

Weekly Catchup

Weixiong Zheng

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1 Updates on previous goals

Previous goal was to give out the diagram of the existing BART so as to show what classes we have right now.

2 Progress up to now

Talked to Alex about his background and basics we need to get started. Gives out basic introduction materials on finite element (thanks to Josh). We might set up a time per week with a white board so I can either teach a bit or we can have a discussion to help Alex get started. His experience on FVM should make him easy to transfer to FEM.

Continuous exploration was put in how to use CTest. Besides, in order to show Josh how CTest can be used in a way similar to GTest, a unit test for `ProblemDefinition` along with its rewriting was created. Specifically, `AssertThrow` in `deal.II` was used to mimic `ASSERT_EQ/EXPECT_EQ` functionalities. That being said, CTest can either be used without knowing what the right output beforehand or used in a way similar to GTest by knowing what correct answers are beforehand.

Additionally, diagrams were created based on `devel` branch. Figure 1 presents the inheritance relationships of classes. Diamond shows where the classes are instantiated and arrows present the inheritance (base classes are the classes arrows pointing to).

Figure 2 illustrates where class methods or derived class methods are actually invoked.

It would be hard to explain all the functionalities of specific class within diagrams. I'd suggest people interested refer to `Doxygen` documentation of `devel` branch.

Efforts were also put into setting up notifications (unfortunately because of mistakenly understanding hooks). Final resolution does not actually involve either git hooks or web hooks.

3 Things you need from Rachel

4 Goals/Things will be going on

I will talk to Josh to set up a mutually acceptable fashion of doing unit test using CTest as our preference differentiate. Once done, I'd add it to style guide and continue the rewriting.

Josh will be trying to simplify `CMakeLists.txt`. The expectation is s.t. everything will be contained in the highest level `CMakeLists.txt`, in the BART folder.

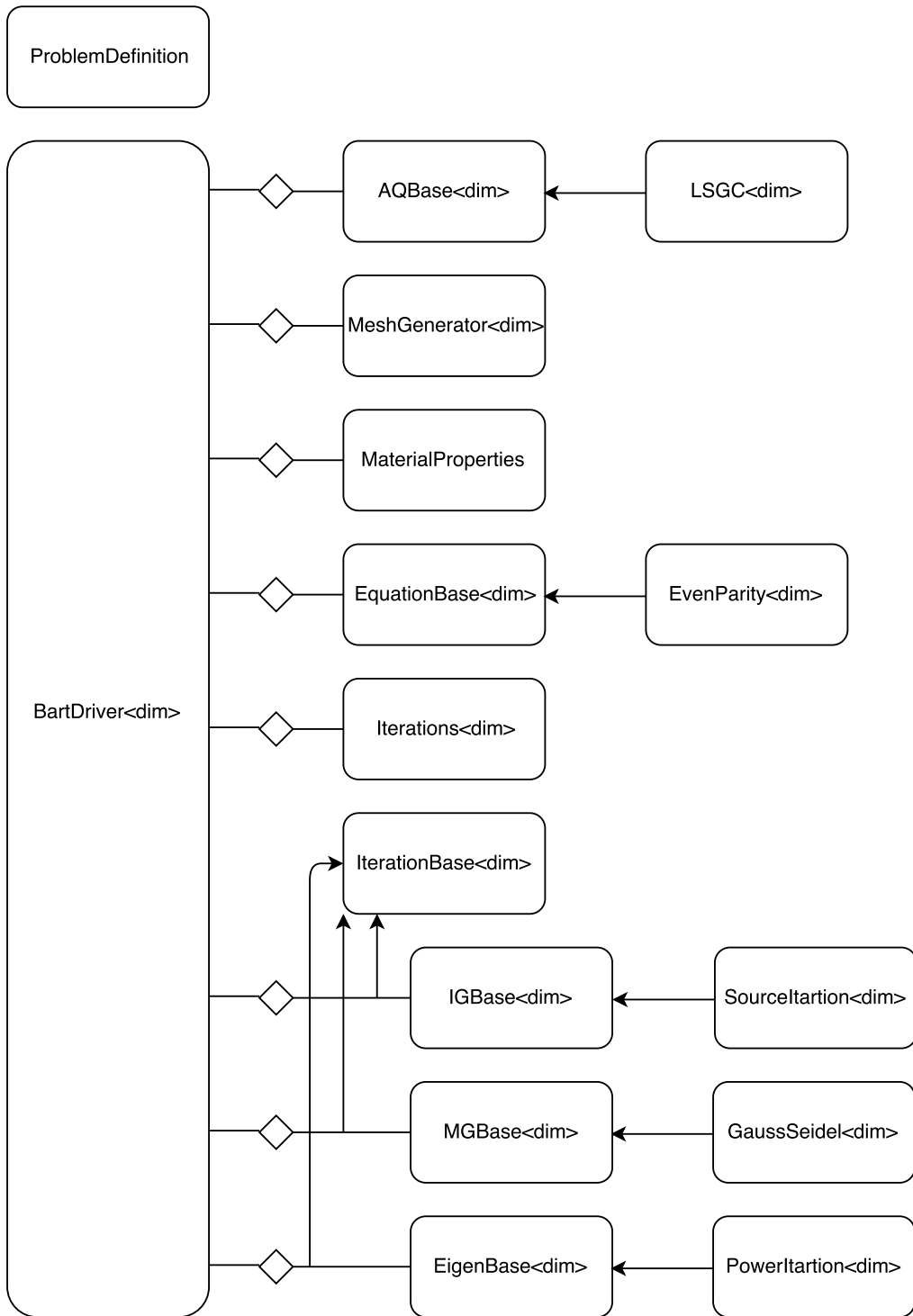


Figure 1: Inheritance and instantiation diagram.

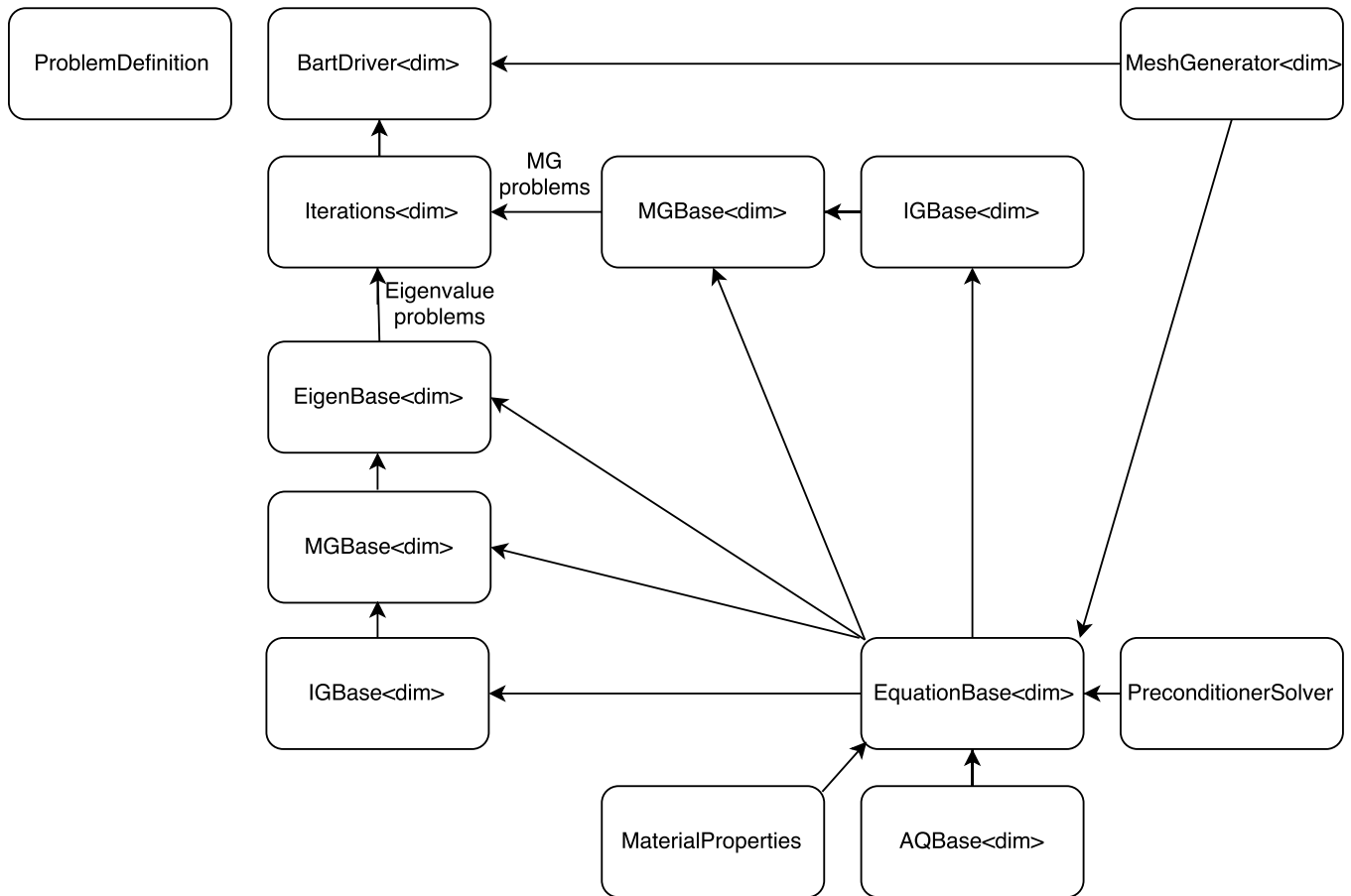


Figure 2: Class usage diagram.