

Faculty of Applied Sciences  
Bachelor of Science in Computing

**COMP490 Final Year Project  
Progress Report**Academic Year 2022/23

|  |  |
| --- | --- |
| Parsons problem generator and solver | |
|  |  |
| Project number: | 19 |
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|  |  |
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|  |  |
| Submission Date: | 24/11/2022 |

Declaration of Originality

I, Jane Liu, declare that this report and the work reported herein was composed by and originated entirely from me. This report has not been submitted in any form for another degree or diploma at any university or other institute of tertiary education. Information derived from the published and unpublished work of others has been acknowledged in the text and a list of references is given in the bibliography.

Text

Description automatically generated with medium confidence

Jane Liu

02/11/2022

Abstract

This template file provides the Word styles for writing the Final Year Project.

Text highlight in green are instruction or hints. Text highlight in gray are sample text to demonstrate formatting. The following paragraph is an example.

Sample text sample text Sample text sample text Sample text sample text Sample text sample text. Sample text sample text Sample text sample text, Sample text sample text Sample text sample text.

There are also some placeholder highlight in red. Change them to your own information, e.g. your name and project title.

In any submitted report, you must delete or replace all the colour text.

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# Introduction

Introduction must include the following:

* Background and motivation. Problem. Related works
* Project description
* Objectives
* Main tasks

Refer to the Writing Guide and the Writing Workshop for more detail on the content requirement for each chapter.

## Objectives

Write one paragraph to state the aim or goal of the whole project. Then break down the goal into 4-6 SMART objectives.

The objectives of this project are:

* Sample objective 1
* Sample objective 2

## Risk Assessment

Introduce the main risks of your project in this intro paragraph

Table 1: Table of prioritized risk

|  |  |
| --- | --- |
| Priority | Risk Identifier and Description |
| 1 | Risk 1: short description |
| 2 | Risk 2: short description |
| 3 | Risk 3: … |
| 4 | Risk 4: .. |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Probability** | High |  |  | Risk 1 |
| Medium |  | Risk 3 | Risk 2 |
| Low |  |  |  |
|  |  | Low | Medium | High |
|  |  | **Impact** | | |

Figure 1: Probability impact matrix before proposed solution

## Summary

The summary should be finished like this: This report is organized as follows: Chapter 2 introduces the background of our work. Chapter 3 presents our design approach. Chapter 4 shows the implementation details….

# Background and Related Work

In this chapter, you provide background information for readers to help them understand your project. There may be more than one sections on background domain.

This chapter also provides detail about related work. In chapter 1, you should have mentioned some related works and explain how your project is related to them when you discuss relevancy. If you want to provide detail of related works, include them in this chapter.

Call this chapter “Background” if all related works have been described in Chapter 1.

## Domain 1

Sample text sample text Sample text sample text Sample text sample text Sample text sample text. Sample text sample text Sample text sample text, Sample text sample text Sample text sample text.

## Domain 2

Sample text sample text Sample text sample text Sample text sample text Sample text sample text. Sample text sample text Sample text sample text, Sample text sample text Sample text sample text.

### A Subtopic in Domain 2

Sample text sample text Sample text sample text Sample text sample text Sample text sample text. Sample text. A sample list below:

* Sample list item
* Sample list item

### Another Subtopic in Domain 2

Sample text sample text Sample text sample text Sample text sample text Sample text sample text. Sample text.

## Related Work

Give a brief description of related works. May be omitted if enough detail of related works are already covered in Chapter 1.

Sample text sample text Sample text sample text Sample text sample text Sample text sample text. Sample text sample text Sample text sample text, Sample text sample text Sample text sample text.

# Completed Work

This chapter explains the completed work up to now including four different parts. Specifically, the first part illustrates the new ways of using Parsons problem to fit the exercises in CS2. The next part shows the corresponding data modelling to support these new ways. Subsequently, activity diagrams are present to illustrate the interaction between users and the system. Finally, the implementation details of a prototype of Parsons problem is covered.

## Parsons Problem Analysis

Previous type of Parsons problem has shown its own advantages in exercises of CS1. However, since there are plenty of differences between the exercises in CS1 and CS2, it is not so proper to apply Parsons problem directly in CS2 without tailored improvement. Thus, some new ideas should be introduced to Parsons problem. The limitation of the previous Parsons problem and new ideas will be discussed in the following paragraphs by comparing the difference between CS1 and CS2.

[Students, exercises and codes, chaos of subject]

Unlike CS1, the codes in CS2 are much more complex and abstract. The exercises in CS2 puts forward higher requirements for students’ deep understanding of codes. In other words, students cannot be self-satisfied if they just understand the meaning of every line. They are supposed to have a general picture of whole codes and be able to organize lines into larger blocks of codes like a method, a class or an algorithm. Concretely, students should understand the higher level of architecture of codes, for example, the features of data structures, the recursion and the algorithms with the corresponding analysis. Besides, codes are no longer the only points that the Parsons problem focus on. Some new abstract elements like pseudocode and algorithms analyze should also be involved in exercise of CS2. Finally, different similar concepts should be compared, for example, stacks and queues, different types of trees, and different algorithms to solve the same questions.

To show the limitation and new improvement, the exercises in the book were analyzed and five types of common questions were identified.

## Second Topic

Sample text sample text Sample text sample text Sample text sample text Sample text sample text. Sample text sample text Sample text sample text, Sample text sample text Sample text sample text.

# On-going and Future Work

Write an introduction paragraph to delineate the content and logic flow of this chapter.

* Describe partially done works
* Include a Gantt chart as evidence of effective project planning for the 2nd semester
* Show Clear idea of what to do to complete the project

## First Topic

Sample text sample text Sample text sample text Sample text sample text Sample text sample text. Sample text sample text Sample text sample text, Sample text sample text Sample text sample text.

## Second Topic

Sample text sample text Sample text sample text Sample text sample text Sample text sample text. Sample text sample text Sample text sample text, Sample text sample text Sample text sample text.

# Conclusion

Reflect on the progress of the project. Can use first person pronoun to write.

Content may be moved to the Reflection appendix in the Final Report.

Sample text sample text Sample text sample text Sample text sample text Sample text sample text. Sample text sample text Sample text sample text, Sample text sample text Sample text sample text.

References

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