Phoebusgen & PV Info

Two new community projects for high level controls

2022 EPICS Collaboration Meeting

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phoebusgen

Background

- ALS has used EDM for many years. About 60% of ALS EDM screens are auto generated from Matlab
  - For historical reasons, some GUI information is stored in Matlab instead of PVs
  - Physicists can enable/disable equipment in Matlab and have screens update automatically
  - Makes engineering screen development easy
- With the move from EDM to Phoebus, a similar solution was needed to generate Phoebus screens

Solution: phoebusgen

- Python module to create CS Studio Phoebus widgets
  - `pip install phoebusgen`
- 38 widgets fully supported (all properties available)
  - 3 widgets partially supported (X/Y Plot, Image, Stripchart)
- https://github.com/als-epics/phoebusgen
  - Available on Github. Contributions/suggestions welcome
  - Docs: https://als-epics.github.io/phoebusgen

```
import phoebusgen

# Widget Name, Label Text, X, Y, Width, Height
label = phoebusgen.widget.Label("MyLabel", "Local PV", 0, 0, 100, 20)
label.font_style_bold()

# Widget Name, PV Name, X, Y, Width, Height
txt_update = phoebusgen.widget.TextUpdate("TextUpdateWidget", "loc://test-pv<VLong>(3)",
                                          120, 0, 100, 20)
txt_update.predefined_foreground_color("OK")

# Widget Name, PV Name, X, Y, Width, Height
txt_entry = phoebusgen.widget.TextEntry("TextEntryWidget", "loc://test-pv",
                                        240, 0, 100, 20)
txt_entry.horizontal_alignment_right()

# Screen Name, File Name
bob_file = phoebusgen.screen.Screen("Phoebusgen Example", "./example.bob")
bob_file.add_widget(label)
bob_file.add_widget([txt_entry, txt_update])
bob_file.write_screen()
```

Resulting Screen

```
import phoebusgen

# Widget Name, Label Text, X, Y, Width, Height
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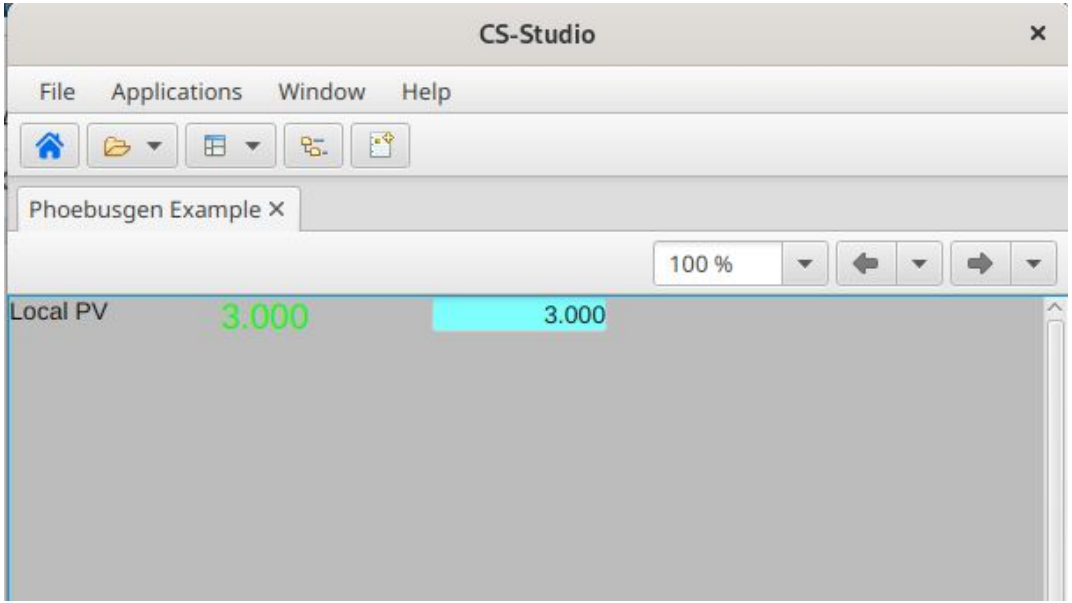


PV Info

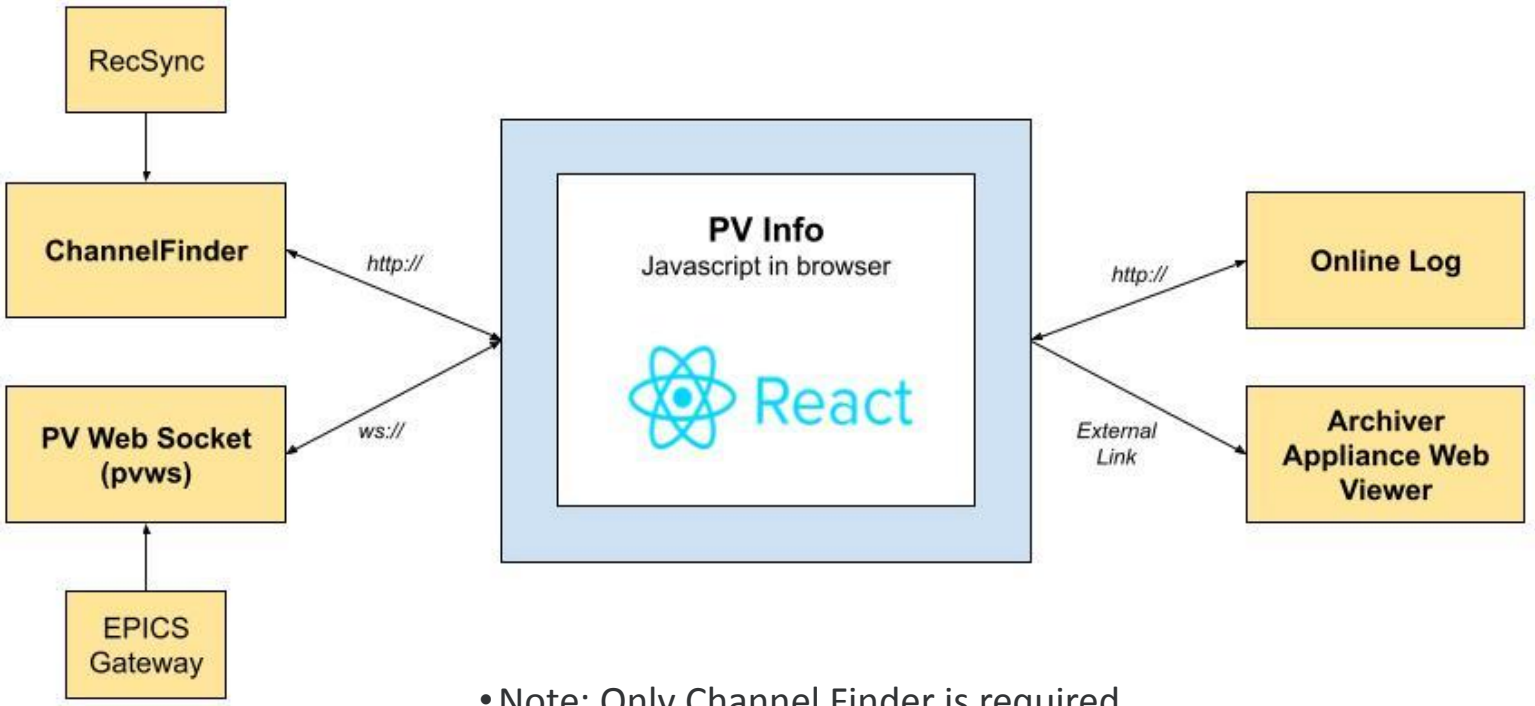
Background

- ALS previously used MySQL for PV directory service
- Web front-end was created to query PVs, plot archived data, view live PV data, etc.
  - MySQL, PHP EPICS extension
- Users are very fond of this application and it is very useful for quick debugging or for those who might not have CS Studio installed

New PV Info

- ALS is moving to use Channel Finder, which means a new version of PV Info is needed
- Updated PV Info uses ReactJS
- Interacts with:
  - EPICS Channel Finder
  - PV Web Socket (PVWS)
  - Archiver Appliance Web Viewer
- Site specific configuration available in .env file
- https://github.com/channelFinder/pvinfo

Architecture



- Note: Only Channel Finder is required

Current Status

- ALS version is diverged from community version on Github
  - Working to get ALS configured to use community version
  - Working to fully support different channel finder configurations and variable number of CF properties/tags
- Would like to hear feedback from others who try to use it
  - Do site specific settings fit your use case?
  - Anything to make the app more generic? Any other useful integrations?

Demo

Questions?