

A laptop is visible on the left side of the image, partially cut off. The background is a solid blue color. The laptop screen is white and empty.

AI Meets Standards: A Prototype for Exploration

This case study explores a demo I initiated to understand how artificial intelligence might support users in navigating complex, structured information like technical standards. Motivated to improve accessibility and decision-making in high-accuracy environments, I set out to prototype an AI-powered tool that simulates how users might search for and interact with relevant standards based on project needs.

The case study outlines the user context, proposed AI capabilities, and a Business Analysis lens used to frame the problem, offering a starting point for rethinking how structured information could be made more user-friendly.

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User Context & Story

Understanding users is essential for creating an effective AI solution. In this simulation, the primary use case focuses on manufacturers of battery-powered wearable smart devices seeking standards related to battery safety for compliance during production.

User Story: As a product designer developing a wearable device to monitor ski performance, I want to identify relevant standards for battery-powered, body-worn devices, so that I can ensure safety, compliance, and reliable performance in cold, outdoor environments.

- Simple search prompts via intuitive user journey
- Results display matching standards with summaries
- Prompts to related standards
- Chat capability to refine queries

In this demo, AI behavior is simulated. In production, actual AI responses would draw from secure, validated datasets.



AI Capabilities & Solution



Parse Plain-Language Prompts

Understand natural language queries about standards and extract key search parameters.



Match with Standards

Identify contextually relevant standards rather than just keyword matches.



Summarize Content

Provide concise explanations of standards' content and applications.



Suggest Related Standards

Recommend additional relevant standards to ensure comprehensive compliance.

Instead of returning just keyword matches, the agent understands the scenario, selects contextually relevant standards, and explains why they're appropriate - demonstrating simulated intelligent behavior.

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Implementation Plan

Demo: Simulated AI Interaction

- Accept user scenario + query in two input fields
- Display pre-prepared responses based on input
- Use conditional logic to map queries to stored outputs
- Frontend-only demonstration of capabilities

Future Development: Real API Integration

- Identify server to hold AI API key
- Implement secure server-side processing
- Connect to standards database
- Interface could be powered by APIs and AI services trained on validated data

While this prototype is frontend-only, it lays the groundwork for a future solution powered by secure APIs and validated data sources.

In the longer term, this assistant could be embedded within a platform and integrated with relevant databases. The backend could scale through secure infrastructure and AI services trained on verified technical content.

In this demo, AI behavior is simulated. In production, actual AI responses would draw from secure, validated datasets.

Business Analysis Approach

This outlines the approach for the AI solution at a high level with first steps in the following slides.

Discovery

Determine appropriate analysis methodology: could be a combination of predictive and adaptive.

Design

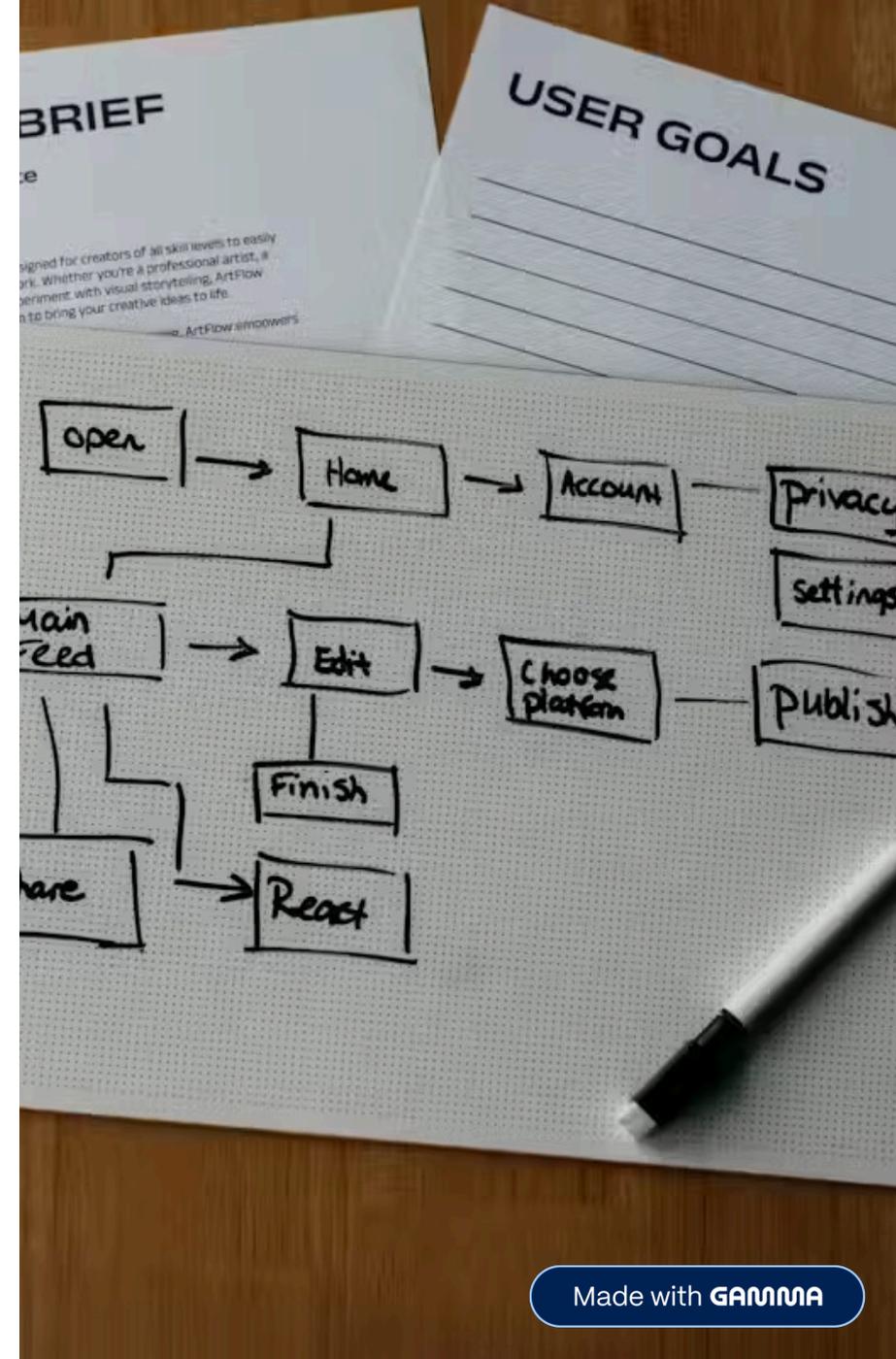
Create detailed specifications for the AI assistant based on requirements and technical constraints.

Development

Build the AI solution with refinement based on stakeholder feedback.

Testing & Deployment

Validate functionality and performance before full implementation.



Stakeholder Engagement Plan

Effective stakeholder engagement would be crucial to the success of the AI implementation. I would need to identify key stakeholders and developed a structured approach to ensure all voices are heard throughout the project lifecycle.

Engagement techniques will include collaborative workshops, one-on-one interviews, and interactive prototype demonstrations to gather comprehensive feedback.



End Users

Manufacturers and engineers seeking standards



IT Customer Solutions Team

Technical implementation and support



Legal & Governance Teams

Regulatory oversight and risk management



Local, Regional and Global Stakeholders

Local requirements and adaptations

Governance & Information Management

Business Analysis Governance

- Define decision-making rights for requirements approval
- Establish change control processes
- Implement requirements traceability

Output: BA Governance Framework defining clear accountability and decision paths

Information Management Plan

- Implement a version-controlled repository to manage evolving requirements and technical documentation (Confluence)
- Create models (e.g. in Lucidchart)
- Track tasks in JIRA

Output: Comprehensive Information Management Plan ensuring consistency and accessibility