EPICS Codeathon 2022
Python Session
Friday, May 13th, 2022
Overview

- 17 participants joined for at least one day
  - 13 on-site: SLAC (12), APS (1)
  - 4 remote: SLAC (1), CNPEM (1), BNL (2)

- Project ideas and status were captured in GitHub discussions:
  

- Existing issues and new functionality were our primary focus
  - 10 different repositories and 47 (!) pull requests
  - We also found (and resolved!) new issues
## Contributions by the numbers

<table>
<thead>
<tr>
<th>Project</th>
<th>Contributors</th>
<th>Total Issues</th>
<th>Total PRs</th>
<th>Merged/Resolved</th>
</tr>
</thead>
<tbody>
<tr>
<td>adl2pydm</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
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<tr>
<td>happi</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>3</td>
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<tr>
<td>ophyd</td>
<td>4</td>
<td>7</td>
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<td>6</td>
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<td>pmps-ui</td>
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<td>whatrecord</td>
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<td><strong>Grand Total</strong></td>
<td><strong>15</strong></td>
<td><strong>49</strong></td>
<td><strong>47</strong></td>
<td><strong>40</strong></td>
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</tbody>
</table>

Screenshots - PyDM

Irregular polygon support

PVAccess support + better alarm handling for Channel Access

Entrypoints support for user-supplied extensions + improved documentation
Screenshots - PyDM

EDM-inspired macro inspector dialog

Simplified confirmation dialogs

Qt Designer improvements: “PyDM Basic Settings”
Analog scale indicators with intuitive warning/error alarm limits: `PyDMAnalogIndicator`

MEDM-style on-demand automatic resizing layouts: `PyDMAbsoluteGeometry`
Screenshots - timechart

PyDM context menu tool:

Settings filename in title + filtering fixes:

TimeChart Tool - twocurves.stp

- Timechart JSON file (*.json)
- TimeChart StripTool file (*.stp)
- All files (*.*)

Minimal widget fullscreen-like mode:

Toggle Fullscreen-Like Mode

A more convenient command-line interface:

timechart --pvs random_walk:x
Last, but not least

Other repository contributions were less photogenic but just as significant:

- **ophyd**
  - New positioner and signal type enhancements
  - A variety of fixes

- **happi**
  - Longstanding bugs fixed
  - Packaging improvements

- **pyca**
  - Deadlock/thrading fixes

- **adl2pydm**
  - Better display conversion + conda-forge recipe

- Miscellaneous package releases, documentation, and more…
Thank you to all attendees and collaborators!