Design Document

* Overview
  + N-body sim producing orbital information of solar system
* Input
  + file containing particle information
  + file containing simulation information
* Output
  + orbital data: (apo/periapsis, orbital period lengths)
  + energy fluctuation
* Module structure
* Module description
* Main code description
* Main code functions

**Planetary Sim. Sub-class**

**Particle 3D Class**

**N-Body Sim. Class**

**External Modules**

**(numpy, …)**

**Particle 3D Class:**

An instance of the class is a 3D particle, with basic properties and methods useful for simulation.

Properties:

* label (string) – name/identifier of particle
* position (numpy.array[float]) – position in 3D
* velocity (numpy.array[float]) - velocity in 3D
* mass (float) – units?

Initialisation:   
Initialised as Particle3D(label, position, velocity mass)

Methods:

* \_\_str\_\_()