

**The A Team**

**Image Processing Tool for**

**Leidenfrost-Ratchet Systems**

**User Manual for Version 2.0 (First Draft)**

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**1. Introduction/Overview**

This is User Manual will teach the user how to use the Image Processing application.

1.1 Purpose of User Manual

The purpose of this document is to provide the users of the image processor with information on how to install, run, use and possibly troubleshoot the provided software.

1.2 Purpose of Software

The scope comprises what we intend to implement and nothing more. The software's current capacity is to efficiently track a drop of liquid and record measurements through images gathered from a high speed camera as it falls from an injection needle and travels along a ratchet surface.

1.3 Applicability

The User manual applies only to the Image Processing 2.0 supplied by the A-Team.

1.4 Users

The users of this document will be researchers involved in tracking the motion of a droplet as it falls onto a ratcheted surface. The group of researchers who will be using this software includes but is not limited to: Dr. Ok and Dr. Guo.

**2. Installation**

Will inform the user what is needed and how to install the application.

2.1 System Requirement

Before installing the Image processor please ensure that your system meets the following requirements.

- Windows 7 Professional or better

- Excel or spreadsheet application

2.2 System Installation

1. Insert the disk into the drive

2. Copy the file labeled Image Processing onto the desktop

3. Open the Image processing file and locate ImageProcessing.exe

4. Create a Shortcut to the ImageProcessor.exe on your desktop by right clicking then sending to desktop as a shortcut

5. Double click the shortcut to run the Program

**3. Getting Started**

The user will be informed how to get started on the application.

3.1 Running Application

Double click on the ImageProcessing.exe icon to begin the application.

3.2 Navigating the User Interface

The user interface allows the user to enter information as needed. There is a single form that will let the user Load the folder of images, then the user will be allow to enter the correct inputs and calibrate, finally the user will click run. The program will generate a excel file that will let the user save and enter a name.

**4. Processing Images**

The direction and guide to using the Image Processing Application.

4.1 Load Image Folder

Click on the Load button to load the image folder.

4.2 Adjust and Calibrate

Enter the correct Inputs and Calibrate the Images as needed.

4.3 Run Application

Click the Run button to run the application.

4.4 Output file

Save the Output excel file and enter a name

**5. Conclusion**

The quality of results that this program produces depends heavily on the quality of the provided data. As of now the results are as accurate as the original process but images with poor lighting and a difficult to discern droplet may suffer from erratic and inaccurate results. User must ensure that provided data is quality data, and thus the quality of the calculations will be far greater.