We thank you for coming today and appreciate your participation in this experiment. As we have previously stated, in this study we are interested in how people respond to a few different programming situations that may occur in practice. For about the next 40 minutes, you will be handed software scenarios and you will, for a few minutes, extract the software design and consider its quality. Then, you will be rating each scenario in terms of how it made you feel while working with it. There are no right or wrong answers, so simply respond as honestly as you can.

If you'll look in the rating booklet, you will see 3 sets of 9 figures, each arranged along a scale. We call this set of figures SAM, and you will be using these figures to rate how you felt while working with each scenario. You will use one page – make all 3 ratings – for each scenario that you observe. SAM shows three different kinds of feelings: Happy vs. Unhappy, Excited vs. Calm, and Controlled vs. In-control.

You can see that each SAM figure varies along each scale.

<place 'SAM EXAMPLE RATING: HAPPY VS. UNHAPPY' in front of the participant.>

The first SAM scale is the happy-unhappy scale, which ranges from a smile to a frown. At one extreme of the happy vs. unhappy scale, you felt happy, pleased, satisfied, contented, hopeful. If you felt completely *happy* while working with the scenario, you can indicate this by placing an "X"

<point on the SAM figure, on the first row, that is marked.>

over the figure at the left of the row. The other end of the scale is when you felt completely, unhappy, annoyed, unsatisfied, melancholic, despaired, bored. You can indicate feeling completely *unhappy* by placing an "X"

<point on the SAM figure, on the second row, that is marked.>

on the figure at the right. The figures also allow you to describe intermediate feelings of pleasure, by placing an "X" over any of the other pictures. If you felt completely neutral, neither happy nor sad, place an "X"

<point on the SAM figure, on the third row, that is marked.>

over the figure in the middle. If, in your judgement, your feeling of pleasure or displeasure falls *between* two of the pictures, then place an "X"

<point on the SAM figure, on the fourth row, that is marked.>

between the figures. This permits you to make more finely graded ratings of how you feel in reaction to the scenarios.

<place 'SAM EXAMPLE RATING: EXITED VS. CALM' in front of the participant.>

The excited vs. calm dimension is the second type of feeling displayed here. At one extreme of the scale you felt stimulated, excited, frenzied, jittery, wide-awake, aroused. If you felt completely *aroused* while viewing the picture, place an "X" over the figure at the left. On the other hand, at the other end of the scale, you felt completely relaxed, calm, sluggish, dull, sleepy, unaroused. You can indicate you felt completely *calm* by placing an "X" over the figure at the right. As with the happy-unhappy scale, you can represent intermediate levels by placing an "X" over any of the other figures, or between the figures.

<place 'SAM EXAMPLE RATING: CONTROLLED VS. IN-CONTROL' in front of the participant.>

The last scale of feeling that you will rate is the dimension of controlled vs. in-control. At one end of the scale you have feelings characterised as completely controlled, influenced, cared-for, awed, submissive,

guided. Please indicate feeling *controlled* by placing an "X" over the figure at the left. At the other extreme of this scale, you felt completely controlling, influential, in-control, important, dominant, autonomous. You can indicate that you felt *dominant* by placing an "X" over the figure at the right. Note that the figure is large when you feel important and influential, and that the figure is small when you feel controlled and guided. Remember that you can also represent your feelings between these endpoints. Either place an "X" over any of the intermediate figures, or *between* them.

Some of the scenarios may prompt emotional experiences; others may seem relatively neutral. Your rating of each scenario should reflect your immediate personal experience, and no more. Please rate each one **as you actually felt while you worked with the code example.**

The procedure will be as follows: In the beginning of each scenario, you will be given a code example written in Java. Your task is to communicate potential design issues in the examples, from the perspective of software evolution and maintenance. For example, you might find problems related to understanding the code, extending it with new features or testing its behaviour. **Please write down or speak aloud whatever comes to your mind as you navigate the example.** In order to focus your reasoning, we want you to draw a diagram of the software components and their interrelationships.

When you create the diagram, you do not have to follow any standard (such as UML). It is sufficient that the diagrams are representations of the software at a higher level of abstraction and is clear enough to help you reason about potential problems in the code design. You will have five minutes to work with each example. Some of the examples may be too large to complete within the allotted time. The experiment is designed this way on purpose. Similarly, for some of the examples, you may find yourself feeling finished before the time is up. If this is the case, please keep studying the example, as there may be more aspects to the code design.

When the time is up, we will ask you to fill out SAM. As we've already said, it is very important not to dwell on your ratings. After you've filled out SAM, there will be a short waiting period of two minutes before we start the next scenario. Please, take that time to put aside any emotions induced by the last scenario.

Just as a reminder before we begin; after the time for working with the scenario is up, make your ratings on all 3 dimensions as quickly as possible. It is important that we have information from you on all of these code examples. There are no right or wrong answers; *so rate every scenario on all three dimensions.*