ACEOLE - End of Project Meeting

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Engineer in computer science

- Numerous interesting fields
    - First Linux Kernel modules
    - Mobile robot for the Robert Gordon University, Scotland
    - Numerous applications with GUIs: Geographic Information System, Virtual Reality, ...
    - Internship at CERN, LHCb
    - Training designer on a .Net framework at Michelin

- Marie Curie Fellowship, LHCb Computing group, 2008-2011
- Software Engineer for Accelerator Protection

Outline

Projects and Responsibilities
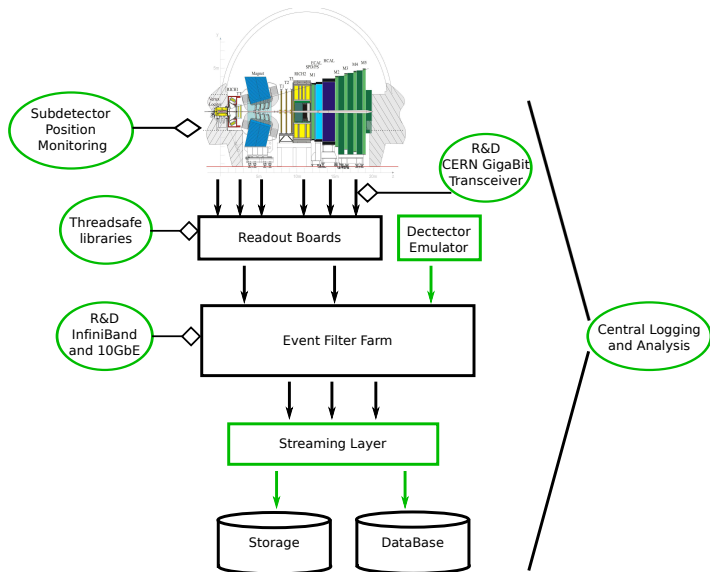
Opportunities

- Meeting experts
- Teaching in ISOTDAQs
- Presenting CERN at university
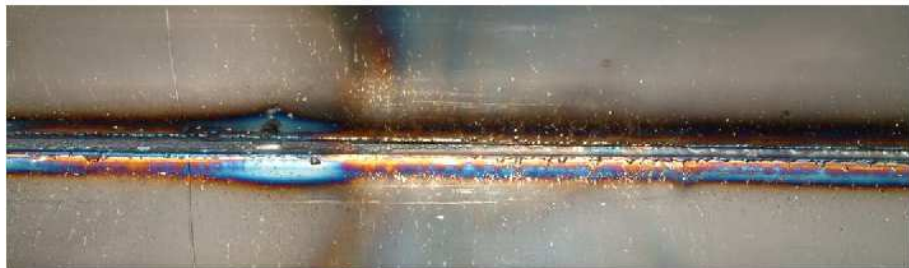- Supervising interns and summer students

Collaborations

- Reference in the Online system
  - Online support and Expert on call
  - Coordination with Survey and Infrastructure groups for detector monitoring

- Responsible for InfiniBand Data Acquisition
  - QLogic and Mellanox
    - Introduction to technologies
    - Feedback about software and devices
    - R&D on Readout Board design
  - GSI and CMS
    - Sharing source code, test infrastructure and results

- Partnership with Force10 Networks
  - Close contact with Technical Engineers and Technical Marketing
    - Same interest in open hardware
  - Internship in Technical Marketing team
    - Insight on Fabric Manager design
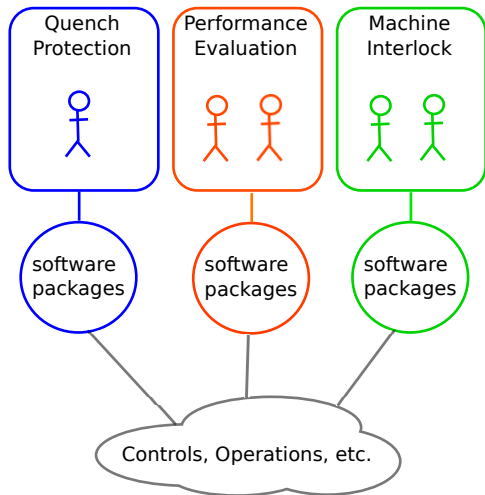   - Learning industrial testing procedures

# Outline

What is it all about

- Magnet protections
- Beam and Magnet Powering Interlock
- Software for Monitoring, Diagnostic and Commissioning

Initial Group Structure

- Software developers also experts in HW systems
- No or little horizontal communication
  - Isolated
  - Numerous software solutions for same problems
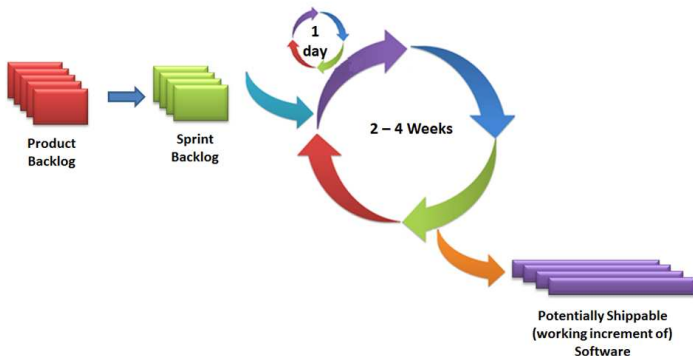- Need for a real software coordination

New Group Structure
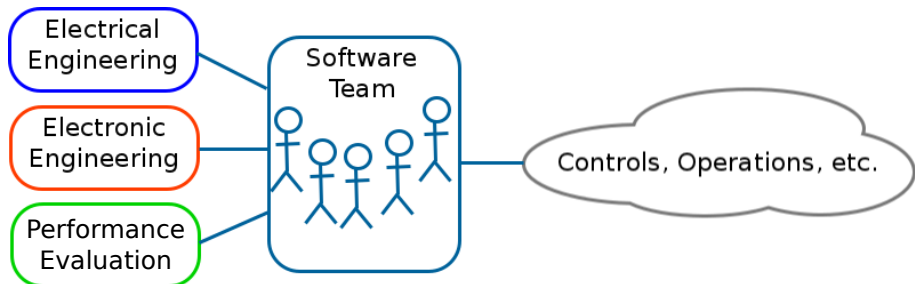
- Issues
  - Still one expert per application
  - Long term project maintenance

Improving teamwork

- Agile Software Development with Scrum
  - Not new but getting more and more famous
  - Full team focusing on all projects
  - Each member as product owner
  - Knowledge shared about all domains
 - Demo with system experts and operators

Feedback on Scrum

- So far 3 sprints
  - Common features extracted and refactored
  - Management very interested
    - How to apply it to hardware design or reliability studies
- Issues
  - How to break the usual CERN model of 1 person per project ?
  - How to make my teammates concerned about projects that were not in their original mandate ?
  - How to allow my teammates to get recognition ?

Clean Coders

- Dependable software for dependable hardware
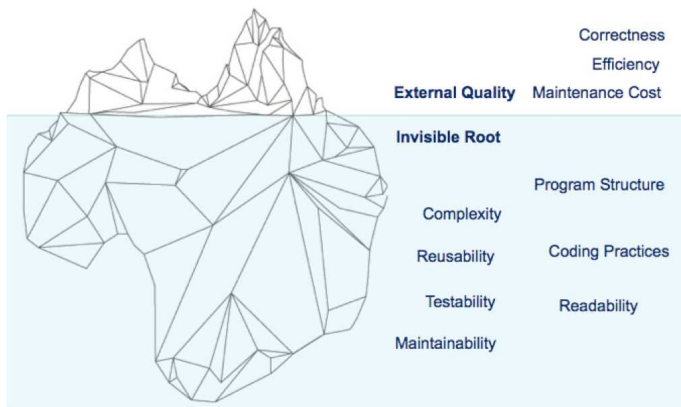
Conclusion

- Thanks to ACEOLE
  - Developed technical skills with experts
  - Improved complementary skills
  - Being more professional
- And now
  - Numerous exciting challenges
    - ⋆ Working in collaboration with 20 groups
    - ⋆ Managing small team of software developers, trying to make it bigger
  - Discovering Accelerator Physics and Engineering after Detector Physics
  - Investigating new software technologies and methods

Thank you