

Graphics W/G 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 ?
1. What are the problems ?

● Reactions

- Atlas SW organisation
- Role of PERSINT
- 3D Event Display usefulness
- Context Sensitive Actions role
- What about 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 challenge for Event Display
 - varying scale
 - 2D detectors
 - complicated detectors
- \Rightarrow 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

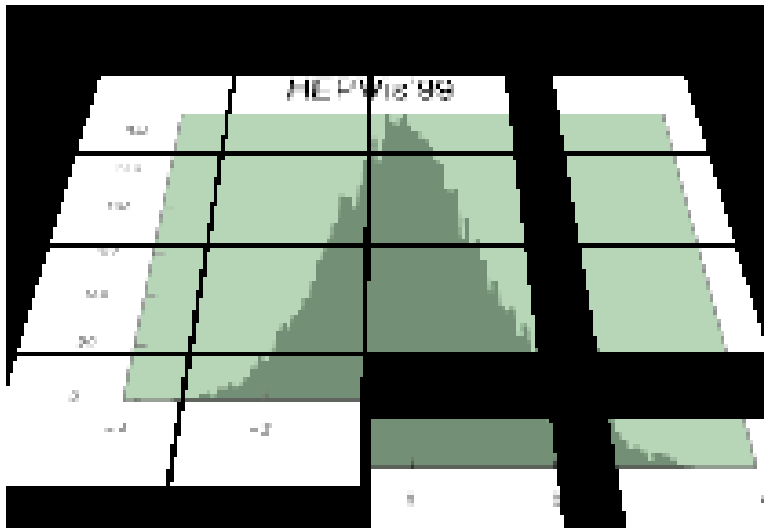
(Lassi)

- 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 participate

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