Technical Report Plan

- Abstract
  - brief overview of the major sections of the report
- Introduction to Neutron Scattering and Indirect Inelastic
  - outline of the (very) basics of TOF Neutron scattering and indirect inelastic
  - Why do we use Neutron scattering
  - Rough/brief introduction to TOF
  - Rough/brief introduction to indirect inelastic
- Introduction to Mantid and Indirect Inelastic in Mantid
  - Overview of different interfaces and what they do.
  - i.e. C2E, IDA, Bayes, Diffraction, Simulation
  - description of theory of what they do.
  - include a little history (e.g. MODES)
- Internal structure and hierarchy
  - This section should state "What we have now"
  - This should include subsections such as:
  - Overview of interface structure and design principles
    - UML diagrams detailing current structure of major sections
  - Overview of Algorithms/routines used in each section
    - What each of them do.
    - How python modules are organized.
  - Overview of existing test coverage for algorithms/routines
- Planning for the future
  - This section should state "Where we want to go"
  - Not a set in stone plan, but guidelines for improvement
  - Some areas for further development in the long term include:
  - Conversion of routines into workflow algorithms
    - In particular suggestions for better structure for python modules
    - Convert to workflows
    - Follow PEP8 standards
  - Better automated test coverage
    - Trend towards algorithm tests over system tests
    - Script tests for common functions
    - Include Mantid standards
  - Idealized design of UI
    - Proper joint structure from UserSubWindow down
    - 1 class per tab, 1 UI file per tab.
  - GUI support for VESUVIO
  - nMOLDYN support within Mantid.

        * both with specialized routines and GUI support
    - Conversion of remaining Fortran routines
        * Bayes, Cylindrical absorption corrections
    - Better support for other facilities (e.g. ILL)
        * This includes integration into the interface
            · Mostly just in C2E
            · Best done after parting of Direct and Indirect interfaces
    - Multiple Scattering support
        * Ongoing general Mantid project
        * Spencer has some existing work
- Conclusions
- Acknowledgements
- Bibliography