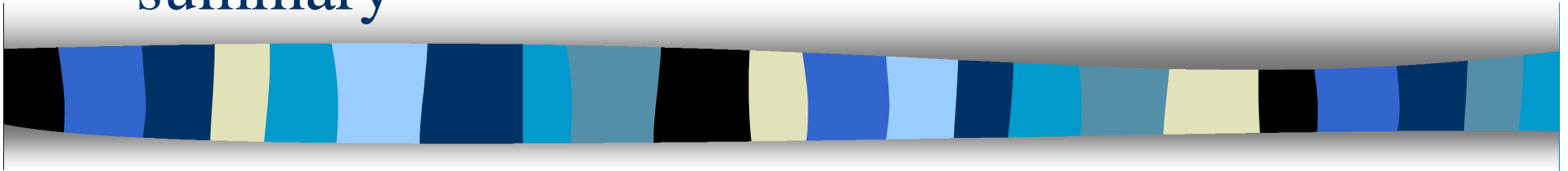


# Software Process Improvement

## summary



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# Activity on User Requirements

## ■ Goals

♠ Establish a way to collect and manage user requirements, in terms of:

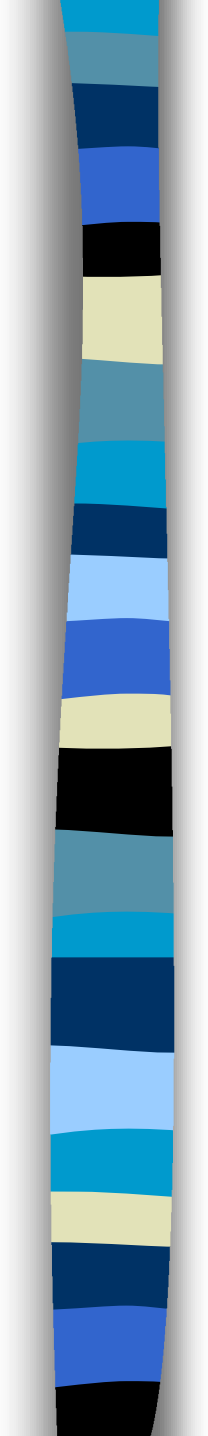
- capturing of new requirements
  - formalize requirements proposal from users community
  - formalize requirements analysis by WG coordinators
  - tracking their implementation & testing
- collecting and archiving existing detailed requirements
  - starting from the general URD (WG coordinators)

♠ Automate implementation of *traceability* of requirements to design and system tests

# The exercise at this Workshop

- for WG coordinators and users' representatives
  - try expressing recent user requirements (for example those that have been presented recently at the TSB meetings) according to the template
- for each WG coordinator
  - try preparing a list of existing requirements implemented now or in the past
    - requirements not expressed or documented
    - from the requirements in the general URD derive those relevant to the WG, and create from them some detailed requirements using the template

# Total requirements collected



■ Geometry	4
■ Hadronic physics	26
■ Standard EM physics	1
■ Low-energy EM physics	?
■ Materials & Parameterisation	1
■ Particles + Track	3
■ Run + Event + Digits/Hits	3
■ Persistency	3
■ (G)UI + Analysis + Visualization	2

# Requirements, some titles...

- New schema of calculation of energy cuts - Particles
- Establish scheme for Store/RetrievePhysicsTable() - Processes
- Re-design G4VEvtBiasMechanism - Track
- Support to HepMC generator interface - Run
- Capability of having more than three stacks - Run
- Event parallelisation - Run
- Store simulated event and run objects for post simulation analysis - Persistency
- Store geometry data for post simulation analysis - Persistency
- Provide example program(s) for objects retrieval - Persistency
- Cuts per volume - EM physics
- A tool for validating geometry models: detection of overlapping volumes - Geometry/Visualization
- Reflection of hierarchies of volumes - Geometry

## What's next ?

- Emendate form template
- Implement template into Web form
  - Split into user/analyzer sections
  - Customise Bugzilla ?
    - Identify resources
    - High priority
- Type in collected requirements
  - identify & add missing ones
- (Automatically) build traceability matrix
  - requirements <> classes <> tests
- Formalise requirements in specific URDs