

# Comparison of AI-Generated Models and Manual Designs

## Use-Case Diagram

- Manual Design: Detailed, including specific interactions and steps like signin, termination, etc.
- AI-Generated Design: Simple and generic, covering basic use cases without much detail.

## Strengths of AI-Generated Use-Case Diagram:

- Quick and easy to create.
- Suitable for high-level overviews.

## Weaknesses:

- Lacks detailed interactions and specific scenarios.

## Sequence Diagram

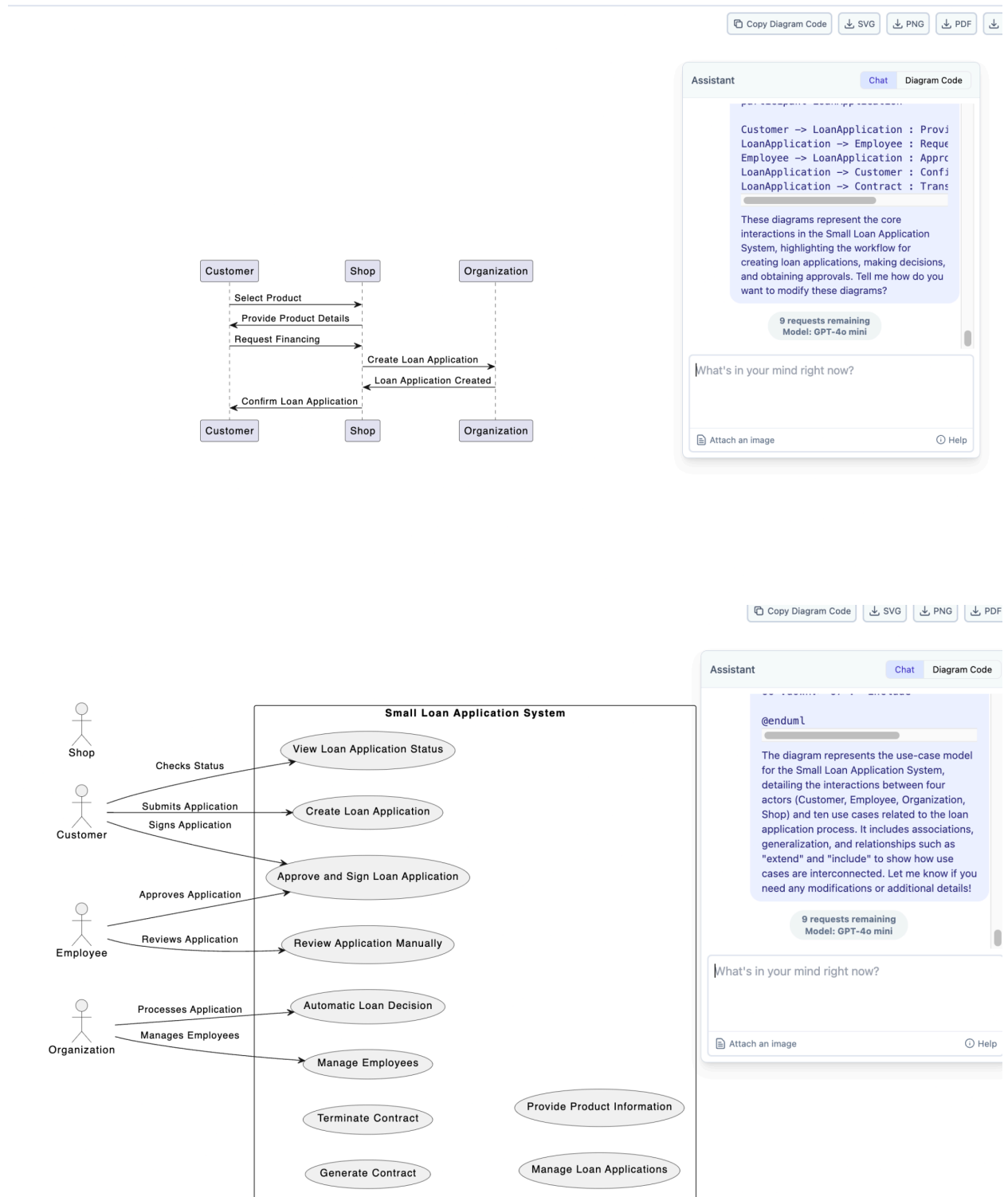
- Manual Design: Detailed, including specific steps, conditional flows, error handling, and interactions with external systems.
- AI-Generated Design: Simple and generic, covering the main sequence of actions without detailed conditions or error handling.

## Strengths of AI-Generated Sequence Diagram:

- Rapid generation of basic sequences.
- Useful for high-level process visualization.

## Weaknesses:

- Lacks detail for complex processes.
- Does not include alternative paths or error scenarios.



## Justification for Using chatuml.com

I chose to use **chatuml.com** for exploring and documenting Generative AI capabilities in modeling use-case and sequence diagrams for several reasons:

1. **Free Tier Availability:** chatuml.com offers a free tier, making it accessible without any initial investment. This allows for experimentation and evaluation without financial commitment, which is crucial for initial stages of project development and feasibility studies.
2. **Specialized ML Model for Use-Case Diagrams:** Unlike generic AI models like ChatGPT, chatuml.com is specifically designed for creating use-case and sequence diagrams. This specialization means the tool is optimized for generating relevant and accurate diagrams, making it more suitable for detailed modeling tasks compared to more generalized AI models.
3. **Ease of Use:** The platform provides an intuitive interface tailored for diagram creation, making it easy to quickly generate and refine models. This user-friendly approach is beneficial for quickly producing initial drafts that can then be manually refined.

Overall, chatuml.com's combination of a specialized ML model and free tier availability makes it an ideal choice for generating use-case and sequence diagrams efficiently and effectively.

## Prompts Used

To generate the diagrams, I provided a full description of the Loan Application system as outlined in Task 1. Additionally, I added prompts to generate use-case and sequence diagrams specifically

## Overall Assessment

Generative AI tools produce simpler and more generic models compared to detailed and nuanced manual designs. While AI tools are useful for quick initial drafts and high-level overviews, manual refinement is necessary to achieve the required complexity and detail in the final models.

## Conclusion

Generative AI tools are beneficial for creating initial drafts of use-case and sequence diagrams, saving time in the early stages of modeling. However, for detailed and complex models, manual refinement is necessary to ensure all scenarios and interactions are accurately represented.