**Objectives**

The objective of this term project is to provide hands-on experience in collaborative development using GitHub's ecosystem. Students will learn to implement Git flow, create and manage environments, and automate CI/CD pipelines using GitHub Actions. They will also practice deploying a static website using GitHub Pages while adhering to best practices in version control and workflow design.

**Important Instructions**

1. This is a **group project** consisting of 6 members per team (**1 Team Lead and 5 Collaborators other than the instructor**).
2. The **team lead** will **fork** the **instructor’s repository** from this **URL: https://github.com/imranucp/term-project-f24.git**
3. Each team must follow **Git flow** and adhere to best practices in version control.
4. All work must be performed collaboratively using GitHub
5. Each environment (**Development, Staging, and Production**) must have its specific **CI/CD workflows**.
6. The final website must be functional and deployed to the **production environment**.
7. Ensure proper documentation and **error-free workflows** before submission.
8. **Once the work is complete, only team lead must upload (on the portal) this document after filling in the details in table:01.**

Table

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Group Repository URL: [Paste Group Repository URL Here]** | | | | |
| **Website URL: [Paste Your Website URL Here]** | | | | |
| **Group Member Details** | | | | |
| **Sr #** | **Name** | **Roll Number** | **Role** | **Branch/es worked On** |
| **1** |  |  | Team Lead |  |
| **2** |  |  | Team Member |  |
| **3** |  |  | Team Member |  |
| **4** |  |  | Team Member |  |
| **5** |  |  | Team Member |  |
| **6** |  |  | Team Member |  |

**Scenario**

Your team has been hired by a startup to design and deploy a static website that promotes a new product or service. The website consists of six web pages, each with specific content and styling requirements:

1. **Home Page**:
   * An engaging homepage with a hero section, a brief introduction, and a call-to-action.
2. **About Us:**
   * A page describing the company, its mission, and its team.
3. **Services:**
   * A detailed overview of the services or products offered by the company.
4. **Portfolio:**
   * A showcase of past projects or achievements, with images and descriptions.
5. **Blog:**
   * A section for articles or news updates relevant to the business.
6. **Contact Us:**
   * A page with a contact form, address, and other communication details.

**Evaluation Criteria**

1. Repository setup and environment configuration. **[10 marks]**
2. Workflow creation and functionality **[40 marks]**
3. Creation of HTML and CSS files. Quality and adherence to linting **[20 marks]**
4. Branch protection and adherence to Git flow. **[20 marks]**
5. Final deployment and functionality. **[10 marks]**

**List of Tasks**

1. **Repository Setup and Collaboration**
   1. The Team Lead will fork the instructor's repository and set the default branch to **'develop.'**
   2. Add all team members and the instructor as collaborators. **Instructor Email**: [**zsaing.ucp@gmail.com**](mailto:zsaing.ucp@gmail.com)
   3. Everyone student in the team must configure his/her local git with his roll number as author name while the university email must be used to set as author email.
2. **Environment Setup**

2.1. The Team Lead will create three environments in GitHub:

* **development-env**
* **staging-env**
* **production-env**

2.2. Each environment will have its dedicated **CI/CD workflows** for deployment.

1. **Workflow Creation**

3.1. Assign team members to create workflows for specific environments:

* **Development Workflow**: Triggered on pushes to the develop branch. Lints, builds, and deploys to the development environment.
* **Staging Workflow**: Triggered when a release branch is created. Builds and deploys to the staging environment.
* **Production Workflow**: Triggered on pushes to the production branch. Deploys the finalized website to the production environment.

3.2. Each workflow must use GitHub Actions and include linting, building (using Parcel), and deployment.

1. **Branch Protection Rules**

4.1. Enable branch protection rules for develop, release, and production branches:

* Disallow **direct pushes.**
* Require **pull request reviews** before merging.
* Enforce **status checks** for all CI workflows.

1. **Website Feature Development**

5.1. Each team member will create a **feature branch** for their assigned page (e.g., feature/home-page).  
5.2. Develop the HTML and CSS files for the assigned page, adhering to linting rules (**HTMLHint** and **Stylelint**). **Configuration files for each of these tools must contain at least 10 Rules taken from the documentation of these tools.**   
5.3. Submit a **pull request (PR)** to merge the feature branch into develop.  
5.4. Resolve any issues identified by the PR validation workflow and ensure all checks pass.  
5.5. Merge the PR after successful validation.

1. **Final Deployment**

6.1. Create a **release branch** from develop and merge it into production.  
6.2. Deploy the finalized website to the production environment.  
6.3. Ensure the website is fully functional and meets all requirements.