

Users contributions, documentation

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Users contributing to Geant4

Responding to requirements or collaborating with users ?

- Do we prefer interacting on 'requirements', or collaborating with users? How do we interact?
 - Depends on the circumstances: requirements, expertise, manpower
 - No policy, but guide from past practice
 - Extensions of existing abilities/models led us to ask for requirements
 - Request for new models, modules, are more likely to lead us to provide advise for users to implement or lead to collaboration
- My summary is that
 - we welcome users who wish to contribute, and urge anyone who wish to contribute to contact us, to figure out the best way.

Examples of 'interactions'

- Polarised EM processes
 - Need from HEP experiment
 - Prototype implementation
 - Communication (Spring 06)
 - Visit, feedback
 - Released in G4 Dec 2006
 - A. Schalke is now G4 member
- GFLASH
 - Interest from experiment users
 - Initial implementation in experiment (E. Barberio, ATLAS; J. Weng, CMS)
 - HP Wellisch, others assisted J.Weng to refine and integrate into Geant4
 - J.Weng is in Geant4, maintainer of G4 GFLASH
- Cuts per region
 - Needs discussed with users over time
 - Requirements refined
 - Kernel revisions planned by G4 responsables as deliverables for a release
- New solids donated
 - Tetrahedron
 - Donated by M. Mendelhall, R. Weller Vanderbilt Univ.
 - Curved Tubs
 - K, Hoshina (revisions O. Link)
 - Ellipsoid
 - G. Horton-Smith, ed.G.Guerrieri
- Capabilities
 - View field lines (example)
 - L. Desorgher
 - OLAP checker – was.

Documentation and communication channels

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Documentation and communication

- We provide, amongst others:
 - Users Guides for Application Developers
 - Installation guide
 - Getting Started
 - Users Guide for Toolkit Developers
 - LXR reference guide
 - FAQ
 - Tutorials
- The effort to create these diverse documents, and in particular to keep them up-to-date is significant

Challenges of G4 Documentation

Several issues exist with the current G4 document scheme. This is a short summary.

- The most important guide for users, the 'Application Developers' manual doesn't have a "book-style" version.
- The non-uniform environment of maintaining documents is an significant overhead.
 - The 'Application Developers' is based on html and 'Toolkit Developer' is on latex, etc. This forces a complex procedure to maintain the documents.
 - We need a unified scheme (so-called a 'one source many outputs' environment).
- Application Developers' Manual has become big and diverse in style
 - because of the evolution of the HTML specification.
- The number of documents provided can dazzle novice users.
 - We think it better to reduce the number by combining some documents.

Plans for documentation

- Overcomes these problems we decided to move our document base from html/latex to **DocBook**.
 - This move was proposed in the last G4 workshop at Lisbon.
 - The basic proposal was that we move all G4 user documents except 'Physics Reference Manual' to DocBook/XML.
 - The reason we excluded 'Physics Manual' is that the math formula heavily used in the manual cannot be easily handle in XML at the current stage.
 - We expect that we will reconsider this decision when MathXML 3.0 is fully available in the future.
 - The move to DocBook has been already completed and it will be open to public soon.
 - In the next major release of G4 codes, the user documents will be ones based on DocBook.

Question: Twiki suggestion

- Response to input
 - “Some people have suggested migrating to Wiki so users can more easily contribute”
- A basic principle of the Geant4 user documentation is that the Geant4 developers are responsible for creating and maintaining it.
 - For any code development, it is well known that a program without documentation is useless.
 - We have followed this principle strictly since the first release of the G4 codes.
- The basic approach of so-called 'wiki' is to provides an environment where anybody can contribute to writing a document. It is an efficient approach if you don't have responsible authors to cover the all topics in the document - a good example is of course 'Wikipedia'.
- However, the environment 'wiki' provides and what we want to keep is completely different. As already mentioned, we want our developers to write a document and not someone else.

Response to Twiki

- Therefore we don't have a plan to move our documents to 'wiki'.
 - A major concern and potential difficulty of wikis regards is how to address so-called 'wiki vandalism' or simply the posting of incorrect information.
 - Correcting such errors it is potentially a large sink of time that is a major concern.
- We know that we need to provide a better route to pick up users' suggestions and corrections to our documents.
 - For corrections or to clarify passages or sections we propose to use a section of the Problem reporting system
 - In the newly-revised G4 Bugzilla page, we have created the report entry to each Geant4 documentation.
 - We encourage Geant4 users to contribute other suggestions regarding Geant4 documentation through the HyperNews User Forum.

Communication channels

- HyperNews: Geant4 Users Forum
 - Everyday use, diverse issues, some repetition
- Direct contact with developers
 - Email for most detailed issues
- Problem reporting system
 - Channel for problems, likely bugs, not requests
- Technical Forum
 - For 'bigger' matters
 - Usual focus is HEP, audience LHC/HEP experiments
- User Workshops, Tutorials
 - Key venue for very productive face-face interactions