A Light for Science

European Synchrotron Radiation Facility

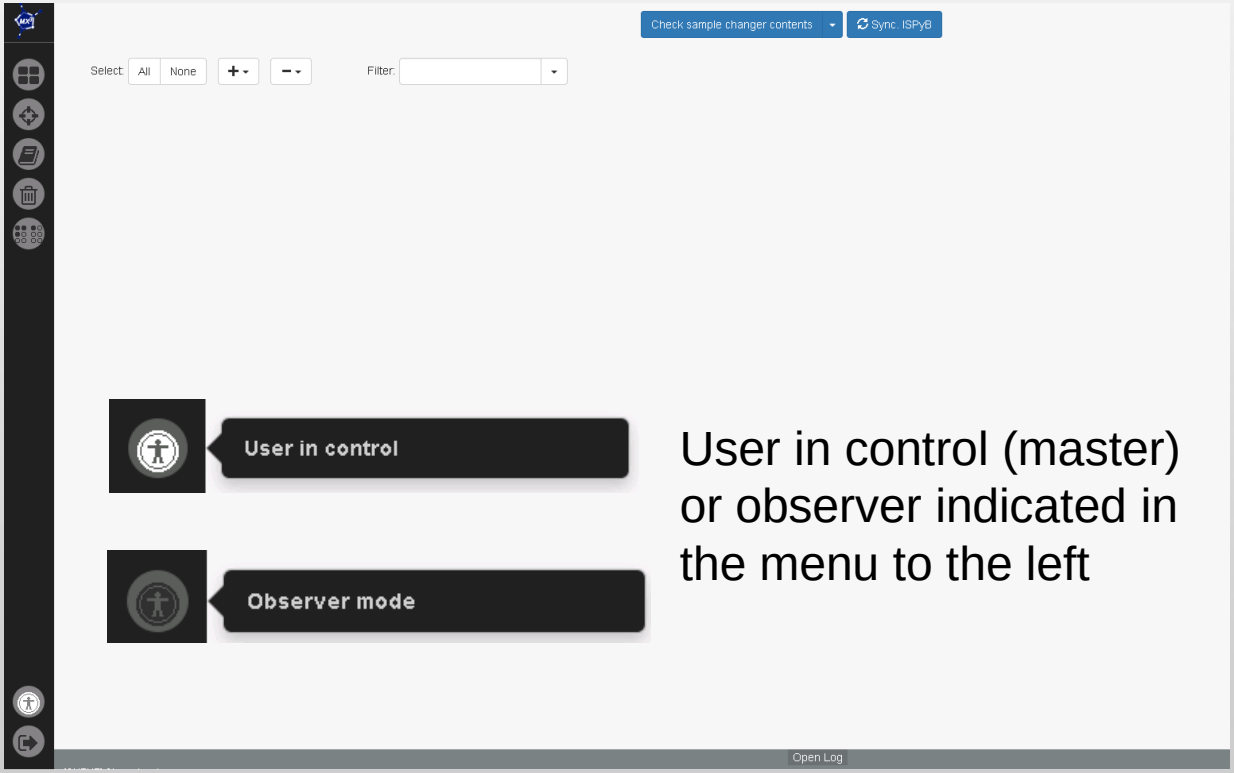
Remote Access

Web application - advantages

- Web applications is remote by design
- Only a web browser is needed to run MxCuBE, no special tool or configuration is required. Basically works out of the box on any recent computer.
- Platform independent

New improved RA - Features

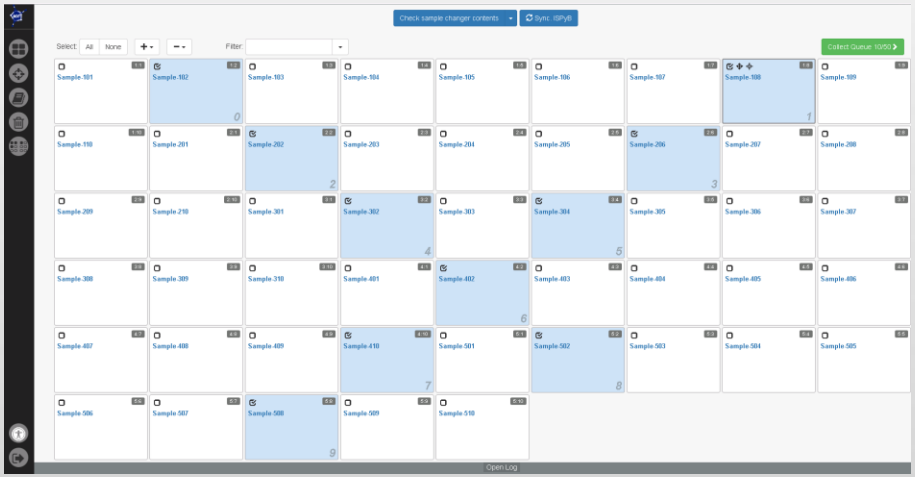
Only one proposal is allowed to be logged in at once, the first one that logs in will be the user in control (master). Other logins from the same proposal will become observers (and cannot operate the beamline)



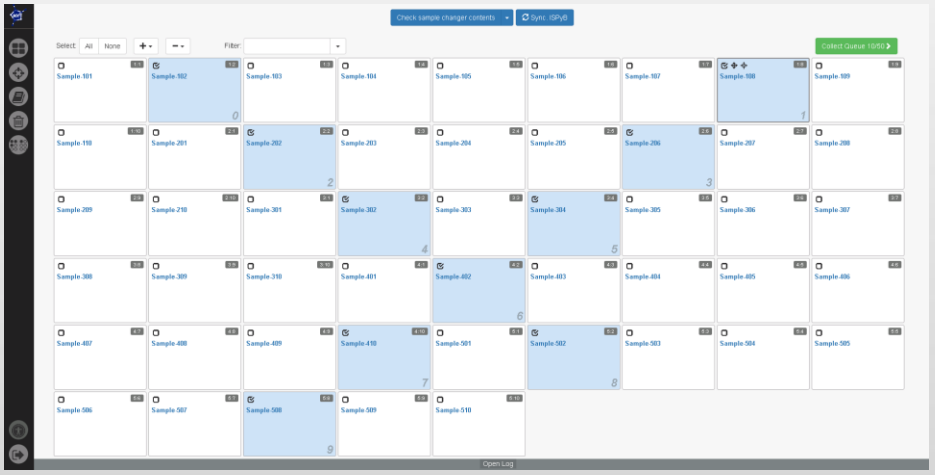
User in control (master) or observer indicated in the menu to the left

Observing

- Observers sees what the user in control (master) is doing, and can only change between pages. Remember: Only users with the same proposal as the master can observe



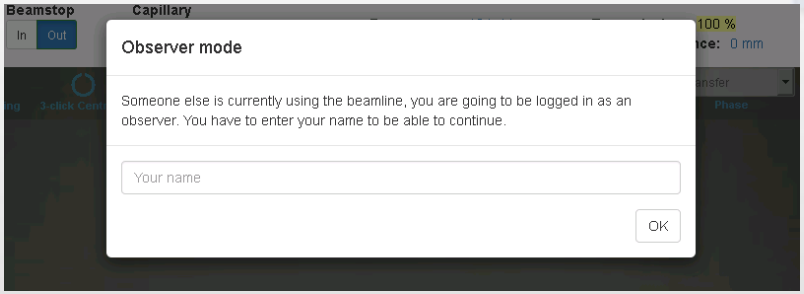
User in control



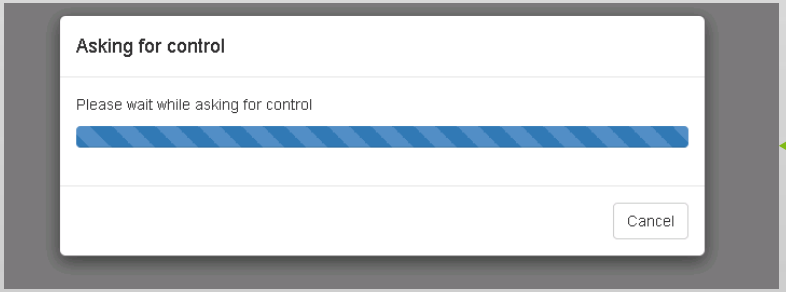
Observer mode

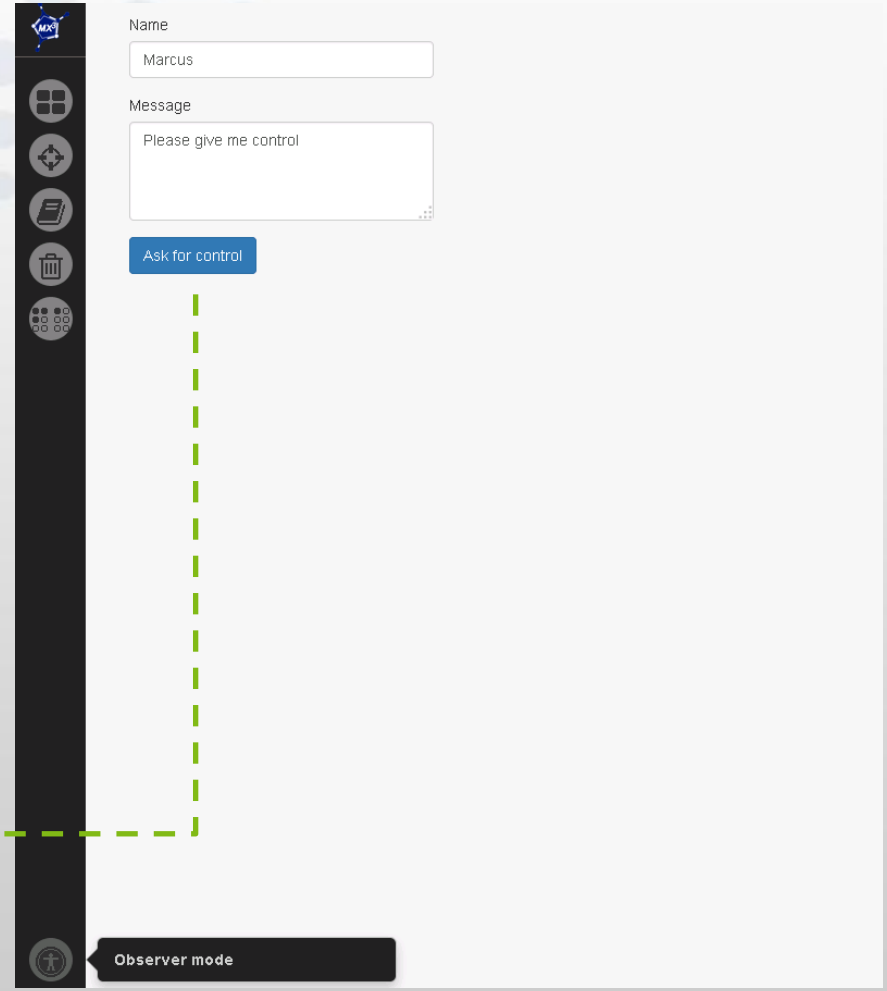
Asking for control

Loging in as an observer, the user must provide a username to be able to continue



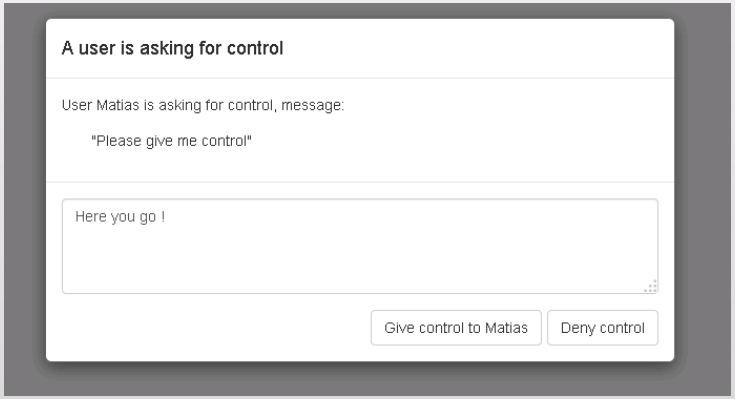
Waiting for reply from user in control (master)



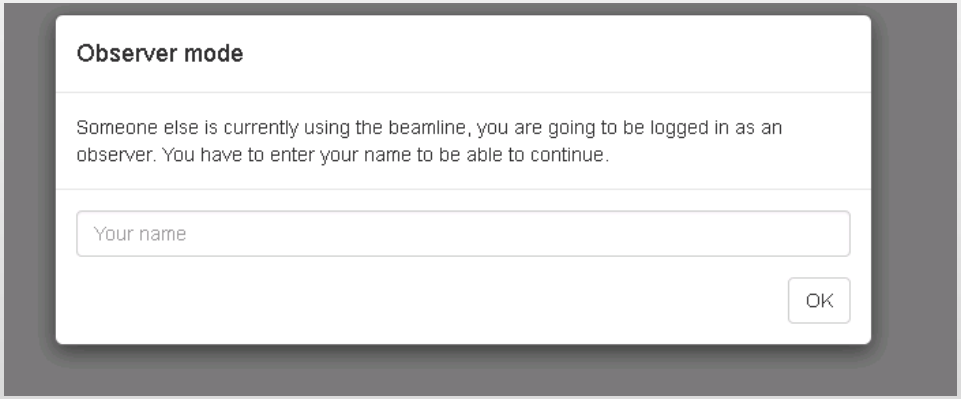


Giving control

A user is asking for control, Give control, or deny

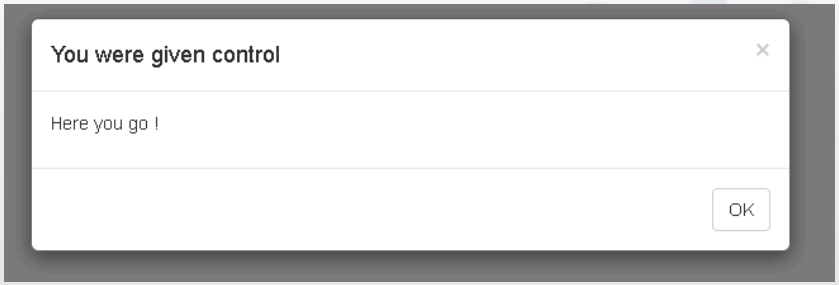


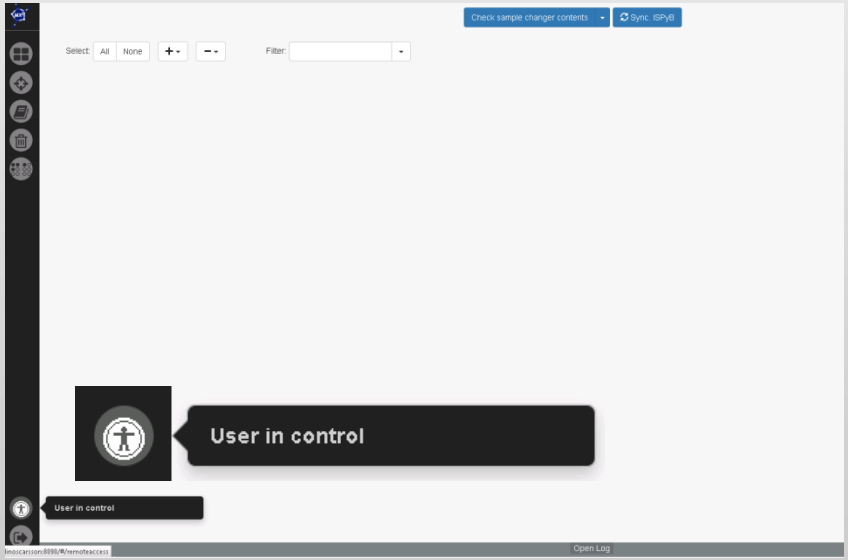
If control was given away, user now becomes observer and needs to give a name, if not previously given



Control is transferred

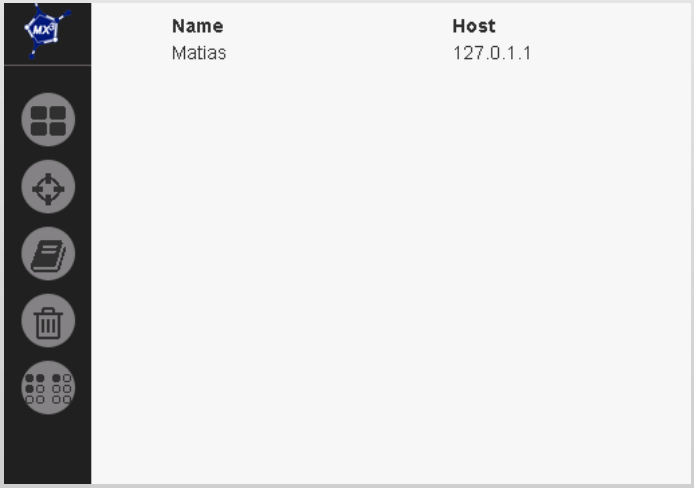
- The control is passed to the observer asking for control





Queue control and who is watching ?

- Local beamline instance can always take control by using special account
- The queue is paused if the master instance for some reason loses control

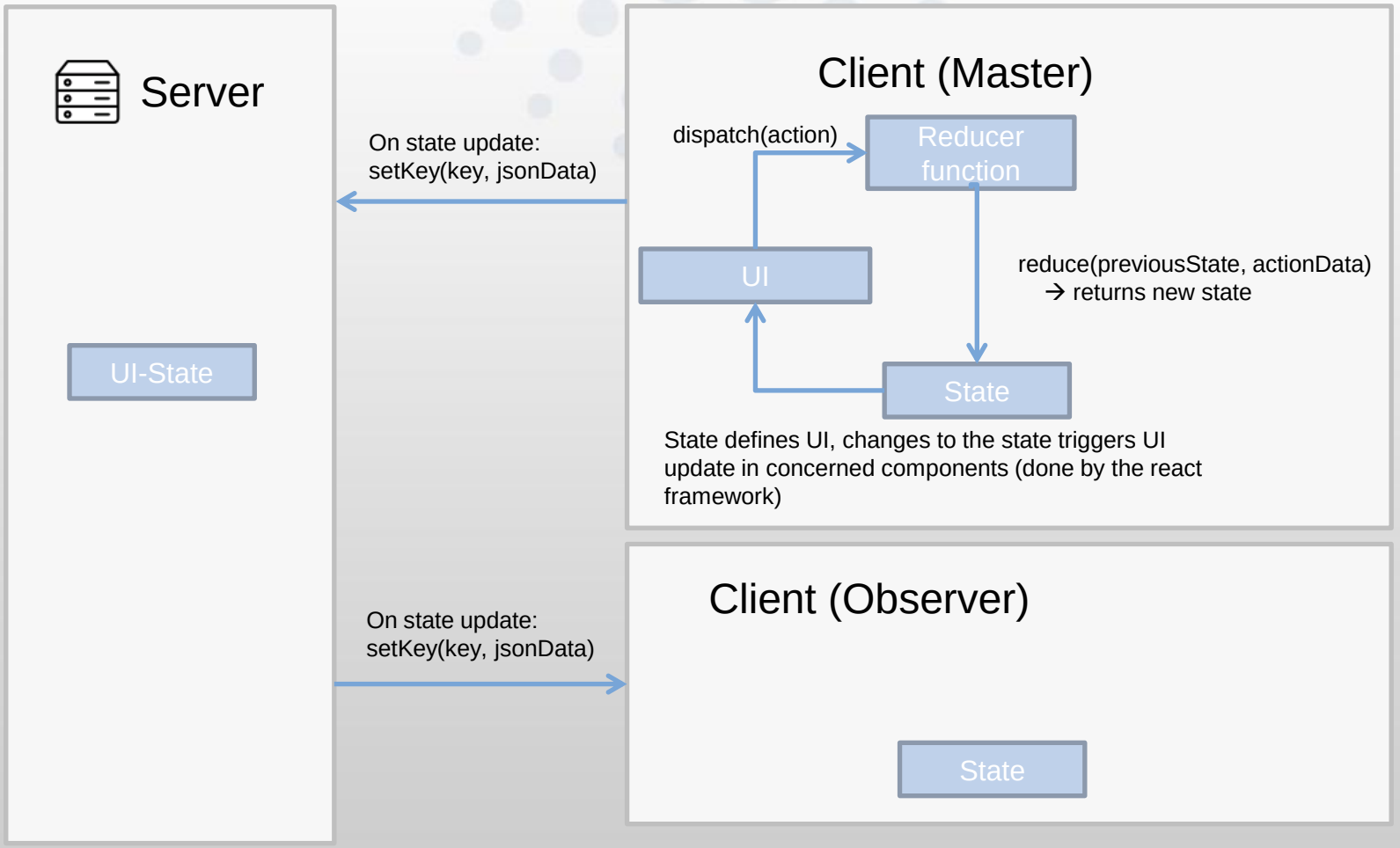


The user in control can see who is observing

So how does it work ?

- By taking advantage of existing libraries, react, redux, redux-persist and of course some code to fill in the gaps.
- The state of the UI is stored in a global data structure. This data structure can only be changed through something called actions
- The action triggers a pure function (a reducer) which creates a new state. The state change triggers a UI update by react.
- Each update of the state is sent to server where its saved (redux-persist)
- The server sends the state updates to the observers

So how does it work ?



Future work

- Chat
- Local beamline interface for taking control

Questions ?