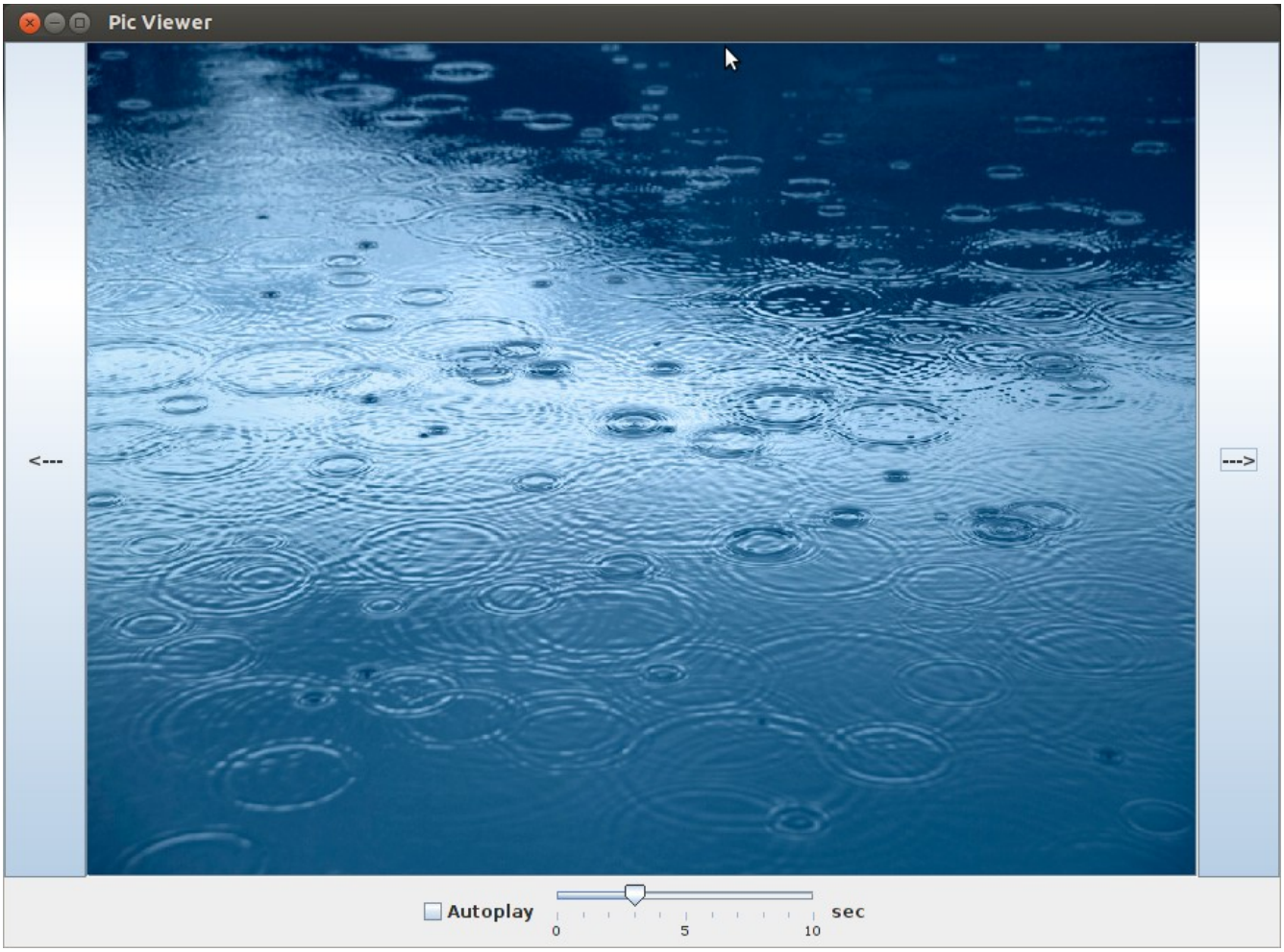
Programming Project 3

Having learned how to make graphical user interfaces for your programs, you decide to put your skills to the test and implement a program found in most desktop computers, a picture viewer.



The program starts by getting a list of all the picture files (we are going with files with a **.jpg/.JPG** extension for this project) in the "My Pictures" folder and displaying a picture as soon as it starts up.

Clicking the --> button, displays the next pic in the folder. When the last picture is displayed, clicking next displays the first picture again. Clicking the <-- button, displays the previous pic in the folder. When the first picture is displayed, clicking previous displays the last picture.

The Autoplay checkbox, when checked, causes the program to display pictures in a slide show. Unchecking it stops the slide show. The slider determines the time interval between pictures when in slide show. Moving the slider changes the time interval without needing to uncheck/recheck the box.

Once this functionality has been implemented, you will add one more feature of your choosing which makes this program more useful or improves the user experience.

Hints:

– You can use a JLabel for the picture area. To set the label's image to the image in a picture file you can use some code like below (not the very best way, but good enough for a simple program).

```
private void setLabelImage(File imgFile, int width, int height)
            throws IOException {
      Image img = ImageIO.read(imgFile);
      picLabel.setIcon(new ImageIcon(img.getScaledInstance(width, height,
            Image.SCALE_DEFAULT)));
}
```

– To get the list of files in a directory you can use the listFiles method of the File class. You can filter out the files you don't need by only keeping the ones with .jpg extension.

– To get the path to the Pictures directory, you can first get the path to your home directory and append the path to the pictures directory to that with code similar to the one below

```
String path = System.getProperty("user.home") + "/Pictures";
```

Deliverables:

You should submit a zip file named **project3_first_last.zip** (where first and last are your first and last name) containing **ONLY** the **files below.**

Viewer.java

report.txt (a **text** file please, no .doc, .gif, …) containing:

1 - a 1 to 10 lines paragraph from you saying "I have tested this program and there are no known issues." if you believe that to be the case, or a brief description of known issues in case your program has known problems or you could not fully implement it.

2- A brief description of your added functionality (~ 3-5 lines).

How you get points:

– Prev/Next Functionality	50 points
– Autoplay Functionality	20 points
– Added Feature	0 - 15 points based on how significant the feature/improvement
– User Experience	0 - 15 points based on how easy/pleasant to use the pic viewer is

How you lose points:

- If you use an inappropriate layout, causing your GUI to "fall apart" when the window is resized.
- If your code is not well organized into methods with a clear responsibility. Your controls should be member variables of the class and methods should create the GUI and implement the required functionality.
- If your code is not formatted properly or is unnecessarily convoluted and I find it hard to read.
- If your code does not follow Java coding standards regarding naming of classes, variables, methods, constants, etc.
- If your code is not commented properly where needed. Every complex block of code should have at least a one line comment documenting that code's intent.
- If your source code has print out statements you used for debugging or commented out code you used to try out ideas. **Clean up your code before you submit.**
- If you submit your whole workspace or executable files. **Submit only the files the assignment asks for.**