Moose

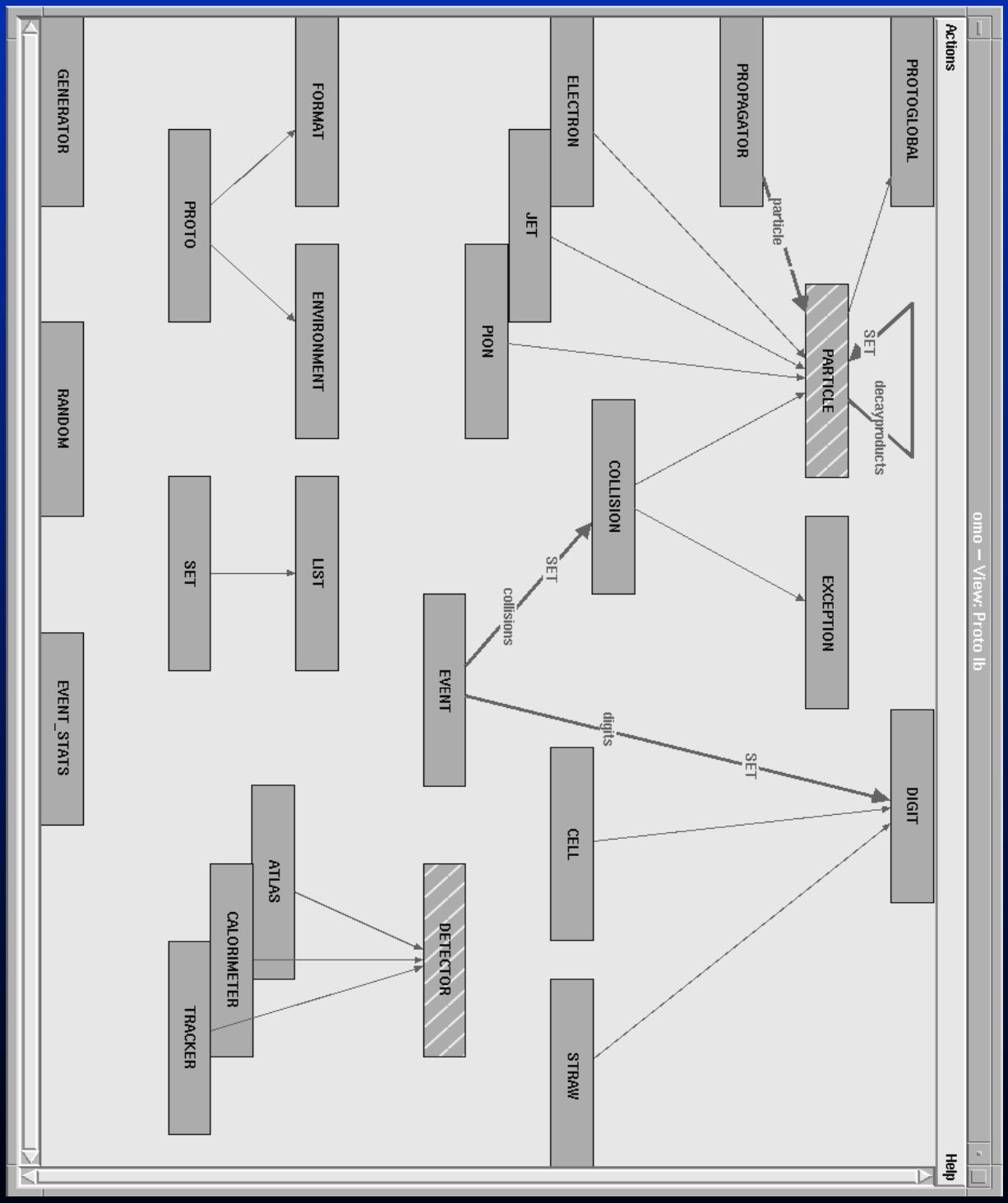
Methods of Object Oriented Software Engineering

RD41

The LHC experiments will be bigger and more complex than those at LEP and HERA, in detector size and complexity, number of physicists, event size, bunch crossing rate and almost certainly experiment lifetime. It is therefore crucial that all elements of an experiment be designed, build and maintained to the highest engineering standarts.

Correctness of software was not a major issue at LEP. It must be taken very seriously at LHC because complex software will be part of each LHC experiment's trigger.

Moose
Prototype Design



Opatrec

Global Pattern Recognition using Eiffel

- Problem Statement
- Reason for This Work
- Pattern Recognition Algorithm
- Design

Writen by Prague group.

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Problem Statement

To find all Hits (= space points) from the Road (= set of Hits) belonging to each Track (= circle).

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Reason for This Work

The classes will be incorporated into the common prototype by inheritance bringing new Pattern Recognition possibility.

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Pattern Recognition Algorithm

- Find (all) 3-tuples among Hits from the Road.
- Put a circle through 3-tuples.
- Create space from the parameters of circles.
- Clusterise in the created space with a defined metric (create tracks).
- Recall all Hits belonging to clusters (Tracks).

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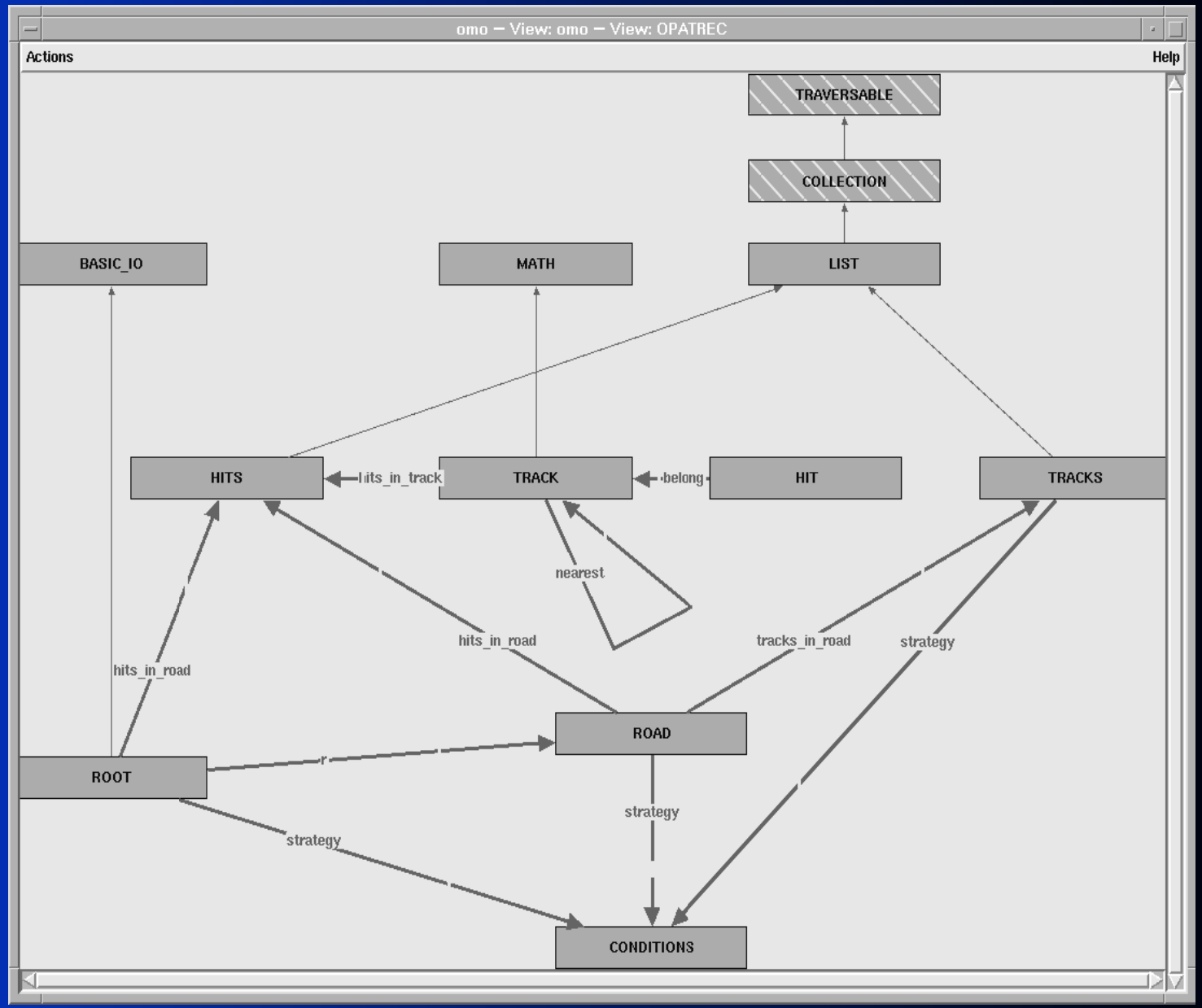
Design



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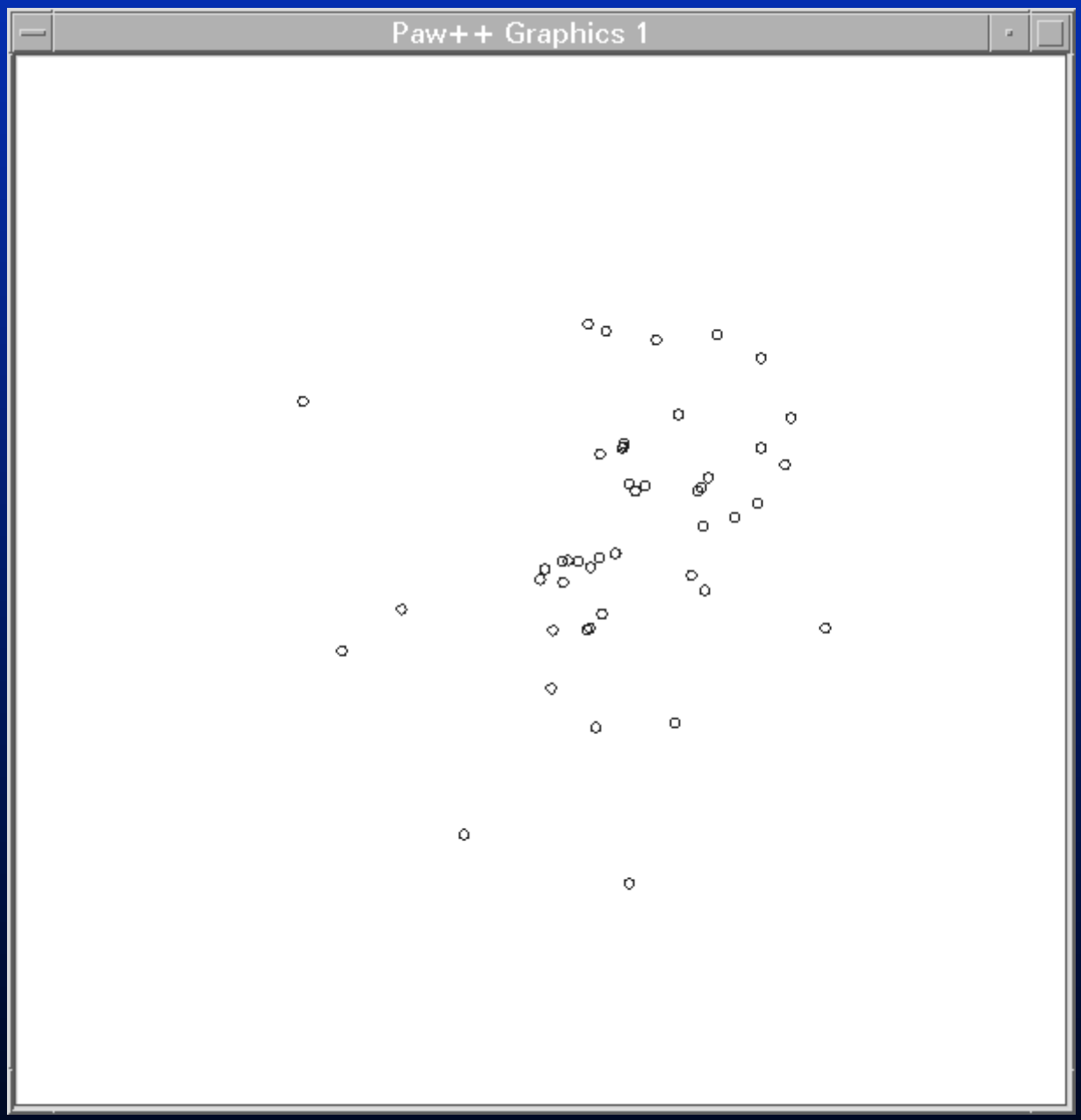
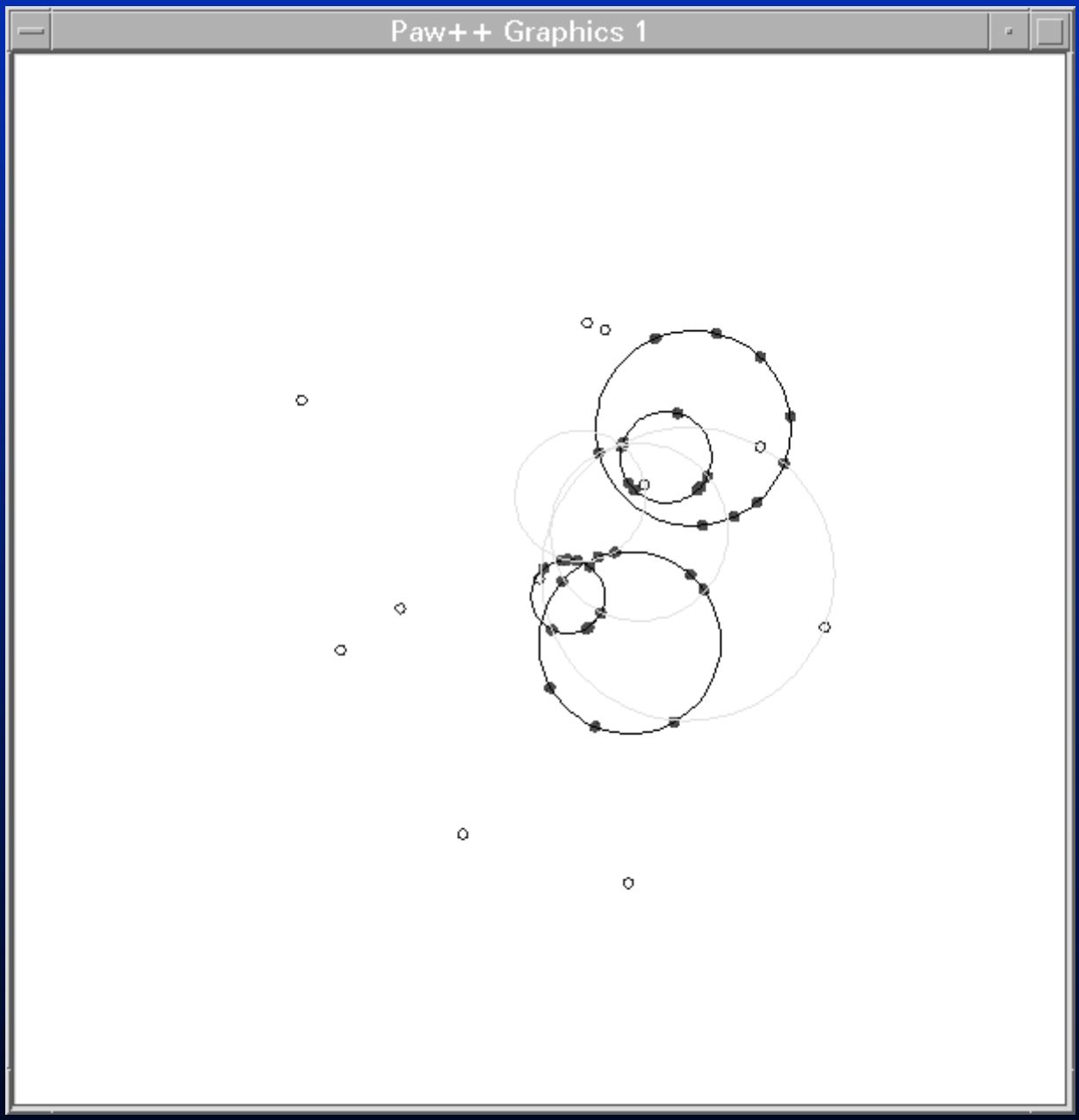
Artificial Hits Befor Processing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Artificial Hits After Processing