

School of Informatics and IT

Diploma in Big Data & Analytics

# Major Project Final Report

Project Title:

AI-Enhanced RFQ and Inventory Mining System

Submitted By:

Nathaniel Cheong Samad, 2304278A

Supervisor:

Mr. Poh Ming Fu, <Designation>, School of Informatics and IT

**Declaration of Originality**

I am the originator of this work and I have appropriately acknowledged all other original sources used as my reference for this work.

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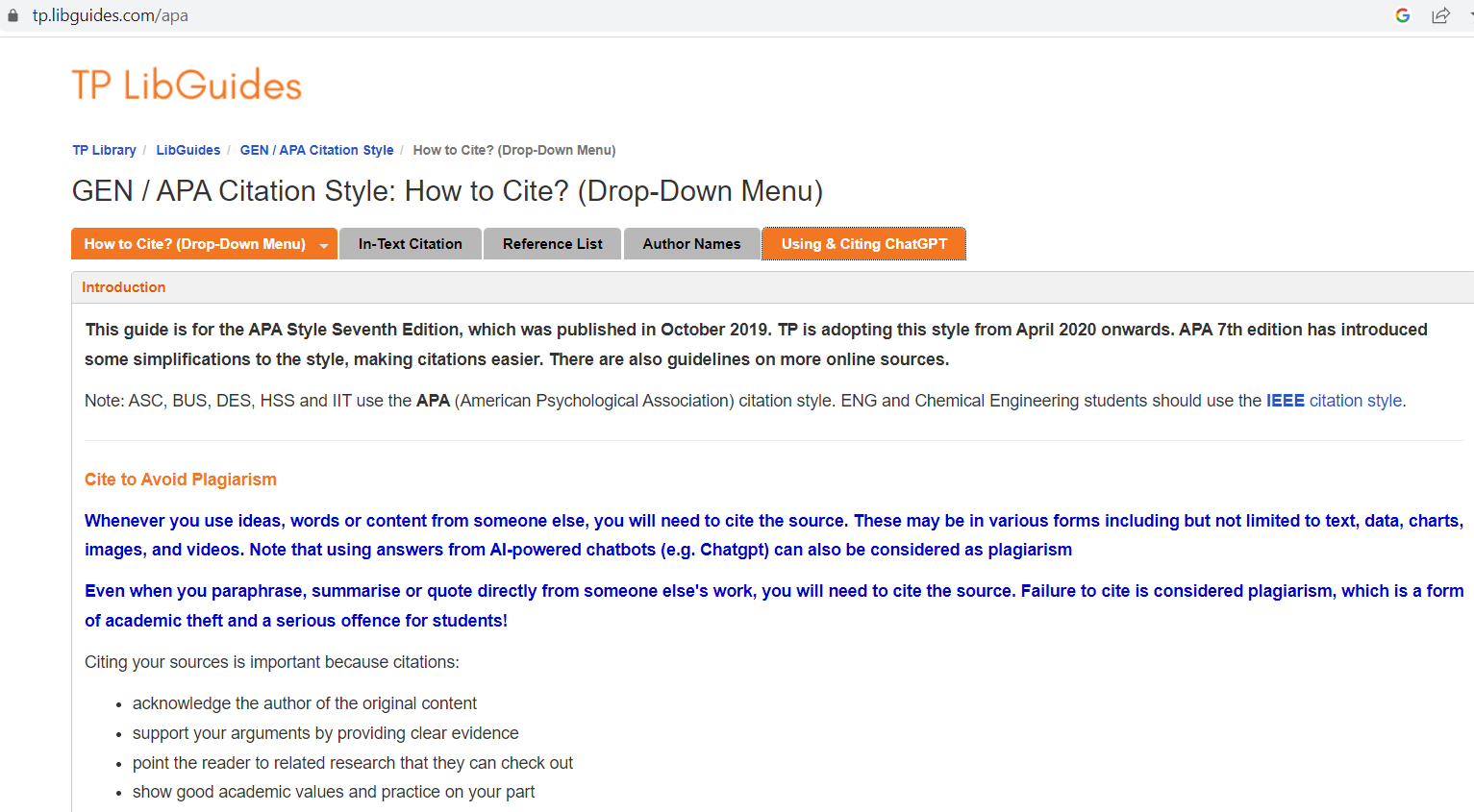
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# Table of Contents

[Acknowledgements 4](#_Toc169108942)

[Abstract 5](#_Toc169108943)

[Chapter 1: Introduction 6](#_Toc169108944)

[Background of the project 6](#_Toc169108945)

[Problems Identified 6](#_Toc169108946)

[Objectives of the project 6](#_Toc169108947)

[Scope of the project 6](#_Toc169108948)

[Chapter 2 XXX 7](#_Toc169108949)

[Chapter 3 Evaluation/Review 8](#_Toc169108950)

[Recommendations for Improvement 8](#_Toc169108951)

[Reflection 9](#_Toc169108952)

[Lessons Learnt and Insights Gained 9](#_Toc169108953)

[References/ Bibliography 10](#_Toc169108954)

[Appendix A1: Terms of Reference 11](#_Toc169108955)

[Appendix A2: Weekly Progress Report 12](#_Toc169108956)

# Acknowledgements

*[This section is a good opportunity for you to thank people who have helped you with the project. A standard phrase would be, ‘I would like to thank (name) for (…state help rendered…). Please keep this section professional and mention only those who have a real connection to the report, for example, your supervisor.]*

# Abstract

*[The Abstract is a summary of the entire report. In particular, it should state the:*

* *Objectives of the project*
* *Scope of the project*
* *Extent the objectives were reached*
* *The key points from the discussion sections; namely the significant findings, ‘Recommendations’ and ‘Conclusion’*

*The Abstract should ideally be written after the report has been completed. It should be formatted in one paragraph, on one page.]*

# Chapter 1: Introduction

[This chapter consists of four (4) sections:

* Background of the project
  + Provides an overview of why the project is conceived.
* Problems Identified
  + Records the existing problems identified.
* Objectives of the project
  + Lists what can be achieved in the project
* Scope of the Project
  + Identifies the scope of the project. What is in and what is not.
  + Transfer problem to business analytics problem]

## Background of the project

*[Provides an overview of why the project is conceived.]*

## Problems Identified

*[Records the existing problems identified.]*

## Objectives of the project

*[Lists what can be achieved in the project]*

## Scope of the project

*[Identifies the scope of the project. What is in and what is not.*

*Translate problem to business analytics problem]*

# Chapter 2 XXX

*[The subsequent chapters from here onwards will be formulated based on your unique project requirements and solutions**.]*

# Chapter 3 Evaluation/Review

*[You can provide your review based on product, process or tools – whichever is applicable to your project.]*

## Recommendations for Improvement

*[Recommend improvements for your project. If another person takes on your project in future, how can they continue and improve what you have?]*

# Reflection

## Lessons Learnt and Insights Gained

*[List and describe the lessons learnt and insights gained from this project. These can be additional topics that you have picked up yourself, project management experiences, team dynamics, schedule management etc. How can things be done differently if you are to do it again? We are looking for evidence and reflection of learnings achieved.]*

# References/ Bibliography

*[List the references used in the development of the project in alphabetical order. A good guide to writing references/bibliography can be found at TP Library website:* [*https://tp.libguides.com/apa/references*](https://tp.libguides.com/apa/references)*].*

# Appendix A1: Terms of Reference

*[Attach the original terms of reference that was developed for the project]*

# Appendix A2: Weekly Progress Report

|  |  |
| --- | --- |
| Organization Name: AUTO MACHINERY SINGAPORE PTE LTD | |
| Project Title: AI-Enhanced RFQ and Inventory Mining System | |
| Student Name: Nathaniel Cheong Samad | Admin No: 2304278A |
| Temasek Polytechnic’s Supervisor Name: Mr. Poh Ming Fu | Week No: |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Project Status** – [**Green**, **Yellow**, **Red**] |  |  |  |  |
|  | *Choose the status of your project, either Green, Yellow or Red.*   * **Green** *means project is on schedule and there are no major issues;* * **Yellow** *means the project is somewhat delayed and/or there may be some major risks at the current point;* * **Red** *means the project is seriously at risk of being delayed and/or there are some major risks affecting the project and the entire project is at risk of failing.* | | | |  |

**Individual Task Status (Week 1)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
| 1 | Meet up with users to firm requirements | 21 Apr | 4 May | **Green** | * Met online with company on Wk 1Fri * Started to learn materials required as we couldn’t start on anything yet, need to finalize requirements |
| 2 | Learn materials required for development | 5 May | 18 May |  |  |
| 3 | Development | 19 May | 29 Jun |  |  |
| 4 | Live Demo – Execution of Dashboard | 30 Jun | 6 Jul |  |  |
| 5 | UAT/ Bug Fixes / Future Enhancement | 7 Jul | 20 Jul |  |  |
| 6 | Finalize Documentation for Project | 21 Jul | 3 Aug |  |  |

**Individual Task Status (Week 2)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
| 1 | Meet up with users to firm requirements | 21 Apr | 4 May | **Green** | * On-Site meet up on Tues * Learnt what kind of GUI he wants and what are some considerations * Continued to work on PDF extraciton |
| 2 | Learn materials required for development | 5 May | 18 May |  |  |
| 3 | Development | 19 May | 29 Jun |  |  |
| 4 | Live Demo – Execution of Dashboard | 30 Jun | 6 Jul |  |  |
| 5 | UAT/ Bug Fixes / Future Enhancement | 7 Jul | 20 Jul |  |  |

**Individual Task Status (Week 3)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | * PDF extraction code + Database * Online meeting with company to finalize things we need to do based off email |
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**Individual Task Status (Week 4)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

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| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | * PDF extraction code + Database * *Started on streamlit site* |
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**Individual Task Status (Week 5)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | *Additional remarks on the tasks*   * *Integrating PDF extraction into streamlit site* * *Redo previous streamlit site (messy)* |
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**Individual Task Status (Week 6)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | *Additional remarks on the tasks* |
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**Individual Task Status (Week 7)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | *Additional remarks on the tasks* |
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**Individual Task Status (Week 8)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | *Additional remarks on the tasks* |
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**Individual Task Status (Week 9)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | *Additional remarks on the tasks* |
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**Individual Task Status (Week 10)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | *Additional remarks on the tasks* |
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**Individual Task Status (Week 11)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | *Additional remarks on the tasks* |
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**Individual Task Status (Week 12)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | *Additional remarks on the tasks* |
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**Individual Task Status (Week 13)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | *Additional remarks on the tasks* |
|  |  |  |  |  |  |
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**Individual Task Status (Week 14)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | *Additional remarks on the tasks* |
|  |  |  |  |  |  |
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**Individual Task Status (Week 15)**

*Copy and paste the schedule in your TOR and fill in the status/remarks for the overdue tasks or the tasks that you have started.*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Task no** | **Description** | **Start Date** | **End Date** | **Status** | **Remarks** |
|  |  |  |  | *Status of individual tasks and actual start and end date (if different from the original)* | *Additional remarks on the tasks* |
|  |  |  |  |  |  |
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MP: Marking Rubrics

**Process (20%) – 40 marks**

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| --- | --- | --- | --- | --- |
| **Criteria** | **Excellent** (x >= 80%) | **Good** (70% <= x < 80%) | **Average** (60% <= x < 70%) | **Poor** (x <= 60%) |
| Solution Exploration  (3%)  (MP Report) | * Considers different potential solutions to address the project requirements and objectives. * Evaluates the pros and cons of each solution based on the project’s background and client’s needs. | * Considers different potential solutions to address the project requirements and objectives. * Evaluates the pros and cons of each solution based on the project’s background and client’s needs. | * Considers some potential solutions to address the project requirements and objectives. * Evaluates the pros and cons of each solution with some limitations. | * Fails to consider different potential solutions effectively. * Lacks evaluation of the pros and cons of each solution based on the project’s background and client’s needs. |
| Design Thought  (3%)  (MP Report) | * Demonstrates a clear understanding of the project requirements and objectives. * Applies critical thinking and creativity in designing the solution. * Provides well thought justification on design choices. | * Shows understanding of the project requirements and objectives. * Applies critical thinking and creativity in designing the solution. * Provides reasonable justification for design choices. | * Demonstrates limited understanding of the project requirements and objectives. * Applies basic critical thinking and creativity in designing the solution. * Provides limited justification for design choices. | * Fails to demonstrate understanding of the project requirements and objectives. * Lacks critical thinking and creativity in designing the solution. * Fails to provide justification for design choices. |
| Novelty of Solution  (4%)  (MP Report) | * Provides an original and innovative solution design. * Offers unique approaches or methods to solve the problem. * Shows creativity in overcoming challenges and limitations. | * Provides a solution design with some originality and innovation. * Offers effective approaches or methods to solve the problem. * Demonstrates creativity in overcoming some challenges and limitations. | * Provides a solution design with limited originality and innovation. * Offers basic approaches or methods to solve the problem. * Shows limited creativity in overcoming challenges and limitations. | * Fails to provide a solution design with originality and innovation. * Lacks effective approaches or methods to solve the problem. * Fails to show creativity in overcoming challenges and limitations. |
| Project Management (10%)  (TOR and Weekly Progress Report) | * Demonstrates effective project planning and organization. * Submits regular and detailed weekly progress reports. * Manages time, resources, and tasks efficiently. | * Demonstrates adequate project planning and organization. * Submits regular weekly progress reports. * Manages time, resources, and tasks reasonably well. | * Demonstrates basic project planning and organization. * Submits weekly progress reports with some gaps or inconsistencies. * Manages time, resources, and tasks with some limitations. | * Fails to demonstrate effective project planning and organization. * Fails to submit regular progress reports. * Poorly manages time, resources, and tasks. |

**Deliverables (50%) – 100 marks**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Excellent** (x >= 80%) | **Good** (70% <= x < 80%) | **Average** (60% <= x < 70%) | **Poor** (x <= 60%) |
| Completeness of Features (15%)  (Presentation and MP Report) | * Delivers a fully functional and comprehensive product that meets all the specified requirements. * Includes advanced features and functionalities beyond the basic requirements. * Demonstrates exceptional attention to detail. | * Delivers a functional product that meets most of the specified requirements. * Includes additional features and functionalities. * Demonstrates attention to detail. | * Delivers a basic product that meets the core requirements. * May lack some additional features and functionalities. * Shows satisfactory attention to detail. | * Fails to deliver a complete product that meets the required specifications. * Lacks essential features and functionalities. * Shows poor attention to detail. |
| Value of Project (15%)  (Presentation and MP Report) | * Provides significant time savings for the end-users through automation or efficient data processing.   Or  Offers valuable and actionable insights to the client based on the data analysis and visualization. | * Provides noticeable time savings for the end-users through automation or efficient data processing.   Or   * Offers relevant insights to the client based on the data analysis and visualization. | * Provides limited time savings for the end-users through automation or efficient data processing.   Or   * Offers limited insights to the client based on the data analysis and visualization. | * Fails to provide significant time savings for the end-users through automation or efficient data processing.   Or   * Fails to offer significant insights to the client based on the data analysis and visualization. |
| Scalability of the Project  (10%)  (Presentation and MP Report) | * Designs the project with scalability in mind, allowing for potential growth in data volume or user base. * Demonstrates effective strategies and techniques for handling large-scale data processing. * Considers factors such as system performance and resource utilization. | * Considers scalability in the project design, allowing for potential growth in data volume or user base. Implements techniques for handling data processing efficiently. * Considers factors such as system performance and resource utilization to some extent. | * Shows limited consideration for scalability in the project design. May have some limitations in handling large-scale data processing. * Demonstrates basic awareness of factors such as system performance and resource utilization. | * Fails to consider scalability in the project design. Lacks effective techniques for handling large-scale data processing. * Neglects factors such as system performance and resource utilization. |
| Maintainability of the Project (10%)  (Presentation and MP Report) | * Designs the project with maintainability in mind, ensuring ease of future enhancements, bug fixes, and updates. * Provides clear guidelines for maintaining and extending the project. | * Considers maintainability in the project design, allowing for future enhancements, bug fixes, and updates. * Provides basic guidelines for maintaining and extending the project. | * Shows limited consideration for maintainability in the project design. May have some challenges in making future enhancements, bug fixes, and updates. * Provides limited guidelines for maintaining and extending the project. | * Fails to consider maintainability in the project design. * Provides insufficient guidelines for maintaining and extending the project. |

**Presentation & Reflection Report (20%) – 40 marks**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Criteria** | **Excellent** (x >= 80%) | **Good** (70% <= x < 80%) | **Average** (60% <= x < 70%) | **Poor** (x <= 60%) |
| Articulation of Scope and Objective of Project  (5%)  (Presentation & Reflection in MP Report) | * Clearly articulates the scope and objective of the project, providing a thorough understanding of the problem being addressed and the goals to be achieved. * Provides a deep understanding of the project's purpose and relevance. | * Articulates the scope and objective of the project, providing a clear understanding of the problem being addressed and the goals to be achieved. * Provides a good understanding of the project's purpose and relevance. | * Presents the scope and objective of the project, providing an overview of the problem being addressed and the goals to be achieved. * Provides a basic understanding of the project's purpose and relevance. | * Fails to articulate the scope and objective of the project clearly. Lacks understanding of the problem being addressed and the goals to be achieved. * Does not provide the project's purpose and relevance. |
| Challenges Faced  (5%)  (Presentation & Reflection in MP Report) | * Clearly identifies and explains the challenges encountered during the project, demonstrating a comprehensive understanding of the obstacles faced. * Provides insightful reflections on how challenges were overcome or mitigated. | * Identifies and explains the challenges encountered during the project, demonstrating an understanding of the obstacles faced. * Provides some reflections on how challenges were overcome or mitigated. | * Identifies some of the challenges encountered during the project, providing a basic understanding of the obstacles faced. * Provides limited reflections on how challenges were overcome or mitigated. | * Fails to identify or explain the challenges encountered during the project. Lacks understanding of the obstacles faced. * Does not provide reflections on how challenges were overcome or mitigated. |
| Details of the Product (5%)  (Presentation) | * Presents a comprehensive and detailed description of the product, including its features, functionality, and relevance to the problem domain. * Demonstrates a deep understanding of the technical aspects of the product. | * Presents a clear description of the product, including its features, functionality, and relevance to the problem domain. * Demonstrates a good understanding of the technical aspects of the product. | * Presents an overview of the product, including its features, functionality, and relevance to the problem domain. * Demonstrates a basic understanding of the technical aspects of the product. | * Fails to present a clear description of the product. Lacks understanding of its features, functionality, and relevance to the problem domain. * Shows limited understanding of the technical aspects of the product. |
| Time Management (3%)  (Presentation) | * Manages time effectively, delivering the presentation within the allocated time frame. * Maintains a well-paced presentation, allowing sufficient time for each component without rushing. | * Manages time appropriately, delivering the presentation within the allocated time frame. * Maintains a reasonably well-paced presentation, ensuring all essential components are covered. | * May require some adjustments in time management to fit the allocated time frame. * Presentation may feel rushed or lacking in certain components. | * Fails to manage time effectively, exceeding the allocated time frame. * Presentation feels rushed or incomplete due to time constraints. |
| Q&A  (2%)  (Presentation) | * Demonstrates an excellent understanding of the project and confidently answers queries with clear and concise responses. * Provides additional insights and elaborations where relevant. | * Demonstrates a good understanding of the project and answers queries with clarity and confidence. * Provides satisfactory responses to most queries. | * Demonstrates a basic understanding of the project and attempts to answer queries. * Responses may lack clarity or confidence in some cases. | * Fails to demonstrate a clear understanding of the project when answering queries. * Responses lack clarity and may be insufficient or incorrect. |

**Pitching for Project Judging Component (10%) – 20 marks**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Criteria** | **Excellent** (x >= 80%) | **Good** (70% <= x < 80%) | **Average** (60% <= x < 70%) | **Below Average** (50% <= x < 60%) | **Poor** (x < 50%) |
| Business Value | Clearly articulates the business value. | Articulates the business value most of the time. | Articulates the business value some of the time. | Able to explain the business value. | Unable to articulate the business value. |
| Clarity of Presentation | Information is presented in a highly organized and clear manner. | Presentation is mostly clear and well-organized. | The presentation is generally clear but occasionally disorganized or hard to follow. | Information is presented in a somewhat disorganized manner, making it difficult to follow. | Presentation lacks clarity, with major disorganization. |
| Professionalism &  Enthusiasm | Exhibits exceptional professionalism and enthusiasm throughout the presentation. | Displays professionalism and enthusiasm, with a clear focus on the topic; | Shows some professionalism and enthusiasm but lacks consistency. | Displays minimal professionalism and enthusiasm. | Demonstrates little to no professionalism or enthusiasm. |