

# *Usable Security and Privacy*

## Think Aloud Design Kit

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In this tutorial you will be practicing the Think Aloud protocol. The Think Aloud methodology is one of the discount usability methodologies and is very commonly used in User Interface evaluation.

Think-alouds are normally run with a *researcher* and a *participant*. Optionally, they can also have a *note taker* who only takes notes and does not actively participate.

To plan a think-aloud you will need:

**Script** - The script is what you will read verbatim to the participant. Because it is easy to accidentally bias participants, it is very important that you tell each participant the exact same information phrased in the same way. To ensure that you do so, it is normal to pre-write a script for yourself. Normally, you would also practice the script several times to make sure that it fits your speaking style. The example script on the next page uses standard language that HCI researchers have found to work well. However, it is normal that you might need to adjust it to handle your own speaking and presentation style.

**Explain the purpose and content** - You should explain what the main point of the research is and what the participant will be asked to do. This is partially for ethics reasons so that the participant knows what to expect. It also tells the participant the type of information that you are looking for. Remember that most participants genuinely want to help you, so if you tell them what you want, they will try and do it. The following is an example explanation from the HCI tutorial:

Today we will be using the Virgin Trains East Coast website to do typical transportation tasks like finding a train route that matches a schedule or finding the cheapest route. You will not be entering any financial information and your participation today is purely voluntary; you may stop at any time.  
The purpose of this exercise is to identify issues with the Virgin Trains East Coast website. Please remember we are testing the website, we are not testing you.

**Tasks** - Write clear tasks on the provided task page that explain to the participant what they should do. A good task clearly explains the goal but only minimally explains how to accomplish it. Keep in mind that participants will read these directly. The following is a first task example from the HCI tutorial:

1. Find the Virgin Trains East Coast website and find a train to London tonight that leaves right after your last class. Go through the booking right up till it asks you to sign in and then stop.
2. For this task you will be pretending that you are going to go visit a friend in London who has asked you to come down. Please make any decisions around price and coach selection like you normally would.

# 1 Script

Hello my name is: \_\_\_\_\_

Today we will \_\_\_\_\_

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Please remember we are testing the website, we are not testing you.

## 1.1 Think aloud training

In this observation, we are interested in what you think about as you perform the tasks we are asking you to do. In order to do this, I am going to ask you to talk aloud as you work on the task. What I mean by “talk aloud” is that I want you to tell me everything you are thinking from the first time you see the statement of the task till you finish the task. I would like you to talk aloud constantly from the time I give you the task till you have completed it. I do not want you to try and plan out what you say or try to explain to me what you are saying. Just act as if you were alone, speaking to yourself loudly. It is most important that you keep talking. If you are silent for a long period of time, I will ask you to talk. Do you understand what I want you to do?

Good. Now we will begin with some practice problems. First, I will demonstrate by talking aloud while I solve a simple problem: “How many windows are there in my mother’s house?”

[Demonstrate talking aloud.]

Now it is your turn. Please talk aloud as you multiply  $120 * 8$ .

[Let them finish]

Good. Now, those problems were solved all in our heads. However, when you are working on the computer you will also be looking for things, and seeing things that catch your attention. These things that you are searching for and things that you see are as important for our observation as thoughts you are thinking from memory. So please verbalize these too.

As you are doing the tasks, I won’t be able to answer any questions. But if you do have questions, go ahead and ask them anyway so I can learn more about what kinds of questions the website brings up. I will answer any questions after the session. Also, if you forget to talk aloud, I’ll say, “please keep talking.”

Do you have any questions about what I am asking you to do?

Now I have some tasks printed out for you. I am going to go over them with you and see if you have any questions before we start.

[Hand them the task.]

Here is the task you will be working on. Please read the first task aloud just so you can get comfortable with speaking your thoughts.

[Let them finish reading]

Do you have any questions about the task?

You may begin.

**Task 1**

**Task 2**

**Task 3**