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**Requirements, Constraints & Scope**

**Functional Requirements**

* A digital solution is given in an infographic format
* All data is simplified and makes sense of complex data
* The solution combines many data types, such as text, numbers, and images
* Provide a valid and supported conclusion regarding the validity or falsity of the research question
* Incorporate at least one column or bar chart in the digital solution
* Inform the audience briefly about the history of chatbots and/or plagiarism AI

**Non-functional Requirements**

* Only recent data is used, ranging 2014 to 2024
* All charts are comprehensive, meaningful, and adhere to the research question
* The solution presents text, diagrams, and graphics that are accurate and applicable to the topic
* The solution gives a full picture of the research
* The infographic uses aesthetically pleasing colours
* The infographic uses similar fonts throughout the SAT solution
* All secondary materials acquired come from reliable and respectable sources

**Data Requirements**

* Percentage of Overnewton Senior School Students that use ChatGPT currently
* Percentage of Overnewton Senior School Teachers that use ChatGPT currently
* Personal ranked reasons for the use of ChatGPT by Overnewton Students and Teachers
* Surveyed data of teachers personal ranking of common behavioural traits of students who use ChatGPT
* Top 3 frequently used plagiarism AI
* Timeline of the history/development of chatbots and/or plagiarism AI
* Advantages of chatbots in educational environments
* Disadvantages of chatbots in educational environments

**Constraints**

**Economic:**

* SAT solution must be completed by late August
* Timeframe is allocated to the process of collecting data
* Free sources must be used as no budget is provided
* Narrowing research to chatbots and plagiarism AI usage in educational environments due to limited time
* Find 40 students, ranging from Year 10 to Year 12, that have views regarding virtual assistant usage in schools
* Find 15 teachers that have views regarding virtual assistant usage in schools and behavioural traits of students who use chatbots to complete task work consistently

**Technical:**

* Processed datasets must be created by Microsoft Excel, Airtable or Microsoft Form
* School laptop is used to create the infographic
* Required to learn a new skill/program to create the infographic

**Usability:**

* Solution should be user-friendly and easily interpretable

**Legal:**

* All secondary sources must be referenced correctly to avoid legal complications
* All primary data collected can only be used if given consent by the interviewee

**Social:**

* Secondary sources are sourced from trustworthy and free online sources

**Scope**

The digital solution, presented as an infographic, will simplify complex data for easy comprehension. It will incorporate various accurate and relevant data types, including text, figures, and graphics, to support a conclusive answer to the research question. Specifically tailored for the SAT, it will include a column or bar chart alongside a brief history of chatbots and/or plagiarism AI, all based on recent data (2014-2024). The infographic will use appealing colours and fonts, as well as source secondary information from reliable materials.

The primary focus of the solution will be on an Australian perspective, however also supported by secondary data obtained from international sources, given the challenge of accessing a diverse range of qualitative data solely from Australian outlets. With the SAT solution deadline set for late August, time management is crucial for data collection, which must be sourced from free resources due to the absence of a designated budget. The scope of research will be narrowed to explore the usage of chatbots and plagiarism AI in educational settings, necessitated by the constraints of time. The objective includes surveying 40 students from Year 10 to Year 12 to gather their perspectives on the implementation of virtual assistants in schools, along with insights from 15 teachers regarding student behaviours related to chatbot usage. Processed datasets will be managed using tools like Microsoft Excel, Airtable, or Microsoft Forms, facilitated by a school laptop, while also necessitating the acquisition of new skills or software proficiency to craft the infographic. Prioritising user-friendliness and clarity, the solution aims for easy interpretation. Proper APA referencing of all secondary sources is imperative to mitigate legal risks, and the use of primary data is contingent upon obtaining consent from interviewees. All secondary sources will be drawn from reputable and freely accessible online platforms.

**Critical & Creative Thinking**

**Functional Requirements**

* A digital solution is given in an infographic format
  + What is needed for it to be in an infographic format?
    - Utilise static data visualisations within the SAT solution
    - Utilise a consistent font, along with aesthetically appealing animated images and colours within the SAT solution
* All data is simplified and makes sense of complex data
  + Will the viewers be able to comprehend the data presented easily?
    - Ensure charts, graphs and text are easy to read, whilst also presenting them with the constant font and/or colour theme
    - Have three individuals of different ages to review the simplified data presented and ask them to explain their understandings
  + If the gathered responses do not align with the intended comprehension, re-simplify/represent the data differently to assist with understanding
* The solution combines many data types, such as text, numbers, and images
  + Does the solution incorporate various data types?
    - Generate a checklist containing various data types such as text, numerical data, and graphics
    - Review the solution and mark off each item on the checklist if it has been incorporated
    - If a component on the checklist isn’t marked off, modify the current data to adhere to the checklist
* Provide an effective and supported conclusion regarding the validity of the research question
  + What components are necessary to reach a conclusion regarding the validity of the research question?
    - The SAT solution requires:
      * Opinionated articles
      * Supporting or contradictory data
  + What will the conclusion comprise of?
    - Access three articles/reports to determine common traits
    - Record the common traits on a list
    - Once a conclusion is written, cross-reference it with the list to ensure it contains the necessary traits
* Incorporate at least one column or bar chart in the digital solution
  + Is there a column or bar chart featured in the SAT solution?
    - Verify the data to ensure that there is at least one dataset suitable for presentation in the form of a column or bar chart
    - Review the solution to confirm that at least one column or bar chart has been included
* Inform the audience briefly about the history of chatbots and/or plagiarism AI
  + What information is necessary to properly inform the audience?
    - Include information regarding chatbot and/or plagiarism AI history in the form of a timeline to assist with viewers comprehension of the information
    - Incorporate entertaining pop-ups to enhance the audience's understanding of chatbots and/or plagiarism AI

**Non-functional Requirements**

* Only recent data is used, ranging 2014 to 2024
  + Is information dated 2014 or later, regarded as current?
    - Document the data source's date
    - If data is outside the timeframe, locate current data with conclusions that closely align with the previously found source
* All charts are comprehensive, meaningful, and adhere to the research question
* Are the charts meaningful/support the research question?
  + Verify that each data source's title connect to the research question by analysing them carefully
  + Don't use any data sources that appear suspicious
* Is the data presented comprehensible?
  + Have three individuals of different ages to review the charts presented
  + Ask them to explain their understandings
  + If their understandings don’t align with the data presented, reformat the graphs and repeat the process
* The solution presents text, diagrams, and graphics that are accurate and applicable to the topic
  + Is the data presented accurate?
    - Verify the credibility of all data sources by assessing the reputation of the author or the source itself
    - Cross-reference multiple data sources to confirm the accuracy of figures and facts
    - Any data sources deemed suspicious should be excluded from consideration in the SAT solution
  + Is the data presented applicable to the topic?
    - Verify that each data source's title connect to the research question by analysing them carefully
    - Don't use any data sources that appear suspicious
* The solution gives a full picture of the research
  + Can the audience draw conclusions once they have interpreted the finalised solution?
    - Have three individuals of different ages to review the finalised SAT solution
    - Question their understandings regarding the researched topic
  + If the gathered responses do not align with the intended conclusion of the solution, adjust or augment the SAT solution to present a comprehensive overview of the research
* The infographic uses aesthetically pleasing colours
  + Does the solution incorporate appropriate colour schemes?
    - Confirm that the colours utilised are uniform and reflective of the research subject (e.g., colours associated with ChatGPT).
    - Ask for evaluations on the presentation and information displayed
    - If the gathered responses do not align with the intended presentation of the solution, adjust the SAT solution to present the data in an aesthetically appealing way
* The infographic uses similar fonts throughout the SAT solution
  + Is there uniformity in font selection across the entirety of the infographic?
    - Confirm that fonts remain consistent throughout the SAT solution
    - Seek feedback from three individuals of varying ages to evaluate the presentation and clarity of the information provided
* All secondary materials acquired come from reliable and respectable sources
  + Is the source trustworthy?
    - To ensure figures and facts are verifiable, compare and cross-reference data sources against each other
    - Determine whether the data presented is subjective
      * If so, does it alter the integrity of the data?
      * If integrity is affected, do not use in the SAT solution
    - If a data source appears unreliable or lacks credibility, refrain from incorporating it into the SAT solutions

**Data Requirements**

* Percentage of Overnewton Senior School Students that use ChatGPT currently
  + How will I collect the primary data?
    - A Microsoft form will be created questioning students on whether they use ChatGPT or not
    - Determine the percentage of senior school students that utilise ChatGPT
* Percentage of Overnewton Senior School Teachers that use ChatGPT currently
  + How will the data be collected?
    - A Microsoft form will be created questioning teachers on whether they use ChatGPT or not
    - Determine the percentage of senior school teacher that utilise ChatGPT
* Personal ranked reasons for the use of ChatGPT by Overnewton Students and Teachers
  + How can this data be obtained?
    - Generate a Microsoft Form survey that has a list of potential reasons that senior school students and teachers would use the virtual assistant
    - Have survey participants rank these into most used (1) to least used (5) (for example, 1-5)
    - Generate a graph displaying the frequency of results against each potential reason
* Surveyed data of teachers personal ranking of common behavioural traits of students who use ChatGPT
  + How can this data be acquired?
    - Generate a Microsoft Form survey questions teachers regarding common behavioural traits of senior school students who utilise ChatGPT
    - Calculate percentages of each word’s frequency
    - Generate a graph displaying commonly used traits
* Top 3 frequently used plagiarism AI
  + Who will I collect the data from?
    - Secondary data can be sourced from reputable sources
    - Attempt to locate two to three credible sources
* Timeline of the history/development of chatbots and/or plagiarism AI
  + From whom will the data be collected?
    - Secondary data can be sourced from reputable sources
    - Attempt to locate two to three credible sources
* Advantages of chatbots in educational environments
  + What is the origin of the data?
    - Search for multiple reliable online sources that discuss the advantages of implementing chatbots in educational settings
    - Implement commonly found advantages into the SAT solution
    - If the sources are suspicious, do not include in the SAT solution
* Disadvantages of chatbots in educational environments
  + What is the origin of the data?
    - Search for multiple reliable online sources that discuss the disadvantages of implementing chatbots in educational settings
    - Implement commonly found disadvantages into the SAT solution
    - If the sources are suspicious, do not include in the SAT solution