beginner/142576/ - To start i used industry standard widely accepted build tool(Compiler). In this case i used Autotool (g++) - As for error checking this is done by g++ also - Due to C++ static nature it is best to define arrays at the the code. - Followed Multiple-word identifier formats			

• **tested and debugged the program in an organised way to ensure that it works on a sample of both expected cases and relevant boundary cases.** https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/29#issuecomment-690181516 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/12#issuecomment-663498882 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/17#issuecomment-683281917 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/17#issuecomment-683704989 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/12#issuecomment-662942547 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/17#issuecomment-681179813 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/22#issuecomment-696541203 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/12#issuecomment-649840709 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/17#issuecomment-674493328 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/14#issuecomment-649520131			
• **ensured that the program is a well-structured, logical response to the task** https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/master/CODE/Release/RPI/RPI.cpp https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/master/CODE/Release/ROMS/ROMS.ino			
• **made the program flexible and robust** https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/master/CODE/Release/WebServer/upload.php			

https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/dcd891941f50d60008e7fb5fa4e514a2ba644cf8/CODE/Release/RPI/RPI.cpp#L210 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/dcd891941f50d60008e7fb5fa4e514a2ba644cf8/CODE/Release/ROMS/ROMS.ino#L298 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/blob/dcd891941f50d60008e7fb5fa4e514a2ba644cf8/CODE/Release/ROMS/ROMS.ino#L159 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/29#issuecomment-690181516 https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/17#issuecomment-683247612				
• **comprehensively tested and debugged the program.** https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues?q=label%3A3.7+				

Sufficiency statement:					
Achievement	All of A must be ticked				
Merit	All of A and M must be ticked				
Excellence	All of A and M and E must be ticked				
CIRCLE OVERALL GRADE		N	A	M	E

Evidence Gathering Internal Achievement Standard Assessment Template			
Learner Name			
NSN			
Subject	Digital Technologies - DTHM	Level	3

Standard No.	91907	Version	1
Standard Title	3.8 Use complex processes to develop a digital technologies outcome		

DIGITAL OUTCOME PROCESS (6 CREDITS)		
Achieved	**Merit**	**Excellence**
Use complex processes to develop a digital technologies outcome	Use complex processes to develop an informed digital technologies outcome	Use complex processes to develop a refined digital technologies outcome

Key requirements: (list)	A	M	E
The student: ● **used recognised and appropriate project management tools and techniques to plan the development of a digital technologies outcome** - Agile-based planning methodology with a kanban board https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/projects/1 https://docs.google.com/document/d/18i7r6FDUm2NnaW7tX2osDDcfcMaJmfYflJPwUAAQ3Jc/edit#bookmark=id.43g9tbdb4gd2 - version control software (git) - managing assets (used logical folder structure) - collaboration tools (its open Source there for anyone to come is free to collaboration, add, remove, change)			
● **decomposed the digital technologies outcome into smaller components** **every part has been decomposed into smaller components** **Then each of these then was a given a user story to outline that aim of each components** **To view the components check this link.** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues?q=**			

• **trialled components of the outcome** **Again see https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues?q=** **Also a project board was used within github to help added the planning / development of the project** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/projects/1?fullscreen=true** **Everything is backup on my open source repository**			
• **tested that the digital technologies outcome functions as intended** **Project overview** **https://youtu.be/X6soR0ZIsd** **(it did end up working as intended)**			
• **addressed relevant implications.** **Implications** **https://youtu.be/VuXKZyuU8Dc**			
• **effectively used project management tools and techniques to manage development, feedback and/or collaborative processes**			
• **effectively trialled multiple components and/or techniques** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/14** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/16** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/17**			
• **effectively used information from testing and trialling to improve the functionality of the digital technologies outcome.** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/21** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/24** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/25** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/commits/master** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/6** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/5** **https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/issues/17**			

They should cover what is being looked for if not check other issues			
• **synthesised information gained from the planning, testing and trialling of components** **As seen throughout the github issue the using of agile tech techniques allowed for** **- allow the project to be broken down into smaller components with each of these components having a user story capturing the aim of the components and what parts they are valuing most.** **- Kanban board shows where what components(user stories) and what stage of development they were on.**			
• **discussed how this information led to the development of a high-quality digital technologies outcome.** https://github.com/OLLYDOTDEV/Project-Birdseye-DTX-2020/projects/1?fullscreen=true Then open the menu to see history otherwise do all that information that's needed to tick this box it already been covered in the other boxes Also look at all issues to see reflexion and self improvement to allow the quality to be increased			

Sufficiency statement:				
Achievement	All of A must be ticked			
Merit	All of A and M must be ticked			
Excellence	All of A and M and E must be ticked			
CIRCLE OVERALL GRADE	N	A	M	E

Exemplar model answers 3.7-3.8:

Assessment schedule: Digital Technologies | Hangarau Matihiko 91906 (3.7) - Develop for Purpose

Evidence for Achievement	**Evidence for Achievement with Merit**	**Evidence for Achievement with Excellence**
Use complex programming techniques to develop a computer	Use complex programming techniques to develop an informed computer	Use complex programming techniques to develop a

program. The student has: ● written code for a program that performs a specified task ● used complex techniques in a suitable programming language **For example (partial evidence):** The student's program allows users to enter typical data and outputs on expected cases. Program has a graphical user interface and custom classes (e.g. one class might 'hold' the interface and a second class might include help text). ● set out the program code clearly and documented the program with comments **For example (partial evidence):** Layout is clear, and whitespace has been effectively used. Student has included comments stating what the code does. ● tested and debugged the program to ensure that it works on a sample set of expected cases **For example (partial evidence):** Student has provided evidence of testing their program. The testing might be missing some of the expected detail. It might miss some testing showing that the program works for unexpected/invalid values. *The examples above are indicative samples only*	program. The student has: ● documented the program with variable/module names and organised comments that describe code function and behaviour ● followed conventions for the chosen programming language **For example (partial evidence):** If the student has used Python, class names are in CapWords, variable and function names are lowercase, and classes appear before the main routine. Code has clear commenting throughout that describes function and behaviour. The student has used an automated tool to check that their code follows conventions. ● comprehensively tested and debugged the program in an organised way to ensure that it works on a sample of both expected and relevant boundary cases **For example (partial evidence):** Student provides evidence of systematically testing their final outcome to confirm that it works for expected, and relevant boundary values. *The examples above are indicative samples only*	refined computer program. The student has: ● ensured that the program is a well-structured, logical response to the task **For example (partial evidence):** Program code is easy to read/understand and has been set up in a logical fashion. Functions and classes have been used to keep distinct tasks separate, and to avoid duplicate code. The program explicitly passes data between classes and functions and avoids the use of global variables. Where the program uses a GUI, the GUI and the underlying code are kept separate, and communicate via a well-defined interface. ● made the program flexible and robust ● comprehensively tested and debugged the program **For example (partial evidence):** Student provides evidence of comprehensively testing their program to show that it works correctly for expected, unexpected and boundary values. It has been structured so that making changes to it is easy. For example, the code uses named constants, clearly defined in a 'constants' area. The code uses derived values, such as the length of a list, in place of literals. *The examples above are indicative samples only*

Final grades will be decided using professional judgement based on a holistic examination of

the evidence provided against the criteria in the achievement standard

Assessment schedule: Digital Technologies | Hangarau Matihiko 91907 (3.8) - Develop for Purpose

Evidence for Achievement	Evidence for Achievement with Merit	Evidence for Achievement with Excellence
Use complex processes to develop a digital technologies outcome. The student has: · used recognised and appropriate project management tools and techniques to plan and manage the development of a digital technologies outcome · decomposed the digital technologies outcome into smaller components · trialled components of the outcome **For example (partial evidence):** The student has used appropriate project management tools and techniques, such as Agile with a Trello or Kanban board, to plan and manage the development of their outcome. The outcome has been broken down into smaller components and these have been trialled and tested. The components have then been combined into a working outcome. · tested that the digital technologies outcome functions as intended **For example (partial evidence):** The student has provided evidence of testing the outcome to ensure that it functions as intended: The testing might be missing some of the desired detail and the program might not work as intended for unexpected data, but works for intended input.	Use complex processes to develop an informed digital technologies outcome. The student has: · effectively used project management tools and techniques to manage development, feedback and/or collaborative processes **For example (partial evidence):** The student provides evidence of versioning the outcome where new versions either have improved functionality or added features. The student provides evidence of sharing documents/data and managing feedback. For example, they used Google Team Drive to share design ideas and to seek feedback. The student provides evidence of how they managed their work flow. This could include screen captures of a Trello board or any other valid planning tool. The student has managed their versions effectively through the use of structured file and folder naming conventions and back-ups. · effectively trialled multiple components and/or techniques **For example (partial evidence):** They have trialled several ways of presenting the selection of program choices via the GUI (multiple components) and selected the one that had the best usability and prevented the user from entering incorrect data. Evidence can be seen in their project	Use complex processes to develop a refined digital technologies outcome. The student has: · synthesised information from the planning, testing and trialling of components **For example (partial evidence):** The student outcome is of high quality as a result of student effectively using project management tools and techniques, to efficiently manage the trialling, testing and refinement process. They have incorporated user suggestions and feedback to improve the usability, aesthetics, and functionality of the outcome. The student has: · discussed how the information led to the development of a high-quality digital technologies outcome **For example (partial evidence):** The student has reflected on their use of processes to develop their outcome and provided evidence of how the process helped them to effectively test and trial various components to refine and enhance the design and functionality their outcome

· addressed relevant implications **For example (partial evidence):** The student outcome is easy to use, fully functional, aesthetically pleasing and honours copyright legal obligations. *The examples above are indicative samples only*	management tool(s) and/or logs that includes annotations of the component(s) and/or techniques trialled with annotations regarding the outcome or next steps. · effectively used information from testing and trialling to improve the functionality of the digital technologies outcome **For example (partial evidence):** The student provides evidence of testing and trialling during development and they have indicated how they improved their outcome using this approach. Evidence can be seen in their project management tools and/or logs that includes annotations of changes made to improve the functionality. *The examples above are indicative samples only*	*The examples above are indicative samples only*

Final grades will be decided using professional judgement based on a holistic examination of the evidence provided against the criteria in the achievement standard