Product Design:

Eliminating Suboptimal Patterns using Gen AI

99x Technology

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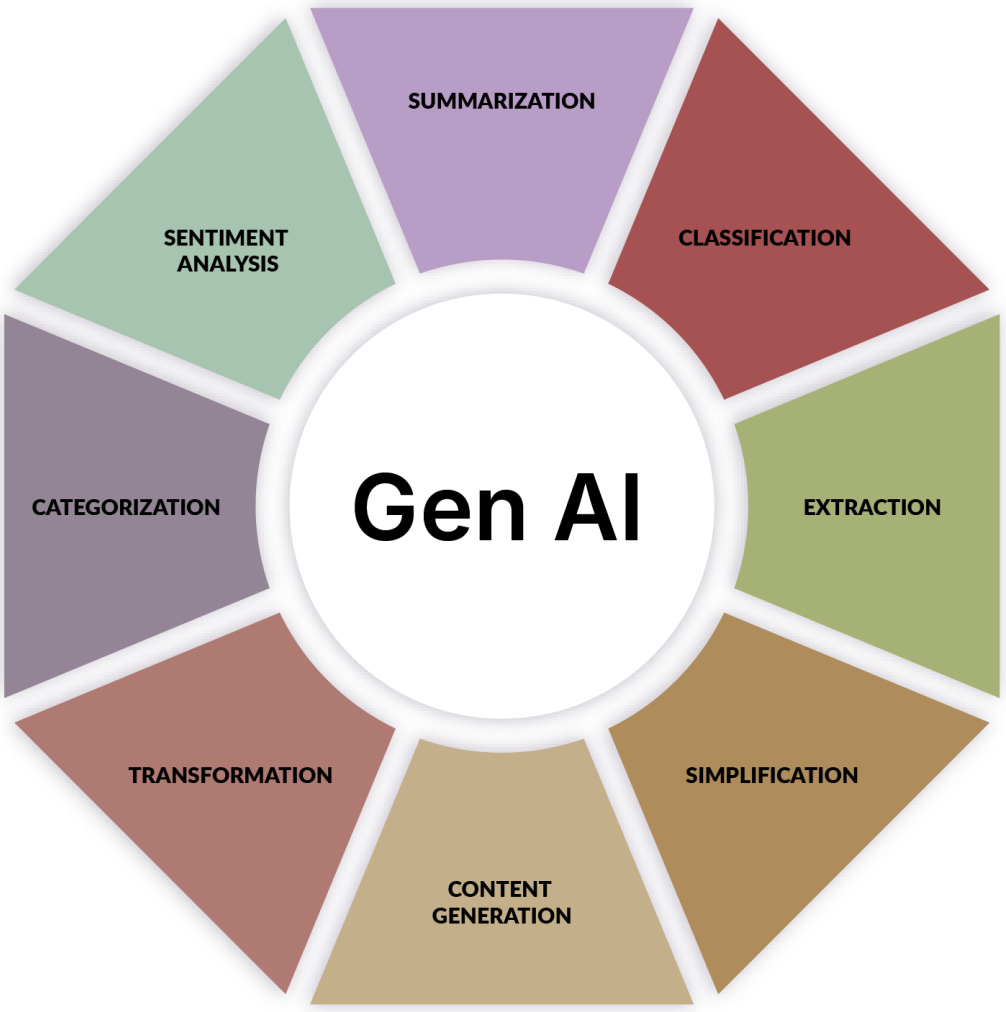
Introduction

As technology advances, product design and user interaction patterns have become increasingly complex. While functionality continues to improve, certain user interface and interaction patterns have remained cumbersome and inefficient. Traditional designs often impose unnecessary friction, requiring users to perform tasks that could be automated or streamlined with modern technologies. Gen AI (Generative AI) offers an innovative approach to modernize these suboptimal user experiences, transforming complexity into seamless and intuitive interactions.

This white paper explores common anti-patterns in user interactions and presents how Gen AI can revolutionize each of them, providing practical solutions to enhance user satisfaction, productivity, and accessibility.



1. Elimination of the Requirement to Punch in 'Titles' (Summarization)

The Challenge:

Users are often required to manually input titles or topics for emails, reports, or articles. This task is not only time-consuming but can also result in vague or unclear titles that fail to accurately represent the content.

Gen AI Solution:

By leveraging Gen AI-based summarization, systems can automatically generate meaningful titles based on the content. For example, when composing an email, Gen AI can analyze the message body and suggest or auto-fill an accurate, contextually relevant subject line. This ensures clarity, saves time, and eliminates user guesswork.

2. Automatic Categorization of Data through Drop Boxes (Classification)

The Challenge:

Many applications require users to categorize data manually via drop-down boxes. For instance, selecting a support ticket category when submitting a request can be cumbersome, especially if users are unfamiliar with the exact categories.

Gen AI Solution:

Gen AI can employ classification techniques to automatically categorize the data based on user input. For example, in customer support, Gen AI can analyze the problem description and automatically classify the ticket into the correct category. This reduces the cognitive load on the user and minimizes errors in categorization.

3. Removal of Exact Keywording in Drop Boxes (Classification)

The Challenge:

When searching for information in systems like online bookstores, users are often required to select categories or input exact keywords to retrieve relevant results. This can be limiting if users don't know the precise term or category name.

Gen AI Solution:

Gen AI can use advanced classification algorithms to infer the intent of the user's search query and map it to the most relevant category or keyword. This allows users to enter more natural language queries and still receive accurate results, improving search functionality and user experience.

4. Automating Structured Data Input in Forms (Extraction)

The Challenge:

Many tasks, such as booking a hotel through a travel agent, require filling in structured forms with details from external sources like emails or documents. This process is manual, repetitive, and prone to errors.

Gen AI Solution:

By implementing Gen AI-based extraction, systems can automatically parse emails, documents, or other unstructured data sources to fill in the required fields in a form. For example, a travel agent could forward a booking email, and Gen AI would automatically extract relevant details such as dates, locations, and preferences, streamlining the data entry process.

5. Simplifying Large Document Reading (Q&A Systems)

The Challenge:

Users often need to extract specific information from large documents, such as pricing details from a contract or help tips from a knowledge base. Manually searching through these documents is time-consuming and inefficient.

Gen AI Solution:

Gen AI-powered Q&A systems can allow users to ask questions in natural language and receive direct answers from within the document. This can be applied to contracts, legal documents, or help systems, enabling users to find specific information (e.g., pricing, terms) without needing to sift through the entire document manually.

6. Enhancing Language Fluency for Input Clarity (Content Generation)

The Challenge:

In many tasks, users are required to input text, such as task descriptions, in a clear and structured format. This can be difficult for non-native speakers or those who are less familiar with formal writing.

Gen AI Solution:

Gen AI-based content generation can help users create well-structured and grammatically correct descriptions or text by analyzing the input and suggesting or auto-generating clear, readable content. For example, a user can input a rough task description, and Gen AI can rewrite it in a more professional tone, improving communication and clarity.

7. Eliminating Redundant Human Approvals (Transformation)

The Challenge:

Social media posts, articles, and marketing content often require human approvals to check for language, tone, and style, leading to delays in the publication process.

Gen AI Solution:

Gen AI can automate the review process by analyzing content for language, tone, and style according to predefined brand guidelines. This eliminates the need for human approval in many cases, speeding up the content creation workflow while ensuring that quality and standards are met.

8. Removing Redundant Human Validations (Categorization)

The Challenge:

Content posted online often needs to be manually reviewed for sensitive information, such as child-safe content, or for compliance with legal regulations. This manual validation is slow and labor-intensive.

Gen AI Solution:

Gen AI can perform categorization tasks, such as identifying sensitive or inappropriate content, and ensure that it adheres to guidelines before it is published. This automates the validation process and ensures compliance at scale, reducing the need for human intervention.

9. Streamlining Clunky Navigation Menus (Transformation)

The Challenge:

Many applications have complex, multi-layered navigation menus that require users to dig through multiple options to find the information they need. This results in frustration and inefficient user interactions.

Gen AI Solution:

Gen AI can transform traditional navigation systems by dynamically predicting and presenting the most relevant options based on user behavior and preferences. By offering a more intuitive and predictive interface, users can quickly access the information they need without the need for excessive menu exploration.

10. Prioritizing Overwhelming Information Displays (Categorization and Sentiment Analysis)

The Challenge:

Applications that display large amounts of user feedback or data can overwhelm users by presenting too much information without any prioritization, making it hard to identify the most important elements.

Gen AI Solution:

By using sentiment analysis and categorization, Gen AI can prioritize feedback or data, highlighting the most critical records that require immediate attention. For example, a customer review system could automatically surface negative feedback or urgent complaints to help users focus on what matters most.

Conclusion

Generative AI is transforming how we interact with technology, offering new possibilities to address suboptimal user interaction patterns that have persisted for years. By implementing Gen AI solutions, product designers and developers can enhance usability, streamline workflows, and reduce the friction associated with common interaction patterns. From automated content generation to intuitive data categorization, Gen AI provides the foundation for a new era of intelligent, user-centered design, where complexity is replaced with intuition.

As Gen AI continues to evolve, its potential to simplify complex tasks and improve the overall user experience will only grow, making it an indispensable tool for modernizing product design and interaction patterns.