



University of Central Punjab

FACULTY OF INFORMATION TECHNOLOGY

Introduction to Computing-LAB

Term Project: Fall-2024

Project Title:

“Word Search Game”

Project Overview:

The Word Search Game is an engaging project that challenges players to find hidden words in a grid of characters. This project focuses on implementing the game mechanics using character arrays only, without the use of strings or any built-in functions. It is a perfect opportunity to practice array manipulation, loops, and conditional statements in C++.

Objectives and goals:

Our primary goal is to enable you to effectively apply basic programming concepts to create a functional and interactive system. By the end of this project, you will learn;

- How to design and implement a menu-driven system using arrays, loops, and conditional statements.
- Managing and organizing data using simple arrays and character arrays.
- Enhancing problem-solving and debugging skills through hands-on practice.

Features to Implement:

1. **Grid Setup:**
 - Create a **10x10 grid** of random characters.
 - Place predefined words horizontally, vertically, or diagonally in the grid.
 - Fill empty spaces with random characters.
2. **Word Bank:**
 - Store a list of **5-10 predefined words** (e.g., "CAT", "DOG", "APPLE") using **character arrays**.
 - Display the word bank to players at the start of the game.
3. **Word Search Gameplay:**
 - Allow players to input the starting and ending coordinates of a word they find in the grid.
 - Check if the selected characters match any word in the word bank.
 - Mark found words in the grid (e.g., replace the characters with a special symbol like '*').
4. **Game Rules:**
 - Each word can appear **only once** in the grid.
 - Words can be placed **horizontally, vertically, or diagonally**, both forwards and backwards.
5. **Score Tracking:**

- Award points for each correctly identified word.
- Deduct points for incorrect guesses.

6. End of Game:

- End the game when all words are found or after a specific number of guesses.
- Display the final score and a congratulatory message if all words are found.

Additional Details:

Constraints:

- Use **character arrays only** to store the grid, words, and input.
- Implement all logic using **loops** and **if-else statements only**.
- **No use of string data type or built-in functions.**

Deliverables:

- Complete C++ source code for the Word Search Game.
- A report explaining the program's structure and functionality.

Evaluation Criteria:

- Completeness and correctness of the implemented features.
- Efficient and readable use of arrays, loops, and conditional statements.
- Creativity in presenting outputs (e.g., tables, neat formatting).
- 20% Marks for submission and 70% Marks for the Viva/Presentation.

Sample Output:

1. Display Word Bank
2. Display Word Grid
3. Input Coordinates to Search Word
4. Show Current Score
5. Quit

Enter your choice:

Project Marking:

Evaluation Criteria	
Project Submission	Viva / Presentation
20%	80%

✿ Best of Luck! ✿