Instructions-Script

Welcome

[New Slide -2] You are about to participate in an experiment on decision making and you will be paid for your participation with cash vouchers, privately at the end of the session. The money you earn will depend on both your decisions, the decisions of others and chance.

The session will be conducted through your computer terminal, and all communication and interaction between you and the other participants in this session will take place through your screens. Do not talk to or attempt to communicate with other participants during the experiment.

[New Slide -1] Please make sure to turn off phones and similar devices now.

Please close any applications you have open on your computers.

The session will begin with a brief instructional period, during which you will be informed of the main features of the task, and you will be shown how to use your computers. Please raise your hand if you have any questions during this period and your question will be answered so that everyone can hear.

[Start z-Tree]

In order to familiarize you with the computer screens, we will start the interface in a few minutes. We will reproduce on the projector, screens that are similar to the ones you will see on your computers. This instruction period will not count for money, it is just to familiarize you with the software. However, please DO NOT make any choices unless we instruct you to do so.

The task

[New Slide 0] In every round of the experiment you will be a member of a group of three subjects, randomly matched together into a new group each round. Each group member will be assigned a color role: RED, BLUE or GREEN. The task of the group is to choose two coordinates: Coordinate X and Coordinate Y. The choice of the group will eventually be made by member GREEN, who does not know the values of the two coordinates.

However, members RED and BLUE, who do know the Coordinates X and Y will be able to separately send recommendations on what GREEN should pick. When playing for Money you will be assigned either the RED, BLUE or GREEN color, but in this instruction period we will familiarize you with the screens that all different group members will see. If you have any questions while we explain how the interface works please raise your hand and ask your question so that everyone can hear. We start now with the first screen that member BLUE will see.

Member Blue

[New Slide 1] The projected screen is the first screen you will see if you are member BLUE. The screen has a figure and some information on the right.

[New Slide 2] We start with the Figure. Coordinate X is a number between 1 and 360. The numbers Coordinate X can take are represented in the horizontal axis. Coordinate Y is a number between 1 and 360. The numbers Coordinate Y can take are represented on the vertical axis from 1 to 360. You can think of this figure as representing a map and coordinates X and Y define a location on the map.

The computer chooses these two numbers randomly, with all numbers between 1 and 360 having the same probability of being chosen. It is as if the computer rolled a 360-sided die to determine the first coordinate, and then rolled the die again to determine the second coordinate. We will call these coordinates 'Computer X' and 'Computer Y'. On the right side of the projected screen you can see that Computer X takes value 237 and Computer Y takes value 339. Since these numbers are randomly chosen, in your computer screens 'Computer X' and 'Computer Y' will very likely be different numbers. Please, locate the corresponding numbers for Computer X and Computer Y in your screen and write them down in the worksheet besides your desks.

The BLUE dot signals the final group choice that would give member BLUE maximal payoffs. Since you are currently taking the role of Member BLUE, this point will be labeled 'Your Best'. On the right side of the projected exampled you can see that 'Your Best X Coordinate' is equal to 'Computer X' plus 45. In the case of the projected example, since 'Computer X' takes on value 237, 'Your Best X' is be 282. Please locate the 'Your Best X' value in your computer screens and write it down in the worksheet. You can see that 'Your Best Y.' is equal to 'Computer Y' plus 45. When we add 45 to 339 we pass 360 by 24. You should think of the map on your screens as

representing a globe, so that if you are at a location close to 360 and move a bit higher, you appear back at 1. For that reason the display shows that 339 plus 45 equals 24. You should not worry about doing these computations. The interface will help do them for you. In the projected example 'Your Best Y' is 24. Since 'Computer Y' in your screens is likely different, 'Your Best' for Coordinate Y will likely differ as well. Please locate the 'Your Best Y' on your screen and write it down on the worksheet.

Your best coordinates for X and Y determine a location in the map. In the case of the projected example, the best coordinates for BLUE are 282 for X and 24 for Y. This location is represented with the blue dot. On top of the blue dot you are reminded of the coordinates that determine that location.

<PAUSE>

The best that can happen to you (when you are member BLUE) is that member GREEN chooses 'Your Best Coordinates' as the choice of the group. Your payoffs, when you are member BLUE, will be lower the further away the choice of member GREEN is from 'Your Best Coordinates'.

In the projected screen you can also see what the best coordinates for member Red are. For coordinate X, Red's best is equal to Computer X minus 45. In the case of the projected example this amounts to, 237 ('Computer X'), minus 45, for a total of 192. Please write down RED's best X from your screen on the worksheet. For coordinate Y, Red's best is equal to Computer Y plus 45. In the case of the projected example this amounts to, 339 plus 45, for a total of 24. Please write down RED's best Y from your screen on the worksheet.

Red's best coordinates for X and Y are also represented in the map. The location is represented with the red dot. On top of the red dot you are reminded of the coordinates that determine that location. The best that can happen to RED is that member GREEN chooses 'Red's best coordinates' as the choice of the group.

<PAUSE>

The green dot represents the choice that would be best for member GREEN. Member GREEN's best location will always be determined by 'Computer X' (here 237) and 'Computer Y' (so 339). As you can see on the right side of the screens, this is verified in the projected example. Please write down GREEN's best X and Y coordinates from your screen on the worksheet.

<PAUSE>

Let me remind you that you should think of the map as representing a

globe. If you are at a location close to 360 and move a bit further, you appear back at 1. The interface will initially present the map with coordinates 180, 180 in the center. The interface allows you to change your viewpoint of the map: you can choose to view the map with a different center point. For example, I would like to see the map with center for coordinate X equal to 270 and coordinate Y equal to 90. In order to do that I place the mouse on top of that point and RIGHT CLICK. Please do not do this yet.

[New Slide 2] In the projected screen you can see the result. The new center of the map is 270 for coordinate X and 90 for coordinate Y. You can now practice to change the centers of your maps. Remember: you will place the mouse point on a point on the map, right click and the figure will recenter around that point. You can use this tool to help you visualize the locations on the map.

<PAUSE>

Members BLUE and RED will simultaneously submit their recommendations to GREEN for Coordinates X and Y. In order to select a recommendation you have to left click on the map.

[New Slide 3] In the projected example I have clicked and selected 1 as my recommendation for Coordinate X and 1 as my recommendation for Coordinate Y. Now please make your choice. Remember your choice will not count for money in this instruction period.

If you want to modify your choice you can click on any other point in the map. There is a way to make small changes. If you click just outside of the white map area to the left or right you can add or subtract 1 from your current selection of the X coordinate. If you click just outside of the map on the top or bottom you will add or subtract 1 from your current selection of the Y coordinate.

The bottom right side of the screens gives you information on payoffs. It first reminds you of your current choices for recommendations. Please write down your current recommendations on the worksheet. If Member GREEN exactly follows your recommendations, the next three lines show the monetary payoffs you, the RED and the GREEN member will receive. Please write down these payoffs in the worksheet.

If you want to change your current selected recommendation, simply click on top of the circles or make the small adjustments as indicated before. As you change your selections you can see how payoffs would change if GREEN were to exactly follow your recommendation. You can change your selections as much as you like, but when you click on the 'Use Selection' button your

choices will be final. The selection you decide to use will be submitted to member GREEN as your recommendation. Once you have submitted your recommendation you will have to wait while member GREEN makes the choice for the group.

Please click on the 'Use Selection' button now. Remember this instruction period will not count for money.

Member RED

[New Slide 4] At the same time as BLUE is considering what to recommend to GREEN, member RED must also decide on what to recommend. In this instruction period to familiarize you with the interface, we will show you the screens that member RED would see. When the experiment starts if you are member BLUE you will not see RED's screens, and if you are member RED you will not see BLUE's screens. You will make your recommendations simultaneously and without knowing what the other has selected. Please click on the 'See Red's screens' Button now.

[New Slide 5] You can now see what member RED's screens look like. As you can see the screen has identical information to that just showed for BLUE. Please make selections on recommendations for X and Y as if you were the RED member.

[New Slide 6] I will select to recommend 1 in both coordinates. After you have made your recommendations, please click on the 'Use Selection' button.

Member RED and Member BLUE: Waiting Screen

[New Slide 7] If you are member RED or Member BLUE you will have to wait while GREEN evaluates RED and BLUE's recommendations and makes a choice. While you wait you will be reminded of what you recommended and you will have access to the recommendation sent by the other member to GREEN. On your screens you can see this information. The screen is what you would see if you were member RED. At the bottom you can see blue and red's recommendations. In the map these recommendations are represented with a diamond. In the projected example, you can see a red diamond at point 1, 1. Because in the projected example the recommendations of Blue and Red coincide you only see one diamond. If your selections for Blue and Red did not coincide, you will observe a blue and red diamond on the map.

Please click on the 'Move On' button now.

Member Green

[New Slide 8] When you are playing for Money you will be either member RED, member BLUE or member GREEN. We just went over the screens that member RED and member BLUE will face until they have submitted their recommendations for X and Y. Now we will show you the screens that you will face if you were member GREEN. Please click on 'See Green's Screen' button now.

[New Slide 9] If you are member GREEN you will have to wait while members RED and BLUE submit their recommendations. While you wait your screen will display the currently projected slide. Member GREEN DOES NOT KNOW what values the computer selected for 'Computer X' and 'Computer Y'; Before making their recommendations members RED and BLUE will learn the two computer values. Member GREEN only has access to the recommendations from members RED and BLUE, and will not know the exact values of 'Computer X' and 'Computer Y'.

Member GREEN does know that the highest payoff for them is to choose 'Computer X' and 'Computer Y'. GREEN's problem is that they do not know these computer selected values,only the recommendations from RED and BLUE who do know the computer values. Member GREEN does know that RED and BLUE would find it best if they were to choose a different point.

The screen that GREEN will see while they wait for BLUE and RED to send their recommendations reminds GREEN about how far away RED and BLUE's best choices are from their own best coordinates.

Consider first the information on Blue's best Coordinates, shown on the left side of the screens. Member GREEN does not know which value Computer X and Computer Y take. Member Green knows that those coordinates represent the best choice for GREEN and that wherever those coordinates are, BLUE's best is 45 to the right in coordinate X and 45 units above in coordinate Y. The blue arrow indicates this. If the green dot represents Green's best, then blue's best is 45 units more in Coordinate X and 45 units more in Coordinate Y. The bottom of the screen also reminds GREEN of how BLUE's best coordinates are computed.

The right side of the screen gives GREEN the same information with respect to RED. If the green dot represents Green's best, then red's best is 45 units to the left in Coordinate X and 45 units above on Coordinate Y. The bottom of the screen also reminds GREEN of how RED's best coordinates

are computed.

Once members RED and BLUE have submitted their recommendations, if you are member GREEN you will then move on to observe the recommendations and make a choice for the group. Please click on 'Move On' now.

[New Slide 10] This is the screen where you will make the final choice for the group if you are member GREEN.

In the map the recommendations are represented with a diamond. In the projected example, you can see a red diamond at point 1, 1. Because in the projected example the recommendations of Blue and Red coincided Green only sees one diamond. If your selections for Blue and Red did not coincide, you will observe a blue and red diamond in the map. The right panel also gives you information on best coordinates and recommendations. You can see how GREEN's best points differ from BLUE's and RED's in each coordinate and below you can see BLUE and RED's recommendations for X and Y.

If you are member GREEN you will make a choice by left clicking anywhere in the map, and you can re-center the map by right clicking on a point. Just as an example I will choose 100 for Coordinate X and 100 for Coordinate Y.

[New Slide 11] You can make any choice, it will not count for money. There is also a way to make small changes. Clicking just to the right or left of the map will add or subtract one from the current selection of X. If you click just above or below the map you will add or subtract 1 unit from your current selection of Y.

When you play for money, if you are member GREEN, you can change your selection as long as you haven't clicked on the 'Use this Choice' button. Since this is an instruction period that doesn't count for money, please click on the 'Use this Choice' button.

Feedback

[New Slide 12] After GREEN makes a choice for the group all members of the group will receive feedback on their payoffs. Please click on the 'See Blue's feedback' button to see the feedback that member BLUE will receive.

[New Slide 13] In the map you will have information about the best coordinates (the colored dots), the recommendations provided (the diamonds) and the choice made by Member GREEN (the green square). The location

of the point chosen by Green is also highlighted to the right side of the figure and below that information you can also see how far the final choice of member Green is from Blue's best. In the projected case the distance is 178 units for coordinate X and 76 units for coordinates Y. You will make less money the larger the distances.

The panel below displays the information about payoffs. You start the round with $20, but you will have to pay a cost that is higher the further your best point is from GREEN's choice. For example, in the projected slide member BLUE pays the maximum distance cost of $15 and makes $5 in this round. In your screens you likely observe a different figure for BLUE's final payment. Please write down that figure in the worksheet.

<PAUSE>

You can review the information as much as you like, but when you click on the 'Done button the round will be over. Please click on Done now.

[New Slide 13] Now you'll see the feedback that member GREEN receives. Please click on the 'See Green's feedback' button.

[New Slide 14] As you can see the feedback involves the same information that BLUE and RED will receive. Here is where member GREEN will learn the true value of their best coordinates and their round payoff. Please click on 'Done'.

Before we start with the experiment we'll give you a handout that summarizes the main points and will explain in detail how you will get paid.