

c. Suggested Areas

The following are the suggested areas in the conduct of Capstone Project/Research for the Bachelor of Science in Information Technology degree program.

c.1 Software Development

- Software Customization
- Information Systems Development for an actual client (with pilot testing)
- Web Applications Development (with at least alpha testing on live servers)
- Mobile Computing Systems

c.2 Multimedia Systems

- Game Development
- e-Learning Systems
- Interactive Systems
- Information Kiosks

c.3 Network Design and Implementation and Server Farm Configuration and Management

c.4 IT Management

- IT Strategic Plan for Sufficiently Complex Enterprises
- IT Security Analysis, Planning, and Implementation

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 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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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

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