Application of Scrum and Kanban in Managing IT Projects

Scrum:

- **Application**: In the context of the mobile payment app, Scrum can be applied by organizing the development team into fixed two-week sprints. During each sprint, the team focuses on delivering specific, prioritized features such as transaction history and security updates. The process begins with sprint planning, where the team selects tasks from a product backlog. Daily stand-up meetings help track progress, and a sprint review at the end assesses the delivered work, followed by a retrospective to improve future sprints. This iterative approach ensures regular delivery of valuable features while adapting to changing requirements.
- **Example**: The Scrum team plans to deliver transaction history in one sprint and security updates in the next, refining their approach based on feedback and testing results.

Kanban:

- **Application**: Kanban can be used for managing ongoing tasks like bug fixes and performance improvements. The team maintains a visual task board (e.g., with columns like "To Do," "In Progress," and "Done") to visualize workflow and limit work in progress (WIP). Tasks are pulled as capacity allows, enabling continuous delivery without fixed iterations. This method suits maintenance and optimization tasks, allowing the team to respond quickly to issues as they arise, such as addressing a performance bottleneck detected in real-time.
- **Example**: The Kanban team tracks bug fixes and performance enhancements on the board, moving tasks to "Done" as they are resolved, ensuring a steady flow of improvements.

Two Key Differences Between Scrum and Kanban

1. **Timeboxed Iterations vs. Continuous Flow**:
    a. Scrum uses fixed-length sprints (e.g., two weeks) to deliver increments of work, providing a structured cadence for planning and review. In contrast, Kanban operates on a continuous flow model without predefined timeboxes, allowing tasks to be completed as they are prioritized and resources become available.
2. **Role Definition vs. Flexibility**:

a. Scrum defines specific roles (e.g., Product Owner, Scrum Master, Development Team) with distinct responsibilities to manage the sprint process. Kanban, however, is more flexible, lacking formal roles, and focuses on optimizing the workflow through visual management and WIP limits, making it adaptable to existing team structures.

Both methodologies enhance the mobile payment app's development by combining Scrum's structured feature delivery with Kanban's continuous improvement, tailored to the project's diverse needs.