

APPLIED PROJECT DEVELOPMENT

TITLE OF THE PROJECT

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Project Report

APPLIED PROJECT DEVELOPMENT

Title of the Project

Names of Team Members with University Register No.

Sl. No.	Name	University Reg No.

Name of the mentor

May-Aug 2024

Declaration of the mentor

The project report represents an accurate description of the work carried out in this project for this reporting period May-Aug 2024.

The project (tick as appropriate):

- ☐ has fully achieved its objectives and technical goals
- ☐ has achieved most of its objectives and technical goals with relatively minor deviations

Name of the mentor:

Date:

Signature of the mentor:

1 Report Format

Project Report is a very important document which describes the problem statement, the motivation, the background, what you have done and how you carried out your project work, results and analysis. This document should be very comprehensive and should be supported with figures and facts. The following should roughly be the structure of your report. Note that these are just guidelines, not rules. You have to use your intelligence in working out the details of your specific writing.

1. Cover Page: You should have a proper cover page that mentions the project title, team members with university register number, mentor's name, and date of submission. The title should reflect what you have done and should bring out any eye-catching factor of your work, for good impact.
2. Mentor declaration: As indicated above
3. Acknowledgement
4. Abstract: The abstract should be short, generally within about 2 paragraphs (250 words or so total). The abstract should contain the essence of the report, based on which the reader decides whether to go ahead with reading the report or not. It can contain the following in varying amounts of detail as is appropriate: main motivation, main design point, essential difference from previous work, methodology, and some eye-catching results if any.
5. Keywords
6. Table of Contents: Insert a Table of Contents which lists all the sections of your report (upto 3 levels – Heading1, Heading2 and Heading3) against page numbers. In the Table of Contents insert one, and format all section/sub-sections titles appropriately as Heading 1, 2 or 3.
7. List of Tables and Figures: Include a complete list of all tables and figures in your report.
8. Introduction: In this section you should answer the following questions:
 - What exactly is the problem you are trying to solve? This is the problem statement.
 - Why is the problem important to solve? This is the motivation. In some cases, it may be implicit in the background, or the problem statement itself.
 - Is the problem still unsolved? This constitutes the statement of past/related work.
 - Objectives of the project: This section should clearly define the sustainable benefits expected by a market or population, Market or Industry adaptability/applications
 - Why is the problem difficult to solve? This is the statement of challenges.
 - How have you solved the problem? Here you state the essence of your approach. This is of course expanded upon later, but it must be stated explicitly here.
 - What are the conditions under which your solution is applicable?
 - What are the main results? You have to present the main summary of the results here.
 - What is the summary of your contributions?
 - What was accomplished under the goals and objectives of the project?
9. How is the rest of the report organized? Here you include a paragraph on the flow of ideas in the rest of the report
 - Background: In this section include sufficient background about the basic aspects or the theoretical underpinnings of your project which the general reader must understand before knowing the details of your work.
 - Past/related work: In this section explain what is novel about what you have done in this project. Here, you must try to think of dimensions of comparison of your work with other work. For instance, you may compare in terms of functionality, in terms of performance, and/or in terms of approach.

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- **Project Activities:** Specific activities performed using resources and methods in order to achieve the Expected Results. Implementation of activities depends on the availability of skilled human resources and the capacity of stakeholders to support the development of the project. Describe the main activities required for achieving each Expected Result.
 - **Data Collection:** Explain what data was collected, how it was collected, the evaluation methods used, and how the data was analyzed to derive the quantifiable indicator.
 - **Project Management:** In this section, you must describe your project management strategy – how you have managed this project given the resources and time (project duration) in order to successfully complete this project. List the break-down of your project into a set of smaller tasks, role of team members and describe how they contributed to the success of the project. Show your project plan using Gantt Charts. Also, explain any changes in the project plan from the original one in your proposal, if any. It is normal to make changes to your original project plan as the project progresses towards its completion.
 - How have you solved the problem? Here you state the essence of your approach. This is of course expanded upon later, but it must be stated explicitly here.
 - What are the conditions under which your solution is applicable?
 - What are the main results? You have to present the main summary of the results here.
 - What is the summary of your contributions?
 - What was accomplished under the goals and objectives of the project?
 - **Block Diagrams/Flow charts/Algorithms/System Design diagrams/etc.:** Include all necessary diagrams. Make sure your figures are clear and well labeled.
 - **Use of figures:** The saying "a picture is worth a thousand words" is appropriate here. Spend time thinking about pictures. Wherever necessary, explain all aspects of a figure and do not leave the reader wondering as to what the connection between the figure and the text is.
 - **Terminology:** Define each term/symbol before you use it, or right after its first use. Stick to a common terminology throughout the report.
 - **Technologies used**
 - **Integration**
 - **Testing and validation**
 - **Project Results and Analysis:** In this section, discuss the project results in detail supported by facts and figures.
 - **State the principal results and discuss them.**
 - **If you have proposed a new idea, algorithm or design, discuss how it compares with existing ones.**
 - **Tabulate your data and produce necessary plots. Analyze the data and/or plots and make comments.**
 - **Screenshots of all developments**
 - **Change Management :** A change management plan outlines the strategy and procedures for dealing with changes. Provide details on how a specific change was managed, including the type and scope of the change, roles and responsibilities of the team members. Create a report including the following points

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- What was the proposed change?
 - Why was the change required?
 - What were the additional requirements / factors for the successful implementation of the proposed change?
 - What was the impact of this change on the entire project?
 - Who were involved in completing the changes?
 - Was there a modification in schedule due to the changes required?
 - Challenges Faced: Describe all challenges you faced in the project and how they impacted the project schedule, scope or expected results. Also, write about how you solved these challenges or found a way around them. Also provide any positive developments outside of the project's original intent that you experienced during this project. If you did not attain an approved objectives, outcome(s), and/or indicator(s), provide an explanation
 - Problems with team members not cooperating/meeting.
 - Problems or delays in softwares / licensing / tools / etc. . . .
 - Problems with equipment or tool not working or malfunctioning
 - Project Deliverables: In this section, you list out the actual project deliverables (results or outcomes) such as a product, detailed design documents, a final report, publications, etc. The success of the project is gauged from what you actually delivered compared with what you set out to achieve at the beginning of the project. Provide justification if you fell short.
 - Recommendations and Future Work: Here you state aspects of the project you have not considered due to lack of time and/or resources. Also, provide suggestions/recommendations for further extensions or improvements.
 - Follow up activities and plans for further exploitation of the results
 - What sort of follow-up activities should take place to ensure that the results of this project are applied to the fullest extent possible?
 - Conclusions: This is one of the sections commonly looked at by the readers. State briefly the main take-away points from your work. Re-state the main objectives of your project and to what degree they were achieved. Write about what went wrong and your project was impacted. Also, write about the significance of your work and the results you obtained.
 - Success of the project: What are the metrics to indicate the success of your project

2 Lessons learnt from Project Execution

- Provide recommendations or advice that others may use to improve their performance in implementing similar projects.
- What opportunities for learning, training and professional development has the project provided?
- Impact statement: give a short description of impacts resulting from work.
- What is the impact of this project on society beyond science and technology?
- Interdisciplinary engagements and impact

3 Github Repository details

Include your Github Repository URL details here and briefly discuss how you used Github in your project.

4 References

All sources of information for your report should be cited in the writing.

At the end of the report/paper, include a section called References and list each reference. The titles of books and articles are also to be included with the page numbers. This is intended to provide convenient means for the reader to locate the cited material.

4.1 Guidelines for citing references

4.1.1 Referencing text and quotes

The references may be cited in the body text of the report in one of the following two ways

- Using numbers in square brackets e.g. [3] sequentially given in the order of citation of the text. Correspondingly, the references are listed at the end of the report serially in the same order they appear in the report.
- Using name of the author and the year of publication both enclosed within parentheses. In case more than one paper by the same author in the same year is cited, distinguish them using letters a, b etc. If there are more than two authors, use the word "et al." after the name of the first author. If there are two authors, you must give both names. In any case in the list of references given at the end of the report, names of ALL authors should appear. Correspondingly, the references are arranged alphabetically (according to the name of the first author) at the end of the report.

While listing the references at the end of the report, you must give all the information about the references such as author's name, title of the paper or book, name of the journal, volume number, issue number, page numbers and year of publication in that order. When listing a book, you must mention the edition, publisher's name and the place of publication also. Please carefully note the format of the list of references given below

- Looney, L. A., Monaghan, J. M., O'Reilly, P. and Talpin, D. M. R., "The Turning of an Al/SiCp Metal Matrix Composite", J Mater Proc Technol, 33, pp. 453-468, 1992. Lonchner, R. H. and Martar, J. E., Design for Quality
- An Introduction to the Best of Taguchi and Western Methods of Statistical Experimental Designs', Chapman and Hall, New York, 1990.

4.1.2 Other referencing guidelines

- **Referencing Internet sites:** While citing reference to an internet site, after mentioning the name of the site (full web url), mention the date on which you have accessed it.
- **Referencing pictures or photos:** While citing reference to pictures or photographs, mention the title of the picture and then give full credits to who has taken the picture/photo as well as from where it was sourced.
- **Referencing figures or tables:**
 1. If figures or tables are taken from a reference then the reference must be cited within the text, as well as, after the caption in the figure or table.
 2. Numbers given to Figures, Tables and Equations should clearly indicate the chapter they belong to e.g. in Chapter 4 figures should be numbered as Fig. 4.1, Fig. 4.2, etc.; tables as Table 4.1, Table 4.2, etc; equations as (4.1), (4.2), etc.
 3. Title of figures should be placed at the bottom of the figure whereas those of tables should be placed at the top.
 4. Use equation editors of word processing packages for writing equations.
 5. S. I. units must be used. If you are copying data from a reference, convert the units when necessary.
 6. If you have to add figures from the literature ensure that they are clear and sufficiently large.

5 Other Components and guidelines of the report

1. Appendices and Annexes: Any additional information can be provided as annexes and Appendices
2. Margins, Font styles and sizes and Page Numbering, Referencing, Figure numbers
 - Margins: 1” on all sides
 - Chapter Title should be in Times New Roman / Calibri / Arial , 16 POINTS, CAPITAL & BOLD.
 - Heading should be Times New Roman / Calibri / Arial, 14 Point, Title case & bold.
 - Sub Heading should be in Times New Roman / Calibri / Arial, 12 Points, Title Case and bold.
 - The font used in the body of report should be Times New Roman / Calibri / Arial, 12 Points plain with 1.5” spacing between two consecutive lines.
 - Page numbers must be centered
 - The page numbers of the Acknowledgement, Abstract, Keywords, Table of Contents, List of Figures, and List of Tables and Project Objectives must be in Roman numerals.
 - All other pages must be assigned a running Arabic number starting from (i). However, a page number should not appear on the title page or section title pages.
 - The references must be arranged in the order of their appearance. Each entry of the reference must be referred to at least once in the body of the report
 - Every figure must have the figure number like, e.g. Figure 1-1, Figure 2-5, etc. and the figure title is centered at bottom of the figure. Every table must have the table number, e.g. Table 1-1, Table 2-10, and so on and the table name is centered at the top of the table. Note that, e.g. Figure 2-5 or Table 1-3, the first number (i.e., 2 and 1) represents chapter to which the figure or table belongs, while the second number (i.e., 5 and 3) indicates their order.