Select Art Type | Select Artist | Select Color Theme | Filter

Part 01- Project Management

Project Plan

Requirement Gathering

- Schedule a meeting with the client to get a better understanding of the scenario and the client's needs.
- Create and follow up with the client with a detailed SRS.
- Provide an editable Figma wireframe and get the client's feedback.

Creating a Timeline

- Discuss with the devs and create milestones for the project.
- Use a Click Up, Jira, or any other project management tool to assign and track tasks.

Managing Client Expectations

- Provide weekly progress updates to the client and get their feedback.
- Communicate with the devs and identify the potential issues.
- Come up with a creative solution and present them to the client.
- Follow the Agile development method to increase efficiency.

Development

- Use custom plugins to ensure the client's needs are satisfied.
- Use a version control system like git.
- Make the product user-friendly and mobile responsive.

Testing

- Conduct unit and performance testing to ensure every unit is working correctly.
- Make sure the product is mobile-responsive.

Risk Management

Risk	Solution
Technical Issues	● Select and use Themes and plugins which are updated regularly. ● Conduct performance and unit tests ● Use lighter images to prevent heavy image loading. ● Use a caching plugin to optimize the performance. ● Use a good and secure Hosting provider. ● Conduct A/B testing to ensure customer satisfaction.
Scope Creep	● Create a detailed SRS and get the client's approval at the beginning. ● Create a Gantt chart that clearly indicates the project scope, budget, and timeline. ● Document any out-of-scope changes.
Delays	● Discuss with the devs and designers and create realistic timelines. ● Keep the client updated about the progress.
Security issues	● Take necessary security measures to prevent SQL injection and Phishing attacks. ● Sanitize the user inputs.

Communication -

- Maintain real-time communication with the client using Slack or similar software.
- Conduct regular meetings to discuss the completed and future milestones.
- Maintain a shared document to document any changes.
- Be responsive to inquiries and address the client's concerns.
- Conduct demo sessions for major milestones and get client feedback.

Part 02 - Technical Development

Environment Setup

- Use a local server to install WordPress (Xampp / Local)
- Use a simple thrive theme to utilize a clean and professional build
- Use a professional IDE to create custom plugins or themes if needed
- Use a version control system like Github to backup data

Theme vs. Plugin

- I would implement this dynamic gallery feature as a plugin to improve the portability and modularity.
- If we have to use this feature in a separate place developing it as a plugin will help to increase the reusability of the feature.
- It will allow us to modify this feature in the future without affecting the whole theme.

Development process

Data handling

- I have used custom post types (CPT) to store the artwork information
- Taxonomies are used to organize and increase the efficiency of the filtering process.
- I have used AJAX to enhance the security and accuracy of the filtering process.

User Interaction

- I have implemented a dropdown menu for users to filter out what they want.
- Using select options is more friendly than using input boxes

Part 3: Long-Form Response

Technical Decisions

- I have developed a custom plugin to develop this dynamic gallery to ensure efficiency and easy customization properties. By doing so it allowed me to easily provide exactly what the customer needs. With easy access to modify the plugin for future requirements
- I have implemented AJAX for this plugin to handle responses. By using AJAX it prevents the default submissions and sanitizes the data. This is implemented via the dag_filter_gallery() function and it basically searches the database for the selected artwork and returns the results to the gallery
- I have used nonces to strengthen the defenses from CSRF attacks. While handling AJAX requests securely by using ‘wp-ajax’ and ‘ wp_ajax_nopriv’ hooks.
- For the filtering logic I have given the option to select the required category and find the result. Sometimes typing for something is not the best idea coz in real-world scenarios the names can be hard to type.
- I have decided to use images that are under 100kb to enhance the performance of the website.
- Implemented wp fastest cache plugin to remove cache.

Challenges Faced

Performance -

This Dynamic gallery requires to have hundreds of images and information. So optimizing these assets without having to affect the website is a main concern. To address that issue i have used an image optimization plugin to optimize assets. While using images which are less than 100kb in size. I have included a caching plugging to minimize the load and improve the user experience along with the lazy loading techniques

Cross-browser compatibility and Responsiveness

When developing a custom plugin cross browser compatibility is a major issue developers face. So to address this issue I have conducted thorough testing procedures with different web browsers while checking the responsiveness in mobile and tab view.

Data Structure

When creating a dynamic gallery for artwork we have to deal with variables and different categories. To fix this issue I have created a CPT (custom post type) as artwork and included a few taxonomies like Name, type, and color scheme. Leaving the room to modify and expand in the future.

User-friendliness

- **User Interface** - This dynamic gallery is created with a pentagon-shaped design representing a bee hive. The human mind is always curious about interesting designs. By using this design with the color-changing hover effects will increase user-friendliness and interaction.
- **Testing** - Unit performance testing is done to ensure user satisfaction without any bugs or errors.
- **Responsiveness** - This gallery adapts to mobile tab and PC screen sizes to give the user an optimized user experience.

Future Enhancements

Advanced Filtering -

For now, this dynamic gallery is limited to 3 categories. But in real-world scenarios, these complicated artworks have a number of variations that we can categorize. In the future, we can optimize this categorization further with an expert's help.

User Interactions -

In the future, we can improve the user experience of this gallery by using a dark theme and a pop-up detail card of the artwork.

Reviews -

We can create a monitored review system for people to leave their thoughts about the artwork and share them through their social media

Guest Uploads -

Creating a system where the users can upload their own artwork will be a great addition to this dynamic gallery.