Project Documentation

Date	4 November 2023
Team ID	NM2023TMID02700
Project Name	Building a website using Canva

Ideation Phase
Define the Problem Statement

How to Create a website Using Canva

- Users may encounter slow loading times, crashes, or unresponsiveness, especially when working on complex or large projects

- Free users often have their designs watermarked by Canva, which can make them unsuitable for professional or commercial use.

- Users may find certain design elements challenging to customize to their exact specifications, limiting creative freedom.

Problem Statement(PS)	I am (Customer)	I'mtryingto	But	Because	Whichmakesmefeel
Performance issues	Traveler	Find a website	it encounters slow loading times	It is a large file	frustrated
Subscription cost	student	Find templates for my project	There are limited free templates	The premium versions are costly	Disappointed
Version control	Professional	Work on my new project	It needs collaborative work	It has Limited versions	Difficult to contribute

Empathize & Discover

Empathy Map:

An empathy map is a simple, easy-to-digest visual that captures knowledge about a user's behaviours and attitudes.

It is a useful tool to helps teams better understand their users. Creating an effective solution requires understanding the true problem and the person who is experiencing it. The exercise of creating the map helps participants consider things from the user's perspective along with his or her goals and challenges.
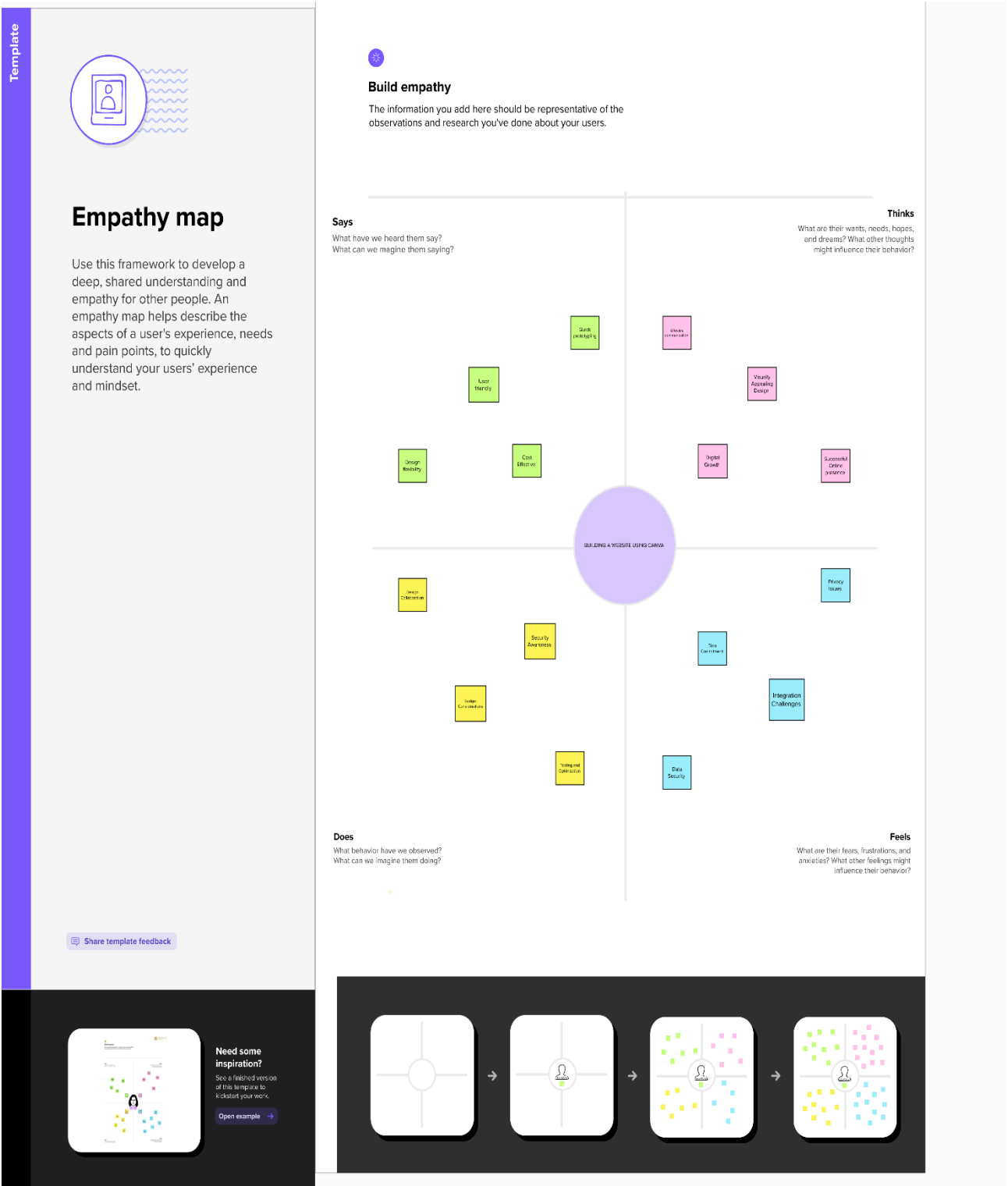
Brainstorm & Idea Prioritization

Brainstorm & Idea Prioritization Template:

Brainstorming provides a free and open environment that encourages everyone within a team to participate in the creative thinking process that leads to problem solving. Prioritizing volume over value, out-of-the-box ideas are welcome and built upon, and all participants are encouraged to collaborate, helping each other develop a rich amount of creative solutions.

Step-1: Team Gathering, Collaboration and Select the Problem Statement

Step-2: Brainstorm, Idea Listing and Grouping

2 Brainstorm

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

⏱ 10 minutes

TIP
You can select a sticky note and hit the pencil [switch to sketch] icon to start drawing!

A.Sakthi Manisha

| Integrate a widgets add features | Add Content | Choose a Template |

S.Sherlin Benila

| Customize the Design | Optimize for SEO | Preview And Test |

V.Mabel Sherlin

| Create Graphics and Visual Elements | Regularly Update Maintain | User Experience |

J.Praveesha Rozario

| Website Purpose and Audience | Collaborate with your team | Documentation strategy review |

3 Group ideas

Take turns sharing your ideas while clustering similar or related notes as you go. Once all sticky notes have been grouped, give each cluster a sentence-like label. If a cluster is bigger than six sticky notes, try and see if you can break it up into smaller sub-groups.

⏱ 20 minutes

TIP
Add customizable tags to sticky notes to make it easier to find, browse, organize, and categorize important ideas as themes within your mural.

Step-3: Idea Prioritization

4 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

TIP
Participants can use their cursors to point at where sticky notes should go on the grid. The facilitator can confirm the spot by using the laser pointer holding the **H key** on the keyboard.

Importance
If each of these tasks could get done without any difficulty or 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.)
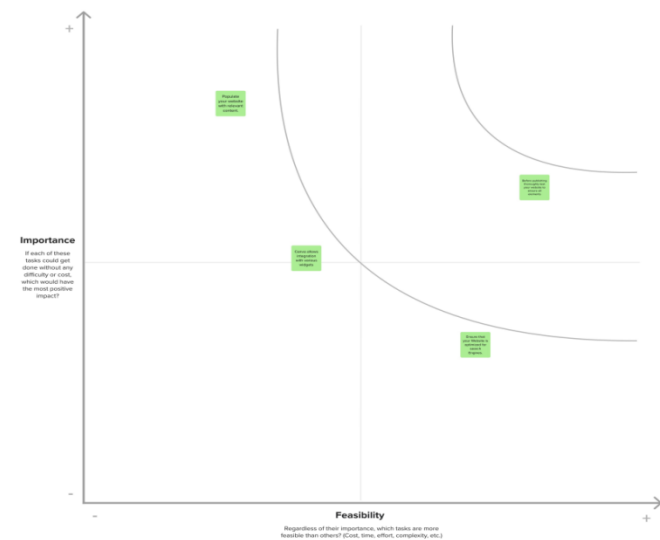
→ **After you collaborate**

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 1
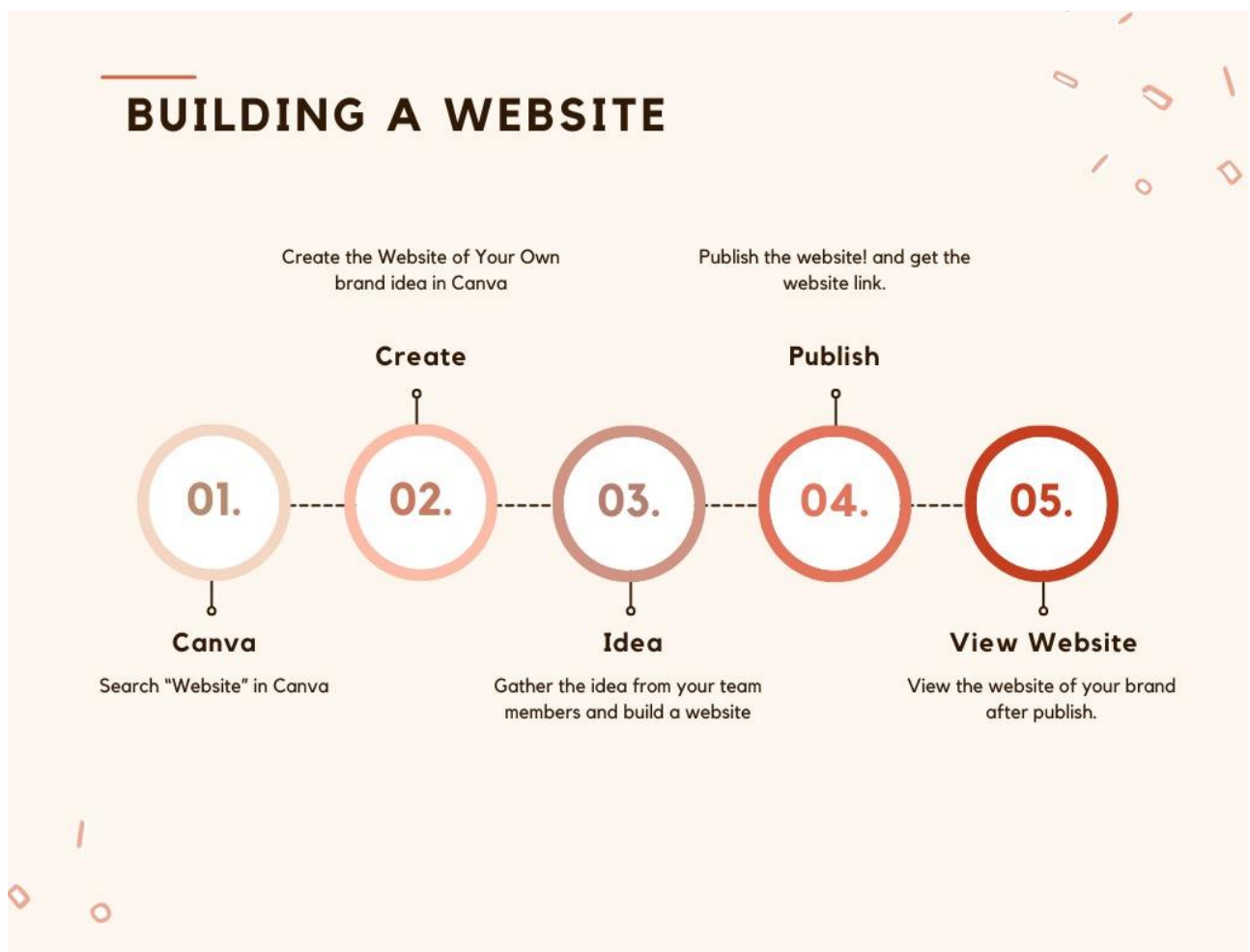## Proposed Solution

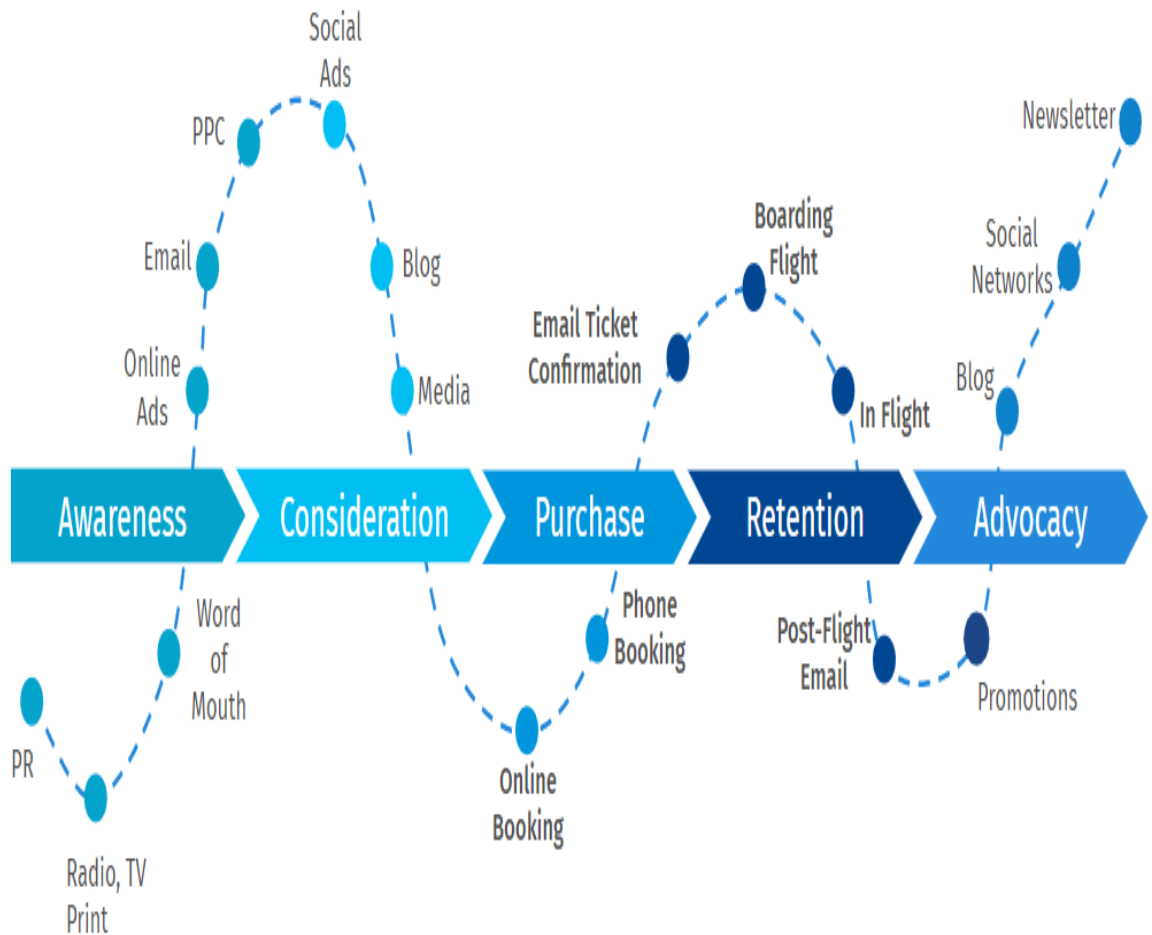| S.No.	Parameter	Description
1.	Problem Statement (Problem to be solved)	The absence of a website can hinder businesses and individuals from reaching their full online potential. Without a website, businesses lack a digital storefront, limiting their visibility and accessibility to potential customers. It hampers online credibility, making it challenging to establish trust with the audience. Moreover, the absence of a website restricts opportunities for online sales, marketing, and communication, hindering growth and competitiveness in the digital age.
2.	Idea / Solution description	In building a website, meticulous planning and creativity are paramount. First, define the purpose and target audience. Choose a user-friendly platform and design a visually appealing layout. Integrate essential features like navigation menus and contact forms. Focus on responsive design for seamless access on various devices. Test functionality, optimize for speed, and ensure engaging content to captivate visitors. Regular updates and user feedback are key for continuous improvement and a successful online presence.
3.	Novelty / Uniqueness	Creating a unique website involves innovative design, distinctive content, and interactive features that set it apart from competitors. Incorporating novel elements, such as creative user interfaces, personalized user experiences, or groundbreaking technologies like AI integration, enhances user engagement. Unique branding, original multimedia content, and tailored functionalities make the website memorable, leaving a lasting impression on visitors.
4.	Social Impact / Customer Satisfaction	Incorporating social impact into website development involves creating inclusive, accessible platforms that empower marginalized communities and promote social causes. Prioritizing customer satisfaction entails user-friendly interfaces, personalized experiences, and responsive customer support, ensuring trust and loyalty. By merging these approaches, websites become catalysts for positive change, fostering meaningful connections and driving social initiatives that benefit society.
5.	Business Model (Revenue Model)	Using Canva, a user-friendly design tool, businesses can create visually appealing websites cost-effectively. The premium model offers basic features for free, allowing businesses to design their sites without hefty expenses. Premium subscriptions provide access to enhancing website aesthetics, and driving engagement, making it an ideal choice for budget-conscious entrepreneurs.

Solution Architecture

To build a website using Canva, you can follow a straight forward solution architecture. Begin by defining the website's purpose, target audience, and key features. Next, use Canva's user-friendly design tools to create visually appealing templates for the website's pages, including the homepage, about us, services, and contact pages. Customize these templates to reflect your brand's colors, fonts, and imagery. Canva also allows for easy integration of multimedia elements like images, videos, and graphics. Once the designs are finalized, export them in the appropriate file formats for web use. To bring the website to life, select a suitable web development platform or Content Management System (CMS), such as WordPress or Wix. Upload the Canva designs and use the platform's built-in tools to add functionality, interactivity, and responsiveness. Finally, conduct thorough testing across different devices and browsers to ensure a seamless user experience. This solution architecture combines Canva's design capabilities with a chosen web development platform to create an engaging and visually appealing website.

BUILDING A WEBSITE

Create the Website of Your Own brand idea in Canva

Publish the website! and get the website link.

Create

Publish

01. ----- 02. ----- 03. ----- 04. ----- 05.

Canva

Search "Website" in Canva

Idea

Gather the idea from your team members and build a website

View Website

View the website of your brand after publish.

Customer Journey Map

Requirement Analysis

A. Functional Requirements:

FR No.	Functional Requirement	Sub Requirement(Story/SubTask
FR-1	Design Elements	Canva should provide a wide range of design elements, including templates, images, icons, fonts, and colour palettes.
FR-2	Customization	Users should be able to customize and modify design elements to suit their website's branding and style.
FR-3	Collaboration Tools	Collaborative features for team members to work together on design projects.

B. Non-functional Requirements:

FR No.	Non-Functional Requirement	Description
NFR-1	Performance	Performance for building a website using Canva refers to the efficiency and effectiveness of using Canva for creating website graphics and design elements, considering factors like speed, design quality, and user experience within the limitations of Canva's capabilities.
NFR-2	Scalability	The system should be able to handle an increasing number of users and content uploads without a significant decrease in performance.
NFR-3	Reliability	Website should be available and accessible to users around the clock with a high uptime rate, minimizing service interruptions.
NFR-4	Security	Protect your Canva account with a strong, enable two-factor

Flow Chart:

BUILDING A WEBSITE

Create the Website of Your Own brand idea in Canva

Create

Publish the website! and get the website link.

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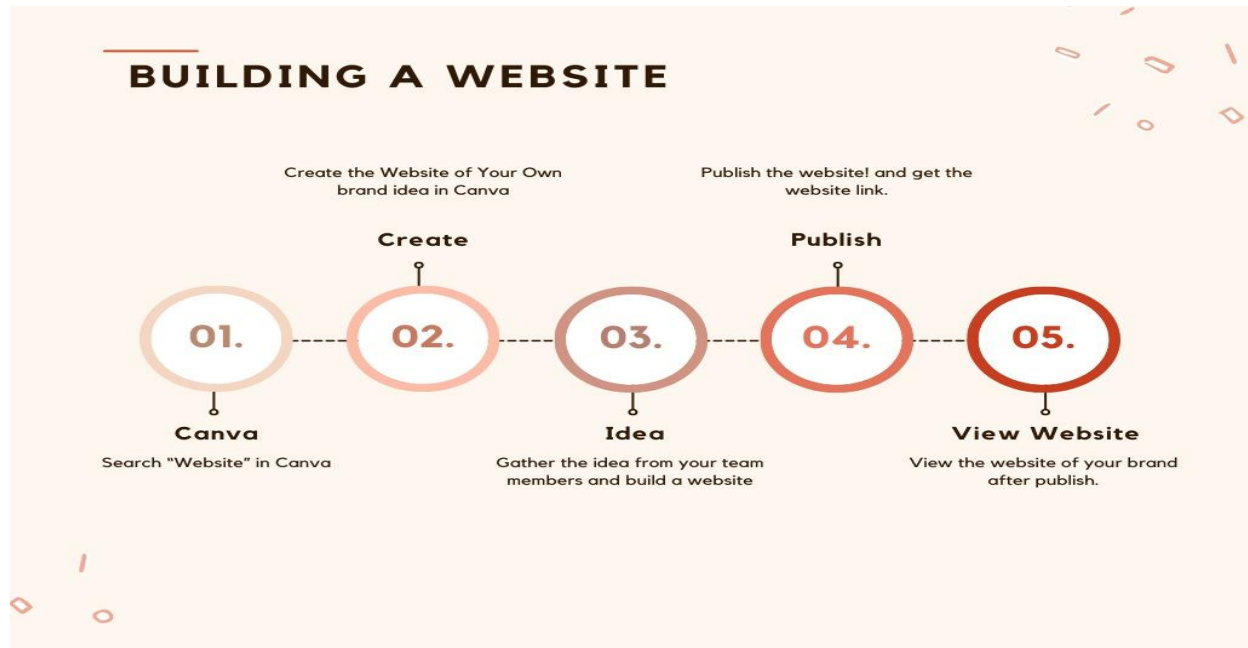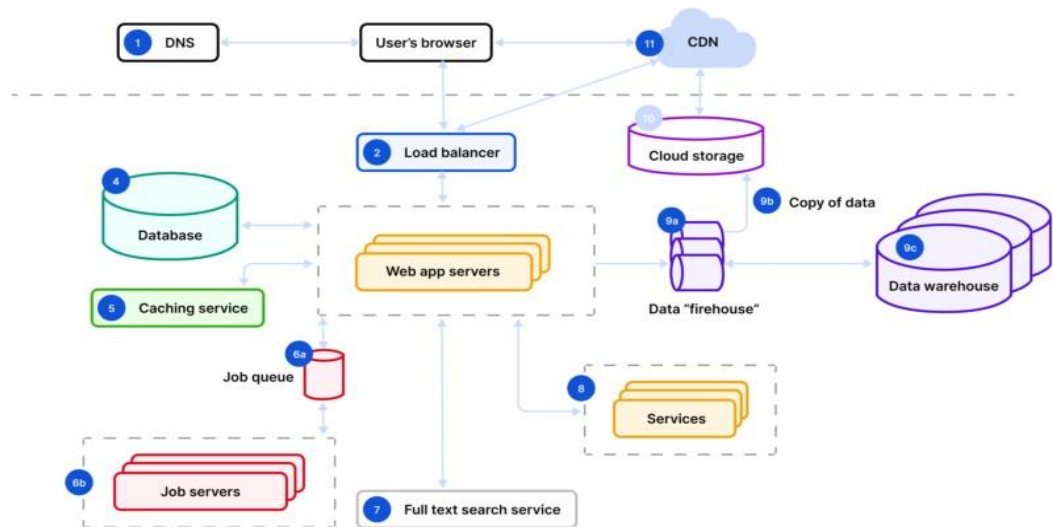
Technical Architecture

To create the architecture, you'll build a master list of content for the site, define the main sections of the site, assign the content to each section, and then break the content into individual pages and name them. Search for 'Website' in Canva. Choose from one of the professionally designed templates to open the free website builder.

Third Party API's

Third-party API (Application Programming Interface) integrations are a common component in web development projects, regardless of their scale. Smaller projects may require just 2-3 integrations, while larger, more sophisticated software products may necessitate dozens or even hundreds of third-party API integrations. The complexity of these solutions can vary greatly, ranging from simple social network API integration, such as connecting the Facebook API for login purposes, to intricate systems that merge the functionalities of numerous programs for accounting, inventory management, logistics, and more.

Third-party API integration is essential for enhancing the functionality of custom and third-party software systems used daily by companies and their customers. By incorporating third-party software solutions, businesses can improve their services and boost profitability without needing to develop additional features themselves. Often, the driving force behind integration is the need to conduct data transfer between company departments and partners, ensuring the necessary information is available to all parties, but such integration across systems needs to be seamless, enabling fast and secure data exchange.
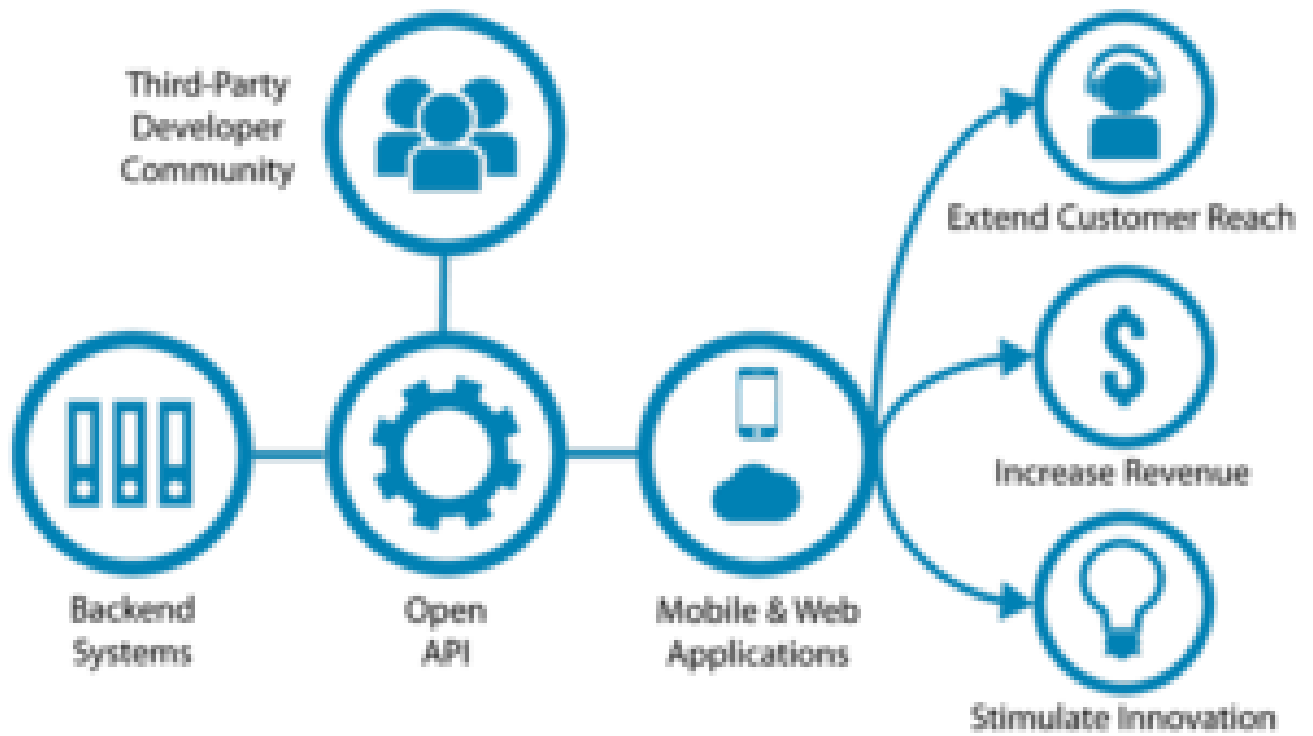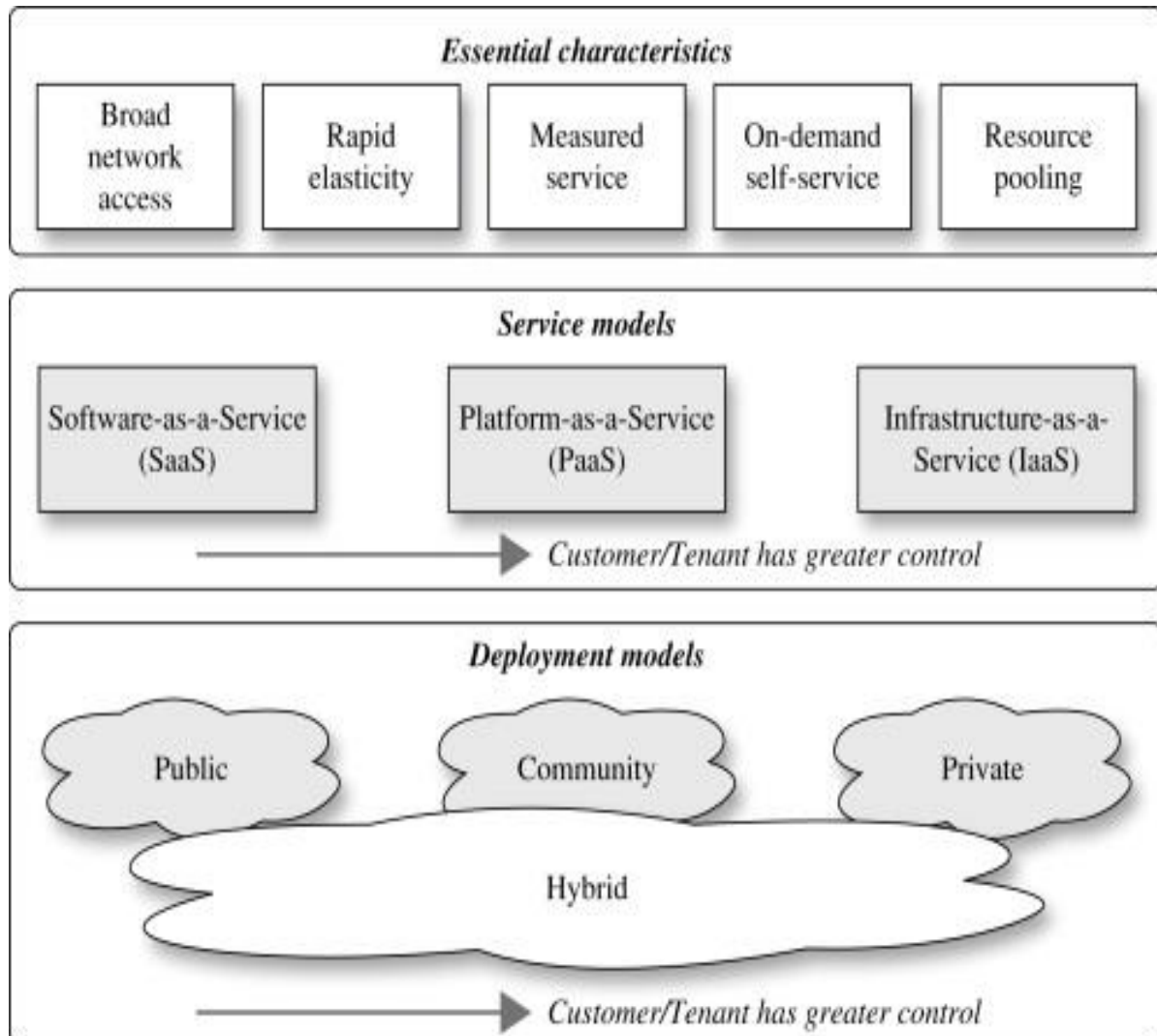
Cloud Deployment

Canva is primarily a graphic design tool, not a web development platform. While you can create visually appealing designs for your website using Canva, you cannot directly deploy a website on the cloud through Canva itself.

To deploy a website, you'll need to use a web hosting service and a content management system (CMS) like WordPress, Wix, or Square space. Here's a general outline of the steps you can follow:

1. Design Your Website: Use Canva to design the visual elements of your website, such as logos, banners, and other graphics.

2. Choose a Web Hosting Service: Select a web hosting provider (such as Bluehost, Site Ground, or AWS) that offers cloud hosting services. Sign up for a hosting plan that suits your needs.

3. Register a Domain: If you haven't already, register a domain name for your website. Many hosting providers offer domain registration services.

4. Install a CMS: Install a CMS like WordPress, Wix, or Squarespace on your hosting server. Most hosting providers offer easy installation options for these platforms.

5. Customize Your Website: Use the CMS to customize your website's layout, content, and functionality. You can integrate the graphics you created in Canva into your website.

6. Publish Your Website: Once you're satisfied with your website, publish it through the CMS. Your website will now be live on the internet.

7. Optimize for SEO: Implement search engine optimization (SEO) techniques to improve your website's visibility in search engine results.

Essential characteristics

Broad network access	Rapid elasticity	Measured service	On-demand self-service	Resource pooling

Service models

Software-as-a-Service (SaaS)	Platform-as-a-Service (PaaS)	Infrastructure-as-a-Service (IaaS)

Customer/Tenant has greater control →

Deployment models

Public   Community   Private

Hybrid

Customer/Tenant has greater control →

Project Development Phase

Number of Functional Features Included in the Solution

The number of functional features included in a website built using Canva can vary widely depending on the specific requirements and goals of the project. Canva offers a range of tools and features that enable users to create visually appealing designs and customize various elements. Some of the key functional features that can be leveraged when building a website with Canva include:

- Template Library: Canva provides a vast library of pre-designed templates for various purposes, including website headers, banners, social media graphics, and more. These templates serve as a starting point for customization.
- Customizable Elements: Users can easily modify text, colors, fonts, and images within templates to align with their brand or design preferences.
- Image Editing: Canva offers a suite of image editing tools, including cropping, resizing, filters, and effects. This allows for the customization of images to fit the website's design.
- Drag-and-Drop Interface: Canva's intuitive drag-and-drop interface simplifies the process of arranging and organizing elements on a webpage, making it accessible for users without advanced design skills.
- Graphic Elements: Users have access to a wide range of graphics, icons, shapes, and illustrations that can be incorporated into the website design.
- Charts and Infographics: Canva allows users to create charts and infographics to convey information visually, which can be useful for presenting data or statistics on a website.
- Collaboration Tools: Canva enables multiple users to collaborate on a design project in real-time, making it useful for teams working on a website together.
- Integration with Third-Party Platforms: Canva offers integrations with platforms like Google Drive, Dropbox, and social media networks, which can streamline the process of importing and exporting assets.
- Brand Kit: Canva's Brand Kit feature allows users to save and reuse brand-specific colors, fonts, and logos, ensuring consistency across designs and webpages.
- Publishing and Exporting Options: Canva provides various options for exporting designs, including formats suitable for web use. Users can also directly publish their designs to social media platforms or websites.
- Templates and Layouts: Canva offers a diverse library of pre-designed templates and layouts tailored for different types of websites. These templates serve as a foundation, providing a starting point for designers to customize and build upon, saving time and effort in the design process.
- Graphics and Illustrations: Canva provides an extensive collection of graphics, icons, and illustrations that designers can incorporate into their web pages. This feature enables the creation of visually appealing elements that enhance the overall look and feel of the website.
- Text Editing and Styling: The platform offers a robust text editor with a wide range of fonts, styles, and formatting options. Designers can add headings, subheadings, body text, and customize their appearance to match the website's branding and aesthetic.
- Image Editing and Filters: Canva's image editing tools allow users to enhance and modify images directly within the platform. This feature includes options for cropping, resizing, applying filters, adjusting brightness and contrast, and more.
- Color Palette Customization: Designers can select and customize color palettes to align with the brand identity of the website. Canva provides a color picker tool and the ability to save custom color schemes for easy access.

- Shapes and Elements: A wide variety of shapes, lines, and decorative elements are available in Canva's library. These can be used to create borders, dividers, buttons, and other design elements to enhance the visual appeal of the website.
- Charts and Graphs: For websites that require data visualization, Canva offers the ability to create charts and graphs. This feature is useful for presenting statistics, infographics, or any other data-driven content.
- Collaboration and Sharing: Canva supports collaborative work on design projects. Multiple users can work on a project simultaneously, making it a valuable tool for teams working on website development. Users can also share designs easily with others for feedback or review.
- Integration with External Platforms: Canva allows for seamless integration with various external platforms. This includes integrations with social media platforms, marketing tools, and content management systems, facilitating efficient workflows and content distribution.
- Animation and Interactive Elements: While Canva primarily focuses on static design, it offers some animation capabilities. Designers can create simple animations or interactive elements using features like GIF creation and hyperlinking.
- Download and Export Options: Once the design is complete, Canva provides options to download the project in various formats, including JPEG, PNG, PDF, and more. This ensures compatibility with different web development platforms and content management systems.

Code-Layout, Readability and Reusability

Code

```html
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>My Website</title>
  <link rel="stylesheet" href="styles.css">
</head>
<body>
  <header>
    <h1>Welcome to My Website</h1>
    <nav>
      <ul>
        <li><a href="#section1">Section 1</a></li>
        <li><a href="#section2">Section 2</a></li>
        <li><a href="#section3">Section 3</a></li>
```

```html
            </ul>
        </nav>  </header>
 <section id="section1">
        <h2>Section 1</h2>
        <p>This is the content of section 1.</p>
    </section>
 <section id="section2">
        <h2>Section 2</h2>
        <p>This is the content of section 2.</p>
    </section>
<section id="section3">
        <h2>Section 3</h2>
        <p>This is the content of section 3.</p>
    </section>


    <footer>
        <p>&copy; 2023 My Website</p>
    </footer>
        <script src="script.js"></script>
</body>
</html>
```
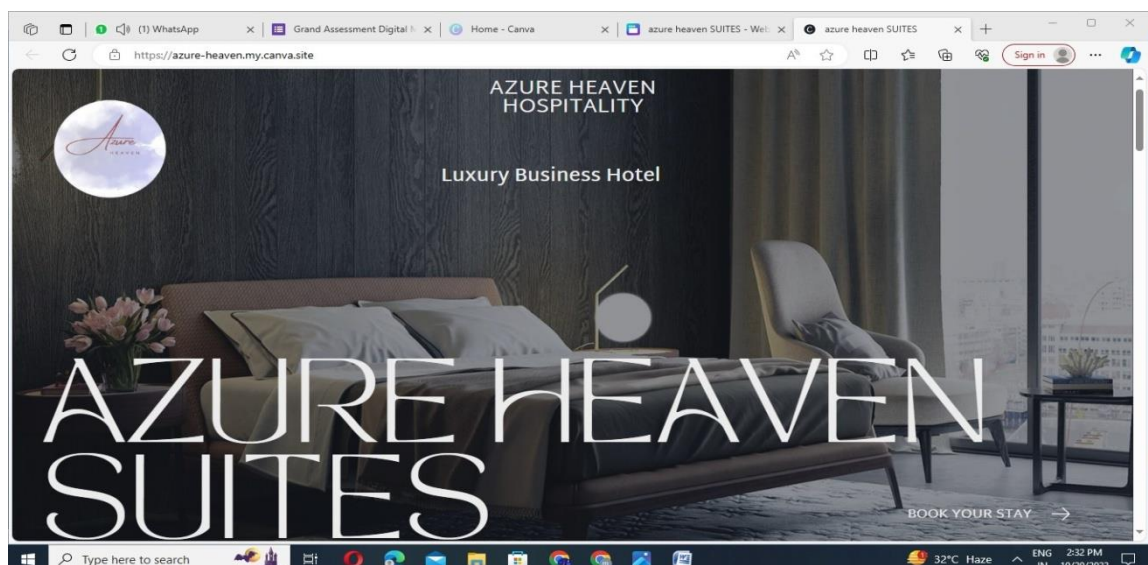
OUTPUT:

Utilization of Algorithms, Dynamic Programming, Optimal Memory Utilization

Utilization of Algorithms

Using algorithms in the context of building a website with Canva involves leveraging automated processes to streamline the design and layout creation. Canva, known for its user-friendly interface and pre-designed templates, can be enhanced with algorithms to expedite the design process. These algorithms can assist in tasks such as intelligent layout suggestions based on content, automating color schemes or font selections to maintain visual coherence, and even dynamically resizing elements to ensure responsiveness across various devices. Additionally, algorithms can be employed for content analysis, helping to generate tailored design recommendations based on the type and purpose of the website. By integrating algorithms with Canva, designers can achieve a more efficient and personalized approach to web development, ultimately delivering a visually appealing and user-friendly website.

Dynamic Programming

Dynamic programming is a technique used in computer science to efficiently solve problems by breaking them down into smaller sub problems. It's not directly related to building a website, but I can help you with a simple example where dynamic programming could be applied to a web development scenario.
Let's say you want to create a website where users can upload images, and you want to generate thumbnails of various sizes for these images. You want to do this efficiently to save storage and processing time.
Here's a simplified example of how dynamic programming could be used for this task:

```
def generate_thumbnail(image, width, height):
    # Assuming image is a 2D array representing the image
    # width and height are the desired dimensions of the thumbnail

    # Create a table to store intermediate result
 dp = [[0] * (len(image[0]) + 1) for _ in range(len(image) + 1)]
 for i in range(1, len(image) + 1):
     for j in range(1, len(image[0]) + 1):
        if i >= width and j >= height:
            dp[i][j] = max(dp[i-1][j], dp[i][j-1], dp[i-1][j-1] + 1)
        else:
            dp[i][j] = max(dp[i-1][j], dp[i][j-1])
return dp[len(image)][len(image[0])]

# Usage
image = [[1, 0, 1, 0, 1],
     [0, 1, 0, 1, 0],
     [1, 0, 1, 0, 1],
     [0, 1, 0, 1, 0]]
width = 2
height = 2
max_thumbnail_count = generate_thumbnail(image, width, height)
print(f"The maximum number of {width}x{height} thumbnails is: {max_thumbnail_count}")
```

In this example, the `generate_thumbnail` function uses dynamic programming to find the maximum number of thumbnails of a given width and height that can be generated from an image. It uses a 2D table (`dp`) to store intermediate results and efficiently compute the maximum count.
Again, it's important to note that dynamic programming is not typically used in web development for building websites using tools like Canva. It's more commonly used for algorithmic problem-solving. Building a website with Canva would involve using their platform and tools to create visual elements for your website, but dynamic programming wouldn't be directly involved in that process.

Optimal Memory Utilization

When building a website using Canva, it's important to optimize memory utilization to ensure smooth performance and efficient resource management. To achieve this, consider several key strategies. Firstly, optimize images and graphics by compressing them without compromising quality. Canva provides tools to resize and export images in web-friendly formats like JPEG or PNG. Additionally, avoid using overly large or high-resolution images unless absolutely necessary. Secondly, minimize the use of resource-intensive elements like videos or complex animations, and opt for simpler, lightweight alternatives when possible. Thirdly, organize and clean up your design files regularly to remove any unused or redundant assets. This reduces the overall memory footprint of your project. Lastly, consider using content delivery networks (CDNs) to offload some of the memory-intensive tasks, like serving images or videos, to distributed servers. This helps distribute the load and improve overall performance. By implementing these strategies, you can achieve optimal memory utilization for your Canva-based website, ensuring a seamless user experience.

DEBUGGING AND TRACEABILITY

Code:

```
<!DOCTYPE html>
<html>
<head>
<title>My Website</title>
<metacharset="UTF-8">
<metaname="viewport"content="width=device-width, initial-scale=1.0">
<linkrel="stylesheet"href="style.css">
</head>
<body>
<header>
<h1>My Website</h1>
<nav>
<a href="#">Home</a>
<a href="#">About</a>
<a href="#">Contact</a>
</nav>
</header>
<main>
<section id="about">
<h2>About Me</h2>
<p>I am a web developer.</p>
</section>
<section id="contact">
<h2>Contact Me</h2>
<p>You can contact me at <a
href="mailto:example@email.com">example@email.com</a>.</p>
</section>
</main>
<footer>
<p>My Website</p>
</footer></body></html>
```

Exception Handling

This code includes placeholders for error messages that can be dynamically filled based on the exceptions encountered in the Python code. We can integrate this HTML code with the Flask framework to display error messages to users in case of exceptions:

```html
html
<!DOCTYPE html>
<html lang="en">

<head>
<meta charset="UTF-8">
<meta http-equiv="X-UA-Compatible" content="IE=edge">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Hotel Website</title>
</head>

<body>
<h1>Welcome to Our Hotel</h1>

<!-- Displaying error messages if there are any -->
   {% if error_message %}
<div style="color: red;">
<p>{{ error_message }}</p>
</div>
   {% endif %}

<!-- Displaying available rooms -->
<h2>Available Rooms:</h2>
<ul>
     {% for room_number in available_rooms %}
<li>Room {{ room_number }} <a href="{{ url_for('book_room', room_number=room_number)
}}">Book</a></li>
     {% endfor %}
</ul>
</body>

</html>
```
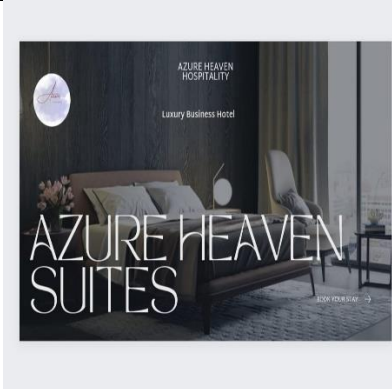
In this HTML code, the `error_message` variable is used to display any error messages that are passed from the Python code. If there is an error, it will be displayed in red color above the list of available rooms.

Performance and Final Submission Phase

Model Performance Metrics

Model Performance Testing:

Parameter	Values	Screenshot
Metrics	Visual Studio code Execution time and Output screenshot Or HTML accuracy of prediction and output screenshot	

Demo link:

https://drive.google.com/file/d/1_DHYt6VgS9OP5Wt6NhrkNQKMEgrnlUI1/view?usp=drivesdk