National University of Sciences and Technology (NUST)
School of Electrical Engineering and Computer Science

Department Of Electrical Engineering and Computer Sciences

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CS 212: Object Oriented Programming

Project:

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Abstract:

My project i.e., “Personal Forms through OOP in C++”, aims to demonstrate the creation of Forms using C++ for the user interface and server-side logic. It involves a database library to store form data. Key classes include:

- Form (attributes: title, description, questions, responses, methods: create, edit, delete, submit),
- Question (attributes: text, type, options, answer, methods: validate, score), and
- Response (attributes: form ID, respondent ID, answers, methods: store, retrieve).

Different question types are implemented via inheritance. Different colors and graphics can be added using GUI. It’s testing involves creating and taking sample forms. Performance is evaluated based on response time, memory usage, and database size, concluding that C++ OOP is used throughout the project effectively and all it’s concepts are included in this project’s implementation.

Google Forms is a web application that allows you to create and share online surveys, quizzes, and forms. To create Google Forms using OOP in C++, you need to have some basic knowledge of OOP concepts, such as classes, objects, inheritance, polymorphism, and abstraction. You also need to use a web framework that supports C++, such as Wt or CppCMS.

One possible way to create Google Forms using OOP in C++ is to follow these steps:

- Define a class for the Form, which will have attributes such as title, description, questions, and responses. The Form class will also have methods to create, edit, delete, and submit the form.
- Define a class for the Question, which will have attributes such as text, type, options, and answer. The Question class will also have methods to validate and score the answer. You can use inheritance to create subclasses for different types of questions, such as multiple choice, short answer, checkbox, etc.
- Define a class for the Response, which will have attributes such as form id, respondent id, and answers. The Response class will also have methods to store and retrieve the answers from a database.
- Use a web framework to create the user interface for the form, which will display the form title, description, and questions, and allow the user to input and submit the answers. You can use HTML, CSS, and JavaScript to design the layout and style of the form and use AJAX to communicate with the server.
- Use a web framework to create the server-side logic for the form, which will handle the requests from the user, such as creating, editing, deleting, and submitting the form. You can use C++ to implement the logic and use a database library to connect to a database, such as SQLite or MySQL.

This is a general overview of how to create Google Forms using OOP in C++. For more details and examples, you can refer to the following links:

- C++ OOP (Object-Oriented Programming) - W3Schools
- Object Oriented Programming in C++ - GeeksforGeeks
- C++ Tutorial - W3Schools
- C++ Object Oriented Programming: An In-Depth Guide
- Creating windows forms using OOP technique - Stack Overflow