

1 THIS IS THE TITLE OF YOUR SPECIAL PROBLEM

2 A Special Problem

3 Presented to

4 the Faculty of the Division of Physical Sciences and Mathematics

5 College of Arts and Sciences

6 University of the Philippines Visayas

7 Miag-ao, Iloilo

8 In Partial Fulfillment

9 of the Requirements for the Degree of

10 Bachelor of Science in Computer Science by

11 LASTNAMEA, FirstName1

12 LASTNAMEB, FirstName2

13 LASTNAMEZ, FirstName3

14 Francis DIMZON, Ph.D.

15 Adviser

16 May 12, 2025

Approval Sheet

The Division of Physical Sciences and Mathematics, College of Arts and
Sciences, University of the Philippines Visayas

certifies that this is the approved version of the following special problem:

THIS IS THE TITLE OF YOUR SPECIAL PROBLEM

Approved by:**Name****Signature****Date**

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27 **Declaration**

28 We, [NAMES here], hereby certify that this Special Problem has been written
29 by us and is the record of work carried out by us. Any significant borrowings have
30 been properly acknowledged and referred.

Name

Signature

Date

Student Name 1

(Student)

31 Student Name 2

(Student)

Student Name 3

(Student)

Dedication

“Hello, world.”

Acknowledgment

“Hello, world.”

Abstract

37 From 150 to 200 words of short, direct and complete sentences, the abstract should
38 be informative enough to serve as a substitute for reading the entire SP document
39 itself. It states the rationale and the objectives of the research. In the final Special
40 Problem document (i.e., the document you'll submit for your final defense), the
41 abstract should also contain a description of your research results, findings, and
42 contribution(s).

43 Suggested keywords based on ACM Computing Classification system can be found
44 at https://dl.acm.org/ccs/ccs_flat.cfm

45 **Keywords:** Keyword 1, keyword 2, keyword 3, keyword 4, etc.

46

Contents

47	1 Introduction	1
48	1.1 Overview of the Current State of Technology	1
49	1.2 Problem Statement	4
50	1.3 Research Objectives	4
51	1.3.1 General Objective	4
52	1.3.2 Specific Objectives	4
53	1.4 Scope and Limitations of the Research	5
54	1.5 Significance of the Research	5
55	2 Review of Related Literature	7
56	2.1 Theme 1 Title	8
57	2.2 Theme 2 Title	9

58	2.3 Chapter Summary	9
59	3 Research Methodology	11
60	3.1 Research Activities	11
61	4 Results and Discussions	13
62	5 Conclusion	15
63	6 References	17
64	A Code Snippets	19
65	B Resource Persons	21

66 List of Figures

<small>67</small>	1.1	This is the figure's caption – Disney stock chart. Captions should	
<small>68</small>		fully describe the figure in a concise manner such that there is no	
<small>69</small>		need to refer to the text when figuring out the graphic.	2

⁷⁰ List of Tables

Chapter 1

Introduction

1.1 Overview of the Current State of Technology

This section gives the reader an overview of the specific technology or field in the international or local setting. The information regarding the technology or field should be contemporary and not based on outdated sources. Discussion must not be too technical or too detailed.

This section ends with a discussion on the problem/s faced by or that still exist in the specific technology or field (e.g., limitations of existing software or algorithms). The problem statement would lead to the research objectives.

It is easy to include a figure in JPG or PNG format as shown in the following example. Make sure that you explain what the figure is all about, and that you refer to your figure. Figures and Tables should appear after they were referred to in the text. For example, Figure 1.1 shows a graph of the performance of Disney

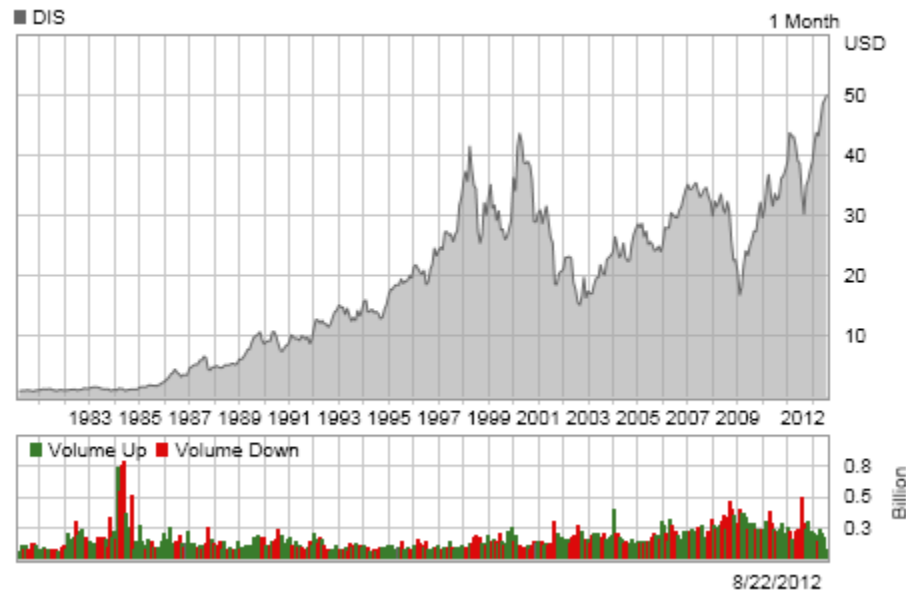


Figure 1.1: This is the figure’s caption – Disney stock chart. Captions should fully describe the figure in a concise manner such that there is no need to refer to the text when figuring out the graphic.

85 stock from the 1980s to 2012.

86 Some notes on citing references. When using APA format, the author-date method
 87 of citation is followed. This means that the author’s last name and the year of
 88 publication for the source should appear in the text, and a complete reference
 89 should appear in the reference list.

90 Here are some examples on how to do the referencing (note author’s name and
 91 years are different from commented examples). For APA citation details, refer to
 92 <http://www.ctan.org/tex-archive/biblio/bibtex/contrib/apacite/>.

93 • Kartch (2000) compared reaction times...

94 • In a recent study of reaction times (Kartch, 2000)...

95 • In 2000, Kartch compared reaction times...

96 • Fedkiw et al. (2001) compared reaction times...

97 • In a recent study of reaction times (Fedkiw et al., 2001)...

98 • In 2001, Fedkiw et al., compared reaction times...

99 The following are references from journal articles (Park, Linsen, Kreylos, Owens,
100 & Hamann, 2006; Pellacini et al., 2005; Sako & Fujimura, 2000). Here's an MS
101 thesis document (Yee, 2000), and this is from PhD dissertation (Kartch, 2000).
102 For a book, reference is given as (Parke & Waters, 1996). Proceedings from a
103 conference samples are (Jobson, Rahman, & Woodell, 1995; Fedkiw et al., 2001;
104 Levoy et al., 2000). The sample bibliography file named **myreferences.bib** is
105 from the SIGGRAPH L^AT_EX template. You can use a text editor to view the
106 contents of the bib file. It is your task to create your own bibliography file. For
107 those who downloaded papers from ACM or IEEE sites, there is a BibTeX link
108 that you can click; thereafter, you just simply need to copy and paste the BibTeX
109 entry into your own bibliography file.

110 The following shows how to include a program source code (or algorithm). The
111 verbatim environment, as the name suggests, outputs text (including white spaces)
112 as is...

```
113           #include <stdio.h>
114           main()
115           {
116                 printf("Hello world!\n");
117           }
```

1.2 Problem Statement

DO NOT FORGET to write the statement of the research problem here, i.e., before the Research Objectives.

A problem statement is your research problem written explicitly. The problem statement should do four things:

1. Specify and describe the problem (with appropriate citations)
2. Provide evidence of the problem's existence
3. Explain the consequences of NOT solving the problem
4. Identify what is not known about the problem that should be known.

1.3 Research Objectives

1.3.1 General Objective

This subsection states the over-all goal that must be achieved to answer the problem. Address the following: Given your research challenge or opportunity, how do you intend to solve it? What is the output of your research?

1.3.2 Specific Objectives

This subsection is an elaboration of the general objective. It states the specific steps that must be undertaken to accomplish the general objective. These objec-

135 tives must be **S**pecific, **M**easurable, **A**ttainable, **R**ealistic, **T**ime-bounded. A spe-
136 cific objective start with “to <verb>” for example: to design/survey/review/analyze.

137 Studying a particular programming language or development tool (e.g., to study
138 Windows/Object-Oriented/Graphics/C++ programming) to accomplish the gen-
139 eral objective is inherent in all thesis and, therefore, must not be included here.

- 140 1. To review related literature, compare and contrast existing algorithms (on
141 what problem?);
- 142 2. To develop a new algorithm (for what purpose?)
- 143 3. To analyze the algorithm (based on what criteria?)

144 1.4 Scope and Limitations of the Research

145 This section discusses the boundaries (with respect to the objectives) of the re-
146 search and the constraints within which the research was developed.

147 1.5 Significance of the Research

148 This section explains why research was done in this area. It rationalizes the ob-
149 jective of the research with that of the stated problem. Avoid including sentences
150 such as “This research is beneficial to the proponent/department/college” as this
151 is already an inherent requirement of all BSCS majors. Focus on the research’s
152 contribution to the Computer Science field.

153 The following are guide questions that may help your formulate the significance
154 of your research.

- 155 • What is the relevance of your work to the computer science community?
 - 156 – What are your technical contributions, in terms of algorithms, or ap-
157 proaches, or new domain?
 - 158 – What is your value-added compared to existing systems?
- 159 • What are your contributions to society in general?
 - 160 – Who benefits from your system?
 - 161 – Who are your target users and how this system benefit them?

Chapter 2

Review of Related Literature

This chapter discusses the features, capabilities, and limitations of existing research, algorithms, or software that are related/similar to the Special Problem.

The reviewed works and software must be arranged either in chronological order, or by area (from general to specific). Observe a consistent format when presenting each of the reviewed works. This must be selected in consultation with the adviser.

DO NOT FORGET to cite your references.

A literature review must do these things:

- be organized around and related directly to the thesis or research question you are developing
- synthesize results into a summary of what is and is not known
- identify areas of controversy in the literature

- 175 • formulate questions that need further research

176 A literature review is a piece of discursive prose, not a list describing or summa-
177 rizing one piece of literature after another. It's usually a bad sign to see every
178 paragraph beginning with the name of a researcher. Instead, organize the litera-
179 ture review into sections that present themes or identify trends, including relevant
180 theory. You are not trying to list all the materials published, but to synthesize
181 and evaluate them according to the guiding concept of your thesis or research
182 question. You should also state the limits or gaps of their researches wherein you
183 will try to fill these gaps in accordance to your research problem and objectives.

184 2.1 Theme 1 Title

185 This chapter contains a review of research papers that:

- 186 • Describes work on a research area that is similar or relevant to yours
- 187 • Describes work on a domain that is similar or relevant to yours
- 188 • Uses an algorithm that may be useful to your work
- 189 • Uses a software / tool that may be useful to your work

190 It also contains a review of software systems that:

- 191 • Belongs to a research area similar to yours
- 192 • Addresses a need or domain similar to yours
- 193 • Is your predecessor

194 **2.2 Theme 2 Title**

195 **2.3 Chapter Summary**

196 Should include a table of related studies comparing them based on several criteria.

197 Highlight research gaps and the research problem.

Chapter 3

Research Methodology

This chapter lists and discusses the specific steps and activities that were performed to accomplish the project. The discussion covers the activities from pre-proposal to Final SP Writing.

3.1 Research Activities

Research activities include inquiry, survey, research, brainstorming, canvassing, consultation, review, interview, observe, experiment, design, test, document, etc. Be sure that for each method, process, or algorithm used, there is a justification why that method was chosen. The methodology also includes the following information:

- who is responsible for the task
- the resource person to be contacted

- 211 • what were done
- 212 • when and how long the activity was done
- 213 • where it was done
- 214 • why should the activity was done

215 **Chapter 4**

216 **Results and Discussions**

217 This chapter presents the results or the system of your SP. Include screenshots,
218 tables, or graphs and provide the discussion of results.

219 **Chapter 5**

220 **Conclusion**

221 This chapter summarizes your SP and provides conclusions regarding your results
222 and analyses. Provide recommendations on what ought to be done with your SP
223 or provide further directions on the topic you covered.

Chapter 6

References

- Fedkiw, R., Stam, J., & Jensen, H. W. (2001). Visual simulation of smoke. In E. Fiume (Ed.), *Proceedings of siggraph 2001* (pp. 15–22). ACM Press / ACM SIGGRAPH.
- Jobson, D. J., Rahman, Z., & Woodell, G. A. (1995). Retinex image processing: Improved fidelity to direct visual observation. In *Proceedings of the is< fourth color imaging conference: Color science, systems, and applications* (Vol. 4, pp. 124–125).
- Kartch, D. (2000). *Efficient rendering and compression for full-parallax computer-generated holographic stereograms* (Unpublished doctoral dissertation). Cornell University.
- Levoy, M., Pulli, K., Curless, B., Rusinkiewicz, S., Koller, D., Pereira, L., ... Fulk, D. (2000). The digital michelangelo project. In K. Akeley (Ed.), *Proceedings of siggraph 2000* (pp. 131–144). New York: ACM Press / ACM SIGGRAPH.
- Park, S. W., Linsen, L., Kreylos, O., Owens, J. D., & Hamann, B. (2006, March/

- 241 April). Discrete sibson interpolation. *IEEE Transactions on Visualization*
242 *and Computer Graphics*, 12(2), 243–253.
- 243 Parke, F. I., & Waters, K. (1996). *Computer facial animation*. A. K. Peters.
- 244 Pellacini, F., Vidimče, K., Lefohn, A., Mohr, A., Leone, M., & Warren, J. (2005,
245 August). Lpics: a hybrid hardware-accelerated relighting engine for com-
246 puter cinematography. *ACM Transactions on Graphics*, 24(3), 464–470.
- 247 Sako, Y., & Fujimura, K. (2000). Shape similarity by homotropic deformation.
248 *The Visual Computer*, 16(1), 47–61.
- 249 Yee, Y. L. H. (2000). *Spatiotemporal sensistivity and visual attention for efficient*
250 *rendering of dynamic environments* (Unpublished master’s thesis). Cornell
251 University.

²⁵² **Appendix A**

²⁵³ **Code Snippets**

254 **Appendix B**

255 **Resource Persons**

256 **Dr. Firstname1 Lastname1**

257 Role1

258 Affiliation1

259 emailaddr@domain.com

260 **Mr. Firstname2 Lastname2**

261 Role2

262 Affiliation2

263 emailaddr2@domain.com

264 **Ms. Firstname3 Lastname3**

265 Role3

266 Affiliation3

267 emailaddr3@domain.net

268