

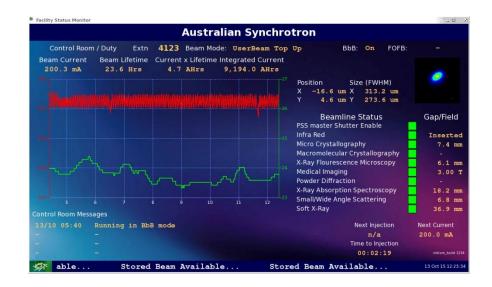
User focused applications with epicsQt Andrew Rhyder Andrew Starritt





PRESENTATION SUMMARY

- Qt and epicsQt overview
- User focused GUI applications
- Wish list



Qt OVERVIEW



- Qt is a cross-platform application and UI framework for developers using C++.
- It can be used under an open source licence.
- Qt has had a 20 year track record of ongoing development and expanding use.

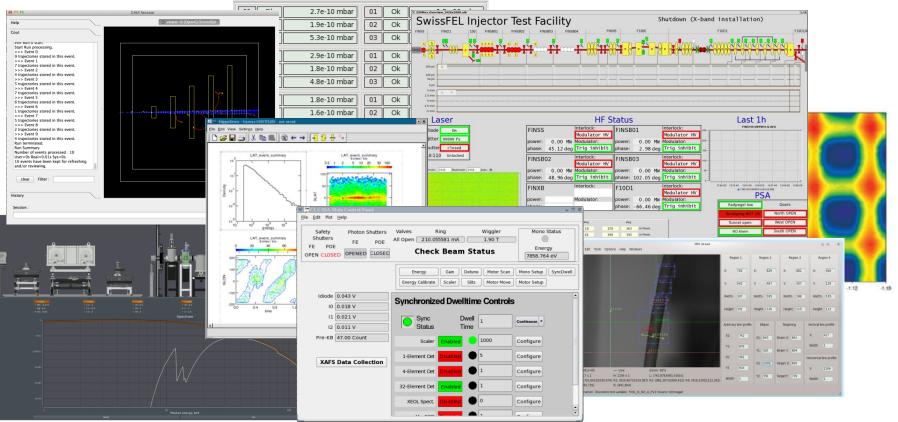




Qt OVERVIEW

File Edit Tools Options Help Windows





Widgets – 51 of them

- 7 simple monitors
- 13 Controls
- 6 Graphical
- 18 Application support widgets

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2014/03/04 - 14:29:58	179615 bytes	engineconfig-rev2.xml	
2014/03/04 - 14:31:15	244186 bytes	engineconfig.xml~	
2014/03/04 - 14:30:36	885 bytes	generate.py	
2014/03/04 - 14:30:12	885 bytes	generate.py~	
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2013/10/07 - 22:27:21	36067 bytes	IOC70.pvlist.master	
2013/08/27 - 10:17:47	15191 bytes	makefile	
2013/10/08 - 20:26:05	1193 bytes	pv_BL+Det	

🔂 💿 PV

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⊕ qfb ⊕ bend

skew
 storage

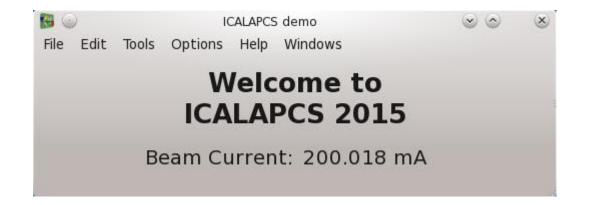
Progress

Information

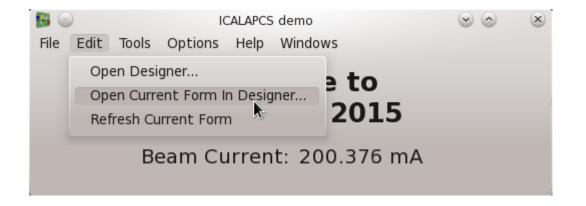
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2013/01/0	04 - 17:33:56	INFO	The u	user type was changed from 'Engineer' to 'User'	
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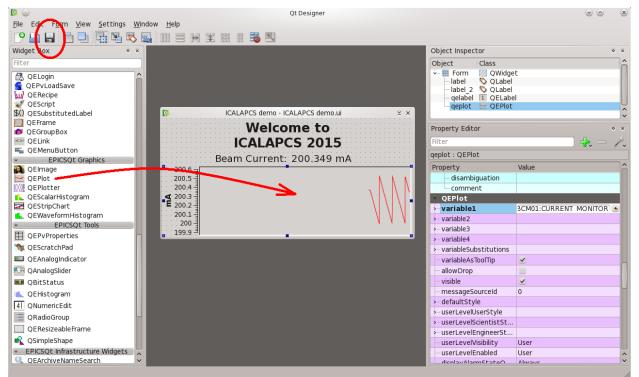




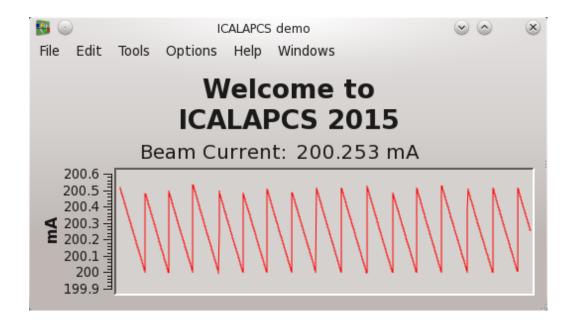




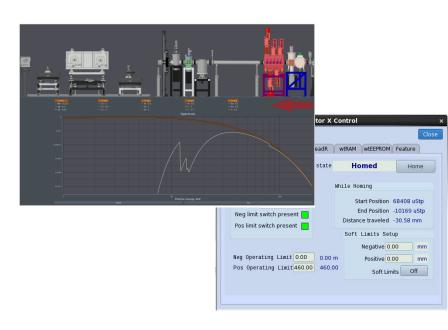


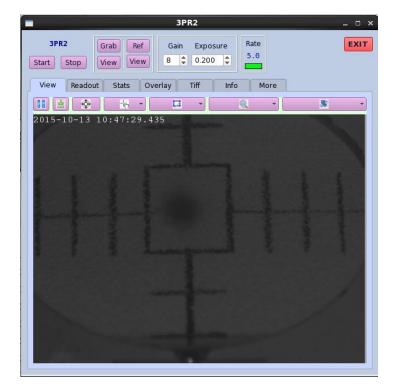






Modes of use - Produce your own application





OVERVIEW - epicsQt



Open

Reload

User Batch File Scan Definition

0

New

picsqt/geApp/epicsqt/applications/QEGuiApp/Luhua Nexafs scans.xml

QEGul BatchScan (on SR14ID01BSOPI.sxr.beamline.synchrotron.org.au)

File:

Group:

CNTs+10cvc 3

Action

Move

Modes of use – Produce your own widgets



File Edit Tools Options Help Windows

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X mm

Z mm

< 6.9

FAM Position Editor

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100 🗸 0.00

R2 deg

Y mm

OVERVIEW - epicsQt

Application support

- Menu customisation
- Save/restore
- Tool tips
- Copy/Paste
- Context menus
- Launching windows and docks
- Data sources
- Integrated logging
- Application support widgets



HE CONTRACT

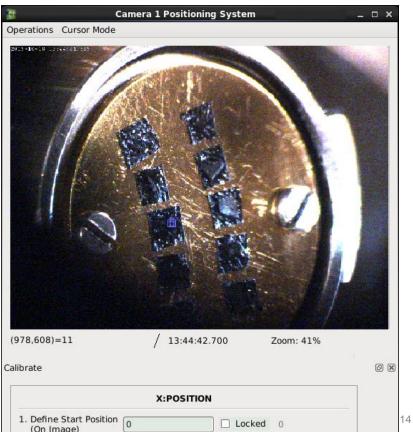
Custom menu bars

File Edit Tools	Option	ns Help	Windows	
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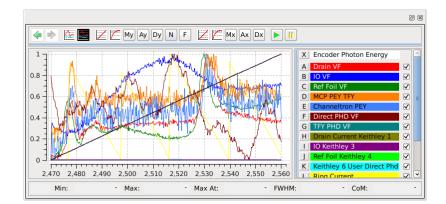
Custom menu bars

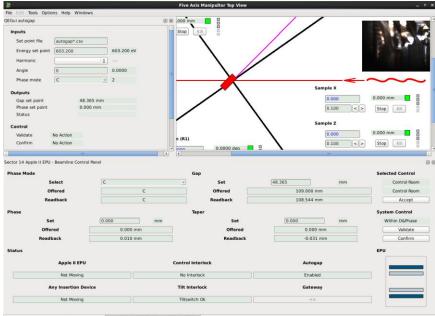




E

Windowing system integration



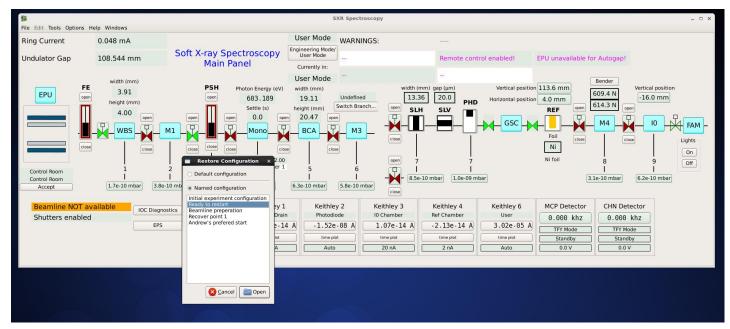


Sector 14 Apple II EPU - Beamline Control Panel Branchline Switch Reference Foil Selection



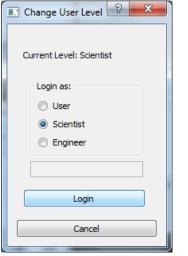
Configuration manager

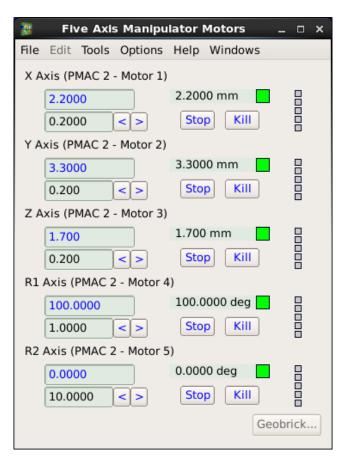
• Save / restore



User levels

 Simplification – the right information in front of the right person





User levels

• Simplification – the right information in front of the right person

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User Tools

- Built in, but also available as widgets for developers to use.
- Simplifies producing a comprehensive system for the user.
 - PV properties
 - Scratch pad
 - Strip chart and plotter
 - Message log
 - PV load save
 - Archiver status Currently only talks to 'standard' CA archiver (Andy for version details)
 - Archiver name search

User Tools - PV Properties

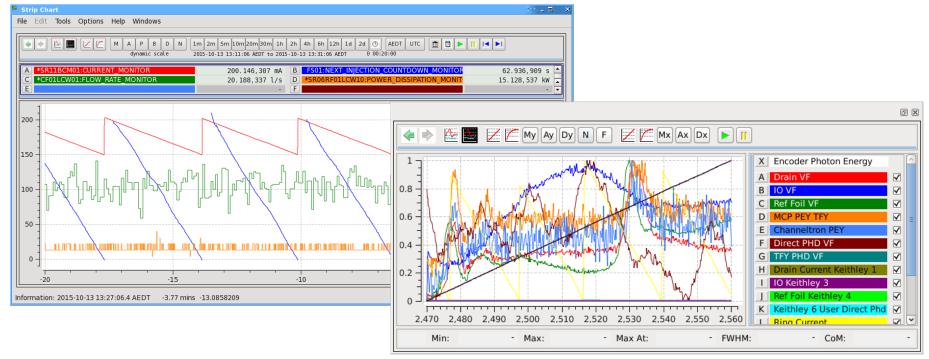
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NAME	SR11BCM01:CURRENT_MONITOR	
DESC	Smooth Current	
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DISP	0	
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NSTA	NO_ALARM	
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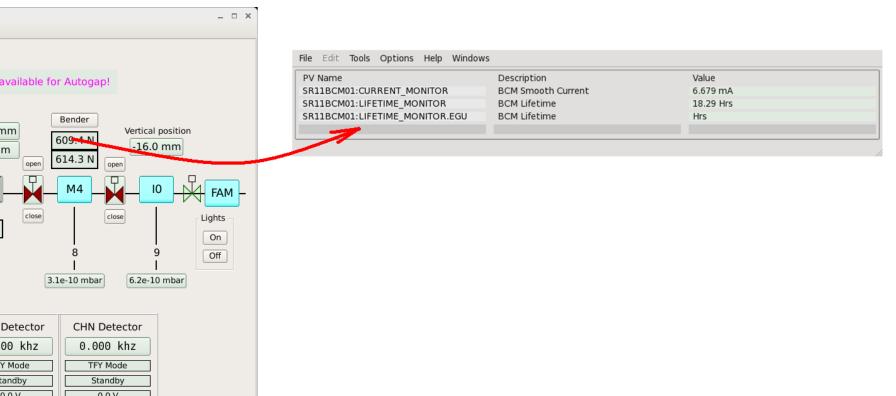


User Tools - Stripchart and Plotter











User Tools - Message log

Simple logging example _ 💷 🗴							
User Login	Logout						
Time	Туре		Message				
2013/01/04 - 17:33:52	INFO	The user type was changed from 'User' to 'Scientist'					
2013/01/04 - 17:33:54	013/01/04 - 17:33:54 INFO The user type was changed from 'Scientist' to 'Engineer'						
2013/01/04 - 17:33:56	2013/01/04 - 17:33:56 INFO The user type was changed from 'Engineer' to 'User'						
✓ Info messages		✓ Warning messages	 Error messages 				
Clear Save							
Information: The user type was changed from 'Engineer' to 'User'							

User Tools - PV load / save

🚯 💿 PV Load Save	\odot	\otimes
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SR05QPS06:CURRENT_SP = 136.827590337782		
⊕ qda ⊕ qfb ⊕ bend ⊕ skew_quads ⊕ storage_sextupoles		
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Information: selected SR14QPS06:CURRENT_SP		



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Archiver Name Search

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File Edit Tools Options Help Windows

User Tools - Archiver status and name search

anu nan	ne search	CF	S_RF_LLRF:FIELD_FLAT_MONITOR R01ARC01:RAID_01_STATUS R01FS01:RAID_01_STATUS			
	Archive Status Su	mmary				01:BL_FIELD_REF_REQUEST_ALIAS 01:BL_FIELD_REF_REQUEST_VALIDATION
Host:Port	End Point	Status	Available	Read	Num PV	/s)01:CR_FIELD_REF_REQUEST)01:CR_FIELD_REF_REQUEST_ALIAS
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cr01arc02:80	/cgi-bin/ArchiveDataServer.cgi	Unknown	0	0		0)01:SELECTED_FIELD_REF :W01:FIELD_ARG_CALC
					SF SF SF SF	woosCW01: FIELD_MONITOR R08SCW01: FIELD_RAMPING_STATUS R08SCW01: FIELD_RATE_MONITOR R08SCW01: FIELD_REF_SP R08SCW01: FIELD_REQUEST_CMD R08SCW01: FIELD_SET_MONITOR R08SCW01: FIELD_SP R08SCW01: SNC_FIELD_DEBUG

WISH LIST

- Python wrappers
- Stronger integration with caQtDM
- Collaboration









http://sourceforge.net/projects/epicsqt/

Questions?