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15 August 2025 17:58

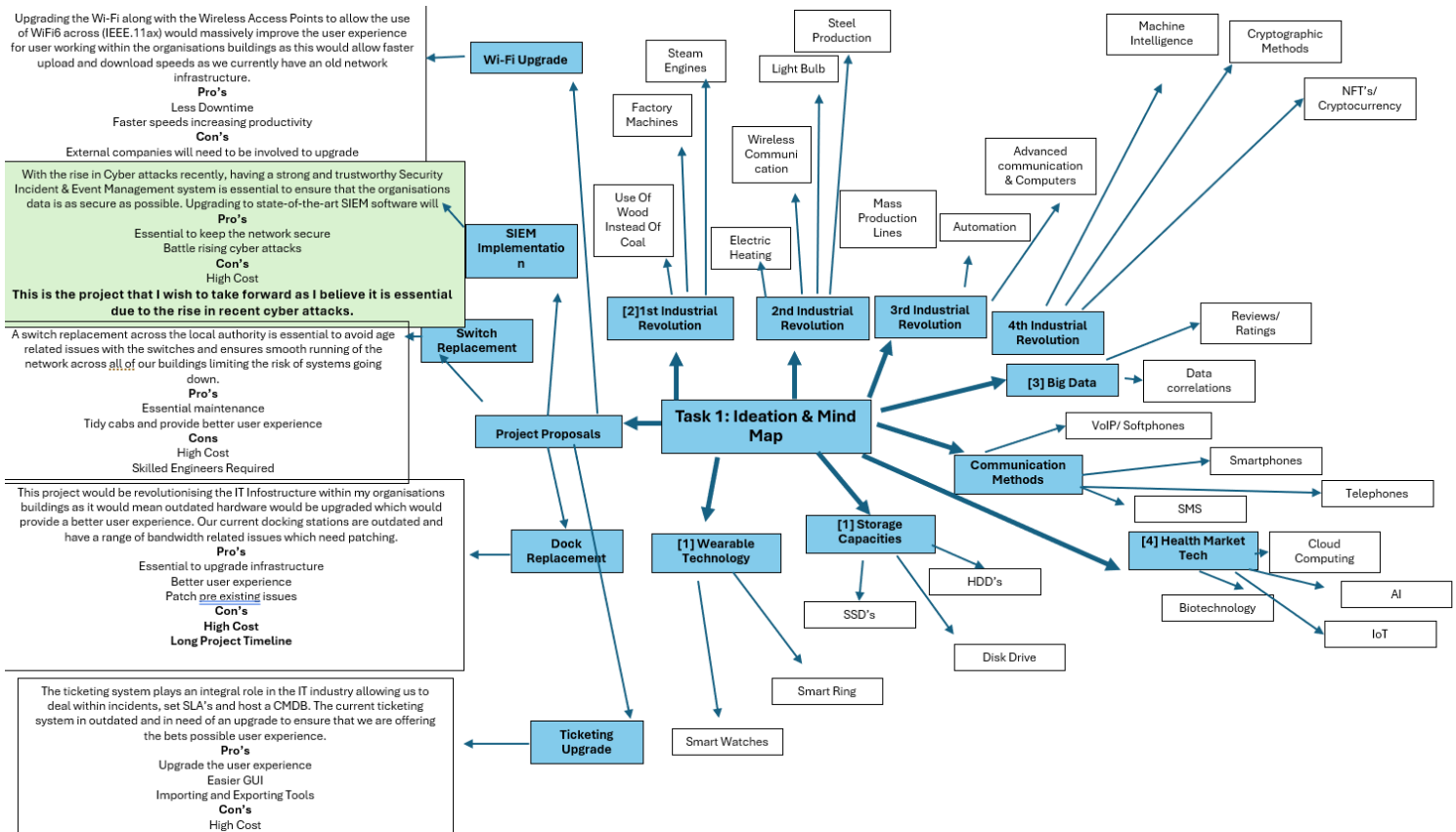
Project Proposal
Assignment 1
Changemakers: Creativity and Value Creation
Computer Networks & Cyber Security

Task 1 - Question 1

21 May 2025 16:59

Below you can see the mind map that I have created demonstrating the new and old technology throughout different stages of industrial revolutions as well as some of the project proposals which I would like to take forward along with the pro's and con's that could be for the organisation that I work for each project proposal.

[1] [2] [3] [4]

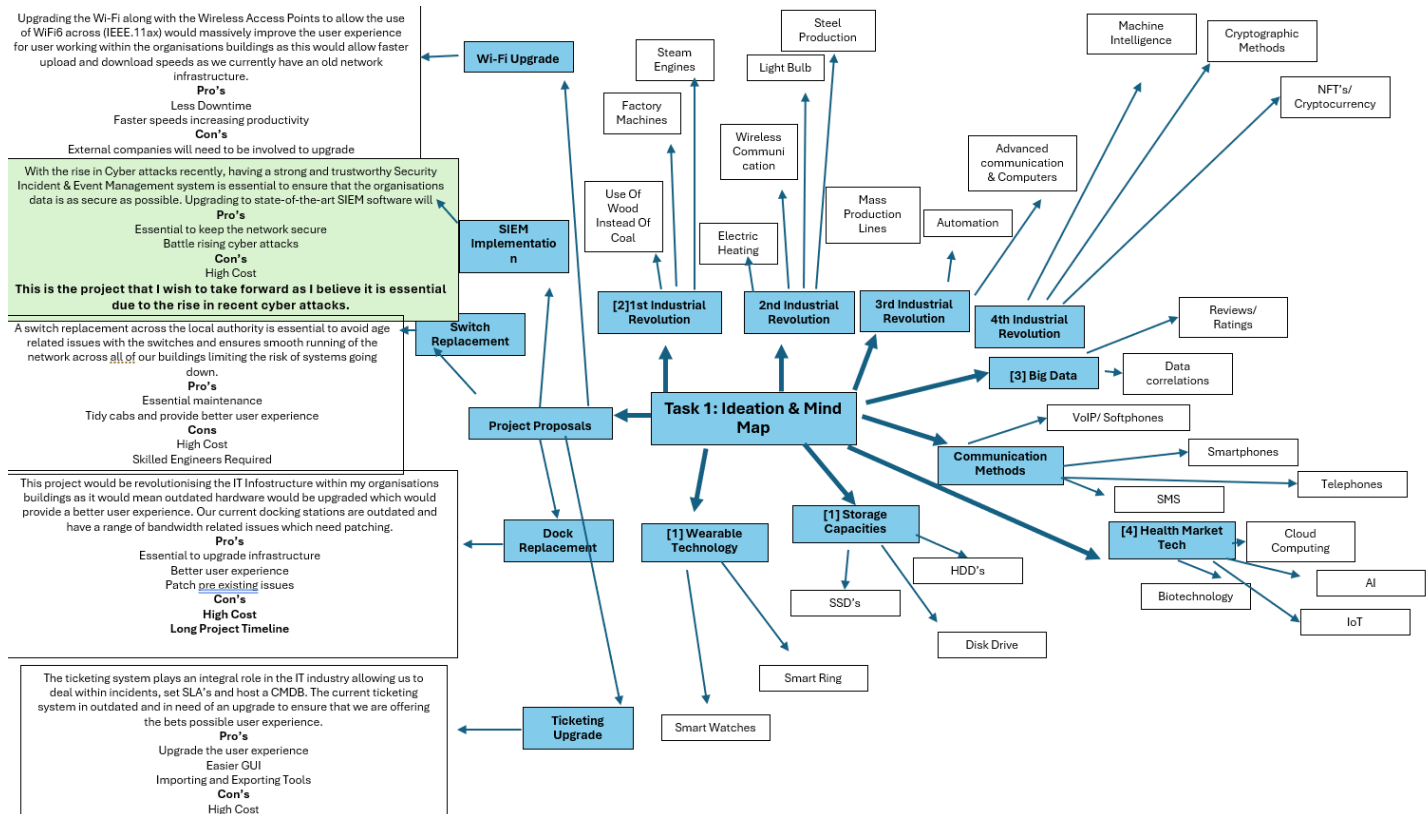


Task 1 - Question 2

21 May 2025 16:59

In the below, you can see that I have selected out of the proposals that I have made which project I would like to take action and implement. As you can see from the below, I have chosen the implementation of SIEM as I believe out of all the proposals, this is the one with the greatest benefit to my organisation and is most important due to it combating potential cyber threats.

[1] [2] [3] [4]



Task 2 - Question 1

21 May 2025 17:02

Project Name: Implementation Of Security Information Event Management

Question 1: Create and document a single Aim and several Objectives for your project.

Aim:

Recently there has been an increase in the number of Cyber Attacks that have been taken place against both the public and private sector. One of the best ways to prevent and combat these attacks is by implementing a SIEM which will detect, monitor, log about the incident and suggest steps in order to combat the event.

Objectives:

Replace the current SIEM which is out dated and doesn't link with all of our systems and applications which means there are vulnerabilities, and it doesn't give us complete piece of mind.

Find a SIEM which is able to cope with high levels of activity and attack attempts for a price that would fit into the local authority's tight budget.

Have a SIEM that can integrate all of the organisations systems and applications to ensure there are no gaps in security.

Ensure minimal downtime for end users by coordinating implementation during off-peak hours and providing clear communication with management.

Test the configuration that has been created to ensure it is fully secure and feeds all logs into a SQL database for auditing purposes

Document the implementation project, for future reference if any other engineers have to carry out any work or if a future re-configuration has to take place.

Gather user feedback during testing phases and when conducting the rollout. Ensure end user satisfaction and identify any issues or improvements that could go ahead.

Ensure the incident response methods are correct depending on the attack that has taken place.

Ensure that the policies and procedures of the IT department and organisation are followed as well as industry standards such as ISO27001

Task 2 - Question 2

21 May 2025 17:08

Question 2 - Identify an appropriate research philosophy for your project.

There are three forms of philosophy called Ontology, Epistemology and Axiology.

[5] Firstly, Ontology is a Greek word that means 'the study of being'. Ontology is split into two, objective and subject Ontology. Objective ontologists see the system as a fixed and separate entity from the people that are delivering or receiving it. On the other hand, subjective ontologists see the system as dynamic and evolving because of the people that are delivering or receiving it. They believe that there is no definitive answer to the question.

Secondly, we have Epistemology. This is a Greek word that translates to study of knowledge. It's objective is to understand how we think about reality. There are three forms of Epistemology. Firstly we have foundationalism. Foundationalism researchers take scientific perspectives as an observer. Once they have done this, they will then build arguments using quantitative analysis. The second form of Epistemology. This is where researchers take a qualitative approach and often look deeper into some research by conducting interviews to discover the reality from the source. The final form of Epistemology is called Pragmatism. A pragmatist believes that whatever works is fit for the purpose of describing reality. They believe that an argument can be true and false at the same time depending on what has been said and the source it comes from.

Finally we have Axiology. This is a philosophy where the researcher is trying to find what is valuable and why something is said to be valuable. There are two forms of Axiology, Ethics and Aesthetics. Ethics is when we research the moral principles and dilemmas associated with life. The study of aesthetics reveal several different approaches depending upon the discipline such as Science, Art and Social Science.

In my opinion, I believe that Epistemology (pragmatism) would be the best research philosophy for my project as it will allow me to use qualitative analysis and allows me to look at what exactly the data I am looking at means. [7] Using Epistemology, it I can question all outcomes in order to come with a definitive answer which is perfect to look further into data especially for my project that has so many phases and tasks.

Task 2 - Question 3

21 May 2025 17:08

Question 3 - Select and document appropriate search tools including some specific research databases to identify research related to your project area and use search strategies to identify relevant research related to your project.

Research Databases

The definition of a database is a digital resource of information. Essentially, a database is a library of information which can range from books, articles, company or personal information. Databases such as ERIC and Google Scholar have a range of research and information that are available for free.

In order to evaluate the information which has been researched, the CRAAP test can be used. Within the CRAAP test it looks at the following.

Currency – Is the information up to date with the latest advances on the topic and when was the material released.

Relevance – Is it related to the topic that is being researched.

Authority – Who wrote the article, are they neutral with the information that is being provided and has it been sponsored by anyone who could be one sided with the information they are providing.

Accuracy – Does this information seems true and realistic. Have there been approved organisations or experts in the field which is being researched who have backed up the information that is being provided.

Purpose – Why was this article written? Was it supposed to be used to provide genuine information, misinformation or for commercial purposes.

An useful way to find out if the article that is being researched has information that can be used is by looking for key words within the text and then extracting the useful information which has been shown.

A concept map is a great way to plan out steps, aims and objectives for a project. The benefit of using a concept map rather than a mind map is that it has more structure and shows how an idea or project can develop.

This is a perfect search tool to be used for the implementation of SIEM because of the way that I can plan out the project in the various steps that need to be followed.

Task 3 - Question 1

21 May 2025 17:09

Question 1: Consider and document strategies to enhance validity, reliability, generalisability and ethical considerations.

[6] It is important to use a range of research and techniques to ensure that the data being used is valid. An example of a form of research is Causal Relationships. Using Causal relationships, you manipulate a variable and measure its effect on another which gives you quantitative data.

Secondary Data Collection is essential to gain access to secondary data sets that you can't gain data from yourself. This could be data from Government or official research agencies. This ensures that the data is credible, reliable, general as it will explain different outlooks and these websites have the best interest at heart meaning it often displays ethical data.

When looking at research, it is important to look into all variables in the data that has been collected. When collecting data via questionnaires, when asking the questions, the answer needs to be considered to get as little variables as possible. Often, people have different ulterior motives which means their answer won't consider the ethics and generalisability as they are only talking about their personal experience which could be unique.

Task 3 - Question 2

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Question 2: Select research strategies/data collection methods you would use to collect data for your project. And design a pilot data collection method appropriate for your project and acquire some feedback to improve the focus of your project (include in an appendix section/page and refer to in the main body of the proposal).

When obtaining information for my project, it is essential that I get both Qualitative and quantitative data using a range of data collection techniques so that I get a well-rounded answer to the question that is being presented.

Data collection methods

There are a range of data collection methods that can be used to get strong quantitative and qualitative data.

Firstly, questionnaires are a great way to get quantitative data. Using online questionnaires such as google forms, I am able to get definitive answers by using multiple choice where the user will pick the answer they think applies for them. Using Google Forms, a follow up question can then be shown dependent on the answer they had given for the previous question. Using Google Forms, I can choose for it to either be anonymous or show the name of the person that give the answer which I can use in my research.

Secondary Data research is a great way to collect data from accredited and reliable sources which consists of collecting data from already conducted research carried out by another party. This can also involve looking at case studies for similar instances as the project I am carrying out.

Focus groups are a great way of collecting data and inputs as you can choose who exactly is in that group. This allows me to get qualitative data from the most experienced people in the industry allowing me to have the best outcome possible.

Pilot Data Collection Method

Implementing a new SIEM (Software Incident Event Management) system into my organisation.

Data Collection Method: Questionnaire/ Google Forms survey

Question 1: What is your role?

Question 2: Are you in a technical or non-technical role within the organisation? (Multiple Choice)

Question 2 – If Technical: Have you used SIEM software before?

Question 3 – If Technical: If yes, what software was it and how did you find it?

Question 4 – If Technical: Do you have any concerns about the implementation of the new SIEM system?

Question 5 – If Technical: Can we integrate the SIEM system into any other systems we use internally?

Question 3: Have you ever been effected by a security incident such as phishing?

Question 4: What would you do if you were the victim of a security incident?

Question 5: Have you received training related to cybersecurity while at this organisation?

Using this survey, I will be able to get feedback from both the engineering team as well as users so that I can get a widespread view on the importance of cybersecurity and what we need to do in order to make this project a success.

Task 3 - Question 3

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Question 3: Outline some different types of quantitative and qualitative analysis.

Quantitative Analysis

Quantitative research is often number based research which means that the data being collected is accurate. Often statistics which can show trends or patterns in numbers can be shown when using quantitative analyses.

Averages:

Quantitative analysis allows you to look at the data which is being shown or an average of data which allows you to come to a conclusion.

Percentages:

Data in the form of percentages is a great way of using quantitative analysis as it can support statements that have been made.

Charts & Graphs:

Charts & Graphs are a great way to show trends and a large amount of data over a period of time. Line charts, bar charts and as there are so many graphs that can be used, they are a great way to display data clearly.

Qualitative Analysis

Qualitative analysis is a great way to look at data using a range of case studies, media and precise statistics.

Case Studies:

Using case studies from credible sources can be a great way to obtain a large amount of information.

Observations:

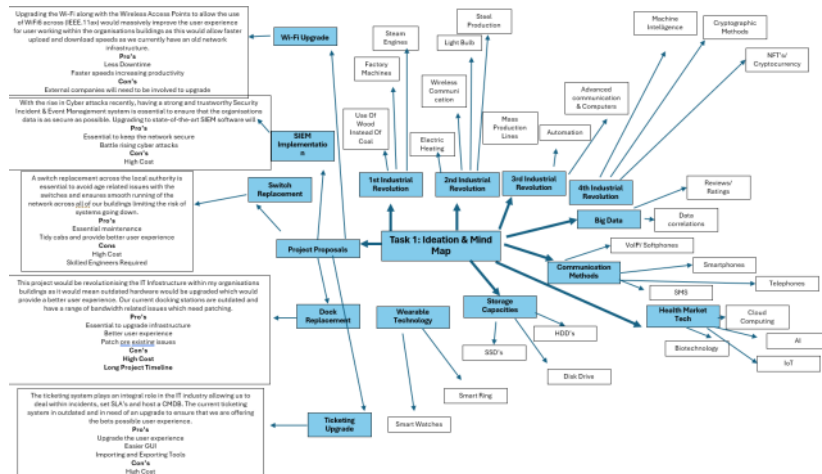
Observations can be a great way to collect information which is related to what you intend to gather.

Media & Documents

Data which is collected from media channels such as BBC news and documentation from credible sources are a great way to find information.

Appendices

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Original mind map before I have chosen the project in Task 1 Question 1

Evaluating Information

When you search for information, you are going to find a lot of it. What you must consider whether it is **trustworthy**, **accurate** and **suitable** for your assignment? How do you know it is going to be good?

The **CRAAP test** is a useful checklist that can help you evaluate the credibility and relevance of the information you find.

CRAAP is an **acronym** that you use to frame your judgment before including the material in your research.

Click the lettered tabs to see more information.

C

Currency. Is the material recent? Has it been superseded by more recent newer information? Newer information is generally perceived to be better.

R

Relevance. Does it relate to your work? Think about the audience it was written for and consider if it matches your audience. While doing this think about the level it is written at.

A

Authority. Does this material have credibility? Who wrote and published it? Was it sponsored by a person or individual that may have an ulterior motive?

A

Accuracy. In your mind, is this material true? It could do this by demonstrating some evidence it may be supported by statistics. Did someone else check it before publication. Peer reviewed content is material that has been reviewed by someone before it was allowed to appear in the real world.

P

Purpose. Before using the material, consider what it has been written for. It may have been created to sell something; it could be there as a piece of entertainment meant to make people laugh.

CRAAP used within Task 2 question 3 from Moodle moodle.uwtsd.ac.uk/mod/scorm/player.php?a=7770¤torg=5.1.1.3_ORG&scoid=17093&sesskey=TeAKzMoIQL&display=popup&mode=normal

Qualitative research data

To select the people in your survey, there are a **number of approaches and explanations** for narrowing the research to accommodate either small samples of qualitative data or the constraints of your research. Select each of the tabs below to reveal different examples of sampling.

Typical case sampling

Unusual case sampling

Snowball sampling

Random sampling

Random sampling

On the other hand, if your sample size is large, you could randomly select respondents from it. **Be careful if using this approach** as it may limit your ability to produce findings that represent your population as a whole. It is therefore good practice for triangulation purposes to recruit a variety of respondents (e.g., children, adults, service users and providers).

Used within Task 3 Question 3 - moodle.uwtsd.ac.uk/mod/scorm/player.php?a=7777¤torg=5.1.2.2_ORG&scoid=17107&sesskey=TeAKzMoiQL&display=popup&mode=normal

Quantitative research data

To select the people in your survey, there are a **number of approaches and explanations** for narrowing the research to accommodate either small samples of qualitative data or the constraints of your research. Select each of the tabs below to reveal different examples of sampling.

Random sampling

Systematic sampling

Stratified sampling

Cluster sampling

Cluster sampling

In this approach to choosing who to include, we first split the population into subgroups. At this point we choose which **entire subgroups** to include. Your analysis of children may split them into cities within the UK and then select equal number of groups from the North and South of the country.

Used within Task 3 Question 3 - moodle.uwtsd.ac.uk/mod/scorm/player.php?a=7777¤torg=5.1.2.2_ORG&scoid=17107&sesskey=TeAKzMoiQL&display=popup&mode=normal

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