Parametrix

CMSI 4072 Senior Project II

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Project Overview

- Parametrix (working title): React-based animation software leveraging Three.js.
- Provides a streamlined approach to 3D animation.
- Enables defining animation parameters through mathematical functions.
- Export animations as GIFs.

Core Features

- Function-Based Animation: Dynamically modulates object attributes (position, scale, etc.) via user-defined functions.
- Object Management:
- Import 3D models or use built-in primitives.
- Hierarchical structures for composite and individual animations.
- Frame Rate Control: Adjust frame rates to control animation smoothness.

GUI & Sharing Features

- Modular GUI: Customizable interface for efficient workflow.
- Data Persistence: Save animations to Firebase backend.
- Sharing: Export GIFs and showcase creations in a “gallery” section.

Purpose & Innovation

- Dual Purpose:

  1. Facilitate rotoscoping for 2D animation.

  2. Standalone 3D animation tool.
- Combines functional programming and animation.
- Aimed at providing a competitive, time-efficient alternative to traditional animation methods.

Target Audience

- 2D animators looking for a 3D pre-visualization workflow.
- Mathematically inclined individuals exploring algorithmic expressions for animation.

Development Approach

- Weekly feedback from animation and CMSI departments.
- Combines animation expertise with computer science background.

Goals & Impact

- Empower animators with efficient, lightweight tools.
- Promote creativity through mathematical principles.
- Stand out as an alternative to generative AI solutions.

Thank you!