

Calculot Use Cases

Introduction:

- When the user launches the application, they will be greeted with a splash screen that displays the title.
- Upon entering, the user will see “sign up” or “login”, and choose based on the existence of an account that they have entered prior.
- Variation 1: The user that has logged in last time will be logged in again, and will be taken directly to the main menu.

Register:

- The user clicks “sign-up” on the login screen.
- The user will see the field that has the label “first name” and will enter their first name.
- The user will see the field that has the label “username” and will enter their desired username
- The user will see the field that has the label “password” and will enter their desired password.
- The user will see the field that has the label “retype password” and will enter the password that they have entered prior.
- The user will click sign up and be successfully be registered into the game.

Variation 1: If the user has entered one or less character for the username or first name, or did not include at least 1 uppercase letter and 1 number, then the system will display a red exclamation mark in the invalid field, which the user must edit and resubmit by clicking the “sign up button”

Variation 2: If the user did not enter the correct password in the “retype password” field and clicked “sign up”, then a red exclamation mark will appear to notify the user that the passwords enter are not matching. The user must re-enter the password correctly to sign up.

Login

- On the login screen, the user will click on “login”.
- The user will see the word “Calculot” and “select a user”, along with a list of registered users.
- The user will click on their username and will be greeted by the system personally and asked to enter their password.
- The user will enter their password and click “login”, in which they will be brought to the main menu.

Variation 1: If the user enters the wrong password, the system will display a red exclamation mark beside the password field to notify the user that they have entered the wrong password. The user will re-enter their password and click “login” to try again.

Logout:

- The user clicks “logout” on the main menu.
- The user will be taken back to the login screen, in which they must repeat the login process to access the content of “Calculot”

Profile:

- The user will click on the “Profile” button on the main menu.
- The user will see the following:
 - The first name of the user that is logged in
 - The username of the user that is logged in
 - The user’s current level
 - The user’s current learning and practice XP
 - A bar that correctly displays the user’s progress towards the next level.
- Additionally, the user will see an icon of the player’s wizard, and XP bars to graphically represent the game information.

Game Activity – Defense on Calculot:

- The user will click on “Game” and will be taken to a screen that shows the titles of two games, and a description about what the theme of the game is and the topics introduced.
- The user clicks on “Defense of Calculot” and will be taken to a screen that says “Differentiation”, “Integration” and “Combined.”
- The user will choose what topic they would like to practice and choose accordingly.
- The user will be taken to a screen that shows a question, 4 possible answers, their current health and the XP they have gained.
- the user answers correctly, then the user will see a new question, which they must answer.
 - Variation 1: The user answers incorrectly, and will be notified that they have lost a life. The life count will also decrease by 1. A new question for the user to answer will be generated.

- Variation 2: The user does nothing and after a certain amount of time, the user will be notified that they have lost a life. The life count will also decrease by 1. A new question for the user to answer will be generated.
- The user answers 10 questions correctly, they will be notified that they have advanced to the next level. At this point, the questions being displayed will be harder.
- The user answers 10 questions at level 3, the game will end and the user will be congratulated, and will be notified how much experience they have gained in this playthrough.
- The user clicks “Go Back to Main Menu” and will be taken to the main menu.
 - Variation 3: The user clicks “try again” and will be taken to the topics screen, in which they can start another playthrough.

Variation 4: The user loses all their lives through incorrect answers or running out of time. The user will be taken to a screen that notifies the user that the game is over and how much experience they have gotten. This experience is half of the experience that they have achieved.

Game Activity – The Wizard’s Crystal Ball:

- The user clicks on the “Wizard’s Crystal Ball” game to initiate the game.
- From there, the game begins, and the user must answer a randomly generated question.
- The user answers the question correctly, and will receive XP for answering the question correctly. The user will now see a new question to answer.
 - Variation 1: The user clicks the wrong answer and the game ends. The user will receive XP for answering any questions and can either “Try again”, or “go back to the main menu.”
 - Variation 2: The user does nothing and the time runs out. The game will end and the user will receive XP for answering any questions. The user can either “Try Again” or “Go Back to the Main Menu”

Learning Activity:

- The user clicks “learn” on the main menu.
- The user sees a set of topics that they can click on to learn about that topic.
- The user clicks on that topic and sees graphic resources (youtube videos, images, etc.) and blank notes for the user to fill in.
- The user fills in the notes and clicks verify. At this point, the name of the topic at the top will turn green to mean that the activity has been completed.
- Variation 2: The user enters wrong answers to the notes and clicks verify. In this case, nothing will happen.