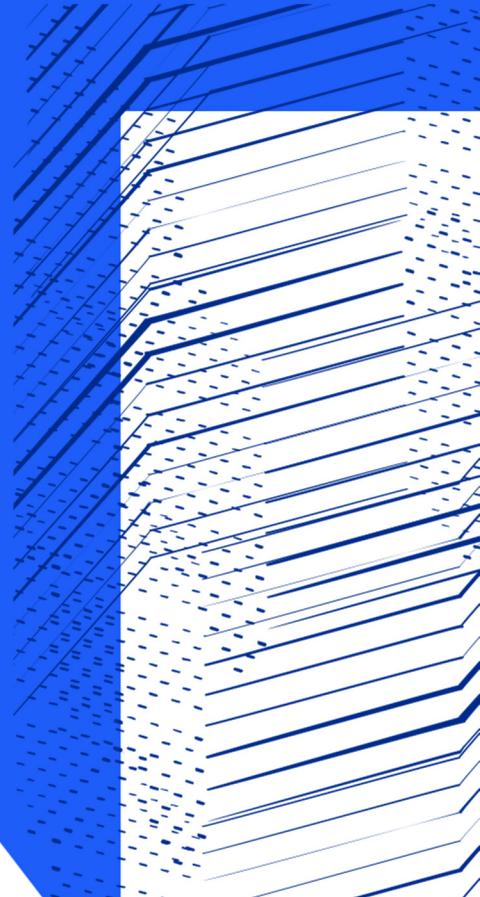




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AGILITY IN MANAGING EXPERIMENT CONTROL SOFTWARE SYSTEMS



Agenda

1 What does Agile mean?

A brief description of Agile

2 Multifunctional Teams

What kind of functions are needed, and what kind of team works on the Experiment Control Software (IBEX) at ISIS

3 How the IBEX team works

The functions we perform, and how we enact frameworks that support Agile

4 What we are trying and might try next



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What does Agile Mean?

A methodology not a framework



The Agile Manifesto

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

Kanban Boards

Initially the use of Kanban was by the assembly lines at Toyota, but the tool is used by most Agile frameworks to track progress.

Image: Screenshot of the BEX Kanban Board

The screenshot shows a Kanban board with three columns: 'Ready', 'In Progress', and 'Review'. Each column contains several cards representing tasks. The 'Ready' column has two cards: 'IMAT: Jaws requiring power cycling and occasionally failing to home [Timebox: 2 days]' and 'Experiment Database Populator: Update to latest version'. The 'In Progress' column has two cards: 'EMU: ZF system issues [Timebox: 0.5 days]' and 'Script Generator: event estimation'. The 'Review' column has one card: 'WISH: IOC & OPI for Keithley 6517B Electrometer'.

Ready	In Progress	Review
IMAT: Jaws requiring power cycling and occasionally failing to home [Timebox: 2 days] #6631 opened by DominicOram 1 ready	EMU: ZF system issues [Timebox: 0.5 days] #6722 opened by JamesKingWork 2 in progress	WISH: IOC & OPI for Keithley 6517B Electrometer #6027 opened by KjwoodsSIS 1 Long Shutdown
Experiment Database Populator: Update to latest version #6771 opened by DominicOram 2 ready	Script Generator: event estimation #6362 opened by JamesKingWork 5 in progress	

This screenshot shows a detailed view of a Kanban board with various columns and a sidebar. The columns include 'Impeded', 'Review', 'Review Complete', and several others. The 'Impeded' column has three cards: 'HTS Magnet: Allow local control of KEPCO', 'IBEX: Confirm before deleting Configuration and Components', and 'CCD100: Confirm we can communicate with new model [TIMEBOX: 1 day]'. The 'Review' column has six cards, and the 'Review Complete' column has five cards. A sidebar on the left shows 'Unwatch' and 'Watch' buttons, and a search bar at the top right says 'Filter cards'.

Impeded	Review	Review Complete
HTS Magnet: Allow local control of KEPCO #6420 opened by DominicOram 1 Impeded support	ReadASCII: Make file reading more generic and tidy up #6352 opened by DominicOram 6 Friday review rework	SANS2D: collision avoidance: all solution for fast deceleration #5094 opened by Tom-Willemsen 8 Long Shutdown no_release note
IBEX: Confirm before deleting Configuration and Components #6627 opened by RaBishal 1 Impeded training	McLennan: set creep speed = JVEL in controller #4815 opened by Tom-Willemsen 3 re-requested review rework	Modify PyDev for IBEX #1154 opened by KjwoodsSIS 3 Added during sprint review
CCD100: Confirm we can communicate with new model [TIMEBOX: 1 day] #6440 opened by DominicOram 1 Impeded	WISH: IOC & OPI for Lakeshore 350 Temperature Controller #6027 opened by KjwoodsSIS 1 Long Shutdown review	LSICOR3: Implement user feedback 4 of 5 tasks #5303 opened by Alastair-McGann-Tesse
	WISH: IOC & OPI for Keithley 6517B Electrometer #6027 opened by KjwoodsSIS 1 Long Shutdown review	WISH: IOC & OPI for Pressure Controller #6040 opened by KjwoodsSIS 8 Long Shutdown review
		PEARL: IOC & OPI for Pressure Controller #6040 opened by KjwoodsSIS 8 Long Shutdown review
		WISH: Check Oscillating Radial Collimator Automated as Done





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Multifunctional Teams

The families of tasks that people creating
Experiment Control Software undertake



Types of Function

- Development (Dev)
 - Develop the Experiment Control Software
- Systems (Sys)
 - Keep the computers and hardware systems that the Experiment Control Software runs on running
- Operations (Ops)
 - Keep the software up to date, fix the bugs that are found
- Project Management, Admin

Challenges for Multi-functional Teams

- Context Switching
 - Between functions
 - Between tasks
 - Between projects
- Knowledge can be limited to an individual and/or shared thinly



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How the IBEX Team works

How we employ Agile frameworks



The IBEX Team - SysDevOps

We all have a hand in keeping the hardware systems connected physically to the computer, and the networks for the computers

We are all capable of development work and adding to the code base

When the ISIS Accelerator is running, and science is being done we all take on an Ops role

We get involved in all of it!



How we are working in an Agile fashion

- Continuously meeting with the users of our systems in various ways
- Preparing a list of things to work on in a sprint (over the next n weeks)
- Meeting every day during the sprint to make sure everyone has all the support they need
- Sharing what we've done at the end of the sprint
- Considering what was good and bad and what we can do differently

How we are working with SCRUM - adaptations

- Ideal – able to release and deploy after every sprint ends
 - Reality – we can only deploy at certain times, we also demonstrate the system to the scientists who use it most at that point in time
- Ideal – representation of the scientists at every meeting
 - Reality – team members meet with them and variously highlight the work that needs doing
- Ideal – only the work agreed up front gets done in the sprint
 - Reality – Operations work can't be predicted, we accept this and add it in as required



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What we are trying and might try next

The only constant in life is change

- Heraclitus (attributed)



Things that are being tried

- Making sprints variable lengths
 - Less meeting pressure when Ops tasks can be a heavy workload
- Individuals focussing on an area of work (e.g. one science area) each sprint
 - Changes the context switching
 - Allows for more responsiveness when undertaking an area of work
 - May allow some lower priority items to be achieved for that area of work
- Different ways of providing a prioritised list of tasks that need doing
 - Looking to other Agile frameworks, especially the scaled ones

Conclusion

As a methodology Agile is valuable, whichever framework is being used (Agile or non-Agile).

Kanban boards are a good tool to track the status of a task when it has a progression to undertake.



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Thank you

A large, abstract graphic element in the upper right quadrant of the slide. It consists of a dark blue background with several sets of thin, light blue lines. One set of lines radiates from the top left towards the center. Another set of lines, consisting of short dashes, radiates from the bottom right towards the center. These lines create a sense of motion and depth.

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