UCD Professional Diploma

Full Stack Software Development

Javascript

Planning Analysis Sheet

github-repo link: [Githerd.javascript.io]

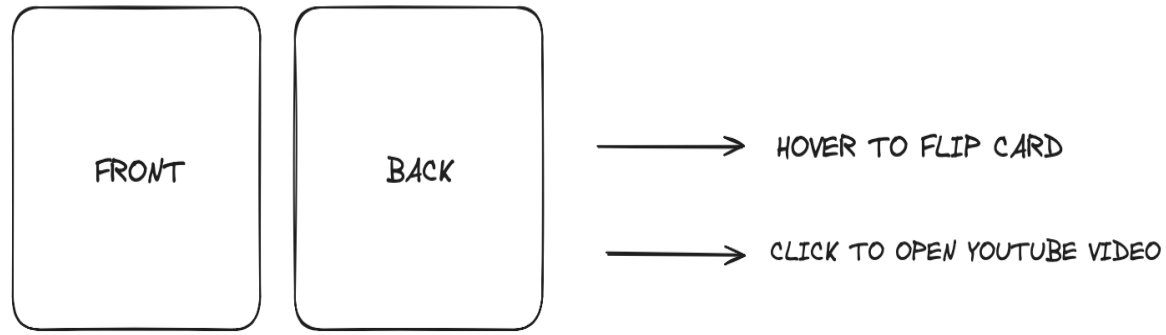
Kareemat Adebisi

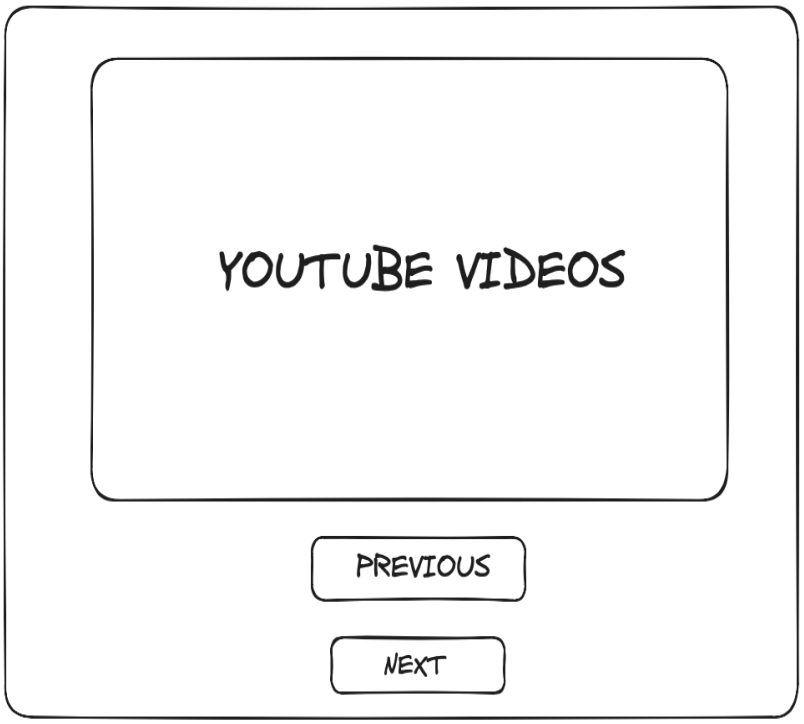
Project Overview

The Comedy Website is a JavaScript-based application designed to provide users with an interactive and engaging experience focused on comedy clubs and comedians. The site includes a gallery of comedian images that link to their YouTube videos, a spinning wheel to randomly select a comedy club, and a signup form for users to register their details.

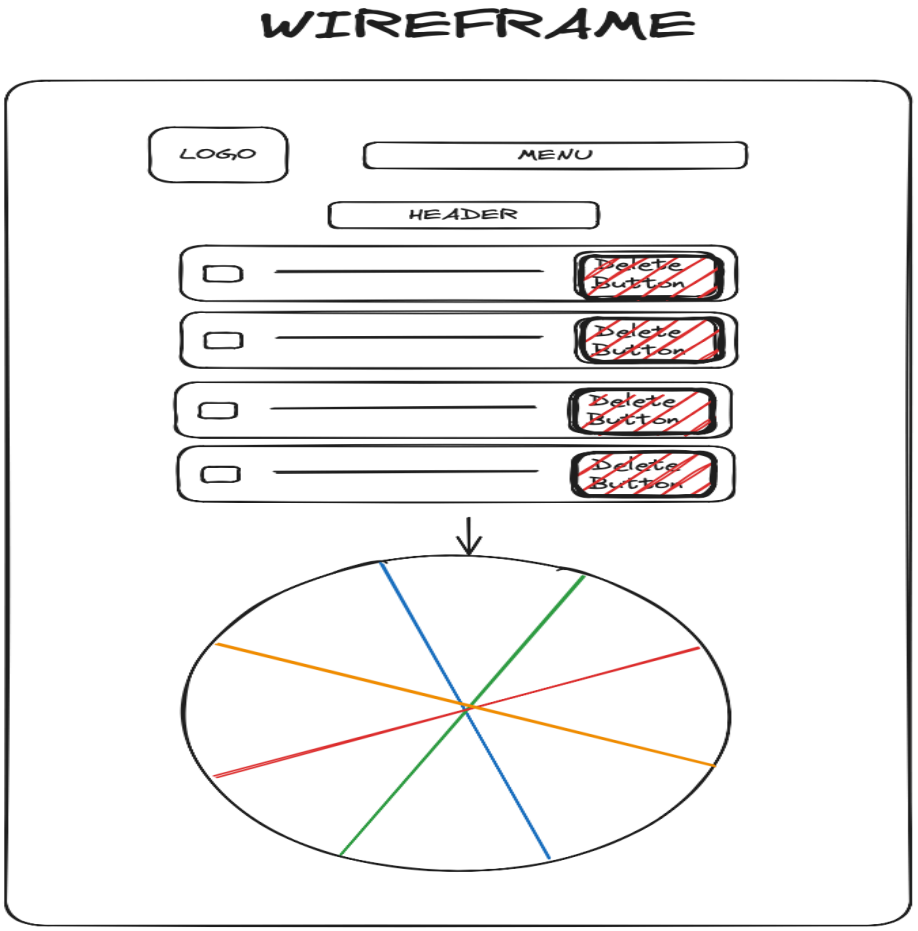
Functional Requirements

1. **The Image Gallery is set up to** Display a grid of comedian images. Users can open a modal with an embedded YouTube video when an image is clicked. The website Includes navigation buttons to move to the next or previous video.





2. **The feature on the Spinning Wheel is to engage the users** by displaying a colourful visual representation of the various comedy clubs.The wheel spins when a button is clicked and lands on a random comedy club.



3. **A Signup Form collects useful information about the user**. The website has a signup form with fields for name, email, and password. The website is able to validate the input fields and will display a confirmation message upon successful submission.

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Non-Functional Requirements

1. **The website Performance allows for easy use as it has**:
    - Fast loading time for images and videos.
    - Smooth animations for the spinning wheel.
2. **The website's usability is achieved by including**:
    - Intuitive and easy-to-use interface.
    - Clear instructions and feedback for user actions - buttons are a good size and clear headings.
3. **Users are engaged by website accessibility features as I have**:
    - Ensured the site is navigable using a keyboard.
    - Provided text alternatives for non-text content.
4. **Compatibility**:
    - Ensure compatibility with major web browsers (Chrome, Firefox, Safari, Edge).

Components Breakdown

1. Image Gallery

- **HTML file includes** :
  - Container for comedian images.

    `<div id="imageContainer"></div>:`
  - Modal structure for displaying YouTube videos.
- **CSS**:
  - Styling for the image grid, modal, and navigation buttons.

```
.image-gallery {
   display: flex;
   flex-wrap: wrap;
   justify-content: space-around;
}

.flip-card {
   background-color: transparent;
   width: 300px;
   height: 200px;
   perspective: 1000px;
   margin: 10px;
   cursor: pointer;
}

.flip-card-inner {
   position: relative;
   width: 100%;
   height: 100%;
   text-align: center;
   transition: transform 0.6s;
   transform-style: preserve-3d;
}

.flip-card:hover .flip-card-inner {
   transform: rotateY(180deg);
}

.flip-card-front, .flip-card-back {
   position: absolute;
   width: 100%;
   height: 100%;
   backface-visibility: hidden;
```

```
   -webkit-backface-visibility: hidden;
}

.flip-card-front {
   background: #fff;
}

.flip-card-back {
   background: #000;
   transform: rotateY(180deg);
   padding: 20px;
   overflow-y: auto;
}

.modal {
   display: none;
   position: fixed;
   z-index: 1;
   padding-top: 60px;
   left: 0;
   top: 0;
   width: 100%;
   height: 100%;
   overflow: auto;
   background-color: rgb(0, 0, 0);
   background-color: rgba(0, 0, 0, 0.9);
}

.modal .close {
   position: absolute;
   top: 15px;
   right: 35px;
   color: #f1f1f1;
   font-size: 40px;
   font-weight: bold;
   transition: 0.3s;
}

.modal .close:hover,
.modal .close:focus {
   color: #bbb;
   text-decoration: none;
   cursor: pointer;
}
```

```
.modal iframe {
   display: block;
   margin: 0 auto;
}

#prevBtn, #nextBtn {
   display: block;
   margin: 20px auto;
   padding: 10px 20px;
   background-color: #f1f1f1;
   border: none;
   cursor: pointer;
}

#prevBtn:hover, #nextBtn:hover {
   background-color: #ddd;
}
```

JavaScript:

```
document.addEventListener("DOMContentLoaded", function() {
   const images = [
       { src: "daraobriain.jpg", alt: "Dara Ó Briain", video:
"https://www.youtube.com/embed/Gz7OzGpSRnw", bio: "Dara Ó Briain is an Irish
comedian and television presenter, known for his witty humor and sharp intellect."
},
       { src: "Tommy-Tiernan.jpg", alt: "Tommy Tiernan", video:
"https://www.youtube.com/embed/8fKVPtn-szk", bio: "Tommy Tiernan is an Irish
comedian, actor, and writer, celebrated for his unique storytelling style." },
       { src: "Graham-Norton.jpg", alt: "Graham Norton", video:
"https://www.youtube.com/embed/1U-amrqqCKw", bio: "Graham Norton is an Irish
television and radio presenter, known for his popular talk show." },
       { src: "Aisling-Bea.jpg", alt: "Aisling Bea", video:
"https://www.youtube.com/embed/YLU6m1D_uWs", bio: "Aisling Bea is an Irish
comedian, actress, and writer, known for her sharp humor and acting skills." },
       { src: "David-O-Doherty.jpg", alt: "David O'Doherty", video:
"https://www.youtube.com/embed/3YI7VIwLmCM", bio: "David O'Doherty is an Irish
comedian, author, musician, actor, and playwright, recognized for his musical
comedy." },
       { src: "Ardal-O-Hanlon.jpg", alt: "Ardal O'Hanlon", video:
"https://www.youtube.com/embed/H8-AZ5ri6H8", bio: "Ardal O'Hanlon is an Irish
comedian and actor, best known for his role in the sitcom Father Ted." }
       { src: "Ed-Byrne.jpg", alt: "Ed Byrne", video:
"https://www.youtube.com/watch?v=Doz9BpXMUXI", bio: "Ed Byrne is a comedian and
actor known for his observational humor."}];
```

```
    let currentIndex = 0;

    const container = document.getElementById('imageContainer');
    const modal = document.getElementById('videoModal');
    const videoFrame = document.getElementById('videoFrame');
    const closeBtn = document.querySelector('.modal .close');
    const prevBtn = document.getElementById('prevBtn');
    const nextBtn = document.getElementById('nextBtn');

    images.forEach((image, index) => {
        const flipCard = document.createElement('div');
        flipCard.className = 'flip-card';
        flipCard.dataset.index = index;

        const flipCardInner = document.createElement('div');
        flipCardInner.className = 'flip-card-inner';

        const flipCardFront = document.createElement('div');
        flipCardFront.className = 'flip-card-front';
        const img = document.createElement('img');
        img.src = image.src;
        img.alt = image.alt;
        img.width = 300;
        img.height = 200;
        flipCardFront.appendChild(img);

        const flipCardBack = document.createElement('div');
        flipCardBack.className = 'flip-card-back';
        const bio = document.createElement('p');
        bio.textContent = image.bio;
        flipCardBack.appendChild(bio);

        flipCardInner.appendChild(flipCardFront);
        flipCardInner.appendChild(flipCardBack);
        flipCard.appendChild(flipCardInner);
        container.appendChild(flipCard);
    });

    container.addEventListener('click', (event) => {
        if (event.target.tagName === 'IMG' ||
event.target.classList.contains('flip-card-back')) {
            currentIndex =
parseInt(event.target.closest('.flip-card').dataset.index, 10);
            openModal();
        }
```

```
    });

    closeBtn.addEventListener('click', closeModal);
    window.addEventListener('click', (event) => {
        if (event.target === modal) {
            closeModal();
        }
    });

    prevBtn.addEventListener('click', showPrevious);
    nextBtn.addEventListener('click', showNext);

    function openModal() {
        videoFrame.src = images[currentIndex].video;
        modal.style.display = 'block';
    }

    function closeModal() {
        modal.style.display = 'none';
        videoFrame.src = '';
    }

    function showPrevious() {
        currentIndex = (currentIndex - 1 + images.length) % images.length;
        videoFrame.src = images[currentIndex].video;
    }

    function showNext() {
        currentIndex = (currentIndex + 1) % images.length;
        videoFrame.src = images[currentIndex].video;
    }
});
```

2. Spinning Wheel

- **HTML**:
- Canvas for the spinning wheel.

```
<button id="spinButton">Spin</button>
```

- Button to spin the wheel.

```
<canvas id="wheelCanvas"></canvas>:
```

- Display the result.

```
<div id="result"></div>
```

- **CSS**:
- Styling for the canvas, button, and result display.

```
.wheel-container {

   position: relative;

   display: inline-block;

   margin-top: 50px;

}



canvas {

   border: 5px solid #000;

}



#pointer {

   position: absolute;

   width: 0;

   height: 0;

   border-left: 20px solid transparent;
```

```
    border-right: 20px solid transparent;

    border-top: 30px solid red;

    top: 0%;

    left: 50%;

    transform: translate(-50%, -100%);

}



#spinButton {

    position: absolute;

    top: 40%;

    left: 50%;

    transform: translate(-50%, -50%);

    padding: 10px 20px;

    font-size: 16px;

    cursor: pointer;

}
```

JavaScript:

```
const comedyClubs = [
    "The Comedy Cellar",
    "The Laughter Lounge",
    "The International Comedy Club",
    "The Empire Comedy Club",
    "The Roisin Dubh Comedy Club",
    "The Bankers Comedy Club",
    "Cherry Comedy",
    "The Comedy Crunch",
    "The Empire Laughs Back",
    "Anseo Comedy Club"
];
```

```
const canvas = document.getElementById('wheelCanvas');
const ctx = canvas.getContext('2d');
const spinButton = document.getElementById('spinButton');
const resultDisplay = document.getElementById('result');
const radius = canvas.width / 2;
const arc = Math.PI / (comedyClubs.length / 2);
let spinAngleStart = 10;
let spinTime = 0;
let spinTimeTotal = 0;

function drawWheel() {
   ctx.clearRect(0, 0, canvas.width, canvas.height);
   for (let i = 0; i < comedyClubs.length; i++) {
       const angle = i * arc;
       ctx.beginPath();
       ctx.arc(radius, radius, radius, angle, angle + arc, false);
       ctx.lineTo(radius, radius);
       ctx.fillStyle = getColor(i, comedyClubs.length);
       ctx.fill();
       ctx.save();
       ctx.fillStyle = "black";
       ctx.font = 'bold 10px Arial';
       ctx.translate(radius + Math.cos(angle + arc / 2) * radius * 0.9,
           radius + Math.sin(angle + arc / 2) * radius * 0.9);
       ctx.rotate(angle + arc / 2 + Math.PI / 2);
       const text = comedyClubs[i];
       ctx.fillText(text, -ctx.measureText(text).width / 2, 0);
       ctx.restore();
   }
}

function getColor(item, maxitem) {
   const phase = 0;
   const center = 128;
   const width = 127;
   const frequency = Math.PI * 2 / maxitem;

   const red = Math.sin(frequency * item + 2 + phase) * width + center;
   const green = Math.sin(frequency * item + 0 + phase) * width + center;
   const blue = Math.sin(frequency * item + 4 + phase) * width + center;

   return `rgb(${red},${green},${blue})`;
}

function rotateWheel() {
```

```
    spinTime += 30;
    if (spinTime >= spinTimeTotal) {
        stopRotateWheel();
        return;
    }
    const spinAngle = spinAngleStart - easeOut(spinTime, 0, spinAngleStart,
spinTimeTotal);
    startAngle += (spinAngle * Math.PI / 180);
    drawRotatedWheel();
    spinTimeout = setTimeout(rotateWheel, 30);
}

function stopRotateWheel() {
    clearTimeout(spinTimeout);
    const degrees = startAngle * 180 / Math.PI + 90;
    const arcd = arc * 180 / Math.PI;
    const index = Math.floor((360 - degrees % 360) / arcd);
    ctx.save();
    ctx.font = 'bold 30px Helvetica, Arial';
    const text = comedyClubs[index];
    resultDisplay.innerText = `You landed on: ${text}`;
    ctx.restore();
}

function easeOut(t, b, c, d) {
    const ts = (t /= d) * t;
    const tc = ts * t;
    return b + c * (tc + -3 * ts + 3 * t);
}

function drawRotatedWheel() {
    ctx.clearRect(0, 0, canvas.width, canvas.height);
    ctx.save();
    ctx.translate(radius, radius);
    ctx.rotate(startAngle);
    ctx.translate(-radius, -radius);
    drawWheel();
    ctx.restore();
}

spinButton.addEventListener('click', () => {
    spinAngleStart = Math.random() * 10 + 10;
    spinTime = 0;
    spinTimeTotal = Math.random() * 3 + 4 * 1000;
    rotateWheel();
```

```
});

let startAngle = 0;
drawWheel();
document.addEventListener('DOMContentLoaded', () => {
    const taskList = document.getElementById('taskList');

    taskList.addEventListener('change', (event) => {
        if (event.target.classList.contains('task-checkbox')) {
            const listItem = event.target.closest('li');
            listItem.classList.toggle('checked', event.target.checked);
        }
    });

    taskList.addEventListener('click', (event) => {
        if (event.target.classList.contains('delete-btn')) {
            const listItem = event.target.closest('li');
            listItem.remove();
        }
    });
});
```

3. Signup Form

- **HTML**:

Form for user input.

- Fields for name, email, and password.
- Submit button.

- **CSS**:

- Styling for the form fields and submit button.

```
form {

   max-width: 400px;

   margin: 0 auto;

   padding: 100px;

   background-color: #fff;

   border-radius: 20px;

   box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);

}
```

```
button {

   margin-top: 20px;

   padding: 10px 20px;

   font-size: 16px;

   cursor: pointer;

}
```

JavaScript:

```
document.addEventListener('DOMContentLoaded', () => {
   const form = document.getElementById('myForm');
   const resultDiv = document.getElementById('result');

   form.addEventListener('submit', function (event) {
       event.preventDefault(); // Prevent form from submitting the default way

       const name = document.getElementById('name').value;
       const email = document.getElementById('email').value;
       const password = document.getElementById('password').value;

       // Simple validation
       if (name && email && password) {
           // Display success message
           resultDiv.innerHTML = `<p>Thank you for signing up, ${name}!</p>`;
```

```
            resultDiv.style.display = 'block';
        } else {
            // Display error message
            resultDiv.innerHTML = `<p>Please fill in all fields correctly.</p>`;
            resultDiv.style.display = 'block';
        }
    });
});
```

Testing

I have ensured all images load correctly and display in the gallery.

I have verified that clicking an image opens the correct YouTube video in the modal.

I have tested the spinning wheel to ensure it spins and selects a comedy club at random.

Lastly, I have validated the form inputs and check that the confirmation message displays upon submission.

Potential Improvements / Challenges Faced

The design would have been more visually appealing if additional styles were used. The website could be more accessible to more users if accessibility features such as ARIA labels were enhanced and the keyboard navigation was improved.

It is my goal to be able to Implement server-side validation for the signup form and be able to add more dynamic APIs to engage my users. And to be able to place features align exactly as imagined.