WEBD2011_Assignment1_yifanli

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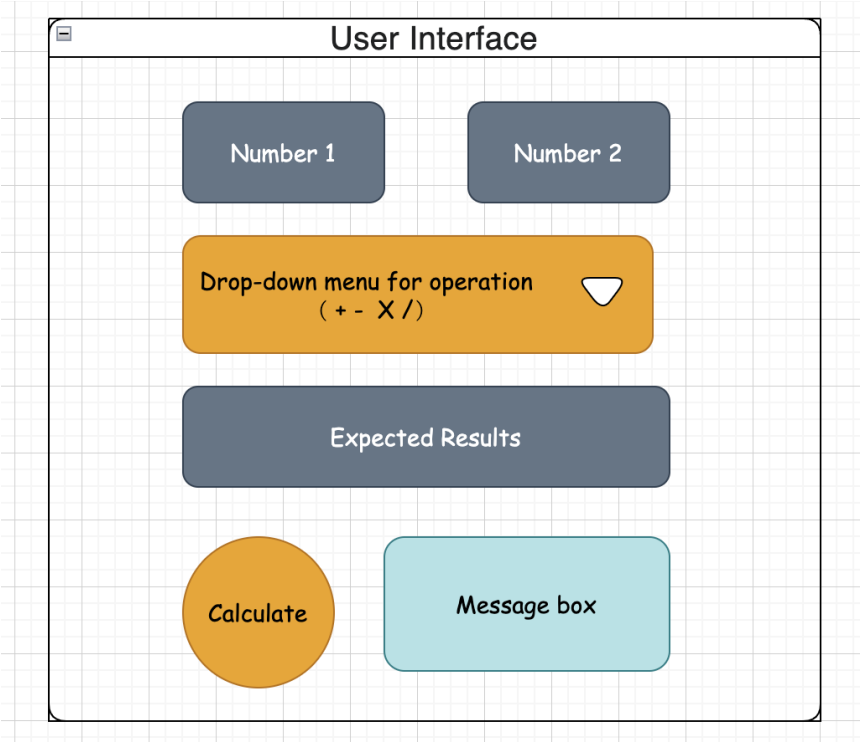
1. Provide a few sentences describing how you think the application would work in your own words.

The calculator application will be a simple program that helps students test their knowledge of basic math equations by allowing them to assume the result rather than just giving them the answer.

The application will have a user interface with fields for entering numbers and selecting a math operation, such as addition, subtraction, multiplication, and division. The program will then display if the student has the correct answer. The program is designed to be simple and easy to use for elementary students. The application will be running on Windows and will have no tracking or usage logging.

2. Provide a drawing of a guess of what the user interface would look like.



User interface requirements from a software requirements specification can be identified by looking for specifications related to layout, design, and functionality, such as input fields, buttons, accessibility, and support for different languages.

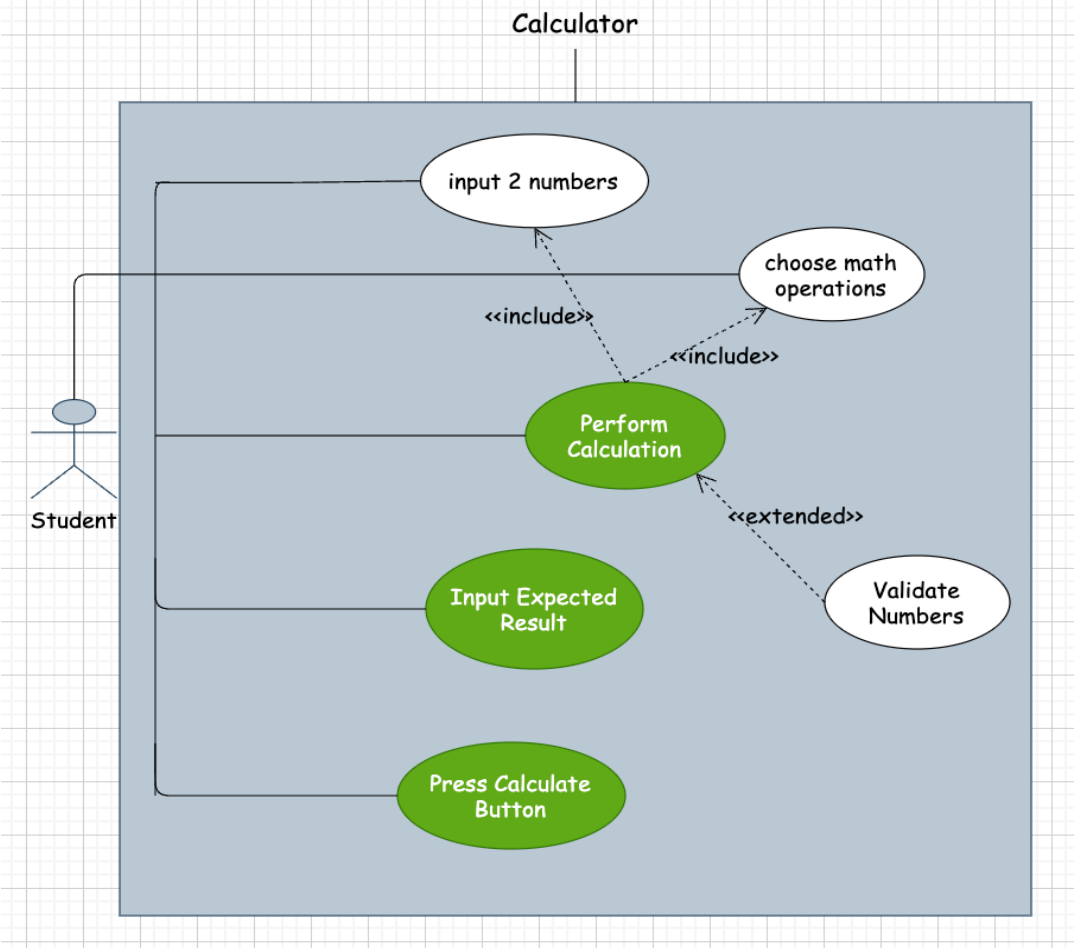
Wireframing is an essential step in the design process because it allows designers to create a visual representation of a user interface before it is built. This allows for early feedback and iteration on the design, saving time and resources later in the development process.

Wireframing is preferable to prototyping for several reasons:

- Speed: Wireframes are faster to create than prototypes because they are simple, low-fidelity visual representations of a user interface;
- Focuses on functionality: Wireframes focus on the interface's functionality and layout rather than the visual design.
- Easier to change: Wireframes are easy to change because they are low-fidelity, so if changes need to be made, it's not as time-consuming as changing a prototype.

3. Provide a use case diagram indicating the features required.

A use case diagram is a type of behavioral diagram defined in the Unified Modeling Language (UML) that shows the different interactions between users (actors) and a system (use cases).



- Perform Calculation: Allowing the students to input numbers and perform math operations such as addition, subtraction, multiplication, and division.

- Input Expected Result: This use case represents the feature where the student inputs their expected answer for the calculation.

- Press Calculate Button: Validates the student's input and ensures it is a numerical value and compares the expected answer to the correct answer, and displays a message indicating if the answer is correct or not.

The students initiate the use cases by interacting with the system. The system performs the actions described in the use cases and provides feedback to the students.

Extend and Include relationships in use cases can be identified by analyzing the interactions between different use cases and the flow of the system.

Different:
Extend is used to add functionality to another use case, and Include is used to show how one use case uses another use case.

- "Validate numbers" may extend the "Perform Calculation" use case to validate the input before the calculation is performed.
- “input number” and “choose math operations” are included by "Perform Calculation"; Perform Calculation requires these processes to calculate.

4. Provide a use case detail for the first feature, including the actor/steps.

Use case detail is provided separately as an attachment in a separate document.

A use case detail provides a step-by-step description of the actions and interactions that take place when a specific use case is executed.

5. Provide a user story for the second feature, including the 3-part user story sentence and acceptance criteria. Scenario's will be looked at later.

User Story: As a student, I want to be able to input my expected answer for the calculation so that I can test my knowledge of subtraction facts.

Acceptance criteria:

- The student can input numbers and expected results in the designated fields.
- The program displays a message indicating whether the student's expected result is correct or not.
- Invalid Input is handled, and the student is prompted to re-enter the numbers.
- Results of the calculation test should take less than 1 second.
- There should be no tracking or usage logging of any kind.
- There should be no requirement to reduce any security level or request security access from a logged-on windows user without administrative access.

Explain:

For this project, I prefer to choose the Waterfall style. The project is of small duration, and there is no developer collaboration needed; There is a low risk of requirements changing and no need to have more precise budgeting. In a word, Waterfall is best suited for projects where requirements are well understood and unlikely to change. It is also well done for projects where the deliverables can be easily defined and measured.

The reason for not choosing the other two is that the project is not complex, does not require long iterations, does not require close collaboration with developers, and is a low-risk project.

A user story is a tool used to describe a specific feature or functionality from the perspective of the end user. It is a simple, easy-to-understand statement that captures the user's needs and requirements.

The actor in a user story is the person or group who will be using the feature or functionality.

The 3 main parts of a user story are:

- The user - This is the person or group who will be using the feature or functionality.
- The action - This is what the user wants to do or what problem they want to solve.
- The value - This is the benefit or outcome that the user hopes to achieve by using the feature or functionality.

The acceptance criteria are a set of specific requirements that must be met for the feature or functionality to be considered complete and ready for release.

The "So that I" statement is an integral part of a user story as it communicates the value or benefit that the user hopes to achieve by using the feature or functionality. It helps to define the problem that the user is trying to solve and provides a clear understanding of why the feature or functionality is important to them.

(the end)