

# UPSCALE

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# Description

Unlike traditional methods for enlarging images, which creates pixelation, blur, and distortion in the altered image, our image upscaling application, upscales small, low resolution images into large, high resolution images without losing image quality.

Those wishing to use our application must create a secure login account. Once authenticated, users are able to upload their small, low resolution images and upscale them into large, high resolution images.

Images are then stored in our secure database, where users can view, download, or delete them.



# Features

- Authenticated user login / logout
- Image upload with both browse and drag & drop
- Image upscaling
- Upscaled image displayed on site
- Images can be viewed with a comparison slider between the original and upscaled versions of the image
- Upscaled images can be downloaded
- Upscaled images can be deleted
- Database with linked users and images



# Planning – User Stories

- Only authenticated users (via secure login) can use service
- Authenticated users can upload images with browse and drag & drop
- Authenticated users can upscale images
- Authenticated users can view images with a comparison slider between the original and upscaled versions of the image
- Authenticated users can download upscaled images
- Authenticated users can delete uploaded/upscaled images
- Authenticated user images are linked to their user account
- Authenticated users can logout of their user account



# Planning – DB and Models

## Model Classes / Tables

- User ID
- Username
- Password
- Image ID
- Uploaded image path
- Upscaled image path



# Technology Stack

- Java
- Spring Boot
- Thymeleaf
- HTML / CSS / JS / Bootstrap
- JQuery
- MySQL
- RealESRGAN



# What I Learned

- Java Spring Boot user authentication
- Linking users and images in MySQL database
- HTML/CSS/JS and Bootstrap front end development
- Browse and drag-and-drop image upload with JS
- Image upscaling with RealESRGAN Java API
- How to dynamically display uploaded/upscaled images with Bootstrap
- View and compare original and upscaled image with slider



# What's Next

- User password recovery
- Google user authentication
- Image sorting
- Image searching
- SMS or email notifications when upscaling services complete

