

Public Report

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1. Introduction

Fashion is one of the most powerful forms of personal expression, reflecting identity, lifestyle, and even emotional state. Yet, the daily decision of what to wear remains a common source of indecision and frustration. Many users struggle to visualize outfit combinations using clothes they already own, optimize their wardrobe for different occasions, or avoid impulsive purchases that ultimately go unused.

This everyday challenge coincides with a moment of technological transformation. According to Statista Research, the global market for artificial intelligence in fashion was valued at \$270 million in 2018 and is projected to reach \$4.4 billion by 2027. This remarkable growth is driven by the demand for personalized, intelligent, and accessible solutions for end consumers.

In Brazil, this trend is amplified by the dominant role of WhatsApp in users' daily routines. With more than 30 hours of usage per person per month—and a growing tendency to migrate various digital interactions into the platform—an opportunity emerges for solutions based on conversational interfaces. Although there are global applications focused on wardrobe management and personal styling, such as Acloset and StyleDNA, their adoption in the Brazilian market remains limited, revealing an untapped space for local innovation.

It is in this context that **Vise** is born: a virtual fashion assistant integrated into WhatsApp that uses artificial intelligence and computer vision to analyze photos of real clothing items and generate personalized outfit suggestions. Vise aims to merge convenience, style, and technology to transform the act of getting dressed into a more practical, sustainable, and intelligent experience.

2. Overview of the Solution

2.1 What is Vise?

Vise is a virtual fashion assistant integrated into WhatsApp, designed to transform the way users interact with their wardrobe by leveraging artificial intelligence and computer vision. The concept is both simple and powerful: to help people express their style in a more practical, creative, and conscious way—by making better use of the clothes they already own before considering new purchases.

By sending photos of their clothing items via WhatsApp, users activate Vise's intelligent system, which automatically detects and analyzes each garment, identifying visual attributes such as type, color, pattern, and style. This data is then organized into a smart digital wardrobe, allowing users to view their entire collection and receive personalized outfit suggestions.

The experience is guided by an interactive chatbot that tailors responses based on contextual information provided by the user—such as weather, occasion, or mood—and on the contents of their wardrobe. The interaction is natural, conversational, and continuous, fully embedded within WhatsApp, a platform that is already a central part of daily life for most Brazilians.

Behind this experience are two core engines:

- **Mirror:** responsible for processing images, extracting garments, and accurately describing their visual attributes.
- **Stylist:** responsible for generating personalized outfit recommendations based on the user's wardrobe and contextual inputs.

These components represent the intelligent core of the Vise platform. The complete system architecture and the technical decisions—including tools like Supabase, Railway, LangChain, and the OpenAI SDK—will be detailed later in this document, in the section dedicated to Vise's technical infrastructure.

Beyond practicality, Vise promotes a more conscious approach to fashion consumption. Many people make impulsive purchases without considering how well new items integrate with what they already own. By encouraging the reuse and recombination of

existing pieces, Vise helps reduce unnecessary shopping and supports a more sustainable lifestyle.

The business model is based on a **Software as a Service (SaaS)** approach, focused on B2C. Users can subscribe to different plans that unlock varying levels of personalization. In the medium term, Vise also aims to explore **B2B partnerships**, integrating its technology with retailers and e-commerce platforms looking to offer customized shopping experiences to their customers.

2.2 Deliverables and Development Process

The development of Vise was structured into four main modules, organized in an iterative and incremental manner across five key sprints. Each sprint marked a significant step forward—both in refining the strategic vision of the solution and in advancing its technical construction and MVP validation.

This section highlights the core deliverables produced during the initial phase of the project:

Módulo 1 – Planejamento e Infraestrutura (Sprints 2 a 5)

The primary goal of this first module was to establish the strategic, functional, and technical foundations of Vise. Our focus was on validating the relevance of the problem, understanding the market landscape, and clearly defining the solution's essential features. To accomplish this, we developed a set of deliverables that served as the guiding framework for the following phases of development. The main outcomes of this module included:

1. Market Research
2. Persona
3. Customer Journey Map
4. Key Feature Definition
5. Key Feature Architecture
6. Database Structure

This first module was crucial in ensuring that Vise's development proceeded with strategic alignment, user-centered focus, and a clear long-term vision. With this solid foundation in place, we were able to move forward into the technical build and validation stages with greater clarity and confidence.

3. Market Research

We conducted an in-depth study to understand the global and national landscape at the intersection of fashion and technology. The objective was to identify emerging trends, assess the competitive landscape, and validate the market opportunity for Vise in Brazil—using both quantitative data and qualitative insights.

Our research focused on answering three key questions:

1. What is the size and growth potential of the AI-powered fashion assistant market?
2. Which solutions already exist globally, and how are they performing in the Brazilian market?
3. Are there unique strategic opportunities that only Vise is positioned to explore?

The starting point for our research was the global landscape. According to Statista Research, the market for artificial intelligence in fashion was valued at \$270 million in 2018, with projections indicating exponential growth reaching \$4.4 billion by 2027. This expansion is being driven by the increasing demand for data-driven, personalized solutions, as well as by investments from major industry players, such as Bernard Arnault (CEO of LVMH), who has been channeling resources into AI startups focused on the luxury segment. This movement reinforces the relevance of solutions like Vise, which merge fashion and technology with an intelligence-first approach.

In the Brazilian context, we identified highly favorable conditions for the adoption of a solution like Vise. The country has an exceptionally high level of digital engagement, particularly on WhatsApp—an app where Brazilians spend, on average, over 30 hours per month. This behavior has fostered a trend of migrating various functions into WhatsApp itself, turning it into more than just a messaging tool: it has become a central platform for digital interaction. This shift was highlighted by Guilherme Horn, Head of WhatsApp for Brazil, India, and Indonesia, who stated, “apps are turning into conversations on WhatsApp”—a statement that validates Vise’s strategic decision to operate exclusively within this environment.

To understand how Vise positions itself within the current market, we analyzed three global solutions that offer similar functionalities: **Acloset**, **StyleDNA**, and **Stylebook**.

Acloset: An app that digitizes users’ wardrobes and suggests combinations based on weather, seasons, and personal preferences. It boasts 2.5 million downloads and over 70,000 daily uploads, yet shows low penetration in Brazil (estimated between 700 and 1,300 downloads in Q1 of 2024).

StyleDNA: An AI-powered app that recommends outfits based on physical appearance and a digital wardrobe. It includes a shopping assistant and style analysis features, with over 1 million downloads globally.

Stylebook: An iOS-exclusive app focused on manual wardrobe organization, outfit creation, and calendar-based planning. It does not use AI as part of its core offering.

What all of these solutions have in common is that they operate exclusively through dedicated mobile applications. None of them leverage WhatsApp as their primary channel—an aspect that sets Vise apart. By delivering an intelligent, conversational experience via WhatsApp, Vise not only lowers the barriers to entry but also aligns directly with the everyday digital behavior of Brazilian consumers.

In light of this scenario, we also developed a market potential estimation for Vise using the TAM, SAM, and SOM framework.

Indicator	Description	Estimated Value
TAM (Total Addressable Market – Global)	Potential market size of AI applied to fashion	USD 270 million (2018, conservative estimate)
SAM (Serviceable Available Market – Brazil)	1% of TAM, estimated based on Brazil's representation in the global fashion industry	USD 2.7 million
SOM (Serviceable Obtainable Market – Vise, 3-Year Outlook)	Conservative projection of capturing 5% of SAM	USD 135,000 (~BRL 800,000)

The conclusions from the research were clear: Brazil presents a market with low penetration of global fashion tech solutions, strong adherence to WhatsApp, and a growing demand for personalization and convenience in fashion consumption. Vise is strategically positioned as a pioneer in this emerging landscape, offering an accessible usage model, relevant technology, and a value proposition that aligns directly with the behavior and expectations of its target audience.

4. Persona

The persona created for the project is **Mariana Queiróz**, a 24-year-old woman living in São Paulo. With a casual-chic style and a fast-paced routine that blends work, studies, and social life, Mariana sees fashion as a form of self-expression. She follows trends on platforms like TikTok and Pinterest but ultimately values **practicality and efficiency** in her daily life.

Her main challenge is not the lack of clothing, but rather the difficulty in visualizing new outfit combinations using what she already owns. Like many consumers in her generation, Mariana aims to make more conscious purchasing decisions, avoiding impulse buys and making better use of her existing wardrobe. She is digitally savvy and actively seeks out digital tools that optimize her routine—from productivity apps to recommendation-based assistants.

Additionally, Mariana uses **WhatsApp as her primary communication platform**. She is accustomed to interacting with services through it and appreciates experiences that don't require downloading new apps or going through complex onboarding processes. For her, fashion needs to be light, intuitive, and accessible—an expectation that aligns perfectly with what Vise offers.

We also identified several **key benefits** Mariana expects from a solution like Vise:

- **High-quality recommendations**, with outfit suggestions that match her personal style;
- **Speed and efficiency**, to avoid wasting time deciding what to wear;
- **Variety**, by discovering new ways to style what she already owns;
- **Sustainability**, by promoting more conscious consumption habits;
- **Practicality**, with suggestions integrated into her everyday digital environment.

Building this persona was crucial in shaping the strategic decisions of the project—from defining the tone of voice in communication to prioritizing core functionalities in the MVP.

5. Customer Journey Map

To gain a deeper understanding of the user experience with Vise, we developed a **Customer Journey Map** that outlines each stage of interaction with our product—from initial contact to ongoing use. This tool was essential in identifying points of friction, opportunities to delight the user, and in guiding the prioritization of core MVP features.

The journey was divided into seven key stages, highlighting user behaviors, interaction channels, and the emotions experienced throughout the process.

Customer Journey Map							
STAGE	Awareness	Consideration	Purchase	Onboarding	First Usage	Daily Use	Retention & Growth
USER ACTION	Visits the Vise landing page.	Reads about features & pricing.	Selects a plan, enters phone number, completes checkout.	Receives WhatsApp confirmation and first message from Vise.	Uploads photos of clothes, interacts with Vise via messages and voice notes.	Adds/deletes clothes to/from virtual wardrobe. Requests outfit recommendations.	Continues using Vise, explores more features. Shares with friends.
TOUCH POINTS	Website	Website	Website, Payment Gateway	WhatsApp	WhatsApp	WhatsApp	WhatsApp, Social Media
FEEL-INGS	Curious about the product. Wants an easy way to manage outfits.	Excited by the convenience of Vise. Wonders if it will work well.	Quick process. Happy with simplicity. Ready to start.	Feels welcomed and ready to try it out.	Feels engaged, enjoys the AI-driven conversation.	Finds it easy and convenient. Appreciates quick responses.	Feels loyal to Vise. Enjoys personalized fashion assistance.

This journey was visually represented in an interactive prototype developed in [Figma](#), where we simulated the user flow of Vise within the WhatsApp environment. This visual

representation allowed us to test the usability of the interaction, simulate real-world behavior, and refine key touchpoints in the conversational experience.

6. Key Feature Definition

After gaining a solid understanding of the market landscape and the profile of our target audience, we moved on to defining Vise's core functionalities using a structured, user-centered approach. The goal was to identify the essential capabilities the platform must deliver in order to create real value, while also taking into account the constraints of a viable MVP.

The methodology adopted for this stage was grounded in **Design Thinking**, specifically the **Double Diamond** framework. We began with a divergent phase, exploring a wide range of possibilities based on market trends, competitive analysis, and Vise's strategic vision. Using a collaborative Miro board, we grouped ideas, prioritized features, and translated insights into actionable functionality.

These features were then organized into two primary groups:

- **Essential**, representing the minimum viable core required for Vise to fulfill its value proposition;
- **Non-essential**, representing enhancements that improve the user experience but can be developed in later phases.

To structure these functionalities clearly and in a scalable way, we grouped them into **four main epics**, each containing related features and user stories:

Epic 1: Account Management

This epic encompasses the administrative and personalization functions related to the user's account. Among the essential features are:

- **Plan management and settings** (e.g., upgrading or downgrading a subscription, editing personal information, deleting an account);
- **Collection of demographic data** (such as location and age group) to personalize recommendations.

As future features, we propose:

- A **fashion-focused social space**, where users can exchange or sell clothing with others who share a similar style;
- **Body measurements and sizing preferences registration**, to further refine outfit curation and personalization.

Epic 2: Virtual Wardrobe

This is the visual and functional core of Vise. It is where users manage their digitized clothing items. The essential features within this epic include:

- **Clothing registration via image**, directly through WhatsApp;
- **Removal of items** from the digital wardrobe;
- **Automatic attribute detection** (such as type, color, and pattern) using computer vision.

As potential future functionalities, we propose:

- **Clothing registration via shopping links**, bridging online and physical wardrobes;
- **Video-based item detection**, to further simplify the registration process;
- **Automatic background removal** and the ability to create **personalized moodboards**.

Epic 3: Fashion Recommendation System

Personalized recommendations are the core intelligent differentiator of Vise. Among the essential features in this epic, we highlight:

- **Outfit suggestions based on a specific item** sent by the user;
- **Context-aware recommendations**, tailored to specific occasions (such as parties, work, or weather), and even to the user's mood.

In the platform's future development roadmap, we propose:

- **A history of past suggestions**, allowing users to revisit and reuse them;
- **Weather-based reminders**, offering recommendations aligned with forecast conditions;
- **Smart shopping suggestions**, which propose new items that consciously complement the user's existing wardrobe.

Epic 4: WhatsApp Interaction with Conversational AI

Finally, the interface layer is what makes Vise both accessible and unique: the interaction with the assistant happens entirely within WhatsApp. As an essential feature:

- **Text-based chatbot with artificial intelligence**, enabling the exchange of messages about clothing, context, and personalized recommendations.

As a future enhancement:

- **Voice interaction**, allowing users to send voice messages and receive suggestions in an even more natural and accessible way.

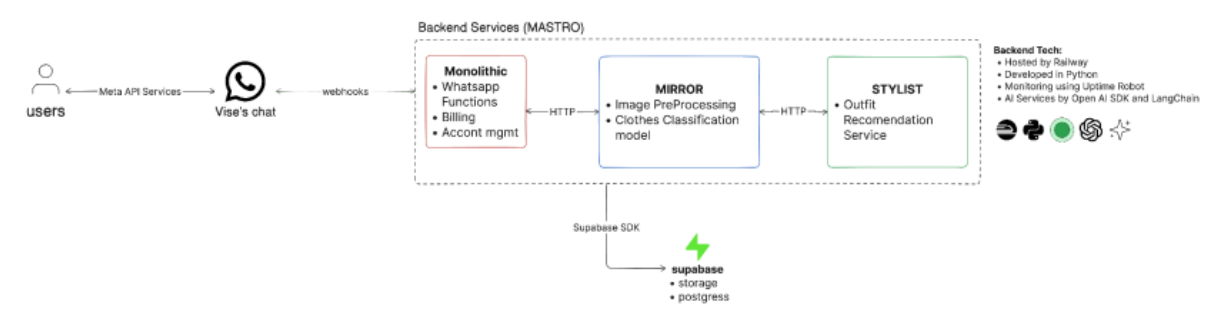
This feature definition served as the central guide for MVP prioritization, helping transform our vision into a concrete and actionable structure. With this foundation in place, we were able to move forward with the architectural design of the solution—already having a clear understanding of what to build, who to build it for, and why.

7. Key Feature Architecture

With a clear definition of the platform's core functionalities and the user profile we aim to serve, we moved on to designing Vise's technical architecture. From the outset, our goal was to create a **modular, scalable, and lightweight structure**—capable of supporting both the development of a functional MVP and the future evolution of the solution into a robust and intelligent product.

Vise is, at its core, a virtual fashion assistant that operates through integration with WhatsApp, using artificial intelligence to recognize clothing items and suggest personalized outfit combinations. To ensure a seamless user experience, we needed to design an infrastructure that balanced **performance, low cost, and ease of iteration**—key characteristics for any early-stage startup.

Vise's architecture is composed of three main components: **Monolithic**, **Mirror**, and **Stylist**—all orchestrated by an internal system we refer to as **Maestro**.



Monolithic: the orchestration core

The Monolithic module acts as the operational brain of the platform. It is responsible for:

- Managing user accounts (authentication, user data, and subscription plans);
- Receiving and interpreting messages sent through WhatsApp;
- Classifying the intent behind each message (e.g., “this image is a clothing item” or “I want an outfit suggestion”);
- Routing requests to the appropriate engines—**Mirror** or **Stylist**.

This process of semantic message classification is essential to ensure that each user interaction is processed accurately and efficiently, delivering a personalized response within the conversational flow.

Mirror: the visual analysis engine

Mirror is the engine responsible for processing the images sent by users. It identifies which elements in the photos correspond to clothing items, filters out backgrounds and irrelevant objects, and extracts visual attributes such as:

- Garment type;
- Color;
- Style;
- Pattern.

This processing is supported by prompt engineering techniques using GPT models, and the extracted data is then stored in the user's virtual wardrobe. Mirror serves as the foundation of Vise's visual organization system.

Stylist: the creative and intelligent engine

Stylist is the component responsible for generating personalized outfit suggestions. It queries the clothing items stored in the database, interprets the context of the user's request (such as event, weather, or mood), and formulates a recommendation accordingly. This response is delivered naturally within the ongoing WhatsApp conversation.

As outlined in Vise's roadmap, **Stylist** will also be responsible for future features such as:

- Sending visual representations of recommended outfits;
- Integration with weather APIs;
- Suggesting complementary items through partner stores.

Backend Tech Stack and Rationale

To make this architecture viable with speed and efficiency, we selected a lean tech stack based on criteria such as ease of use, low cost, fast deployment, and scalability. The technologies adopted were:

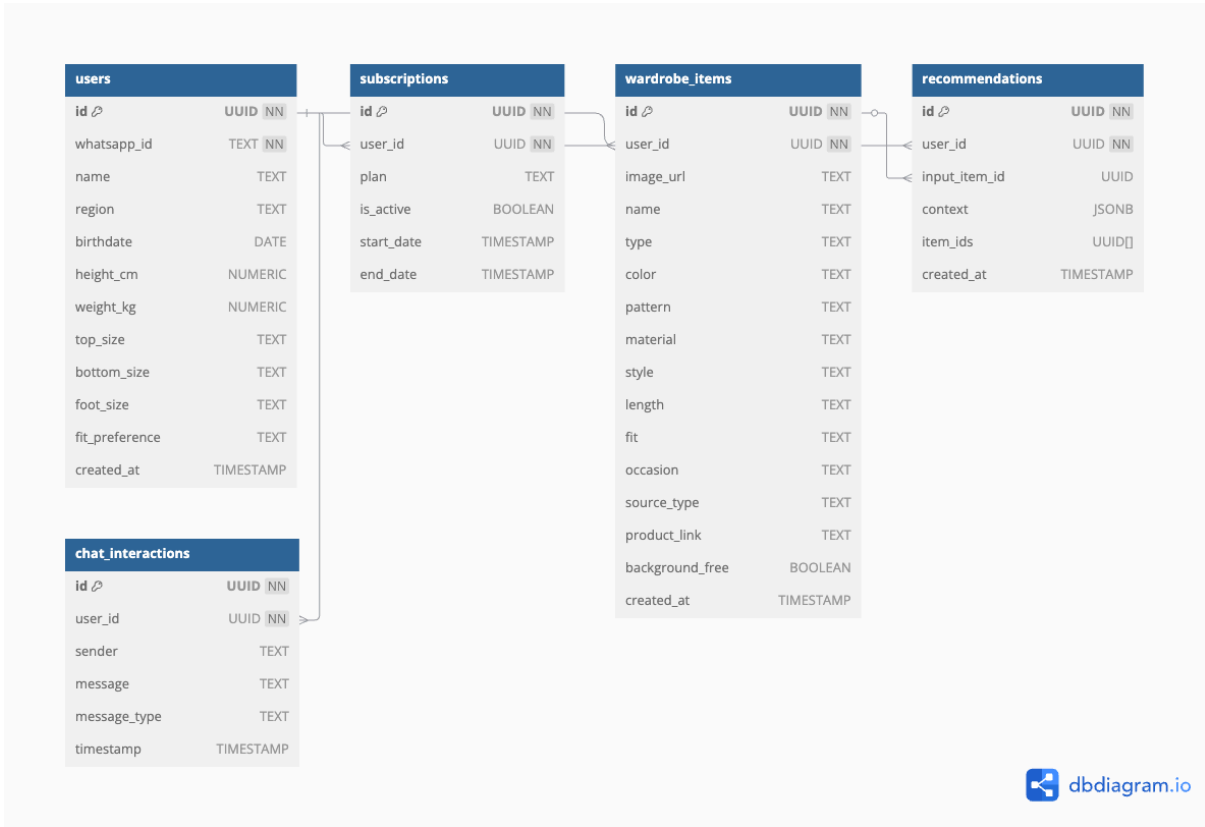
- **Railway:** a deployment platform that simplifies backend management, offering automatic deployments and integrated PostgreSQL support. Ideal for prototyping and MVP development.
- **Supabase:** an open-source backend and database platform that includes built-in authentication, storage, and native APIs. It enables scalability without the complexity of platforms like AWS or Firebase.
- **Uptime Robot:** a simple and effective monitoring tool that allows real-time tracking of application health.
- **Python:** the core programming language of the project, chosen for its versatility in data science and computer vision applications.
- **LangChain + OpenAI SDK:** used to integrate large language models (such as GPT) and orchestrate complex AI workflows, including future capabilities like voice transcription with Whisper.

By adopting a microcomponent-based approach and leveraging accessible tools, we were able to maintain high technical quality while accelerating development with limited resources. This solid foundation enables us to iterate quickly, scale reliably, and integrate new features with ease—all without compromising the user experience, which remains at the core of the solution.

8. Vise's Database Structure

To ensure that Vise's user experience would be not only functional, but also reliable and scalable, it was essential to design a solid database structure aligned with the platform's modular architecture. In this stage, we explored the use of **Supabase** as our backend solution, structured tables to support the platform's core functionalities, and conducted API tests to validate the system's integration with the application.

Based on the previously defined features, we organized the database tables around five main components:



1. users

This table stores core information about each user, including their WhatsApp ID (used for authentication), basic demographic data, and physical attributes such as height, weight, and clothing size preferences. These fields enable Vise to provide personalized outfit recommendations.

2. subscriptions

This table tracks users' subscription plans, including whether the subscription is active

and its duration. It is designed to support different tiers of functionality as Vise grows and introduces premium features.

3. wardrobe_items

This is the central table for managing users' virtual wardrobes. Each entry represents a clothing item uploaded by the user, containing metadata such as type, color, pattern, material, style, and fit. It also includes context-aware fields like occasion and source type (e.g., purchased, gifted, etc.). The **background_free** field indicates whether the image has been processed for background removal, enabling visual features like outfit previews.

4. recommendations

This table logs outfit suggestions generated by the AI engine. It links a user to a recommendation session and stores the input item (if applicable), the contextual data used to generate the recommendation (such as weather or event), and the final set of item IDs selected to form the suggested outfit.

5. chat_interactions

This table keeps a record of all messages exchanged between the user and the Vise assistant via WhatsApp. It stores the sender (user or system), the type of message (text, image, audio, or command), and the message content. This is essential for auditing, retraining models, and enhancing the conversational AI experience over time.

We conducted a series of initial tests using Supabase's API, following the official documentation. These tests included basic operations such as user authentication, data insertion and retrieval, and file uploads to the storage bucket.

Through this process, we observed how **robust and consistent** the Supabase API is. The documentation is clear, and the endpoints are intuitive and well-structured, allowing for quick implementation and validation of the core features we need for Vise.

The database structure proposed and validated during this stage represents more than just a data repository—it serves as the foundation that enables Vise to deliver a personalized, seamless, and secure user experience. The technical decisions made here ensure that the system can evolve with stability, scale alongside a growing user base, and intelligently integrate the AI layers that define the core value of our solution.

In the next steps, we will integrate Supabase APIs with the modular backend defined in Vise's architecture, directly connecting the **Mirror** and **Stylist** engines to this structure to support real-time clothing data storage, processing, and intelligent outfit recommendation.

9. Conclusion

Module 1 represented a fundamental stage in the development of Vise, during which we built the conceptual, strategic, and technical foundations of the project. Our focus was to ensure that every decision—from solution design to system architecture—was guided by real user needs and tangible market opportunities.

We began this journey with in-depth market research, which confirmed the rapid growth of artificial intelligence in the fashion industry and highlighted the gap left by foreign solutions within the Brazilian context. We identified WhatsApp as a highly promising and still underutilized channel, reinforcing both the originality and the adoption potential of our proposal.

Based on this scenario, we developed the persona **Mariana Queiróz**, a clear representation of our target audience: people who value fashion as a form of self-expression but face practical challenges when it comes to styling their looks. This persona guided the creation of the **Customer Journey Map**, which helped us design an ideal user experience—fluid, accessible, and adapted to digital behavior.

From these insights, we structured Vise's core functionalities into **epics and user stories**, using an adapted version of the **Double Diamond** model. This process allowed us to prioritize essential MVP features without losing sight of future expansion possibilities. All of this was translated into a **modular and scalable architecture**, composed of the **Monolithic**, **Mirror**, and **Stylist** engines—designed to operate lightly and efficiently, even in a prototyping environment.

To complement this foundation, we built a **robust database structure using Supabase**, which not only supports user data and interactions with the AI, but also ensures flexibility and security as the platform scales. We tested API integrations, defined the image storage model, and anticipated potential technical bottlenecks—already considering future scalability plans.

By concluding this module, we achieved more than a well-documented plan—we now have a solution with purpose, technical backing, and a clear path to execution. **Vise is no longer just an idea—it is a platform ready to be built with focus, intelligence, and real connection to its users.**

This first step was essential to prepare us for the next challenges in development. We are now ready to transform this structure into a **functional MVP**, validated by real users, and capable of making a meaningful impact in the daily lives of people who want to dress better using what they already own.