EPICS Web Services
at ESS

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WebPV – http://webpv.esss.lu.se

- Homepage http://webpv.esss.lu.se
• Created by two engineers at ESS AD/BD
• Based on webEPICS from ORNL/SNS (https://github.com/klemenv/WebEPICS)
• Adapted for python3 and pyepics3 on top of EPICSv3 (not EPICSv4 / pva)
• Read-only (no "caput")
• No conversion of OPI/BOB files to HTML/JS (hand crafted web pages)
• Basic JS/HTML for text and graphics, plotly.ly for plots
• Can connect directly to live IOC PV
  – Also with a python3 based IOC (using pcaspy) that performs proton counting
• Websocket communication between the web server and the client
WebPV – http://webpv.esss.lu.se

- Cool looking, with graphics from real 3D model
- For showing off what is going on at ESS to the wider audience
  - For non-technical, non-scientific folks; for layman as in “a guy in a bar”
- Beam diagnostics focused
  - But with no restrictions on having other discipline, such as RF or vacuum, included
- No so much RAD friendly
  - HTML/JS is hand crafted
  - New features can be added, but need manual change of JS/HTML code
Public Operations Screen – http://pos.esss.lu.se

- Homepage http://pos.esss.lu.se
Public Operations Screen – http://pos.esss.lu.se

• Created by controls/operator/scientist guy at ESS ICS
• Based on freeboard (https://github.com/Freeboard/freeboard)
• python3 only code generator – no JS/HTML coding required
• Uses JSON strings for data delivery
• Read-only (no ”caput”)
• Generated JS/HTML/CSS for text, plots made with Flot Extended Widget
• Using direct access to IOC PVs through PV gateway
• No dedicated backend IOC
For quick & simple and unobstructed view of the ESS accelerator
- No logins, no VPN, mobile friendly out of the box
- For scientists visiting ESS, public displays within science village, at the ESS bus stop,

RAD concepts are followed
- Can add new field/widget/plot in matter of minutes

Very clean & minimalistic, at the price of "eye candy"
- No fancy graphics and distracting features
- Less is more

Scalable and versatile in use case support
- Different use cases are quickly deployed
- Comes with UI builder
Presented were pet projects of certain individuals

In the future ESS might come up with more defined web page(s)
  - Up to communications team and with ICS to solidify the concept
  - Ideas presented today might be a good start in getting there

Public Operations Screen
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WebPV
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