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HOW DO I LOOK: AI STYLIST

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Abstract

Modern tourism is increasingly driven by digital solutions that enhance travel quality through hyper-personalization. This paper presents "How Do I Look: AI Stylist", an innovative information system implemented as a mobile application providing real-time style and appearance advice. By leveraging a sophisticated AI model ecosystem, including Large Language Models (LLMs) and advanced computer vision (CV), the system offers tailored feedback on style coordination, situational formality, and cultural appropriateness. The research focuses on the functional architecture, highlighting the seamless integration of AI-driven styling services with user-centric interfaces. Furthermore, the paper explores key use-cases within the tourism sector, such as assisting travelers in efficient and sustainable wardrobe planning for diverse climates and social contexts. By acting as a digital personal assistant, the application contributes to the "integrated destination" concept, ensuring visitors feel confident and culturally aligned with their surroundings, ultimately transforming the overall visitor experience.

Key Words: Artificial Intelligence, Style Consultation, Information Systems, Large Language Models, Digital Transformation, Personalized Tourism.

JEL classification: L83, O33, M15

Introduction

The intersection of digital transformation and personalized tourism has created a demand for tools that assist travelers in navigating unfamiliar social and cultural environments. As noted by Buhalis et al. (2019), the

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integration of "smart" technologies allows for a hyper-personalized visitor experience where real-time data is used to optimize the traveler's journey. One significant yet often overlooked aspect of the travel experience is "situational appropriateness" in attire, which impacts a visitor's confidence and integration into a local destination. This is particularly relevant in cultural tourism, where social inclusion and the "looking-glass self" play a vital role in how tourists perceive their own identity within a destination (Tung & Ritchie, 2011). "How Do I Look: AI Stylist" is the information system that addresses this by providing a mobile AI-driven stylist that offers immediate feedback based on visual data. By utilizing Computer Vision and Large Language Models, the system automates the traditionally human-led process of style consultation, bridging the gap between digital convenience and cultural sensitivity (Neuhofer et al., 2015).

System Architecture

The client system is built using the Flutter framework to ensure cross-platform compatibility. The core components of the mobile application are written using Dart programming language. System specific components of the mobile application are created by Kotlin and Swift programming languages. The logic is distributed across several key managers:

- Stylist Manager: Governs the "persona" of the AI, allowing users to select from a diverse range of styles tailored to different social and aesthetic contexts. In addition to standard categories like 'Casual', 'Business', or 'Elegant', the system includes specialized personas such as 'Gothic' (a dramatic and intense aesthetic) and high-fashion options including 'Glamorous', 'Couture', and 'Avant-garde'. These personas act as a primary instruction layer for the AI, dictating the specific tone and stylistic perspective of the feedback.
- Question Manager: Provides a structured set of queries, such as "Does this color suit me?" or "Are we dressed for the same event?" to guide the AI's analysis. It applies universal guardrails to ensure that all observations are strictly based on visible elements in the images.
- AI Service: Acts as the bridge to the LLM and CV models. This service handles the encoding of images into base64 format and the construction of complex logic that merges the selected stylist persona, the user's specific question, and previous analysis for contextual reference.

The backend infrastructure is anchored by a robust PostgreSQL relational database, utilizing custom scripts for automated system management. A Cron scheduler facilitates system automation. To ensure high-level security, sensitive data is stored in an encrypted vault with access restricted exclusively to the database service role, preventing unauthorized retrieval.

To facilitate **secure network communication**, the architecture employs a middleware proxy servers network, employing the layers developed in TypeScript. These servers manage traffic handling and token validation while implementing advanced anti-fraud fingerprinting to ensure system integrity. The entire codebase is highly optimized to provide a lightweight, high-performance experience for the mobile user, ensuring seamless real-time style consultation.

The architecture further integrates a **decentralized edge-computing layer**, written in TypeScript, to manage intelligent redirection and localized link handling. This layer employs a multilingual detection engine to deliver context-specific metadata while distinguishing between human users and crawlers for optimized social media previews. By leveraging a specialized global edge provider and utilizing the web platform's proxying and caching capabilities, the system preserves security headers and client IPs while minimizing latency for a high-performance, consistent referral experience across all geographic regions.

Lastly, a serverless edge-computing relay manages event-driven **email service**. Triggered via custom made webhooks, this decoupled architecture automates high-deliverability messaging for lifecycle milestones - such as subscription changes and account deletions, ensuring scalable delivery.

Methodology

Adopting a design-science approach (Hevner et al., 2004), this research focuses on the iterative development of the "How Do I Look: AI Stylist" system as an innovative solution for travel-related situational anxiety. This methodology balances technical rigor with practical utility, facilitating a continuous feedback loop between a global fashion knowledge base and the traveler's specific social environment.

To improve accuracy, the system uses advanced AI reasoning known as Chain-of-Thought prompting (Wei et al., 2022). This logic requires the AI to decompose an outfit into core structural elements-such as silhouette, color harmony, and texture-before generating advice, effectively eliminating speculative "hallucinations."

Scientific integrity is supported by a "Base Rules" system that keeps the AI's language consistent and grounded. This process transforms abstract style tips into a clear visual guide that helps travelers feel more confident (Gretzel et al., 2020).

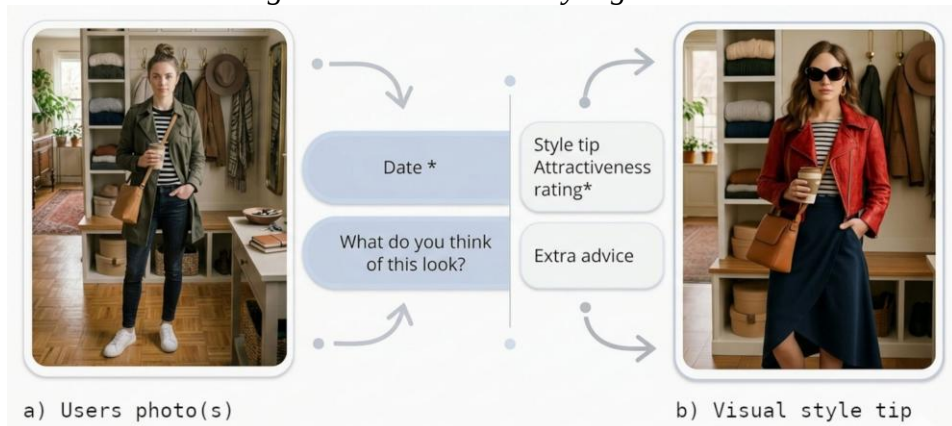
System Workflow: A User-Centric Perspective

The "How Do I Look: AI Stylist" application is designed to function as a professional digital stylist, offering expertise that eliminates the subjectivity and social biases often found in human feedback. By leveraging a vast, high-dimensional knowledge base-encompassing universal color theory, structural proportions, and an extensive library of global fashion trends, the system provides data-driven assessments that effectively surpass the cognitive capacity and experience of a single human consultant. This "superhuman" analytical depth allows for an exhaustive evaluation of attire through a streamlined four-stage workflow:

- Comprehensive Image Collection: The process begins with the user capturing or uploading up to 10 photos of their attire. This multi-image approach allows the AI to move beyond a limited, two-dimensional perspective, enabling a holistic inspection of the outfit from various angles while evaluating the intricate nuances of fabric textures and accessories.
- Strategic Contextual Customization: To tailor the consultation, users select a specialized "Stylist" persona, such as *Business*, *Minimalist*, or *Gothic*. This selection activates a specific heuristic framework that dictates the aesthetic logic applied to the analysis. Users then specify their inquiry via curated professional queries or specialized coordination logic for couples and groups. For unique requirements, a "Write my own question" feature enables a fully bespoke, high-level consultation.
- Intelligent Analysis and Hands-Free Feedback: Upon activation, the system synthesizes the visual data with the selected persona to generate a sophisticated conversational response. This feedback is displayed on-screen and is fully integrated with Text-to-Speech

(TTS), allowing users to receive expert guidance hands-free while finalizing their grooming.

Figure 1: *User-centric workflow illustrating the progression from initial attire assessment to generative AI-driven styling visualization.*



Source: *Author*

Optional AI Visualization: To bridge the gap between abstract advice and tangible reality, users may choose to trigger the "Visualize" tool. This advanced generative feature produces an enhanced version of the user's original photo, visually demonstrating recommended styling adjustments such as improved layering or color matching providing a precise "blueprint" for the optimized look (Visual style tip).

By following these steps, the system ensures that travelers can navigate unfamiliar social environments with the absolute confidence provided by an objective, high-level expertise that exceeds traditional human styling capabilities.

Alpha Testing and Validation

The system is undergoing a 14-day closed alpha testing phase via the Google Play Console to ensure stability across hardware such as the Samsung S24 Ultra, Xiaomi 11T etc. A diverse group of 22 test subjects (8 males, 14 females), including university professors, medical doctors, engineers, fashion professionals, and fashion enthusiasts. They benchmarked the AI's logic and the system's robustness. Preliminary results showed high satisfaction, with 68.2% of test subjects awarding a maximum score of 5/5 and the remaining 31.8% awarding a 4/5. Users

validated the "situational appropriateness" logic, confirming that AI suggestions are realistic and applicable to real-world contexts.

Table 1: *Summary of Alpha Testing (Feb–Mar 2026)*

Technical Stability	High performance on flagship and mid-range devices; minor UI issues identified for resolution.
AI Accuracy	Suggestions confirmed as "realistic" and "applicable" by professional test subjects.
User Experience	100% of test subjects rated the app 4/5 or 5/5; positive feedback on tutorial clarity.
Stylistic Value	AI-generated "Visualizations" described as a useful blueprint for optimizing outfits.

Source: *Author*

Results and Discussion: Tourism Use-Cases

The application supports the "integrated destination" concept through three primary use-cases:

- Cultural Alignment: Assists travelers in adhering to localized dress codes for religious sites or formal international events.
- Sustainable Wardrobe Planning: Promotes "capsule wardrobe" packing by optimizing outfit combinations, reducing luggage weight and "fast fashion" consumption.
- Group Coordination: Facilitates aesthetic synchronization for couples and groups, enhancing the social experience of collective tourism.

Conclusion

The "How Do I Look: AI Stylist" represents a pivotal step in the digital transformation of personalized tourism. By providing a 24/7, context-aware digital assistant, the system moves style consultation from a luxury service to an accessible travel essential. Given its potential to revolutionize visitor confidence and cultural integration, significant efforts will be directed toward its promotion. Future iterations will integrate **real-time weather data** and **local event calendars**, evolving the system into a predictive, fully automated travel assistant.

References

1. Buhalis, D., Harwood, T., Bogicevic, V., Viglia, G., Beldona, S., & Hofacker, C. (2019). Technological disruptions in services: lessons from

tourism and hospitality. *Journal of Service Management*, 30(4), 484–506. <https://doi.org/10.1108/josm-12-2018-0398>

2. Gretzel, U., Fuchs, M., Baggio, R., Hoepken, W., Law, R., Neidhardt, J., Pesonen, J., Zanker, M., & Xiang, Z. (2020). e-Tourism beyond COVID-19: A call for transformative research. *Information Technology & Tourism*, 22(2), 187–203. <https://doi.org/10.1007/s40558-020-00181-3>

3. Hevner, A.R., March, S. T., Park, J., & Ram, S. (2004). Design Science in Information Systems Research. *Management Information Systems Quarterly*, 28(1), 75–105. <https://doi.org/10.2307/25148625>

4. Neuhofer, B., Buhalis, D., & Ladkin, A. (2015). Smart technologies for personalized experiences: a case study in the hospitality domain. *Electronic Markets*, 25(3), 243–254. <https://doi.org/10.1007/s12525-015-0182-1>

5. Tung, V. W. S., & Ritchie, J. R. B. (2011). Exploring the essence of memorable tourism experiences. *Annals of Tourism Research*, 38(4), 1367–1386. <https://doi.org/10.1016/j.annals.2011.03.009>

6. Wei, J., Wang, X., Schuurmans, D., Bosma, M., Ichter, B., Xia, F., Chi, E., Le, Q., & Zhou, D. (2022). Chain-of-Thought Prompting Elicits Reasoning in Large Language Models. *Advances in Neural Information Processing Systems*, 35, 24824–24837. <https://doi.org/10.48550/arXiv.2201.11903>