

Scenario:

You are a code developer in a company. You and your colleagues have been working with a static analysis tool for a few months. Yesterday, you have fixed some bug in the system, written new code, and you are coming back this morning to check on the tool.

Like every day, you plan to dedicate an hour to fix a few bugs before continuing to implement your new features.

Cognitive walkthrough:

For each sub-task, evaluate 4 properties:

- 1. TRY Will the user try and achieve the right outcome?
- 2. AVAILABLE Will the user notice that the correct action is available to them?
- 3. ASSOCIATE Will the user associate the correct action with the outcome they expect to achieve?
- 4. PROGRESS If the correct action is performed; will the user see that progress is being made towards their intended outcome?

• Task 1: Understanding the initial status of the tool. (0-1)

- Can you tell me how many bugs you fixed yesterday?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
- Can you tell me how many bugs you successfully fixed yesterday?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
- Can you tell me how many bugs you have not successfully fixed yesterday?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
- Can you tell me how many bugs are in the program at the moment?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
- Can you tell me which bugs are assigned to you at the moment?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
- Can you tell me why those bugs are assigned to you at the moment?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No

• Task 2: Un-assigning yourself a bug.

- Un-assign yourself bug #8608. Assign it to a colleague.
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No

• Task 3: Assign yourself a bug.

- Assign yourself the bug that would be easiest to fix, given your current bug.
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No

• Task 4: Assign yourself a bug, without using "Get bugs to fix".

- Assign yourself the bug.
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No

• Task 5: Start working on the first bug.

- Open the first bug.
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No

- Can you tell me what the problem is?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
- What would you do to fix the bug, assuming you don't know how to fix it, and you know that it is a real bug?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No

- Task 6: Fix the bug.
 - Fix the bug.
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
 - Can you tell me if you have managed to fix the bug?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
 - How many bugs do you still have to fix?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No

- Task 7: Cancel
 - Imagine you realized you didn't actually fix the bug. What would you do?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
 - How can you tell me if the change was cancelled?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No

- Task 7: False positive
 - Another error: This is another bug that you have noticed. You know it is not right. What do you do?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
 - Can you tell me if you have managed to fix the bug?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No

- Task 8: Cancel
 - Imagine you realized it was actually true. What would you do?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
 - How can you tell me if the change was cancelled?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No

- Task 8: Coding scenario.
 - Another scenario: you are coding. And you see something you know you can fix. What would you do?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No
 - What will happen now?
 - 1. Yes / No 2. Yes / No 3. Yes / No 4. Yes / No

Post- cognitive walkthrough questionnaire:

For the following questions: evaluate 2 properties:

- USEFUL: Was the feature useful to achieve the tasks?
- MOTIVATIONAL: Was the feature engaging and motivational to you?

In the tasks you performed, did you find the point system...

Useful?	Yes / No	Why?
Motivational?	Yes / No	Why?

Did you find the badges useful in the tasks you performed?

Useful?	Yes / No	Why?
Motivational?	Yes / No	Why?

Did you find the profile useful in the tasks you performed?

Useful?	Yes / No	Why?
Motivational?	Yes / No	Why?

Did you find the summary about yesterday's bugs useful in the tasks you performed?

Useful?	Yes / No	Why?
Motivational?	Yes / No	Why?

Did you find the visuals of the map useful in the tasks you performed?

Useful?	Yes / No	Why?
Motivational?	Yes / No	Why?

Did you find the statistics on the top of the map useful in the tasks you performed?

Useful?	Yes / No	Why?
Motivational?	Yes / No	Why?

Did you find the links in the map useful in the tasks you performed?

Useful?	Yes / No	Why?
Motivational?	Yes / No	Why?

Did you find the filters useful in the tasks you performed?

Useful?	Yes / No	Why?
Motivational?	Yes / No	Why?

Did you find the My Bugs useful in the tasks you performed?

Useful?	Yes / No	Why?
Motivational?	Yes / No	Why?

Did you find the Get bugs to fix useful in the tasks you performed?

Useful? Yes / No Why?
Motivational? Yes / No Why?

Did you find the assignment system useful in the tasks you performed?

Useful? Yes / No Why?
Motivational? Yes / No Why?

Did you find the Log useful in the tasks you performed?

Useful? Yes / No Why?
Motivational? Yes / No Why?

Did you find the information embedded into the code useful in the tasks you performed?

Useful? Yes / No Why?
Motivational? Yes / No Why?

Did you find the gutter icons useful in the tasks you performed?

Useful? Yes / No Why?
Motivational? Yes / No Why?

Did you find the "This is wrong" useful in the tasks you performed?

Useful? Yes / No Why?
Motivational? Yes / No Why?

Did you find the "I have fixed it" useful in the tasks you performed?

Useful? Yes / No Why?
Motivational? Yes / No Why?

Did you find the Cancel options useful in the tasks you performed?

Useful? Yes / No Why?
Motivational? Yes / No Why?

Did you find the Bug information on the right useful in the tasks you performed?

Useful? Yes / No Why?
Motivational? Yes / No Why?

Did you find the Fix suggestions useful in the tasks you performed?

Useful? Yes / No Why?
Motivational? Yes / No Why?

Did you find the Notification popup useful in the tasks you performed?

Useful? Yes / No Why?
Motivational? Yes / No Why?

Did you find the switch from coding to debug mode useful in the tasks you performed?

Useful? Yes / No Why?

Motivational? Yes / No Why?

What were the good points of the tool? Why?

What were the bad points of such a tool? Why?

Which static analysis tools did you work with before (as a code developer)?