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A Team

1 message

James Rowe <jrrowe55@yahoo.com> Fri, Jan 30, 2015 at 3:46 PM
Reply-To: James Rowe <jrrowe55@yahoo.com>
To: Anne Lam <anne.v.lam@gmail.com>, Sanan Aamir <sananaamir@gmail.com>, Mando Garcia <garcia.mando@yahoo.com>, Hieu Tran <hdtran89@yahoo.com>

We had a (very) short meeting with Dr. Guo, where we learned some of the features he wants the program to have. For the most part, he would like us to implement the ideas in the IPMainObjectivesNew document that is on the repo. This is the feedback he gave to Dr. Stringfellow after they had used the program for a little bit.

The features we talked about:
-Give net measurements along with the current x/y measurements
-Achieve one of these cases:
1. Position of base and needle is automatically determined from the first or multiple images in the sequence.
No initial test image required. Camera cannot move throughout the procedure.
2. Position of base and needle is evaluated at each step, allowing the camera to move or shift throughout the procedure.
-Increment time by 1 at each step with no unit.
(MainObjectivesNew doc says mark frame number in results, this may be what he prefers since we'll need the real time values for calculations anyways.)
-Allow the user to define the width of the frames in real units, allowing us to return results with real units instead of pixels.

Features from the IPMainObjectivesNew document:
1. Track the location of the drop as it falls from the injection needle, by following its shape changeable centroid.

2. Prove the repeatability by applying more than three experimental sequences.
3. We would like the program to automatically determine the location of needle and ratchets surface, and display the result to the user.
And we would like to have a button where user can choose to fine tune the resultant locations if they want.
4. Before we used an image with only needle and ratchet surface as base image to determine the location of the needle and ratchet surface.
Is there a way to determine the location of the needle and ratchet surface directly from the images in the sequence? This way we skip scanning the base image.
5. Obtain drop volume based on its lateral size and kinematic quantities such as positon, velocity, acceleration.
6. Output all result into an excel table, with information about the frame number and other similar data with one excel table representing one complete set of images
7. Generate various plots such as velocity or acceleration profile as a function of time or horizontal/vertical position.

We told Dr. Guo that we would be emailing him with any questions we have. so here's some questions that I have:

-Are you alright with the resulting spreadsheet to have both the frame number and the real time elapsed columns?
-The program currently asks for time elapsed between frames. Would you prefer it to ask for the frame rate of the camera so that it is more intuitive and still have accurate measurements?
-How exactly do we obtain the drop's volume after we have determined its lateral size, position, velocity, and acceleration? (Anne's question)
-What do you mean by fine tuning the resultant locations?
-Are you alright with us cleaning up the interface a bit so long as we keep it user friendly and intuitive?

Don't worry too much about the project this weekend, but if you think of any questions, email the group and we'll email Dr. Guo the list of questions we have sometime on Sunday so he can answer them when he has free time on Monday.

We're still in the communication phase, but we'll move into the planning phase this week. Then we can start writing up documentation and planning out some of the technical details of the features we'll be implementing.

Stay relaxed this weekend though. Be the tortoise.