

Final Project

Yaoyi Bai

Idea



Velvet Flower is a kind of traditional Chinese decoration that can only be crafted. Inspired by these decoration with generativity and repetition, I am curious about how those decorations look like digitally. My final project is to create a painting tool that enables painting similar patterns with these decorations.

Typical Velvet Flower



Velvet Flowers are made of metal wires that decide the shape of the flower, and the metal wires are covered with fluffy contour. It reflects ideas about repetition and generativity in physical world.

Basic Design

1. Painting tool: velvet can be generated while painting;
2. Color gradient or static color
3. Color picker
4. Velvet size gradient: user interface design
5. Radial repetition
6. Save design

Primary implementation challenges

1. User interface: for the implementation on ipad / Microsoft Surface
2. How to generate the velvet part
3. Step back and forward
4. Comparison with physical images

Primary design challenges

1. User interface: how to make a better color choose system and sizing system
2. User interaction: save file, edit, revise, step back, step forward

Ideas for how you will might evaluate the success of
your project

Successfully resolve all my challenges and
create this tool?

Future Implementation

- Extend into 3D, shader and material rendering involved, research based projects?
- Mathematical geometry or appearance modeling?
- VR, AR and Unity engine involved for more digital display possibility in 3D?