Graphics WG Report

Atlas SW Week

CERN, 3Sep99

- ATF & Graphics
- Status and Plans
  - Data
  - Aravis
  - Atlantis
  - PERSINT
  - XML
- Design Upgrade

Architectural Task Force & Graphics

Report

1. What is visualization ?
2. What kinds of visualization we see today ?
3. What is the Glue ?
4. What are the relations to other Domains ?
5. What is the current situation and plans ?
6. What is the comparison to similar HEP projects ?
7. What are the problems ?

- Reactions
  - Atlas SW organisation
  - Role of PERSINT
  - 3D Event Display usefulness
  - Context Sensitive Actions rde
  - What abot Root (and Rio)
  - Relation with Geant4
  - Usability in T/DAQ

Data

- Contacts
- offline
  - ID - agreed
  - Muons - under discussion
  - LArg - under discussion
  - Tile - unofficial
  - Simulation - 0
  - Reconstruction - 0
- T/DAQ - unofficial

- Data
- offline
  - ID - Digits, Detectors, Clusters from Event
  - Muons - SpacePoints from COBRA
  - LArg - 0
  - Tile - 0
  - Simulation - Track from Event
  - Reconstruction - 0
- T/DAQ - ID SpacePoints and Tracks from T2Ref

Aravis

(Rosemary)

- InDetGraphics made available
- problems (resolved): SceneList, Collections
- ToDo:
  - Menu for operations - yes
  - Show/Hide Menu - yes
  - Interactive change of rep. properties - yes
  - Callback (refit, revertex) - later
  - Order specification - no
  - Picking - postponed until move from Motif

Atlantis

(Hans)

- Atlas is chalenge for Event Display
  - varying scale
  - 2D detectors
  - complicated detectors
- => special projections
- needs data after (pre)reconstruction
- standalone (data via XML)

PERSINT

(Mark)

- primarily for muons, other subdet. available
- usefull for seeing/studying what's going on
- interface - XML files (read/write)
- will be available on all platforms (incl. source)

XML

- agreed with
  - Wired - full interface
  - Atlantis - under development
  - COBRA - full interface
  - PERSINT - under development
- DTD for
  - Event - exists (*)
  - Detector Description - under discussions
  - Structural Definitions - under discussions
- XML as general DB Ascii file format - under discussions

Event DTD

<**event** type name>
<!-- *name should change* -->

<**part** type name>

<**collection** tag name>

<**reference** tag name>

<**SiDigit** id rho phi z name kine>
<!-- *needs detector description* -->

<**TRTDigit** id direction above_theshold phi zrho max min drift name kine>
<!-- *direction = barrel => zrho = rho, max = zmax, min = zmin* -->
<!-- *direction = endcap ....* -->

<**StripCluster** id rho phi z d_rphi d_rz length pitch thickness sin_stereo sin_tilt name kine>

<**SpacePoint** id rho phi z name kine>

<**TruthTrack** id particle charge representation v_rho v_z v_phi p_d p_z p_phi pt eta cottheta phi name kine>
<!-- *representation = (vetrex, perigee)* -->

<**OutputTrack** ...>
<!-- *today the same as TruthTrack, in future list of TruthTracks* -->

Design Upgrade

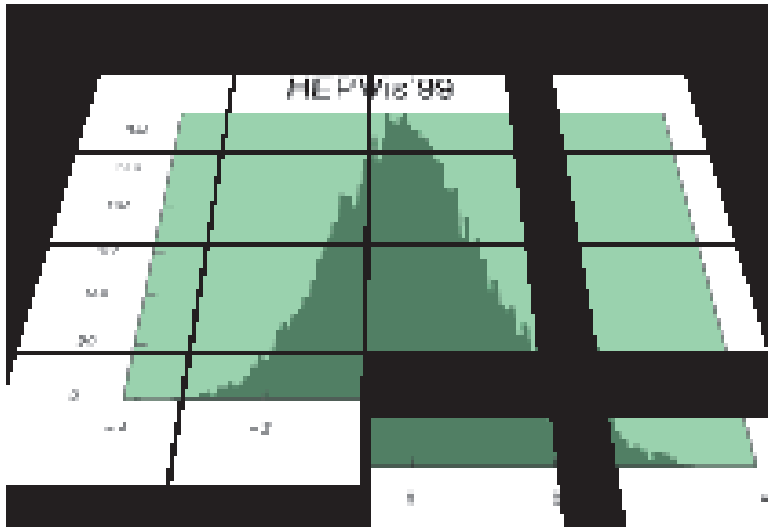
(Lassi)

- improved Design of the Graphics Control
- example of one Scene and one Plottable
- will be (unformaly) reviewed
- then adopted (per Scene)

HEPVis'99

Fourth workshop on visualization techniques for High Energy and Nuclear Physics.

(Orsay, next week)



software organisation, management tools
architecture, models
networking, data exchange, interface exchange
representation tools
interactivity, data browsing, associated tools
scripting, command languages
visualization

All main players partcipate

Atlantis - HEPVis-lib. - JAS - LHC++ - Open Scientist - Root - Wired - ...