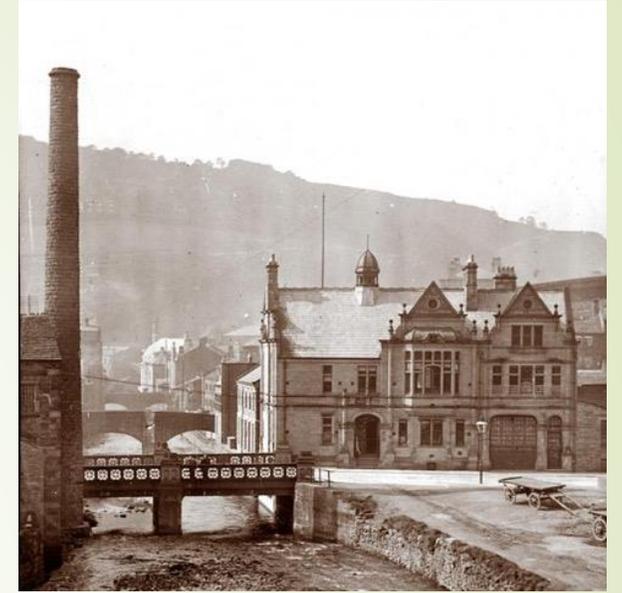# Visualisation mini-workshop 2019
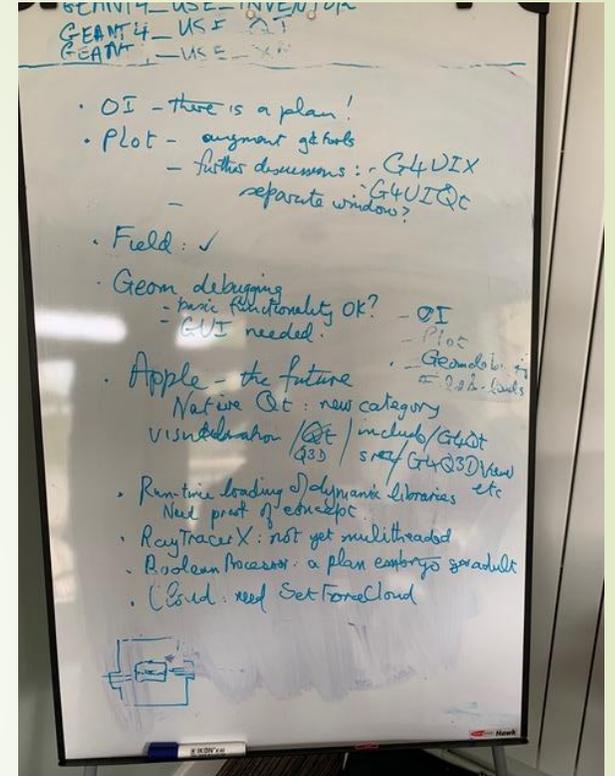
Hebden Bridge UK
6-9 June 2019

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Attendees

- John Allison (convenor)
- Guy Barrand
- Gabriele Cosmo
- Laurent Garnier
  - and family
- Fred Jones
  - and Lydia
- Ben Morgan
- Evgueni Tcherniaev
- Joseph Perl

Topics

- Revive Open Inventor
  - Build issues resolved/ongoing
- In-GUI histogram plots
  - Real-time accumulation not feasible
  - But plots could be shown at end of run (ongoing)
- Magnetic/electric field plotting
  - Big progress made (see Developments in 10.5 and for 10.6)
- Geometry debugging
  - Visualisation of overlaps (see Developments in 10.5 and for 10.6)
  - A dedicated app with a tailor-made GUI is needed

Topics (contd)

- Apple—the future
  - OpenGL is deprecated
    - A disaster for us-–except we expect some 3rd party will continue to support it
  - Need to exploit Apple's native graphics system, so…
- Future-proofing Geant4 visualisation
  - We think we should write a new driver for Qt's Q3D (big job—ongoing)
    - Should be platform independent
    - Should exploit native graphics system of platform

Other topics

- Boolean processor
  - A long-running issue
  - Use cloud as fallback (done)
  - Introduce a new graphics primitive based on G4TessellatedSolid (ongoing)
    - Then write new code for boolean operations on G4TessellatedSolids (ongoing)
- Build issues for TOPAS with Qt resolved
- RayTracerX
  - RayTracer is mutithreaded but RayTracerX not yet

Summary

- Very profitable