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A Study on Metaverse Culture Contents Matching Platform

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Abstract

Pre-Corona cultural content was largely formed face to face. For example, the service was great while visiting tourist attractions, visiting performances to see K-Pop, or visiting lectures to learn K-Beauty. However, after the coronation, the virtual world-centered Metaverse *began to take the spotlight as non-face-to-face services changed. IT and cultural contents have been combined and developed into various digital services. In that sense,* Metaverse*, which breaks the boundaries between real-world space and virtual space, has the potential to escape from physical time and space constraints. However, Korea still lacks a* Metaverse *platform for cultural content. In particular, it is necessary to match each other's necessary services by providing* Metaverse *-oriented cultural contents that users want, including experienced cultural contents such as K-pop and K-beauty, away from cultural contents that are developed around history museums. Therefore, in this paper, we would like to propose a* Metaverse*-based cultural content matching platform where users can experience cultural content directly or indirectly.*

Keywords: *Cultural Content, Metaverse, Avatar, Platform, Mobile*

1. INTRODUCTION

In the 21st century, many parts of life have been changed due to the unprecedented coronavirus outbreak, and Noncontact has now become a general culture of society around the world. Also, many years later, after the Fourth Industrial Revolution, it is now deeply embedded in the human lifestyle (2016, klasus schwab) [1]. The convergence of IT-oriented digital technology and cultural content has already been developed in various ways for years. The development of digital technologies that break the boundaries between real-world space and virtual space has the potential to escape from physical time and space constraints [2]. In particular, Meta-verse, which can overcome limitations of experience and understanding with documents or phrases, can be applied interchangeably to cultural content through four representative elements: Virtual reality (VR) Augmented reality (AR) Mirror world [3]. Therefore, this paper proposes a metaverse-like cultural content matching platform where you can experience cultural content using avatars in metaverse that can be combined with cultural content. The cultural content matching platform designs a platform system that provides, recommends, and matches cultural content information to users who want to experience cultural content directly or indirectly by referring to Platform as a service (PaaS) of cloud computing. Users who use the cultural content matching platform can receive cultural content information according to their set search conditions. The data of cultural contents collect information from museums and exhibitions with various cultural contents. Information from the collected tourist attractions is kept as data and cultural content

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information is transmitted to the matching management system as needed. The cultural content matching management system provides and matches sent cultural content data to users who meet conditions. Each user's data and cultural content data is kept using a DBMS using the MY SQL command [4]. Through this series of processes, we can expect to fully address the ever-increasing demand for cultural content. Chapter 2 describes related research such as cultural content, matching platform system, mobile clouding, and Chapter 3 describes the specific design of Metaverse cultural content matching platform and concludes in Chapter 4.

2. EXPERIMENTS

2.1 Metaverse

Metaverse is a combination of meta, which means transcendence and universe, which is a combination of reality and vitality, and is derived from Metaverse, a virtual world name in Snorcrash, which was published in 1992 [4]. Metaverse is a 3D-based virtual world where everyday life and economic activities can be carried out through virtual avatars that replace me in reality. In other words, it is a transition to another world that breaks the boundaries between real and virtual space Metaverse contain four representative elements: virtual reality (VR), augmented reality (AR), life logging, and mirror world. These four Metaverse elements are applicable to historical experience content.

2.2 Cultural Content Services Process

Previous cultural content services were mainly developed around historical museums [5]. In addition, there are many restrictions on experiencing cultural contents because they are limited to places to view cultural contents. However, through the distribution of smartphones and many programs that do not use 3D machines, users can enjoy the cultural content that they want without being restricted in space.

2.3 Clouding Computer

Generally, the types of cloud services are divided into Infrastructure as a Service (IaaS), Software as a Service (SaaS), and Platform as a Service (PaaS) [6]. It refers to a cloud service platform that serves developed applications on mobile devices in the form of PaaS. Proposals and systems that integrate information and build user-centered information data in cloud computing environments continue to be developed [7]. If necessary, only the licensed information is provided in the Open Application Program Interface (API) format, and the entire administrator collects the Open APIs provided by the government and the enterprise and stores them in the Context Broker to provide services and use the necessary information in the Open API format [8].

3. RESULTS

3.1 Proposal of metaverse -based cultural content platform

In this study, users who want to experience cultural content directly or indirectly create their avatars, register them on the system server, and project them onto cultural content so that they can experience them on their mobile and smart devices. The Metaverse -based cultural content platform proposal here is as shown in Figure 1.

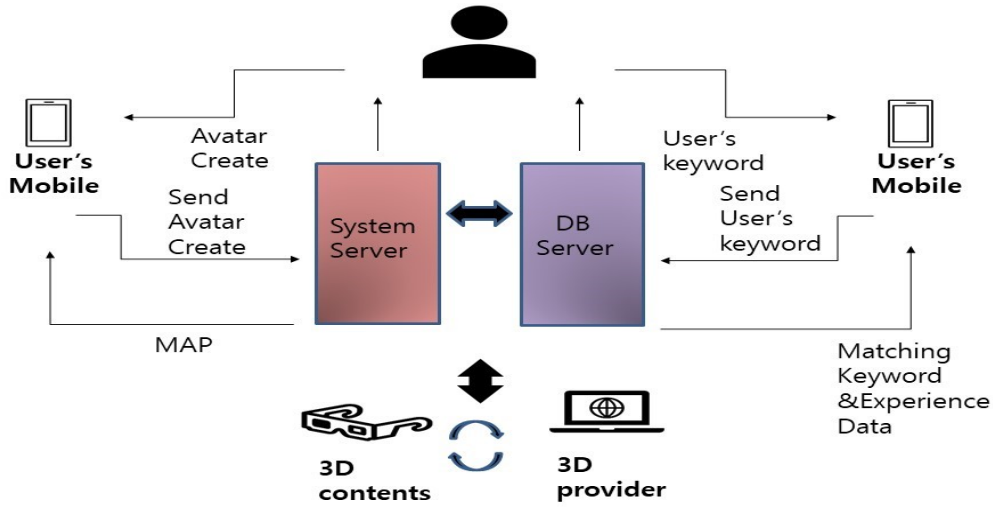

Figure 1. Main Platform system

3.2 Metaverse -based cultural content platform

The cultural content matching platform system designed in this study allows users who want to experience cultural content to be divided into two providers. The user management system manages membership, member information, and user-generated avatars, and supports the search of cultural contents that users want. The cultural content information management system collects and keeps cultural content information. The cultural content matching management system provides and matches cultural content corresponding to user search conditions and projects users' avatars into cultural content. The system components of the cultural content matching platform are as shown in Figure 2.

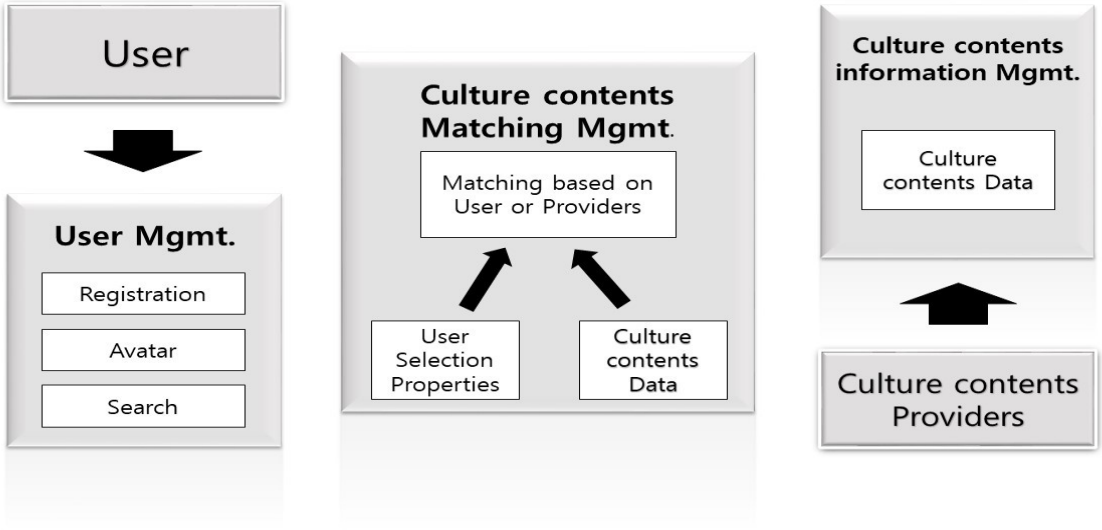

Figure 2. Platform system components

3.3 Metaverse -based cultural content platform system flow chart

Through Metaverse-based cultural content platform system, users can receive cultural content information through matching system. In addition, users can select cultural content that meets their search conditions by setting the search conditions they want. You can experience cultural contents without space and time constraints by projecting your avatar through users' mobile and smart devices [9]. In addition, cultural content data is collected through cultural content providers and managed from the database. If necessary, cultural content information is sent to the matching management system. The flow chart of the cultural content system is as shown in Figure 3.

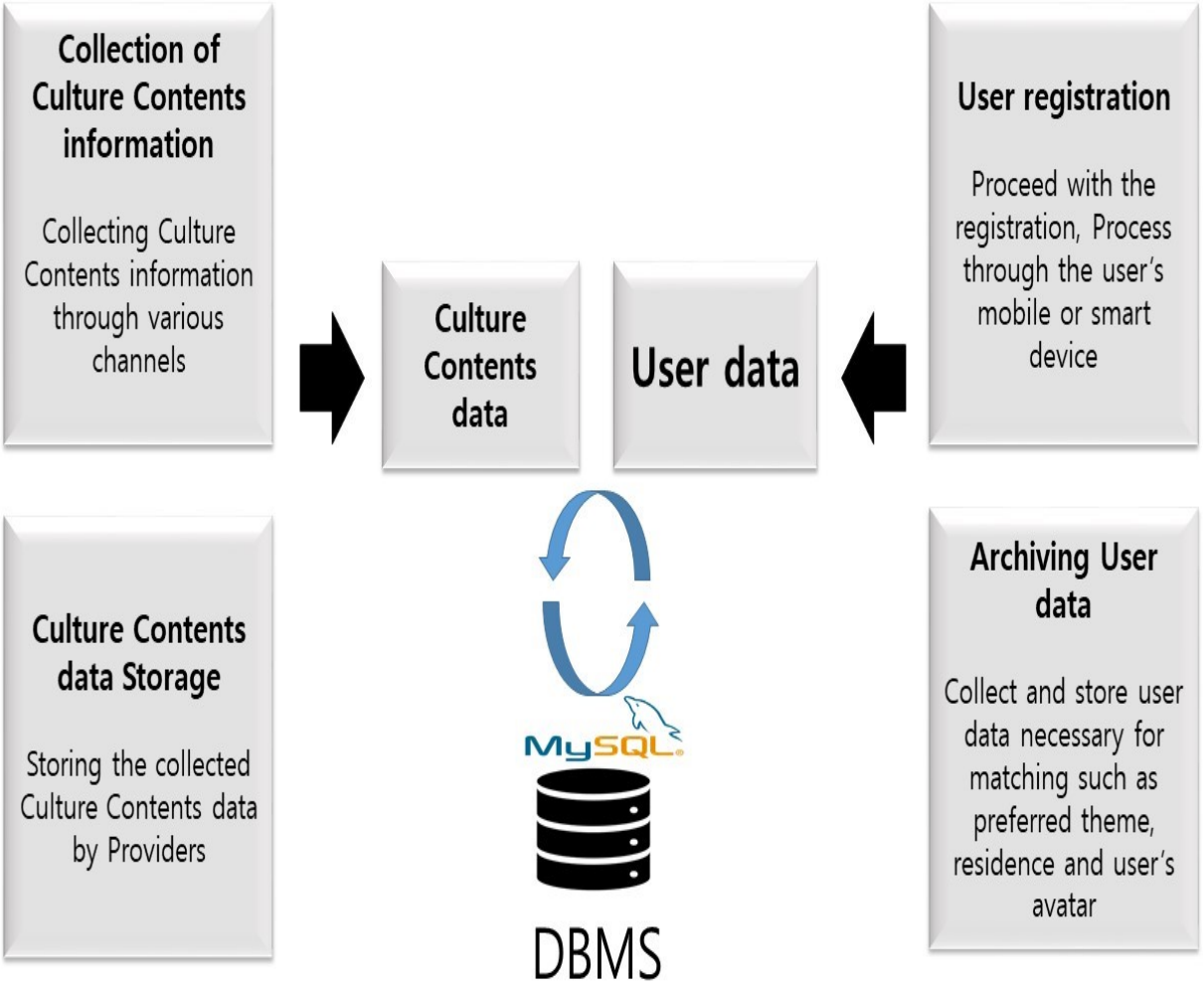

Figure 3. Platform system DBMS

The cultural content matching management system sends cultural content data that meets the search conditions to users who request search for desired cultural content. At this time, the user transmits cultural content data that meets the search conditions among the data stored in the DBMS using the MY SQL command to the cultural content matching system to project the user's avatar. The flow chart of the Wellness Tourism Matching System is shown in Figure 4.

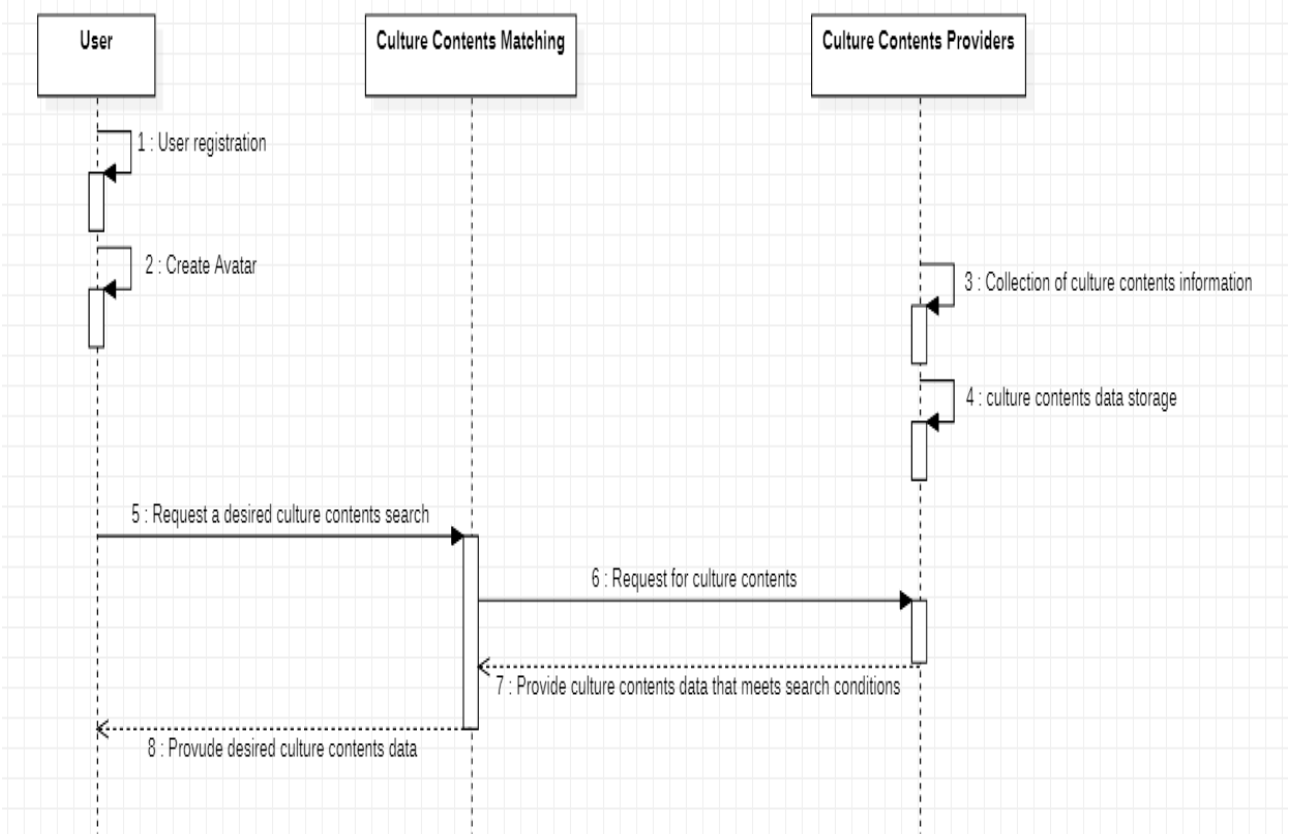

Figure 4. Platform system flow chart

4. CONCLUSION

Meta-verse, which can overcome limitations of experience and understanding with documents or phrases, can be applied interchangeably to cultural content through four representative elements: Virtual reality (VR) Augmented reality (AR) Mirror world [10]. In addition, there are many restrictions on experiencing cultural contents because they are limited to places to view cultural contents. However, through the distribution of smartphones and many programs that do not use 3D machines, users can enjoy the cultural content that they want without being restricted in space. In this study, users can directly or indirectly experience the cultural content they want through mobile devices by storing and matching cultural content made with 3D and E-learning keywords to analyze cultural content and provide customized services to users based on Metaverse. As such, the cultural content platform suggests a cultural content matching platform where users can learn information about cultural content that suits them and experience cultural content anytime, anywhere without restrictions on time and space.

ACKNOWLEDGEMENT

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