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An Exploration of Journal App Development Strategies Enabled by Augmented Reality (AR) Technology -- Time Immersive, TIME's periodical app, as an example

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Abstract:
The report of the 20th Party Congress points out that it is necessary to implement the national cultural digitization strategy and enhance the influence of Chinese civilization's dissemination power. In order to make better use of the advantages of augmented reality technology to promote the supportive role of journal App as a "new cultural infrastructure", and to tell and disseminate Chinese stories with excellent Chinese journal App, this paper adopts the methods of case study and comprehensive analysis to explore the practice of TIME Immersive in TIME Weekly's journal App TIME. Exploration. The analysis finds that TIME Immersive's development design of "immersive interaction" and "non-incremental entity", the content design of symbolic elements superimposed on medium and long stories, and the team building of breaking the circle of cooperation make TIME Immersive unique among the journal apps that combine augmented reality technology. The team building of TIME Immersive makes TIME Immersive have more outstanding advantages among a group of journal apps combining with augmented reality technology. Therefore, in the process of integrating with augmented reality technology, China's journal apps can make new attempts in the three directions of interactive relationship, scene dissemination and service, and industry-university-research ecosystem, in order to incubate China's high-quality digital journal apps and enhance China's international influence.

Keywords:
augmented reality; journal app; TIME Immersive; development strategy

1. Introduction

Virtual Reality (Virtual Reality; VR)) emerged in the United States, also known as virtual environments, spirit realm or artificial environments, refers to the use of computers to generate a computer can be directly imposed on the participants of visual, auditory and tactile sensations, and allows them to interactively observe and manipulate the virtual world of technology.[1]

Augmented reality (Augmented Reality; AR) refers to the use of computer systems to superimpose virtual objects or scenes into real scenes, increasing the user's perception of the real world technology. From the perspective of augmented reality technology and the historical process of virtual reality technology, "virtual reality" augmented reality is actually a new technology based on the development of virtual reality. In other words, AR technology is a new stage in the development process of VR technology. [2]As the favorite of technology in recent years, augmented reality technology, together with big data, artificial intelligence and

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other emerging technologies, is helping the development of the technology ecosystem. At present, augmented reality technology has been applied to a variety of fields such as film and television, games, education, military, news, publishing, etc. Academic research also focuses on cross-disciplines such as journalism and communication, publishing, visual interaction design, computer and so on. From the perspective of the publishing media industry, domestic and foreign publishing groups have laid out augmented reality applications.

For example, the NYTimes App developed by the New York Times based on augmented reality technology allows users to observe the details of the content through 3D AR vending machines; NUSHU, a news magazine created for students, uses augmented reality technology to present educational articles and documentary stories, etc.; Condé Nast Group has developed the world's first AR/VR combined reading application platform in conjunction with HTC; and TIME IMMERSIVE, an AR application of the U.S. Times. s AR application TIME IMMERSIVE. This shows that under the general trend of digital publishing transformation, augmented reality technology brings new development opportunities for digital publishing boutique, the development of augmented publishing for journals and magazines and other publications, and the construction of apps.

As one of the magazines with strong influence in today's world, Time Magazine actively lays out in augmented reality technology, and in 2019, jointly with a number of organizations, launched a content-integrated AR application - TIME Immersive.Therefore, it is necessary to study the necessity of combining the augmented reality technology with the periodical app, application status and revelation of TIME Immersive, an AR app under TIME Magazine, is instructive for the development of journal apps in China and for telling China's story well with the help of journal apps.

2. The Necessity of Combining Augmented Reality Technology with Journal Apps

2.1 Shipbuilding for the sea and telling China's story well

Creating a boutique Chinese journal App with the help of augmented reality technology is a feasible way to enhance the international influence of Chinese journals, tell a good Chinese story and spread the Chinese voice. Since the 18th CPC National Congress, General Secretary Xi Jinping has repeatedly emphasized the need to tell a good Chinese story and spread a good Chinese voice. [3]Under the guidance of the strategy of "going out", the news media industry has been actively building influential overseas communication platforms and gradually realizing the transformation from "borrowing ships to go to sea" to "building ships to go to sea". The transition from "borrowing ships to go to sea" to "building ships to go to sea" has been gradually realized. At the same time, the report of the 20th Party Congress proposes to accelerate the construction of digital China. As an important aspect of China's digital construction, journal apps play an important and indispensable role at different levels.

However, as a form of mobile digitization application, apps have little application and low attention in the dissemination of Chinese scientific and technical journals. The development of journal apps is facing the problems of single function and insufficient user stickiness. [4]Throughout the world, there are few leading and influential journal apps in China, or in the concrete practice of telling China's story and spreading China's voice through different ways, China's journal apps have not yet played their due help. Therefore, with the technical advantage of augmented reality technology, combining augmented reality technology with journal

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apps, taking the initiative to "build ships to go to sea", and launching Chinese journal apps with world influence is not only one of the strategies to tell China's story well, but also a way to enhance the influence of Chinese journals to a certain extent. It is not only one of the strategies to tell China's story well, but also can enhance China's international influence and cultural soft power to a certain extent.

2.2 Enhanced Publishing, Content Derivation and Value Gain with Digital Value Added

The combination of journal app and augmented reality technology is a brand new application ecological mode in the practice of augmented publishing. Accompanied by the iterative development of technology, the augmented reality publishing application is gradually deepened, the publication form is more diversified, and the service effect is more prominent. [5] This new publishing mode of "root publication + augmented content" subverts the existing monotonous and boring knowledge analysis, and makes the value-added content based on the extension of paper content, which can be given a higher meaning and value in the periodical app. For example, the "Human Health" App of Human Health Publishing House has realized the virtualized teaching platform with the help of augmented reality technology, so that the two-dimensional text and pictures can be presented in a more intuitive and vivid form in actual teaching.

2.3 From Entropy Increase to Entropy Decrease, Breaking the Slabbed and Solidified Soil

The existing theory of dissipative structure still believes that the internal process of the system cannot produce order, and the growth of the system order can only come from the transfer of the external order - the negative entropy flow. [6] The entropy increase to entropy reduction of the organizational change system needs to rely on three aspects, such as active work, creating an open system and reducing information entropy. [7] Therefore, in the fast-developing digital era, if we can introduce new "nutrition" into the solidified soil of journal app development, integrate augmented reality technology with journal app, realize the active work of journal app, and give full play to the power of science and technology in the hands of users, journal app can be active in the creation of content, operation mode, profit model, and so on. This enables the journal App to actively inject fresh blood and incorporate new elements in the content creation, operation mode and profit model. The development process of journal App can slow down or avoid the entropy increase of internal disorder, and guide the entropy decrease, and then realize the efficient development under its own change.

3. Analysis of the Current State of TIME Immersive's Application

3.1 TIME Immersive Development Design: "Do-not-add-entity" and or "Immersive Interaction"

In the 14th century, the English logician Occam put forward the "Occam's Razor Principle", the essence of which is "Do not add entities if not necessary", which means that when people are facing complicated things, keeping things simple is the optimal solution to solve problems. The development and design of TIME Immersive basically follows the "Occam's Razor Principle", and reasonably avoids cumbersome programs in terms of hardware system requirements, usage steps, operation interface and function design, which enables the application to be stripped down to its bare essentials and simplified. Thanks to the elimination of cumbersome programs, the simplified operating system is more likely to highlight TIME Immersive's augmented

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reality-oriented features and enable users to deeply experience the charm of immersive interaction.

3.1.1 Do not add entities unless necessary

(1) Low requirements: decentralized hardware and system version thresholds

By checking the FAQ & Support page of TIME Immersive, we can see that TIME Immersive is designed to be compact, lightweight and small in size, both in terms of hardware requirements and system version, in order to lower the threshold for users. In terms of hardware, TIME Immersive only requires a mobile device with IOS 11.0 or higher or Aandroid 8.0 or higher, and is available for download from the Apple Store and Google Play, so users can install it through these two channels. Users of Android devices will not be able to use TIME Immersive unless they have the latest version of Arcode installed on their phone, while users of Apple devices will only need to download the app, and software updates will be synchronized between the two platforms. Thanks to its streamlined design, TIME Immersive's 63M installation size also eliminates the need to limit the storage size of mobile devices.

(2) Simplification: use of the steps is simple and clear, bridging the digital divide

From a digital technology perspective, the access gap in the digital divide affects people's ability to consume new media. the TIME Immersion platform utilizes a combination of AR and VR in its creation process, providing two options for users to use its products. The first option requires the use of specialized VR external devices, while the second option requires only a mobile client to download the TIME Immersive app and run it with the Arcode component. This allows TIME Immersive users to enjoy the content without the need for an expensive headset.

Secondly, the advantages of TIME Immersive also include its simple and easy-to-use steps, which are more likely to attract potential users to experience the product. Specific use steps are: the user first downloads the Apk file through the cell phone Apple App Atore or Google Play Store, installs and opens the application, downloads the content component within the application, and focuses the cell phone lens on any surface of the horizontal flat to open the corresponding content, as shown in Figure 1.

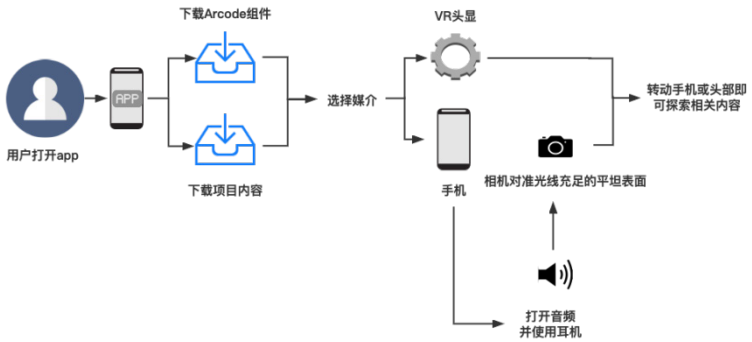


Figure 1 TIME Immersive Usage Flow

(3) Homogenization: keep the operation interface and function design simple and highlight the characteristics of augmented reality technology

TIME Immersive's overall interface and functional design is very simple in order to emphasize its augmented reality product highlights and application features. After opening the application, the user flow will be popped up first, as shown in Figure 2.

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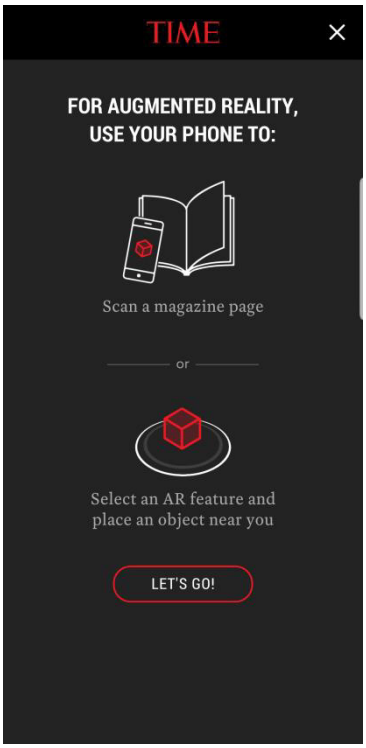


Figure 2 TIME Immersive Home Page

Three modules are set up within the application: the main content display, related settings, and notes on use. After skipping the introduction of the use process, users can intuitively obtain all the operational items of the application, as shown in Figure 3.



Figure 3 TIME Immersive application functional design

First, content presentation: a waterfall flow with large images and text profiles to visually present the con-

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tent of all TIME's projects using augmented reality in TIME Immersive.

Second, related settings: it contains two sections, one is Downloads option - Manage downloads; the second is About - Sign up for our newsletter.

Third, the use of notes: jump to the operation process tips, that is, the opening screen page of the user profile.

Therefore, in terms of ease of use and procedures, TIME Immersive is not only able to visualize the specific applications of its main augmented reality technology, but also is more likely to appeal to a segment of the user base that is potentially interested in new technologies and applications.

3.1.2 Embodied communication: immersive interactions with shifting narrative structures

Porter Abbott argues that narrative transformation is inextricably linked to the intervention of "interactivity", that is, the participation of the reader/viewer in the construction of narrative discourse.[8] The story-to-discourse model commonly used in narratology has been disrupted by augmented reality, where TIME Immersive has overlaid augmented technology on its products to reshape the narrative model of long-form textual-symbolic discourses carried on paper or electronic media, with embodied, interactive communication systems that give the user a sense of participation. In short, augmented reality technology not only enriches the narrative form of content, but also dissolves the boundaries between the scene of the narrative content and the user's perception of the real spatial and temporal order. TIME Immersive recreates the virtual story for the user, and the storyteller has been transformed into the "technology creator" and the "experiencer" of the interactive system. The storyteller has shifted to the "technology creator" and the "experiencer" of the interactive system - the user himself.

With the help of "immersive interaction", the long and continuous storyline of "landing on the moon" in TIME Immersive can be split into one "node" after another. "The user himself is the main body of the story, and the scattered story nodes are connected by the user. The user himself is the main body of the story, and the scattered story nodes are connected by the user. The user can gradually deduce the whole process of "landing on the moon" by clicking on the screen, or perceive the specific status of the landing by "observing the dashboard and porthole of the flying machine", and the user will drive the story development from the perspective of the local "I". Users will drive the story from their own "I" point of view, and then have an overview of the whole story, obtaining a sense of integrated interactive contextual experience.

3.2 TIME Immersive Content Design: Symbolic Elements Superimposed on Medium and Long Stories to Synthesize Communication Scenarios

3.2.1 Content design language: commonality symbols call for value associations

Media value association, which involves media brand identity, encoding and decoding of information, as well as the energy and reference of media symbols, can affect the reputation of media, media culture, and users' symbolic consumption and identity, and other socio-cultural issues.[9] TIME Immersive uses the form of an app to centralize the display of content. The contents are arranged in the form of waterfall flow, so that users can intuitively select the contents they are interested in, avoiding discrete projects that may fail to

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strengthen their own brand IP, and the color style and background of the screen match the "black and red" theme of TIME, which is better suited to the characteristics of their own brand, so that the users can have a better understanding of TIME Immersive when they come into contact with the content. The color style and background of the image match the "black and red" theme elements of Time magazine, which is a good fit for the brand characteristics, and users can recall the existing impression of Time magazine when they come into contact with TIME Immersive, which is to say, realizing the so-called "commonality of symbols" or "symbolic elements" to evoke the value association of TIME Immersive.

3.2.2 The direction of content selection: medium-length stories create a harmonious space for linking reality and fiction

TIME Immersive's content selection is based on medium-length stories, which, when combined with augmented reality, will be presented in a form that fits the local environment, realizing a harmonious effect of linking reality and reality.

First, medium- and long-form stories provide richer information value and space for content creation. Currently, the production cycle of augmented reality products is relatively long, so integrated application production platforms such as TIME Immersive often tend to choose major news stories from the past rather than the most current news as the main body of their content production. TIME Immersive's first content, Landing On The Moon, set on July 20, 1969, the first successful human mission to the moon, is a medium-length and significant narrative that provides content creators with plenty of room for creativity.

Secondly, in the scene construction, TIME Immersive will firstly choose to supplement the content display area of the homepage with pictures and text for corresponding introduction. After entering the corresponding content area, users can experience the story scenes presented by augmented reality technology according to different operation items. For example, in Inside The Amazon: The Dying Forest, the villages in the jungle are displayed in the form of signal markers, and the user only needs to click on the corresponding coordinate points in the screen to browse the corresponding content, and these coordinate points and the screen can be transformed according to the user's specific changes in the scene.In Landing On The Moon, the user can choose to fly from the astronaut's cockpit to the moon. In Landing On The Moon, the user can choose to view from the cockpit of the astronauts or the surface of the moon as the viewing angle, to feel the virtual scene of the astronauts landing on the moon, and if the user chooses to take the desktop as the main body of the screen, then it can present the effect of the aircraft landing on the user's desktop. As shown in Figure 4. Regardless of where the user is, they can feel the experience of "infinite to the real, but infinite to the virtual illusion" proposed by Prof. Shen Yang by augmented reality technology.

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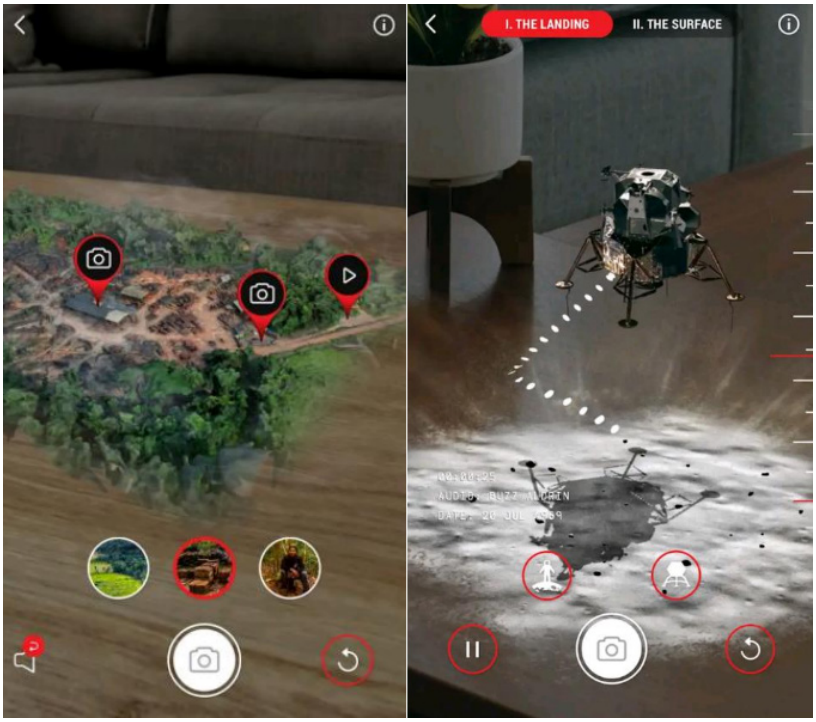


Figure 4 Showing the content of the application for traveling through the Amazon rainforest and landing on the moon

3.3 Time Immersive Team Creation: Industry Talents Realize Circle-Breaking Collaboration

The reasonable application of augmented reality technology cannot be separated from an excellent creative team. The lack of composite talents is one of the reasons hindering journal apps from using augmented reality technology to incubate high-quality works, and TIME Immersive has fully broken down the barriers between different industries, leveraging on the strong influence and appeal of its own platform and joining hands with a number of companies and organizations to launch a number of products integrating augmented reality technology. For example, TIME Immersive's first content, "Landing On The Moon," was developed in collaboration with the Smithsonian's National Air and Space Museum. The work is the culmination of nearly 20 years of research and artistic talent by John Knoll, Chief Creative Officer of Industrial Light & Magic, and utilizes drilldowns and 3D assets provided by Knoll and the Smithsonian's Office of Digital Programs, as well as immersive spatial sound design by RYOT's Head of Audio, Erik Lohr, and TIME Immersive's Jeffrey Crew. Weekly's Jeffrey Kluger. With its relatively strong influence, TIME has assembled a number of outstanding industry talents to make up for the lack of composite talent that is prevalent in the current publishing industry, presenting the likes of Martin Luther King, The Mmarch, the International Space Station, and the World Wide Web. Martin Luther King Jr.'s The Mmarch, Space Explorers: The ISS Experience, and other excellent augmented reality technology products.

4. TIME Immersive's Vision for Journal Apps Incorporating Augmented Reality Technology

4.1 Technological Acceleration or Disordered Entropy Increase, Dialectical

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Transformation between Resonance and Alienation

In The Birth of a New Alienation, Rosa argues that a sound world relationship that leads to a better life is one in which resonance and alienation are in constant dialectical transformation with each other. The combination of journal apps and augmented reality technology is a symbol of "technological acceleration", and the organic combination of the two constructs a space and harmonious symbiosis that supports the mutual response between the subject of use and the world, where users can realize an upgraded interactive experience, where unidirectional knowledge-sharing will shift to multidimensional linkage, and where the connection between human beings and the world will move towards a complete and practical experiential behavior, and from then on, the relationship between people and the world will move towards a complete and practical experiential behavior. The connection between people and the world will move towards a complete and practical experience behavior, and from then on, more possibilities for social advancement will emerge, i.e. the "empathic relationship" depicted by Rosa. Behind the technological acceleration, however, lies a deeper "logic of enhancement" created by the accelerated society, and the "growth society" under the logic of enhancement. The social development paradigm of the growth society, which prioritizes quantity and neglects quality, will affect the combination of journal apps and augmented reality technology, i.e., if journal apps simply pile up novel augmented reality technology, it will lead to disordered entropy increase, and the harmonious relationship established between users and journal apps will then be oriented to the disordered alienation relationship. Therefore, on the one hand, journal apps should use augmented reality technology as a handhold to promote their own digital development; on the other hand, they should also be alert to the potential risks associated with it, and realize the dialectical transformation of resonance and alienation.

4.1.1 Interactive uplift burst of sensory stimulation, releasing the potential of in-depth reading market

First, the combination of journal apps and augmented reality technology can realize many benefits brought about by the acceleration of technology.

Rosa explains the first logic of social acceleration: it includes technological acceleration in terms of transportation, communication, and goal orientation. In the context of technological acceleration, human society embraces new technologies to greatly improve the efficiency of interpersonal collaboration and the time efficiency of information transmission, so it can be said that technological acceleration carries the momentum of human society forward. In terms of more information increment in communication, the use of augmented reality technology in journal apps satisfies the connotation of technological acceleration in the social acceleration constructed by Rosa. After combining augmented reality technology, the digitized journal apps already have the characteristic of interactivity in embodied communication, and journal apps are able to disseminate higher density of valuable information in the same unit of time in a more diversified form of media. information in the same unit of time.

Therefore, how to seize the pain points of the industry, skillfully utilize the augmented reality technology and quickly layout to seize the first opportunity has become a pioneering issue. Despite the rich content advantages of domestic periodical apps, they are still unable to attract the attention of the audience and gather sticky users through the existing channels due to the fragmented reading habits of the audience in the new media environment and the poor interactive experience caused by the simple transfer of paper content to the periodical apps. In the fourth part of the Evaluation Report on the Tracking, Evaluation and Analysis of Dig-

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ital Publishing Products in Recent Years, it is also mentioned that in the digital transformation of periodicals, there is still a big gap between the reading aspect of mobile apps and the whole mobile reading itself.

Scholars Luo Qing and Li Xuhua pointed out that the pursuit of sensory stimulation is one of the important criteria for users to make media choices, which is related to their own use of the process of whether they can really enjoy the fun, sensory bias into the marketing model to attract consumers to breakthroughs. [10] If journal App can make full use of augmented reality technology to create a three-dimensional reading experience for users, it can realize a downward strike on the current two-dimensional plane interaction mode, satisfy the users' pursuit of sensory stimulation, and at the same time, break the paradox of users being trapped in shallow reading in the new media era, re-regulate the right of media technology to users, release the market and potential of in-depth reading, and achieve the function of the journal App products. Innovate and incubate influential cases in the digital transformation of journals to apps.

The immersion of journal apps superimposed on augmented reality technology can also intercept the fragmentation of users' attention caused by "visual fragmentation" and "auditory fragmentation" in the viewing of general paper content or digital content, just as the lightweight apps have intercepted paper journals once they were launched. Just as apps featuring lightweight features have intercepted paper journals since their introduction, user attention that has been dissolved due to fragmentation will be aggregated through the immersive media experience of augmented reality technology, realizing the interception of user attention in new media scenarios, and ultimately achieving the goal of gathering users with stickiness.

Augmented Reality is about to become, or has already become, the next technology frontier. Deloitte and Snap jointly released a global "Consumer Augmented Reality (Consumer Augmented Reality)" report, the results of the study affirmed the role of AR as the next frontier. In this context, journal apps with augmented reality technology should actively expand the existing product production process and paradigm, can be boring or require a high degree of concentration in order to obtain the knowledge, through augmented reality technology to create a similar mode of breakthroughs in the academic game products, to meet the user's desire for the pursuit of sensory stimulation, to intercept the fragmentation of the user's attention. For example, TIME Immersive's Traversing the Amazon Rainforest provides such a gradual and excessive personal interaction experience, in which the user personally activates each "coordinate" location to enter the next scene. With the support of augmented reality technology, journal apps can try to follow the current cash flow logic of video websites or games, utilizing free augmented reality product experience to attract users' attention and interest in the early stage, and then realizing new profit growth through the payment of post-product content or membership fee system.

4.1.2 Shifting the established development paradigm from growth to post-growth societies

One of the facets of the accelerated society is technological acceleration, and it is important to be wary of the alienation of journal apps from the content-based to the technological-based by the logic of the accelerated society after combining them with augmented reality technology. Rosa believes that the accelerated society under the logic of growth emphasizes quantity rather than quality, i.e., due to the continuous acceleration and change of society, a "progress or retreat" mindset has begun to emerge in modern society, so that everything is based on "quantity" as the benchmark in the pursuit of improvement. The solution he proposes is that it is now time for us to move on to the next level. The solution he proposes is to move towards a post-growth society, that is, people should no longer pursue growth pathologically, but must pursue "qualitative" improve-

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ment on the basis of the existing logic of growth.

As in the previous analysis, TIME Immersive's simplified interface style and high-quality products that emphasize "quality" rather than "quantity" better reflect the development paradigm of the "post-growth society". "TIME Immersive is different from the People's Health Publishing House's app "Human Health" and Beijing TouchPoint's Augmented Reality Learning App, in that the former requires searching for relevant content in a large number of subdirectories, and the redundant design of the app's items is not conducive to direct access, while the latter requires direct access to the content. The latter requires the use of paper journals to access the content, which also fails to achieve efficient reach.

If a periodical app wants to use augmented reality technology as a prominent selling point, it might as well learn from the practice of Zhiyin Mangak App of setting up independent display zones. When promoting its augmented reality product GO!GO!Art Student, Zhiyin Mangak App clicks on the cover of the comic book in the corresponding section to directly view the corresponding virtual comic character, avoiding the tedious step of searching through many subcategories. The producer of the journal app can display a scrolling screen on the homepage, or simplify the location and layout of the product interface with augmented reality as a new selling point, so that the relevant products can reach the users' "eyeballs" in a short period of time. Or consider the TIME Immersive solution, whose design concept is always centered on the principle of Occam's razor, to try to develop a more independent application without adding too many cumbersome processes to the design page and application usage procedures, so that users can realize the access to the application ecology of augmented reality technology in the easiest way, and achieve the "quality" of the periodical's app combined with augmented reality technology. "Quality" enhancement of journal apps with augmented reality technology.

4.2 Scene communication under the symbiosis of reality and reality: multiple scene services and knowledge sharing

In today's web3.0 media evolution context, the audience's demand for media features is becoming more and more diversified, and Prof. Yu pointed out that the reality-enhanced scene, as a product of the combination of realistic scene and virtual scene, will become the mainstream of the future development. Reality-enhanced scene refers to the product of combining the realistic scene constructed in real life based on the real interface with the virtual scene that provides the audience with the virtual interface environment to meet their media expectations through the online service of the Internet. [11]Journal Apps should cater to the trend of the times and cultivate multiple services based on reality-enhancing scenes. In the practice of constructing virtual-reality linked scene services, the accompanying user identity psychology and "self-exhibition" behavior will promote the sharing of popular knowledge, so that the periodical apps combined with augmented reality technology will contribute to the construction of digital China and the promotion of cultural self-confidence and self-improvement.

Journal App in the use of augmented reality technology, on the one hand, can take advantage of this psychological needs of users, so that users take the initiative to disseminate the product content, on the other hand, it can also be counterproductive to promote the combination of augmented reality technology of the journal App to the mass of knowledge sharing, so that the journal App for the construction of digital China as well as to promote the construction of cultural self-confidence and self-improvement to make a contribution to the construction of the journal App.

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4.2.1.Intertwine the two states to fit the local characteristics and explore the just-demanded scenario services

Journal App with augmented reality technology combined with the characteristics of the local environment to create a story scene, digital information superimposed on the real space, the real state and virtual state "two state intertwined", on the one hand, not only to achieve the effect of augmented reality, on the other hand, can create more journal App and augmented reality technology linked to the scene after the service, such as AR plus teaching materials, AR plus stories, AR plus news and other immediate service scenarios to meet the diversified needs of users.

The storytelling experiences in TIME Immersive are also based on the use of augmented reality technology to achieve the effect of linking reality and reality, i.e., from the point of view of scenario dissemination, users are able to involuntarily substitute into the story modeling scenarios constructed by the creators.

At present, the communication strategy of constructing reality-enhancing scenarios with virtual-reality linkage has been widely used in various fields, and has also achieved some remarkable results. For example, in the field of education (classroom), under the background of the state's promotion of "informatization" teaching and the "double reduction" policy, the two apps Teachstar AR Classroom and AR Smart Classroom provide students with audio, video, interactive apps and other learning resources related to the subject content, based on the paper-based subject teaching materials and utilizing augmented reality technology. Audio, video, interactive applications and other learning resources related to subject content. For example, in the field of physical trading and industry, Gaining Things App utilizes augmented reality technology to identify the authenticity of commodities. Users can identify the AR program embedded in the certificate, and achieve the purpose of identifying the authenticity of commodities through scanning; Astronergy Group, in conjunction with Bright Wind Table, has introduced AR tools to create a set of "AR distribution operation and maintenance system", which enables the operation guidance to be visualized in AR, and improves the operation guidance of newcomers. AR visualization, improve the efficiency of novice employees.

In the combination of domestic periodicals App with augmented reality technology, although there are AR reading magazine of Sanlian and AR cartoon attempts of Zhiyin Mangguo, but in general, there are fewer areas involved, and most of the periodicals App has not hatched mature augmented reality products. Journal apps can take advantage of the wind of the gradual rise of the meta-universe to fill the gaps in the application of augmented reality technology and expand more diversified scene services.

From the scene curation. On the one hand, the journal App can try to curate storytelling AR products, giving users the autonomy to choose the scene of the unfolding of the story, any desktop, objects will be the real world as a display and virtual story integration, the user with a more autonomous perspective, more active random operation, the story of the free deduction, in the real world, any space to experience the scene of the story content. On the other hand, the journal App can also draw on the performance of Sanlian Chinese reading App to show the character column in the form of AR, such as reporting on the director Jiang Wen, host Dong Qing, in addition to text, pictures for the introduction of the character, but also with the help of augmented reality technology will be the integration of text, audio, video, to show the character of a more living side, through the living of a particular situation, to bring the distance between the two closer to the sense of distance.

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From the scene of services, the journal App endogenous resource advantages, but also can unite the relevant units, enterprises, co-production of integration of augmented reality technology teaching materials or training manuals, in particular, there is a greater market potential for medical education and training and other industries, augmented reality technology and the advantages of the mobile end of the journal App convenient to make the AR education really to the actual life, which can not only change the human for how to This will not only change the way of human beings on how to use their time to acquire knowledge, but also develop a new knowledge payment system that may be derived from this, and will also open up a new scene of knowledge acquisition in the era of digital communication. In addition, the journal app can also explore augmented reality technology as the basis, through the implantation of chips, binding devices, special experience, etc., to realize the diversified services of copyright protection of related content.

4.2.2 Scene Construction Calls for Identity and Promotes the Popularization of Knowledge Sharing

Tombs & Mc Coll-Kennedy's model of "social service scenes" emphasizes the important role of social and symbolic elements in social service scenes, and Hu argues that symbolic elements refer to contextual elements that express the emotions of the group to which the consumer belongs, and that such consumption elements evoke a memory or an identity for the audience. This kind of consumption element can evoke the audience's memories of a certain period of time or a kind of identity of the group to which they belong.

When combining augmented reality technology to construct diversified scene services, journal apps inevitably need to consider the combination and application of symbolic elements, and the user identity evoked by various symbolic elements precisely meets the user's expectation of "digitally presenting their own cultural positioning", and the user will share and disseminate the self-haloed AR products. The sharing and spreading of AR products can be regarded as an act to satisfy the psychological demand for "self-exhibition". "Individuals will disguise themselves in order to gain the appreciation of others, such as what kind of books they read and what kind of friends they make"[Chen, Jingxi. The carnival of performance: individual self-presentation and interaction behavior in network society [D]. Fudan University,2013.] , and the consumer attitude of the audience has naturally changed from "self-glorification" to "self-promotion" in the process of self-glorification. In this kind of self-glorification, the consumer attitude of the audience naturally changes from "confrontation" to "tendency".

As the frontier of media technology, augmented reality technology has its own "spotlight ring" effect, which makes it easier for users to share augmented reality technology products and trigger fissile dissemination to a certain extent. Therefore, when combining augmented reality technology with related content product design, domestic periodical apps should emphasize more on their own brand tone, and highlight the "black and red" elements of TIME at all times in the style and theme design, like TIME Immersive, and evoke the identity identity recognition of users based on brand IP accumulated by paper periodicals, and prompt users to actively disseminate and promote their products. Based on the brand IP accumulated by paper periodicals, it evokes users' identity, prompts users to take the initiative to spread the word and incubate the "explosive" "Mim" augmented reality case, in order to break through the limitation of insufficient user stickiness of the existing periodicals' apps. At the same time, the ubiquitous active dissemination of high-quality content can also promote the trend of mass knowledge sharing, promote the construction of universal digital China and cultural China, and then promote cultural self-confidence and self-improvement, contributing to the "shipbuilding for

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the periodicals App" and enhancing China's international influence.

4.3 Industry, academia and research institutes build an ecosystem and work together to incubate technological achievements

The prerequisite advantages of journal App are content and copyright, but the difficulty lies in the lack of technology and talent. At present, most of the prioritized augmented reality technology cases produced in domestic and foreign periodicals App have gathered the strength of various parties and spent a lot of human, material and financial resources, rather than being completed by a single studio. For example, when incubating cases of digital innovation for party building, Half Moon Talk took the initiative to select those that cooperated with companies in the industry. projects in TIME Immersive are also mostly completed by academia and the industry working together. TIME's Emmy Award-winning VR/AR documentary "Space Explorers: The ISS Experience" was also done in collaboration with the studio Felix & Paul. Journal app builders can proactively seek to connect with academia and industry if they want to make a difference in the cutting-edge field of augmented reality. Collaboration between the three can be either a single project or the establishment of a long-term content collaboration mechanism.

It unfolds from two elements of team organization and process management. It is necessary to research relevant augmented reality enterprises and journals and magazines applying AR technology, as well as academic and industrial institutions and units with content or technological advantages, and actively seek cooperation possibilities. From the perspective of process management, team organization strategies are studied based on the work characteristics of each profession. Including: leadership organization form, staff size requirements, staff skill requirements (panoramic photography technology, text mining technology, semantic annotation technology), training strategy, production drive mode, etc. Secondly, augmented reality technology in the publishing industry generally consists of four parts: 3D model library, AR editor, output display system, and book marketing and sales. [Zhang Xinxin,Qi Jianglei. Review of Intelligent Publishing: Concept, Logic and Form[J]. Publishing Wide Angle,2021(13):21-25.DOI:10.16491/j.cnki.cn45-1216/g2.2021.13.004.

]For the collaborative production process of journal publishing enterprises, augmented reality enterprises, academia and industry units. Actively try to study the 3D model library, AR editor, and output display system in the combination of journal app and augmented reality technology on the technical level; as well as the shooting requirements, post-production, version control, technical architecture, task allocation and handover, time schedule management, key link control, cost control, quality management, storage of augmented data, communication and cooperation, and other issues. Starting from the team organization and process management, we enhance the conversion rate of talents through multi-dimensional cooperation, with a view to make up for the lack of talents to create boutique applications using augmented reality technology for periodical apps in China.

5. Conclusion

TIME Immersive integrates augmented reality technology to provide users with interactive, immersive, and dimensionally enhanced storytelling experience in reality-enhanced scenarios, which fits the characteristic of infinite reality and infinite emptiness in the meta-universe proposed by Prof. Shen Yang. Infinitely real is the first life curve of human beings, and infinitely virtual is the second life curve of human beings, and the

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intersection and fusion of the two curves is the embodiment of the growth of human society. behind the integration of TIME Immersive and other journals' apps with the augmented reality technology, human beings do not only use the cutting-edge media technology to carry or disseminate the consciousness of human behaviors by means of the journals' apps, but also reset the consciousness through the virtual-reality boundary. -The real boundary reset consciousness, not only online access to journals, literature and other content itself, but a complete, practical experience behavior. The connection of various different virtual worlds with the overlapping communication behaviors of the real world will subvert the established communication paradigm and reconfigure human social relations. The integration of journal apps and augmented reality technology is such a key to open the door to a new world. In the future, journal apps may also generate specific text, image, audio, and video content of augmented reality applications embedded in journal apps through AIGC, i.e., Artificial Intelligence, or collaborate between AIGC and PUGC, PGC in the field of immersive education and immersive narrative, and jointly promote the development of human society. development.

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