Computer Graphics Proposal

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1   What?

In this project I aim to animate a functional 3D chess board using various computer graphics techniques.

I will be using python and opengl to produce and animate a functional chess board capable of playing a game or stepping through any game provided. To provide the chess functionality I will use the `python-chess` library to handle the complex move validation.

I will be writing the slide and capture animations, and constructing the models using blender.

I plan to add the following features

- Board

- Piece models

- Piece animations

- UI to play a game from a SAN string, reset, and see move history

- Click and drag pieces to new positions

- Highlight possible move lines.

- Use an engine to evaluate board states - Maybe

- CPU player - Maybe

2   Why?

The purpose of this project is to gain a further understanding of the structure and process of creating a computer graphics program as well as efficient techniques and methods while in the process of creating a chess program.

3   How?

I will use blender to create the piece models so that they can be visually appealing and unique.

- `PyOpenGl` for animations and rendering.

- `python-chess` for the chess specifics such as move validation and interfacing with engines.