Geant4 Documentation

1. Current status and types of "documentation"

2. Process for committing documentation

3. Release schedule – should it be more dynamic?

4. Future plans, publicity and outreach

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Current Status

- "Documentation" covers a number of areas and formats:
  - Guides: application, developers, reference, getting started
  - Formats - output: pdf, html, (both)
  - Formats – input: docbook (guides), direct html (working groups), command-line (html create), oxygen, lxr browser
  - Hypernews is also a "go-to" place for many answers to specific problems, often replacing more complete documentation?
- Restrictions:
  - docbook is not the easiest to format (different html to pdf outputs sometimes),
  - versioning – everything is in the head so difficult to have future developments documented whilst updating current docs
- Some things are only web-based (commands, oxygen), whilst others are only pdf (physics reference manual)
- How to keep things up-to-date with developments?

Documentation Structure

- I believe docbook was introduced in order to have a simple framework to combine pdf and html output for the same documents

- Docbook is "scientific-friendly" written in latex-style

- Drawbacks:
    - package dependency/style files,
    - Cross-linking difficult
    - Versioning is through svn and CVS for the web-pages
    - Not always obvious what is going on
    - Is it maintained and will it become deprecated at some point?

- Should we move to alternative (html only) solution?

- Currently rely very much on Mike's "recipe" for creating the documentation

- Actually need better documentation on making the documentation

- Often contributions are plain text or word then included by me

- Could be a simpler approach?

Docbook or not...

- Drupal integration could create a dependency issue depending upon how this is integrated

- Docbook is
  - useful for simultaneous pdf and html output (latex-style)
  - Difficult if you want to link between documents
  - Generate the output can be a challenge (style files, xml markup, dependency on tools)
  - We have a recipe, but to deviate it from it can be annoying

- Ben had an alternative (sphinx) proposal for cmake documentation which would remain current similar to how doxgen is formulated

- Are there are alternatives, views, solutions?

Cmake documentation

- Proposal from Ben is to use a tool like Sphinx for documenting cmake

- Motivation: scripts can be "marked up" using restructured text and processed through Sphinx like C++/Doxygen

- Like Doxygen - docs are close to what they document and can evolve alongside it.

- The document would also be integrated into the build of Geant4 so is built/installed together with the toolkit.

- Sphinx:

    - http://www.sphinx-doc.org

Videos

- A number of videos have been produced by us, mostly for demonstrations/tutorials

- It would be a good idea to aggregate these into a central repository and link to them from our website

- Youtube could also be an option for advertising and educating people on Geant4

- There are already a number of videos created by users:
  - Often out of date
  - Unsupported and unofficial
  - Comments can also be less than desirable...

- What should we do?

Videos

- Advantages:
  - A good format for demonstrating things in a real sense
  - Good publicity
  - Looks nice
  - Potentially wide audience
  - Moves people away from ad hoc, unofficial, inaccurate and perhaps wrong material
- Disadvantages:
  - How to make it "official"?
  - Maintenance – back end
  - Maintenance – keeping it up to date
  - How to standardise?
  - How to invest the effort to make videos?
  - What about missing areas?
    - Our documentation is somehow complete, is it right to pick and choose for videos?
  - How to prevent linking to wrong material?
- Still a nice idea!

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12th September 2016

Summary

- Documentation can be a bit complicated
    - Split between html docs, dedicated web-pages, pdf, command-line, developers
    - Time-line – follows release, should be more dynamic?
- Docbook creates a little headache, are there alternatives?
- Videos are a new domain for outreach/documenting

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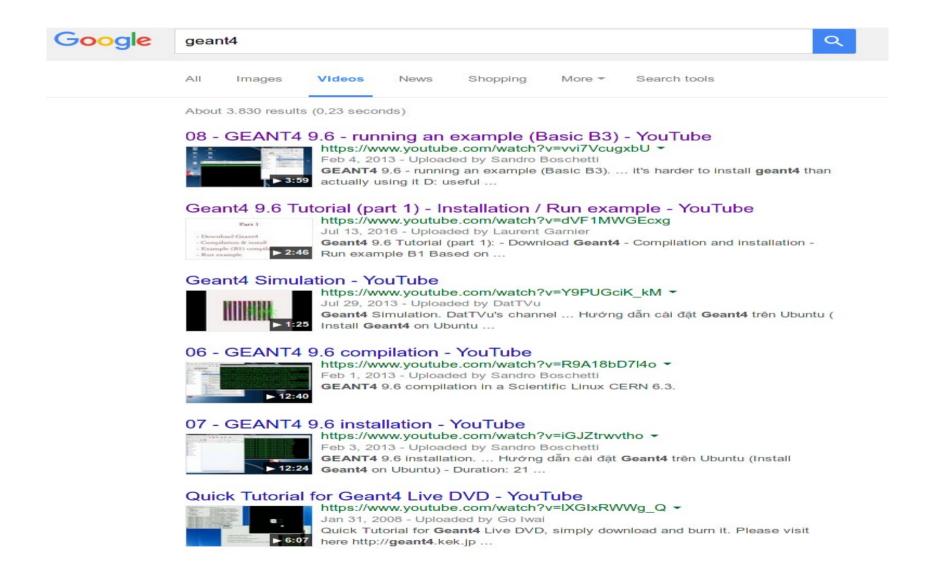
Problems with Videos

- Maintenance and keeping things up to date

- Linking to other material – docs, hypernews

- Wider user community – not physicists?

- Youtube – confusing, how to make it official?

- Hosting

Youtube

- A common and obvious place would be youtube

- Problem is how to relate this to the other documentation – people often just add comments...

- Disadvantages:
    - Advertising: on the page, before the video etc...
    - No control over linking – next video could be anything?
    - Comments – simply disable? Direct to hypernews?
    - It's very public – trolling, people finding us who have no interest in physics, simulation, computers...

- Advantages:
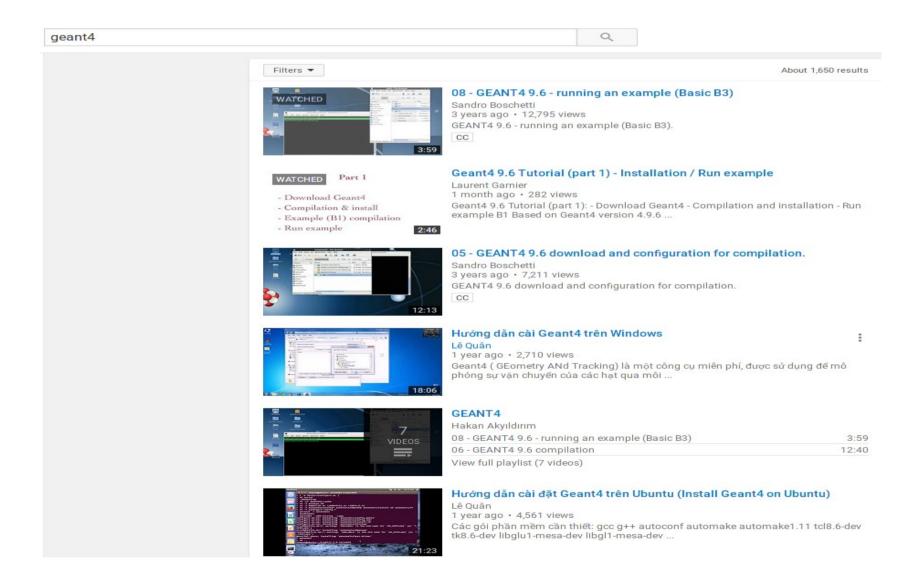   - It's easy, popular, respected, could go viral and get millions of hits...

Youtube - thoughts

- Advertising

- Page format

- Auto-play

- Up next lists

- Comments – disabling also looks odd

- It's google...

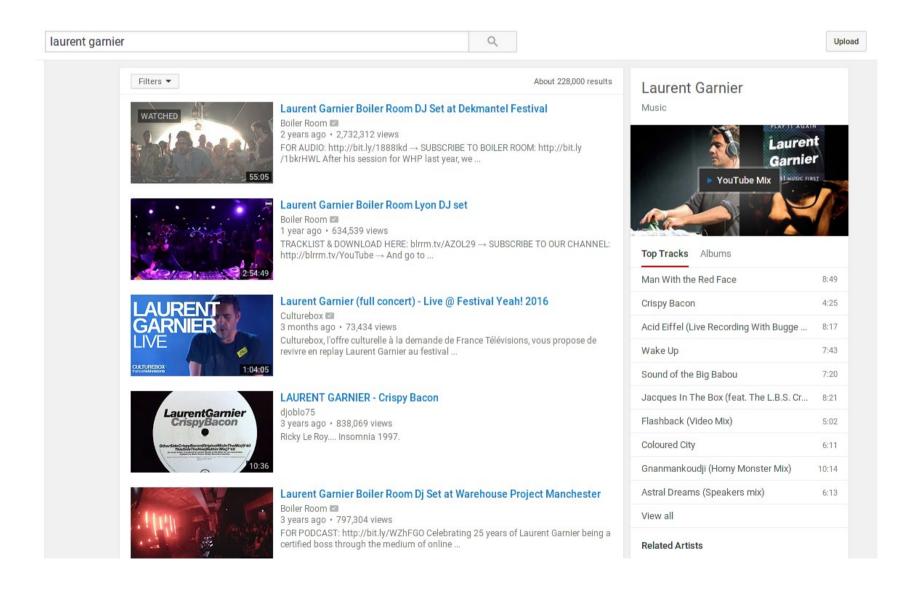- Keeping it up to date

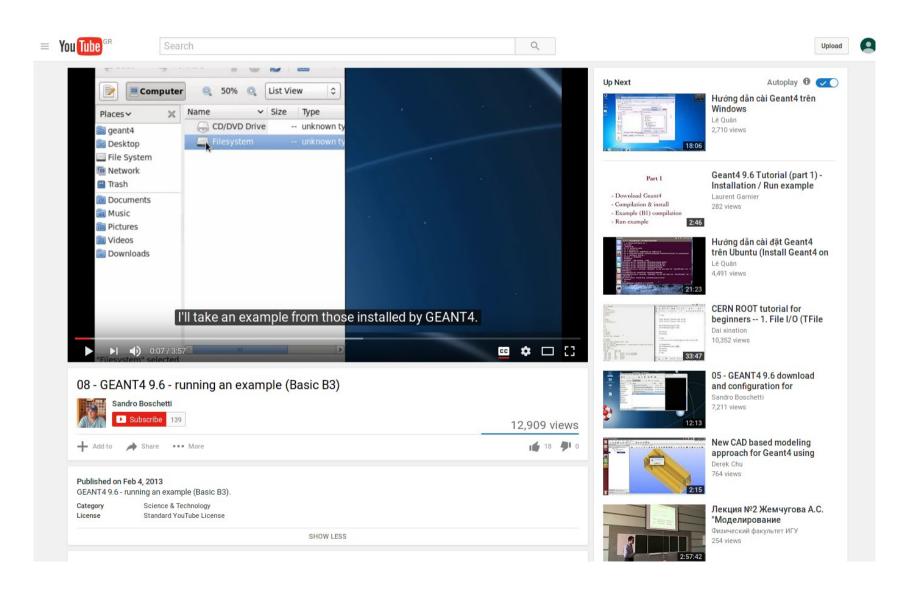- Who decides it's "official"?

Videos

- Google search:

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Videos

- Youtube search:

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Youtube

- The "up next" problem:

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Youtube

- The "other people" problem:

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- The "other Geant4" video problem:

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- "comments":

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Youtube

- More "comments":

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