Instructions for STISIM Driving Simulator

Setup

Plugging Everything In

1.) Make sure the following items are plugged into the surge protector(s):
   - 3 computers
   - 4 monitors
   - "4-Port" switch
   - Printer
   - Speakers
   - Simulator console

2.) Make sure any surge protectors used are turned on.
   - For the large "WABER" surge protector (the big gray one with 11 outlets), the red button must be pushed down for the power to be on.
   - Most other surge protectors have a simple red switch. To turn this on, depress the side of the switch labeled "On" or "Reset"

Turning on the Computers

1.) Make sure all monitors are on.
2.) Turn on the center computer.
3.) Make sure the 4-Port switch is set to the appropriate number for the center computer (#2 for both the Sister Kenny and Courage Center simulators). The background of the monitor's display should say "Center Display."
4.) Press "Ctrl" + "Alt" + "Delete" to bring up the login window if it doesn't pop up automatically.
5.) Login using the following information:
   username: stisim
   password: STISIM
6.) While the center computer is loading Windows, turn on the left and right computers.
7.) On the 4-Port switch, press the appropriate button for the left computer (#1). The background of the monitor's display should say "Left Display."
8.) Press "Ctrl" + "Alt" + "Delete" to bring up the login window.
9.) Login using the following information:
   username: stisim
   password: STISIM
10.) On the 4-Port switch, press the appropriate button for the right computer (#3). The background of the monitor's display should say "Right Display."
11.) Press "Ctrl" + "Alt" + "Delete" to bring up the login window.
12.) Login using the following information:
   username: stisim
   password: STISIM
13.) If not already on, turn on the three monitors atop the simulator console.
Running a Simulation

Starting the Program

1.) Once all the computers have been turned on and logged into, select the center computer on the 4 Port switch (#2 for both the Sister Kenny and Courage Center simulators). The background of the monitor's display should say "Center Display."

2.) Double-click on the "STISIM Drive" icon:

![Click here to load the STISIM Drive program.]

3.) When the program loads, you'll be presented with a "Tip of the Day." Press the 'Close' button to make this go away.
Setting up the Driver Information

1.) Click on the 'Driver Information' button:

![Image of STISIM Drive - Center Display System]

Click here.

2.) In the window that pops up, click on the checkbox next to 'Create data file name from subject information'.

Click here.

- **Create data file name from subject information**
- **Driver Name:** ZOLA, JOETTE
- **Driver ID:**
- **Run number:** 0
- **Comments:**

![Image of Driver Information Input Fields]
3.) Click on the 'New' button to enter information for a new driver.
4.) Enter the driver's information (Last Name, First Name, and ID) into the appropriate boxes. The data should be filled out in the following way:
   Last Name: <ID>
   First Name: <ID>
   ID: <ID>

For example, if the subject's ID was 9999, the form would look like this:
4.) Click on the 'Add' button.

5.) Upon setting up the initial driver information, the 'Run number' will be "0". It is important to change this number before each run. This table shows which 'Run numbers' correspond to which runs:

<table>
<thead>
<tr>
<th>Run Number</th>
<th>File Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0-Initialization.prj</td>
<td>Researcher initialization run</td>
</tr>
<tr>
<td>1</td>
<td>1-Familiarization.prj</td>
<td>Subject's familiarization run</td>
</tr>
<tr>
<td>(no run number)</td>
<td>(open the Reaction Time measure)</td>
<td>Lower limb reaction time test</td>
</tr>
<tr>
<td>2</td>
<td>2-BlueRun.prj</td>
<td>Low-challenge (Courage Center) run</td>
</tr>
<tr>
<td>3</td>
<td>3-OrangeRun.prj</td>
<td>High-challenge run</td>
</tr>
</tbody>
</table>
6.) When the appropriate run number has been entered into the "Run number" box, click on the 'Ok' button.
Starting a Run

1.) If the 'Driver Information' step has been completed and the proper configuration file is loaded, you're ready to run a scenario. The first step is to click the 'Browse project files' button, shown below.

![Scenario or Project file dialog](image)

2.) A dialog box like the one below will pop up. If the current path is not already C:\CognitiveStudy\Scenarios, then navigate to that path.

![Load STISIM Drive Scenario File](image)

Select the appropriate scenario (any file ending in ".evt" or ".pde") and click 'Open'. Remember, for this study the runs to be used are shown below.

<table>
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<td>3-OrangeRun.prj</td>
<td>High-challenge run</td>
</tr>
</tbody>
</table>
3.) Once a file has been selected, you are ready to run the scenario. To do so, click the ‘Begin simulation run’ icon (the red and green cars), as shown below. The simulator will load the scenario.

Click here.

**Startup Screens**

1.) When the scenario is finished loading, startup screens will show up on the center. Read the instructions on the center monitor atop the simulator console to the subject.

2.) When ready, to advance to the next screen, press the green button on the right. If you ever need to go back to a previous screen, press the green button on the left.

3.) The last startup screen instructs the user to turn the key to begin the simulation. Doing so will start their drive.
The Reaction Time Measure

**NOTE**: This test should be run after the subject has driven the familiarization run, but before they have driven the blue run (the low challenge run). To run this test, follow the steps below.

1.) Double click on the shortcut to the reaction time measure on the desktop. The icon is a red stop sign, as shown below:
2.) The program will load and you will see the following. In the text box under the label ‘User ID’, enter the ID of the subject. Also, verify that the ‘Data file location’ is ‘C:\STISIM\CognitiveStudy\Data’, as shown in the following screenshot.

![Pedal Reaction Time Test](image)

Enter the User ID here.

User ID: 5999

Data file location: C:\STISIM\CognitiveStudy\Data

Results: 

```
3.) Once the ‘User ID’ has been entered and the ‘Data file location’ has been verified, start the test by clicking on the ‘Run’ button:
4.) The center screen of the simulator will have instructions explaining how to carry out the test. As each trial is completed, the results of that trial will appear in the ‘Results’ box, as shown below.

```
Trial #1:
   Total reaction time = 0.753 seconds
   Off throttle = 0.709 seconds
   On brakes = 0.043 seconds

Trial #2:
```

Results are here.
5.) At the end of the test, averages for the actual trial (non-practice) runs will be computed. Write down these three scores ("Total average trial reaction time," "Off throttle," and "On brakes") on the appropriate form (the scores are also backed up in a data file).
After you’ve written down the scores, print the results by pressing the ‘Print’ button, as highlighted below. Upon pressing the button, the standard print dialog box will pop up (asking you to choose a printer, choose which pages get printed, etc.). When this pops up, just click ‘OK’.
7.) After you've printed the results, exit the program by clicking on the 'Exit' button.
Ending the Session

Printing out the Run Log

1.) After all of the trials have been conducted, it is important to print the 'Run Log' before exiting the program. To do this, go to:

   File -> Print Run Log

2.) Click 'OK' when the 'Print' window pops up.
Backing up the Data

It is also very important to back up the data you just spent hours collecting. This is a somewhat tedious process, so be sure to pay attention to detail.

Backing up the Data to the Left Computer

1.) First, on the 4-Port switch, press the appropriate button for the left computer (#3).

2.) Once you've switched to view the left computer, you'll notice a folder called 'Backup' on the right side of the desktop. Double click on this folder to open it.
3.) Inside the 'Backup' folder, you'll see other folders with names such as 'Backup of CognitiveStudy on 11-15-04'. Each of these folders contains backups of data generated in trials on the respective date. You must create two new folders to backup each day's worth of data.
   a.) First, create a new folder by right-clicking in the whitespace and selecting 'New', then 'Folder'. This is shown below.

   ![Creating a new folder]

   b.) Right after the new folder is created, its name (tentatively "New Folder") will be highlighted, meaning you can change the name. Change the folder's name to:

   Backup of CognitiveStudy on <today's date>

   So, for example, if today's date were 12-23-04, the folder would be called:

   Backup of CognitiveStudy on 12-23-04.

   **NOTE:** You cannot use slashes (/ or \\) in a filename. You must use dashes.

4.) Keep the window in which you created the two new folders open, as you will be dragging and dropping files into each of the two new folders.

5.) Double click on the 'My Computer' icon in the upper left of the desktop.
6.) Double-click on the drive that is labeled "C on 'Stisim_center' (S:)", as shown below.

![My Computer window showing drives](image)

**NOTE:** You are now accessing the center computer's hard drive, which is where all the important data is stored. Be careful not to change any file names or delete anything from this drive.

7.) Now, double-click on the folder labeled 'STISIM', as shown below.

![Folder window showing STISIM folder](image)
8.) To easily drag and drop files from one window to another, you must have two windows open at the same time. On the left, you should have the window that popped up after step #9 was completed, and on the right you should have the 'Backup' window in which two new folders were created in step #3. Your screen should look something like this:
9.) To backup the folder called 'CognitiveStudy', simply drag the folder from the left window into the new folder in the right window that you created above labeled 'Backup of CognitiveStudy on <today’s date>'. The backup should take about 15 seconds, during which a box will pop up to tell you files are being copied. When you’re moving the ‘CognitiveStudy’ folder into the new ‘Backup of CognitiveStudy on <today’s date>’ folder, the screen should look something like this.

10.) It's a good idea to make sure the files you intended to back up were actually backed up. To do this, just open the new folder you just dropped your files into and make sure that there are file names beginning with the ID # of the person(s) you just got done testing.

11.) When you're done exploring, be sure to close all windows on the right computer before switching back to the center computer to begin the shutdown process.
Backing up the Data to the Right Computer

1.) First, on the 4-Port switch, press the appropriate button for the right computer (#3).

2.) Once you've switched to view the right computer, you'll notice a folder called 'Backup' on the right side of the desktop. Double click on this folder to open it.

3.) Inside the 'Backup' folder, you'll see other folders with names such as 'Backup of CognitiveStudy on 11-15-04'. Each of these folders contains backups of data generated in trials on the respective date. You must create two new folders to backup each day's worth of data.
   a.) First, create a new folder by right-clicking in the whitespace and selecting 'New', then 'Folder. This is shown below.

   ![Creating a new folder]

   b.) Right after the new folder is created, its name (tentatively "New Folder") will be highlighted, meaning you can change the name. Change the folder's name to:
      Backup of CognitiveStudy on <today's date>
   So, for example, if today's date were 12-23-04, the folder would be called:
      Backup of CognitiveStudy on 12-23-04.

   NOTE: You cannot use slashes (/ or \) in a filename. You must use dashes.
4.) Keep the window in which you created the two new folders open, as you will be dragging and dropping files into each of the two new folders.

5.) Double click on the 'My Computer' icon in the upper left of the desktop.

6.) Double-click on the drive that is labeled "C on 'Stisim_center' (S:)", as shown below.

![Image of My Computer window showing drive C]

**NOTE:** You are now accessing the center computer's hard drive, which is where all the important data is stored. Be careful not to change any file names or delete anything from this drive.

7.) Now, double-click on the folder labeled 'STISIM', as shown below.

![Image of STISIM folder]

**NOTE:** You are now accessing the STISIM folder which contains important data.
8.) To easily drag and drop files from one window to another, you must have two windows open at the same time. On the left, you should have the window that popped up after step #9 was completed, and on the right you should have the 'Backup' window in which two new folders were created in step #3. Your screen should look something like this:
9.) To backup the folder called 'CognitiveStudy', simply drag the folder from the left window into the new folder in the right window that you created above labeled 'Backup of CognitiveStudy on <today's date>'. The backup should take about 15 seconds, during which a box will pop up to tell you files are being copied. When you're moving the 'CognitiveStudy' folder into the new 'Backup of CognitiveStudy on <today's date>' folder, the screen should look something like this.

10.) It's a good idea to make sure the files you intended to back up were actually backed up. To do this, just open the new folder you just dropped your files into and make sure that there are file names beginning with the ID # of the person(s) you just got done testing.

11.) When you're done exploring, be sure to close all windows on the right computer before switching back to the center computer to begin the shutdown process.
Backing up the Data to a CD

1.) First, on the 4-Port switch, press the appropriate button for the center computer (#2).
2.) Insert a blank CD into the CD drive of the center computer.
3.) Open the CD burning program by clicking on the following series of buttons:

4.) Navigate to and double-click on the folder labeled ‘STISIM’, as shown below:
5.) Then click on the ‘CognitiveStudy’ folder and drag it into the window in the lower-right, as shown below.
6.) Click on the 'Record' button:

![Record button](image1)

Click here.

7.) Click on the 'Start Recording' button:

![Start Recording button](image2)

8.) A box looking like this will pop up:
9.) The CD burning program will tell you when the CD is complete.
10.) When the CD is complete, close the CD burning program and eject the CD from the CD drive.
11.) Store the CD in the CD sleeves in the back of the project binder.
Backing up the Data to a USB Flash Drive

1.) First, on the 4-Port switch, press the appropriate button for the center computer (#2).
2.) Double-click on the ‘My Computer’ icon.
3.) Open up the USB flash drive from the ‘My Computer’ window. It might be labeled ‘Removable Device.’ If you don’t see it right away, just wait for a few seconds. It will show up eventually. It may help to close the ‘My Computer’ window while waiting.

4.) Once in the drive for the USB device, open the ‘Backup’ folder.
5.) Inside the 'Backup' folder, you'll see other folders with names such as 'Backup of CognitiveStudy on 12-13-04'. Each of these folders contains backups of data generated in trials on the respective date. You must create two new folders to backup each day's worth of data.

a.) First, create a new folder by right-clicking in the whitespace and selecting 'New', then 'Folder'. This is shown below.

![Create New Folder](image)

b.) Right after the new folder is created, its name (tentatively "New Folder") will be highlighted, meaning you can change the name. Change the folder's name to:

```
Backup of CognitiveStudy on <today's date>
```

So, for example, if today's date were 12-23-04, the folder would be called:

```
Backup of CognitiveStudy on 12-23-04.
```

**NOTE:** You cannot use slashes (/ or \) in a filename. You must use dashes.

6.) Keep the window in which you created the two new folders open, as you will be dragging and dropping files into each of the two new folders.

7.) Double click on the 'My Computer' icon in the upper left of the desktop.
8.) Double-click on the drive that is labeled 'Local Disk (C:)', as shown below.

**NOTE:** You are now accessing the center computer's hard drive, which is where all the important data is stored. Be careful not to change any file names or delete anything from this drive.
9.) Now, double-click on the folder labeled 'STISIM', as shown below.
10.) To easily drag and drop files from one window to another, you must have two windows open at the same time. On the left, you should have the window that popped up after step #9 was completed, and on the right you should have the 'Backup' window in which two new folders were created in step #3. Your screen should look something like this:
11.) To backup the folder called 'CognitiveStudy', simply drag the folder from the left window *into* the new folder in the right window that you created above labeled 'Backup of CognitiveStudy on <today's date>'. The backup should take about 15 seconds, during which a box will pop up to tell you files are being copied. When you're moving the 'CognitiveStudy' folder into the new 'Backup of CognitiveStudy on <today's date>' folder, the screen should look something like this.

12.) It's a good idea to make sure the files you intended to back up were actually backed up. To do this, just open the new folder you just dropped your files into and make sure that there are file names beginning with the ID # of the person(s) you just got done testing.

13.) When you're done exploring, be sure to close all windows on the right computer before switching back to the center computer to begin the shutdown process.
14.) To remove the USB drive from the system, you follow this process:

   a. Double click on the icon with a little green arrow in the lower-right of the screen.

   b. In the next box that pops up, click the 'Stop' button:
c. Click the 'OK' button, as shown below:

![Stop a Hardware device dialog box]

Click this button.

d. A dialog box will pop up, informing you that it's now okay to remove the USB device. Remove the device, then click 'OK'.

![Safe To Remove Hardware dialog box]

The 'USB Mass Storage Device' device can now be safely removed from the system.
Copying the Data to a Computer with Email Access

1.) Insert the USB drive into a USB port on a computer where you have email access.
2.) Double-click on the 'My Computer' icon.
3.) Open up the USB flash drive from the ‘My Computer’ window. It might be labeled ‘Removable Device.’ If you don’t see it right away, just wait for a few seconds. It will show up eventually. It may help to close the ‘My Computer’ window while waiting.

4.) Open the ‘Backup’ folder.
5.) Drag the newest backup folder (the one created in the section titled ‘Backing up the Data to a USB Flash Drive’) to your desktop or some other folder on your computer.
6.) Zip the folder so that it can be sent easily through email. To zip the folder, perform the following steps.
   a. In Windows XP:
      i. Right-click on copy of the folder labeled ‘Backup of Cognitive Study on <today’s date>’ that you have transferred to your computer.
      ii. Sdfsdf
   b. In other versions of Windows
      i. To zip a file, you must first obtain a copy of the program Winzip. If you do not already have a copy of this file, please download it from www.winzip.com. Follow the steps necessary to install Winzip (you may have to restart your computer).
      ii. Once you have a copy of Winzip, you can now follow steps iii-vi.
iii. Right-click on the copy of the folder labeled ‘Backup of Cognitive Study on <today's date>’ that you have transferred to your computer. Select ‘Winzip’ from the

![WinZip Menu](image.png)

iv. Winzip will start, probably telling you that the evaluation period of Winzip has expired. Ignore this box and just press ‘Use Evaluation Version’ button.

![WinZip Evaluation Version](image.png)
v. Click on the 'Add' button in the next box that pops up:

vi. A window will display all the files that have been zipped. Just click on the 'X' in the upper-right hand corner to close this window. (The image below shows no files because, at the time this document was created, there were no files to be zipped.)
vii. A ‘zip’ file will be created in the same directory as the location of the folder you just zipped.

7.) Finally, email the newly-created zip file as you would any other email attachment. Send the zip file to Christopher Monnier at monn0016@umn.edu and to William Durfee at wkd@umn.edu.
**Shutting Things Down**

After you've printed off the 'Run Log' and backed up the necessary files, you are ready to shut down the computers.

1.) Exit from the STISIM Drive program and close any other programs or windows that may be open.

2.) If all programs have been closed, switch to the left computer (#1) using the 4-port switch. Shut down the left computer by clicking on 'Start' and then 'Shut Down'. Make sure that the option selected in the dropdown menu that pops up is 'Shut down', and press 'OK'

   Start -> Shut Down -> select 'Shut down' -> OK

3.) Repeat step #2 with the right computer (#3).

4.) Finally, after both the left and right computers have been shut down, shut down the center computer.