University at Buffalo The State University of New York

PHOTO EDITING - Development

CSE 611 – MS Project Development

Professor – Jinjun Xiong

University at Buffalo The State University of New York

University at Buffalo The State University of New York

TEAM MEMBERS

Pavana Lakshmi Venugopal

Saad Ahmed

Taraka Rohit Adusumilli

Ayesha Humaera

Wireframe Home Page

PHOTO EDITOR

HOME FEATURES

The Photo Editor is a web application designed to enhance and manipulate digital images. It allows users to edit and enhance their photos with a variety of tools and features, including cropping, resizing, adjusting brightness and contrast.

GET STARTED

DISCOVER POPULAR FEATURES

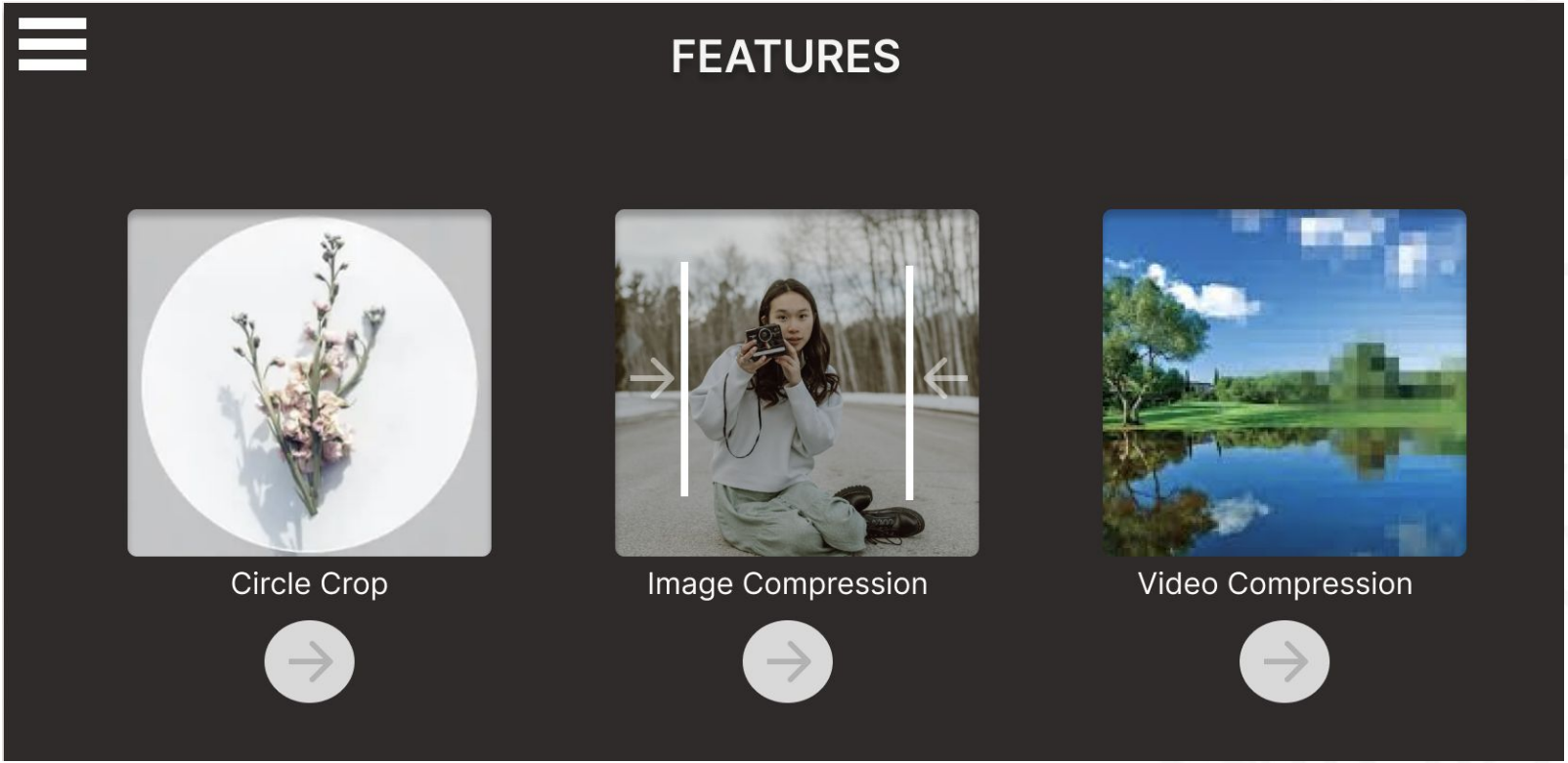
PASSPORT PHOTO

MAKE A COLLAGE

REMOVE BACKGROUND

CROP A PHOTO

Features Page



Circle Crop

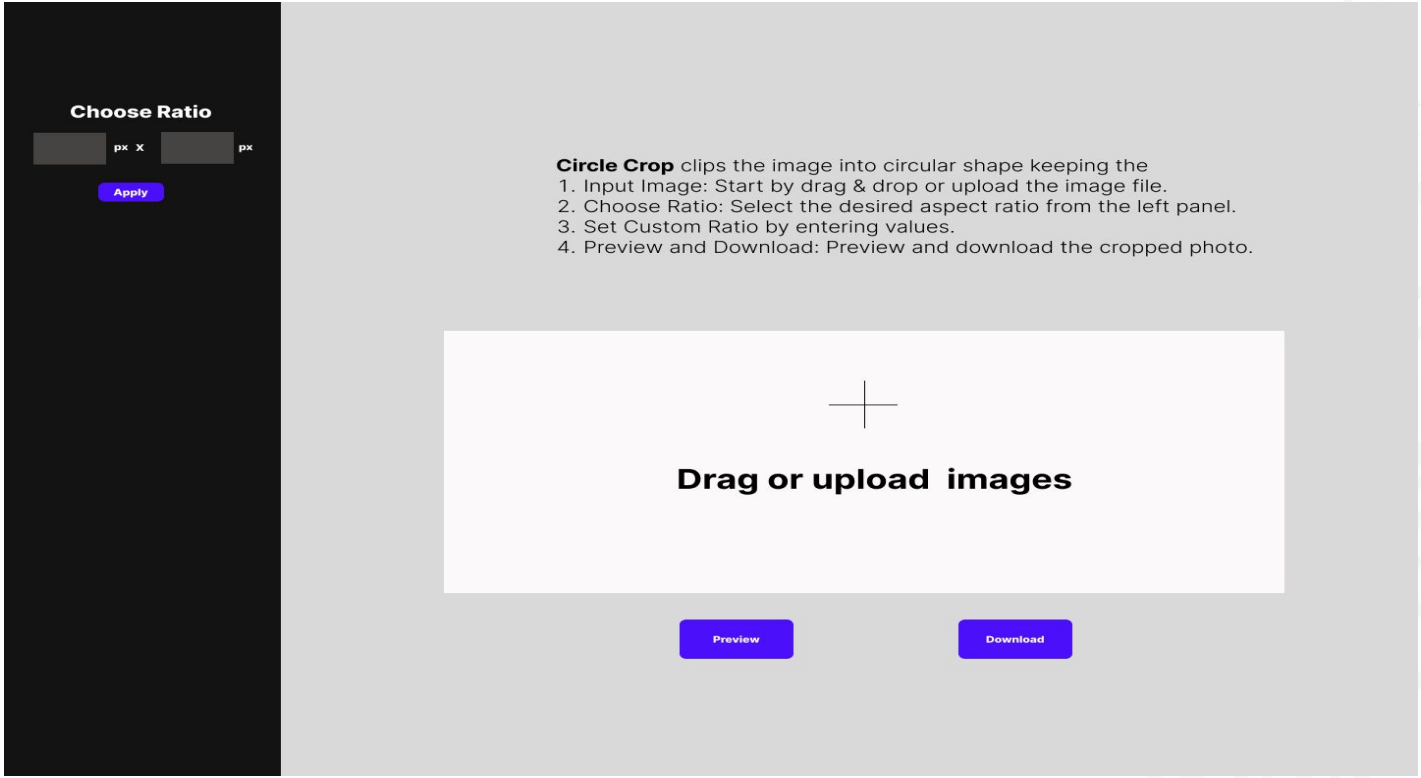
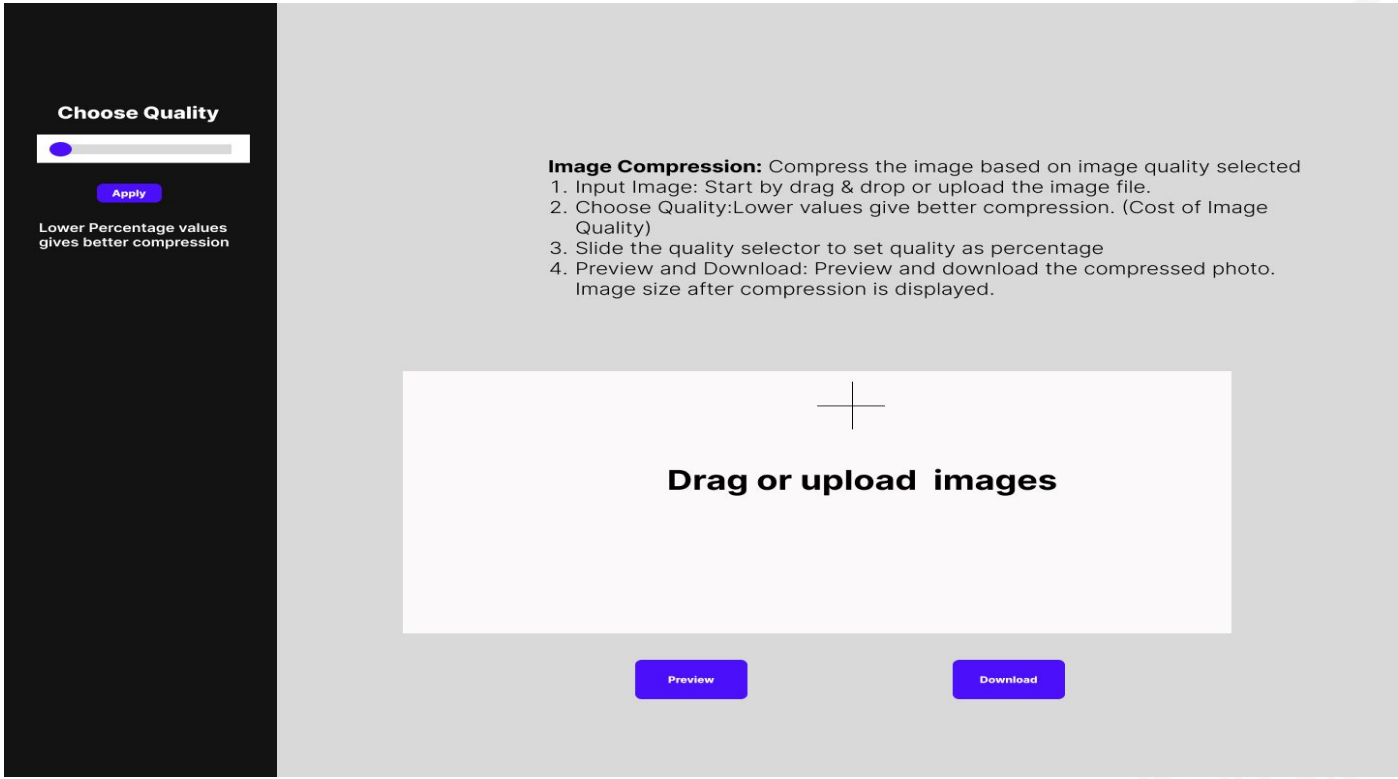

Choose Ratio
px x
px
Apply
Circle Crop clips the image into circular shape keeping the
1. Input Image: Start by drag & drop or upload the image file.
2. Choose Ratio: Select the desired aspect ratio from the left panel.
3. Set Custom Ratio by entering values.
4. Preview and Download: Preview and download the cropped photo.
Drag or upload images
Preview
Download

Image Compression



Video Compression

Format MP4

Preview

Sart Conversion

Format MP4

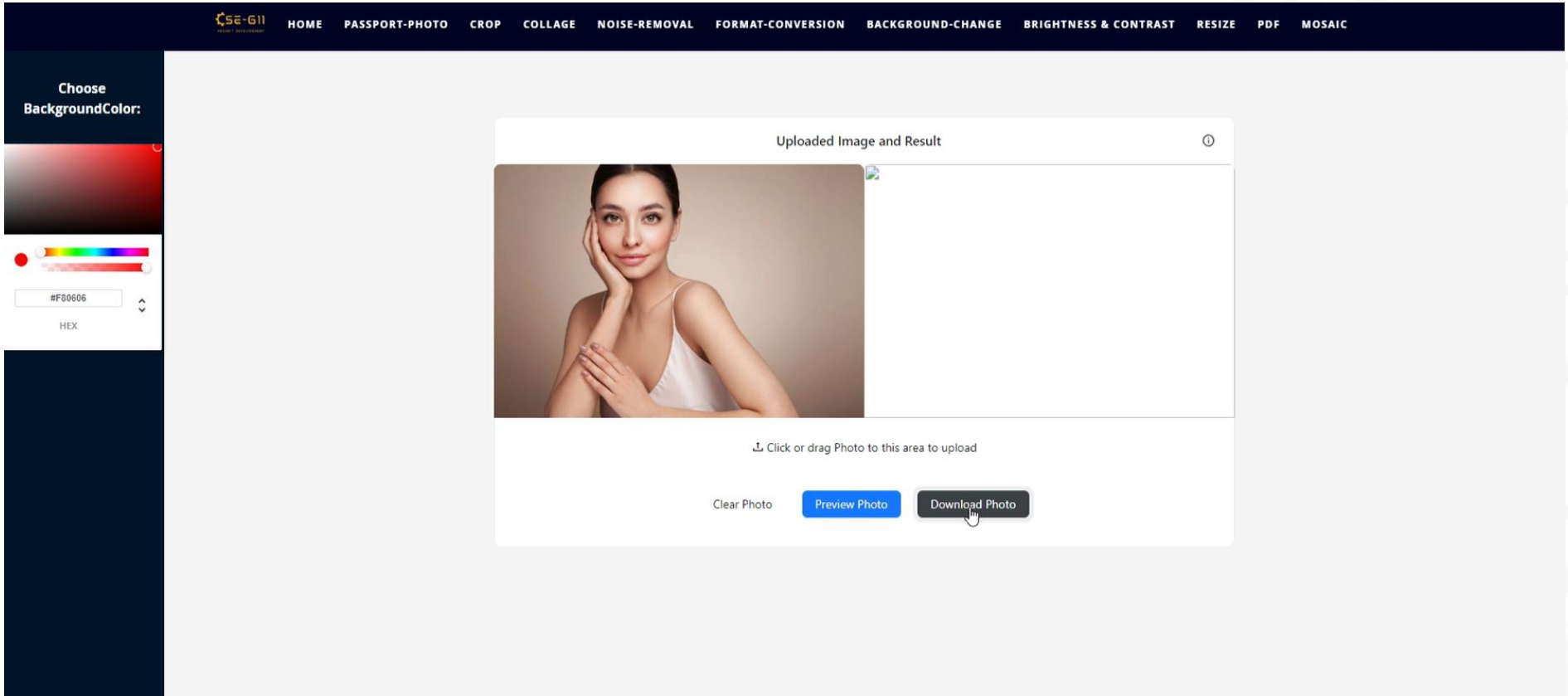
Preview

In progress

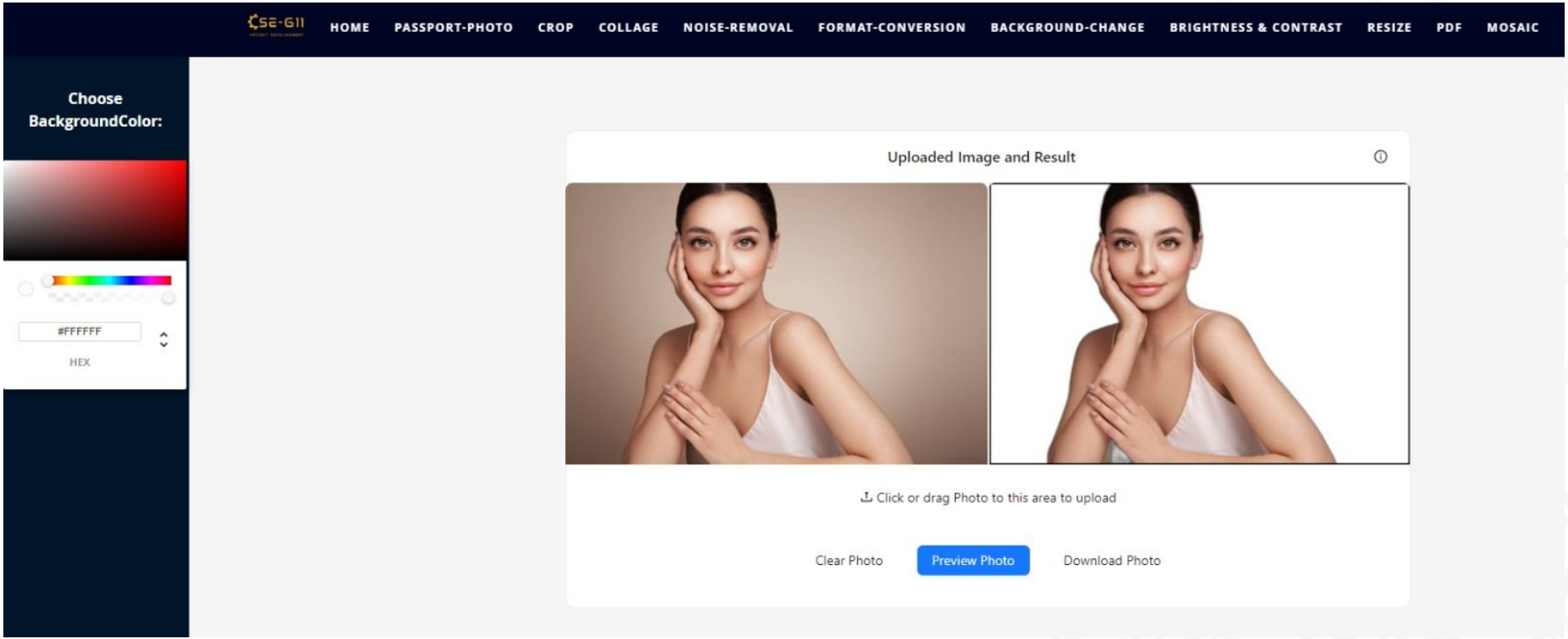
Format MP4

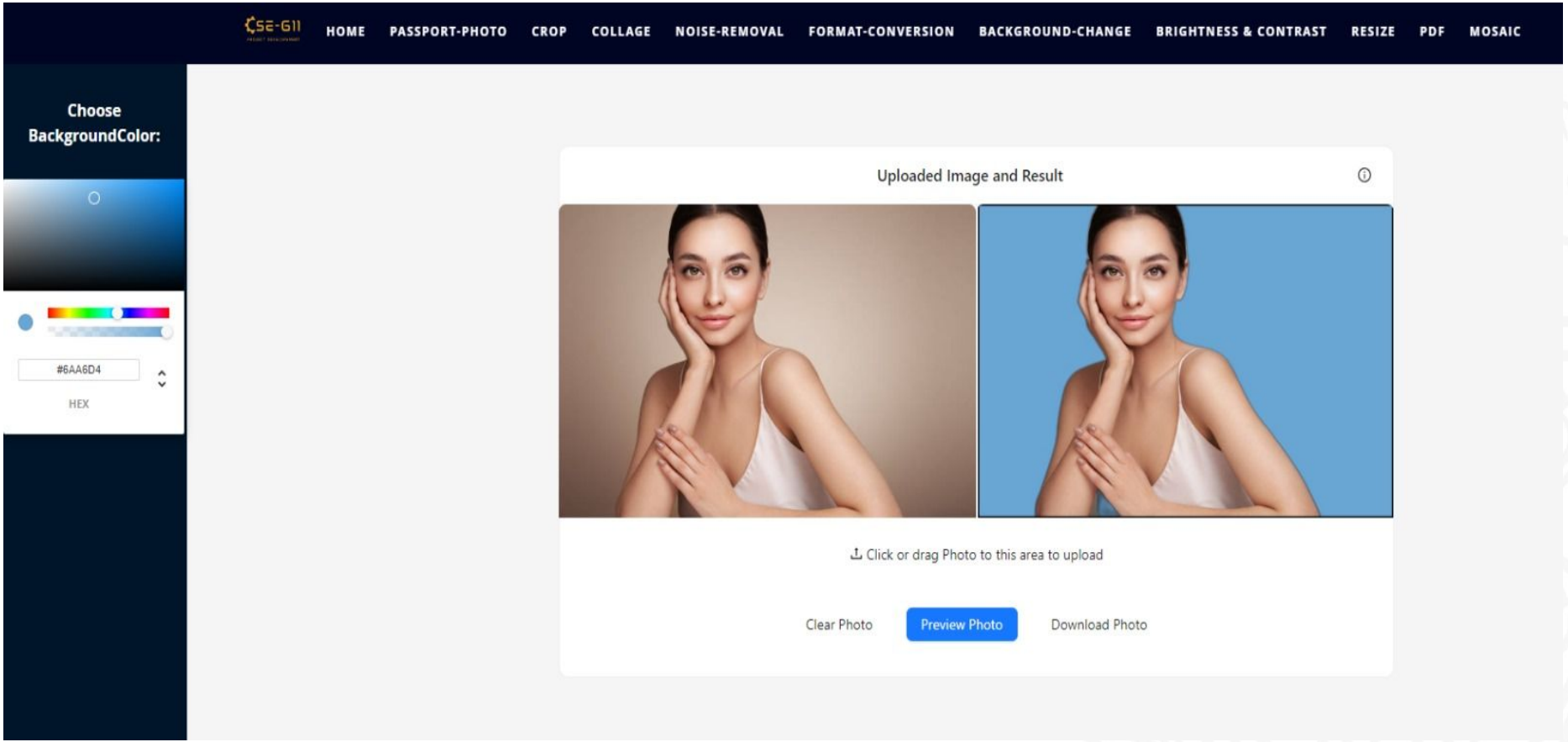
Download

Background change - Before Fix



Background change - After Fix




CSE-611
HOME
PASSPORT-PHOTO
CROP
COLLAGE
NOISE-REMOVAL
FORMAT-CONVERSION
BACKGROUND-CHANGE
BRIGHTNESS & CONTRAST
RESIZE
PDF
MOSAIC
Choose BackgroundColor:
#6AA6D4
HEX
Uploaded Image and Result
Click or drag Photo to this area to upload
Clear Photo
Preview Photo
Download Photo

Wireframe Review & Direction

Wireframe Overview

- Presents a skeletal visualization of our User Interface (UI).
- Previously shown wireframes showcase the layout for both the home page and feature pages of our Photo Editor.

Main Page Highlights

a. Feature Cards

- Multiple cards detailing each feature.
- Each card is accompanied by a concise explanation of its functionality.

b. Navigation & Flow

- Clicking on any feature card leads to its respective feature page.
- Intuitive layout ensures easy user navigation.

Wireframe Review & Direction

Feature Page Layout

a. Options Panel

- Positioned to the left.
- Contains specific controls related to the chosen feature.

b. Image Interaction

- Located to the right.
- Allows users to upload, preview the edited image, and download it seamlessly.

Direction Forward

- Upholding the existing UI design due to its proven effectiveness.
- Prioritizing User Experience (UX) enhancements to ensure a smoother and more intuitive journey for our users.

Progress on Image Compression

Image Compression Research & Implementation

Research Overview

- Investigated various methodologies for efficient image compression.
- Prioritized methods that strike a balance between compression efficiency and image quality.

Identified Techniques

a. Pillow Library

Simple and straightforward method using the quality parameter for JPEG images.

Suitable for a wide variety of image file formats.

Progress on Image Compression

Identified Techniques

a. Pillow Library

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b. Deep Learning Models

Advanced models designed for high-quality image compression.

Preserves image quality even at higher compression rates.

c. Specialized Compression Libraries

Tools such as imageio, opencv, and tinyPNG.

Offer advanced compression algorithms and options.

d. Dynamic Compression

Analyzes image content for region-specific compression.

Maintains details in vital areas, compressing others more aggressively.

Progress on Image Compression

Did some POC work just to understand how I can implement Image Compression.

Next Steps

- Develop the feature within our Flask backend, allowing users to compress images effectively.
- Continuously monitor user feedback to ensure the quality and efficiency of our solution.

Report on UI Bugs

Compile time error for Passport Photo page

- Initially, the error pointed out a missing property 'rev' within the type definitions.
- Fixed by adding a 'rev' component to fulfill the requirement of the 'Pick<AntdIconProps' type.
- Pushed the change to github.

Scroll to bottom and scroll to top arrows on home page not working.

Tested on different browsers,

- On Edge, menu-bar is not rendering properly

Slide icon on the left side of each feature page is not working as expected

Progress on Passport Photo Tool

Identified missing dependencies and fixed them

- react-toastify
- react-reveal
- react-cropper

Performance optimization

- Areas of code prone to errors fixed.
- There is duplicated code for rendering the ‘Card’ component and handling image upload. Working on code refactoring.

Progress on Passport Photo Tool

Next Steps

- 'Apply End Features': Check the current non-functionality when using 'apply end features'.
- Create a more user friendly layout and design.

Thank you