List of software jobs for RR Flying Wire system

What follows is a list of software jobs needed for the RR Flying Wire system.

Necessary steps in order to have a "working" system for RR flying wires:
1. Move the Main Injector code from MAC to PC under LabView 6.1
2. Make the code compatible with the new motor controller and with the new interface to VME/VXI. Adapt to RR system geometrical dimensions.
3. Write a new ACNET page for the Recycler system.
4. Document the part of the program where the analysis of the data is performed and a number for the transverse emittance is provided. I see this as a physicist job, and I have partially done this.
5. Since the new loss monitors being built will have the possibility of remotely inserting a filter between the scintillator and the PMT, we need to modify the LabView program and the ACNET interface to deal with this additional feature. We should modify the fly specs to add the capability of inserting one or both of the two filters or none of them.

This is a list of possible improvements to the present LabView code that, when implemented for the RR system, could be usefully exported to the other systems.
1. Understand and clean up the user interface section of the program:
    a. Document settings of flying wire specs and gate patterns, motor hardware, wire motion, analysis
    b. Saving of the settings and interface with ACNET variables. Known problems:
        i. The present program provides the following choices: save to File, Global, ACNET, All. When saving to All, not always the new settings are being effectively saved to all of the above categories.
        ii. Do we need a separate saving to Global ?
        iii. From ACNET it is not possible to permanently save settings. Do we want to add this capability ?
        iv. It happened that settings were changed without properly recording them in a logbook. This is particularly important for the settings involving proton and antiproton transfer to the Tevatron, because it might make the data recorded in SDA completely useless. It would be important to have the program ask for and record the name of the person who is making the changes.
    c. Keep a history of fly specs changes
2. In the LabView program improve the front panel.
    a. Make the font-size for the fit parameters legible
    b. Include the emittance in the list of parameters
3. Document and possibly modify the part of the program where data is being transferred from LabView to ACNET. In the present system it is obscure how to retrieve data from ACNET. Just from the ACNET page alone it is not possible to know exactly in which "bunch, pass, buffer" the data is being stored. You have to

be told by somebody who is able to look into the LabView program. We need to rationalize the relation between "buffer" and "bunch".

4. Add an option to have the acquired raw data being mailed to you.