# Computer Graphics and Animation Project

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**Model Features:**

* Models fully created in Blender by the Author:
  + Castle towers and walls, with details such as crenelations.
  + Mountains to delimit the edge of the world, with a cave entrance detail.
  + Path towards the castle.
  + Castle door, interior and exterior.
  + Castle interior, with a throne behind the doors of the castle.
  + Detailed throne, contains armrests and backrest with a small patterned design.
  + Trees, scattered to make a garden.
* Textures created by the author
  + Textures for the castle wall, mountains, grass floor, path, and cave entrance.
* Imported Textures from PolyHaven:
  + Textures for the throne, castle towers and crenelations and trees.
  + Textures for the castle wall include a normal map, as well as a roughness map, and a displacement map for added detail.

**Code Features:**

* Models created in Code:
  + Usage of the animate function to create three spinning details
  + Additional details are created using the clone function
  + Central detail surrounded by colourful sphere features that spin alongside the main detail
* Functional OBJ loader, all assets are loaded in as OBJ’s and use the traverse function to project and receive shadows realistically.
* Fully Functional Orbit Controls, source code accessed via Blackboard.

## Sources

*- Savva. D, Cilliers. R.* (July 2021) Wood Table 001 via PolyHaven [Online]   
 Available at: <https://polyhaven.com/a/wood_table_001>

-*Tuytel, R.* (January 2019)Medieval Wood via PolyHaven [Online]

Available at: <https://polyhaven.com/a/medieval_wood>

- *Tuytel, R.* (January 2020) Castle Wall Variation via PolyHaven [Online]

Available at: <https://polyhaven.com/a/castle_wall_varriation>

- *Savva, D. Tuytel, R* (November 2021) Forest Leaves 03 via PolyHaven [Online]

Available at: <https://polyhaven.com/a/forest_leaves_03>

- *MrDoob, qiao, altereddq, WestLangley, erich666* (April 2010) OrbitControls.js via GitHub and the THREE.js library [Computer Code] Available at: <https://github.com/mrdoob/three.js>