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Peer Network Based Shopping Mall Supporting platform with Metaverse Technique

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Abstract

Through this technology development, companies that operate online shopping malls and prospective startups will support education, consulting and expert group matching so that they can solve various issues that may arise in the course of the entire business life cycle, from startups to closures. It is expected that differentiated consulting programs will be designed for companies that currently operate shopping malls and start ups, and customized consulting programs will be provided to improve the effectiveness of consulting while improving customer satisfaction. It is planning to develop a "successful start-up and operation helper" that helps successful start-ups. It is a system that primarily diagnoses problems of prospective entrepreneurs and operators through an automation system at the start-up and operation stage, and professional consultants participate to derive and solve problems, and takes care of all stages of shopping mall birth and growth. In this paper Metaverse based shopping mall Creation is also discussed.

Through Big Data creation these accumulated data, we intend to help operators start and operate shopping malls through accurate information by managing all knowledge of shopping malls as a system in the long run.

Keywords: Metaverse, Peer Network, E-Commerce

1. Introduction

It is a well-known fact that youth unemployment is becoming a big social problem. Therefore, the Korean government is promoting the development of various service industries based on the 'new technology in 4th industry ' as a policy to revitalize the national economy and resolve youth unemployment. This is a new economic strategy that creates new industries and markets by combining the imagination and creativity of the people with science and technology and information and communication technology (ICT), and creates good jobs by strengthening existing industries. Google tools make authors easy to develop the platform [1]. One of the main goals is to support job creation and revitalization of start-ups, and in particular, support for young people is given priority. Therefore, many unemployed young people are providing opportunities to take on the challenge. A peer network is a network created by 'peers' with equal status. The peer network has four elements: Figure 1 shows the four elements/
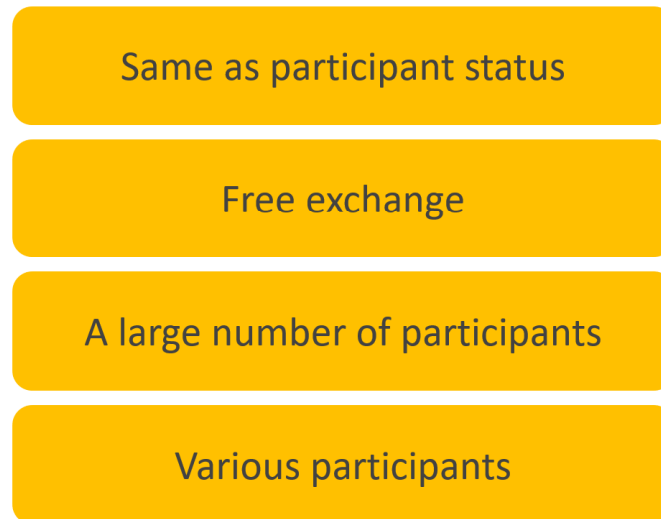
Four Key Elements of a Peer Network

Figure 1. Four key elements of a peer network

The position of the first participant is the same. In other words, it is a completely horizontal relationship because participants have equal status with each other. A second free exchange is possible. Sellers and buyers can freely exchange knowledge, information, and services through the Internet. The third participant is the majority. It is a form in which a large number of participants participate in one platform. The fourth participant is diverse. Various services and products are provided and sold [2].

An expert-using shopping mall system using Peer Network (PN) is developed according to the following steps. First, it is the definition of a module necessary for starting a shopping mall. This includes product selection, target market determination, shopping mall site creation-related decisions, design decisions, shipping and packaging decisions, and marketing method decisions. At this stage metaverse and peer network are used as a flatform for the flea marker [3].

However, it is reported that the probability of success and sustainability of operation are both low even if a business is started because the insecurity of the employment environment is high and the basic support environment for start-up is insufficient.

Due to the expansion of information and communication technology and smart devices, online and mobile shopping are being activated, and the size of transactions, including business-to-business (B2B), B2C, and B2G transactions, also appears to exceed 100 trillion won. In this regard, the number of online shopping malls is There is no exact count, but according to various media, it is reported that there are about 200,000 or more [4, 5]. Figure 2 explains the growth trends of e-commerce worldwide.
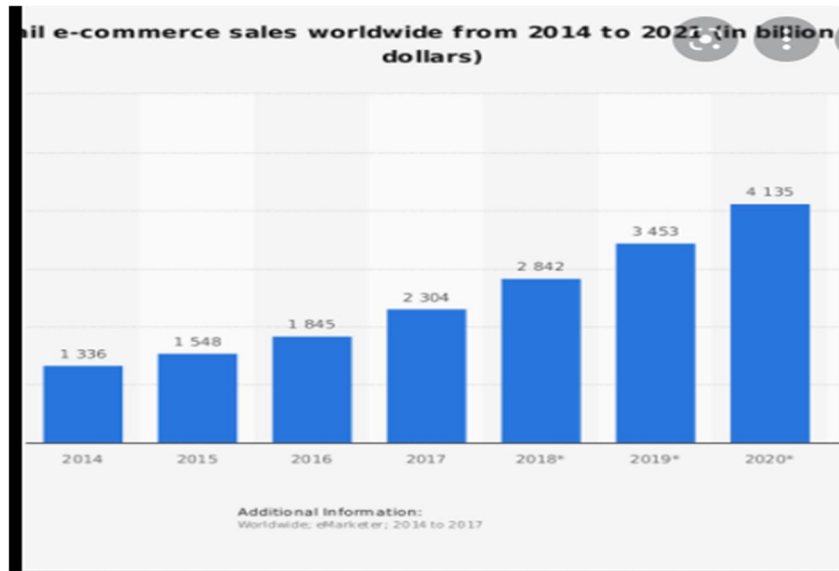
Figure 2. World e-commerce size

It is said that online shopping malls are considered to be an area where young entrepreneurship can be activated because initial start-up is relatively cheap and the founder's idea or item selection is important. However, the number of shopping malls that consumers know is significantly smaller than that. So, it is in line with the story that most shopping malls are shutting down.

Therefore, this study focuses on dealing with the issues of a disappearing shopping mall rather than a new shopping mall. Furthermore, this system is proposed to prevent reckless waste in the hope of increasing the satisfaction of more consumers.Figure 3 illustrates issues in e-commerce.

Figure 3. Commerce issues

2. Working Model

2.1 Business Trend

In studies discussing the characteristics of the Internet, it is pointed out that the Internet is not affected by place and time, so information search and comparison are easier than traditional retail stores, and the convenience of purchase is higher. The advantage of is probably that it is easy to interact with. The reality is that more than 95% of shopping malls that start up are disappearing without being maintained for even 6 months amid fierce competition. The reason for this may be that the emotions felt by the consumer have a great influence on the behavior of the consumer, or it may be that there is no exposure effect due to the small number of advertisements..Figure 4 shows parts of each stages.
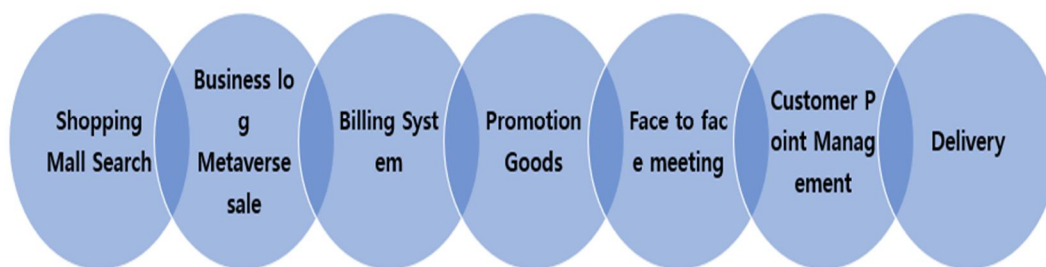

Figure 4. Shopping mall parts in stages

2. Business Model

A flea market is a noun meaning a market where all kinds of goods are bought and sold. As it means that it has the etymology of moving around like fleas, this system takes the form of a flea market and not only buys and sells products, but also diagnoses the problems of young entrepreneurs, and draws out and solves problems with the participation of professional consultants. As such, it supports all stages after the closure of the shopping mall. In other words, it is a system that creates various service industries for the creative economy by inducing people not to be afraid of closure. In addition, the accumulated data is converted into a DB due to the derivation of problems in the closed shopping malls. This will be referred to as the knowledge DB. In the long term, this system manages all the knowledge about the shopping mall as one system, and when the shopping mall is closed with accurate information, it draws the margin of the consumer and the customer's fee at an appropriate price, unless it is unavoidable. Figure 5 shows the parts of shopping mall to sell.

Figure 5. Shopping mall trading

Our system helps reduce wastage.

A shopping mall system utilizing experts using Peer Network (PN) starts with product selection, target market determination, shopping mall site creation related decisions, design issues, shipping and packaging decisions, and marketing method decisions. At this time, Q&A bulletin board analysis and survey are necessary for accurate classification.

Metaverse is currently getting attention. Metaverse is a compound word of meta (transcendence) and bus (world). It is a world where physical, augmented, and virtual reality coexist in various fields of politics, economy, society and culture. However, it is a world where social activity takes place, not just the integration of several worlds. It is a world where not only games in the virtual world but also social activities take place. The real world and the virtual world are connected to form a game or social relationship, and a phenomenon similar to life in real life occurs within it. Crossing between reality and virtual reality, people gather to communicate and engage in activities. Not only a simple virtual game, but a world similar to the real world is created. The reason for paying attention to the metaverse is the social gatherings between participants in the metaverse world. Through this, each world is beginning to be interpreted as a life world in which we live and act, rather than an imagination or fiction that does not already exist. Figure 5 shows issues in metaverse.

Figure 6. Shopping mall parts images in metaverse

2.3 System Structure

In the process of preparing for technology development, among young entrepreneurs, they create and operate a solution committee-M&A- with managers who have failed in starting a shopping mall. can be expected. The shopping mall solution system using the M&A system consists of the following steps. The remaining materials for the shopping mall operator (hereinafter referred to as the client) in the situation of closure are products and internet sites. When a request from a client comes in, the assistants begin to investigate and understand the site.

First, the client uses the M&A system to specifically define what he lacks and needs help, and software help and problem identification helpers are input so that this definition step can be easily and easily accomplished. This classification process is defined through the general classification that is possible with the software and the detailed classification that is the role of the classification assistants. After this is completed, the M&A system grasps the status of the shopping mall, and assistants check the inventory status of the shopping mall and register it in the M&A system. It operates a system that allows consumers to know the stock status as well. In the stage of creating an M&A committee for problems related to shopping malls in the expert pool, the group can introduce a system to find a solution to the problem together with other clients who are in a similar situation in their field. Even if not, you can ask for some advice or help from each other. It also acts as a kind of community.

Afterwards, the experts classified the website and products to fit the system, and design them in a form that is easy to see and easy to trade with, actively reflecting the emotions and opinions of consumers. At this time, the important thing is to keep the flea market form. It is necessary to maintain smooth communication and vitality between consumers and service providers in the flea market, a structure that can be seen at a glance, and low prices. This flea market is designed used in both real world and cyber metaverse. Users can find collecting their needs in shopping mall flea market easily [6]. Figure 7 shows tone shopping mall flea market. Figure 7,8 Shows the ultimate flea market.
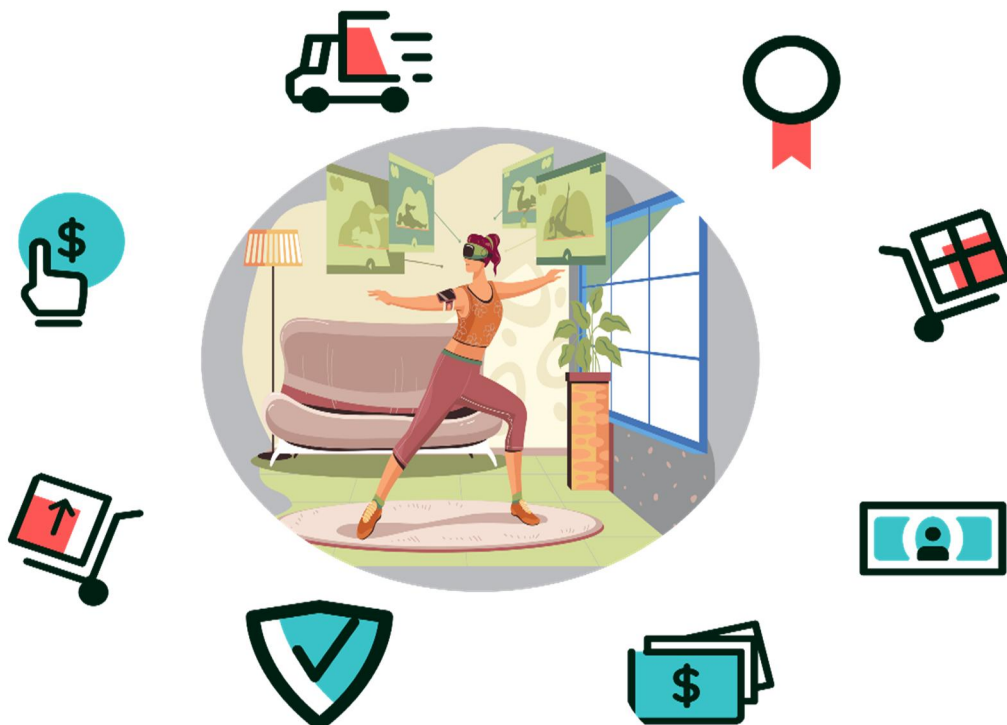

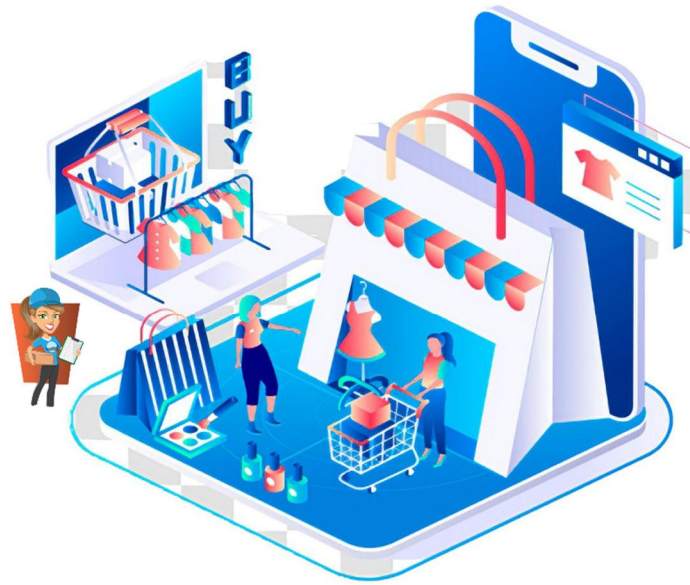**Figure 7. Metaverse world trading**

Figure 8. Ultimate metaverse flea market

3. Conclusion and Future Works

It is thought that the M&A system used in this study can significantly reduce wasted traffic and resources. I am sure that this will be a system that will satisfy both the customer and the consumer, and it will be solved in the part where the customer is having difficulties in disposing of their products and website.

In addition, problems in the current system can be found, and advice and help will be provided, and problems in the IT service and in the service industry will be resolved [9]. In addition, from the point of view of consumers, the demand is highly likely to increase [10]. Because they can purchase goods at a lower price, and if the design is based on this system, the amount of waste that should be disposed of can be sold, so there will be much less wastage.

Future work including the process of making knowledge of the information of the solution community.

The reuse of knowledge is increased by using the collaborative filtering technique of solutions to similar problems.

Acknowledgement

References

[1] Bayamaa Nasagdori, Lee, Keun Soo. "A Case Study of Problem-Based Learning Application Using Google Classroom: Focused on Learning Korean"

[2] [Maegyeong MBA] The Superpower of Peer Network
https://www.mk.co.kr/news/business/view/2013/06/514544/

[3] Yang, B., Garcia Molina, H. A, (2003). Designing a super-peer network. Proceedings - International Conference on Data Engineering. 49 - 60. 10.1109/ICDE.2003.1260781.

[4] Kim, S. W. Effective Metrics of a Dynamic Expert System Ph.D. Thesis 2007 KAIST

[5] Rahman A. et al, "Distributed Metaverse: Decentralized Block Chain" 9th Augmented Human International Conference 2018

[6] Diaz, J., Avila, C "Virtual World as a resource for Hybrid Education" International Journal of Emerging Technologies

in Learning pp. 94-109 2020

[7] Kim D Y, Kim, D H Design and Implementation of Integrated E-Coaching System based on Synchronous and Asynchronous JIIBC pp. 1-7 2015

[8] Oh, A. "Design and Implementation of Observation Manipulation Model for Creating Kids contents based on Augmented Reality" pp. 339-345 2021

[9] Lee, G., Bang, Y. "A Study on Innovation Methods for the content industry in the post Covid 19 Era" pp. 142-151 IJACT 2021

[10] Jung, C. "A Comparative on Attribute Recognition and word of mouth intention of SNS Advertising" pp 419-428 JCCT 2020