

PART VII. FORMAT

Title Page
Approval Sheet
Dedication
Acknowledgment
Table of Contents
List of Figures
List of Tables
Executive Summary
Abstract

CHAPTER I. THE PROBLEM AND ITS SCOPE

Introduction
Problem statement
Objectives
Significance of the study
Scope and Limitations
Definition of Terms

CHAPTER II. REVIEW OF RELATED LITERATURE AND SYSTEMS

Related Literature
Related Systems

CHAPTER III. METHODOLOGY

Design Method
Flow of the Study
Functional and Non-Functional Requirements
Respondents
Environment
Instrument
Data Gathering Procedures
Statistical Treatment of Data

CHAPTER IV. RESULTS, CONCLUSION AND RECOMMENDATIONS

Graphical User Interface (GUI) and its Device
Implementation Plan
Budget Recommendation
Testing and Evaluation
Findings
Conclusion
Recommendations

REFERENCES

APPENDICES

PART VIII. GUIDE

The conduct of the capstone/research project for BSIT requires active collaboration and communication between the student and the capstone adviser. Be sure to follow the program's specific guidelines and instructions and seek guidance from your capstone/research professor as needed.

a. Format

- Size is 8 ½ by 11 inches
- Set page left margins to 1.5 inches.
- Margins on other sides shall be 1 inch.
- Double-space all text, including headings.
- Justify text on both sides.
- Indent the first line of every paragraph 0.5 inches.
- Use an accessible font (Times New Roman 12pt.)
- All symbols shall be from an acceptable font.
- Text in figures and tables must be be readable, and the font size shall not be smaller than 9 points.
- Include a page number on every page.

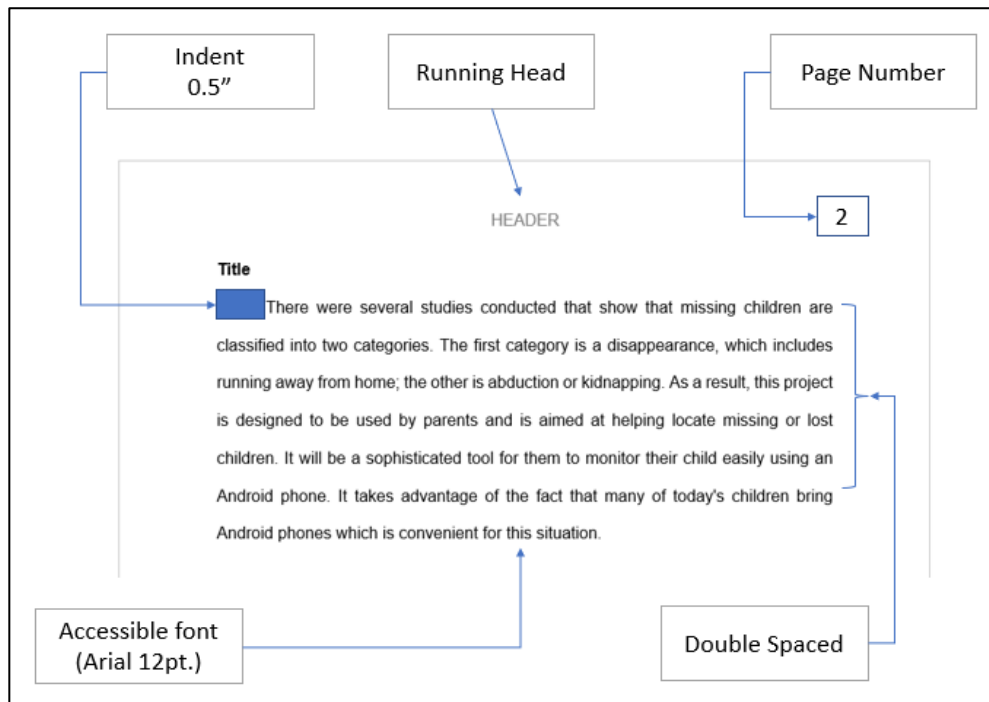


Figure 1. Sample Format

b. Preliminary Pages

b.1. Title Page

The title page shall bear the following inscriptions: full title of capstone/research project, name of the candidate, name of degree, and month and year of completion (Appendix A).

b.2. Approval Sheet

The approval sheet shall have the following details as indicated in (Appendix B).

b.3. Dedication

A capstone/research dedication is a personal message or statement that is included at the beginning of a capstone/research project.

It typically expresses gratitude, appreciation, or acknowledgment to individuals or groups who have supported or inspired the completion of the project (Appendix C).

b.4. Acknowledgment

An acknowledgment section in a capstone project typically expresses gratitude to individuals, groups, or organizations that have contributed to the completion of the project (Appendix D).

b.5. Table of Contents (Appendix E).

b.6. List of Figures (Appendix F).

Graph, charts, maps and other diagram shall be placed immediately right after they are mentioned in the text.

They should be in indelible ink, labeled as figures and numbered consecutively with Arabic numerals. If the figure has more than one part, each part shall be labeled a, b, c, etc.

Each figure shall emphasize the appearance of the experimental materials, amplify a taxonomic description and summarize data that are presented in the table. If figure is too large, it shall be photographically reduced to the size of one standard size paper.

Prints (photos) shall have clear white backgrounds and strong contrast.

b.7. List of Tables (Appendix G).

Tables shall be placed immediately after their first mention in the text, preferably in separate pages. They shall be numbered consecutively with Arabic numerals. Text references to tables are made parenthetically, [(Table 1)] or as part of the sentences, [as shown in Table 2].

A large table shall be reduced photographically to accommodate it in one whole page of a standard size paper except for special documents.

Caption shall appear at the top of the table with first letter of the first word and proper noun capitalized.

b.8. Executive Summary

An executive summary for a capstone/research project provides a concise overview of the project's purpose, methodology, findings, and implications (Appendix H).

b.9. Abstract

The abstract is an abridged version of the most important results reported in the thesis/dissertation and shall be written not more than 250 words. It shall contain the name of the candidate, college/university, date of graduation, underscored title of the project, and name of the major professor. It shall be free from tabular graphic materials, references, or abbreviations (Appendix I).

c. CHAPTER I: THE PROBLEM AND ITS SCOPE

c.1. Introduction

How to write your introduction?

The introduction to a capstone project should effectively communicate the purpose and scope of the project to the reader. The introduction may have at least 1 or 2 pages in the whole document. Here are some tips on how to write an introduction for a capstone project.

1st paragraph:

Start with a Hook: Begin your introduction with an attention-grabbing statement or question related to your project topic. This will pique the reader's interest and encourage them to continue reading.

Provide Background Information: Provide context and background information on your project topic. This will help the reader understand the significance of the problem or opportunity that your project *is addressing*.

2nd paragraph

State the Problem OR Opportunity: Clearly state the problem or opportunity that your project is addressing. Be specific and concise in describing the issue you are trying to solve or the need you are trying to fulfill.

3rd – 4th paragraph

Present the Project Objectives: Clearly state the objectives of your project. This will provide a roadmap for the rest of your project and give the reader an idea of what to expect.

Describe the Scope of the Project: Describe the scope of your project, including the methodology, tools, and resources you will use. This will help the reader understand your project's scope and your project's limitations.

4th - 5th paragraph

Conclude with a Statement: Conclude your introduction with a thesis statement summarizing your project's main points. This will provide a clear and concise statement of the purpose and scope of your project.

Note: Remember to keep your introduction concise and to the point. Avoid using technical jargon or complex terminology that may confuse the reader. Use clear and simple language that is easy to understand. Lastly, be sure to review and edit your introduction to ensure that it is well-written and effectively communicates the purpose of your project.

Sample:

1st paragraph

In the last decades, the world has witnessed an enormous increase in the acceptance of mobile communication worldwide. According to Balogo (2021), most people already own smartphones, including children around seven or eight years old (Juan et al., 2020).

2nd paragraph

This is due to many reasons. One is the remarkable features and capabilities of new smartphones, especially Android-based smartphones (Cofino & Escorial, 2020).

3rd paragraph

There were several studies conducted that show that missing children are classified into two categories. The first category is a disappearance, which includes running away from home; the other is abduction or kidnapping. As a result, this project is designed to be used by parents and is aimed at helping locate missing or lost children. It will be a sophisticated tool for them to monitor their child easily using an Android phone. It takes advantage of the fact that many of today's children bring Android phones which is convenient for this situation.

4th paragraph

Developing an Android-based location tracker with GPS Technology will help the users monitor an individual and determine their proximate location at all times. The choice of developing this system is based on a real-time study that pertains to our country's applied technology though we are at an infancy stage due to some limitations. Furthermore, developing the GPS-based Child Tracking Application helps parents track their loved ones but also enables them to determine their children's position accurately at timed intervals.

Note: Acknowledged/Cite the source/reference/website using APA 7th Ed. Format.

Figure 2. Sample Introduction

c.2. Statement of the Problem

How to write your problem statement?

The statement of the problem is an essential component of the capstone project for the BSIT program. It should be a concise and clear description of the problem that your project aims to address.

Statement of the Problem

The present undertaking tries to analyze the technical requirements needed in the development of GPS-based Child Tracking Application, design and implement a reliable and accessible application for parents. Specifically, the present study seeks to answer the following questions:

1. How accurate is GPS-based Child Tracking App for parents in monitoring and tracking their child's location?
2. What are the specific requirements needed on the development of the proposed system?
3. What are the technical features that the system must acquire in order for the end-users to gain satisfaction with the system?
4. How beneficial is GPS-based Child Tracking App to the end-users?

Figure 3. Sample Statement of the Problem

c.3. Objectives

How to write your objectives?

In formulating the objectives, **SMART** should be taken into consideration. **S** – stands for Specific, **M** – measurable, **A** – attainable, **R** – realistic, and **T** – timely/time bounded.

General Objective: This section states the overall goal that must be achieved to answer the problem.

Specific: This subsection is an elaboration of the general objective. It states the specific steps that must be undertaken to accomplish the general objective. Each specific objective may start with "**to design/survey/review/analyze...**" It has a much greater chance of being accomplished than a general goal. Thus, to set a specific goal, the six "W" questions must be answered:

- Who – Who is involved?
- What – What do I want to accomplish?
- Where – Identify a location.
- When – Establish a time frame.
- Which – Identify requirements and constraints

Why – Specific reasons, purpose, or benefits of accomplishing the goal

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| When | – Establish a time frame. |
| Which | – Identify requirements and constraints |
| Why | – Specific reasons, purpose, or benefits of accomplishing the goal |

Example 1:

"To design, develop, and implement a software solution that improves the efficiency and effectiveness of a business process or system, resulting in increased productivity and profitability for the organization."

Specifically, this project aims to:

1. Specific: Develop a web application for online shopping
2. Measurable: Develop a functional and user-friendly web application
3. Achievable: The project team has the necessary technical expertise to develop the web application
4. Relevant: Online shopping is a growing trend, and the web application will enable customers to make purchases easily.
5. Time-bound: Complete the project within six months.

Example 2:

"To design, develop, and implement a software solution that improves the efficiency and effectiveness of a business process or system, resulting in increased productivity and profitability for the organization."

Specifically, this project aims to:

1. Specific: Develop a mobile app for employee time tracking
2. Measurable: Develop a mobile app that accurately tracks employee time and attendance
3. Achievable: The project team has experience in developing mobile apps
4. Relevant: The mobile app will improve accuracy in tracking employee time and attendance and simplify payroll processing
5. Time-bound: Complete the project within four months.

Figure 4. Sample Objectives

Table 1. Verbs to Use in Writing Your Objectives

INFORMATION	COMPREHENSION	APPLICATION	ANALYSIS	SYNTHESIS	EVALUATION
cite	assess	apply	analyze	arrange	appraise
count	associate	calculate	appraise	assemble	assess
define	classify	choose	contract	collect	choose
describe	compare	complete	criticize	combine	compare
draw	compute	demonstrate	debate	compose	critique
identify	contrast	develop	deduce	construct	decide
indicate	demonstrate	employ	detect	create	determine
list	describe	examine	diagram	design	estimate
name	differentiate	illustrate	infer	detect	evaluate
point	discuss	match	inspect	document	grade
quote	distinguish	operate	inventory	formulate	judge
read	experiment	order	measure	generalize	measure
recite	explain	practice	question	integrate	rank
recognize	express	prescribe	separate	manage	rate
relate	interpolate	schedule		plan	revise
report	interpret	sketch		prepare	score
select	locate	solve		prescribe	select
state	predict	treat		produce	test
summarize	report	use		propose	
tabulate	restate	utilize		specify	
update					
demonstrate	empathize	listen	operate	visualize	demonstrate
diagnose	hold	manage	project	write	diagnose
Activate	Contrast	Evaluate	Make	Reiterate	Activate
Address	Convert	Examine	Manage	Repeat	Address
Adjust	Copy	Execute	Manipulate	Reply	Adjust
Analyze	Count	Explain	Measure	Reproduce	Analyze
Apply	Create	File	Modify	Respond	Apply
Arrange	Critique	Fill	Name	Restate	Arrange
Assemble	Define	Form	Order	Select	Assemble
Assess	Describe	Formulate	Organize	Serve	Assess
Assist	Design	Grasp	Outline	Solve	Assist
Associate	Detect	Group	Perform	Specify	Associate
Balance	Determine	Identify	Plan	Tabulate	Balance
Breakdown	Develop	Illustrate	Predict	Tell	Breakdown
Build	Diagram	Indicate	Prepare	Test	Build
Complete	Display	Lift	Quote	Use	Complete
Compute	Distinguish	List	Recall	Validate	Compute
Conduct	Enumerate	Listen	Recite	Verify	Conduct
Connect	Estimate	Locate	Record	Write	Connect
Construct					Construct

c.4. Significance of the Study

How to write the significance of the study?

Write the significance of the study by first considering the overall contribution of your capstone project, such as its importance to society, and then working your way down to the individual level, which may include yourself as a researcher. You begin broadly, then progressively refine your focus to a specific group or person.

The result of the study will help people get real-time information and provide constant monitoring to anyone. This project study will benefit the following:

To the Users. The result of the study will be used in general, meaning it can be used by everybody as long as they are using Android phones. It will benefit most especially the parents because the system is reliable in giving accurate information to monitor their child.

To the Information Technology Students. This study will help the students taking up a computer study to widen their knowledge about Android-based apps development with Java programming language and the use of GPS in the application.

To The Researchers. This study will serve as relative information for other researchers who are interested in the development of GPS-based Android apps.

Figure 5. Sample Significance of the Study

c.5. Scope and Limitations

How to write your scope and limitations?

This part presents what particular activity is the focus of the project. The group must therefore state on this part the scope meaning what part of the activities in the office is covered and what is not. The limitations refer to what this project cannot accommodate or what the researchers of this project will not deal with. In other words, this section discusses the boundaries of the project (with respect to the objectives) and the constraints within which the project will be developed.

Example:

This capstone project entitled “Grading System for the School of Computer Studies” is focused on the design, development, and implementation of a working Grading System that will be implemented by all faculty members. Only the process of computation, storage, submission, and release of grades are covered in this project. Account statements and billing or payments are not part of this project.

Figure 6. Sample Scope and Limitation

c.6. Definition of Terms

Define each term by giving its conceptual definition and operational definition. The conceptual definition is based on how it is defined in the dictionary. At the same time, the operational definition is based on how it was used in the study.

Example:

Android. A mobile operating system (OS) based on the Linux kernel and currently developed by Google. This was used to develop the Android Based GPRS Application in tracking child location.

Figure 7. Definition of terms

d. CHAPTER II: REVIEW OF RELATED LITERATURE AND SYSTEMS

Note: Minimum of twenty (20) related literature and ten (10) related systems

Reviewing related literature and systems is essential to any capstone/research project paper or academic project. It involves a critical analysis of existing projects and literature on the subject matter, providing a comprehensive overview of the capstone/research project already conducted in the field.

Here are the steps you can follow to write a review of related literature:

- 1) Before you begin the review, you must identify the question or problem you are trying to address.
- 2) Conduct a comprehensive search of relevant literature, including academic journals, books, conference proceedings, and online databases. Use keywords related to your question to find relevant literature.
- 3) Evaluate the sources for their relevance, credibility, and quality. Ensure that the sources are up-to-date and reliable (5 years).
- 4) Group the literature into themes or topics related to your question.
- 5) Analyze the literature by summarizing and synthesizing each source's key findings, methodologies, and conclusions. Identify similarities, differences, and contradictions in the literature.
- 6) Critically evaluate the literature by identifying any limitations, biases, or gaps. Discuss how the literature relates to your question.

- 7) Edit and revise the review to ensure that it is well-organized, clear, and concise. Make sure that your arguments are supported by evidence from the literature.
- 9) Ensure that you cite your sources correctly according to the appropriate citation style (APA format 7th Edition).

Example:

Review of Related Literature and Systems

The present study is anchored on the related literature, studies and systems which give relevant information and better enlightenment for the readers to understand clearly about GPS-based Child Tracking Application.

Review of Related Literature

The paper presented by El-Medany, W. & Al-Omary et al. (2023) describes a real time tracking system that provides accurate localizations of the tracked vehicle with low cost. GM862 cellular quad band module is used for implementation. Another study compares general privacy concerns in different situations to the inquirer of the information and finds that inquirer is a greater determinant for what people want to reveal than situation Lederer et al., (2021).

Review of related Systems

Salminen (2020), proposed a Region based positioning method for locating a user in cellular networks. The system finds the Location of objects which is helpful for shipping industries. Chatwaal (2019), developed an Android based LOGLIFE project which is analogous to Tracker application. The application maintains the log of all the places visited by the mobile user.

Figure 8. Sample Review of Related Literature and Systems