Graphical User Interface Testing Procedures

Class: COP4331C (Summer 2017)

Group: G13

Project Name: LightMap

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Note: All subsequent tests after the first test are dependent on the first test's success.

1. Test if the graphical user interface (GUI) shows up when it is executed independently from the rest of the Python modules.
   1. From the command line, run "python Gui.py".
      1. The test was successful. A graphical user interface window has appeared on the screen.
2. Check to see if the window displayed is titled "LightMap".
   1. The test was successful. The word "LightMap" can be seen at the top-left of the window.
3. Look to see if the LightMap logo is displayed on the opened graphical user interface window.
   1. The test was successful. The logo can be seen on the LightMap window.
4. Check to see if the LightMap logo is the window icon that can be seen at the top-left of the Lightmap window.
   1. The test was successful. The LightMap logo can be seen as the window icon at the top-left of the window.
5. Check to see if the red-colored text "No File Selected" is displayed next to the "Open Image" button on the LightMap window.
   1. The visual inspection has passed.
6. On the LightMap window, check to see if there will be four options when the File menu is clicked on. Check if the arrow keys on the user's keyboard can be used to navigate these options.
   1. Both tests were successful.
7. Check the functionality of the "Open Image" option under the File menu.
   1. Check to see if the "Open Image" option under the File menu will open a file dialog when the option is clicked on, selected with the hotkey "CTRL+O", or selected with the enter key.
      1. The test was successful.
   2. If test 7.1 was successful, then check if the user can view JPEG, PNG, GIF, Bitmap, TIFF, and ICO files through the file dialog.
      1. The test was successful.
   3. If test 7.2 was successful for a certain file extension, then check if the user can open an image with the tested file extension. Test for all file extensions.
      1. The test was successful.
   4. If test 7.3 was successful, check if the LightMap window displays the file path of the selected image file.
      1. The visual inspection passed.

5. If test 7.1 was successful, then check if the user can close the file dialog by clicking either the "X" button at the top-right or the "Cancel" button at the bottom-right. Also, check if the user can press the hotkey "ALT+F4" to close the file dialog.
   1. The test was successful.
6. If test 7.5 was successful, then check if the LightMap window notifies the user that an image file was not selected.
   1. The test was successful.

8. Check the functionality of the "Record Video" option under the File menu.
   1. Check to see if the "Record Video" option under the File menu will check the "Record Video" checkbox on the LightMap window when the option is clicked on or selected with the hotkey "CTRL+R".
      1. The test was successful.
   2. If test 8.1 was successful, then check if the "Record Video" option under the File menu has been changed to the "Stop Recording" option under the File menu. The hotkey should still be "CTRL+R".
      1. The test was successful.
   3. If test 8.2 was successful, then check if the "Stop Recording" option under the File menu will uncheck the "Record Video" checkbox on the LightMap window when the option is clicked on or selected with the hotkey "CTRL+R".
      1. The test was successful.

9. Check the functionality of the "Open Image" button on the LightMap window.
   1. Check to see if a file dialog will open when the "Open Image" button on the LightMap window is clicked on.
      1. The test was successful.
   2. If test 9.1 was successful, then check if the user can view JPEG, PNG, GIF, Bitmap, TIFF, and ICO files through the file dialog.
      1. The test was successful.
   3. If test 9.2 was successful for a certain file extension, then check if the user can open an image with the tested file extension. Test for all file extensions.
      1. The test was successful.
   4. If test 9.3 was successful, check if the LightMap window displays the file path of the selected image file.
      1. The visual inspection has passed.
   5. If test 9.1 was successful, then check if the user can close the file dialog by clicking either the "X" button at the top-right or the "Cancel" button at the bottom-right.
      1. The test was successful.
   6. If test 9.5 was successful, then check if the LightMap window notifies the user that an image file was not selected.
      1. The test was successful.

10. If the file path of a chosen image is longer than 42 characters, the file path displayed on the LightMap window should be abbreviated to 42 characters. Otherwise, the file path should not be abbreviated. Check for these events.
    1. The test was conducted with the 42-character file path "C:\Users\Kevin\Pictures\567890abcdefgh.png" and with the 43-character file path

"C:\Users\Kevin\Pictures\567890abcdefgh2.png". The test was successful because the 42-character file path was not abbreviated when displayed on the LightMap window, but the 43-character file path was abbreviated to 42 characters when displayed on the LightMap window. The abbreviation looked like this: "C:/Users/Kevin/Pictures…7890abcdefg2.png".

11. Check for the case that the user clicks on a default image from the LightMap window.
    1. If a default image from the LightMap window is chosen, there should be a blue border encompassing the image. The image should also appear to be pressed inwards. Check for this visual effect.
        1. The test was successful.
    2. If a default image from the LightMap window is chosen, the name of the image file should be displayed on the LightMap window. Check for this.
        1. The test was successful.
12. On the LightMap window, check the functionality of all four spin boxes for the height of the projector, distance from the projector to the screen, height of the camera, and distance from the camera to the screen.
    1. Check to see if the user can enter a value greater than 0.01 but less 99.99 inside each of the spin boxes. Check that the user can only enter a maximum of four digits in each of the spin boxes.
        1. The test was successful.
    2. Check to see if the user can click the up and down arrows on each of the spin boxes to change the values in the spin boxes by increments or decrements of one, respectively. Check that each of the spin boxes will not accept values less than 0.01 and greater than 99.99. Check that the user can only enter a maximum of four digits in each of the spin boxes.
        1. The test was successful.
    3. Check to see if the user can select each of the spin boxes with the tab key.
        1. The test was successful.
    4. Check to see that when a spin box has been selected, the user can use the up and down arrow keys on their keyboard to change the values of the spin boxes in increments or decrements of one, respectively. Check this for all four of the spin boxes. Check that none of the spin boxes will accept values less than 0.01 and greater than 0.99. Check that the user can only enter a maximum of four digits in each of the spin boxes.
        1. The test was successful.
13. On the LightMap window, check the functionality for all four dropdown buttons (or formally known as "combo boxes").
    1. Check to see, that by default, all four of the combo boxes should display the word "meters".
        1. The visual inspection has passed.
    2. Check to see that when each of the combo boxes are clicked, they will all review five options in this specific order from top to bottom: meters, feet, yards, inches, centimeters.
        1. The test was successful.

3. Check to see that each of the five options in each of the four combo boxes can be selected by clicking, and that when they are selected, they should close the cascading feature. Also, check if they can be selected by using the arrow keys on the keyboard and then pressing the enter key.
    1. The test was successful.
14. On the LightMap window, check to see if the "Record Video" checkbox can be toggled on and off by clicking on the box or text "Record Video". When the checkbox is toggled on, there should be a checkmark inside the box. Otherwise, the checkbox is toggled off.
    1. The test was successful.
15. If test 14 was successful, then check if the "Record Video" option under the File menu has been changed to the "Stop Recording" option under the File menu. The hotkey should still be "CTRL+R".
    1. The test was successful.
16. Check for functionality of the status bar on the LightMap window.
    1. Check to see that there is a border towards the bottom of the LightMap window to set apart the status bar from the rest of the window.
        1. The visual inspection has passed.
    2. The following are not requirements, but check to see if the status bar is colored slightly differently. Furthermore, check if the status bar appears inset. Finally, check if there is right scalene triangle comprised of six dots on the right-end of the status bar.
        1. The visual inspection has passed.
    3. Check to see if hovering the cursor over the "Open Image" button on the main window makes the status bar display "Open Image".
        1. The test was successful.
    4. Check to see if hovering the cursor over the top-left default image on the main window makes the status bar display "Earth".
        1. The test was successful.
    5. Check to see if hovering the cursor over the top-right default image on the main window makes the status bar display "Moon".
        1. The test was successful.
    6. Check to see if hovering the cursor over the bottom-left default image on the main window makes the status bar display "Smiley Face".
        1. The test was successful.
    7. Check to see if hovering the cursor over the bottom-right default image on the main window makes the status bar display "Mystery Man".
        1. The test was successful.
    8. Check to see if hovering the cursor over the top spin box will make the status bar display "Enter height of projector".
        1. The test was successful.
    9. Check to see if hovering the cursor over the middle-top spin box will make the status bar display "Enter distance from projector to screen".
        1. The test was successful.
    10. Check to see if hovering the cursor over the middle-bottom spin box will make the status bar display "Enter height of camera".

1. The test was successful.
11. Check to see if hovering the cursor over the bottom spin box will make the status bar display "Enter distance from camera to screen".
    1. The test was successful.
12. Check to see if hovering the cursor over the top combo box will make the status bar display "Choose measurement unit for height of projector".
    1. The test was successful.
13. Check to see if hovering the cursor over the top combo box will make the status bar display "Choose measurement unit for distance from projector to screen".
    1. The test was successful.
14. Check to see if hovering the cursor over the top combo box will make the status bar display "Choose measurement unit for height of camera".
    1. The test was successful.
15. Check to see if hovering the cursor over the top combo box will make the status bar display "Choose measurement unit for distance from camera to screen".
    1. The test was successful.
16. Check to see that whenever any of the four combo boxes is showcasing cascading functionality, the status bar should not display any text.
    1. The test was successful.
17. Check to see if hovering the cursor over anywhere else on the window or screen will not make the status bar display any text.
    1. The test was successful.
18. Verify that there should not be any text displayed on the status bar when the file dialog is open.
    1. The test was successful.
17. Check the functionality of the "Start Mapping" option under the File menu.
    1. When the user presses the hotkey "F5" or clicks on the "Start Mapping" option under the File menu, check to see if a message box will be displayed telling the user to select a valid image if an image has not been selected yet.
        1. The test was successful.
    2. When the user presses the hotkey "F5" or clicks on the "Start Mapping" option under the File menu, and if an image file has been chosen but at least one of the values in one of the four combo boxes is equal to zero, then see if a message box will be displayed telling the user which combo box needs to have a value greater than zero.
        1. The test was successful.
    3. When the user presses the hotkey "F5" or clicks on the "Start Mapping" option under the File menu, and if the following conditions have been met: (1) an image file has been chosen and (2) all four of the combo boxes have values greater than zero entered, then check to see if the "Start Mapping" option under the File menu will print to the console: (1) the user-entered values for hardware positions, (2) the unabbreviated absolute file path of the image chosen through the file dialog or the unabbreviated relative file path of the default image chosen, (3) and the text "Record Video" if the user has chosen to record a video.
        1. The test was successful.

18. Check the functionality of the "Start Mapping" button on the LightMap window.
    1. When the user presses the hotkey "F5" or clicks on the "Start Mapping" button on the LightMap window, check to see if message box will be displayed telling the user to select a valid image if an image has not been selected yet.
        1. The test was successful.
    2. When the user presses the hotkey "F5" or clicks on the "Start Mapping" button on the LightMap window, and if an image file has been chosen but at least one of the values in one of the four combo boxes is equal to zero, then see if a message box will be displayed telling the user which combo box needs to have a value greater than zero.
        1. The test was successful.
    3. When the user presses the hotkey "F5" or clicks on the "Start Mapping" button on the LightMap window, and if the following conditions have been met: (1) an image file has been chosen and (2) all four of the combo boxes have values greater than zero entered, then check to see if the "Start Mapping" button on the LightMap window will print to the console: (1) the user-entered values for hardware positions, (2) the unabbreviated absolute file path of the image chosen through the file dialog or the unabbreviated relative file path of the default image chosen, (3) and the text "Record Video" if the user has chosen to record a video.
        1. The test was successful.
19. On the LightMap window, check to see if there will be an option called "Preferences" when the Settings menu is clicked on. Check if the arrow keys on the user's keyboard can be used to navigate to this option once the Settings menu has been opened.
    1. Both tests were successful.
20. Check the functionality of the "Preferences" option under the Settings menu.
    1. Another window should be opened when the user clicks on the "Preferences" option. Alternatively, the user can select this option by hitting the enter key or by pressing the hotkey "CTRL+P".
        1. This test was successful.
    2. Check to see if the new window displayed is titled "Preferences - LightMap".
        1. The test was successful. The word "Preferences - LightMap" can be seen at the top-left of the window.
    3. Check to see if the LightMap logo is the window icon that can be seen at the top-left of the Preferences window.
        1. The test was successful. The LightMap logo can be seen as the window icon at the top-left of the window.
    4. Check to see if the red-colored text "No File Selected" is displayed next to the "Open Image" button on the Preferences window.
        1. The visual inspection has passed.
    5. Check to see if a file dialog will open when the "Open Image" button on the Preferences window is clicked on.
        1. The test was successful.
    6. If test 20.5 was successful, then check if the user can view JPEG, PNG, GIF, Bitmap, TIFF, and ICO files through the file dialog.
        1. The test was successful.

7. If test 20.6 was successful for a certain file extension, then check if the user can open an image with the tested file extension. Test for all file extensions.
   1. The test was successful.
8. If test 20.7 was successful, check if the Preferences window displays the file path of the selected image file.
   1. The visual inspection has passed.
9. If test 20.5 was successful, then check if the user can close the file dialog by clicking either the "X" button at the top-right or the "Cancel" button at the bottom-right.
   1. The test was successful.
10. If test 20.9 was successful, then check if the Preferences window notifies the user that an image file was not selected.
    1. The test was successful.
11. If the file path of a chosen image is longer than 41 characters, the file path displayed on the Preferences window should be abbreviated to 41 characters. Otherwise, the file path should not be abbreviated. Check for these events.
    1. The test was conducted with the 41-character file path "C:\Users\Kevin\Pictures\567890abcdefg.png" and with the 42-character file path "C:\Users\Kevin\Pictures\567890abcdefg2.png". The test was successful because the 41-character file path was not abbreviated when displayed on the Preferences window, but the 42-character file path was abbreviated to 41 characters when displayed on the Preferences window. The abbreviation looked like this: "C:/Users/Kevin/Pictures…7890abcdefg2.png".
12. On the Preferences window, test to see if the checkbox "Log file paths of chosen images" can be toggled on and off by clicking on the box or text "Log file paths of chosen images". When the checkbox is toggled on, there should be a checkmark inside the box. Otherwise, the checkbox is toggled off.
    1. The test was successful.
13. On the Preferences window, test to see if the "Clear image file path log" button will clear the image file path log.
    1. The test was not successful because this feature has not been implemented yet. Also, this test is rather vague and shall be reworded once said feature has been implemented.
14. On the Preferences window, check the functionality of all four spin boxes for the height of the projector, distance from the projector to the screen, height of the camera, and distance from the camera to the screen.
    1. Check to see if the user can enter a value greater than 0.01 but less 99.99 inside each of the spin boxes. Check that the user can only enter a maximum of four digits in each of the spin boxes.
       1. The test was successful.
    2. Check to see if the user can click the up and down arrows on each of the spin boxes to change the values in the spin boxes by increments or decrements of one, respectively. Check that each of the spin boxes will not accept values less than 0.01 and greater than 99.99. Check that the user can only enter a maximum of four digits in each of the spin boxes.

1. The test was successful.
    3. Check to see if the user can select each of the spin boxes with the tab key.
        1. The test was successful.
    4. Check to see that when a spin box has been selected, the user can use the up and down arrow keys on their keyboard to change the values of the spin boxes in increments or decrements of one, respectively. Check this for all four of the spin boxes. Check that none of the spin boxes will accept values less than 0.01 and greater than 0.99. Check that the user can only enter a maximum of four digits in each of the spin boxes.
        1. The test was successful.
15. On the Preferences window, check the functionality for all four dropdown buttons (or formally known as "combo boxes").
    1. Check to see, that by default, all four of the combo boxes should display the word "meters".
        1. The visual inspection has passed.
    2. Check to see that when each of the combo boxes are clicked, they will all review five options in this specific order from top to bottom: meters, feet, yards, inches, centimeters.
        1. The test was successful.
    3. Check to see that each of the five options in each of the four combo boxes can be selected by clicking, and that when they are selected, they should close the cascading feature. Also, check if they can be selected by using the arrow keys on the keyboard and then pressing the enter key.
        1. The test was successful.
16. Check to see if the "Always record video" checkbox can be toggled on and off by clicking on the box or text "Always record video". When the checkbox is toggled on, there should be a checkmark inside the box. Otherwise, the checkbox is toggled off.
    1. The test was successful.
17. Test functionality for the "Create presets" button.
    1. The test was not successful because this feature has not been implemented yet. Also, this test is rather vague and shall be reworded once said feature has been implemented.
18. Test functionality for the "Use presets" button.
    1. The test was not successful because this feature has not been implemented yet. Also, this test is rather vague and shall be reworded once said feature has been implemented.
19. Test functionality for the "Save" button.
    1. The test was not successful because this feature has not been implemented yet. Also, this test is rather vague and shall be reworded once said feature has been implemented.
20. Check to see that the Preferences window cannot be resized.
    1. The test was successful.
21. Check to see that the Preferences window cannot be maximized.
    1. The test was successful.

22. Check to see that the user can move the Preferences window around their screen by clicking and holding the title bar of Preferences window.
     1. The test was successful.
23. When the user presses the "?" button at the top-right of the LightMap window, check to see if the Preferences window will display an additional help window.
     1. The test was successful.
24. On the Preferences window, check to see if the Preferences window will close without saving any modified data on the Preferences window if the user presses the hotkey "ALT+F4", clicks the "X" button at the top-right of the Preferences window, or selects the button "Discard" on the Preferences window by either clicking the button or hitting Enter once the button is highlighted.
     1. All four tests were successful.
25. When the Preferences window closes, check if the LightMap window will stay open.
     1. The LightMap window stayed open. The test was successful.
21. On the LightMap window, check to see if there will be two options when the Help menu is clicked on. Check if the arrow keys on the user's keyboard can be used to navigate these options.
     1. Both tests were successful.
22. Check to see that the LightMap window cannot be resized.
     1. The test was successful.
23. Check to see that the LightMap window cannot be maximized.
     1. The test was successful.
24. Check to see that the user can move the LightMap window around their screen by clicking and holding the title bar of LightMap window.
     1. The test was successful.
25. When the user presses the "—" button at the top-right of the LightMap window, check to see if the LightMap window will minimize.
     1. The test was successful.
26. When the user presses the "X" button at the top-right of the LightMap window or presses the hotkey "ALT+F4", check to see if the LightMap window will close.
     1. Both tests were successful.
27. Check to see that the user can "right-click", or more formally "secondary click", the title bar of the LightMap window to move, minimize, or close the LightMap window.
     1. The test was successful.
28. When the user presses the hotkey "CTRL+Q" or selects the "Quit" option under the File menu by either clicking on the option or pressing the enter key once the option has been highlighted, check to see if the "Quit" option under the File menu will close the LightMap window and all child windows. Alternatively, when the user presses the "X" button at the top-right of the LightMap window or presses the hotkey "ALT+F4", check to see if the LightMap window will close as well as all child windows.
     1. The LightMap window closes, but the child windows do not close. The test was only partially successful.