Indira Gandhi Delhi Technical University for Women
(Established by Govt. of Delhi vide Act 09 of 2012)
Kashmere Gate, Delhi – 110006

PROJECT REPORT
IT WORKSHOP - II
MCA – 110

Submitted By: Submitted To:
Shweta Rawat   **Ms. Manu Shree**
E.No. 06304092023

INDEX

1. Introduction

(1.1) About Me:

My name is Shweta Rawat, and I am a student at IGDTUW pursuing a degree in Masters in Computer Applications. As part of my IT Workshop course, I am undertaking a project to develop an online portfolio website for Dr. A.K. Mohapatra, HOD IT department, IGDTUW.

(1.2) Need and Significance:

In today's digital age, having a strong online presence is crucial for professionals to showcase their expertise and achievements. Dr. Mohapatra, with his distinguished academic and professional journey, currently lacks an online portfolio tailored to highlight his contributions to the field. This project aims to bridge this gap by creating a visually appealing and informative website that effectively presents Dr. Mohapatra's qualifications, experience, and accomplishments.

2. Project Objectives

The primary objectives of this project are:

(2.1) Compelling Visual Design:

Develop a website that is aesthetically pleasing, user-friendly, and aligns with Dr. Mohapatra's professional image. Utilize modern design principles and high-quality visuals to create a lasting impression on visitors.

(2.2) Comprehensive Content:

Create a comprehensive narrative of Dr. Mohapatra's academic journey, including his teaching and research experiences, publications, and awards. Showcase his professional accomplishments at the university and his role as Chief Technical Officer at Delhi Police, highlighting key projects and contributions.

(2.3) Essential Functionalities:

Implement essential features such as:

- Clear and concise contact information for potential collaborators and employers.

- A downloadable CV section presenting Dr. Mohapatra's academic credentials and professional experience in a structured format.

- Dedicated sections showcasing research publications, awards, and testimonials from colleagues and collaborators.

(2.4) Mobile Responsiveness:

Ensure the website seamlessly adapts to various screen sizes and devices, providing an optimal user experience across desktops, tablets, and smartphones.

3. Methodology

3.1 Planning and Research:

- **Collaboration with Dr. Mohapatra:** Conduct in-depth discussions with Dr. Mohapatra to understand his specific requirements, preferences, and vision for the website.

- **Market Research:** Analyze successful online portfolios of academics and professionals in Dr. Mohapatra's field to identify effective design strategies and content presentation methods.

- **Technology Evaluation:** Research and select suitable web development platforms or frameworks that offer the necessary features and functionalities for creating a dynamic and responsive website.

3.2 Content Gathering:

- Collect all necessary information from Dr. Mohapatra, including his biography, professional experience, publications, awards, and any relevant visual assets like high-resolution photographs and project screenshots.

- Ensure all content is accurate, up-to-date, and presented in a professional and engaging manner.

3.3 Design and Development:

- **Initial Mockups:** Create low-fidelity mockups to conceptualize the website's layout, navigation, and overall visual style.

- **Interactive Prototype:** Develop a high-fidelity prototype incorporating feedback from Dr. Mohapatra and refining the design elements.

- **Website Development:** Implement the final design using the chosen technology platform, paying close attention to code quality, accessibility, and SEO optimization.

(3.3 Design and Development):

- **Visual Elements:** Utilize high-quality images, infographics, and other visual aids to enhance the website's aesthetic appeal and effectively communicate Dr. Mohapatra's accomplishments.

- **Responsiveness Testing:** Thoroughly test the website's responsiveness across various devices and browsers to ensure optimal user experience on all platforms.

(3.4 Testing and Deployment):

- **Internal Testing:** Conduct rigorous internal testing to identify and rectify any bugs or functionality issues before deployment.

- **Beta Testing:** Invite a small group of users, potentially Dr. Mohapatra's colleagues or peers, to provide feedback on the website's usability and overall effectiveness.

- **Deployment:** Launch the website on a reliable web hosting platform, ensuring proper domain registration and security measures are in place.

4. Technology Stack

- ## Front-end Technologies:

HTML:

HTML is used as the foundational structure of the web pages in the portfolio. It provides the semantic markup for the content displayed on the site, such as headings, paragraphs, forms, and links. It serves as the base for the user interface and is responsible for presenting data and facilitating user interactions.

HyperText Markup Language or **HTML** is the standard markup language for documents designed to be displayed in a web browser. It defines the content and structure of web content. It is often assisted by technologies such as [Cascading Style Sheets](#) (CSS) and scripting languages such as [JavaScript](#).

[Web browsers](#) receive HTML documents from a web server or from local storage and render the documents into multimedia web pages. HTML describes the structure of a web page semantically and originally included cues for its appearance.

HTML elements are the building blocks of HTML pages. With HTML constructs, images and other objects such as interactive forms may be embedded into the rendered page. HTML provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes, and other items. HTML elements are

delineated by *tags*, written using angle brackets. Tags such as **<img>** and **<input>** directly introduce content into the page. Other tags such as **<p>** and **</p>** surround and provide information about document text and may include sub-element tags. Browsers do not display the HTML tags but use them to interpret the content of the page.

HTML can embed programs written in a scripting language such as [JavaScript], which affects the behavior and content of web pages. The inclusion of CSS defines the look and layout of content. The World Wide Web Consortium (W3C), former maintainer of the HTML and current maintainer of the CSS standards, has encouraged the use of CSS over explicit presentational HTML since 1997.[2] A form of HTML, known as HTML5, is used to display video and audio, primarily using the **<canvas>** element, together with JavaScript.

 CSS:
CSS is used to style web pages, defining the layout, colors, fonts, and other visual aspects of the site. It enhances the user experience by making the interface visually appealing and consistent.

Cascading Style Sheets (CSS) is a style sheet language used for specifying the presentation and styling of a document written in a markup language such as HTML or XML (including XML dialects such as SVG, MathML or XHTML).[1] CSS is a cornerstone

technology of the World Wide Web, alongside HTML and JavaScript.[2]

CSS is designed to enable the separation of content and presentation, including layout, colors, and fonts.[3] This separation can improve content accessibility;[further explanation needed] provide more flexibility and control in the specification of presentation characteristics; enable multiple web pages to share formatting by specifying the relevant CSS in a separate .css file, which reduces complexity and repetition in the structural content; and enable the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

Separation of formatting and content also makes it feasible to present the same markup page in different styles for different rendering methods, such as on-screen, in print, by voice (via speech-based browser or screen reader), and on Braille-based tactile devices. CSS also has rules for alternate formatting if the content is accessed on a mobile device.[4]

The name cascading comes from the specified priority scheme to determine which declaration applies if more than one declaration of a property match a particular element. This cascading priority scheme is predictable.

JavaScript:

JavaScript adds interactivity and dynamic behavior to the portfolio.

JavaScript powers the user experience by allowing users to navigate and interact with the portfolio seamlessly. Often abbreviated as JS, is a programming language and core technology of the Web, alongside HTML and CSS. 99% of websites use JavaScript on the client side for webpage behavior.[10]

Web browsers have a dedicated JavaScript engine that executes the client code. These engines are also utilized in some servers and a variety of apps. The most popular runtime system for non-browser usage is Node.js.

JavaScript is a high-level, often just-in-time compiled language that conforms to the ECMAScript standard.[11] It has dynamic typing, prototype-based object-orientation, and first-class functions. It is multi-paradigm, supporting event-driven, functional, and imperative programming styles. It has application programming interfaces (APIs) for working with text, dates, regular expressions, standard data structures, and the Document Object Model (DOM).

The ECMAScript standard does not include any input/output (I/O), such as networking, storage, or graphics facilities. In practice, the web browser or other runtime system provides JavaScript APIs for I/O.

Although Java and JavaScript are similar in name, syntax, and respective standard libraries, the two languages are distinct and differ greatly in design.

Hosting Platform:

Below are the detailed steps to deploy your website on GitHub:

Step 1: Create a GitHub Repository

1. **Sign in to GitHub:**

   - If you don't have an account, sign up at GitHub.

2. **Create a New Repository:**

   - Click on the "+" icon in the upper right corner and select "New repository".

   - Name your repository (e.g., **my-website**).

   - Optionally, add a description.

   - Choose to make the repository public.

   - Initialize the repository with a README file (optional).

Step 2: Add Your Website Files to the Repository

1. **Clone the Repository to Your Local Machine:**

   - Open a terminal (or Git Bash on Windows).

   - Clone the repository using the command:

   git clone https://github.com/your-username/my-website.git

   - Replace **your-username** and **my-website** with your actual GitHub username and repository name.

2. **Add Your Website Files:**

   - Copy your website files (HTML, CSS, JavaScript, images, etc.) into the cloned repository directory on your local machine.

3. **Commit and Push the Files:**

   - Navigate to the repository directory:

   cd my-website

   - Add the files to the staging area:

   git add .

   - Commit the changes with a message:

   git commit -m "Initial commit of website files"

   - Push the changes to GitHub:

   git push origin main

Step 3: Configure GitHub Pages

1. **Navigate to the Repository on GitHub:**

   - Go to your repository on GitHub (https://github.com/your-username/my-website).

2. **Access GitHub Pages Settings:**

   - Click on the "Settings" tab.

   - Scroll down to the "GitHub Pages" section.

3. **Select the Source:**

   - Under "Source", select the branch you want to use for GitHub Pages (typically **main** or **master**).

   - Click "Save".

4. **Configure the Directory:**

   - If your website files are in the root of the repository, you don't need to change anything.

   - If your files are in a subdirectory (e.g., **docs**), select that directory.

Step 4: Access Your Deployed Website

1. **Wait for Deployment:**

   - GitHub will automatically deploy your site. This may take a few minutes.

2. **Access the URL:**

- Your website will be available at **https://your-username.github.io/my-website**.

- Replace **your-username** and **my-website** with your GitHub username and repository name.

Step 5: Custom Domain (Optional)

1. **Set Up a Custom Domain:**

   - If you want to use a custom domain, you need to configure DNS settings with your domain registrar.

   - Add a **CNAME** file in your repository with your custom domain.

2. **Update GitHub Pages Settings:**

   - In the "GitHub Pages" section of the repository settings, enter your custom domain.

- # Additional Tools:

  Design software (Figma): Figma is a powerful collaborative design tool that brings together various aspects of the design process in one platform. Here are some key features:

  1. **Design and Prototyping**: Figma allows you to create designs for websites, applications, logos, and more. You can also build realistic prototypes to iterate on user flows and interactions.

2. **Real-Time Collaboration**: Multiple team members can work together simultaneously on the same project. This real-time collaboration feature enhances efficiency and ensures everyone is on the same page.

3. **Dev Mode**: Figma includes a dedicated space called Dev Mode for developers. It helps bridge the gap between design and development by providing tools for translating designs into code.

4. **Design Systems**: Figma enables you to create and maintain design systems. You can standardize components, variables, and styles, ensuring consistency across your projects

Photo editing tools (Adobe Photoshop Lightroom):

Adobe Photoshop Lightroom is a powerful photo and video editor that empowers you to edit, organize, store, and share your photos and videos across desktop, mobile, and web platforms. It offers nondestructive editing features, sliders, and filters to enhance your photos. Additionally, Lightroom provides integrated AI organization tools to help you manage and share your visual content effectively.

Here are some key features of Adobe Photoshop Lightroom:

1. **Nondestructive Editing**: Lightroom enables you to make edits to your photos without permanently altering the original image. You can adjust exposure, color balance, sharpness, and other parameters while preserving the original file.

2. **AI Organization**: Lightroom uses artificial intelligence to organize your photo library. It automatically tags and categorizes images based on content, making it easier to find specific photos.

3. **Cross-Platform Compatibility**: You can access Lightroom on your desktop, mobile device, or via the web. Your edits and changes sync seamlessly across all platforms.

4. **Cloud Storage**: Lightroom provides 1TB of cloud storage, allowing you to store and access your photos from anywhere.

5. **User-Friendly Interface**: Lightroom's interface is designed for ease of use, making it accessible to both beginners and experienced photographers

5. Implementation Plan:

- Creating a detailed plan outlining key milestones, deadlines, and deliverables for each development stage.

- Assigning specific duration to tasks and responsibilities to ensure efficient project management and timely completion.

- Conducting regular progress meetings with Dr. Mohapatra to keep him informed and gather feedback throughout the development process.

- Conducting regular progress meetings with Ms. Manu Shree so to keep her updated with the project's progress and get her feedback.

6. Various pages of the website:

Home Page

- **Overview:** Serves as the central hub with links to all other pages on the website.

- **Theme Change Button:** Includes a button allowing users to switch between different themes (e.g., light and dark mode) for a personalized browsing experience.

- **Navigation:** Provides easy access to all sections of the website, ensuring seamless user experience.

About Me Page

- **Professional Timeline:** Displays a detailed timeline of Dr. A.K. Mohapatra's professional career, including key positions held, major achievements, and notable projects.

- **Educational Background:** Highlights Dr. Mohapatra's educational qualifications and institutions attended.

- **Research Areas:** Describes the primary areas of research that Dr. Mohapatra focuses on, along with percentages indicating the distribution of his work across various topics.

- **Visual Representation:** Uses charts or infographics to illustrate the percentages of research topics, making the information easily digestible.

Dr. A.K.'s PhD Scholars Page

- **Current and Past Scholars:** Lists all current and past PhD scholars mentored by Dr. Mohapatra.

- **Interactive Feature:** Allows users to hover over scholars' images to reveal personal testimonials about their experiences with Dr. Mohapatra.

- **Profiles:** Each scholar's profile includes links to their LinkedIn and Google Scholar pages, providing additional context and networking opportunities.

Research Papers Page

- **Highlighted Research:** Showcases some of Dr. Mohapatra's most significant and impactful research papers.

- **Comprehensive Archive:** Provides a link to access a complete archive of all research conducted by Dr. Mohapatra.

- **Search Functionality:** Includes a search option for users to find specific papers by title or keywords.

Contact Page

- **Contact Information:** Lists all relevant contact details for Dr. Mohapatra, including email address, phone number, and office location.

- **Email Icon:** Features an email icon that, when clicked, opens an email dialog box pre-filled with Dr. Mohapatra's email address for easy communication.

- **Social Media Links:** Includes links to Dr. Mohapatra's professional social media profiles (e.g., LinkedIn, ResearchGate).

7. Evaluation

- **Website Analytics:** Track key metrics such as website traffic, user engagement, bounce rate, and conversion rates (e.g., contact form submissions) to assess the website's effectiveness in achieving its objectives.

- **User Feedback:** Conduct surveys or interviews with users to gather their opinions on the website's design, usability, and content.

- **Dr. Mohapatra's Satisfaction:** Regularly seek feedback from Dr. Mohapatra to ensure the website meets his expectations and effectively serves its purpose.

8. Conclusion:

Developing an online portfolio website for Dr. A.K. Mohapatra is a valuable project that will address his need for a digital presence to showcase his academic and professional achievements. By following a well-defined methodology, utilizing appropriate technologies, and prioritizing user experience, this project can create a visually appealing, informative, and easily accessible website that effectively highlights Dr. Mohapatra's expertise and contributions to his field.