

# Development of Open Metaverse Fashion Platform toward Entry of Metaverse E-commerce

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## Introduction

The Metaverse fashion (Meta-fashion) industry provides consumers with new fashion experiences in which they can try on and purchase clothes through virtual reality or mixed reality. To accomplish this, it uses technologies such as virtual fitting, hologram fashion shows, and AR/VR to offer consumers realistic clothing and enable them to simulate different styles and designs [1]. Meta-fashion technology plays an important role in the digital era of the fashion industry and offers advantages such as getting rid of surplus inventory, increasing investment returns, generating continuous revenue, and reducing carbon footprints [2]. However, the introduction of Meta-fashion technology faces obstacles in various fields of the fashion industry. The first obstacle is the lack of specialized personnel related to digital manufacturing [3,4]. Digital manufacturing requires various content development capabilities for store operations and service development and operation in the Metaverse, along with fashion-related expertise. Digital manufacturing requires expertise in fashion, as well as competency in IT to develop and operate services, including digitalization. In addition, the characteristics of the materials required to use production tools are also the responsibility of industry professionals. The tools necessary for making Meta-fashion contents are scattered across different stages, and all of them must be purchased. It is also up to industry workers to recognize information between materials to utilize the tools. Because all of these appear as obstacles to spearheading the industry, to make foray into it, it is essential to

- 1) boost up the speed of industry entry as well as
- 2) quickly respond to trends or consumer needs.

Therefore, we suggest the direction of development for the open meta-fashion platform as follows.

## Direction of Development for Open Meta-Fashion Platform for E-commerce

### Development of material database

- A. Support for exploring and utilizing resources within the platform by digitizing various materials and their property information into a database.
- B. Support for tools related to the collection of materials and properties for public use.
- C. Interface technology required for linking cases and services necessary for the introduction of various types of services such as O2O, O4O, D2C, and something like that.

### Development of production tools for fashion items

Develop cloud-based software programs that can be accessed through the platform to implement virtual fashion items or ideas using resources obtained through direct processing or from the material properties database.

### Development of technology required to create virtual stores to entry fashion items

Develop a cloud-based Content Management System (CMS) for creating Visual Merchandising Displays (VMD), Point of Purchase Displays (POPM), and Point of Sale Materials (POSM) required for building virtual stores.

### Development of technology required to create online/offline integration(O2O) services and linking real product purchase

Interface technology required for linking cases and services necessary for the introduction of various types of services such as O2O, O4O, D2C, etc.

### Development of standard required for entry and service operation on an open metaverse platform

Develop standards to ensure compatibility with existing metaverse platforms [5] such as Second Life and Roblox and establish a standard-based data exchange system.

### Development of security-related guidelines for content trading

Develop guidelines for addressing issues related to copyright, replication prevention and payment security.

### Conclusion

The development and supply of content creation platforms will reduce the technical constraints and difficulties associated with

developing virtual clothing necessary for metaverse commerce entry by fashion creators and existing fashion brands. This will reduce the need for specialized personnel and lead time for product development. In addition, a virtual environment can replace the repetitive processes required for new product development and validation, reducing time and cost issues and providing an environment for creative product development [6,7]. Moreover, it is expected to improve the competitiveness of small businesses with inferior fashion design or ICT technology capabilities and facilitate rapid entry and diffusion in the Metaverse E-commerce market.

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### Reference

1. Smart JM, Cascio J, Paffendorf J (2007) Metaverse roadmap overview. CA: Acceleration studies foundation.
2. McKinsey & Company (2022) Value creation in the metaverse.
3. <https://www.textiletechnology.net/technical-textiles/commentary/technical-textiles-42022-shortage-of-skilled-workers-in-the-textile-industry--make-it-in-germany-32997>
4. <https://fashionunited.com/news/business/the-fashion-industry-is-facing-a-skilled-worker-shortage/2022072548820>
5. Ning H, Wang H, Lin Y, Wang W, Dhelim S, et al. (2021) A survey on metaverse: The state-of-the-art, technologies, applications, and challenges.
6. Kim JK (2023) The impact of digitalization on the textile industry: Mini review. Trends Textile Eng Fashion Technol 8(2): 933-934.
7. Choi KH (2022) 3D dynamic fashion design development using digital technology and its potential in online platforms. Fashion and Textiles 9(9).