

fAlshion

The smart way of shopping

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Abstract

This report presents fAIshion, an AI-powered mobile application designed to transform the fashion retail experience by offering real-time, personalized outfit recommendations. Combining generative artificial intelligence, computer vision, and real-time location tracking, fAIshion addresses key challenges in shopping—such as decision fatigue, poor personalization, and sustainability concerns. The app allows users to scan clothing items, manage a digital wardrobe, and receive curated outfit suggestions based on style preferences, context, and current fashion trends. Through design thinking methodologies, the project explores user needs, system functionality, and potential business value using tools like Lean Canvas, Figma, and ChatGPT. By bridging digital and physical retail, fAIshion aims to enhance user satisfaction, support sustainable consumption, and empower retailers through data-driven engagement. This report evaluates the solution's innovation, technical requirements, and future potential within the evolving fashion-tech landscape.

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Abbreviations

Abbreviation	Description
AI	Artificial Intelligence
SDG	Sustainable Development Goals
LLMs	Large Language Models
GANs	Generative Adversarial Networks
VAE	Variational Autoencoders
CDN	Content Delivery Network
AR	Augmented Reality
IoT	Internet of Things
B2B	Business-to-Business

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1

Introduction

1.1 Background

The fashion industry is rapidly evolving, with artificial intelligence (AI) playing an increasingly important role in retail and personal shopping. While e-commerce has transformed how people shop, physical stores remain a key part of the experience. Many shoppers struggle with decision-making, such as coordinating outfits or finding items that match their style. AI-driven solutions address these challenges, offering convenience and tailored recommendations.

Generative AI enhances customer interactions by tailoring suggestions to individual preferences. Companies that leverage personalization effectively see a 40% increase in revenue compared to those that don't [1]. Tools like AI-powered styling recommendations significantly improve the shopping journey.

Fashion recommendation systems help customers find products that suit their needs. These systems use advanced technologies like computer vision and deep learning to provide suggestions based on user preferences, context, and how items complement each other [2].

With the rise of 5G, mobile apps can now offer real-time, location-based features, creating new opportunities for personalized shopping. AI-driven

fashion assistants provide tailored outfit suggestions and interactive experiences, revolutionizing how consumers shop.

1.2 Purpose and Scope

1.2.1 Purpose

The goal of this project is to develop fAIshion, an AI-powered shopping assistant designed to enhance the retail experience. fAIshion combines real-time location tracking, AI-driven outfit recommendations, and personalized styling to help users make confident fashion choices, whether they're shopping in physical stores or online.

The app addresses common challenges, such as difficulty coordinating outfits and the time-consuming process of browsing through options. By leveraging AI, fAIshion simplifies these tasks, allowing users to shop more efficiently and with greater confidence.

1.2.2 Scope of Artifact

fAIshion is a mobile app that uses AI and real-time location tracking to enhance shopping. Users can scan QR codes or barcodes to receive outfit recommendations and integrate items into their digital wardrobe. The app works seamlessly across shopping environments, offering personalized styling for both in-store and online use. Fashion brands can also pay to feature their products in the app, increasing their visibility.

1.3 Problem Domain

Shoppers often face challenges when trying to coordinate outfits or find items that match their style. Traditional shopping methods can be time-consuming, and many digital solutions lack tailored, real-time recommendations. Sizing inconsistencies are a major issue, leading to high return rates—around 30% of online fashion purchases are returned due to fit problems [3]. Additionally, decision fatigue from too many choices and uncertainty about outfit coordination can frustrate shoppers [4].

Psychological factors, such as the desire for social validation, ethical concerns, and cultural influences, also play a role in shopping decisions [5]. fAIshion tackles these challenges by offering an AI-powered assistant that

uses real-time data and intelligent recommendations to improve the shopping experience, boosting user satisfaction and retailer engagement.

2

Literature Review

2.1 AI for Business Creativity

AI is transforming how businesses innovate, enabling faster idea generation, process optimization, and collaboration. Generative AI tools, like large language models (LLMs), are particularly useful for product development and marketing, helping companies identify trends and personalize customer experiences [6, 7]. However, challenges remain, such as AI's inability to fully grasp cultural and emotional nuances, ethical concerns like plagiarism, and the high resource requirements for smaller companies [8, 9].

2.2 Consumer Behavior

Consumer preferences vary widely based on geography, age, and cultural factors. While younger shoppers favor online platforms, older generations prefer physical stores for their familiarity and tactile experience [10]. In regions like North America and Europe, physical stores remain popular due to immediate product access and personalized service, while Asia-Pacific blends online and offline shopping through hybrid models [11, 12]. Ethical and psychological factors, such as sustainability and social validation, also influence shopping decisions [5].

2.3 Why Do Consumers Choose Physical Stores for Clothing Purchases?

According to a study by Vonkeman, Verhagen, and Van Dolen [4], the ability to physically interact with products, such as touching and trying on clothes, is a crucial factor for many consumers. This tactile experience contributes to a greater sense of security and satisfaction in purchasing decisions. Additionally, physical stores offer immediate access to products, eliminating the wait time associated with online shopping. Personalized service and advice from store personnel are other key aspects valued by consumers when purchasing clothing in physical stores. Social interaction and the opportunity to receive immediate feedback also influence consumer preference for physical stores [4] [13]

Physical stores are expected to continue playing a significant role in retail despite the ongoing growth of e-commerce. According to Forrester [14], 72% of total retail sales in the US will still occur in physical stores by 2028. This is driven by consumers' persistent need to try products and experience personalized service. At the same time, retailers are investing in "phygital" strategies, where physical and digital elements are combined to enhance the customer experience [14] [15].

2.4 The Future of Retail

The future of retail lies in the integration of physical and digital experiences, known as "phygital" retail. Key trends include:

- **Augmented Reality (AR):** Virtual try-ons and product visualizations enhance the shopping experience [12].
- **Click-and-Collect:** Combining online ordering with in-store pickup reduces wait times [16].
- **Smart Stores:** AI and IoT enable automated checkouts and personalized recommendations [17].

Retailers must adopt these technologies to stay competitive, focusing on automation, advanced analytics, and personalized experiences [18].

2.5 Competitive Landscape in Fashion Tech

To better understand what already exists in the market, we looked at several fashion apps that use AI in different ways. Some help people choose outfits, others offer digital wardrobes or personal styling services. We picked a few well-known ones and compared them based on the features we thought were most important to users. The table below shows what each app offers — and where there are still gaps that fAIshion can fill.

	AI Outfit Recommendations	Digital Wardrobe	Real-Time Location Awareness	Personalized Styling	Retailer Integration
Zalando	✓	✗	✗	✓	✓
Style DNA	✓	✓	✗	✓	✓
Acloset	✓	✓	✗	✓	✗
Stitch Fix	✓	✗	✗	✓	✗
Indyx	✓	✓	✗	✓	✓
fAIshion	✓	✓	✓	✓	✓

Figure 2.1: Competition Matrix

From this comparison, we can see that no single app offers all the key features together. While some focus on styling or wardrobe organization, they don't include things like real-time location support or social sharing. This helped confirm that fAIshion is different — it brings together several useful features in one place, making the shopping experience easier, more personal, and more connected to the real world.

3

Design Process

3.1 Design Thinking

Design thinking is a user-centered approach that helps teams understand user needs, redefine problems, and develop innovative solutions through prototyping and testing. It involves five key stages: **Empathize, Define, Ideate, Prototype, and Test** [19]. For fAIshion, this approach ensured we created a solution that truly addresses user pain points while aligning with business goals.

3.1.1 Empathize

The first stage, *Empathize*, focused on understanding user needs through interviews and observations. We spoke with colleagues, international students, and friends, who shared common frustrations: shopping is time-consuming, stores often lack stock, and finding the right product can be overwhelming. Many also admitted they don't spend much time thinking about what to wear daily. These insights highlighted the need for a digital, personalized solution to simplify outfit selection and shopping. For selected responses and deeper insights from these interviews, see Appendix A.

We also aligned our project with two Sustainable Development Goals (SDGs):

SDG Goal 12 [20] focuses on sustainable consumption and production. fAIshion supports this by promoting sustainable shopping habits and reducing waste.



Figure 3.1: SDG Goal 12 - Responsible Consumption and Production

SDG Goal 9 [21] emphasizes sustainable infrastructure. Our project aligns with this by creating innovative solutions that support sustainable industrialization.



Figure 3.2: SDG Goal 9 - Industry, Innovation, and Infrastructure

3.1.2 Define

In the Define stage, we synthesized user insights to identify core problems. Key issues included:

- **Time-Consuming Shopping:** Long commutes, browsing, and trying on clothes make shopping exhausting.

- **Decision Fatigue:** Users struggle to coordinate outfits, leading to frustration and abandoned purchases.
- **Lack of Personalization:** Existing solutions offer generic recommendations, ignoring individual style and preferences.
- **Sizing Issues:** Inconsistent sizing across brands leads to frequent returns.
- **Sustainability Concerns:** Users want to shop responsibly but lack tools to make informed decisions.

These findings guided our mission to create an AI-powered shopping assistant that simplifies outfit selection, enhances personalization, and bridges the gap between in-store and online shopping. For more details on user needs, see Appendix B.

3.1.3 Ideate

The Ideate stage involved brainstorming solutions to address the identified problems. Using techniques like Brainwriting and Mind Mapping, we generated a wide range of ideas. Tools like Miro helped us organize and visualize potential solutions. This process allowed us to refine our approach and identify key features for fAIshion. For a visual representation of our brainstorming process, see Appendix C.

3.1.4 Prototype

In the Prototype stage, we created early versions of the app to test key features. Initial sketches of the home screen, outfit generation process, and scanning feature were developed using AI tools like DALL-E and Google Gemini. These prototypes gave us a sense of the app's interface and user flow, highlighting areas for improvement. For details of the co-design with AI session and the initial sketches, see Appendix D.

3.1.5 Test

The final stage, Test, involved evaluating the prototype's functionality and user experience. By testing the app, we gathered valuable feedback to refine the design and ensure it meets user expectations. This phase was critical for identifying improvements needed before the final release.

4

Solution Description

In this chapter, we introduce the technology behind fAIshion, outlining its core functionalities, the underlying AI-driven technologies, and how it enhances both in-store and online shopping experiences.

4.1 Description

fAIshion is an AI-powered smartphone app that revolutionizes how people shop for clothes. Using 5G technology, the app detects the user's location and recognizes the store they enter, allowing them to browse the store's catalog on their phone. By scanning QR codes or barcodes, users can instantly add products to their virtual wardrobe and receive AI-powered outfit suggestions. These suggestions combine in-store items with clothes the user already owns, making it easy to create stylish outfits without the hassle.

The app is free to use on Android and iOS, supported by ads, with a premium subscription option for advanced features like ad-free browsing and enhanced outfit recommendations. Fashion brands can also integrate their catalogs into fAIshion for greater visibility, with larger companies paying a fee for this service.

A complete fashion experience—right in the palm of your hand. This is fAIshion.

4.2 Technology

At the core of fAIshion is Artificial Intelligence (AI), which uses machine learning, computer vision, and 5G connectivity to provide personalized outfit recommendations in real time. The app analyzes user preferences, shopping habits, and location data to suggest outfits tailored to the user's style, body type, and the occasion. For example, it might recommend warmer outfits for colder climates or formal attire for specific events.

fAIshion is available for both Android and iOS, with optional user registration. Registered users can save their preferences and receive notifications when their favorite items are back in stock. The app's machine learning algorithms also learn the user's style over time, offering increasingly accurate outfit suggestions.

To ensure user privacy and data security, all data exchanges are encrypted, and user information is stored securely in the cloud. The app also uses a Content Delivery Network (CDN) to optimize performance, ensuring fast and seamless interactions for all users.

4.3 Outfit Generation Feature

The standout feature of fAIshion is its Generative AI Outfit Combination capability. This feature allows users to scan clothing items in-store or upload images of their existing wardrobe. The AI then generates personalized outfit recommendations based on the user's style preferences, body type, and the occasion. By analyzing patterns, colors, textures, and current fashion trends, the AI ensures that the suggested outfits are both stylish and practical.

4.3.1 Proof of Concept

To test the viability of this feature, we used ChatGPT to identify key characteristics of clothing items, such as color, pattern, material, and style. The process works as follows:

- **Input:** The system takes two main inputs:
 - Images of clothing items (e.g., a shirt, pants, jacket).
 - User preferences such as style (casual, formal, seasonal), body type, and occasion (e.g., professional, party, casual).

Copy

- **Task:** The AI identifies the characteristics of each item and generates a tailored outfit based on the user's preferences.
- **Output:** The AI provides a detailed description of the outfit, explaining how the items complement each other, and suggests accessories. It also offers alternative outfit options for more variety.

For examples of how this works, see Appendix E.

4.3.2 Proposed System Flow

The Outfit Generation Feature follows a structured process:

- **Step 1: User Input & Data Collection:** Users can scan items in-store, upload images of their wardrobe, or enter text prompts (e.g., "I need a formal look for a business meeting").
- **Step 2: AI Processing & Style Matching:** The AI analyzes the item's attributes (color, pattern, style) and considers contextual factors like weather and user preferences.
- **Step 3: Retrieval of Matching Items:** The system pulls complementary items from the user's e-Wardrobe, retailer catalogs, or trending collections.
- **Step 4: Outfit Generation & User Interaction:** Users receive 3-5 outfit suggestions, with options to swap items, view detailed descriptions, or purchase missing pieces.
- **Step 5: Continuous Learning & Improvement:** The AI learns from user feedback, refining recommendations over time.

For a visual representation of this process, see the System Flowchart below.

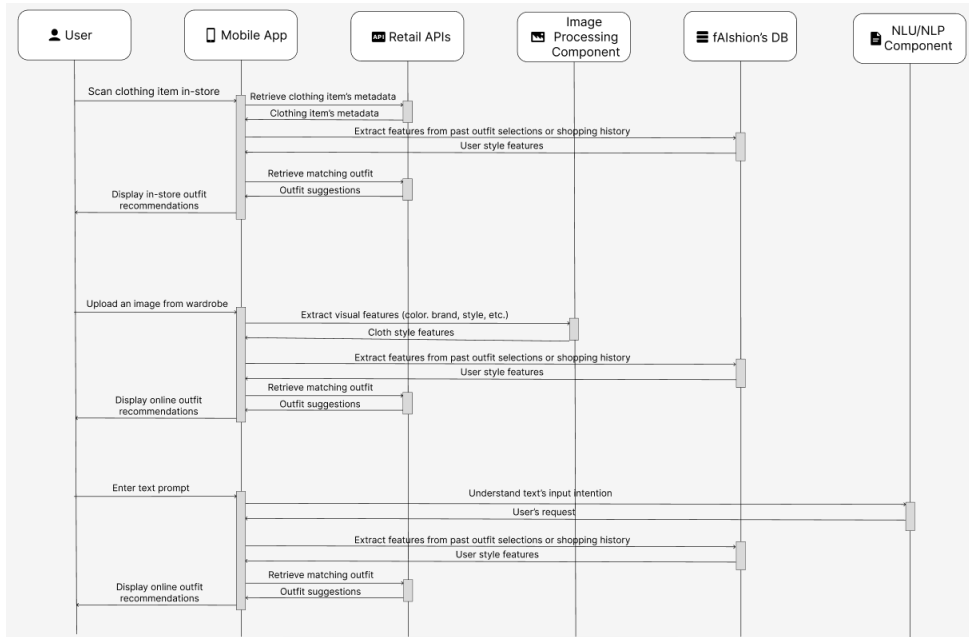


Figure 4.1: System Flowchart for Outfit Generation Feature

4.4 Requirements

4.4.1 Technical Requirements

fAIshion requires advanced AI models (e.g., GANs, VAEs) trained on diverse fashion datasets. It must be compatible with iOS and Android, leveraging smartphone cameras for clothing analysis. Reliable internet access is essential for real-time AI processing, and encrypted cloud storage ensures user data security.

4.4.2 User Requirements

The app must have an intuitive interface for easy outfit generation and customization. Personalization options and accessibility features (e.g., voice commands) enhance usability, while basic offline functionality (e.g., viewing saved outfits) ensures convenience.

4.4.3 Regulatory Requirements

fAIshion complies with data protection laws (e.g., GDPR) to safeguard user privacy. The AI models are trained on diverse datasets to avoid bias, and intellectual property regulations are observed when using fashion-related images.

4.5 Interface

The app's interface is designed to be user-friendly and intuitive. Key screens include:

- **Home Screen:** The main hub where users can scan items, get style suggestions, or locate nearby stores.
- **e-Wardrobe Screen:** A digital wardrobe where users can store scanned or purchased items and receive outfit suggestions.
- **Scan Screen:** Allows users to scan items in-store or upload images of their wardrobe.
- **Map Screen:** Displays nearby stores with product information and operating hours.
- **Outfit Generation Screen:** Provides tailored outfit recommendations based on the user's wardrobe and preferences.

For detailed visuals of these screens, see Appendix F.

5

Evaluation

In this chapter, we evaluate fAIshion from both a business and creative perspective. First, we use the Lean Canvas framework to analyze its business value. Then, we assess its innovation and creativity based on six criteria: originality, relevance, complexity, flexibility, elaboration, and impact.

5.1 Lean Canvas

The Lean Canvas is a one-page business model that helps us understand how fAIshion creates value. Below is a breakdown of how fAIshion fits into each part of the canvas.

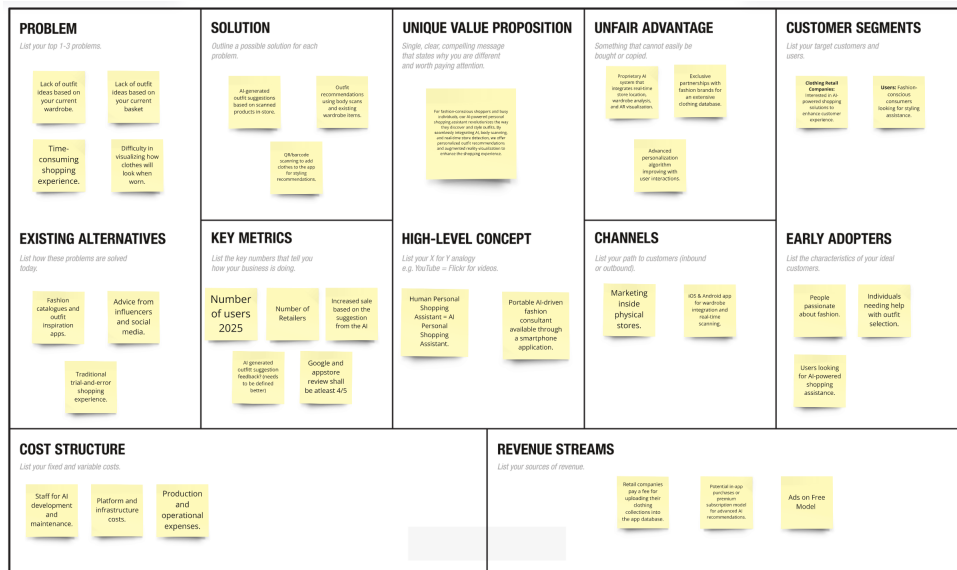


Figure 5.1: Lean Canvas

5.1.1 Problem

fAIshion addresses several key problems:

- Shoppers struggle to find outfit inspiration, especially when trying to coordinate new items with their existing wardrobe.
- Most fashion resources don't offer personalized advice based on individual style or context.
- Shopping can be time-consuming and frustrating, especially when visiting multiple stores.

5.1.2 Customer/User Segments

fAIshion serves two main groups:

- **End-users:** People who want personalized styling help, from fashion enthusiasts to busy shoppers.
- **Business clients:** Fashion brands and retailers looking to boost sales and improve customer experiences.

5.1.3 Unique Value Proposition

fAIshion stands out by offering real-time, personalized outfit suggestions. It combines digital wardrobes, AI-driven styling, and in-store interactions

to create outfits tailored to the user's style, body type, and context. This makes it more accurate and useful than generic fashion advice.

5.1.4 Solution

fAIshion solves these problems by using AI to analyze clothing items and generate outfit recommendations. Users can scan items in-store or upload images of their wardrobe, and the app suggests outfits based on their preferences and the occasion. This saves time and makes shopping more enjoyable.

5.1.5 Existing Alternatives

Currently, shoppers rely on magazines, social media influencers, or trial-and-error in fitting rooms. fAIshion replaces these with a single platform that combines digital and physical shopping data, offering more accurate and personalized recommendations.

5.1.6 Key Activities & Key Metrics

Key activities for fAIshion include improving AI models, integrating with retailer databases, and marketing the app. Key metrics include user engagement, how often recommendations lead to purchases, and user feedback to refine the AI.

5.1.7 Cost Structure

The main costs include:

- Development team, AI specialists, and designers.
- Technology like servers, cloud computing, and data encryption.
- Marketing and partnerships with retailers.

5.1.8 Revenue Streams

fAIshion generates revenue through:

- **B2B:** Retailers pay to feature their products in the app.
- **Premium Subscriptions:** Users can pay for advanced features like ad-free browsing and better recommendations.

5.1.9 Unfair Advantage

fAIshion's edge comes from its proprietary AI algorithms and partnerships with retailers. The app learns from user interactions, making its recommendations hard to replicate. Early partnerships also give it unique insights into real-world shopping behavior.

5.1.10 Channels

fAIshion will be available as a smartphone app for iOS and Android. It will also be promoted through social media, influencer collaborations, and partnerships with fashion brands.

5.1.11 Early Adopters

The first users will likely be tech-savvy fashion enthusiasts and busy shoppers who value time-saving tools. Their feedback will help refine the app for broader adoption.

5.1.12 Summary of Chapter 5.1

fAIshion addresses real shopping challenges while offering a clear revenue model. Its combination of AI styling, digital wardrobes, and in-store integration creates a unique solution that benefits both users and retailers.

5.2 Degree of Innovation and Creativity

We evaluated fAIshion's creativity and innovation based on six criteria:

5.2.1 Originality

fAIshion is original because it combines AI, real-time store data, and digital wardrobes in a way that hasn't been done before. It bridges the gap between online and in-store shopping, offering a fresh approach to fashion retail.

5.2.2 Relevance

The app is highly relevant because it solves a common problem: finding the right outfit. It saves time, reduces uncertainty, and helps users feel more confident in their choices.

5.2.3 Complexity

fAIshion is technically complex, requiring advanced AI models, real-time data processing, and integrations with retailer systems. This complexity highlights the need for careful planning and ongoing development.

5.2.4 Flexibility

The app is flexible and can adapt to different users and situations. It works for fashion enthusiasts and casual shoppers alike, and its technology could even be applied to other types of retail, like home décor or groceries.

5.2.5 Elaboration

fAIshion is well-developed, with features like the e-Wardrobe, QR scanning, and AI styling. Its business model is also clear, outlining costs and revenue streams.

5.2.6 Impact

fAIshion has the potential to improve sales for retailers and satisfaction for shoppers. It also promotes sustainability by encouraging users to make better use of their existing clothes.

5.3 Summary of Chapter 5

fAIshion delivers value for both users and retailers. Its innovative use of AI and seamless integration of digital and physical shopping make it a strong contender in the fashion market. While technically complex, its flexibility and scalability open up possibilities for future growth in other industries.

6

Discussion

6.1 Reflections

This study explored the potential of AI-driven fashion assistants, focusing on the development of fAIshion. While the project aimed to make shopping more convenient and personalized, several aspects need further consideration. This chapter reflects on the implications of integrating AI, real-time location tracking, and personalized recommendations into the fashion retail experience.

6.2 AI in Fashion

AI has the potential to transform how people shop for clothes. By analyzing user preferences, wardrobe contents, and shopping habits, AI can provide tailored outfit suggestions and improve decision-making. This aligns with broader trends in retail, where personalized, customer-centric experiences are becoming the norm. However, more research is needed to understand how these systems influence long-term user engagement and purchasing decisions.

6.3 Practical Considerations

Implementing AI-powered shopping assistants comes with practical challenges. One key factor is usability—the app must be easy to use, allowing users to input preferences and interact with recommendations without

friction. Another consideration is the balance between automation and human input. Some users may prefer a mix of AI and professional fashion advice, so finding the right balance is important. Privacy is also a major concern. AI systems rely on user data, such as preferences, browsing history, and location. Ensuring data security and transparency is crucial for building trust and complying with regulations.

6.4 Challenges & Limitations

While AI offers many benefits, there are challenges to consider. The accuracy of outfit recommendations depends on the quality of input data. Incomplete or inconsistent wardrobe details can reduce the relevance of suggestions. Technical constraints, such as processing power and internet connectivity, can also affect the app's responsiveness and real-time functionality. Additionally, user adoption remains a critical factor. Some consumers may still prefer traditional shopping methods or rely on personal judgment rather than AI recommendations. Understanding how different users interact with the app is an area for further research.

6.5 Future Research

Future studies could explore ways to improve AI-driven fashion recommendations by incorporating more advanced machine learning techniques and user feedback. Examining the long-term impact of AI-powered shopping assistants on consumer behavior would also provide valuable insights into their effectiveness and adoption. Another important area for research involves the ethical implications of AI in retail, particularly regarding data privacy and algorithmic transparency. Developing methods to ensure fair and unbiased recommendations while maintaining user privacy will be essential for the continued success of AI-driven fashion applications.

7

Conclusion

fAIshion offers an innovative and practical solution to common challenges in fashion retail. By integrating AI-driven outfit recommendations, real-time location tracking, and personalized styling, it enhances the shopping experience for both online and in-store customers.

This project explored how artificial intelligence can simplify shopping, reduce decision fatigue, and help users coordinate outfits effortlessly. In addition to the technical aspects, we considered consumer behavior, psychological factors, and ethical concerns. Our research highlights the increasing demand for digital transformation in retail, where personalization and data-driven experiences are becoming essential.

Through collaborative tools such as Miro, Lean Canvas, and Figma, we developed a structured concept and a working prototype. Generative AI played a key role in shaping fAIshion, making it an intelligent and interactive fashion assistant. Our study also aligns with future retail trends, showing how AI and emerging technologies can improve customer satisfaction while promoting sustainable shopping habits.

Looking ahead, fAIshion has the potential to bridge the gap between **digital and physical shopping experiences**. As technology continues to advance, AI-powered assistants like fAIshion can help retailers offer **smarter, more engaging, and more sustainable** shopping solutions.

Ultimately, we hope that fAIshion contributes to reshaping the fashion industry, making shopping **more personalized, efficient, and enjoyable** for everyone.

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Appendix A — User Interviews

As part of the *Empathize* phase of our design thinking process, we conducted interviews and informal conversations with colleagues, international students, and friends. These discussions helped us identify common shopping challenges and behavioral patterns. Below are two highlighted responses that provided particularly valuable insights for the design of *fAIshion*.

Interview 1: Italian Female Student

Profile: 24 years old, international student from Italy

Summary: This participant described shopping as a highly social and enjoyable experience. She often goes shopping with friends and spends several hours in stores, trying on clothes and sharing opinions.

Quotes:

- “Shopping is a social thing for me. I usually go with friends, and we spend the whole afternoon browsing and trying stuff on.”
- “Online shopping is convenient, but it’s not the same. You miss the experience, the fun part of it.”

Insights:

- Shopping can be both functional and experiential.
- Some users value the store environment as part of the overall shopping journey.
- *fAIshion* should consider adding social or collaborative features, like shared wishlists or outfit sharing, to enhance engagement for users like her.

Interview 2: Spanish Male Student

Profile: 26 years old, exchange student from Spain

Summary: This participant approaches shopping as a task-driven activity. He shops only when necessary and admits to having difficulty coordinating outfits.

Quotes:

- “I go shopping only when I really need something. I don’t enjoy it much.”
- “I’m not very good at putting outfits together. I usually just wear simple things that go with everything.”

Insights:

- Efficiency and ease-of-use are essential for users like him.
- There’s a clear need for personalized outfit guidance and time-saving solutions.
- Features such as automatic outfit generation or “complete the look” would directly address this user’s needs.

These interviews reinforced patterns we observed across multiple participants: shopping can be overwhelming and time-consuming, and many users desire more personalization and simplicity in their fashion choices. The feedback directly influenced the development of key features in *fAIsh-ion*, particularly the outfit generation engine and the balance between social and solo shopping experiences.

Appendix B — User Personas

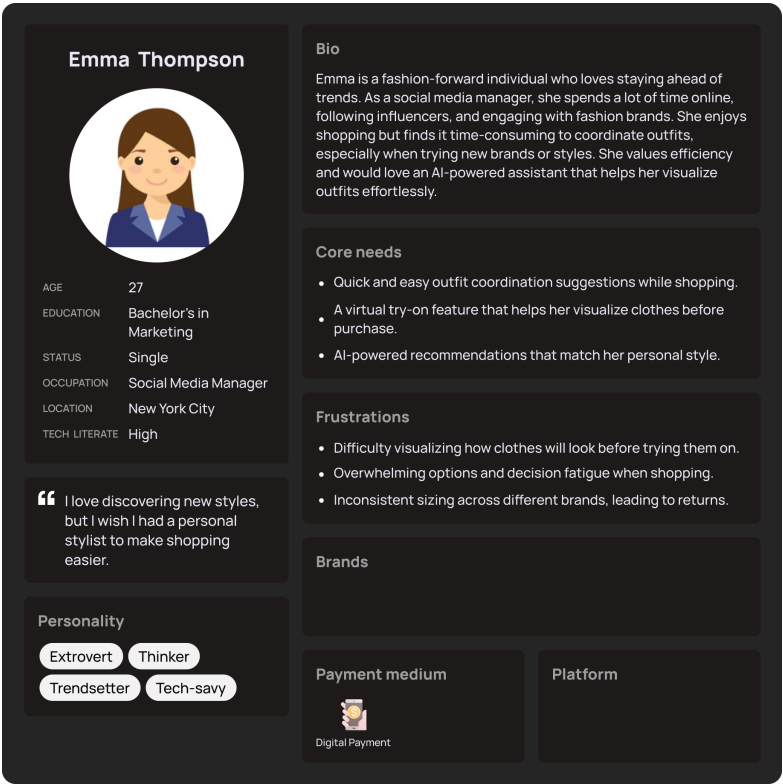


Figure 1: User Persona 1



Figure 2: User Persona 2

Appendix C — Brainstorming

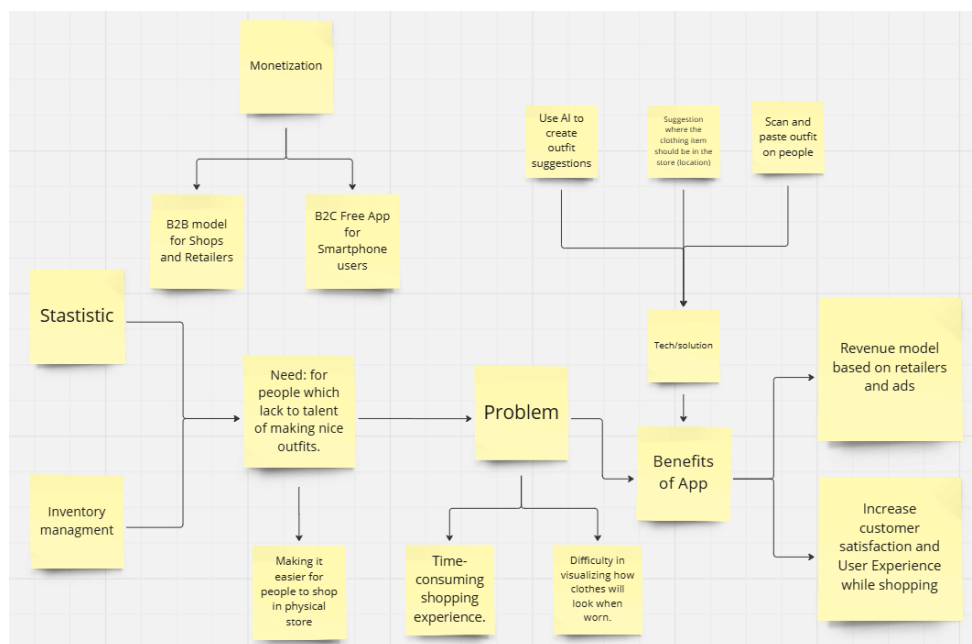


Figure 3: Brainwriting as a process of idea generation

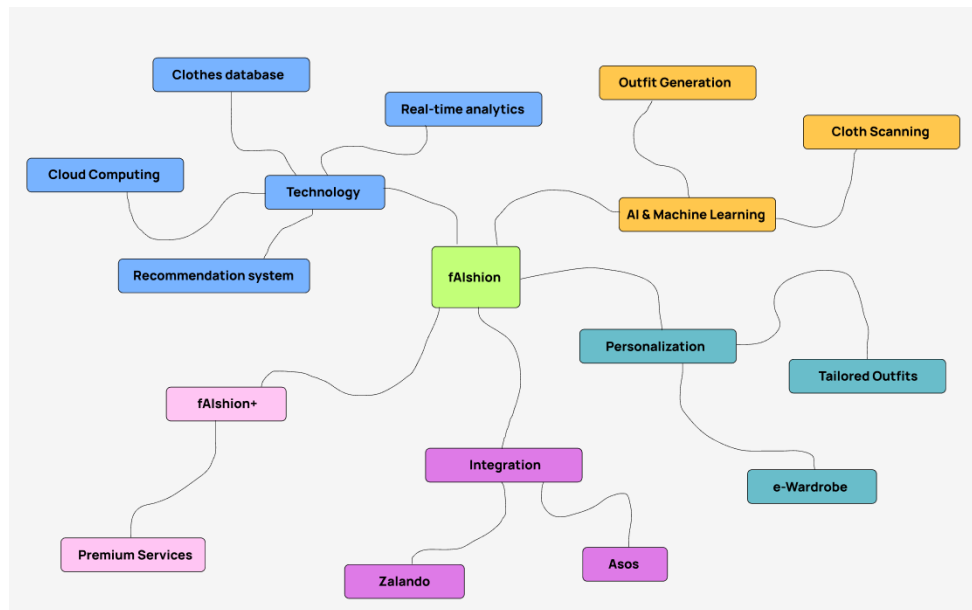


Figure 4: Mindmap

Appendix D — Prototype with AI

Co-design Session 1: 12/02/2025

Participants: Ippokratis, Andreas

Activities:

- **Objective:** Rapid prototyping of mobile application interface.
- **AI Tools Used:** OpenAI's ChatGPT 4.0, DALL-E, Google's Gemini 2.0, Flash with Imagen 3 by Google DeepMind.
- **Design Thinking Steps:** Ideate, Prototype.
- **Prompts Used:**
 - Prompt 1: "Create a vintage-style mobile app UI for a fashion scanning and wardrobe management system. The interface should include a QR code scanner, a 'Scan Product' button, star ratings, and a 'My Wardrobe' section, all displayed on a smartphone screen."
 - Prompt 2: "Illustrate a digital wardrobe and outfit recommendation app interface. Show a smartphone screen with a character in the center, surrounded by interactive outfit and shoe options. Maintain a hand-drawn, sketch-like aesthetic."
 - Prompt 3: "Design a minimalist mobile UI for a clothing scanning and outfit selection app. The screen should display categorized clothing items, scanning options, and outfit recommendations in a structured, easy-to-navigate layout."
- **Challenges:** Quick iteration was needed, but AI tools helped generate rapid visual concepts.

- **Outcomes:** Initial mockups were created for further development in Figma.

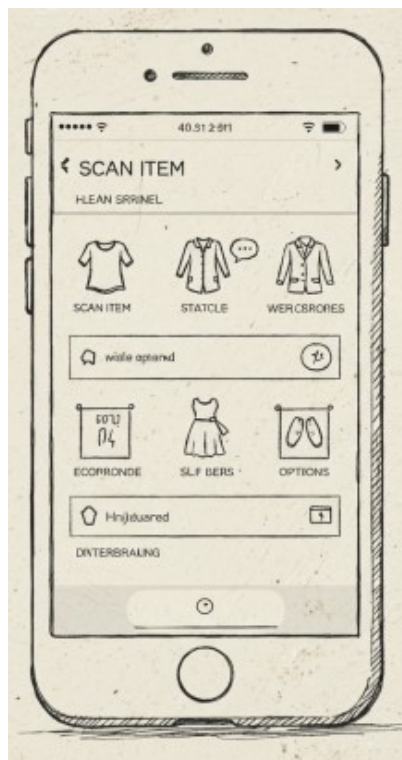


Figure 5: The initial sketches of the interface of fAishion

Appendix E — Proof of Concept with ChatGPT

Co-design Session 2: 19/02/2025

Participants: Olof, Tarkan

Activities:

- **Objective:** Proof of concept—testing app viability with dummy use cases.
- **AI Tools Used:** ChatGPT-4.0.
- **Design Thinking Steps:** Test, Validate.
- **Task:** Create three dummy use cases for outfit generation:
 - **Input:** Images of clothing and user preferences (e.g., casual style, body type).
 - **Output:** AI generates tailored outfit suggestions and accessory recommendations.
- **Challenges:** Integrating AI-generated outputs into a seamless user flow.
- **Outcomes:** Validated that the idea is viable, and ChatGPT-4.0 serves as a foundational tool.

Example Scenarios

- **Casual Look:**
 - **Input:** White shirt + casual style.

- **Output:** “Pair the white shirt with blue jeans and white sneakers for a relaxed look. Add a leather strap watch to complete the outfit.”
- **Professional Look:**
 - **Input:** White shirt + professional look.
 - **Output:** “Combine the white shirt with a black blazer, formal trousers, and brown leather loafers for a polished, business-ready outfit. A silver watch will add a refined touch.”
- **Accessories:**
 - **Input:** White shirt + accessories.
 - **Output:** “Add a slim black belt and a silk scarf to enhance the outfit.”

Appendix F — Figma Mock Ups

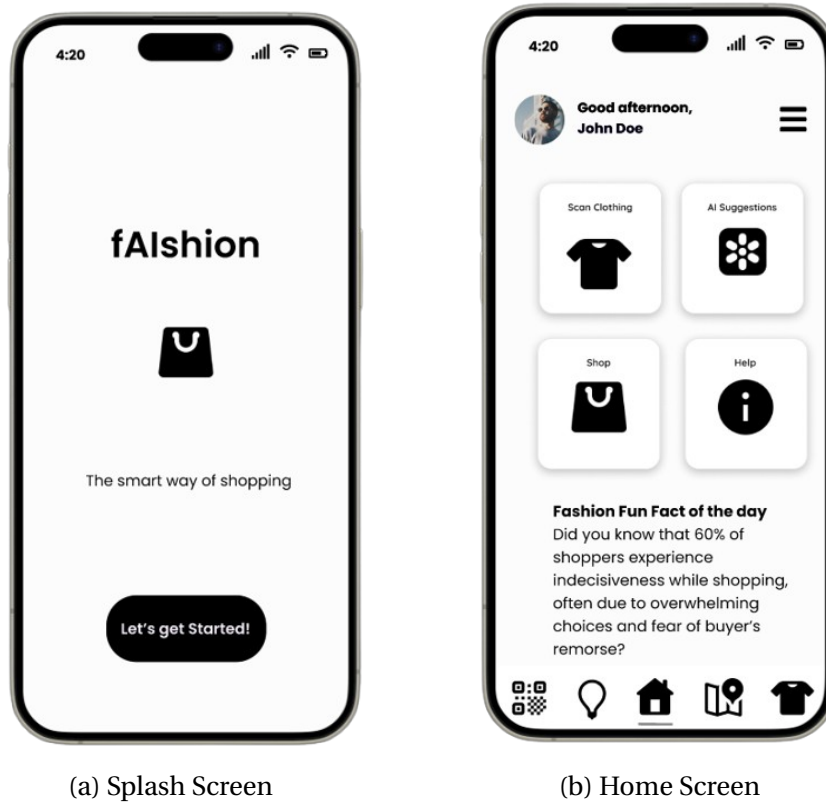
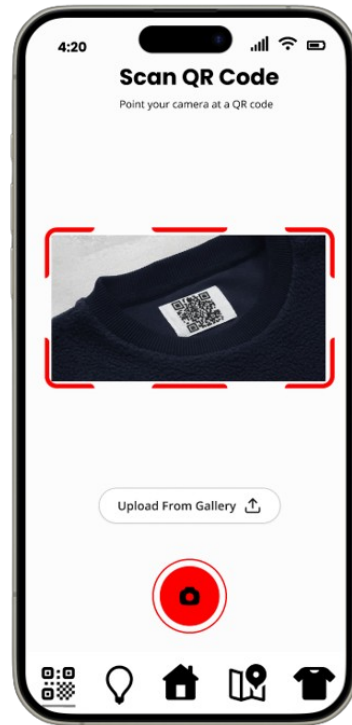


Figure 6: Splash and Home Screens

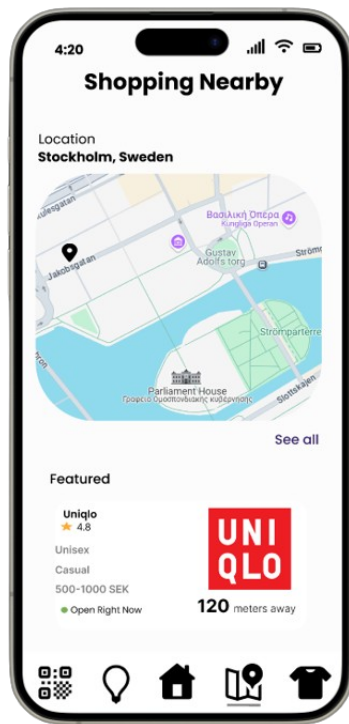


(a) e-Wardrobe Screen

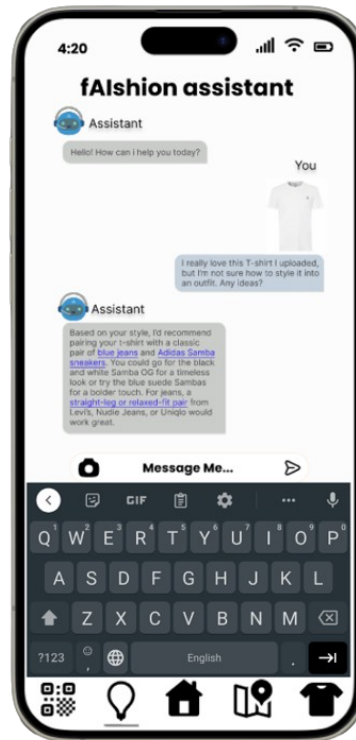


(b) Scan Screen

Figure 7: e-Wardrobe and Scan Screens



(a) Map Screen



(b) Outfit Generation Screen

Figure 8: Map and Outfit Generation Screens