


Chapter 16

Unleashing the Power of the Metaverse in Intelligent Libraries

Mohammad Daradkeh

 <https://orcid.org/0000-0003-2693-7363>

University of Dubai, UAE and Yarmouk University, Jordan

ABSTRACT

The emergence of Metaverse has presented new opportunities and possibilities for the advancement of intelligent libraries. However, it also brings new challenges to the professional competencies of librarians. This chapter examines the potential of Metaverse as an enabling technology for intelligent libraries, focusing on how it can be used to drive innovation and improve library services. The chapter also delves into the advantages and underlying technologies of Metaverse, as well as its theoretical foundations for application in libraries. It is argued that Metaverse and its related technologies are crucial for transforming libraries into fully intelligent ones, and that the concept of Metaverse can also provide benefits for library collection management, reading spaces, cultural promotion, reading experiences, and special user services. Intelligent libraries must seize this opportunity to create a new form of immersive experience and achieve breakthroughs in their digital transformations, driven by the diverse technologies of Metaverse.

INTRODUCTION

In today's world, a new wave of technological revolution and industrial change is emerging. Virtual reality (VR) technology is a representative technology of this new revolution in science and technology and is considered a key technology to promote the development of the digital economy, industrial transformation, and upgrade. The VR industry has a vast space and great potential for growth, as was emphasized at the World VR Industry Conference on October 20, 2021. It is believed that further "VR+" actions should be taken to enrich terminal products and content services, and to promote the industrialization of VR technology and industrial scale up (Zhang et al., 2022).

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The innovation and development of virtual and reality industries have brought about significant changes to the services offered by traditional cultural venues, such as libraries, museums and galleries. The use of VR technology in these venues allows for a more immersive and interactive experience for the visitors, bringing the exhibits and collections to life in a way that was not previously possible. Additionally, the use of VR in education and training has been gaining traction as it enables students to explore and learn in a virtual environment that simulates real-world scenarios. Furthermore, the emergence of metaverse technology has also brought new opportunities to libraries. Metaverse is a virtual shared space where users can interact with each other and with virtual objects in a way that resembles the real world. The use of metaverse technology in libraries can enable the creation of virtual reading rooms and libraries, providing users with access to a vast collection of books and resources in a virtual environment. Additionally, the use of metaverse technology can enable the creation of virtual events, such as book clubs and author talks, providing a new way for libraries to engage with their communities.

There are 3 stages in the development of intelligent libraries: pseudo-intelligent, partially intelligent and fully intelligent (Njoku, Nwakanma, Amaizu, & Kim, 2022). From the current stage of development of intelligent libraries, libraries are still in pseudo-intelligent and partially intelligent stages (Alpala, Quiroga-Parra, Torres, & Peluffo-Ordóñez, 2022). Technologies such as Web 3.0, Internet of Things, big data, and cloud computing (Dai, Wang, & Gao, 2022) are widely used in the intelligent services of libraries, but their intelligent services are limited by time and space. Each technological revolution has brought about disruptive changes to the service models of libraries. From information to knowledge to big data, the service models of libraries have evolved from traditional service models to digital library service models to intelligent library service models.

The current concept of metaverse represents yet another disruption to the library service model, and it is important for libraries to stay abreast of the latest technological developments and adapt their services accordingly to best serve their communities. The emergence of Metaverse will break the boundary between the digital and physical worlds, expand the service boundary of intelligent libraries, and bring more possibilities for their intelligent development. Therefore, exploring the transformation of intelligent library service model under the perspective of Metaverse has distinct significance for the development of intelligent library services.

This chapter aims to explore the potential of Metaverse technology in driving the transformation of intelligent library services. It will analyze the development opportunities of Metaverse and its application prospects in intelligent libraries, with the goal of promoting innovation and optimization of library services. The chapter will also discuss the advantages of Metaverse and its underlying technologies, as well as the theoretical logic of Metaverse application in libraries. Additionally, the chapter will provide insights on how Metaverse and its related technologies can be leveraged to promote libraries to fully intelligent libraries, and how the concept of Metaverse can create more advantages for libraries in terms of collection resource management, reading space, cultural promotion, reading experience, and special user services to achieve the morphological reform of intelligent libraries. The goal of this chapter is to provide a comprehensive understanding of how Metaverse can be utilized to improve library services and stay ahead of the curve in the digital revolution.

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