Introduction to Codebase

Computational Fabrication / Advanced Computer Graphics
6.807 / 6.839

1 Acquire Codebase

The codebase you will be using for all assignments can be found at github repository. Please install git (if you don't have it) and clone the code with the following command:

```
git clone https://github.com/mit-gfx/CompFabAssignment.git
```

We will update this git repository as new assignments come out, so **make sure** you update your local git repository with the following command before starting every single assignment:

```
git pull
```

You can add any code/class/variable/function in any file, though please make sure the name of new classes/variables/functions/ does not **CONFLICT** with existing ones and please **DO NOT** modify the existing starter code (e.g. functions).

2 System Requirements

We tested our codebase on **Ubuntu 16.04**, **macOS 10.14.4** and **Windows 10**. Among them, **Ubuntu** is most recommended.

3 Compile

3.1 Ubuntu and macOS

We will use **cmake** to help us compile our codebase. Please install **cmake** (if you don't have it) and then follow the following steps to compile our code.

First, entering the codebase folder by

```
cd $(YOUR_CODEBASE_FOLDER)
```

Make a build folder inside by

```
mkdir build
```

Then run the following command to compile our first homework

```
cd build
cmake ../ -DCMAKE_BUILD_TYPE=Release -DHW=1
make
```

If you would like a debug build for development, you can set `-DCMAKE_BUILD_TYPE=Debug` above. Or if you want to compile the code for all assignment, you can simply delete the `-DHW` parameter to achieve that.

3.2 Windows

We will use **Microsoft Visual Studio** and **cmake** to compile our codebase. Please install **Microsofr Visual Studio** and **cmake** first, and then follow the steps to compile our code.

First, open the cmake GUI, and choose the project folder as source code folder and choose a build folder as well. Press `Configure`, and select the version of your Microsoft Visual Studio. Make sure to select **x64** in the Optional platform for generator tab. Then click `Finish`.

Now you will see a "CompFab.sln" file in build folder, click it will open the Microsoft Visual Studio for your project. Then you can code, compile and run your code inside.

Feel free to come to TA hour if you have any problem during compiling in Windows.

4 IDEs

If you are using Windows for your homework, you can skip this section as you already have Microsoft Visual Studio as your IDE.

There is, obviously, no environment you are required to code in for this assignment. Feel frree to use your favorite editor: vim, emacs, gedit, nano, whatever you prefer. If you'd like to use an IDE, though, we have two free recommendations: Visual Studio Code (`https://code.visualstudio.com/Download`) and CLion (`https://www.jetbrains.com/clion/download`).

5 Bug Reports

It is possible (though not hopeful) that there are bugs in the starter code we provide. If you wish to report what you think may be a bug, please start a new issue in the git repository.

6 Pull Requests

If you think you can improve our codebase, either through implementing extra credit or providing additional utilities or cleanup, we are happy to look at pull requests. You can help use make our codebase awesome! E-mail the TA for more information on how to get this process started.