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GOMS model for onlinegdb.com

GOMS Model 1

❖ **Title:** Sign In your account into compiler

❖ **Problem Statement:** Implement GOMS modelling technique to model user's behaviour in given scenario of signing in to your account.

❖ Learning Objectives:

1. Usability assessment of a given interface
2. Model user behaviour in terms of GOMS (Goals, Operators, Methods and Selection rules)
3. Learn how to predict steps/time it will take a user to carry out a goal using GOMS Model.

❖ Learning Outcomes:

1. Improve human-computer interaction efficiency by eliminating useless or unnecessary interactions.
2. Using GOMS modelling for usability information when the system is in the earliest of design phases.
3. Improve the performance of a cognitive skill, eliminate unnecessary operators from the method used to do the task.
4. Provides hierarchical task description for a specific activity.

❖ Requirements/Assumptions/Pre-requisites:

1. Website browser window is open on the user screen.
2. User already has an account on the website.
3. Virtual Keyboard is present on the screen for method 1.
4. User enters correct credentials without mistake.

❖ Theory:

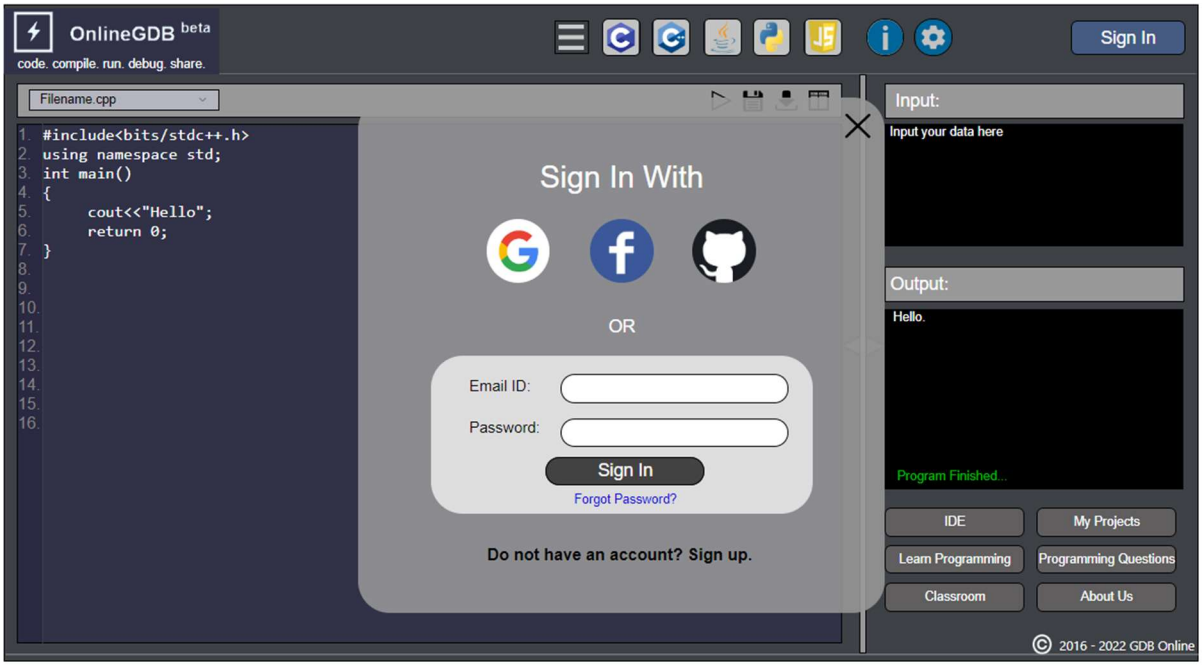
Goals, operators, methods, and selection rules is a method derived from human-computer interaction (HCI) and constructs a description of human performance. The level of granularity will vary based on the needs of the analysis.

1. The Goal is what the user wants to accomplish.

2. The Operator is what the user does to accomplish the goal.
3. The Method is a series of operators that are used to accomplish the goal.
4. Selection rules are used if there are multiple methods, to determine how one was selected over the others.

Implementing GOMS for given Scenario applicable to Assignment 1 GUI
Define the User's Top-Level Goal

Goal: Sign In your account into the compiler.



Operators:

<u>When going with mouse (Method 1):</u>

1. Hold your mouse and move it to the blue coloured 'Sign In' button located on the top right corner of the screen.
2. Left click once on the button and wait until sign in screen popup.
3. If the screen does not popup, wait at least 3 seconds and go to step 2.
4. After popup, if you want to sign in using social media, go to step 5 and if you want to sign in using email address and password, go to step 6.
5. Signing in using social media accounts representing Google, Facebook, and GitHub,
    a. Move your mouse on the respective icon.
    b. Left click on the respective icon and the procedure of signing in continues.

    c. Further steps do not apply for signing in using social media accounts.
6. Signing in using email and password
    a. Move your mouse to the email textbox beside the text ‘Enter email id: ‘ and left click on it.
    b. Left click on the keys of the virtual keyboard and type in your email address.
    c. Move your mouse to the password textbox beside ‘Password: ‘ and left click on it.
    d. Left click on the keys of the virtual keyboard and type in your email address.
7. Move your mouse to the grey coloured sign in button below the textboxes and left click once.
8. If you see No Account Yet, then you may not have account created or maybe the user credentials are incorrect.

<u>When going with keyboard (Method 2):</u>

1. Press and hold CTRL button on the keyboard.
2. Then press ‘I’ and release both the buttons.
3. After that Sign in Popup will appear.
4. If sign in popup window does not appear, retry by going to step 1.
5. Press down arrow button once.
6. You will see that the logo of Google is highlighted.
7. If you want to sign in using social media go to step 8 and if you want to sign in using email address and password, go to step 9.
8. Press left/right arrow keys to go forward and backward respectively for Google, Facebook, and GitHub
    a. Keep hovered on the option you want to access
    b. Press enter key on keyboard.
    c. After that, above procedure will continue.
    d. Further steps do not apply for social media signing.
9. If you want to sign in through email
    a. Press Down arrow until you see the email text field hovered
    b. Type in your email
    c. Press down arrow.
    d. Type in your password
    e. Again, press down arrow until you see sign in button highlighted
    f. Press Enter key on keyboard.

10. If you see No Account Yet, then you may not have account created or maybe the user credentials are incorrect.

Methods:

1. Method using only mouse.
2. Method using only keyboard.

Selection:

Use Operator Method 1 if user wants to sign in using only the mouse.

Use Operator Method 2 if user wants to sign in using only the keyboard.

❖ **Conclusion**:

Conclude by explaining the effectiveness of applying GOMS model in signing in the account for onlinedgb.com using only keyboard and only mouse.

GOMS Model 2

❖ **Title:** Open file to work with it

❖ **Problem Statement:** Implement GOMS modelling technique to model user's behaviour in given scenario of opening file to work with it.

❖ Learning Objectives:

1. Usability assessment of a given interface
2. Model user behaviour in terms of GOMS (Goals, Operators, Methods and Selection rules)
3. Learn how to predict steps/time it will take a user to carry out a goal using GOMS Model.

❖ Learning Outcomes:

1. Improve human-computer interaction efficiency by eliminating useless or unnecessary interactions.
2. Using GOMS modelling for usability information when the system is in the earliest of design phases.
3. Improve the performance of a cognitive skill, eliminate unnecessary operators from the method used to do the task.
4. Provides hierarchical task description for a specific activity.

❖ Requirements/Assumptions/Pre-requisites:

1. Website browser window is open on the user screen.

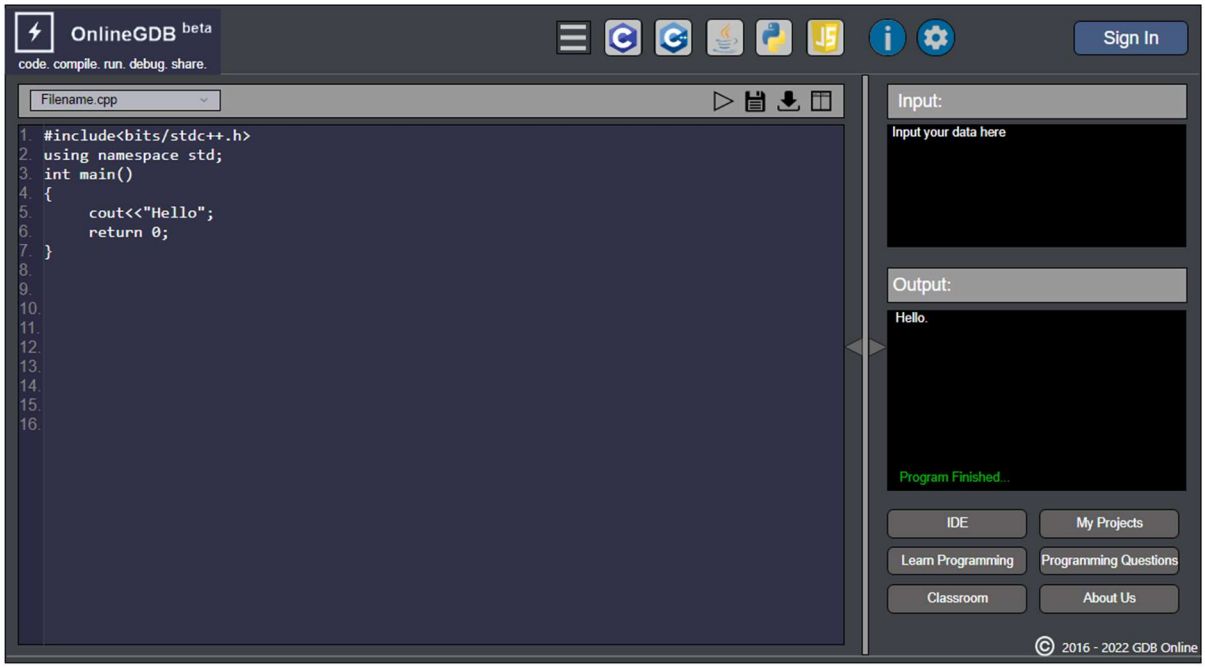
❖ Theory:

Goals, operators, methods, and selection rules is a method derived from human-computer interaction (HCI) and constructs a description of human performance. The level of granularity will vary based on the needs of the analysis.

1. The Goal is what the user wants to accomplish.
2. The Operator is what the user does to accomplish the goal.
3. The Method is a series of operators that are used to accomplish the goal.
4. Selection rules are used if there are multiple methods, to determine how one was selected over the others.

Implementing GOMS for given Scenario applicable to Assignment 1 GUI
Define the User's Top-Level Goal

Goal: Open a code file to work with it.



Operators:

When going for method 1:

1. Move your mouse towards the File options drop down menu.
2. Left Click the bottom pointing arrow.
3. You will see the list of recent files you have accessed. Now if you want to access recent file, go to step 10 and if you want to access new file go to step 4.
4. Move your mouse to the bottom of the list and select other.
5. A browsing dialog box will appear. Select the file you want by moving the mouse to that file.
6. Then left click that file.
7. Move the mouse pointer to the bottom right corner of the dialog box.
8. Left click on the Open Button.
9. Go to step 12.
10. Hover your pointer to the file you want to open.
11. Left click on that file.
12. Your file to be worked with is open.

When going for method 2:

1. Press and hold CTRL key.
2. Press F and release both keys.
3. You will see the list of recent files you have accessed. Now if you want to access recent file, go to step 10 and if you want to access new file go to step 4.
4. Press and hold CTRL key on your keyboard.
5. Pressed O on keyboard and release both keys.
6. A browsing dialog box will appear. Press downward/upward arrow desired to select the file.
7. Then press Enter.
8. Go to step 11.
9. Press arrow key for the recent file you want to open.
10. Press Enter.
11. Your file to be worked with is open.

Methods:

1. Method using only mouse.
2. Method using only keyboard.

Selection:

Use Operator Method 1 if user wants to sign in using only the mouse.

Use Operator Method 2 if user wants to sign in using only the keyboard.

❖ **Conclusion**:

Hence, we have effectively applied GOMS model in opening file for working in onlinedgb.com using only keyboard and only mouse.