

ANNA UNIVERSITY-CHENNAI 600025

UNIVERSITY VOC COLLEGE OF ENGINEERING THOOTHUKUDI-628008

Cloud Application Development Based Pixel Perfection

Project Report

Submitted by

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Submitted to,

Professional Readiness For

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Project Report

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INTRODUCTION:

PROJECT OVERVIEW

Pixel Perfection: Transforming Your Photos Of Our Cutting-Edge Image Editing Platform Pixel Perfection is an innovative image editing platform that allows users to transform their photos with ease and precision. Our cutting-edge software provides a wide range of tools and features that enable users to edit their images to achieve pixel-perfect results. Whether you're a professional photographer, graphic designer, or just someone who loves to take photos, Pixel Perfection is the perfect tool for enhancing your images. With its intuitive user interface and powerful editing tools, you can easily adjust or remove your image backgrounds, car image backgrounds, Cartoon your face & Face beauty, and more to create stunning images that are sure to impress. At Pixel Perfection, we understand the importance of high-quality images in today's digital age, and we're committed to providing our users with the tools they need to achieve pixel-perfect results. Whether you're looking to enhance your personal photos or create professional-quality images for your business or clients, Pixel Perfection has everything you need to get the job done.

PURPOSE

User: register for an account. After the login they can create the image with a different tool, they will just upload the image file, and some options are available. Each user will log in or register to save their previous images. They can view User .They can the images after login in to the application.

Ideation Phase

Define the problem statements

Date	29 April 2023
Team ID	NM2023TMID01592
Project Name	Pixel Perfection
Maximum Marks	2 marks

Customer Problem Statement Template: Create a problem statement to understand your customer's point of view. The Customer Problem Statement template helps you focus on what matters to create experiences people will love. A well-articulated customer problem statement allows you and your team to find the ideal solution for the challenges your customers face. Throughout the process, you'll also be able to empathize with your customers, which helps you better understand how they perceive your product or service.



Ideation Phase

Empathy map

Date	29 April 2023
Team ID	NM2023TMID01592
Project Name	Pixel Perfection
Maximum Mark	4 Marks

Template



Empathy map

Use this framework to develop a deep, shared understanding and empathy for other people. An empathy map helps describe the aspects of a user's experience, needs and pain points, to quickly understand your users' experience and mindset.



Build empathy

The information we add here should be representative of the observations and research we've done about our users.

Says

What have we heard them say?
What can we imagine them saying?

I want to enhance my photographs and create the perfect shot.

I need to be able to trust that the platform I use won't compromise the quality of my images.

I want my photos to stand out from the rest and show my unique style and creativity.

What are their wants, needs, hopes, and dreams? What other thoughts might influence their behavior?

I need a platform that is reliable and consistent with high-quality results.

I don't have time to spend hours editing one photo, I need a platform that is quick and efficient.



I hope this platform can save me time and effort so I can focus on other aspects of my business.

Reads reviews and ratings from other users before making a decision.



Excited about the possibility of improving her photos and impressing clients.

Shares her experience with colleagues and other photographers in her network.

Researches online for image editing platforms that cater to professional photographers.

Frustrated with other editing platforms that don't deliver the desired results.

Confident in her abilities but also a bit apprehensive about trying something new.

Give them a name and a portrait to empathize with your persona.

Does

What behavior have we observed?
What can we imagine them doing?

Type your paragraph...

What are their fears, frustrations, and anxieties? What other feelings might influence their behavior?

Ideation Phase

Brain Stroming

Date	29 April 2023
Team ID	NM2023TMID01592
Project Name	Pixel Perfection
Maximum Mark	4 Marks

1

Before you collaborate

A little bit of preparation goes a long way with this session. Here's what you need to do to get going.

⌚ 10 minutes

2

Brainstorm

Write down any ideas that come to mind that address your problem statement.

⌚ 10 minutes

Person 1

- Advanced retouching tools
- Batch processing for multiple images at once
- Built-in color grading tools
- Integration with Adobe Photoshop
- Smart AI-based tools for faster editing

Person 2

- Affordable pricing options
- Easy to understand tutorials and guides
- Ability to create and save custom presets
- Large selection of filters and presets
- Simple, intuitive user interface

Person 3

- Easy to use interface for non-professionals
- One-click filters for easy editing
- Integration with popular social media platforms
- Mobile app for quick editing on-the-go
- Collaboration features for easy feedback

Person 4

- Ability to customize and brand images for business use
- Quick, efficient editing for faster turnaround times
- Secure storage for images and client data
- Collaboration features for team members and clients
- Integration with project management software

3

Prioritize

Your team should all be on the same page about what's important moving forward. Place your ideas on this grid to determine which ideas are important and which are feasible.

⌚ 20 minutes

Importance

If each of these tasks could get done without any cost, which would have the most positive impact?

Feasibility

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

After you collaborate

You can export the mural as an image or pdf to share with members of your company who might find it helpful.

Quick add-ons

- Share the mural**
Share a view link to the mural with stakeholders to keep them in the loop about the outcomes of the session.
- Export the mural**
Export a copy of the mural as a PNG or PDF to attach to emails, include in slides, or save in your drive.

Keep moving forward

- Strategy blueprint**
Define the components of a new idea or strategy.
[Open the template →](#)
- Customer experience journey map**
Understand customer needs, motivations, and obstacles for an experience.
[Open the template →](#)
- Strengths, weaknesses, opportunities & threats**
Identify strengths, weaknesses, opportunities, and threats (SWOT) to develop a plan.
[Open the template →](#)

Share template feedback

Project Design Phase-I
Proposed Solution Template

Date	05 May 2023
Team ID	NM2023TMID01592
Project Name	Pixel Perfection
Maximum Marks	2 Marks

Proposed Solution :

S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	Lack of a user-friendly and powerful image editing platform for advanced hobbyists and professionals to create high-quality visual content.
2.	Idea / Solution description	Develop a web application with advanced editing tools, cloud infrastructure, machine learning techniques, and a RESTful API for easy integration into other applications.
3.	Novelty / Uniqueness	Utilizes machine learning for advanced image processing and editing, and provides a RESTful API for easy integration.
4.	Social Impact / Customer Satisfaction	Empowers individuals and businesses to create more compelling visual content, leading to positive social impact and increased customer satisfaction.
5.	Business Model (Revenue Model)	Subscription-based revenue model with a free trial period and monthly or annual subscription options.
6.	Scalability of the Solution	Built on cloud infrastructure and serverless architecture for seamless scalability and cost-effectiveness.

Project Design Phase-II
Solution Requirements (Functional & Non-functional)

Date	06 May 2023
Team ID	NM2023TMID01592
Project Name	Pixel perfection

Functional Requirements:

Following are the functional requirements of the proposed solution.

FR No.	Functional Requirement (Epic)	Sub Requirement (Story / Sub-Task)
FR-1	User Registration	a. Registration through Form b. Registration through Gmail
FR-2	User Confirmation	a. Login with email and password b. Login with Google account
FR-3	Image Editing	a. Background removal b. vehicle background removal c. cartoonize the face d. Beauty enhancement
FR-4	Image Saving and Sharing	a. Save edited images to local device b. Share edited images

Non-functional Requirements:

Following are the non-functional requirements of the proposed solution.

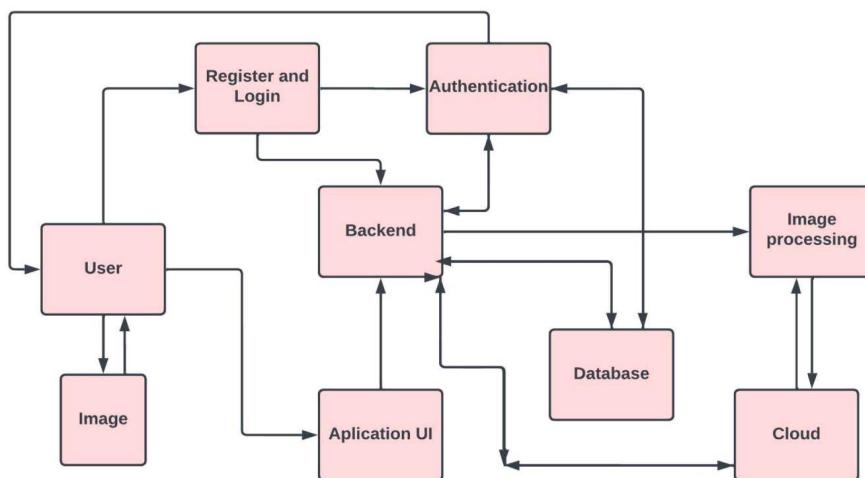
FR No.	Non-Functional Requirement	Description
NFR-1	Usability	<ul style="list-style-type: none">a. User-friendly interface with easy navigationb. Intuitive image editing tools and optionsc. Quick response time for image processing
NFR-2	Security	<ul style="list-style-type: none">a. User data privacy and protectionb. Secure login and authentication systemc. Data encryption for sensitive information
NFR-3	Reliability	<ul style="list-style-type: none">a. 24/7 availability of the serviceb. Minimal downtime for maintenance and updatesc. Regular backups of user data
NFR-4	Performance	<ul style="list-style-type: none">a. Fast and efficient image editing and processingb. Minimum system requirements for usersc. Scalable infrastructure to handle increased traffic and demand
NFR-5	Availability	<ul style="list-style-type: none">a. High availability of the serviceb. Redundancy and failover mechanisms for system componentsc. Disaster recovery plan in place
NFR-6	Scalability	<ul style="list-style-type: none">a. Scalable infrastructure to handle increased traffic and demandb. Elasticity to automatically adjust resources based on usagec. Ability to add or remove resources as needed

Project Design Phase-II
Data Flow Diagram & User Stories

Date	06 May 2023
Team ID	NM2023TMID01592
Project Name	Pixel Perfection

Data Flow Diagrams:

A Data Flow Diagram (DFD) is a traditional visual representation of the information flows within a system. A neat and clear DFD can depict the right amount of the system requirement graphically. It shows how data enters and leaves the system, what changes the information, and where data is stored.



User Stories

User Type	Functional Requirement (Epic)	User Story Number	User Story / Task	Acceptance criteria	Priority	Team Member
Customer	Registration	USN-1	As a user, I can register for the application by entering my email, password, and confirming my password.	I can access my account / dashboard	High	Ashinth Q Berdi
		USN-2	As a user, I will receive confirmation email once I have registered for the application	I can receive confirmation email & click confirm	High	Ashok Kumar
		USN-3	As a user, I can register for the application through Facebook	I can register & access the dashboard with Facebook Login	Low	Ranjith Kumar
		USN-4	As a user, I can register for the application through Gmail	User is able to register and access their dashboard with Gmail login.	Medium	Vetriselvan
	Login	USN-5	As a user, I can log into the application by entering email & password	User is able to access their account/dashboard after successful login.	High	Ashinth Q Berdi
	Editing photos	USN-6	As a user, I can choose from a variety of editing tools to enhance my photo.	User is able to access a variety of editing tools and apply them to their uploaded photo.	High	Ashok Kumar

		USN-7	As a user, I can upload a photo to the application for editing.	User is able to upload a photo to the platform for editing.	High	Ranjith Kumar
		USN-8	As a user, I can preview my edited photo before saving it.	User is able to preview their edited photo and make additional edits if necessary.	High	Vetriselvan
		USN-9	As a user, I can save my edited photo to my device or share it on social media.	User is able to save their edited photo to their device or share it on social media.	Low	Ashinth Q Berdi
Administrator	User Management	USN-10	As an administrator, I can view a list of all registered users.	Administrator is able to view a list of all registered users.	High	Ashok Kumar
		USN-11	As an administrator, I can delete a user account.	Administrator is able to delete a user account.	High	Ranjith Kumar
		USN-12	As an administrator, I can view user statistics and usage data.	Administrator is able to view user statistics and usage data.	Medium	Vetriselvan

Project Design Phase-I Solution Architecture

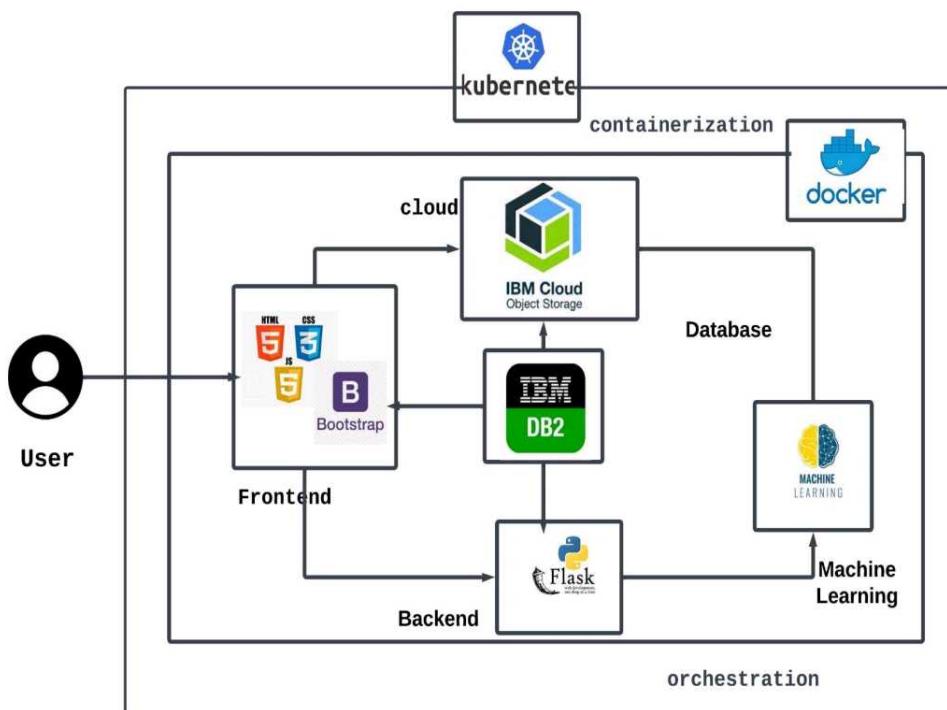
Date	5 may 2023
Team ID	NM2023TMID01592
Project Name	Pixel Perfection
Maximum Marks	4 Marks

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- The best tech solution to solve existing business problems.
- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.

Solution Architecture Diagram:



Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	06 May 2023
Team ID	NM2023TMID01592
Project Name	Pixel perfection

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

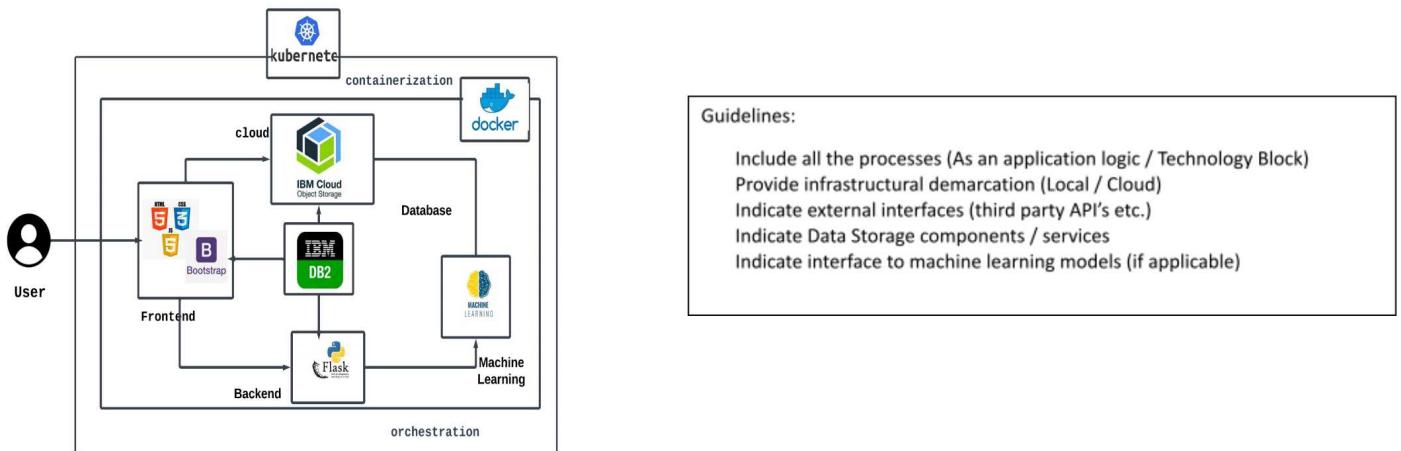


Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface	How user interacts with application	HTML, CSS, JavaScript
2.	Application Logic-1	Core logic of the application	Python
3.	Application Logic-3	Logic for a process in the application	IBM Watson Assistant
4.	Database	Data Type, Configurations etc.	MySQL, NoSQL, etc.
5.	Cloud Database	Database Service on Cloud	IBM DB2, IBM Cloud
6.	File Storage	File storage requirements	IBM Block Storage
7.	Machine Learning Model	Purpose of Machine Learning Model	Image Recognition Model.
8.	Infrastructure (Server / Cloud)	Application Deployment on Cloud Server Configuration	Cloud Foundry, Kubernetes,

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open-Source Frameworks	List the open-source frameworks used	python-Flask , Bootstrap
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	SHA-256
3.	Scalable Architecture	Justify the scalability of architecture	Microservices
4.	Availability	Justify the availability of application	Load Balancers, Auto Scaling
5.	Performance	Design consideration for the performance of the application	Caching, CDN'

FEATURES

FEATURE 1 (BACKGROUND REMOVAL) :

INPUT:



OUTPUT:



FEATURE 2 (VEHICLE BACKGROUND REMOVAL) :

INPUT:



OUTPUT:



FEATURE 3 (CARTOONIZE) :

INPUT:



OUTPUT:

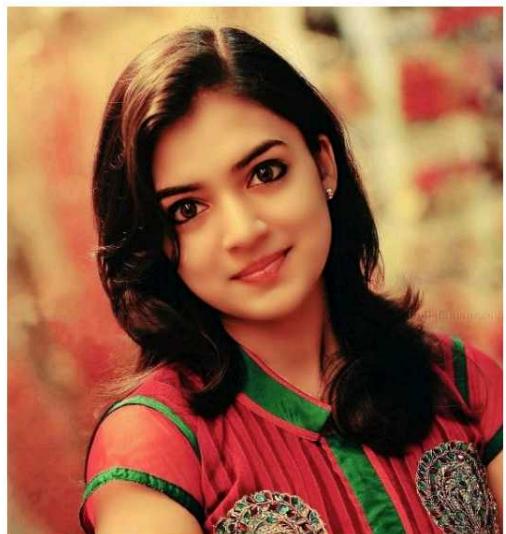


FEATURE 4 (BEAUTY ENHANCEMENT) :

INPUT:



OUTPUT:



DATABASE SCHEMA

REGISTRATION TABLE :

Table definition						⋮	X
USERS						Approximate 8 rows (32.0 KB) Updated on 2023-05-17 18:53:47	
Name	Data type	Nullable	Length	Scale		⋮	X
NAME	VARCHAR	Y	32	0	⌚	⋮	X
EMAIL	VARCHAR	Y	32	0	⌚	⋮	X
PASSWORD	VARCHAR	Y	32	0	⌚	⋮	X

CONTACT TABLE :

Table definition						⋮	X
CONTACT						Approximate 3 rows (32.0 KB) Updated on 2023-05-18 15:43:55	
Name	Data type	Nullable	Length	Scale		⋮	X
NAME	VARCHAR	Y	32	0	⌚	⋮	X
MSG	LONG VARCHAR	Y	32700	0	⌚	⋮	X
EMAIL	VARCHAR	Y	32	0	⌚	⋮	X

Project Development Phase
Performance Test

Date	19 May 2023
Team ID	NM2023TMID01592
Project Name	Pixel Perfection

Performance Testing:

S.No.	Parameter	Values	Screenshot
1.	Form Validation	Login form, registration form and all other forms validation	input.pdf
2.	Project Flow	Redirections	flow.pdf
3.	API Testing/Validation	Testing API	api.pdf
4.	Database Schema Validation	Validating inputs as per schema	schema.pdf
5.	Application performance testing using online tool (GTmetrix)		GTmatrix.pdf

Untitled (Workspace)

The screenshot shows a code editor interface with a dark theme. On the left is a sidebar with various icons for file operations like Explorers, Find, Docker, and Terminal. The main area has a title bar 'Untitled (Workspace)' and a tab bar with 'app.py'. The 'app.py' tab is active, showing the following code:

```
sql = "SELECT COUNT(*) FROM users WHERE email = ?"
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, email)
ibm_db.execute(stmt)
result = ibm_db.fetch_assoc(stmt)

if result['1'] > 0:
    # display error message
    return 'Email address already exists.'

sql = "INSERT INTO users (name, password, email) VALUES (?, ?, ?)"
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, username)
ibm_db.bind_param(stmt, 2, password)
ibm_db.bind_param(stmt, 3, email)
ibm_db.execute(stmt)
ibm_db.commit(conn)

# redirect to login page
return render_template('login.html')
```

Below the code editor are tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, and TERMINAL. The TERMINAL tab is active, displaying logs from a debugger and terminal history:

```
* Debugger is active!
* Debugger PIN: 102-058-747
127.0.0.1 - - [17/May/2023 11:10:51] "GET /upload HTTP/1.1" 200 -
127.0.0.1 - - [17/May/2023 11:10:52] "GET /static/bg.jpg HTTP/1.1" 304 -
127.0.0.1 - - [17/May/2023 11:12:11] "POST /upload HTTP/1.1" 200 -
127.0.0.1 - - [17/May/2023 11:12:11] "GET /static/bg.jpg HTTP/1.1" 304 -
127.0.0.1 - - [17/May/2023 11:12:28] "POST /option HTTP/1.1" 302 -
127.0.0.1 - - [17/May/2023 11:12:28] "GET /download HTTP/1.1" 200 -
[* History restored]

PS C:\Users\vetriselvan\OneDrive\Desktop\pixel> []
```

On the right side, there are several floating windows labeled 'Python'.

IBM Project Document Sample Re... Performance Testing - CAD.d... Copy of Performance Testing My Drive - Google Drive Pixel Perfection

Not secure | 159.122.186.235:31457/index

Pixel Perfection Home About Contact

Welcome to our website! Our platform empowers creators and artists to bring their visual storytelling to life with our tools and resources.

Login Register upload

Type here to search

32°C Cloudy 8:59 PM 5/18/2023

IBM | Project Document Sample Re... | Performance Testing - CAD.d... | Copy of Performance Testing | My Drive - Google Drive | Pixel Perfection

Not secure | 159.122.186.235:31457/register

Pixel Perfection Home About Contact

Register

Username

Email address

Password

[Register](#)

Already have an account? [Login here](#)

Type here to search

32°C Cloudy 9:01 PM 5/18/2023 No new notifications

This screenshot shows a registration form on a website titled "Pixel Perfection". The background of the page features a scenic view of misty mountains and a woman with long blonde hair blowing in the wind. The registration form includes fields for Username, Email address, and Password, each with an associated input field. A blue "Register" button is positioned below the password field. Below the form, there is a link for users who already have an account. The browser's address bar shows the URL "159.122.186.235:31457/register". The taskbar at the bottom of the screen displays various icons and system status information, including the date and time (5/18/2023, 9:01 PM), weather (32°C, Cloudy), and battery level.

IBM | Project Document Sample Re... | Performance Testing - CAD.d... | Copy of Performance Testing | My Drive - Google Drive | Pixel Perfection

Not secure | 159.122.186.235:31457/login

Pixel Perfection Home About Contact

Login

Email address

Enter email

Password

Password

Login

Don't have an account? [Register here](#)

Type here to search

32°C Cloudy 9:01 PM 5/18/2023

IBM Project Document Sample Re... Performance Testing - CAD.d... Copy of Performance Testing My Drive - Google Drive Pixel Perfection

Not secure | 159.122.186.235:31457/login

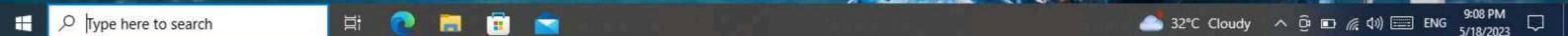
Pixel Perfection Home About Contact Logout

Upload Your Image

Select an Image

Choose File example.jfif

Upload





IBM Project Document Sample Re... Performance Testing - CAD.d... Copy of Performance Testing My Drive - Google Drive Pixel Perfection

Not secure | 159.122.186.235:31457/upload

Pixel Perfection Home About Contact Logout

Select the option

Remove background

Remove vehicle background

Cartoonize the face

Beauty the face

Back

Type here to search

32°C Cloudy 9:08 PM 5/18/2023

IBM Project Document Sample Re... Performance Testing - CAD.d... Copy of Performance Testing My Drive - Google Drive Pixel Perfection

Not secure | 159.122.186.235:31457/download

Pixel Perfection Home About Contact [Login](#) [Register](#) [upload](#)



Type here to search

31°C Cloudy 9:09 PM 5/18/2023



POST Universal background rem...

Test Endpoint

Header Parameters

X-RapidAPI-Key	18a9a4600cmsh305c1cbadfd0343p1981c9jsnc03bb8cd6
ENUM	REQUIRED

X-RapidAPI-Host	universal-background-removal.p.rapidapi.com
STRING	REQUIRED

Request Body

Required Parameters

image	Choose File sama.jpg
BINARY	REQUIRED Image to be processed. <ul style="list-style-type: none">Image format: JPEG , JPG , PNG(8-bit, 16-bit, 64-bit PNG not supported) , BMP , WEBP .Image size: no more than 3 MB.Image resolution: greater than 32 x 32 pixels, less than 2000 x 2000 pixels.

Code Snippets **Example Responses** **Results**

200 Success

Body Headers

Body

```
request_id: "C465B7FF-7937-5E57-B7DC-F358A8CDBEB2"
data: {
    image_url: "https://ai-result-rapidapi.aileabtools.com/cutout/segmentCommonImage/2023-05-17/163112-a2acdad3-9bfc-94b0-fda9-3fa95fle976c-1684341072.png"
    error_code: 0
    error_msg: ""
}
```

Copy

The screenshot shows a code editor interface with a dark theme. On the left is a sidebar with various icons for file operations like Explorers, Find, Open, and Save. The main area has a search bar at the top labeled "Untitled (Workspace)". Below the search bar is a file tree on the left showing a project structure:

- pixel (selected)
- static
- templates
- app.py (highlighted)
- DigiCertGlobalRootCA.crt
- dockerfile
- requirements.txt
- > Assignment 2

The central pane displays the content of the selected file, `app.py`:

```
password = request.form['password']

sql = "SELECT * FROM users WHERE email = ? AND password = ?"
stmt = ibm_db.prepare(conn, sql)
ibm_db.bind_param(stmt, 1, email)
ibm_db.bind_param(stmt, 2, password)
ibm_db.execute(stmt)
result = ibm_db.fetch_assoc(stmt)

if result:
    # store user session data
    session['logged_in'] = True
    # redirect to home page
    return render_template('upload.html')
else:
    # display error message
    return 'Invalid login credentials.'
# display login form
return render_template('login.html')
@app.route("/contact", methods=['POST', 'GET'])
def contact():
```

At the bottom of the code editor, there are tabs for PROBLEMS, OUTPUT, DEBUG CONSOLE, and TERMINAL. The TERMINAL tab is currently active, showing the following log output:

```
* Debugger is active!
* Debugger PIN: 102-058-747
127.0.0.1 - - [17/May/2023 11:10:51] "GET /upload HTTP/1.1" 200 -
127.0.0.1 - - [17/May/2023 11:10:52] "GET /static/bg.jpg HTTP/1.1" 304 -
127.0.0.1 - - [17/May/2023 11:12:11] "POST /upload HTTP/1.1" 200 -
127.0.0.1 - - [17/May/2023 11:12:11] "GET /static/bg.jpg HTTP/1.1" 304 -
127.0.0.1 - - [17/May/2023 11:12:28] "POST /option HTTP/1.1" 302 -
127.0.0.1 - - [17/May/2023 11:12:28] "GET /download HTTP/1.1" 200 -
```

gtmatrix - Search GT Latest Performance Report for: Pixel Perfection

https://gtmetrix.com/reports/159.122.186.235/dthAPpCf/

GTmetrix Features Pricing Resources Blog Log In Get Started for Free

Welcome to our website! Our platform empowers creators and artists to bring their visual storytelling to life with our tools and resources.

Latest Performance Report for:

<http://159.122.186.235:31457/>

Report generated: Wed, May 17, 2023 8:43 AM -0700
Test Server Location: Vancouver, Canada
Using: Chrome (Desktop) 103.0.5060.134, Lighthouse 9.6.4

GTmetrix Grade **Web Vitals**

A	Performance 99%	Structure 87%
	Largest Contentful Paint 475ms	Total Blocking Time 0ms
	Cumulative Layout Shift 0	

Summary Performance Structure Waterfall Video History

Speed Visualization

0.2s 0.4s 0.6s 0.8s 1s 1.2s 1.4s 1.6s 1.8s 2s

TTFB: 308ms Time to Interactive: 466ms Onload Time: 1.7s

Type here to search 28°C Partly cloudy ENG 9:21 PM 5/17/2023

Re-Test Compare Page Settings Monitor Set Up Alerts Tags Download PDF Capture video playback of this page load See how this page loads with video playback on a free GTmetrix account! Create account

gtmatrix - Search GT Latest Performance Report for: Pixel Perfection

https://gtmetrix.com/reports/159.122.186.235/dthAPpCf/

Performance Metrics

The following metrics are generated using Lighthouse Performance data.

Metric details OFF

First Contentful Paint ?	Good - Nothing to do here 438ms	Time to Interactive ?	Good - Nothing to do here 465ms
Speed Index ?	OK, but consider improvement 1.4s	Total Blocking Time ?	Good - Nothing to do here 0ms
Largest Contentful Paint ?	Good - Nothing to do here 475ms	Cumulative Layout Shift ?	Good - Nothing to do here 0

Browser Timings

These timings are milestones reported by the browser.

Redirect Duration ?	0ms	Connection Duration ?	153ms	Backend Duration ?	155ms
Time to First Byte (TTFB) ?	308ms	First Paint ?	438ms	DOM Interactive Time ?	465ms
DOM Content Loaded Time ?	466ms	Onload Time ?	1.7s	Fully Loaded Time ?	2.0s

See how this page loads with video playback on a **free** GTmetrix account!

Create account

Thiruvananthapuram - ... ₹1,03,274 Book Now Jaipur - New Delhi ₹3,044 Book Now Bengaluru - Dubai ₹22,487 Book Now K

Type here to search 28°C Partly cloudy ENG 9:19 PM 5/17/2023

gtmatrix - Search GT Latest Performance Report for: h... Pixel Perfection

https://gtmetrix.com/reports/159.122.186.235/dthAppCf/

IMPACT	AUDIT	Show Audits Relevant to	All	FCP	LCP	TBT	CLS
High	Enable Keep-Alive FCP LCP	3 requests found					
Low	Use a <meta name="viewport"> tag with width or initial-scale TBT	No <meta name="viewport"> tag found.					
Low	Use a Content Delivery Network (CDN)	1 resource found					
Low	Enable text compression FCP LCP	Potential savings of 1.46KB					
Low	Avoid enormous network payloads LCP	Total size was 453KB					
Low	Eliminate render-blocking resources FCP LCP	Potential savings of 6ms					
Low	Reduce unused CSS FCP LCP	Potential savings of 23.2KB					
Low	Serve images in next-gen formats	Potential savings of 174KB					
Low	Reduce initial server response time FCP LCP	Root document took 155ms					
Low	Avoid serving legacy JavaScript to modern browsers TBT	Potential savings of 66B					
Low	Avoid chaining critical requests FCP LCP	4 chains found					
N/A	Avoid an excessive DOM size TBT	24 elements					
N/A	Largest Contentful Paint element LCP	1 element found					
N/A	Minimize main-thread work TBT	Main-thread busy for 80ms					
N/A	Reduce the impact of third-party code TBT	Total size was 72.0KB					
N/A	Avoid large layout shifts CLS						

What do these audits mean?

These audits are best practices established by Google to help build websites for optimal front-end performance.

Each audit is assessed based on your adherence to them and ordered by the most likely impact to your page's performance.

Note that Structure audits do not directly affect your Performance score, however addressing them can serve as good starting point to improve page load times overall. Additionally, some of the audits are correlated and thus, fixing one audit may affect others.

[Learn about all the audits](#)

Need optimization help?

We've written various guides and articles to help you improve your page performance:

[How to Guides](#)
[Optimization Explained](#)

Need Assistance?

We can recommend partners to further assist you with optimizing your site. [Contact us](#) and we'll point you in the right direction.

Need expert help?

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gtmatrix - Search GT Latest Performance Report for: Pixel Perfection

https://gtmetrix.com/reports/159.122.186.235/dthAppCf/

Summary Performance Structure Waterfall Video History

Waterfall Chart

A request-by-request visualization of the page load. [Learn how to read a waterfall chart.](#)

CPU 47.4%
MEMORY 67 MB
UPLOAD 67 KB/s DOWNLOAD 920 KB/s

Registered users have access to Resource Usage Graphs!
See how your page utilizes system resources and add more insight to your Waterfall Chart.

Log in or Create an Account

Filter requests... All HTML CSS JS XHR Fonts Images Other

Pixel Perfection

URL	Status	Domain	Size	Timeline
/	200	159.122.186.235.31...	2.76KB	319ms
bootstrap.min.css	200	stackpath.bootstrapcdn...	24.0KB	102ms
jquery-3.3.1.slim.min.js	200	code.jquery.com	23.5KB	50ms
popper.min.js	200	cdn.jsdelivr.net	7.61KB	32ms
bootstrap.min.js	200	stackpath.bootstrapcdn...	16.1KB	91ms
bg.jpg	200	159.122.186.235.31...	378KB	1.2s
favicon.ico	404	159.122.186.235.31...	388B	326ms

7 Requests 453KB (678KB Uncompressed) 2s (Onload 1.7s)

Capture video playback of this page load
See how this page loads with video playback on a free GTmetrix account!
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<https://www.gtmatrix.com/Terms-and-Conditions>
Comprado el 01-abr-23 a 30-abr-23
Tiempo de vida: 24 horas

Type here to search 28°C Partly cloudy ENG 9:20 PM 5/17/2023

gtmatrix - Search GT Latest Performance Report for: Pixel Perfection https://gtmetrix.com/reports/159.122.186.235/dthAPpCf/

Summary Performance Structure Waterfall Video History

Speed Visualization

The Speed Visualization timeline shows the progression of a page load from 0.2s to 2s. Key milestones are labeled: TTFB: 308ms, Redirect: 0ms, Connect: 153ms, Backend: 155ms, Time to Interactive: 466ms, Largest Contentful Paint: 476ms, First Contentful Paint: 438ms, Onload Time: 1.7s, Fully Loaded Time: 2.0s.

Top Issues

All FCP LCP TBT CLS These audits are identified as the top issues impacting your performance.

IMPACT	AUDIT	
High	Enable Keep-Alive FCP LCP	3 requests found
Low	Use a <meta name="viewport"> tag with width or initial-scale TBT	No <meta name="viewport"> tag found.
Low	Use a Content Delivery Network (CDN)	1 resource found
Low	Enable text compression FCP LCP	Potential savings of 1.46KB
Low	Avoid enormous network payloads LCP	Total size was 453KB

Focus on these audits first

These audits likely have the largest impact on your page performance.

Structure audits do not directly affect your Performance Score, but improving the audits seen here can help as a starting point for overall performance gains.

[See all Structure audits](#)

Type here to search 28°C Partly cloudy ENG 9:20 PM 5/17/2023

Capture video playback of this page load
See how this page loads with video playback on a free GTmetrix account!
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Tiempo: 02-02-23 a 31-ene-23

LAS Vegas

ADVANTAGES & DISADVANTAGES

ADVANTAGES :

- **Easy interaction for user.**
- **Free of cost.**
- **Free from advertisement.**
- **Unlimited usage.**

DISADVANTAGES :

- **Limited functionality.**
- **No share options.**
- **Mandatory login.**

CONCLUSION

This webpage removes the background, cartoonize the face and beauty enhancement and also it exemplifies pixel perfection in its design and execution. Every element has been meticulously crafted and placed with utmost precision. The attention to detail is evident in the flawless alignment, crisp typography, and harmonious colour palette. The seamless navigation and intuitive user experience further enhance its appeal. The combination of creativity and technical expertise has resulted in a visually stunning and engaging website. It stands as a testament to the importance of pixel-level precision in creating a captivating online presence. This webpage is a true masterpiece, leaving a lasting impression on visitors and setting a high standard for web design excellence.

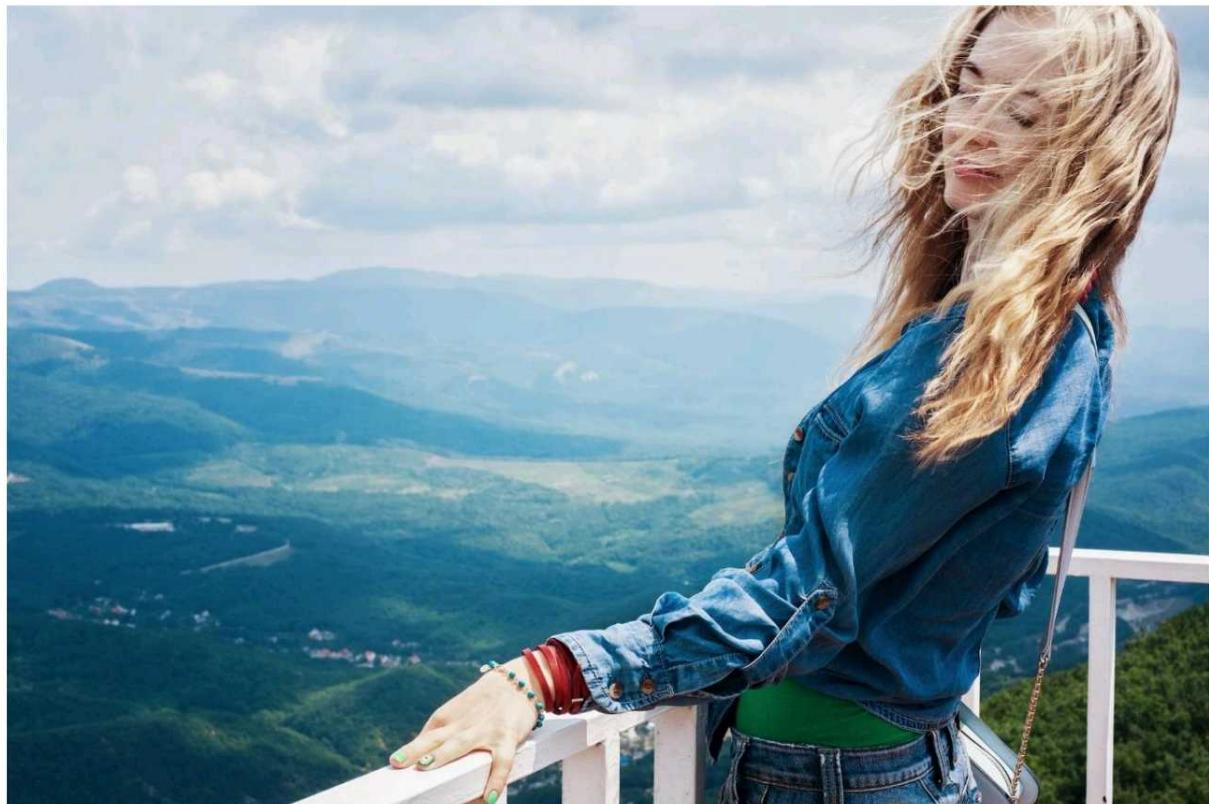
FUTURE SCOPE

- Additionally add more functionality and features.
- Monitorize the application based on minimum subscription.
- Integrate with social media.

APPENDIX

SOURCE CODE:

BACK GROUND IMAGE:(file name:bg.jpg)



HTML CODING:

about.html

```
<!DOCTYPE html>
<html>
  <head>
    <meta charset="utf-8">
    <title>Pixel Perfection</title>
    <!-- Bootstrap CSS -->
    <link rel="stylesheet"
  href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
  >
    <style>
      body {
        background-image: url("static/bg.jpg");
        background-size: cover;
      }
    </style>
```

```

        </style>
</head>
<body>
<!-- Navigation bar -->
<nav class="navbar navbar-expand-lg navbar-light bg-light">
    <a class="navbar-brand" href="/index">Pixel Perfection</a>
    <button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarNav">
        <ul class="navbar-nav">
            <li class="nav-item ">
                <a class="nav-link" href="/index">Home</a>
            </li>
            <li class="nav-item active">
                <a class="nav-link" href="/about">About</a>
            </li>
            <li class="nav-item">
                <a class="nav-link" href="/contact">Contact</a>
            </li>
        </ul>
        <div style="margin-right: 10px;">
            <a href="/login"><button type="button" class="btn btn-primary">Login</button></a>

            <a href="/register"><button type="button" class="btn btn-success">Register</button></a>
            <a href="/upload" ><button type="button" class="btn btn-warning">upload</button></a>
        </div></div>
    </nav>
    <div class="container">
        <div class="col-md-8" style="background-color: #f0f0f0; padding: 10px; border-radius: 5px; margin-bottom: 20px;">
            <div style="margin-top: 5%; ">
                <h1 style="text-align: center; color: #333; font-weight: bold; font-size: 1.5em; margin-bottom: 10px;">About us</h1>
                <h3>Welcome to our image editing platform! We're a team of passionate designers, artists, and developers who believe in the power of visual storytelling. Our mission is to help people bring their creative visions to life, whether they're professional artists or just starting out.</h3>
            </div>
        </div>
        <div class="col-md-4" style="background-color: #f0f0f0; padding: 10px; border-radius: 5px; border-left: 1px solid #ccc; min-height: 300px;">
            <div style="margin-top: 5%; ">
                <h3>Our Services</h3>
                <ul style="list-style-type: none; padding-left: 0; margin: 0; font-size: 0.9em; color: #333;">
                    <li>Background Removal</li>
                    <li>Cartooning Faces</li>
                    <li>Beauty Retouching</li>
                    <li>Image Cropping</li>
                    <li>Color Correction</li>
                    <li>Text Overlay</li>
                </ul>
            </div>
        </div>
    </div>
</body>

```

We specialize in a variety of editing techniques, including background removal, cartooning faces, and beauty retouching. Our goal is to provide a user-friendly platform with powerful tools that anyone can use to create stunning visual content.

Our team is committed to continuous improvement and innovation, always striving to stay ahead of the curve in terms of design trends and technology. We pride ourselves on offering exceptional customer support and ensuring that every user has a positive experience on our platform.

Thank you for choosing our image editing platform, and we look forward to helping you bring your vision to life!</h3>

```
</div>
</div></div>
<!-- Bootstrap JS -->
<script src="https://code.jquery.com/jquery-3.3.1.slim.min.js"></script>
<script
src="https://cdnjs.cloudflare.com/ajax/libs/popper.js/1.14.7/umd/popper.min.js"
"></script>
<script
src="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"><
/script>
</body>
</html>
```

contact.html

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>Pixel Perfection</title>
    <!-- Bootstrap CSS -->
    <link rel="stylesheet"
  href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
  " integrity="sha384-
gg0yR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"
crossorigin="anonymous">
    <style>
      body {
        background-image: url("static/bg.jpg");
        background-size: cover;
      }
    </style>
  </head>
  <body>
    <!-- Navigation bar -->
    <nav class="navbar navbar-expand-lg navbar-light bg-light">
      <a class="navbar-brand" href="/index">Pixel Perfection</a>
```

```
<button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">
    <span class="navbar-toggler-icon"></span>
</button>
<div class="collapse navbar-collapse" id="navbarNav">
    <ul class="navbar-nav">
        <li class="nav-item">
            <a class="nav-link" href="/index">Home</a>
        </li>
        <li class="nav-item">
            <a class="nav-link" href="/about">About</a>
        </li>
        <li class="nav-item active">
            <a class="nav-link" href="/contact">Contact</a>
        </li>
    </ul> <div style="margin-right: 10px;">
        <a href="/login"><button type="button" class="btn btn-primary">Login</button></a>

        <a href="/register"><button type="button" class="btn btn-success">Register</button></a>
        <a href="/upload" ><button type="button" class="btn btn-warning">upload</button></a>
    </div>
</div>
</nav>
<div class="container">
    <div class="row justify-content-center">
        <div class="col-md-4">
            <h1 class="text-center my-5">contact</h1>
            <form action="/contact" method="post">
                <div class="form-group">
                    <label for="username">Username</label>
                    <input type="text" class="form-control" name="username" id="username" placeholder="Username">
                </div>

                <div class="form-group">
                    <label for="email">Email address</label>
                    <input type="email" class="form-control" name="email" id="email" aria-describedby="emailHelp" placeholder="Enter email">
                </div>
                <div class="form-group">
                    <label for="msg">Message</label>
                    <textarea class="form-control" name="msg" id="msg" rows="5"></textarea>
                </div>
            </form>
        </div>
    </div>
</div>
```

```

        <button type="submit" class="btn btn-primary btn-block">Register</button>
    </form>
</div>
</div>
<!-- Bootstrap JS -->
<script src="https://code.jquery.com/jquery-3.3.1.slim.min.js"
integrity="sha384-q8i/X+965Dz0rT7abK41JStQIAqVgRVzbzo5smXKp4YfRvH+8abtTE1Pi6jizo"
crossorigin="anonymous"></script>
<script
src="https://cdn.jsdelivr.net/npm/popper.js@1.14.7/dist/umd/popper.min.js"
integrity="sha384-U02eT0CpHqdSJQ6hJty5KVphtPhzWj9W01c1HTMGa3JDZwrnQq4sF86dIHNSGtF"
crossorigin="anonymous"></script>
<script
src="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"
integrity="sha384-JjSmVgyd0p3pXB1rRibZUAYoIIy6OrQ6VrjIEaFF/nJGzIxFDsf4x0xIM+B07jRM"
crossorigin="anonymous"></script>
</body>
</html>

```

download.html

```

<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <title>Pixel Perfection</title>
    <!-- Bootstrap CSS -->
    <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
" integrity="sha384-gg0yR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"
crossorigin="anonymous">
</head>
<body>
    <!-- Navigation bar -->
    <nav class="navbar navbar-expand-lg navbar-light bg-light">
        <a class="navbar-brand" href="/index">Pixel Perfection</a>
        <button class="navbar-toggler" type="button" data-toggle="collapse"
data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-
label="Toggle navigation">
            <span class="navbar-toggler-icon"></span>

```

```
</button>
<div class="collapse navbar-collapse" id="navbarNav">
  <ul class="navbar-nav">
    <li class="nav-item">
      <a class="nav-link" href="/index">Home</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="/about">About</a>
    </li>
    <li class="nav-item ">
      <a class="nav-link" href="/contact">Contact</a>
    </li>
  </ul>
  <div style="margin-right: 10px;">
    <a href="/login"><button type="button" class="btn btn-primary">Login</button></a>
    <a href="/register"><button type="button" class="btn btn-success">Register</button></a>
    <a href="/upload" ><button type="button" class="btn btn-warning">upload</button></a>
  </div>
</div>
</nav>
<div class="d-flex justify-content-center align-items-center">
  
</div>
<!-- Bootstrap JS -->
<script src="https://code.jquery.com/jquery-3.3.1.slim.min.js"
integrity="sha384-q8i/X+965Dz0rT7abK41JStQIAqVgRVzbzo5smXKp4YfRvH+8abTE1Pi6jizo"
crossorigin="anonymous"></script>
<script
src="https://cdn.jsdelivr.net/npm/popper.js@1.14.7/dist/umd/popper.min.js"
integrity="sha384-U02eT0CpHqdSJQ6hJty5KVphtPhzWj9W01c1HTMGa3JDZwrnQq4sF86dIHNSGtF"
crossorigin="anonymous"></script>
<script
src="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"
integrity="sha384-JjSmVgyd0p3pXB1rRibZUAYoIIy6OrQ6VrjIEaFF/nJGzIxFDsf4x0xIM+B07jRM"
crossorigin="anonymous"></script>
</body>
</html>
</body>
</html>
```

index.html

```
<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>Pixel Perfection</title>
    <!-- Bootstrap CSS -->
    <link rel="stylesheet"
      href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
      integrity="sha384-ggOyR0iXcbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"
      crossorigin="anonymous">
    <style>
      body {
        background-image: url("static/bg.jpg");
        background-size: cover;
      }
      .btun{
        margin-top: 5% ;
        margin-left: 25%;
      }
    </style>
  </head>
  <body>
    <!-- Navigation bar -->
    <nav class="navbar navbar-expand-lg navbar-light bg-light">
      <a class="navbar-brand" href="/index">Pixel Perfection</a>
      <button class="navbar-toggler" type="button" data-toggle="collapse"
        data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-
        label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
      </button>
      <div class="collapse navbar-collapse" id="navbarNav">
        <ul class="navbar-nav">
          <li class="nav-item active">
            <a class="nav-link" href="/index">Home</a>
          </li>
          <li class="nav-item">
            <a class="nav-link" href="/about">About</a>
          </li>
          <li class="nav-item">
            <a class="nav-link" href="/contact">Contact</a>
          </li>
        </ul>
      </div>
    </nav>
    <!-- Bootstrap JS -->
```

```

<script src="https://code.jquery.com/jquery-3.3.1.slim.min.js"
integrity="sha384-q8i/X+965DzO0rT7abK41JStQIAqVgRVzbzo5smXKp4YfRvH+8abtTE1Pi6jizo"
crossorigin="anonymous"></script>
<script
src="https://cdn.jsdelivr.net/npm/popper.js@1.14.7/dist/umd/popper.min.js"
integrity="sha384-U02eT0CpHqdSJQ6hJty5KVphtPhzWj9W01c1HTMGa3JDZwrnQq4sF86dIHNSGtF"
crossorigin="anonymous"></script>
<script
src="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"
integrity="sha384-JjSmVgyd0p3pXB1rRibZUAYoIIy6OrQ6VrjIEaFF/nJGzIxFDsf4x0xIM+B07jRM"
crossorigin="anonymous"></script>
<div class="col-md-8">
    <h1 style="margin-top:10%; margin-left: 5%;">
        Welcome to our website! Our platform empowers creators and artists to
        bring their visual storytelling to life with our tools and resources.</h1>
    <div class="btun" style="margin-right: 10px;">
        <a href="/login"><button type="button" class="btn btn-primary btn-lg">Login</button></a>

        <a href="/register"><button type="button" class="btn btn-success btn-lg">Register</button></a>
        <a href="/upload" ><button type="button" class="btn btn-warning">upload</button></a>
    </div>
</div>
</body>
</html>

```

login.html

```

<!DOCTYPE html>
<html lang="en">
    <head>
        <meta charset="UTF-8">
        <title>Pixel Perfection</title>
        <!-- Bootstrap CSS -->
        <link rel="stylesheet"
        href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
        integrity="sha384-ggOyR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"
        crossorigin="anonymous">
        <style>
            body {

```

```
        background-image: url("static/bg.jpg");
        background-size: cover;
    }
</style>
</head>
<body>
    <!-- Navigation bar -->
    <nav class="navbar navbar-expand-lg navbar-light bg-light">
        <a class="navbar-brand" href="/index">Pixel Perfection</a>
        <button class="navbar-toggler" type="button" data-toggle="collapse"
data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-
label="Toggle navigation">
            <span class="navbar-toggler-icon"></span>
        </button>
        <div class="collapse navbar-collapse" id="navbarNav">
            <ul class="navbar-nav">
                <li class="nav-item">
                    <a class="nav-link" href="/index">Home</a>
                </li>
                <li class="nav-item">
                    <a class="nav-link" href="/about">About</a>
                </li>
                <li class="nav-item">
                    <a class="nav-link" href="/contact">Contact</a>
                </li>
            </ul>
        </div>
    </nav>
    <div class="container">
        <div class="row justify-content-center">
            <div class="col-md-4">
                <h1 class="text-center my-5">Login</h1>
                <form action="/login" method="post">
                    <div class="form-group">
                        <label for="email">Email address</label>
                        <input type="email" class="form-control" name="email" id="email"
aria-describedby="emailHelp" placeholder="Enter email">
                    </div>
                    <div class="form-group">
                        <label for="password">Password</label>
                        <input type="password" class="form-control" name="password"
id="password" placeholder="Password">
                    </div>
                    <button type="submit" class="btn btn-primary btn-
block">Login</button>
                    <p class="text-center my-3">Don't have an account? <a
href="/register">Register here</a></p>
                </form>
            </div>
        </div>
    </div>

```

```

        </div>
    </div>
</div>
<!-- Bootstrap JS -->
<script src="https://code.jquery.com/jquery-3.3.1.slim.min.js"
integrity="sha384-q8i/X+965Dz0rT7abK41JStQIAqVgRVzbzo5smXKp4YfRvH+8abtTE1Pi6jizo"
crossorigin="anonymous"></script>
<script
src="https://cdn.jsdelivr.net/npm/popper.js@1.14.7/dist/umd/popper.min.js"
integrity="sha384-U02eT0CpHqdSJQ6hJty5KVphPhzWj9W01c1HTMGa3JDZwrnQq4sF86dIHNSGtF"
crossorigin="anonymous"></script>
<script
src="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"
integrity="sha384-JjSmVgyd0p3pXB1rRibZUAYoIIy6OrQ6VrjIEaFF/nJGzIxFDsf4x0xIM+B07jRM"
crossorigin="anonymous"></script>
</body>
</html>

```

option.html

```

<!DOCTYPE html>
<html>
<head>
    <title>Pixel Perfection</title>
    <link rel="stylesheet"
    href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
    integrity="sha384-ggOyR0iXChMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"
    crossorigin="anonymous">
    <style>
        body{
            background-image:url("static/bg.jpg");
            background-size: cover;
        }
        .button {
            background-color: #4CAF50;
            border: none;
            color: white;
            padding: 30px 60px;
            text-align: center;
            text-decoration: none;
            display: inline-block;
            font-size: 24px;
        }
    </style>

```

```
        margin: 20px;
        cursor: pointer;
        border-radius: 10px;
        margin-left: 30%;
    }
}

h1{
    margin-left: 30%;
    margin-top: 3%;
}

</style>
<script src="https://code.jquery.com/jquery-3.3.1.slim.min.js"
integrity="sha384-q8i/X+965Dz0rT7abK41JStQIAqVgRVzbzo5smXKp4YfRvH+8abtTE1Pi6jizo"
crossorigin="anonymous"></script>
<script
src="https://cdn.jsdelivr.net/npm/popper.js@1.14.7/dist/umd/popper.min.js"
integrity="sha384-U02eT0CpHqdSJQ6hJty5KVphtPhzWj9W01c1HTMGa3JDZwrnQq4sF86dIHNSGtF"
crossorigin="anonymous"></script>
<script
src="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"
integrity="sha384-JjSmVgyd0p3pXB1rRibZUAYoIIy6OrQ6VrjIEaFF/nJGzIxFDsf4x0xIM+B07jRM"
crossorigin="anonymous"></script>

</head>
<body>
<nav class="navbar navbar-expand-lg navbar-light bg-light">
    <a class="navbar-brand" href="index.html">Pixel Perfection</a>
    <button class="navbar-toggler" type="button" data-toggle="collapse"
    data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-
    label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
    </button>
    <div class="collapse navbar-collapse" id="navbarNav">
        <ul class="navbar-nav">
            <li class="nav-item">
                <a class="nav-link" href="/index">Home</a>
            </li>
            <li class="nav-item">
                <a class="nav-link" href="/about">About</a>
            </li>
            <li class="nav-item">
                <a class="nav-link" href="/contact">Contact</a>
            </li>
        </ul>
        <a style="margin-left:80%" href="/login"><button type="button"
        class="btn btn-danger">Logout</button></a>
    </div>
</nav>

```

```

        </div>
    </nav>
    <h1>Select the option</h1>
<div>
    <form action="/option" method="post">
        <button class="button" name="option" value="1">Remove
background</button><br>
        <button class="button" name="option" value="2">Remove vehicle
background</button><br>
        <button class="button" name="option" value="3">Cartoonize the
face</button><br>
        <button class="button" name="option" value="4">Beauty the
face</button><br>
        <a style="margin-left:35%" href="/upload"><button type="button"
class="btn btn-danger btn-lg">Back</button></a>
    </form>
</div>

</body>
</html>

```

register.html

```

<!DOCTYPE html>
<html lang="en">
    <head>
        <meta charset="UTF-8">
        <title>Pixel Perfection</title>
        <!-- Bootstrap CSS -->
        <link rel="stylesheet"
href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
" integrity="sha384-
ggOyR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"
crossorigin="anonymous">
        <style>
            body {
                background-image: url("static/bg.jpg");
                background-size: cover;
            }
        </style>
    </head>
    <body>
        <!-- Navigation bar -->
        <nav class="navbar navbar-expand-lg navbar-light bg-light">
            <a class="navbar-brand" href="/index">Pixel Perfection</a>

```

```
<button class="navbar-toggler" type="button" data-toggle="collapse" data-target="#navbarNav" aria-controls="navbarNav" aria-expanded="false" aria-label="Toggle navigation">
    <span class="navbar-toggler-icon"></span>
</button>
<div class="collapse navbar-collapse" id="navbarNav">
    <ul class="navbar-nav">
        <li class="nav-item">
            <a class="nav-link" href="/index">Home</a>
        </li>
        <li class="nav-item">
            <a class="nav-link" href="/about">About</a>
        </li>
        <li class="nav-item">
            <a class="nav-link" href="/contact">Contact</a>
        </li>
    </ul>
</div>
</nav>
<div class="container">
    <div class="row justify-content-center">
        <div class="col-md-4">
            <h1 class="text-center my-5">Register</h1>
            <form action="/register" method="post">
                <div class="form-group">
                    <label for="username">Username</label>
                    <input type="text" class="form-control" name="username" id="username" placeholder="Username">
                </div>

                <div class="form-group">
                    <label for="email">Email address</label>
                    <input type="email" class="form-control" name="email" id="email" aria-describedby="emailHelp" placeholder="Enter email">
                </div>
                <div class="form-group">
                    <label for="password">Password</label>
                    <input type="password" class="form-control" name="password" id="password" placeholder="Password">
                </div>
                <button type="submit" class="btn btn-primary btn-block">Register</button>
            <p class="text-center my-3">Already have an account? <a href="/login">Login here</a></p>
            </form>
        </div>
    </div>
</div>
```

```

<!-- Bootstrap JS -->
<script src="https://code.jquery.com/jquery-3.3.1.slim.min.js"
integrity="sha384-q8i/X+965Dz0rT7abK41JStQIAqVgRVzbzo5smXKp4YfRvH+8abtTE1Pi6jizo"
crossorigin="anonymous"></script>
<script
src="https://cdn.jsdelivr.net/npm/popper.js@1.14.7/dist/umd/popper.min.js"
integrity="sha384-U02eT0CpHqdSJQ6hJty5KVphPhzWj9W01c1HTMGa3JDZwrnQq4sF86dIHNSGtF"
crossorigin="anonymous"></script>
<script
src="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js"
integrity="sha384-JjSmVgyd0p3pXB1rRibZUAYoIIy6OrQ6VrjIEaFF/nJGzIxFDsf4x0xIM+B07jRM"
crossorigin="anonymous"></script>
</body>
</html>

```

upload.html

```

<!DOCTYPE html>
<html lang="en">
  <head>
    <meta charset="UTF-8">
    <title>Pixel Perfection</title>
    <!-- Bootstrap CSS -->
    <link rel="stylesheet"
        href="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/css/bootstrap.min.css"
        integrity="sha384-ggOyR0iXCbMQv3Xipma34MD+dH/1fQ784/j6cY/iJTQUOhcWr7x9JvoRxT2MZw1T"
        crossorigin="anonymous">
    <style>
      body {
        background-image: url("static/bg.jpg");
        background-size: cover;
      }
    </style>
  </head>
  <body>
    <!-- Navigation bar -->
    <nav class="navbar navbar-expand-lg navbar-light bg-light">
      <a class="navbar-brand" href="index.html">Pixel Perfection</a>
      <button class="navbar-toggler" type="button" data-
        toggle="collapse" data-target="#navbarNav" aria-controls="navbarNav" aria-
        expanded="false" aria-label="Toggle navigation">
        <span class="navbar-toggler-icon"></span>
    
```

```
</button>
<div class="collapse navbar-collapse" id="navbarNav">
  <ul class="navbar-nav">
    <li class="nav-item">
      <a class="nav-link" href="/index">Home</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="/about">About</a>
    </li>
    <li class="nav-item">
      <a class="nav-link" href="/contact">Contact</a>
    </li>
  </ul>
  <a style="margin-left:80%" href="/login"><button type="button" class="btn btn-danger">Logout</button></a>
</div>
</nav>
<div class="container">
  <div class="row justify-content-center">
    <div class="col-md-4">
      <h1 class="text-center my-5">Upload Your Image</h1>
      <form action="/upload" method="post" enctype="multipart/form-data">
        <div class="form-group">
          <label for="image"><h3>Select an Image</h3></label>
          <input type="file" accept="image/*" class="form-control-file" id="image" name="image">
        </div>
        <button type="submit" class="btn btn-primary btn-block">Upload</button>
      </form>
    </div>
  </div>
  <!-- Bootstrap JS -->
  <script src="https://code.jquery.com/jquery-3.3.1.slim.min.js" integrity="sha384-q8i/X+965Dz0rT7abK41JStQIAqVgRVzbzo5smXKp4YfRvH+8abTE1Pi6jizo" crossorigin="anonymous"></script>
  <script src="https://cdn.jsdelivr.net/npm/popper.js@1.14.7/dist/umd/popper.min.js" integrity="sha384-U02eT0CpHqdSJQ6hJty5KVphPhzWj9W01c1HTMGa3JDZwrnQq4sF86dIHNSGtF" crossorigin="anonymous"></script>
  <script src="https://stackpath.bootstrapcdn.com/bootstrap/4.3.1/js/bootstrap.min.js" integrity="sha384-JjSmVgyd0p3pXB1rRibZUAYoIIy6OrQ6VrjIEaFF/nJGzIxFDsf4x0xIM+B07jRM" crossorigin="anonymous"></script>
```

```
</body>
</html>
```

PYTHON CODING:

FLASK:

app.py

```
from flask import Flask, render_template, request, redirect, url_for, session
import ibm_db
import ibm_boto3
import requests
from ibm_botocore.client import Config
import io
app = Flask(__name__)
app.secret_key = 'ffiniadiuioresggef'
conn = ibm_db.connect("DATABASE=bludb; HOSTNAME=19af6446-6171-4641-8aba-9dcff8e1b6ff.c1ogj3sd0tgtu0lqde00.databases.appdomain.cloud; PORT=30699; UID=sbs17704; PWD=JI71wtIxapjXEIc; SECURITY=SSL; SSLServerCertificate=DigiCertGlobalRootCA.crt;","","")
@app.route("/")
@app.route("/index")
def home():
    return render_template("index.html")
@app.route('/register', methods=['GET', 'POST'])
def register():
    if request.method == 'POST':
        # get form data
        username = request.form['username']
        password = request.form['password']
        email = request.form['email']

        sql = "SELECT COUNT(*) FROM users WHERE email = ?"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt, 1, email)
        ibm_db.execute(stmt)
        result = ibm_db.fetch_assoc(stmt)

        if result['1'] > 0:
            # display error message
            return 'Email address already exists.'

        sql = "INSERT INTO users (name, password, email) VALUES (?, ?, ?)"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt, 1, username)
```

```

        ibm_db.bind_param(stmt, 2, password)
        ibm_db.bind_param(stmt, 3, email)
        ibm_db.execute(stmt)
        ibm_db.commit(conn)

        # redirect to login page
        return render_template('login.html')

    # display registration form
    return render_template('register.html')

@app.route('/login', methods=['GET', 'POST'])
def login():
    if request.method == 'POST':
        # get form data
        email = request.form['email']
        password = request.form['password']

        sql = "SELECT * FROM users WHERE email = ? AND password = ?"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt, 1, email)
        ibm_db.bind_param(stmt, 2, password)
        ibm_db.execute(stmt)
        result = ibm_db.fetch_assoc(stmt)

        if result:
            # store user session data
            session['logged_in'] = True
            # redirect to home page
            return render_template('upload.html')
        else:
            # display error message
            return 'Invalid login credentials.'
    # display login form
    return render_template('login.html')

@app.route("/contact" ,methods=['POST','GET'])
def contact():
    if request.method == 'POST':
        # get form data
        username = request.form['username']
        msg = request.form['msg']
        email = request.form['email']
        sql = "INSERT INTO contact (name, msg, email) VALUES (?, ?, ?)"
        stmt = ibm_db.prepare(conn, sql)
        ibm_db.bind_param(stmt, 1, username)
        ibm_db.bind_param(stmt, 2, msg)
        ibm_db.bind_param(stmt, 3, email)
        ibm_db.execute(stmt)

```

```

        ibm_db.commit(conn)
        return render_template('index.html')
    return render_template("contact.html")
@app.route("/about")
def about():
    return render_template("about.html")
@app.route('/upload', methods=['GET', 'POST'])
def upload():
    if 'logged_in' in session:
        if request.method == 'POST':
            file=request.files['image']
            if file.filename != "Null":
                fname=file.filename
                fname=fname.replace(" ","")
                file_stream = io.BytesIO(file.read())
                cos_endpoint = "https://s3.au-syd.cloud-object-
storage.appdomain.cloud"
                cos_apikey = "SKHquuq82AAbPsK14L_7mx495BofMA-hw9dFqs6LUcNr"
                cos_crn= "crn:v1:bluemix:public:cloud-object-
storage:global:a/78877c7ff2e243ee8c1743dedb117b48:6e87a58a-df6e-422d-b04e-
fb6209a53a4b::"
                cos = ibm_boto3.client("s3", ibm_api_key_id = cos_apikey,
ibm_service_instance_id = cos_crn, endpoint_url= cos_endpoint, config=
Config(signature_version = "oauth"))
                cos.put_object(Bucket = "pixelperfection" ,Key = fname
,Body=file_stream)
                inurl="https://pixelperfection.s3.au-syd.cloud-object-
storage.appdomain.cloud/" + fname
                session['input']=inurl
                return render_template('option.html')
            else:
                return render_template("upload.html")
        else:
            return render_template("upload.html")
    else:
        return render_template("login.html")

@app.route('/option', methods=['GET', 'POST'])
def option():
    image=session.get('input')
    if request.method == 'POST':
        option = request.form['option']
        if option=="1":
            url = "https://human-background-
removal.p.rapidapi.com/cutout/portrait/body"
            image_url = image
            response = requests.get(image_url)
            files = {'image': ('image.jpg', response.content, 'image/jpeg')}

```

```

    headers = {
        "X-RapidAPI-Key": "18a9a4600cmsh305c1cbbadf0343p1981c9jsnc03bb8cd684f",
        "X-RapidAPI-Host": "human-background-removal.p.rapidapi.com"
    }
    response = requests.post(url, files=files, headers=headers)
    data = response.json()['data']
    session['output']= data['image_url']
    return redirect(url_for('download'))
if option == "2":
    url = "https://vehicle-background-removal.p.rapidapi.com/cutout/universal/vehicle"
    image_url = image
    response = requests.get(image_url)
    files = {'image': ('image.jpg', response.content, 'image/jpeg')}
    headers = {
        "X-RapidAPI-Key": "18a9a4600cmsh305c1cbbadf0343p1981c9jsnc03bb8cd684f",
        "X-RapidAPI-Host": "vehicle-background-removal.p.rapidapi.com"
    }
    response = requests.post(url, files=files, headers=headers)
    data = response.json()['data']
    session['output']= data['elements'][0]['image_url']
    return redirect(url_for('download'))
if option == "3":
    image_url=image
    url = "https://cartoon-yourself.p.rapidapi.com/facebook/api/portrait-animation/portrait-animation"
    response = requests.get(image_url)
    files = {'image': ('image.jpg', response.content, 'image/jpeg')}
    payload = {"type": "pixar"}
    headers = {
        "X-RapidAPI-Key": "18a9a4600cmsh305c1cbbadf0343p1981c9jsnc03bb8cd684f",
        "X-RapidAPI-Host": "cartoon-yourself.p.rapidapi.com"
    }
    response = requests.post(url, data=payload, files=files,
headers=headers)
    data = response.json()['data']
    session['output']= data['image_url']
    return redirect(url_for('download'))
if option== '4':
    url = "https://ai-skin-beauty.p.rapidapi.com/face/editing/retouch-skin"
    image_url = image
    response = requests.get(image_url)
    files = {'image': ('image.jpg', response.content, 'image/jpeg')}
    payload = {

```

```

        "retouch_degree": "1.5",
        "whitening_degree": "1.5"
    }
headers = {
    "X-RapidAPI-Key": "18a9a4600cmsh305c1cbbadf0343p1981c9jsnc03bb8cd684f",
    "X-RapidAPI-Host": "ai-skin-beauty.p.rapidapi.com"
}
response = requests.post(url, data=payload, files=files,
headers=headers)
data = response.json()['data']
print(data)
session['output'] = data['image_url']
return redirect(url_for('download'))
else:
    return render_template("option.html")
@app.route('/download')
def download():
    output = session.get('output')
    return render_template('download.html', output=output)
if __name__ == "__main__":
    app.run(debug=True, host="0.0.0.0")

```

deployment.yaml

```

apiVersion: apps/v1
kind: Deployment
metadata:
  name: pixelimagee
spec:
  replicas: 3
  selector:
    matchLabels:
      app: pixelimagee
  template:
    metadata:
      labels:
        app: pixelimagee
  spec:
    containers:
      - name: pixelimagee
        image: us.icr.io/pixel_perfection/pixe:1.0
        imagePullPolicy: Always
        ports:
          - containerPort: 5000

```

dockerfile

```
FROM python
WORKDIR /app
COPY . .
RUN pip install -r requirements.txt
EXPOSE 5000
CMD ["python","/app/app.py"]
```

requirements.txt

```
flask
ibm_db
boto3
requests
ibm-cos-sdk
ibm-cos-sdk-core
ibm-cos-sdk-s3transfer
```

GitHub & Project Video Demo Link :

Github repository link : <https://github.com/naanmudhalvan-SI/PBL-NT-GP--5688-1680798253.git>

Demo video link : <https://youtu.be/-Xz0xhpo3xk>

Application Link : <http://159.122.186.235:31457/>