
CSCE 2211 Term Project Spring 2024

Guidelines

The term project is **NOT OPTIONAL**. The project grade represents 20% of the total course grade.

Guidelines:

- The project is intended to be a team work
- **The project topic should be different from the topic of the term paper.**
- A group **of 1 - 4 members** is to complete the project by the deadline and report the work in a project report (format attached).
- All group members **must be students from the same section.**
- The project group can be the same as that presenting the term paper.
- Names of group members should be sent by e-mail to the course TA Eng. Mohamed Hany: mohamed.ihany@aucegypt.edu by **Monday April 8, 2024.** **No allowance to change the names of group members once they have been sent to Eng. Hany.**
- **Names** of group members **must be submitted** in the final report with **no allowance to change the names from those sent before.**
- The final project report should be submitted on **blackboard.**
- **Final date** of submission of the complete project report is **Thursday May 9, 2024.** There will be NO late policy for the submission of the project. **No submissions will be accepted after the due date.**

Academic Integrity

Students are expected to commit to the principles of academic integrity. Any plagiarism detected will result in zero grade for the project.

The team may choose to do one of the suggested projects given on the next page. The team may also come with a project different from those suggested. In this case, the project should exhibit the use of Data Structures and Algorithms relevant to the course and would serve as a useful application.

Suggested Project Ideas

1. **A spell-checker using a Trie data structure.** Your program should take words as input and check if a word is spelled correctly. If not, it should suggest the closest matching words.
2. **Map Navigator:** Use a graph data structure to find the shortest path between two cities. This could involve implementing algorithms such as Dijkstra's or A* algorithm.
3. **Simulate a ticketing system for a movie theater.** Develop a program that uses a queue data structure to allow users to purchase tickets, reserve seats, and cancel reservations.
4. **File Zipper:** Compression of files using Huffman Trees.
5. **Employee Database:** Build a database for employees in an enterprise.
6. **Text Concordance:** Finding the frequencies of characters or words in any text document using self-balancing trees.
7. **Snake and Ladder game:** Using the graph algorithm of Breadth-First Search (BFS)
8. **Sudoku Solver:** Solving a Sudoku game by Backtracking.

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Suggested Report Format

Project Title

Group Name/s

Department of Computer Science and Engineering, AUC

Abstract:

This is just a suggested format. You may change or modify it in the way that suits the project work

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Keywords:

1. Introduction

(Introduce the topic of the project here)

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2. Problem Definition

(Present here a more detailed definition of the topic or problem)

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3. Methodology

(Outline the methodology chosen to solve the problem)

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4. Specification of Algorithms to be used

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5. Data Specifications

(Specify the input data to be used in your work)

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6. Experimental Results

(Give your results of processing the input data in text, tabular or graphical forms)

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7. Analysis and Critique

(Your own analysis and critique of the output results and the methodology/algorithms used)

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8. Conclusions

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Acknowledgements

(Acknowledge other people who helped you in producing the project)

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References

(List here the references you used to produce the project)

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Appendix: Listing of all Implementation Codes

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