eAST Documentation: a quick update

(plus a few other thoughts)

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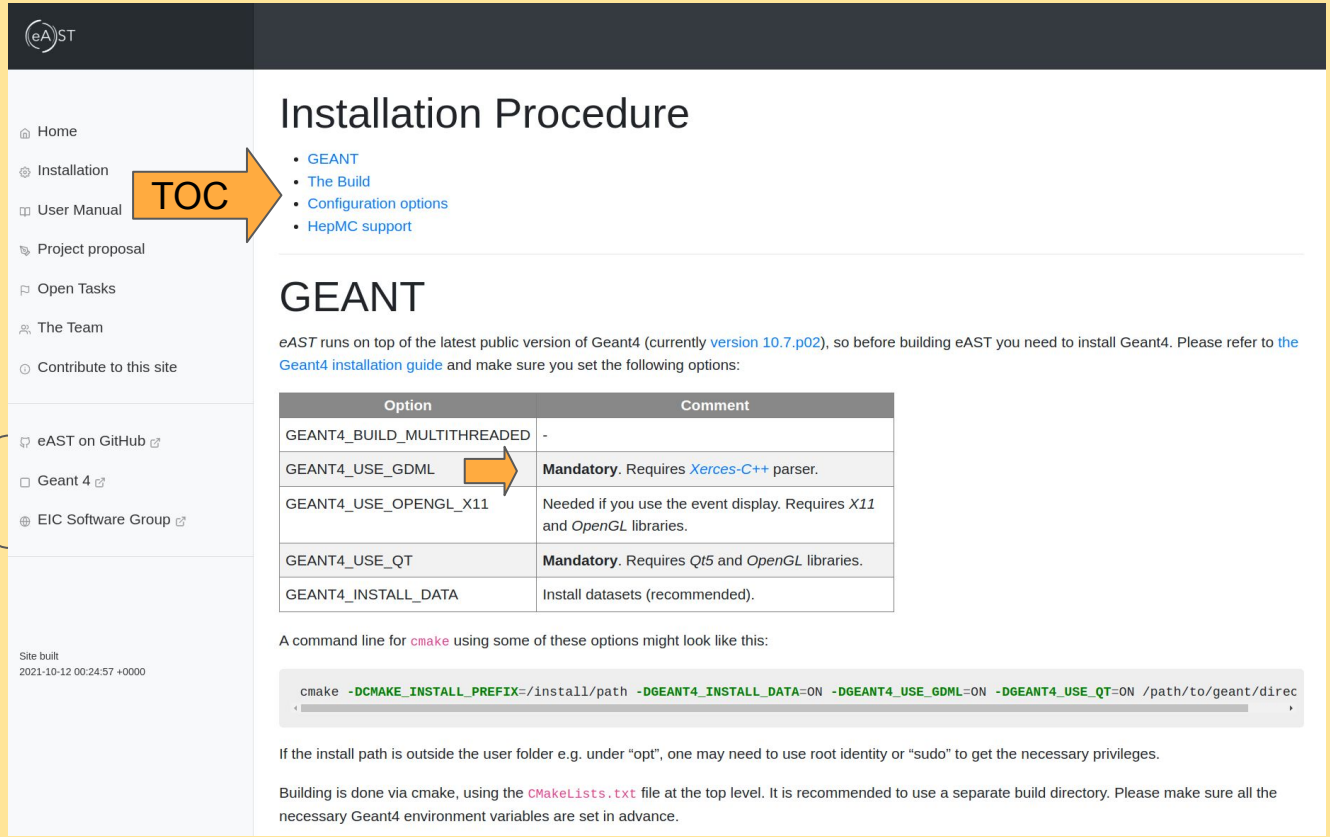
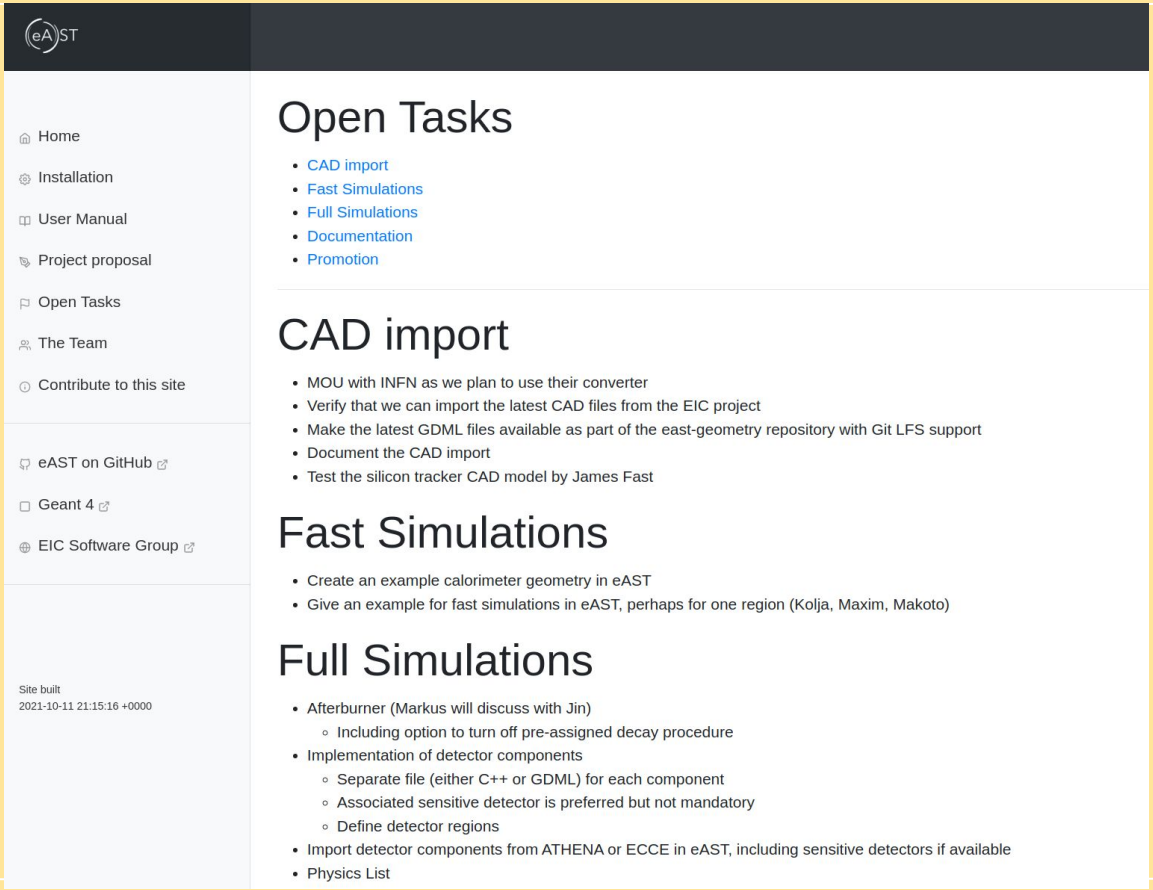
Summary

- The prototype of the eAST documentation website was introduced ~3 weeks ago
- To conserve development effort, we chose Jekyll/GitHub pages as the solution
- Streamlined design, easy to edit, contribute to etc
- It’s not mobile-friendly yet, we may revisit this issue later and change the layout
- Adjustments and additions were made recently (next two slides)

The Updates


eAST
Home
Installation
User Manual
Project proposal
Open Tasks
The Team
Contribute to this site
eAST on GitHub
Geant 4
EIC Software Group
Site built
2021-10-12 00:24:57 +0000
TOC
Installation Procedure
GEANT
The Build
Configuration options
HepMC support
GEANT
eAST runs on top of the latest public version of Geant4 (currently version 10.7.p02), so before building eAST you need to install Geant4. Please refer to the Geant4 installation guide and make sure you set the following options:
Option
Comment
GEANT4_BUILD_MULTITHREADED
-
GEANT4_USE_GDML
Mandatory. Requires Xerces-C++ parser.
GEANT4_USE_OPENGL_X11
Needed if you use the event display. Requires X11 and OpenGL libraries.
GEANT4_USE_QT
Mandatory. Requires Qt5 and OpenGL libraries.
GEANT4_INSTALL_DATA
Install datasets (recommended).
A command line for cmake using some of these options might look like this:
cmake -DCMAKE_INSTALL_PREFIX=/install/path -DGEANT4_INSTALL_DATA=ON -DGEANT4_USE_GDML=ON -DGEANT4_USE_QT=ON /path/to/geant/direc
If the install path is outside the user folder e.g. under “opt”, one may need to use root identity or “sudo” to get the necessary privileges.
Building is done via cmake, using the CMakeLists.txt file at the top level. It is recommended to use a separate build directory. Please make sure all the necessary Geant4 environment variables are set in advance.

The “Open Tasks” page



A few thoughts about the content

- The website is targeted mainly towards users, and to a smaller extent, developers
  - ... a guess - in 80% to 20% ratio
- For better engagement, the users should quickly see the goals, design principles and interface features - all of this is yet to be developed
  - The existing text of the eAST proposal explains some of the CAD interface aspects, but that's not all that the users would want
- Tutorials (can host on GitHub), screenshots need to be created
- There is plenty of space on the front page to place links and intros
- Do we need a dedicated page for Fast Simulations? CVMFS guidance?

User engagement: containers

- Do we expect users to build from scratch on their workstations/laptops? To what extent we expect users to leverage CVMFS? Are we going to stay with the OSG?
- Should we consider containerization even now, as a test of capability?
  - Flatten the learning curve for the users to encourage adoption
  - NB. container-based development has become fairly standard
  - Capturing simulation workflows in REANA is a definite bonus
- Observation - solid support for Docker on Windows/WSL2 and Mac
  - As a bonus, a few Linux flavors are available under WSL2 (Debian etc)
- Side effect of creating an image is a working and complete example of building eAST, encapsulated in a Dockerfile… there is relevant experience in this group

User engagement: interactive tools and graphics

- Jupyter notebooks are gradually becoming mainstream
- Both Python and Julia are used, with a degree of interoperability
- Powerful visualization tools are available in either language
- Packages exist to parse GDML
- Potential exists to make eAST more accessible to users and developers