Lab 15-1
Lab – Creating Basic Device Automation

To introduce you to device automation, in this lab, you will create a new robot that will open WordPad on your remote computer and on a new document, enter a centered title and system date as a header of the document. When you get to lab 16, you will be interacting with a database and creating the body of the document from that data.

1. Please make sure that RoboServer and Management Console are running on your RoboServer Machine and that the Device Automation Service is running on your remote device. You can minimize the command windows if you wish (but don't close them).

2. Before you create your Robot, perform the tasks as a human user would and make notes of the steps you must complete to open WordPad and create a centered, bolded title: "Product List" using 20 point characters, creating a new line, setting the font size to 11 point and entering the system date in time. Make sure you note that before you click on something, you need to move your mouse.

   a. So go to your remote system, create a shortcut on your desktop to Microsoft WordPad (probably "%ProgramFiles%\Windows NT\Accessories\wordpad.exe).

   b. Then double-click on the WordPad shortcut your just created to open the program. A new blank document opens. Set the font size to 20 point, set the text to bold, set the text alignment to "center." Select the blank page and type the title, "Product List." Set the font size to 11 point. Press the [Enter] key once to create a new line. Enter the system date. Turn off bold text. Set the text alignment to "Left." Press the [Enter] key twice to double-space and position the cursor on the document to begin tying the rest of the data. Remember to take notes. It will help you not miss anything when you build your robot.

   c. Once you've walked through creating a document, close WordPad. You want to leave our remote machine in a fresh state to interact with the robot you'll create. Do not save the document.

3. Open Design Studio. In your HardyHardware project, create a new Type called "ProductListingReport." Add the following Attributes:

Name	.	Attribute Type	Default Value	Storable	Required	Part of Database Key
Title		Short Text	Product List	✔	✔	
Description		Short Text		✔		
Date		Short Text		✔	✔	✔
Overview		Long Text		✔		
Price		Short Text		✔		

4. Before you can use a robot to automate a remote device you must map it. If it doesn't already exist, create a new folder under your HardyHardware project called "Device Mappings." Then right mouse-click on the folder and select "New" | "Automation Device Mapping." A wizard will launch.

    a. Name the device mapping "Desktop.device." Click [Next].

    b. Select the following:
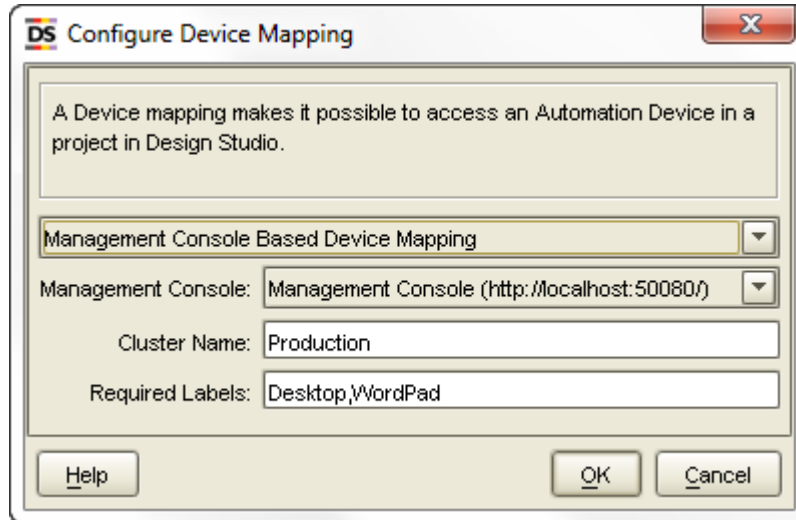
    c. Click [OK].

5. Now create a new Robot. Select your "Robots" folder, right mouse-click and select "New" | "Robot." Name your robot "ProductReport.robot."

    a. You can leave the URL blank and the browser engine set to "Default," but make sure to set the robot execution mode to "Smart Re-execution (Full)."

6. Once your robot opens in Design Studio, add two variables from your available complex types:

    a. ProductListingReport : Set as an <u>input</u> variable

        i. Enter "Product Listing" for the Default Value for "Title"

        ii. Leave the Default Values for the other fields blank

    b. HardyHardware: This variable matches the Type created in an earlier Robot that contains all of our product information that has been stored in our development database.

7. Now you are ready to begin building the Steps in your robot. The first thing you want to do is to assign a value to the productListingReport.Date variable. You want it to contain the system date. With the end step selected in the Robot view, insert a step before the end step.

8. Then go to the "Action" tab of your new step and select "Assign Variable" as the action from the dropdown.

9. In the "Value" window, add the expression "now()". This expression returns the system date and time.

10. In the "Variable" dropdown, select "productListingReport.Date."

11. Go to the "Basic" tab and rename the step, "Assign Date."

12. Now, add a step after your Assign Date step.

13. With your new step selected, select "Device Automation" from the Action tab dropdown menu.

14. While still on the "Action" tab, use the available add buttons ⊕ to add the following:

    a. Input Value: Add the variable, "productListingReport.Title"

    b. Input Value: Add the variable, "productListingReport.Date"

    c. Output Mapping: Leave blank

    d. Required Devices: Add the device, "Desktop"

15. Click on the [Edit] button to begin editing the Device Automation workflow.

16. The Device Automation Editor opens. Click on [Expand All]. Notice that Inputs have already been created for you.

17. If you look at the "Automation Device View" below, you'll see three tabs: "Program Manager," "Start" and "Taskbar." Click on the "Program Manager" tab to display the desktop of your remote device.

18. Expand the "Input" section in the Automation Workflow. Notice your two inputs have automatically been added. Notice too that the round button just before the "Return" step is automatically selected (indicated by the gold color). This is where your first step will be added.

19. In the "Automation Device View" go to your WordPad shortcut icon and click on it to select it.

20. Now right mouse-click and select "Click" from the context menu. A new step is added to your workflow called "Click Step."

21. Expand the "Click Step" step. Change the name to more descriptive: "Open WordPad.:"

22. Expand and examine the components inside the step: For the "Click Left" component, change the "Count" of the clicks from "=1" to "=2". This will perform a double-click and open the application.

23. Using the "Step Into" button, click through your new step so the button just before the "Return Step" is highlighted in gold. Notice that WordPad has now opened.

24. Remember, to interact with an application, you must select the correct tab from the Automation Device View. Notice there is now a third tab: "Document – WordPad." Select that tab.

25. Before you add the title to your document you want to set the font size, make it bold and center the text. You should have taken notes about this. What did you do? You moved the mouse to the font size dropdown button, then you clicked on it. Then you moved your mouse to select 20 point, and then you clicked on that. Let's set this up in our workflow:

    a. In the Automation Device View, select the dropdown button to set the font size.

    b. Right mouse-click on that button and select "Click" from the context menu.

    c. That creates a "Click Group" step. Expand that step.

    d. Change the name to "Select Font Size"

    e. [Step Into] this step until the button just after "Click Left" is highlighted and stop there.

    f. Notice that the font dropdown now is displayed in your WordPad document.

    g. Select "20" from the dropdown, right mouse-click and select "Click" from the context menu.

    h. That creates a new "Click Step" step within your "Select Font Size" step. Expand it and rename that step "Click Size."

    i. Continue to Single step through the workflow until the button just before the Return step is highlighted in gold. Your font size is now set at 20 point.

    j. Let's set the font to bold. Go back to your Automation Device View panel and select the "Bold" button on WordPad's ribbon bar. Then right mouse-click on it and select "Click from the context menu.

    k. Expand your new "Click Step" step and change the name to "Set Bold."

    l. [Step Over] the "Set Bold" step you just created and you'll see the [Bold] button on the WordPad ribbon bar get selected. The button just before the Return step is highlighted in gold.

    m. Create a new step to center the text. You should be able to do this on your own now. Then [Step Over] the step as before to execute it.

26. Now you are going have your robot enter the document title. With the Center Text step executed and the button just before the Return Step selected, right mouse-click on the tab located at the top of the Device Automation View labeled "Document – WordPad." You will be presented with a context menu.

27. Select "Enter Text" | "From variable" | "productListingReport.Title" from the context menu.

28. Single step through that step and you'll see "Product List" is now typed in 20 point, bold and centered text. Now you want to add a new line and reduce the font size to enter the system date.

29. First, let's reset the font size to 11 point. Try to do this one on your own. If you don't remember how, refer back to step 25, sub-steps a-i above. NOTE: You can also copy and paste the entire step from the one you created in step 25. If you do that, you will need to expand and modify the properties to select 11 point this time.
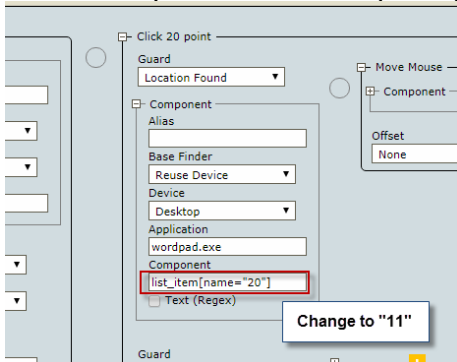
30. Now, add a step to press the [Enter] key to start a new line. Make sure you have stepped through your last step and the font size has been set to 11 and that the button just before the Return step is highlighted in gold. Right mouse-click on the "Document – WordPad" tab and select "Press Key" | "Enter" from the context menu

31. "Step Over" to execute the step. Then, add another "Enter Text" step (remember you did this by right mouse-clicking on the "Document-WordPad" tab), this time populating it with the variable, "productListingReport.Date." If you don't remember how to do this, see steps 26 and 27 above.

32. Follow this by a step that will set the line spacing to single space. The icon in WordPad looks like this: ⯮ You should be able to do this on your own. When you are done, it might look like this:
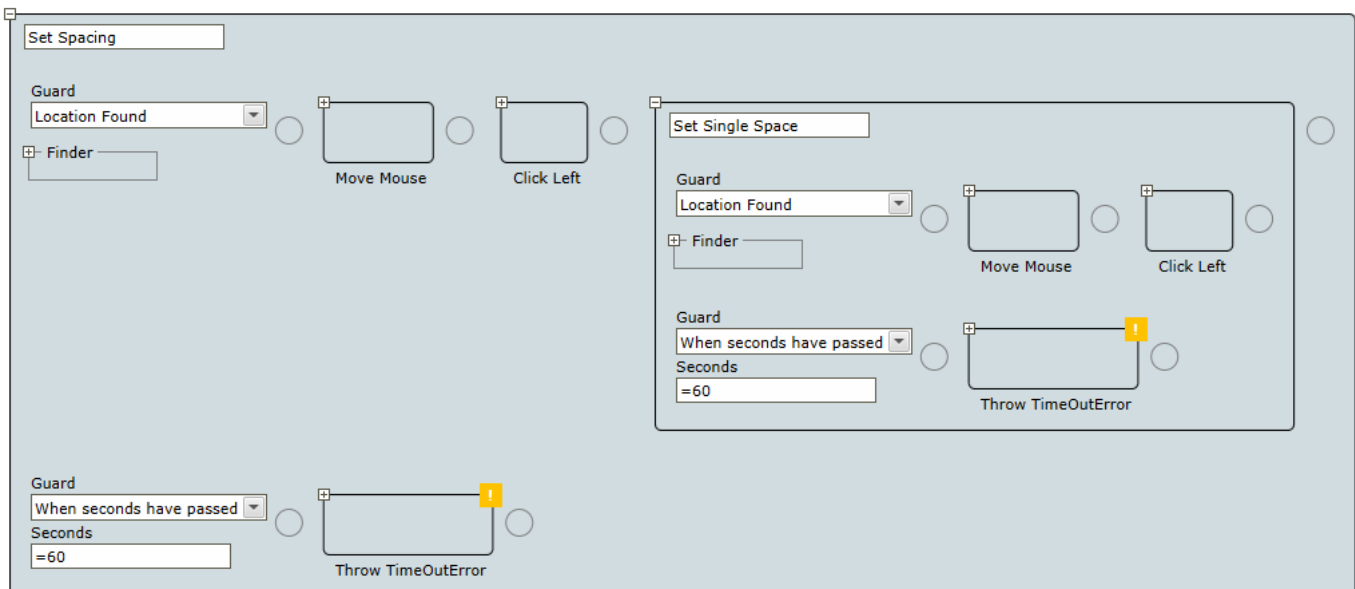
33. Follow this with a new "Press Key" step that presses the [Enter] key <u>twice</u> to create a double-space below the date.

34. Then add a step to left-align the text for what is to follow in the next lab.

35. Click on the [Save button] in the Device Automation editor to save and the [OK] to close.

36. Remember that your remote machine is left in its current state. We have not done anything to close the application yet. We'll do that in the next lab. For now, go to your remote device and manually close WordPad. You do not have to save the document.