Collaboration Notes

As part of the Governor Sindh Initiative for Artificial Intelligence Program, I had the privilege of participating in a hackathon aimed at building a professional-level project using Next.js, Tailwind CSS, and Sanity. The event not only enhanced our technical skills but also introduced us to the importance of planning, documentation, and teamwork in building scalable solutions. Below is an overview of how I collaborated with peers, overcame challenges, and incorporated feedback during this journey.

Table of Contents

Day 1: Laying the Foundation

- **Scenario:** Initially, many participants, including myself, assumed the hackathon would primarily focus on coding. However, the organizers emphasized the importance of the **planning and documentation phase**, highlighting creativity and understanding business needs as critical aspects.

- **Challenges Faced:** Adapting to a professional documentation-first approach was new for most students, requiring a shift in mindset from immediate coding to methodical planning.

- **Collaboration & Feedback:**

    o Engaged in brainstorming sessions with peers to finalize **business goals** and the **data schema draft** for a General E-Commerce platform.

    o Documented the **blueprint** of the project, including SEO goals, UI/UX design, data analysis requirements, and database schemas, incorporating insights shared during discussions.

    o Received guidance from faculty, specifically on structuring schema fields like User, Orders, and Products for efficiency and scalability.

    o Shared my handwritten assignment on LinkedIn to showcase the initial effort, receiving encouragement and constructive feedback from peers and mentors.

Day 2: Planning the Technical Foundation

- **Scenario:** The focus shifted to the **technical roadmap**, where workflows, system architecture, and API requirements were to be defined. This required understanding the interaction between the frontend (Next.js), backend (Sanity), APIs, and third-party integrations like payment gateways and shipment tracking.

- **Challenges Faced:**

    o Creating an **accurate system architecture diagram** that clearly demonstrated how user interactions flowed through various layers (frontend, API, database, and third-party tools).

    o Defining **user journeys** while ensuring technical feasibility for tasks like adding products to the cart, validating orders, and tracking shipments.

- **Collaboration & Feedback:**

  - Participated in a group discussion with peers to finalize the system architecture diagram.

  - Sought individual input from teachers to refine the design:

    - **Sir Anas** provided insights on integrating third-party tools like payment gateways and shipment services through a personal discussion.

    - **Sir Asharib** offered positive feedback on the diagram's clarity and structure, encouraging further refinements during a separate interaction.

  - Shared and reviewed drafts of **tech stack documentation** with peers, ensuring alignment on tools like Next.js, Tailwind CSS, TypeScript, Sanity, and Vercel deployment.

  - Developed the **user journey diagram**, which detailed interactions at each step (e.g., browsing, adding to cart, validating orders) and correlated actions with database operations, API requests, and third-party tools. Incorporated suggestions from peers to improve clarity and technical accuracy.

  - Designed and reviewed **Sanity schemas** for key entities like Product, Product Category, Product Variant, Inventory, Order, Payment, Shipment, and User, ensuring compliance with best practices. For example:

    - Defined the Product schema with essential fields like ID (UUID), Name, Slug, Price, and Images (Array of Strings) for scalable and intuitive data management.

Key Learnings from Collaboration

1. **Documentation is Key:** This hackathon taught us the importance of designing and documenting workflows, system architecture, and schemas before jumping into code.

2. **Feedback Enhances Creativity:** Peer and mentor feedback helped refine diagrams, schemas, and workflows, ensuring professional-level documentation.

3. **Planning for Scalability:** Discussions on system architecture and API requirements emphasized designing for future growth and seamless integration with third-party tools.

4. **Adaptability in Professional Environments:** Shifting from a purely coding mindset to a planning-first approach was a valuable learning experience.

Conclusion

These collaborative efforts helped create a solid technical foundation for the project, aligning with industry practices and fostering a culture of teamwork and professional growth.

Let me know if you need any edits or additions to this!