1. **Planning Phase**

The **Planning Phase** plays a vital role in setting the foundation for the successful execution of the **Image Gallery with Filters** project. This phase involves outlining the overall development process, setting milestones, allocating tasks, and identifying resources and tools needed to achieve the project objectives efficiently and within the given timeframe.

**Project Scope:**  
The project aims to create an interactive image gallery that allows users to view images and filter them based on predefined categories such as Nature, Animals, People, Abstract, etc. The gallery will be responsive, user-friendly, and visually appealing.

**Objectives:**

* To design a responsive layout for displaying images.
* To implement dynamic filtering functionality using category-based filters.
* To ensure the gallery works seamlessly across different devices and browsers.
* To provide an easy way to add or manage image categories and metadata.

**Key Activities and Tasks:**

1. **Requirement Analysis**

* Review functional and non-functional requirements.
* Identify user needs and expectations.

1. **Design Phase**

* Create wireframes and layout designs for the gallery.
* Plan the user interface and filtering mechanism.

1. **Technology Selection**

* Choose the appropriate frontend tools (HTML, CSS, JavaScript).
* Consider backend and database options if needed for scalability.

1. **Development Plan**

* Set up the project folder structure and development environment.
* Develop image upload/display module.
* Implement category filter functionality.

1. **Testing Plan**

* Plan for functional testing, responsiveness testing, and usability testing.

Identify browsers and devices to be used for compatibility testing.

1. **Deployment Strategy**

* Decide on the platform for hosting the gallery (e.g., GitHub Pages, Firebase).
* Plan for final review and deployment.

**Timeline Overview:**

| **Task** | **Estimated Duration** |
| --- | --- |
| Requirement Analysis | 2 days |
| Design and Wireframing | 2 days |
| Development (Frontend) | 4 days |
| Development (Filter Logic) | 2 days |
| Testing and Debugging | 2 days |
| Deployment and Documentation | 2 days |

**Resources Required:**

* Laptop/Desktop with web development tools
* Text editor (VS Code, Sublime Text, etc.)
* Internet connection
* Image assets for the gallery
* Web hosting platform (optional

**Team Roles (if applicable):**

* Project Lead: Oversees development and planning
* Frontend Developer: Designs UI and implements filtering logic
* Tester: Ensures functionality and responsiveness
* Documentation Lead: Prepares project reports and documentation

This planning phase ensures that the project is developed methodically and delivered on time, meeting all the intended objectives while maintaining quality and usability.