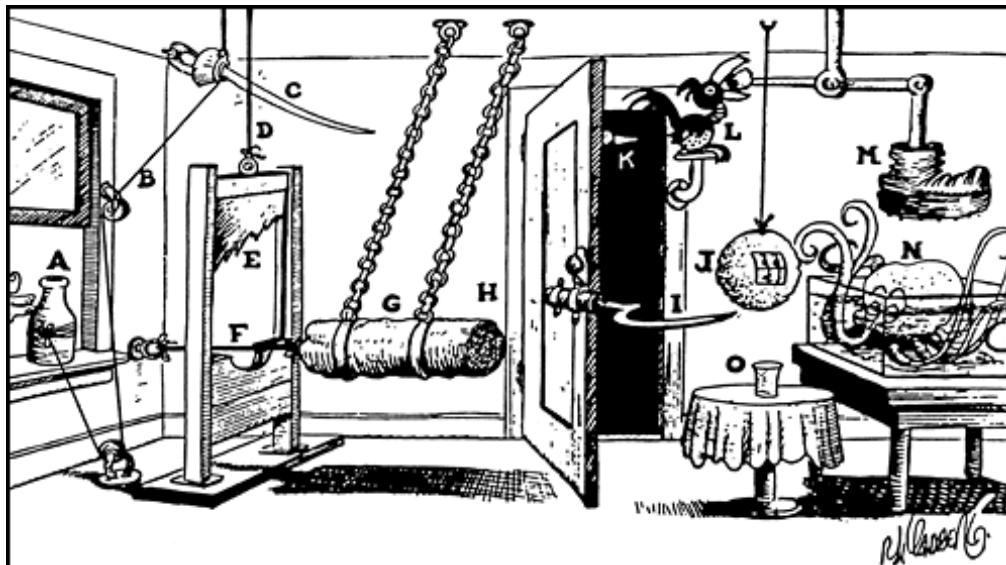


School of Interactive & Digital Media  
Digital Entertainment Technology  
2007 S1

## DM2212 – Programming Physics Assignment 2: Goldberg machine

**Value:** 35%  
**Due date:** Design : Next class (Week 12)  
Milestone 1: Friday 13/July, 9am  
Milestone 2: Monday 30/July, 9am  
**\*\*All submissions in the reference drive\*\***  
**Teams:** Teams already created.



### Description

You will implement a simulation of a Goldberg machine with a minimum of 3 steps.

### Software to use:

Python, VPython

### Conditions/restrictions:

- Your program must allow changing the physical properties of the ball and all objects (mass, static friction, position, etc.)
- The UI will have a reset button to restart the simulation and set all physical properties to default values.
- The simulation must include the following forces/movement:
  - Gravitational force
  - Friction
  - Normal force
  - Circular movement

**Milestones/Grading:**

Design: 5%

Submit a word document with the design of your machine and get approval/feedback from your instructor

Milestone 1: 15%

UI, scene and all objects created, interactive changing of physical properties

Milestone 2: 15%

Final submission.

**Extra credit (max 10%):**

1. Add more objects (each one with configurable physic properties): 1% per object
2. Sound: 2%
3. Create another window showing a speed-time graph of the ball: 3%
4. Any other interesting feature: % tbd

**References and tips:**

- Search for “Goldberg machine” in Google or YouTube to get design ideas