Assignment 4 : Spline Walking with MoCap Data

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Overview

3D animation of Motion Capture data, using a stick-like character.

Implementation

- `void Bone::draw()` : displays specific Bone object
  - in order to align the local z-axis with the vector along the length of the bone:
    1. normalize the bone vector
    2. determine the arbitrary axis of rotation using `glm::cross(z, b)`
    3. determine the amount of rotation by taking the dot product of `b` and `z`
- `vec3 Spline3::getValue(float t)` : returns interpolated spline value at time `t`
  - uses utility functions written in `util.hpp` for clarity and organization
- `vec3 Spline3::getDerivative(float t)` : returns interpolated spline derivative value at time `t`
  - uses utility functions written in `util.hpp` for clarity and organization
- `void drawGraphics()` : displays all graphical items to the window
  - uses same algorithm as specified in `Bone::draw()` to align the `character` with the current velocity vector by aligning the `character`'s z-axis with the velocity

Included Files

`amcutil.hpp` | `camera.hpp` | `character.hpp` | `character_impl.hpp` | `config.hpp` | `draw.hpp` | `engine.hpp` | `grahics.hpp` | `main.cpp` | `reader.hpp` | `README.md` | `README.pdf` | `spline.hpp` | `util.hpp`