Berne University
of Applied Sciences
School of Engineering
and Information Technology

Assignment: Solar System (CG-02.03A)

Version 2.0

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- **Main Assignment**
  - Write an OpenGL program to draw an animated solar system with several planets orbiting a sun. Each planet shall have one or more moons circling the planet. Use the provided template “CG-02.03A - Solar System” as a starting point for your program.
  - For planets and moons you may use different GLUT 3D primitives (spheres, etc.).
  - Use different rotation directions and speed for orbit movement and planet rotation.
  - Implement a GLUT idle callback function for continuous animation frame update.
  - In the provided pop-up menu add the functions to start and stop the animation.
- **Programming Tips**
  - Use GLUT solid drawing functions for geometric primitives and enable wire frame drawing mode with back- face culling enabled to see the rotation of planets and moons.
  - In order to get a smooth animation you might need to experiment with different increment values for the rotation angles.

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- **Additional Assignment**
  - Try to implement a planet or moon, with an orbiting plane perpendicular to the sun's equatorial plain.
  - Try to tilt the rotation axis of a planet.
  - Change the provided orthographic projection into a perspective projection using the gluPerspective() function.

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- **Solution**