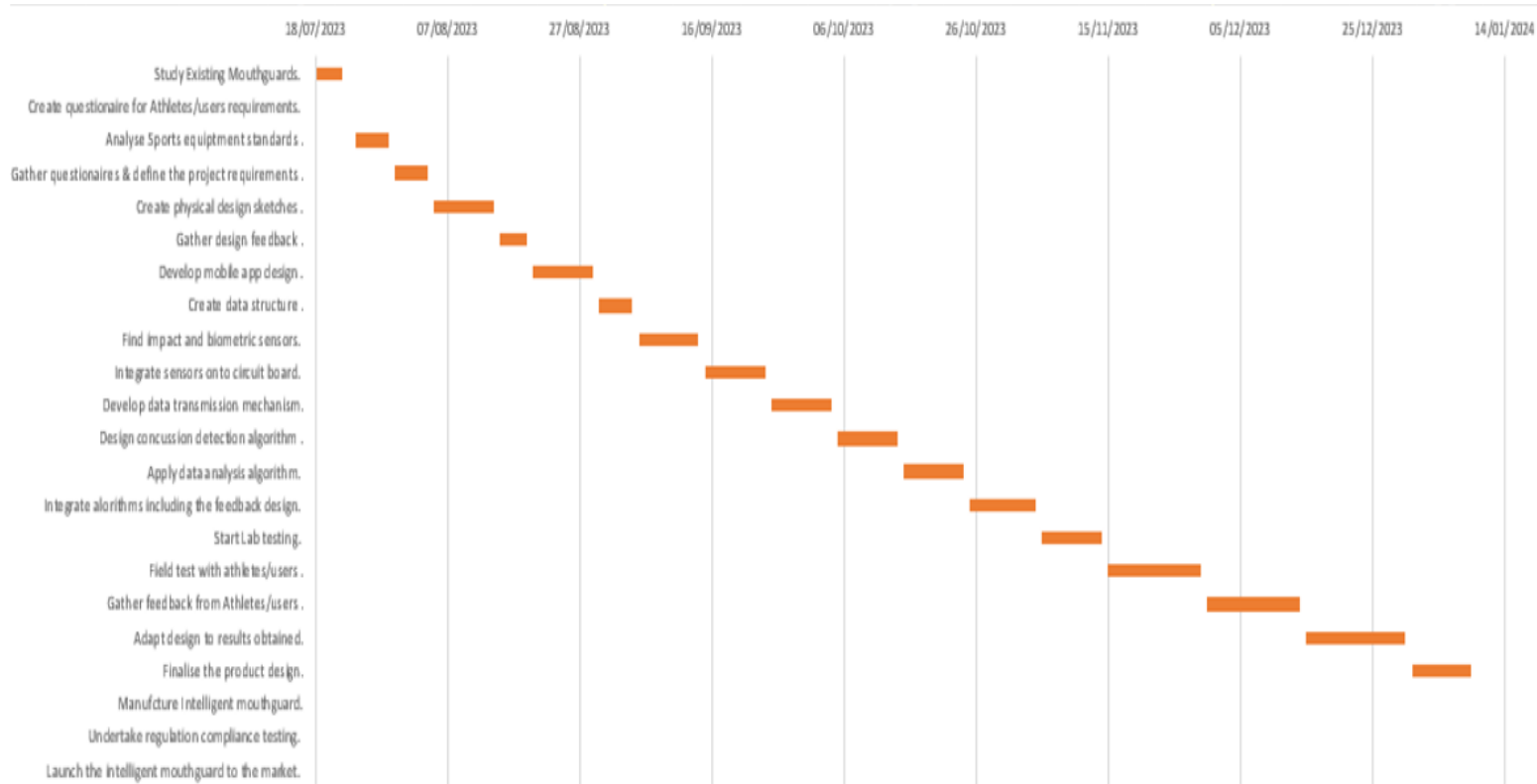


Innovation 2
By Jay William Popham

Changemakers
Level 5
Gareth Jones
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18/07/2023

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Gantt chart and excel spreadsheet



Phase Number & Description	Task Name	Start Date	End Date	Duration
1 - Gathering requirements	Study Existing Mouthguards.	18/07/2023	22/07/2023	4
1 - Gathering requirements	Create questionnaire for Athletes/users requirements.	23/07/2023	23/07/2023	0
1 - Gathering requirements	Analyse Sports equipment standards .	24/07/2023	29/07/2023	5
1 - Gathering requirements	Gather questionnaires & define the project requirements .	30/07/2023	04/08/2023	5
2 - Design & Prototyping	Create physical design sketches .	05/08/2023	14/08/2023	9
2 - Design & Prototyping	Gather design feedback .	15/08/2023	19/08/2023	4
2 - Design & Prototyping	Develop mobile app design .	20/08/2023	29/08/2023	9
2 - Design & Prototyping	Create data structure .	30/08/2023	04/09/2023	5
3- Sensor Integration	Find impact and biometric sensors.	05/09/2023	14/09/2023	9
3- Sensor Integration	Integrate sensors onto circuit board.	15/09/2023	24/09/2023	9
3- Sensor Integration	Develop data transmission mechanism.	25/09/2023	04/10/2023	9
4- Delevoping the Algorithms	Design concussion detection algorithm .	05/10/2023	14/10/2023	9
4- Delevoping the Algorithms	Apply data analysis algorithm.	15/10/2023	24/10/2023	9
4- Delevoping the Algorithms	Integrate alorithms including the feedback design.	25/10/2023	04/11/2023	10
5- Testing & Refining	Start Lab testing.	05/11/2023	14/11/2023	9
5- Testing & Refining	Field test with athletes/users .	15/11/2023	29/11/2023	14
5- Testing & Refining	Gather feedback from Athletes/users .	30/11/2023	14/12/2023	14
5- Testing & Refining	Adapt design to results obtained.	15/12/2023	30/12/2023	15
6- Finalisation of product & launch	Finalise the product design.	31/12/2023	09/01/2023	9
6- Finalisation of product & launch	Manufacture Intelligent mouthguard.	10/01/2023	30/01/2023	20
6- Finalisation of product & launch	Undertake regulation compliance testing.	31/01/2023	14/02/2023	14
6- Finalisation of product & launch	Launch the intelligent mouthguard to the market.	15/02/2023	28/02/2023	13

Poster for intelligent mouthguard



Intelligent Mouthguard

Innovation Project



PURPOSE

Head injuries in contact sports are a significant concern, and efforts to improve safety through better equipment, rules, and concussion management protocols continue to be a focus in the sporting community. This is the reason why we are focusing on trying to mitigate the effects of head injuries on athletes and sport enthusiasts by designing an intelligent mouthguard.

PROJECT OBJECTIVES

Develop an intelligent mouthguard that enhances athlete safety and performance during sports activities.
Incorporate advanced sensors to monitor impact forces, head movements, and physiological parameters in real-time.
Create a user-friendly interface for athletes and coaches to access and analyse the collected data.
Design the mouthguard to be comfortable, durable, and easy to maintain.
Ensure the mouthguard meets safety standards and regulations for sports equipment.

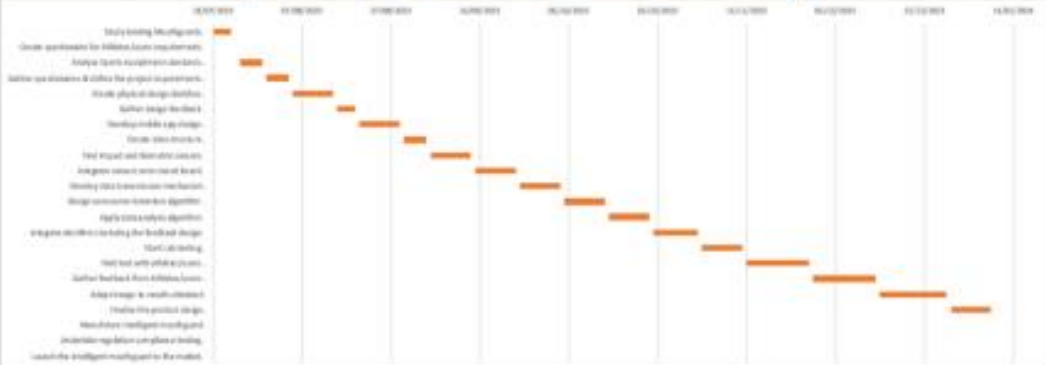
SCOPE

The project will focus on designing and prototyping an intelligent mouthguard for use in contact sports, such as football, rugby, hockey, and martial arts. The scope includes the development of hardware, software, and user interface components to achieve the project objectives. The mouthguard will be compatible with common communication technologies for data transmission.

Technologies

High-precision impact sensors
Additional biometric sensors
Wireless Connectivity
Concussion Detection Algorithm
Real-time Feedback Mechanism
Data Analysis Platform
Comfortable Design
Durability and Safety

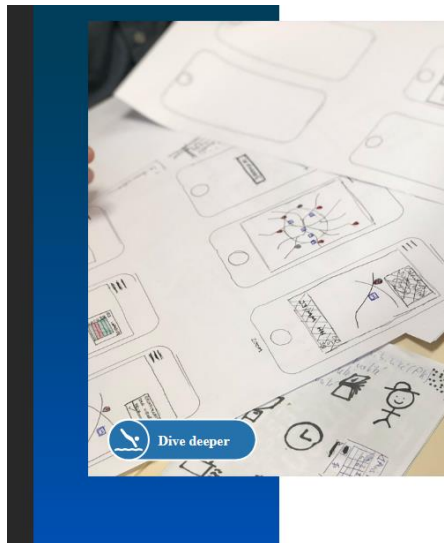
Project Timeline



Jay Popham

2026771

Section 1



✓ You have completed Section 1!

You should now be able to imply a numerical precision to arguments in a casual way that brings a lack of precision to our work.

[Back](#)[Continue >](#)

Section 2

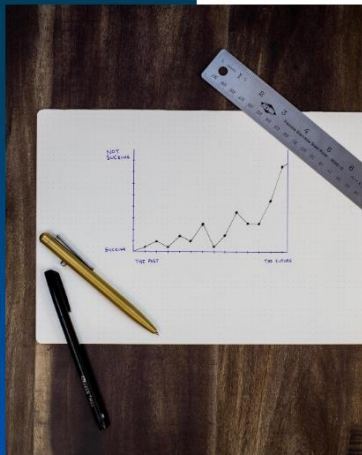


✓ You have completed Section 2!

You should be able to analyse data using different examples of graphs and charts and present data using a variety of methods.

[Back](#)[Continue >](#)

Section 3



✓ You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to statistical analysis.

You should now have a deeper understanding of creating charts that communicate in the best way possible.

[Back](#)[Continue >](#)

Unit 4 Topic 1 complete

✓ Unit 4 Topic 1 completed!

You should now:

- Be able to imply a numerical precision to arguments in a casual way that brings a lack of precision to our work.
- Be able to analyse data using different examples of graphs and charts and present data using a variety of methods.
- Have a deeper understanding of creating charts that communicate in the best way possible.

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Here are listed the references that are used in this topic.

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Unit 2

Section 1



✓ You have completed Section 1!

You should now have gained the knowledge of how to organise qualitative data ready for analysis.

[Back](#)[Continue >](#)

Section 2



✓ You have completed Section 2!

You should now be able to figure out the techniques to identify patterns and themes in your data.

[Back](#)[Continue >](#)

Section 3

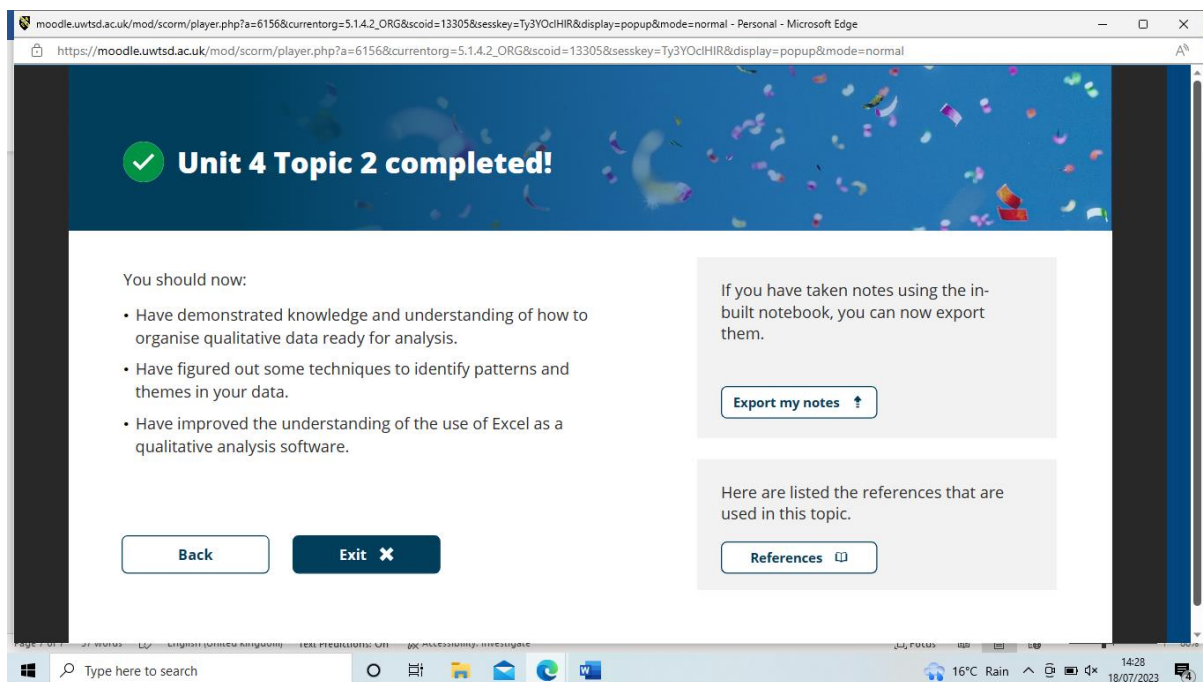


✓ You have completed Section 3!

You should now have demonstrated an understanding of the use of Excel as a qualitative analysis software.

[Back](#)[Continue >](#)

Unit 4 Topic 2 Complete



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https://moodle.uwtsd.ac.uk/mod/scorm/player.php?a=6156&currentorg=5.1.4.2_ORG&scoid=13305&sesskey=Ty3Y0clHIR&display=popup&mode=normal

✓ Unit 4 Topic 2 completed!

You should now:

- Have demonstrated knowledge and understanding of how to organise qualitative data ready for analysis.
- Have figured out some techniques to identify patterns and themes in your data.
- Have improved the understanding of the use of Excel as a qualitative analysis software.

[Back](#) [Exit ✕](#)

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Page 1 of 1 | 31 words | 17 | English (United Kingdom) | Text (read-only) | 100% | 18/07/2023 | 14:28

Unit 4 Topic 3

Section 1



✔ You have completed Section 1!

Upon completion of this section, you should recognise failure is a mechanism for learning.

[Back](#)[Continue >](#)

Section 2



✔ You have completed Section 2!

Upon completion of this section, you should be able to identify the link between success and wellbeing, often distilled into the popular saying of 'winning at life'.

[Back](#)[Continue >](#)

Section 3



✓ You have completed Section 3!

Now you have completed this resource, it is important that you take some time to reflect on what you have learnt in relation to organising and analysing qualitative data.

You should now be able to understand the concept of success from different perspectives.

[Back](#)[Continue >](#)

Unit 4 Topic 3 Complete

✓ Unit 4 Topic 3 completed!

You should now:

- Recognise that failure is a mechanism for learning.
- Identify the link between success and wellbeing.
- Recognise the concept of success from different perspectives.

[Back](#)[Exit ✕](#)

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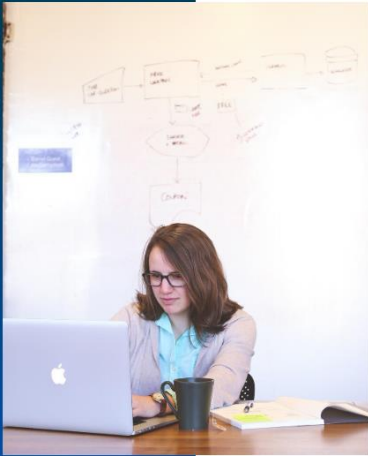
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Unit 4 Topic 4

Section 1



✓ You have completed Section 1!

You should now have recognised some techniques that you can use to improve your learning.

[Back](#)[Continue >](#)

Section 2



✓ You have completed Section 2!

You should now have identified the things in your project that you care about which are important enough to showcase to others.

[Back](#)[Continue >](#)

Section 3



✓ You have completed Section 3!

You should now have acquired some skills that you can apply to create a poster illustrating your research.

[Back](#)[Continue >](#)

Unit 4 Topic 4 Complete

✓ Unit 4 Topic 4 completed!

You should now:

- Have recognised some techniques that you can use to improve your learning.
- Have identified the things in your project that you care about which are important enough to showcase to others.
- Have acquired some skills that you can apply to create a poster illustrating your research.

[Back](#)[Exit ✕](#)

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