

Floc Size and Count App

The presentation will discuss progress made by the Floc Size and Count App team since the symposiums.

For more information please visit

<https://confluence.cornell.edu/display/AGUACLARA/Floc+Size+And+Count+App>



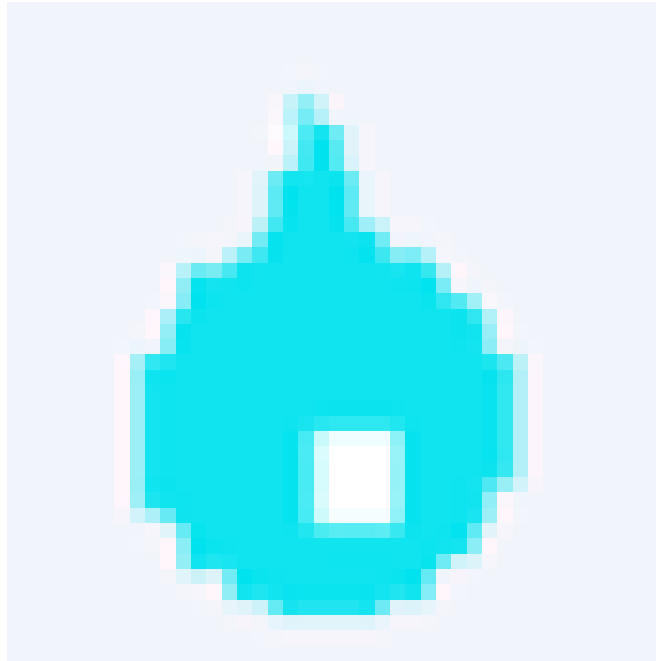
What do we do?

- Make a program
- Average Size and Count
- Short-term: Help other teams
- Long term: Help Honduras workers

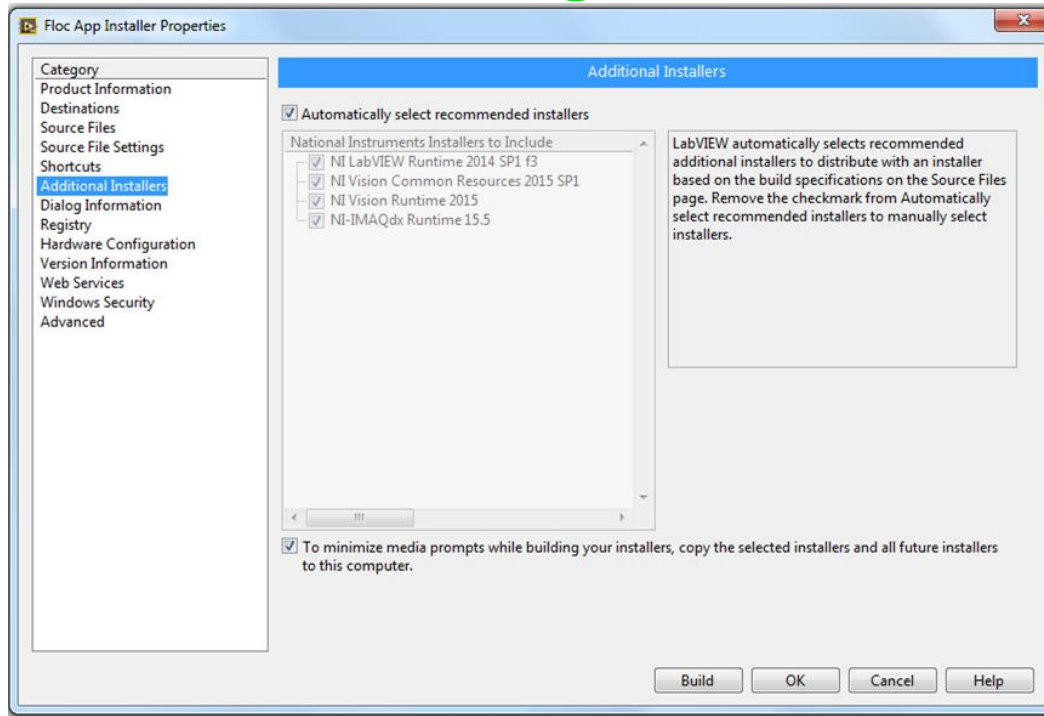
The floc app will be a valuable tool both in the lab and the field.



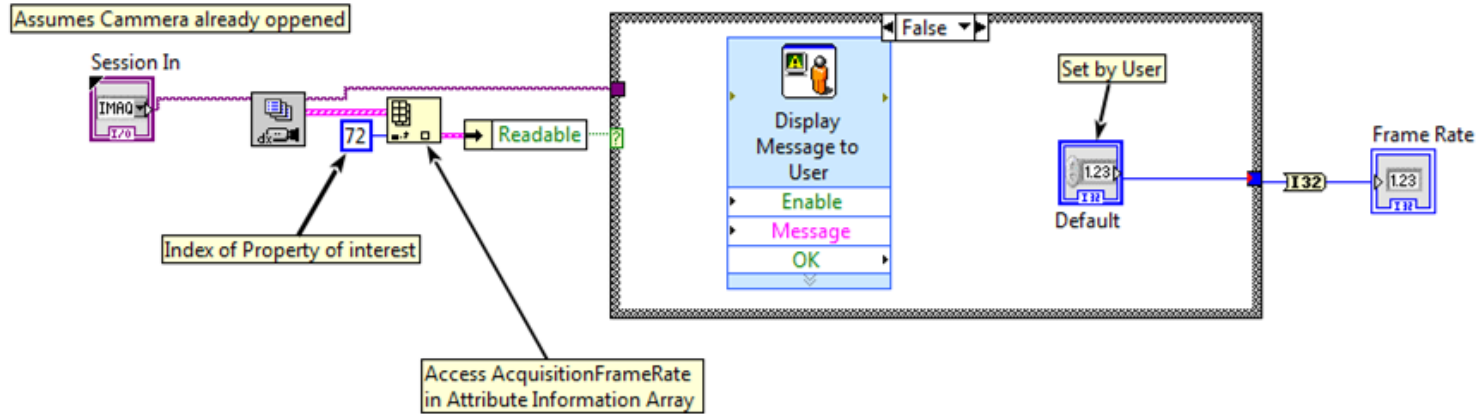
Executables are a standard means of distributing software



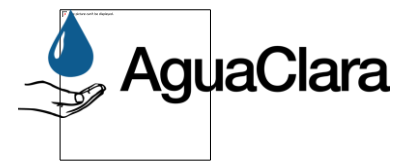
LabVIEW provided a simple interface for creating both



The program is capable of reading a camera's frame rate



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Floc Size and Count Application Software

Created by Anthony K Verghese, last modified on Nov 15, 2016

What is the Floc Size and Count App?

The Floc Size and Count App is used for teams interested in determining average floc size and count for research purposes.

Having access to data regarding floc size and count allows researchers to test the effects of different designs of certain components of the treatment plant.

Continuous image processing gives users of the application the ability to visualize changes in water quality over a span of seconds, minutes, or even days.

How does the Floc App work?

The Floc App was made with LabVIEW. Two VI's were created; one takes the images from the camera and the other processes the images.

During the processing step, a gaussian filter is applied to each image and flocs that are too blurry or on the border of the images are removed. Then, the size and number of the flocs is determined by utilizing the image processing tools that LabVIEW offers. Processing hundreds or even thousands of images over a period of time will give an average size and count of the flocs in the water.

Further information about the essential components of the Floc Size and Count program can be found in Siwei Sun's thesis, attached here, [Siwei Sun Thesis.pdf](#).

Step-by-step guide to

1. First, download the executable here: [Floc Size and Count App.exe](#)
2. Second, after downloading is complete, simply connect a camera to your computer with a USB cable.
3. The application should open up after it is downloaded.
4. Add your camera to the application by clicking on the scroll down bar and selecting your camera's name.
5. Click on specific configurations that you are interested in having on the interface. Clicking on the following [link](#) will elaborate upon the different settings that you can choose. [Understanding Settings of Floc Size and Count Application](#)
6. Click on the "Test" button to start taking images.
7. Click on the "Test" button again to stop taking images.
8. Close the application when you are done analyzing.

Hardware Integration

- A camera with very high resolution is needed
- Very expensive
- Will be used in one experiment

A camera with very high resolution is needed however it is very expensive.



User Feedback on Interface

- The full experiment structure is expensive
- Less feedback than we would like
- We can still get feedback on the user interface
- How?
- A fun way to encourage use!
- Try to get the dimensions of Monroe's head with floc app!

The integrated hardware is not the only way to get feedback. Other ways to get feedback on interface.



What Next?

- Our program is done
- Working progress
- We need feedback from you!
- Hardware component

We will be continuing to change and develop the floc app according to the feedback we get.



Questions and Recommendations



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Appendix Slides



Where variables were declared caused problems with the program

