

Basic & Extended Examples Common Tasks

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Novice & Extended Examples Working Group

The mandate of Geant4 Novice & Extended working group is the following:

1. Coordinate the design, implementation and maintenance efforts of N&E examples;
2. Ensure the Geant4 toolkit functionalities, options and controls are well mapped into t
3. Maintain scenarios to organize the structure of the N&E examples;
4. Ensure the code quality of the examples, provide coding guidelines to developers, a review;
5. Ensure cross-references between examples:

Work plans

- [2014](#)
- [2013](#)
- [2012](#)
- [2011](#)

WG documents

- [Coding guidelines](#)
- [Users questions to be addressed in examples](#)
- [WG Wiki pages](#)

N&E Examples WG

- [Adding A New Example](#)
- [Extended Examples Review](#)
- [Applying Coding Guidelines](#)
- [Examples Doxygen Documentation](#)
- [Status of Examples MT Migration](#)

-- [IvanaHrivnacova](#) - 11 Apr 2014

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- The link to Wiki pages is available from the WG Web page
- Access is restricted to Geant4 developers

TWiki > [Geant4 Web](#) > [NoviceExtendedExamples](#) (14 Apr 2014, [IvanaHrivnacova](#))

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Macros Review

- The list of items to be reviewed is available on [the wiki page](#) together with the lists of unused commands, generated in a semi-automatic way two years ago
- A table for monitoring the progress was added to the page
 - ~ 25 % of all extended examples are reviewed
- We hoped to have this done in one year
- Only 3 members participated in the effort in 2018

Coding Guidelines

- Following the coding guidelines is requested when adding a new example
 - Most of the guidelines are checked automatically
- The number of violations was reduced significantly in the past years
- The list of violators (examples files) is available on the wiki page
 - Updated once per year
- Most of violations in 3 examples: which were not yet updated at all:
 - **HepMC/HepMCEx01, HepMC/HepMCEx02** - not yet updated at all
 - **medical/DICOM/dicomReader** – using a different convention for class data membres (“the” instead of “f”)
- <https://twiki.cern.ch/twiki/bin/view/Geant4/ApplyingCodingGuidelines>

Explicitly Defined Physics Lists and Builders

- Explicitly defined physics lists in examples not demonstrating physics
 - Reduced from 23 (2015) to 12 (2016), 13 (2017, 2018)
- Physics lists derived from G4VUserPhysicsList (and not built via G4ModularPhysicsList) in physics examples:
 - In 7 examples
- Explicit Physics Builders in examples
 - 65 in extended examples in total
- https://twiki.cern.ch/twiki/pub/Geant4/ExtendedExamplesReview/physics_list_aug18.txt
- A work item for “Physics Lists” WG ?

Build Options in DICOM example

- 3 options
 - “old”, DICOM_USE_DCMTK, DICOM_USE_HEAD
- The optional build is not supported in Geant4 tests
 - A test (reading a reduced file) was prepared by Susanna for the new DICOM_USE_HEAD option for 10.4
 - But we failed to add the test in Geant4 cdash tests due to optional build
- A work item for “Testing and Quality Assurance” WG ?