

Followup Developer Interview Protocol (Resonance Test)

Interview goals: Collect qualitative data to validate whether the theoretical models constructed during the first set of interviews resonate with developers, and discover whether there are gaps or misunderstandings and how the developers interpret the models.

Introduction: Interviewer describes the context and purpose of the second interview, and recalls the motivation and goal of the study. The participant is also informed that all information collected will be anonymized and it won't be shared outside the team of researchers directly involved in the project. The interviewer asks the participant for his/her consent to record the interview as well.

Hello [NAME], and welcome. We are Arty Starr, and Margaret-Anne Storey, researchers from the computer-human interaction and software engineering lab, CHISEL, at University of Victoria.

This is a follow up interview for the Developer Troubleshooting Study that you were interviewed for last year as part of my PhD research, where we were focused on understanding your experiences of troubleshooting in software development. Since then, we have completed 27 developer interviews and constructed theoretical models of the cognitive experience of Troubleshooting. Our goal today is to see if those models resonate with you, and to discover whether there's any gaps, misunderstandings, or clarifications needed in the models, and to get your feedback and thoughts on how you interpret the models.

Only the researchers involved in this study will see your responses, and we will summarize the responses so they are fully anonymized. Your participation in this study is voluntary, and you do not have to answer any question that makes you uncomfortable, and you can stop the interview whenever you want. We'd like to encourage you to refrain from sharing identifying information as much as possible, such as names of 3rd parties, and to refrain from sharing any confidential information during the interview, and we would appreciate it if you respond only based on your personal experiences.

This follow up interview should take no longer than 30 min. During the interview we will show you several diagrams that show aspects of the theoretical models, and ask you questions about what you see. I also want to make it clear that it's okay if you disagree or have different ideas, our goal is to improve the clarity of our understanding, so all of this feedback is helpful. If needed, feel free to take your time in answering the questions.

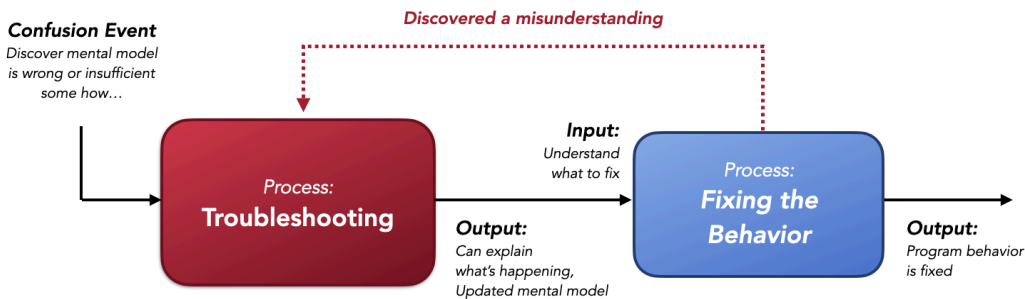
So, before we get started, do you have any questions?

If this is clear, and you have no more questions, do I have your permission to record the interview?

Resonance Testing for Troubleshooting Models

1.1. Debugging Context - So I'm going to be showing you a series of diagrams that together help paint a picture of what is Troubleshooting, and what the cognitive experience of Troubleshooting is like. So first, if you want to just take a look at the diagram, and tell me what you see represented.

The Process of Debugging involves Troubleshooting

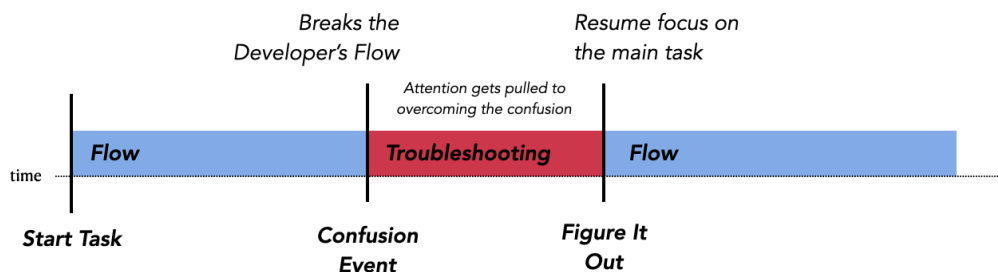


1.2. Do you feel like this resonates with you? Is there anything here that stands out to you that feels inaccurate or that you would change? (If needed, clarify the meaning of resonance, by rephrasing: "Does your experience match what I'm showing you? If it doesn't, I'd like to know...")

1.3. On a scale from 1 to 5, one being it doesn't resonate and feels very different than how you would think about it, and 5 being it resonates and fits with your own mental model, how would you rate this on a scale from 1 to 5?

2.1. Creation Process Context - So next diagram, if you want to just take a look and tell me what you see represented...

Troubleshooting in the Creation Process

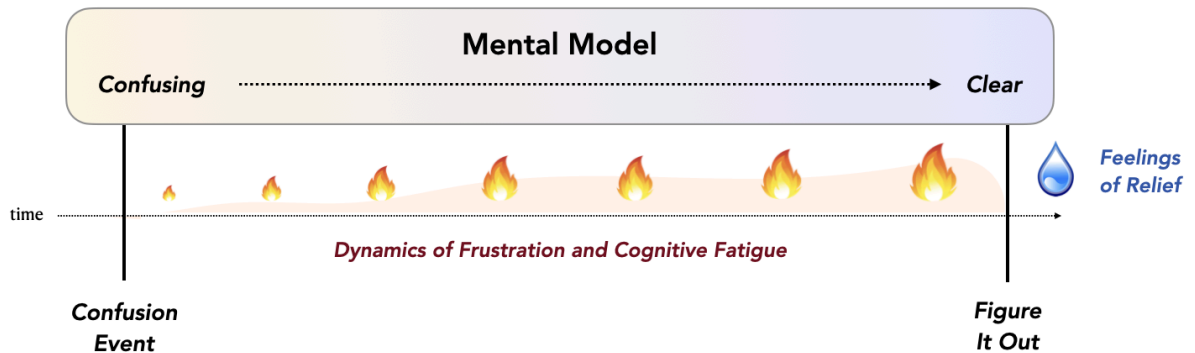


2.2. Do you feel like this resonates with you? Is there anything here that stands out to you that feels inaccurate or that you would change?

2.3. On a scale from 1 to 5, one being it doesn't resonate and feels very different than how you would think about it, and 5 being it resonates and fits with your own mental model, how would you rate this on a scale from 1 to 5?

3.1. Experiential Feelings - So next diagram, if you want to just take a look and tell me what you see represented...

Troubleshooting: The Developer's Cognitive Experience of Overcoming Confusion

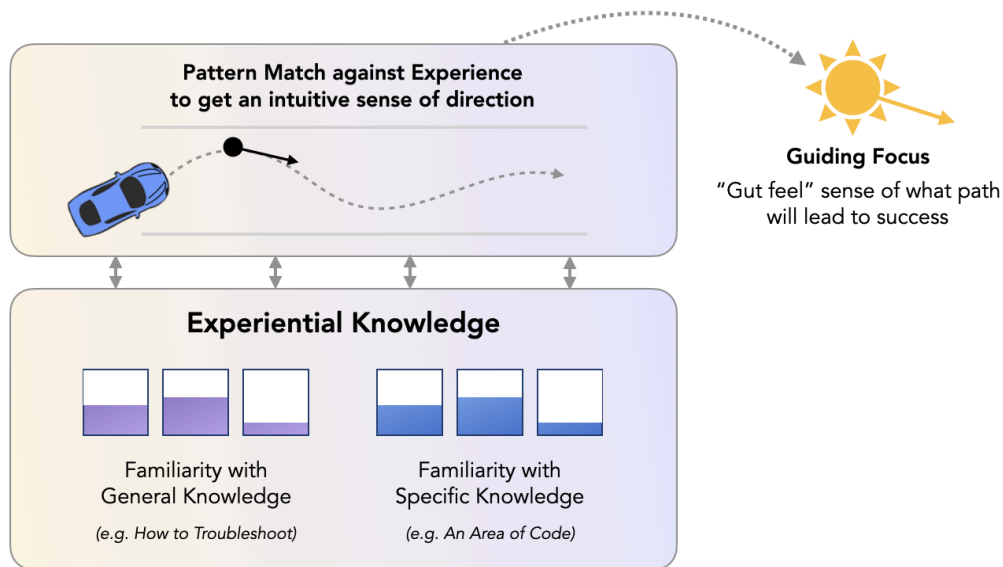


3.2. Do you feel like this resonates with you? Is there anything here that stands out to you that feels inaccurate or that you would change?

3.3. On a scale from 1 to 5, one being it doesn't resonate and feels very different than how you would think about it, and 5 being it resonates and fits with your own mental model, how would you rate this on a scale from 1 to 5?

4.1. Intuition Feelings - So next diagram, if you want to just take a look and tell me what you see represented...

Experiential Intuition Guides the Strategy

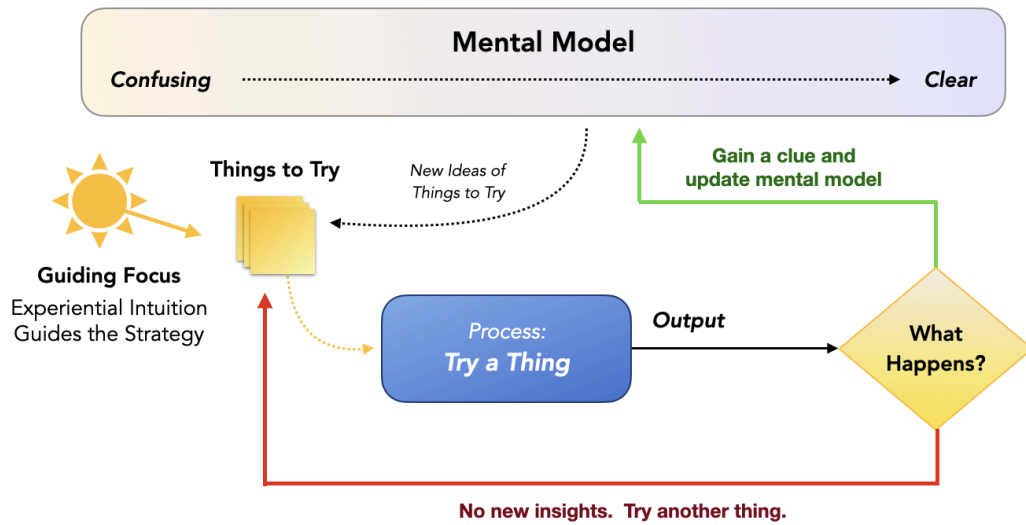


4.2. Do you feel like this resonates with you? Is there anything here that stands out to you that feels inaccurate or that you would change?

4.3. On a scale from 1 to 5, one being it doesn't resonate and feels very different than how you would think about it, and 5 being it resonates and fits with your own mental model, how would you rate this on a scale from 1 to 5?

5.1. Striving Process - So next diagram, if you want to just take a look and tell me what you see represented...

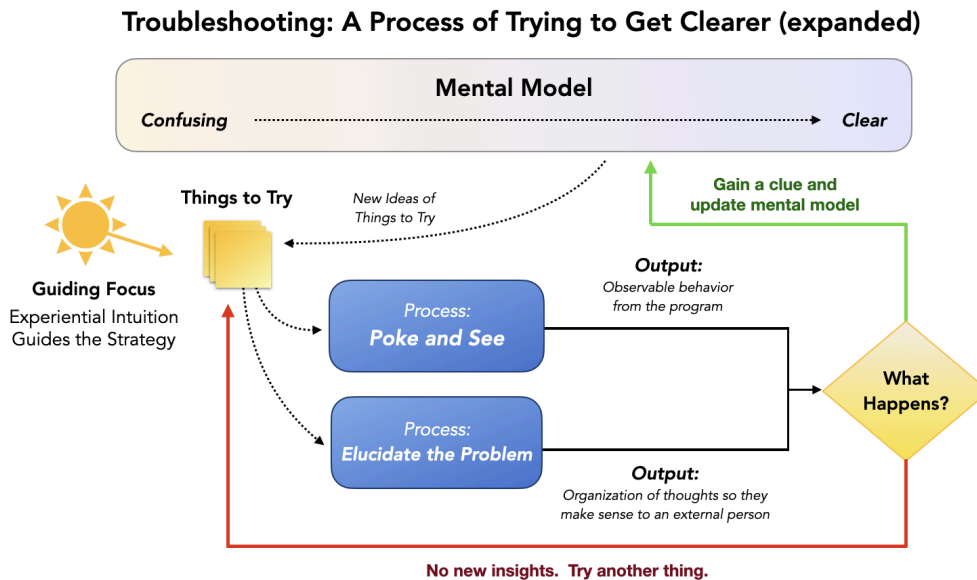
Troubleshooting: A Process of Trying to Get Clearer



5.2. Do you feel like this resonates with you? Is there anything here that stands out to you that feels inaccurate or that you would change?

5.3. On a scale from 1 to 5, one being it doesn't resonate and feels very different than how you would think about it, and 5 being it resonates and fits with your own mental model, how would you rate this on a scale from 1 to 5?

6.1. Actions within Striving Process - So next diagram, if you want to just take a look and tell me what you see represented...



6.2. Do you feel like this resonates with you? Is there anything here that stands out to you that feels inaccurate or that you would change?

6.3. On a scale from 1 to 5, one being it doesn't resonate and feels very different than how you would think about it, and 5 being it resonates and fits with your own mental model, how would you rate this on a scale from 1 to 5?

Final Reflections

7. Do you have any final thoughts after seeing all the diagrams, or any other reflections since we met last time?

Final Wrap Up

So that concludes our follow up interview, thank you for participating in the study. We will securely process the recording and the transcript. If at any point in time, you decide you do not want to participate in the study, or if you have any questions, you can email us.

Our next step is to refine the models as needed until they resonate with the developers, and to finish the academic paper writeup of the findings. Would you be interested in reading the academic paper for the study when it's available? Would you be open to me emailing you about participating in another short interview if it's necessary to complete the study? For example, if we do another iteration on the diagrams you saw today, and we needed to get more feedback.

Do you have any final questions for us or any further comments?

Alright, thank you very much for your time, and have a great day.