How to design a flexible simulation loop

For example code see liquid or elasticity demos

Desiderata for a Typical Simulation Loop

- One wants to have
  - control of the total simulated time, T>0, to run
  - control of the smallest and largest possible time step,dt_min and dt_max. Observe 0 < dt_min << dt_max < T. Setting these are convenient for ensuring upper and lower bounds on the computing time.
  - control of the frame rate, fps, of any images generated to be able to produce movie playback running in simulated time. Observe that T > dt_max >= 1/fps >= dt_min.
- Hence, T, dt_min, dt_max and fps are user input parameters to be set/read from for instance a config file.