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St. MOTHER THERESA ENGINEERING COLLEGE

COMPUTER SCIENCE ENGINEERING

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Phase 3

FRONT END TECHNOLOGY

PORTFOLIO WEBSITE

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Phase 3 — MVP Implementation

The third phase of the project focused on **building the Minimum Viable Product (MVP)** of the Portfolio Website using **WordPress**. At this stage, the aim was to move from requirements and design (Phase 1) into actual development and testing of the core features. The MVP was created to ensure that the website became functional, responsive, and capable of meeting the expectations of users and stakeholders.

1. Project Setup

The Portfolio Website was developed using **WordPress CMS**, selected for its flexibility, ease of use, and extensive support community. The local development environment was prepared using **XAMPP**, which provided Apache server and MySQL database support.

The setup steps included:

1. Installing XAMPP on the development machine.
2. Creating a new database named portfolio_db in **phpMyAdmin**.
3. Downloading and installing the latest version of **WordPress** into the htdocs directory.
4. Configuring WordPress to connect with the database.
5. Choosing the **Astra theme** because it is lightweight, customizable, and optimized for speed.
6. Installing **Elementor page builder** for drag-and-drop design without coding.
7. Installing essential plugins:
    a. **Contact Form 7** → for handling inquiries.
    b. **WP Portfolio** → for showcasing projects in gallery format.
    c. **Yoast SEO** → for search engine optimization.
    d. **WP Super Cache** → for performance optimization.

This setup provided a strong foundation to implement the features identified in Phase 1.

2. Core Features Implementation

The MVP included four main pages: **Home, About, Portfolio, and Contact.**

- **Home Page:**
  Introduced the owner with a profile photo, name, tagline (e.g., “Aspiring Software Engineer | Web Developer”), and a short description. A skills section was added using Elementor widgets, followed by a call-to-action button linking to the Portfolio page.

- **About Page:**
  Contained personal biography, education details, achievements, and a section for technical skills with progress bars. This allowed recruiters to quickly assess qualifications.
- **Portfolio Page:**
  Implemented using the WP Portfolio plugin. At least three sample projects were displayed in a grid view with images, project descriptions, and links to GitHub repositories or live demos. This page served as the centerpiece of the website.
- **Contact Page:**
  Created with **Contact Form 7**, featuring fields for Name, Email, and Message. Upon submission, the form was configured to send details to the owner's email. Social media icons (LinkedIn, GitHub, Email) were also added.
- **Responsive Design:**
  Elementor's responsive editing options were used to ensure the site displayed correctly on desktop, tablet, and mobile devices. Media queries and theme responsiveness helped in adjusting layouts automatically.

This implementation provided a clean, professional look while covering all the essential features of a Portfolio Website.

3. Data Storage (Local State / Database)

WordPress manages all content using a **MySQL database**. For the Portfolio Website:

- The **wp_posts** table stored content for all pages (Home, About, Portfolio, Contact).
- The **wp_postmeta** table stored metadata, such as project links and gallery details.
- The **wp_users** table stored admin login details for managing the site.
- The **wp_options** table stored plugin configurations, site settings, and theme preferences.
- Media assets such as images and resumes were stored in the **uploads** folder and referenced in the database.

This database-driven approach allowed easy updates through the WordPress Dashboard without manual coding.

4. Testing Core Features

Testing was performed to ensure that the MVP functioned as intended:

- **Functional Testing:**

    - Verified navigation between all four main pages.
    - Ensured that portfolio projects were clickable and opened the correct GitHub/demo links.
- **Contact Form Testing:**
    - Submitted test messages through the contact form.
    - Verified that the owner's email received the details correctly.
    - Configured SMTP to avoid email delivery failures.
- **Responsiveness Testing:**
    - Checked the website layout on desktop, tablet, and mobile views using Elementor's preview.
    - Verified adaptability on actual devices (smartphone, tablet).
- **Performance Testing:**
    - Installed WP Super Cache and tested site speed.
    - Achieved page load times of less than **3 seconds** on average.
- **Cross-Browser Testing:**
    - Tested on Chrome, Firefox, and Microsoft Edge.
    - Verified that fonts, layouts, and images displayed consistently.

Any small issues (such as misaligned images on mobile view) were corrected by adjusting Elementor's column widths and padding settings.

5. Version Control (GitHub)

The project was tracked using **GitHub** to maintain version control.

- A new Git repository was initialized in the project folder.
- Incremental commits were made for every significant update (e.g., theme setup, plugin installation, portfolio creation).
- The GitHub repository served as a **backup** and ensured that the project could be shared or redeployed easily.

This practice aligned with industry standards, improving transparency and collaboration opportunities.