Design Requirements

The main goal of our design was ease of use. Since the software already existed to run these simulations, the main goal was to make it easier to use for animators and others interested in running these simulations. Our main goals for how this design would work are as follows:

* Get the AnisoMPM code to run within Windows
  + The code was made to work on linux-based platforms, but since most people use Blender in Windows, we needed it to run within windows.
    - Run code with non-linux-based platforms
* Create an easy to navigate user interface within Blender
  + Since this would provide a new functionality to Blender, it was important to allow the end users to use these new features. This means creating a UI to specify things about the object such as:
  + Framerate
  + Gravity
  + Material of the object
  + How the object is damaged (Torn, cut, pulled, twisted, etc.)
* Get our Blender script to run the AnisoMPM code without the end user having to do anything technical
  + The whole point is to make it easier to run these simulations. If you never have to leave Blender or look at command lines, then great.
  + Blender input goes to a python script, which generates a header for the AnisoMPM code and runs through it
* Allow the user to run all of the simulations within Blender in an easy to understand way
  + User should be able to Create objects within Blender, then use our add-on to specify the things listed above. Then they should be able to just click start and wait for the simulation to finish
* Return a series of object files (3D frames) to the user
  + Each object file would be a frame of the animation. That way they can use the parts they want, create an animation from any angle, and just customize their final results however they want.