Apollo

User features

**confidential**

Revision number: 1

Date:

Name: P. van der Velde

User features:

Workflow:

* Allow the user to indicate what to solve on each domain. From there the system will have to define the experiment setup. The user should probably define:
  + Materials
  + Physics model
    - Upgrade paths
    - Multi-fidelity
  + Links between regions (although we should be smart here)

With these selections the system should be smart enough to make the appropriate choices. If there are multiple options then make a selection but allow the user to change it (maybe also need to indicate that there are multiple options).

* Define templates for standard experiments?
* Note that users are mainly interested in the data, not the way it is generated.
* An actual thought pattern is roughly like:
  + Define goals --> If possible this should define the post-processing details (which variables to get etc.)
  + Select physics type to solve
  + Determine accuracy and requirements --> Defines solver
  + Define geometry --> modelling accuracy depends on required accuracy etc.
  + Define boundary conditions
  + (optional) define mesh --> should really be part of the solve step
  + Run simulation
  + Get results

Goals

* Allow users to specify the desired error bounds on the goal.

Parameters

* Parameters should always have units
* Parameters editors should be able to deal with different aliases of the parameter and internally do the calculation. The UI should however always show the entered value.
* Allow resetting a parameter to its default value
* Allow the user to specify the tolerances / error bounds on the parameter values

File I/O

* The user should always be able to get their data out of the system in an appropriate format.