Phoebus Screens for NPS Hardware Monitoring

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2022-03

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Using the previously made LabVIEW screens as a guide, I made 12 Phoebus screens for the NPS hardware monitoring system. Two main issues were encountered when creating the screens.

In my first attempt, I used tabs to organize the many screens, as I did in LabVIEW. But I found that in Phoebus, tabs are not easy to work with and thus encountered many problems. Firstly, when trying to lay out the widgets on the tab, I discovered you can only select one widget at a time, which is time-consuming when you have 15+ widgets that need to be selected at once. In an attempt to solve this issue, I arranged the widgets to the side of the visual area, so I could then move the arrangement over to the tab. When moving to the tab, all widgets did not paste correctly.

My second attempt to solve the problem was to create a separate screen of the widgets to go on the tab and embed that screen onto the tab. However, the screen showed on all tabs, not just the intended tab.

My final solution was to change from a tabular organization to a menu of buttons that open the individual screens, Fig. 1.

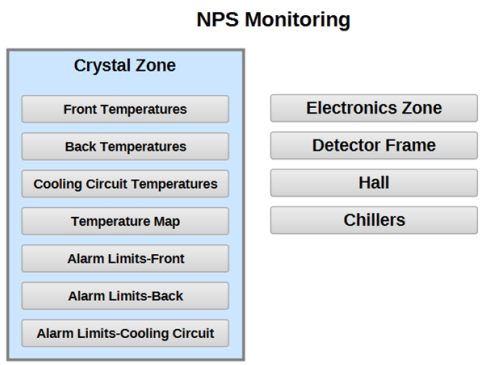

FIG. 1. Main menu; each gray rectangle a button that opens an additional screen.

- **Developing Phoebus user screens to monitor NPS hardware, based on LabVIEW NPS monitoring program**
- **Developed 12 Phoebus User screens**

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My second issue was handling arrays and their process variables (PVs). All screens use arrays, Fig. 2, to either monitor or input values. I was given a list of PVs, with each element of the array widgets having their own PV, which I attached to the individual elements. But when reviewing the PV list generated for a screen in Phoebus, I noticed only the PV for element one of each array was listed, with references to that PV equal to the number of elements in the array. This indicated that only one PV was allowed for each array, so I removed all PVs entered and made and entered a new PV for the entire array. The PV for each array will transfer the entire array into Phoebus.

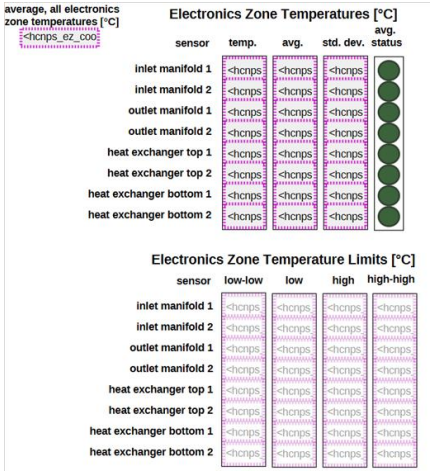

FIG. 2. Screen for electronics zone temperatures; top arrays monitor and bottom arrays are for limit inputs.

My next project is the LabVIEW NPS hardware interlock screens.