Issues

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The following issues needing infrastructure work were identified at the workshop:

Reconstruction

- PFA "template" into which different (clustering etc) algorithms can be inserted
- Complete finding/fitting package
- Ability to reconstruct event particle by particle
- Cluster finding should be steered on physics quantities (interaction lengths, etc)
- Track seeded cluster finding.

LCIO

- Some outstanding issues which need discussion
  - Add CellID to TrackerHit
  - Entry/Exit point for SimTrackerHit

Examples

- Need example of how to add new items to WIRED (WWWLCSIM-8@jira)
  - Need tutorial documentation on HepRep capabilities (WWWLCSIM-7@jira)
- Need more advanced examples

org.lcsim Infrastructure

- Drivers etc (lcsim-103@jira)
  - Should be possible to add a subdriver without causing to be explicitly called.
  - Driver should provide standard way to control input/output collections
  - Logging, should be improved.
    - Improve filter example
- Steering file for offline use (adopt Marlin scheme?)
- Ability to save MCParticle with cheater clusters
- Ability to sort on columns in LCIO Event Browser (lcsim-34@jira)
- Event Overlays
- Hit neighbour calculation in corners, detector overlap regions
- Improve sampling fraction handling in calorimeter
- Ability to integrate Marlin/lcsim processors.
- DigiSim should produce SimCalorimeterHits?
- Add a basic set of event object in org.lcsim.event.basic

Geometry

- Should add support for flags (EM,HAD,Digital,Analog etc) for sub-detectors. (gc-34@jira)
- Access to properies of materials. Calculation of dE/dx. (GC-66@jira)
  - Maybe should add dE/dx calculation to materials subsystem
- More realistic LDC geometry description (octagonal calorimeter)

WIRED

- Cuts (wired-71@bugs)
- should be able to save user preferences e.g collection visibility (wired-477@bugs)
- Wired performance with large number of (e.g.) TPCHits
- Need an easy way to turn off end-cap hits.

Miscellaneous

- Binary AIDA tuples (aida-161@bugs)