BuqSquashing:

Create your own MITK Datatype (Coarse Overview)

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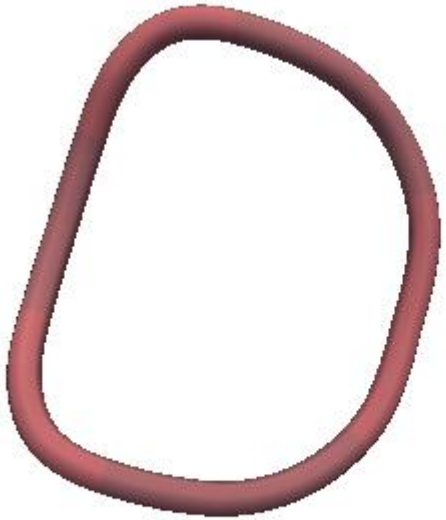
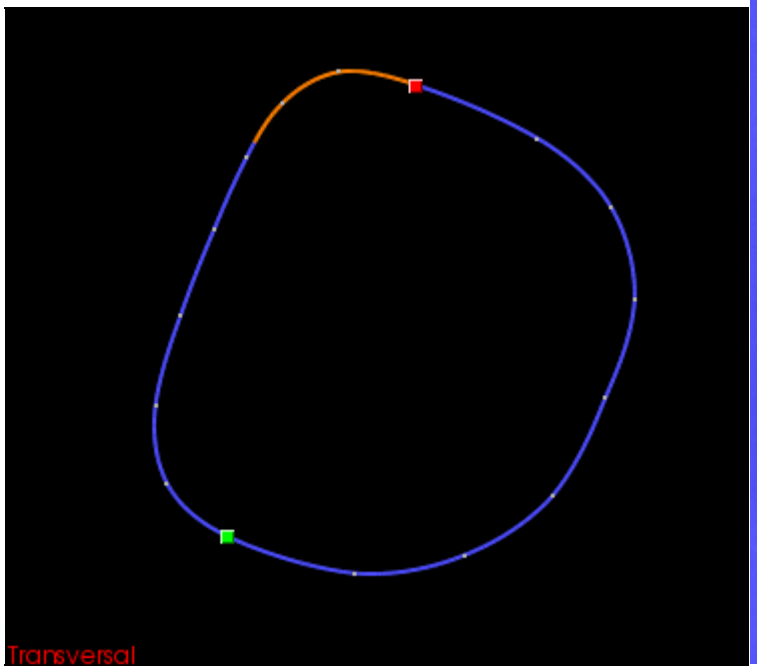
Why do I want my own MITK Datatype?

- E.g. For modelling a mitral ring!
  - Visual representation (2D and 3D)
  - Suitable fileformat
  - Intuitive interactions
- → **All that is arranged with your ObjectFactory**

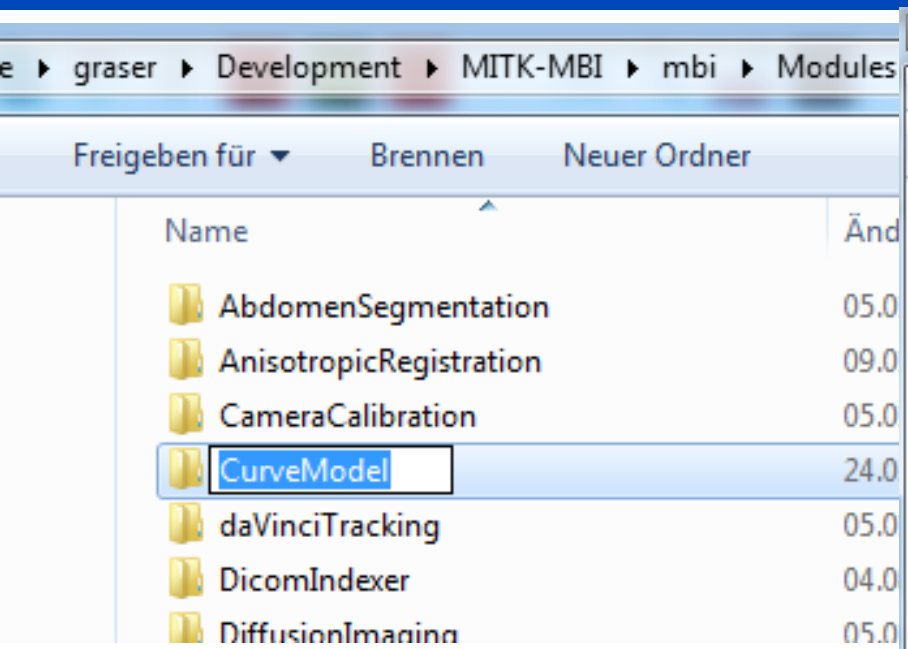


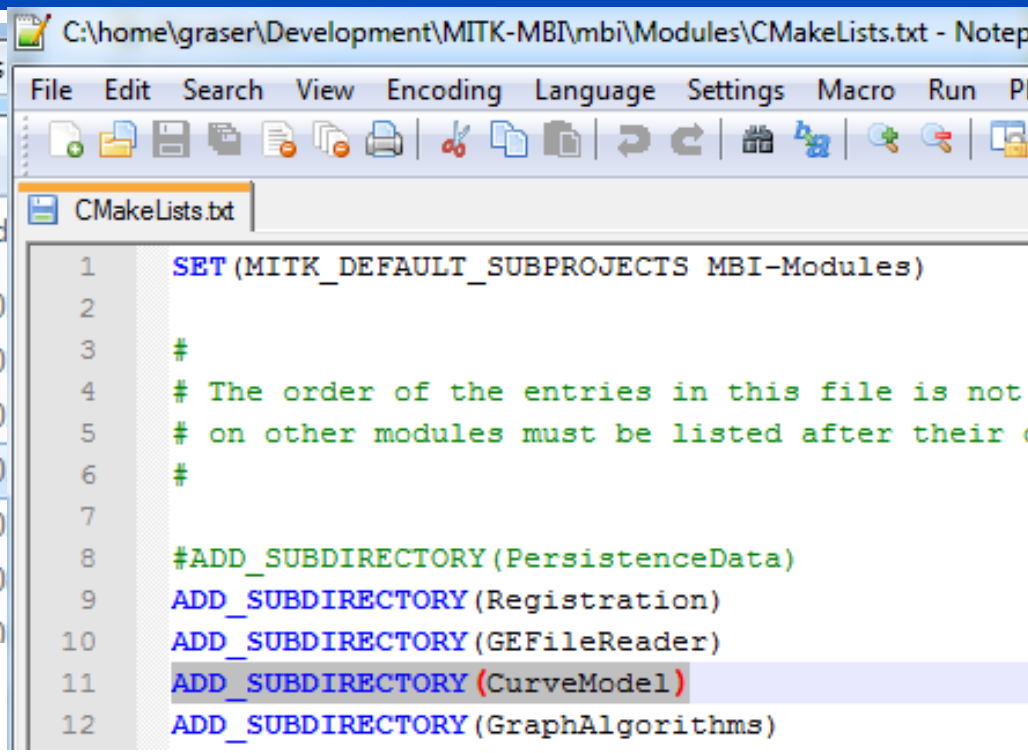


First: Where do i put it?

- MITK / Core
  - Only super essential datatypes (e.g. PointSets)
- MITK / Modules
  - When you want to make it open source
- MITK-MBI / Modules
  - When you want to keep it closed source for the time being

Create a module for your Datatype

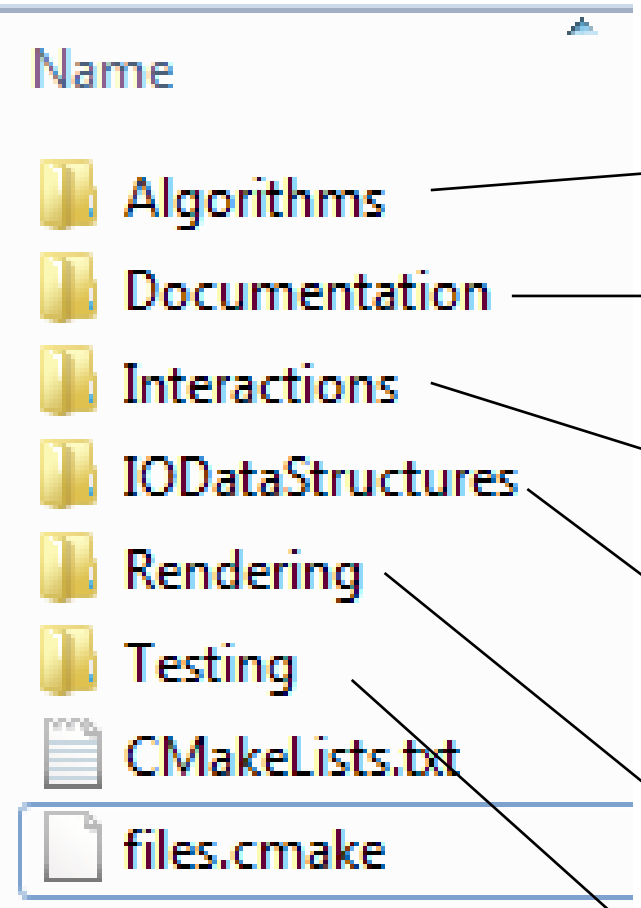




- Create your folder in mbi\Modules
- Add your folder to mbi\Modules\CMakeLists.txt

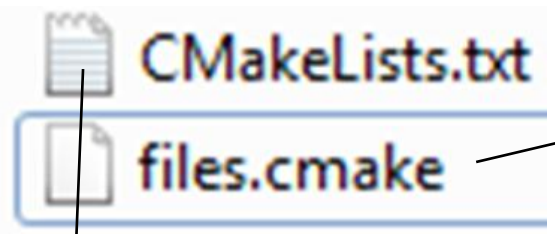
Create Folders and Cmake Files

- Create the following folders and your **CMakeLists.txt** and **files.cmake**



- Algorithms specific for this datatype
- Doxygen documentation
- Interactors
- DataStructure, Filereader/-Writer and ObjectFactory
- 2D and 3D Mapper
- Tests

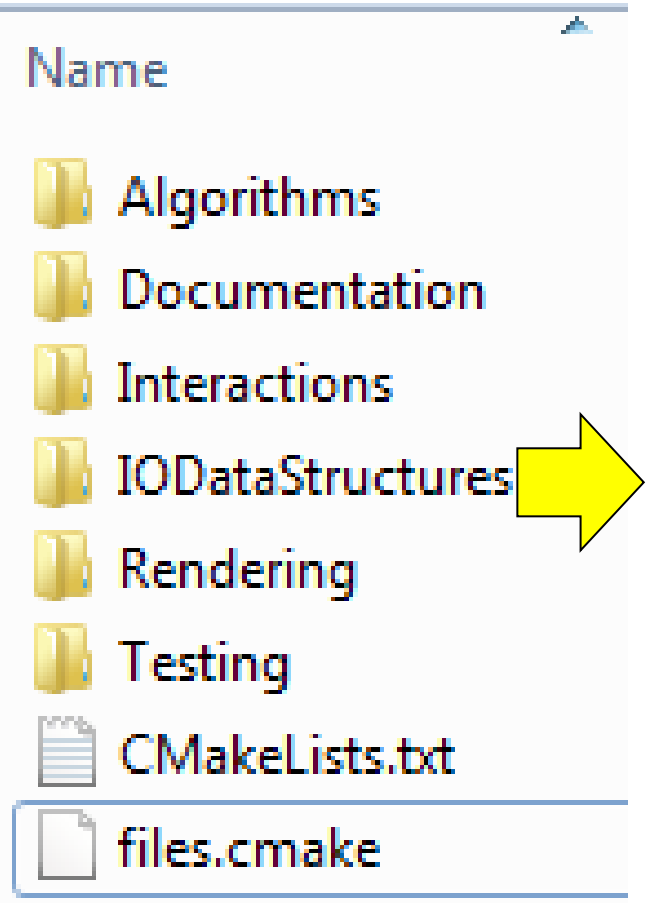
Create Folders and Cmake Files




```
SET(CPP_FILES
  IODataStructures/mitkCurve.cpp
  ..
)
SET(H_FILES
  IODataStructures/mitkCurve.h
  ..
)
```

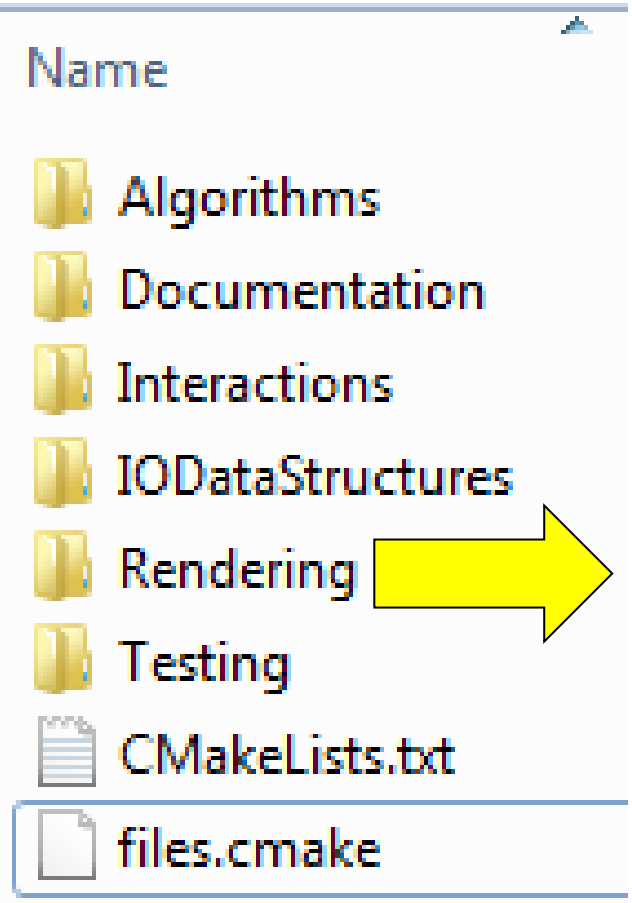
```
# CREATE MODULE HERE
MITK_CREATE_MODULE(MitkCurveModel
  INCLUDE_DIRS IODataStructures Rendering Algorithms Interactions
  DEPENDS MitkExt
)
ADD_SUBDIRECTORY(Testing)
```

Most important: The datastructure



- **Datatype Class**
- Datatype Source (Superclass)
- **Datatype Writer**
- **Datatype Reader**
- DataTypeIOFactory
- DataTypeWriterFactory

Most important: The datastructure



- 2D Mapper
- 3D Mapper

Register in Module/Bundle

- To use your datatype:
  - Add DataType-Module Depedency to CMakeLists.txt
  - Call RegisterFunction.

  E.g. in Constructor of Bundle View

```
#include "mitkCurveModelObjectFactory.h"
RegisterCurveModelObjectFactory();
```

Keep in Mind

- You can create your DataType-Module
- You need a class for:
  - Datatype, Reader, Writer, Renderer, ObjectFactory
  - Copy & Paste stuff from here:
  - **MITK / modules / DiffusionImaging**
  - **MITK-MBI / modules / CurveModel**
- To use it in a bundle/module, you have to call the RegisterFunction first