

# Pixel Art Vectorization with Gradients

## Introduction

Pixel art vectorization is a technique that lets artists and game designers turn their low resolution raster images into infinitely scalable smooth vector images with a unique art style.

## Problem

- No existing solution has all three:
  - User interaction
  - Gradients
  - SVG support

## Research Question

Can an existing pixel art vectorization solution be retrofitted to include support for gradients, while retaining ease of user interaction and SVG support?

## Our Solution

- New gradient generation algorithm based on blurring
- Works with SVG
- User friendly tool

## Findings

- Our method represents **smooth lighting** well
- Our method can add “shines” to objects
- Blurring is a good imitation of gradients
- Our method allows for easy **user input**

## Conclusion & Future Work

- We have successfully created a tool for pixel art vectorization with gradients
- Could be expanded to accept arbitrary SVG input
- Automatic gradient generation could be improved

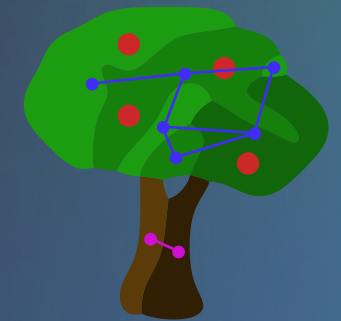
## Methodology



Input Image



Gen. Gradient Groups



Calculate Blur Sizes



Remove Fringing



Fix Layer Conflicts



Output

## Results

