

CPT6314

FINAL YEAR PROJECT (FYP) 1

FYP1 Briefing

27th November 2024 (Wednesday)

04:00pm to 06:00pm

Venue: Microsoft Teams

Topics for Discussion

- Activities for FYP1 and FYP2-Summary
- Application-Based Vs Research-Based Projects
- Assessments
- Important Points to Note
- FYP related information
- Contacts

Objectives of the Course

- To enable the students to apply knowledge gained from different subjects for solving real-world problems.
- To enable the students to acquire technical skills through background study/literature review, analysis, and design/research methodology.
- To enable the students to develop soft skills, such as critical reasoning, communication, and report writing skills, that will be required to carry out a real-world project.

Course Learning Outcomes (CLOs)

CLO1. Demonstrate effective project management with a strong focus, passion, commitment, and innovation in solving the problems.

CLO2. Develop the strategies/models/techniques for background study/literature review, analysis, and design/research methodology based on the real-world problem.

CLO3. Explain the project design/research methodology and prototype/simulation through both written and oral methods.

Prerequisites

- i. Completed **50 credit hours** (excluding Mata Pelajaran Umum (MPU) and university course subjects)
- ii. **CSE6214 - Software Engineering Fundamentals**

Project Categories

- ❑ Individual projects

- ❑ Group projects

 - ❑ Max 2 members (working on the larger problem)

 - ❑ Separate tasks

 - ❑ Individual subtitle

 - ❑ Individual Report (no overlapping of the contents)

- ❑ Span over 2 trimesters

- ❑ Can be

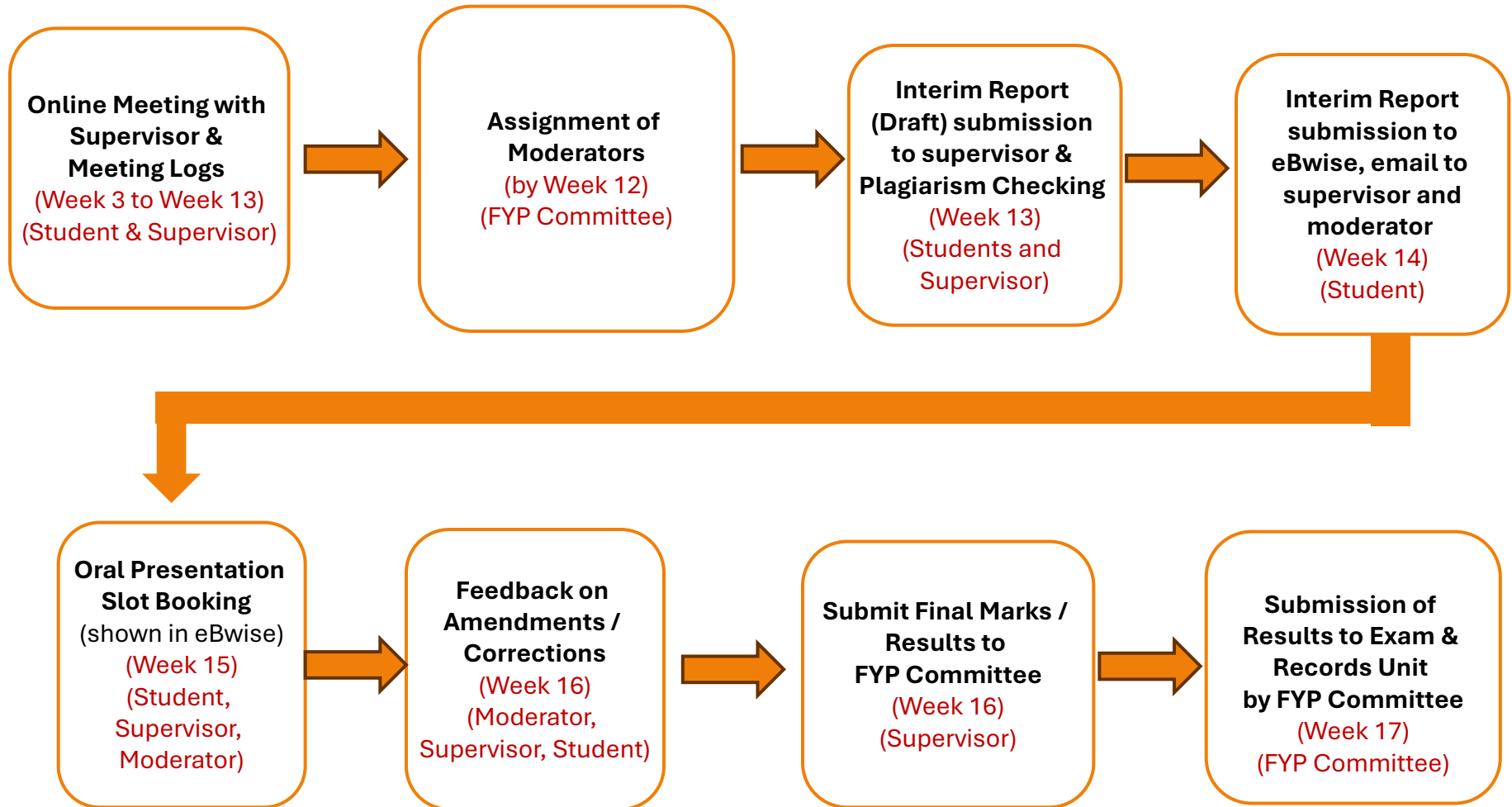
 - ❑ Research based

 - ❑ Application based

 - ❑ Both Research and application based (but need to determine which one is predominant)

 - ❑ Requirements vary

CPT6314 Final Year Project (FYP1) Process Flow (During FYP1 Period) (Period: November 2024 to February 2025)



CPT6324 Final Year Project (FYP2) Process Flow (During FYP2 Period) (Period: March 2025 to July 2025)

**Submission of
Manual subject
Registration Forms
Through
Teams**
(Prior to the start of
FYP2)
(Student)

**Subject Registration
for FYP2 (Clic)**
(Week 1 & Week 2)
(Faculty Office)

**Meeting with
supervisor &
Meeting Logs**
(Week 2 to 13)
(Students and
Supervisor)

**Plagiarism
Checking**
(Week 13)
(Student &
Supervisor)

**Final Report
Submission**
(in eBwise & email
to supervisor and
moderator)
(Week 14)
(Student)

**Poster Presentation
Slot Allocation**
(Week 14)
(FYP Committee)

**Poster Presentation
& Evaluation**
(Week 15)
(Student,
Supervisor, Moderator)

**Feedback on
Amendments/
Corrections**
(Week 16)
(Supervisor, Moderator)

**Final soft copy
Report along with
Plagiarism checking
Report submission**
(in eBwise)
(Week 16)
(Student)

**Enter Final Marks /
Results to FYP
Committee**
(Week 16)
(Supervisor)

**Submission of
Results to Exam &
Records Unit**
(Week 17)
(FYP Committee)

Activities for FYP1 (T2430)

- Summary (1)...

- ❑ **Week 1 and Week 2 :** Registration of the subject (FYP1) in Clic
 - Submit manual registration forms to Teams Channel
 - Faculty Admins will do the registration in Clic.

- ❑ **Week 3 to 13 :** Meeting of Students with Supervisors and Submission of Meeting Logs in eBwise
 - Minimum requirement: 6 nos.
 - Submission on alternate weeks: Weeks 3,5,7,9,11,13

- ❑ **Week 13:** Submission of draft report to supervisor & plagiarism checking via Turnitin

- ❑ **Week 14 Thursday :** Submission of final interim report (soft copy) in eBwise and email to your Moderator

Activities for FYP1 (T2430)

- Summary (2)...

□ Week 15: Oral Presentation

- Submission of Power Point slides, Prototype and other visual aids (if any) in eBwise

□ Week 16: Feedback on amendments/corrections on the report

- Supervisor/Moderator will communicate on the amendments to the students

□ Week 16: Submission of amended interim soft copy report submission in Teams Channel along with the submission of project title change requisition form (if needed)

Activities for FYP2 (T2510)-Summary (Tentative)

- ❑ **Prior to Week 1:** Submission of Manual subject registration forms in Teams Channel (student)
- ❑ **Week 1/2 :** Registration of the subject (FYP2) in Clic (faculty admin)
- ❑ **Week 2 to 13 :** Meeting with supervisor on alternate weeks and submission of logs in eBwise (student, supervisor)
- ❑ **Week 13:** Submission of report (soft copy) for Turnitin checking
- ❑ **Week 14 :** Submission of final report (soft copy)
- ❑ **Weeks 15 :** Poster presentation

Assessments

Final Year Project 1 (CPT6314)

Categories	Total Weightage
Project Management	20%
Execution	50%
Report	20%
Oral Presentation	10%
Total	100%

Assessments

Final Year Project 2 (CPT6324)

Categories	Total Weightage
Project Management	20%
Execution	35%
Research Paper / Commercialisation Proposal	5%
Report	30%
Poster Presentation	10%
Total	100%

Important Points to Note (1)... – FYP1

❑ Basic Requirements

❑ Meetings with Supervisor periodically (Week 3 to 14)

- ❑ Weekly logs have to be submitted in eBwise and attach them with the interim report. Minimum of 6 weekly logs are required (Weeks 3,5,7,9,11,13)
- ❑ Failure to meet the supervisor periodically may result in
 - ❑ Not satisfying the attendance requirement
 - ❑ Not allowing the student for submission of interim report/ attending oral presentation

❑ Submission of Interim Report by Thursday, Week 14

- ❑ **Late submission will not be allowed.**
- ❑ If the report has not been submitted within the deadline, it would be considered as **'not satisfying the basic requirement'**

❑ Doing the Oral Presentation

- ❑ The student should attend the on the time slot allocated.
- ❑ Supervisor and Moderator will normally evaluate the presentation together
- ❑ 30 minutes will be allocated including the Q and A section.
- ❑ Oral presentation will be held during Week 15.

Important Points to Note (2)... – FYP1

❑ Other Logistics

➤ **Pre-FYP: All the announcements will be made in Teams Channel**

- Check Teams Channel periodically for the announcements, timelines etc.
- List of approved Projects
- List of attachment of students by supervisors
- Forms
- FYP guidelines

➤ **MMU Bulletin Board (Only for preliminary announcement)**

- Preliminary announcement for the start of FYP process

➤ **Clic**

- Manual Registration by Faculty

➤ **eBwise**

- Uploading of FYP reports

Important Points to Note (3) – FYP1

❑ Other Logistics

➤ FYP Report should be submitted individually

- If the project title is common, each student should have a separate subtitle
- There should not be overlap between the contents of the report.
- The student should not change the approved title/subtitle without the consent of FYP Committee.

➤ Plagiarism check must be performed before the submission of interim report

- Submit the interim report to your supervisor at least one week before the actual submission for corrections and plagiarism checking
- Plagiarism checking (Turnitin) will be done by your supervisor.
 - Similarity index must be less than or equal to 20%.
- After corrections and plagiarism checking, submit the soft copy of the interim report in eBwise on Week 14 Thursday.
- Email the soft copy of interim report to your moderator at the same time.

CPT6314: PROJECT I

**Abstract, Problem Statement
& Objectives**

LEARNING OUTCOMES

- *Functions of thesis*
- *Support your review with evidence/ argumentation elements*
- *Process of writing a review*
- *Conclusion*
- *Abstract*
- *Problem statement*
- *Objectives*

Introduction

Literature Review



Academic Writing

Must be clear

Have logical structure

Shows that you have acquired sufficient skills and capabilities

Dissertation → Evidence –capabilities as a researcher

Functions of the Report / Thesis

- Show all relevant documents:
 - Published/Unpublished
 - Have been identified
 - Analyzed
- Main concepts, theories, methodological approaches relevant to the research identified, understood & critically evaluated.
- Writing could have different sections at different locations in its structure.

Argumentation Elements

- A description of what you find wrong in previous work on the topic
- A proposal for action that might solve the problem
→ your research
- An explanation of the benefits that might result from adopting the proposal

Academic Style: Simple Story Structure

- **TYPES OF EVIDENCE:**

- **STATISTICS:** Primary, secondary, descriptive, analytical
- **TESTIMONY:** personal, expert, primary, secondary, historic
- **EXAMPLES:** firsthand, general, detailed
- **HYPOTHETICAL EXAMPLES:** impossible, abstracted, plausible
- **HYPOTHETICAL SCENARIOS:** cause and effect, process oriented

Academic Style: Main Points For Sound Arguments

STRUCTURE

Use a reliable structure that is explicit

DEFINITION

Define the terms you are going to use carefully using clear examples

REASONS

Provide a reason for anything you have included as support

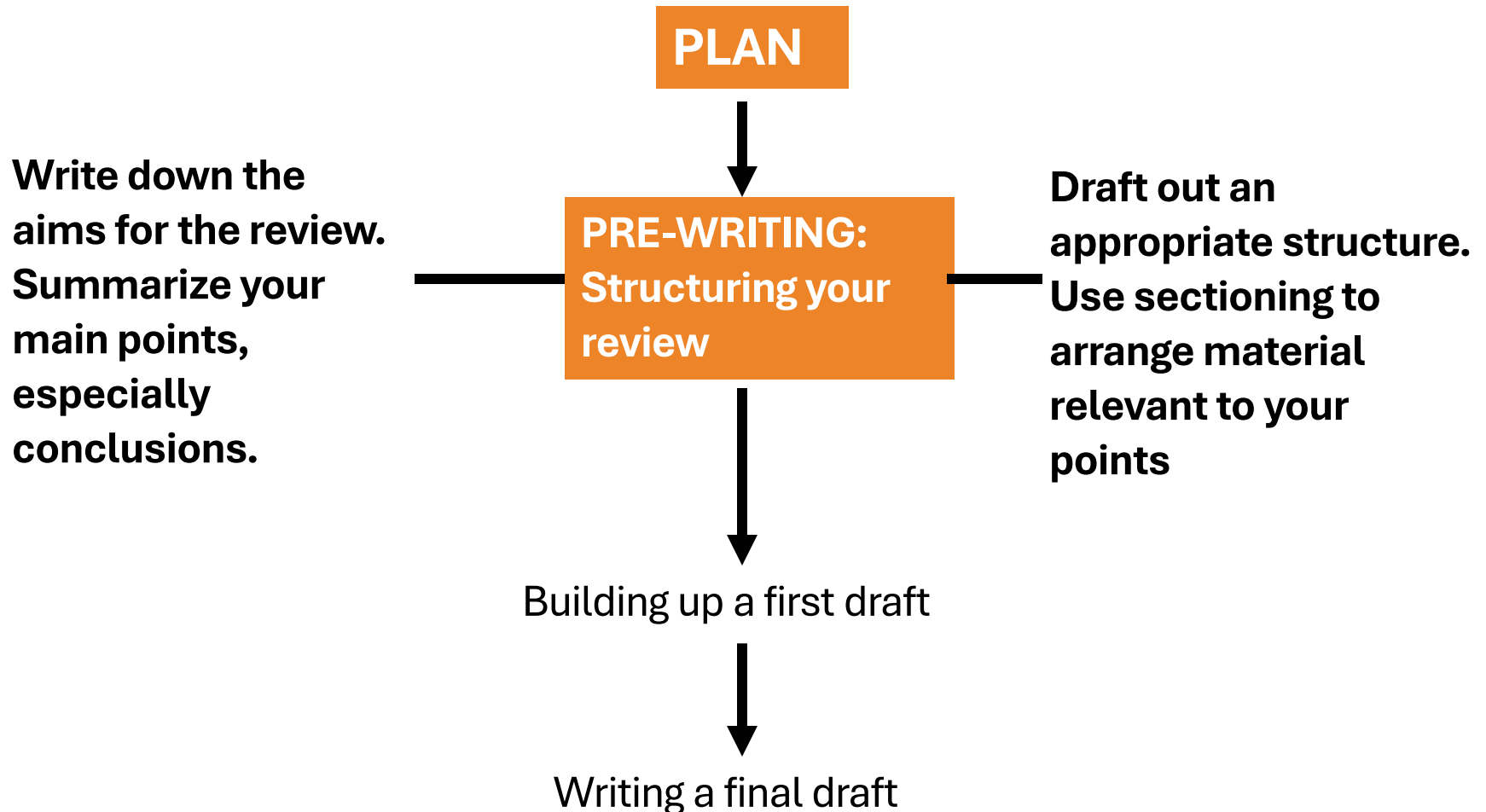
ASSUMPTIONS

Substantiate your assumptions; do not leave them as implicit (undefined). Use only reliable assumptions that are free from value judgements (bias) Or are based on valid reasoning

Academic Style: To Avoid Criticism of Your Review

- **AVOID:**
 - **FALSIFICATION**: Misrepresenting the work of others
 - **SLOPPINESS**: Not providing correct citations
 - **PLAGIARISM**: The act of knowingly using another person's work and passing it off as your own

Thinking About Starting to Write



Writing the First Draft...

- Think of the needs of reader
 - You have worked on the project
 - You have reviewed the literature relevant to the topic with thoroughness and open-mindedness
 - You have identified key ideas, concepts and methodologies from the literature
 - You have recorded your sources accurately and consistently
 - Your analysis is systematic, comprehensive and relevant

Writing the First Draft...

- Writing an introduction
 - Good way to start is with the objectives of your research/project.
 - Information on the overview of the project/research.

Reworking the Draft

- **Do some editing:-**

- Identify unclear or excessively long sentences and rewrite into shorter ones.
- Examine each paragraph to ensure it covers only one topic.
- See if important paragraphs can be rewritten to be more effective.
- List the topics of each paragraph to ensure that you have links between them that are sequential.
- Replace jargons with either an everyday word or explain the meaning of the jargon.

Reworking the Draft (Con't)

- Look for unnecessary adjectives and delete vague qualifications such as ‘very’, ‘some’, ‘prove’, ‘little’, and etc.
- Look for unconvincing statements with ‘maybe’, simplistic statements with no evidence.
- Use “**the author**” instead of “I”, “We”, “Our”.
Alternatively, you could use “the proposed project” or “the proposed system” rather than referring your system to “this system”.
- Make sure resources used are properly referenced and cited. Beware of the citation and referencing format!

Reworking the Draft (Con't)

- If you have taken figures/tables/charts from any sources, **MAKE SURE** you cite them properly.
- Check spacing in between paragraphs. Readability/format of the documentation is important for the overall presentation to give a good impression to the examiners/moderators!
- Technical terms, for instance: **LAMP, WMS, XR, MR, HTTPS, BGP**, you will have to elaborate on the abbreviations first before you start using them for the rest of the discussion in paragraphs/pages. This is to give the reader an idea what these abbreviations mean rather than confusing them when they read through your documentation.

Presentational Devices

SENTENCES

Express one idea in a sentence. Ensure all sentences have a subject, verb and object

PARAGRAPHS

Group sentences that express one aspect of your topic

CONSISTENT GRAMMAR

Use sentences and paragraphs with appropriate use of commas, colons, and semi-colons as all these have different

TRANSITION WORDS

Use words that links paragraphs, and which show contrast and development in your argument:

Hence, therefore, as a result, thus, etc.

Writing the Conclusion

- Shows clear understanding of the topic.
- All key landmark studies have been cited and most discussed.
- Reaches sound recommendations using coherent argument that is based on evidence.
- Shows a gap in existing knowledge and with research results justified, contributing new knowledge to the research area.

Abstract Writing – General Idea

- The idea is that it is the **elaboration** of what you intend to do
- It is further explanation of the title but in brief and condensed way

Good Abstract Writing Should:-

- have simple introduction of the aim/purpose/intention of the project
- have clear description of the project
- have short conclusion of the benefit of the project / system developed

Good Description Should Have:-

- What to study/investigate (issues/problems highlighted)
- Main features of software/system to be developed
- The techniques/methods/technology (significant ones!) employed in the development

Sample Abstract

Title: Implementation of Windows-based Networking Protocol for Enhanced File Sharing and Transferring.

Abstract

[This project studies and evaluates the existing Windows OS built-in file sharing and transferring methods. It also studies the existing Windows-based networking protocols.] [The project further develops a file sharing and transferring software with enhanced features while overcomes the limitations of the existing one. The enhanced features will include the sending of file(s) to multiple hosts at once, and creating of a database that keeps the other hosts' records with automatic updating capability (to enable the sending of file even if the other hosts are offline without the use of a server).][The software produced will help the users to reduce the time and operations in the process of file transferring, and save cost by eliminating the use of file server.]

Point 3

Point 2

Title: IMPLEMENTATION OF WINDOWS-BASED NETWORKING PROTOCOL FOR ENHANCED FILE SHARING AND TRANSFERRING.

Abstract

Point 1

[This project studies and evaluates the existing Windows OS built-in file sharing and transferring methods. It also studies the existing Windows-based networking protocols.] [The project further develops a file sharing and transferring software with enhanced features while overcomes the limitations of the existing one. The enhanced features will include the sending of file(s) to multiple hosts at once, and creating of a database that keeps the other hosts' records with automatic updating capability (to enable the sending of file even if the other hosts are offline without the use of a server).][The software produced will help the users to reduce the time and operations in the process of file transferring, and save cost by eliminating the use of file server.]

Problem Statement

An effective problem statement is concise and concrete.

It should:

- Put the problem in context (**what do we already know?**)
- Describe the precise issue that the research will address (**what do we need to know?**)
- Show the relevance of the problem (**why do we need to know it?**)
- Set the objectives of the research (**what will you do to find out?**)

Problem Statement

When should you write a problem statement?

- Academic research, help you contextualize and understand the significance of your research problem.
- A problem statement can be several paragraphs long and serve as the basis for your project
- it can be condensed into just a few sentences in the introduction chapter

Problem Statement

- Step 1: Contextualize the problem
- Step 2: Show why it matters
- Step 3: Set your aims and objectives

Step 1: Contextualize the Problem

- Frame your research problem in its particular context and give some background on what is already known about it

Step 1: Contextualize the Problem

Practical research problems

For practical research, focus on the concrete details of the situation:

- Where and when does the problem arise?
- Who does the problem affect?
- What attempts have been made to solve the problem?

Step 1: Contextualize the Problem

Example

- Voter turnout in region X has been decreasing steadily over the past ten years, in contrast to other areas of the country. According to surveys conducted by organization Y, turnout is lowest among under-25s and people on low incomes. There have been some effective attempts at engaging these groups in other regions, and in the last two elections parties A and B increased their campaigning efforts in region X, but these interventions have yet to have any significant effect on turnout.

Step 2: Show Why It Matters

- The problem statement should also address the relevance of the research: why is it important that the problem is solved?
- This doesn't mean you have to do something groundbreaking or world-changing.
- It's more important that the problem is **researchable**, **feasible**, and clearly addresses a **relevant issue** in your field.

Step 2: Show Why It Matters

Practical research problems

Practical research is directly relevant to a specific problem that affects an organization, institution, social group, or society more broadly. To make it clear why your research problem matters, you can ask yourself:

- What will happen if the problem is **not solved**?
- Who will feel the **consequences**?
- Does the problem have wider relevance (e.g. are **similar issues found** in other contexts)?

Step 2: Show Why It Matters

Example

- Low voter turnout has been shown to have negative associations with social cohesion and civic engagement and is becoming an area of increasing concern in many European democracies. When specific groups of citizens lack political representation, they are likely to become more excluded over time, leading to an erosion of trust in democratic institutions. Addressing this problem will have practical benefits for region X and contribute to understanding of this widespread phenomenon.

Step 3: Set Your Aims and Objectives

- Finally, the problem statement should frame how you intend to address the problem.
- Your goal should not be to find a conclusive solution, but to seek out the reasons behind the problem and propose more effective approaches to tackling or understanding it.

Step 3: Set Your Aims and Objectives

The aim is the overall purpose of your research. It is generally written in the infinitive form:

- The aim of this study is to determine...
- This project aims to explore...
- The author aims to investigate...

Step 3: Set Your Aims and Objectives

Practical research aims and objectives

- The aim of this research is to investigate effective engagement strategies to increase voter turnout in region X. It will identify the most significant factors in non-voting through surveys and interviews and conduct experiments to measure the effectiveness of different strategies.
- The aims and objectives should lead directly to your research questions.

Objectives Writing – General Idea

- The objectives are the steps that the author would take to accomplished the project
- Analogy – step-ladder to reach the roof
- Each objectives should be significant to assist the author to complete the project
- be significant/meaningful
- there should be 3 – 4 objectives

Research Objectives

- Research objectives are clear statement of the intention of the study
- Indicates Purposiveness
- Nature flow from the problems statement
- Specific, concrete and achievable goals

Writing Research Objectives and Questions

- Research Questions
 - Express the research objectives in terms of **questions** that can be addressed by research.
 - Help to develop **well-formulated**, specific hypotheses that can be empirically **tested**.
 - Help the researcher design a study that will produce **useful results**.

Clarity in Research Questions and Hypotheses

- Research Questions

- The researcher's translation of the **problem** into a **specific inquiry**.
 - Provide **input** that can be used as a standard for **selecting** from among **alternative solutions**.

- Hypotheses

- Statements that can be **empirically** (observation/experimental) tested.
 - State **what is expected** to be found through the study.

Example of Problem Statement

Title: Smart Car Seat

Caregivers unknowingly expose their small children to dangerous temperatures by leaving them unattended in cars. About 38 infants or toddlers die annually when they become trapped in hot cars because they are both physically and physiologically vulnerable to heatstroke. 50 percent of cases are due to children being forgotten.

This project aims to alert the caretaker when a child has been left and if the car is reaching a dangerous temperature.

Project Objectives

Should have a SMART criteria.

- S – specific (from the statement, we can know the output/result/product)
- M – measurable (result can be seen/observed)
- A – achievable
- R – relevant
- T – timeliness (within 2 semester output can be produced)

Example of Objective

- To design a smart car seat that communicates the child's presence and information regarding the car environment to a key fob held by the caretaker.

Example 2:

1. Research the characteristics of current healthcare industry supply chain process
2. Identify how Blockchain technology may be implemented in the healthcare industry to effectively trace pharmaceutical drugs in the supply chain
3. Design and develop a supply chain traceability system using Blockchain technology
4. Conduct testing to ensure the effectiveness of the newly designed supply chain traceability system

Example 3:

1. Create a smart flower-pot that monitors, analyses, and optimises the environmental conditions of plants automatically.
2. Control, manage, and generate useful reports from the smart flower-pot through a mobile application developed.
3. Analyze data derived from the system and build data models that will optimally improve the plant's condition.

Example 4:

1. Develop an effective heart disease prediction system using classification technique.
2. Perform descriptive analysis to discover hidden knowledge and patterns available in heart disease dataset.
3. Perform testing and evaluation on the system.

Research Design/Research Methodology

- How are you going to do it?
- Information such as sample selection, size, data collection method, instrumentation procedures and ethnical requirements.
- Justify the methods you have selected and rejected.
- Show the methodology in phases

Research Design/Research Methodology

- Phase 1: Requirement gathering
- Phase 2: Implementation
- Phase 3: Output / Result

Scope, Limitation, Target Audience

- Scope:
 - what the **project includes** & what is **excluded**
 - refers to the specific deliverables
 - For e.g. : when building a web app, you might determine the scope of the project to include building web APIs. It should also be indicated what the scope of work does not include, such as a fully working bank transactions to process payment.

Scope, Limitation, Target Audience

- Limitation:
 - E.g. The final output would be only prototype without fully featured application, so there will be a limited functionality in the final presentation.

Scope, Limitation, Target Audience

- Target Audience:
 - E.g. The target audience for this project would be teens and adults in the age range of 13 to 40 years old. An appropriate and exciting text, images, videos and animation would be embedded in the web as to impress the audience.

7. Schedule

- GANTT chart to manage the phases of the research

Project Start	Mon, 5/24/2021																	
Display Week	1			May 24, 2021							May 31, 2021							
				24	25	26	27	28	29	30	31	1	2	3	4	5	6	7
				M	T	W	T	F	S	S	M	T	W	T	F	S	S	M
START				END			DAYS											
5/24/21				7/23/21			74											
5/24/21				6/25/21			33											
5/24/21				5/24/21			1											
5/25/21				6/1/21			8											
6/2/21				6/10/21			9											
6/11/21				6/11/21			1											
6/12/21				6/13/21			2											
6/14/21				6/25/21			12											
6/13/21				7/9/21			27											
6/13/21				6/16/21			4											
6/17/21				6/21/21			5											

Gantt Chart

- This consists of a breakdown of the work to be done into phases, tasks and other activities with estimates of time to complete the work – refer to **CPT6314 Project Calendar**.
- It will specify interdependencies of tasks, critical work elements and schedule.

Language, Grammar and Orthography

Poor language will reduce the chances of success:

- General impression: sloppiness
- Readability: Hard to read. Can draw attention away from the message
- Reliability: Very likely the reporting of the results will be poorly written

Readability

Proper language &:

- sufficient font size
- clear figures, including captions, legends, labels;
- clear and well explained structure of the proposal;
- proper sectioning with clear titles;
- adding summaries to stress the main points of the proposal
- eliminating verbiage

References

- literature sources directly link to the background section
- Do not add in sources not applicable in the project.
- Secondary Data Collection Sources
- References must be given correctly.
- Refer to recent journal articles, **not more than 5 years ago.**
- The references should be cited in the body of your report where appropriate
- American Psychological Association (APA) referencing style

FYP - Contacts

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