

# iCreate - Generative Design in Architecture



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# Project's Purposes and Goals

- Intuitive user interface and generative design
  - Offer a user a way to turn sketches and gestures into complex 3D objects and structures
- Allow the user to interact with the virtual environment

# Project's Current State

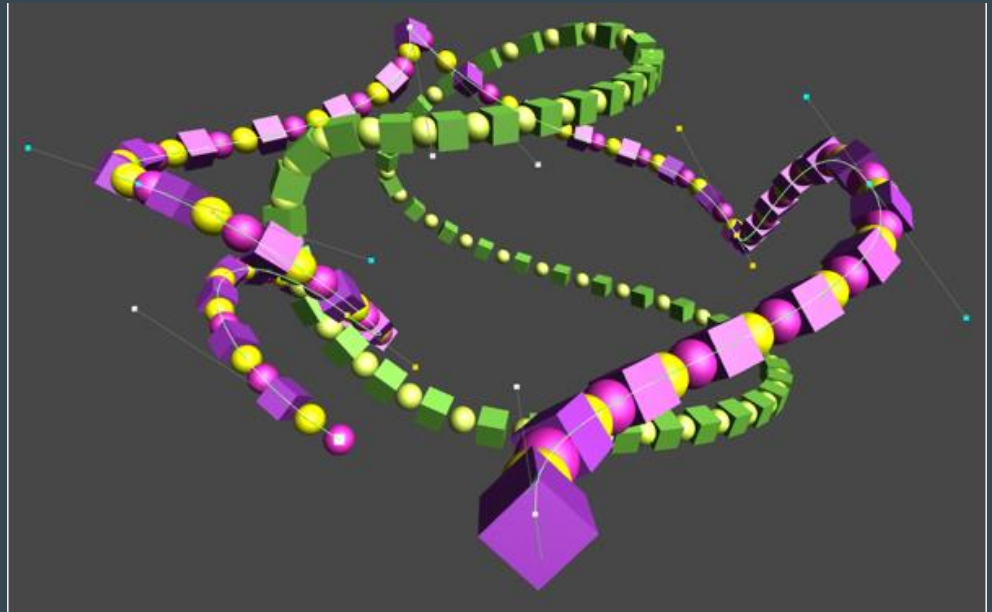
- User Interface
- Generation and Modification 3D Objects
- Creation of Mathematical Curves
- Spawning of 3D Objects along Curves
- Save and Load

# Impeded Problems and Solutions

- **Client Confusion and Indirectness**
  - Assignment of Tasks
  - Documentation and Implementation Expectations
- Work through with assistance from TA and instructors
- **Personal Dilemmas**
  - Exhaustion of Energy
  - Time Limited
- Staying Motivated, Pushed Through
- Sought Out Help and Assistance

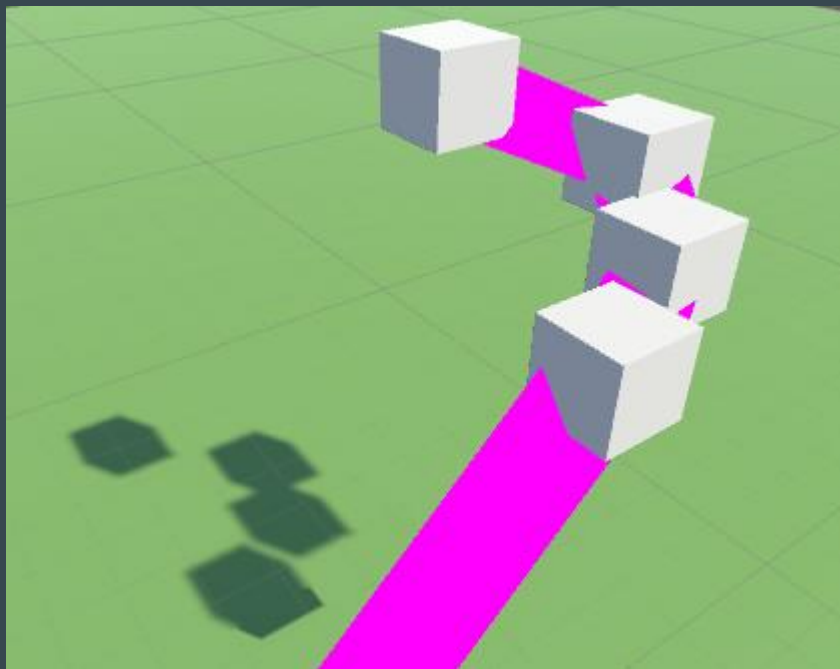
# Preliminary Results

- Spawning 3D objects along a generated curve
  - Parabola and Hyperbola trajectories
  - Ellipse and Circular trajectories
  - Bezier and B-spline trajectories



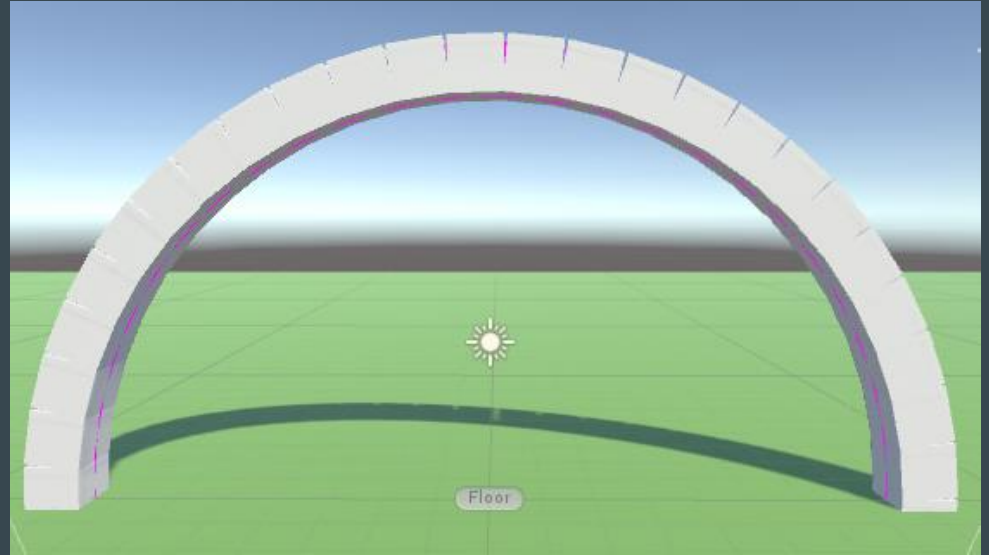
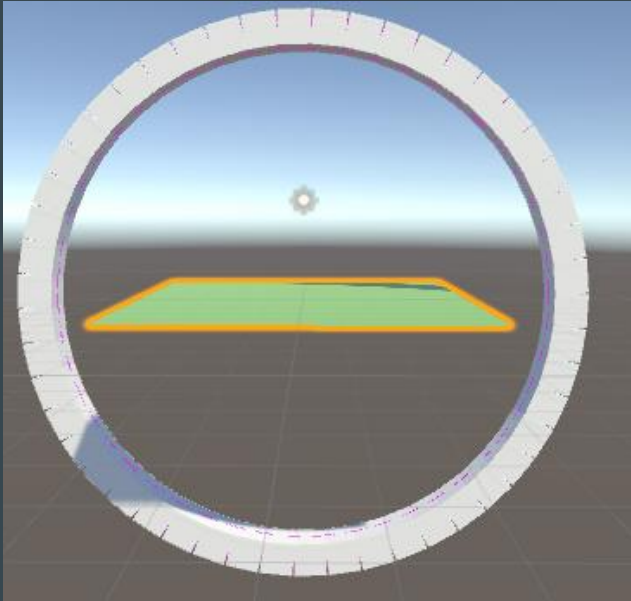
# Interesting Pieces of Code

- Bezier construction
  - Handles and Transforms VS Points



# Interesting Pieces of Code

- Circle Trajectory
  - Rotation along the path



# Final Trajectory Results

- Circle and Ellipse
  - [Circle and Ellipse demo](#)
  
- Parabola and Hyperbola
  - [Parabola and Ellipse demo](#)
  
- Bezier and B-Spline
  - [Bezier and B-Spline demo](#)



# First User Study/Individual Testing

- Individual Testing with Personal HTC Vive Headsets
  - By Nabeel and Hannah
- Testing during development

# Retrospective of the Last 10 Weeks

Positives: *anything good that happened*

- Completed the majority of project
  - Beta Version
  - Video Demonstrations
- Design Document Approved

Deltas: *changes that need to be implemented*

- Stitching functionalities into one
- Appropriate fixes and updates

Actions: *specific actions that will be implemented in order to create necessary changes*

- Code Modifications
- Program Testing
- Constant Researching

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# Video Demonstration of Current Project Implementation (Beta Version)

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