README

Methods added:

make_traz_teeth_gear

This method is used to draw a gear with trapezium teeth. The idea is to draw a main circular body first and then add the trapezium teeth on top of the circle. This is done by rotating a single triangle and the associated trapezium teeth using the rotation matrix 360 degrees. This is rotated using the rotation transformation given by the SIG.

make_sharp_teeth_gear

This method is used to draw a gear with sharp teeth. The main circular body of the gear is drawn first and then the sharp triangular teeth is added to the body. This is done by using trigonometric calculations where the angle theta associated with each coordinate is increased every iteration until a circular gear is obtained. This is rotated using the rotation transformation given by the SIG.

make_square_gear

This method is used to draw a belt which has the square grooves in the first part and trapezium grooves in the next part. This is translated in order to simulate a pendulum motion. The gear belt is built by repeatedly adding triangles with just the x-coordinate incremented.

Performance Summary:

The following table summarizes the performance metrics for rendering the scene.

Metric	I5	I7	I3
Faces in make_sharp_teeth_gear	576	576	576
Faces in make_traz_teeth_gear	456	456	456
Faces in make_square_gear	1194	1194	1194
Time for render of make_square_gear	0.000288486	0.000507832	0.000492811
Time to render make_traz_teeth_gear	0.00022316	0.000131369	0.00031662
Time to render make_sharp_teeth_gear	0.114145	0.0349612	0.116027
To for whole render	0.170386	0.0651355	0.152048