OTB Modularisation

OTB 10 and beyond !

*Le monde est tel que nous le façonnons

The world is how we shape it*

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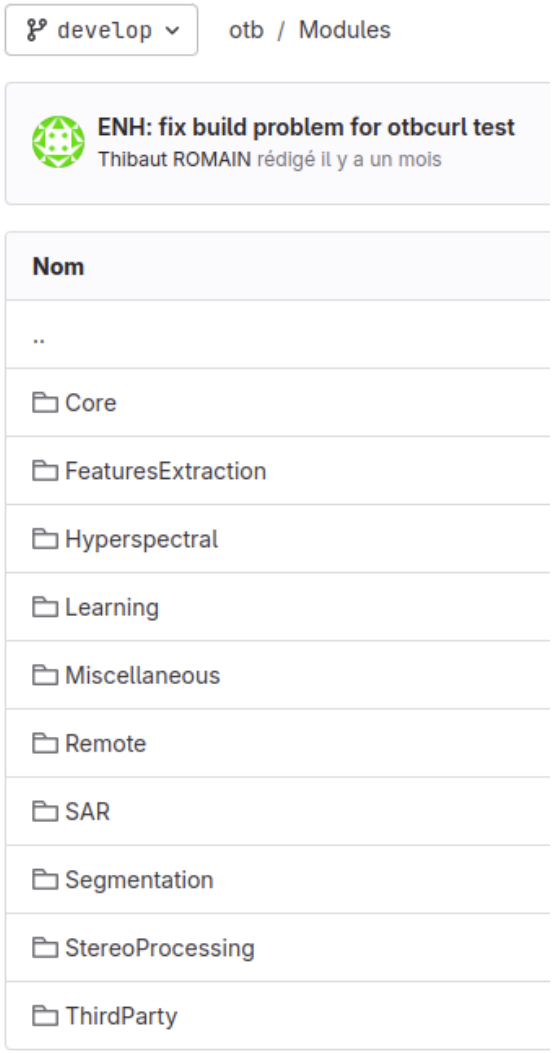
OTB Modularisation

OTB Modularisation

- What ? Separate all OTB Modules in ≠ projects
- Why ? ≠ roadmap, ≠ development cycle and priorities, ≠ CI
- How ? Using remote module mecanism



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Expectations

- Current OTB 9 build commands must still works (with –DOTBGroup_xxx cmake options).
- Dependencies between modules should be tracked
- Each module should **compile alongside OTB**
- Test must pass (we are not Microsoft, bug ≠ feature)

Pros and Cons?

- Pros:
  - OTB team can focus on main modules
  - Module as a separated project
  - Reduce CI charge
  - Lighter sources when downloading OTB
  - Distinct roadmap between OTB and modules
- Cons:
  - CMakeLists.txt of modules must handle cases with separated and common OTB build tree

Changes

- One Config and Target.cmake / module
- In remote module, use « find_package » now with components
- Libs name now follow OTB version
- OTB and OTB test cmake constants are now accessible

API changes

In remote modules :

```
find_package(OTB REQUIRED)
```

Becomes :

```
find_package(OTB COMPONENTS REQUIRED Core FeaturesExtraction)
```

API changes

Now if you want to use cmake tests/install constants like "EPSILON_1"
or "OTB_INSTALL_INCLUDE_DIR", the following lines help you to do that :

```
include(OTBConstants)

# retrieve all EPSILON_X consts

get_test_const()
get_install_const()
```

API changes

The "CMAKE_PREFIX_PATH" cmake variable can be affected if you install OTB and one of its module in a separated folder. In this case this variable must contains OTB and module cmake dirs.

Same goes for "OTB_APPLICATION_PATH" shell variable

Conclusion

- It works!!
- A lighter OTB source package
- Different development rythms for Core and other modules
- Features availables sooner
- Some changes in CMake API, but the API is more stable
- Modules can be installed in separated folder (only for experienced users)

Q&A

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Links

- https://gitlab.orfeo-toolbox.org/orfeotoolbox/otb-modules/miscellaneous the misc repo as remote module
- https://gitlab.orfeo-toolbox.org/orfeotoolbox/otb-modules/featuresextraction features extraction as remote module
- https://www.orfeo-toolbox.org/CookBook-develop/Installation.html#mod-install
- https://www.orfeo-toolbox.org/CookBook-develop/RemoteModules.html#installation-and-usage