Tasks for the migration to DD4hep

12th hackathon on software for the upgrade,
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Current status

- See the status report at the USPG session of the 88th LHCb week
- Codebase:
    - `https://gitlab.cern.ch/lhcb-dd4hep/LbDD4hepUpgrade`
    - Use **unstable** branch
    - See the README.md (do not forget to source the setenv.sh script)

Infrastructure tasks

- Compile DD4hep using the LHCb toolchain
- Merge the unstable branch into master
- Integrate the environment with the LHCb Hackathon setup (and stop using lb-dev)

Prototype Geometry an alignment checks

- Improve geometry comparison tools between LHCb and TGeo (and apply to find out and fix problems)
- Try TGeo / Geant4 Overlap tools to spot issues
- Compare the methods available in the DD4hep VP detector element with the LHCb one
- PrPixelTracking using the DD4hep Detector Element (Ben & Chris)
- Generate misaligned simulation data to exercise/check the condition system (Chris)

Geometry migration and Simulation

- Investigate the process needed for the migration of the persistent format to COMPACT XML or similar
- Investigate the Gauss integration of the DD4hep prototype (and Geant4 integration)