The Mantid Project’s software framework provides general support for visualization and data reduction of neutron scattering and muon spin measurements. It allows the users to implement their own custom analysis algorithms and reduction routines. For several scientific areas, such as Small Angle Neutron Scattering (SANS), simple and efficient custom interfaces have been provided to allow users to analyse their data.

The initial version of the reduction interface for SANS instruments at ISIS facilities was created nine years ago and was the first of the custom technique specific interfaces, it has provided a successful solution and has been in active use ever since. However we have our architectural approach to building custom interfaces and back ends have improved greatly since the SANS interface was built, and more modern designs are much more testable, robust and easy to support and extend. To take advantage of these possible improvements together with recent feature upgrades and the need to incorporate other facilities into the same interface have driven the desire to redesign this interface and back end to improve stability, flexibility and maintainability moving forward.

We have proposed a novel solution for the ISIS SANS reduction interface which makes use of a modular and general approach based on Mantid’s work-flow algorithms, coupled with a Movel-View-Presenter based interface. This approach allows other facilities to reuse and integrate easily into the existing infrastructure and automated user interface level testing, therefore reducing future development and maintenance cost and effort.