gbpPy Documentation

Release 0.1

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CHAPTER 1

Installation

To aquire and build this library, you will need to have `git` and `cmake` installed. You may also want one-or-more of the following optional 3rd-party libraries:

- an MPI distribution (eg. OpenMPI)
- CUDA (if you have an NVidia GPGPU installed).

With these installed, you will need to:

1. acquire the code from *GitHub*;
2. configure it with `cmake`; and
3. build it with `make`

Alternatively (an prehaps more-often-than-not), you may want to add *gbpSID* as a submodule to another project. In either case, each of these steps is described in more detail below.

1.1 Acquireing the code

gbpSID is a "live-at-head" project. In other words, it is intended that the latest commit on the 'master' branch will always be the best version to develop with. To aquire it, simply clone it from *GitHub*:

```
git clone https://github.com/gbpoole/gbpSID.git
```

However, if you want to download the latest version specifically tagged as a standardized release, try this:

```
git clone --branch "`git ls-remote --tags https://github.com/gbpoole/gbpSID.git | sed
↪'s|.*/\(.*\)$|\1|' | grep -v '\^' | sort -t. -k1,1nr -k2,2nr -k3,3nr`" https://
↪github.com/gbpoole/gbpSID.git
```

1.2 Configuring the library

Once cloned, create a build directory (for example):

```
cd gbpSID
mkdir build
```

Then move to that directory and run `cmake` on the project directory (i.e. the directory where the file *CMakeLists.txt* is located):

```
cd build
cmake ..
```

Several options can be passed to `cmake` to tailor *gbpSID* to your needs. These are as follows:

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1.3 Building the library

Once configured with `cmake`, the project can be built by moving to the build directory and running the following:

```
make
```

To install the project, specify the installation directory as follows:

```
make DESTDIR=<full-path-to_installation-location> install
```

1.4 Building the documentation

Once `cmake` has been run, documentation can be built by running the following from the build directory:

```
make docs
```

This will place a *.pdf* version of the documentation in the directory *docs* and an *html* version in *docs/html/docs*.

1.5 Installing as a submodule

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CHAPTER 2

Python API

2.1 Submodules

2.1.1 gbpPy.cmdl module

2.1.2 gbpPy.log module

2.1.3 gbpPy.templates module

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