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BACHELOR'S THESIS
on the topic:

Development of a series of algorithm-related posters

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ABSTRACT

With the wide application of Internet algorithms, their impact on individual users' information acquisition habits and opinion construction is becoming more and more significant. This study aims to explore the key role of Internet algorithms in modern social life, especially their impact on information acquisition, processing, and opinion shaping. The research focuses on the concepts of "echo chamber effect", "information cocoon", "group polarization", "filter bubble", "algorithm push" and "network balkanization", reveals how algorithms shape individual information reception patterns, exacerbates social differentiation, and explores corresponding countermeasures.

Through literature reading, discussion, comprehensive research and comparative research, this study synthesizes knowledge from multiple disciplines and provides an in-depth analysis of the above concepts. The results of this study not only provide theoretical support for understanding the role of algorithms in social networks, information dissemination and public opinion environment, but also provide practical references for standardizing algorithmic push behavior, improving the efficiency of information dissemination, and creating a healthy and orderly network social environment.

The design content includes poster creative design, logo and font design, peripheral cultural and creative product design, IP character image design and poster layout, as well as theme derivative development and packaging design. These design works aim to vividly interpret and contrast the phenomenon of information communication in the digital age through the form of visual art, and strengthen the communication power and memory point of concepts.

Keywords: Internet algorithm, information cocoon, echo chamber effect, population polarization, filtering bubbles, algorithm push

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INTRODUCTION

With the rapid development of Internet technology, especially the wide application of algorithm recommendation system, our way of obtaining information acquisition, the process of viewpoint formation and even the way of life have undergone profound changes.

A recent survey was conducted on 1,501 participants, conducted in collaboration with the Social Survey Center of the China Youth News Agency and the questionnaire network. The results showed that more than 60 percent of the participants (62.2 percent) felt that customized information push mechanisms based on big data and algorithms may be limiting them to isolated islands of information. In the long run, this phenomenon may not only narrow personal knowledge horizons, but also lead to social differences and estrangement. In addition, for most users, the decision-making process of personalized news recommendation algorithms is still vague, like a "black box".

Algorithm, as the core of technology in this era, is shaping the pattern of information transmission with unprecedented strength. However, these algorithms in improving user experience at the same time, also caused a series of social problems, such as "echo chamber effect", "cocoon" room "," group polarization "," filter bubble "," algorithm push "and" network alkan ", these problems of the individual cognitive structure, social interaction and public opinion had a profound influence. The "Echo chamber effect" describes the self-strengthening phenomenon of individuals in the homogenized information environment, leading to the extremes of individual views. The "information cocoon room" emphasizes how the algorithm recommendation system builds information islands through users' historical behavior, and limits the opportunity for individuals to contact multiple information."Group polarization" is particularly prominent in social networks, where algorithms may exacerbate bias and conflict among groups.

The "filter bubble" phenomenon focuses on how the algorithm filters the information to build a closed environment that coincides with the user's existing views. In addition, "algorithm push" and "network Balkanization" focus on how algorithms change the way of information acquisition and the fragmentation of cyberspace, respectively.

The purpose of the research: This study aims to explore the key role of Internet algorithms in modern life, especially their impact on information acquisition, processing, and opinion formation. This paper focuses on the analysis of the concepts of "information cocoon", "echo chamber effect", "group polarization", "filter bubble", "algorithm push" and "network balkanization", reveals how algorithms shape individuals' information reception patterns, exacerbates social differentiation, and explores corresponding countermeasures.

Research Objectives:

1. Revealing the impact of algorithms on individual information receiving patterns: This study aims to elucidate how Internet algorithms shape individuals' habits of obtaining information, and how these habits affect individuals' cognitive structure and decision-making judgments.

2. Analyze the role of algorithms on social differentiation and polarization: explore how algorithms catalyze inter-group bias and conflict in social networks, and how to exacerbate social differentiation and polarization.

3. Discuss the phenomenon of filter bubbles and its impact on information diversity: study how algorithms can construct a closed environment consistent with users' existing views by filtering information, and weaken the diversity and authenticity of information acquisition.

4. Evaluate the impact of algorithmic push services on lifestyle and consumption behavior: Analyze how algorithmic push services change the way we obtain and process information, and the far-reaching impact they have on our living habits, consumption behaviors, and even social perceptions.

5. Examine the challenges of the phenomenon of cyber balkanization to social cohesion: investigate how the balkanization of the internet has led to the

separation and isolation of opinions, information and online communities, and the challenges this phenomenon poses to social cohesion.

6. Propose strategies and suggestions to deal with the impact of algorithms: Based on the research findings, put forward practical countermeasures and suggestions, aiming to reduce the negative social effects that algorithms may bring, and promote the improvement of information literacy and public participation.

The research subject (theme) is the impact of Internet algorithms on individual users' information acquisition habits and opinion construction

The object (focus) of the researchis on how Internet algorithms affect individuals' information receiving habits, social differentiation, the formation of information cocoons, group polarization, the problem of filtering bubbles, algorithm pushing, and the Balkanization of networks.

Research methods. Literature Reading Method: Reading relevant literature to understand the impact of Internet algorithms on individual information reception and social interaction. Discussion method: Discuss with tutors and classmates to enrich your understanding of the algorithm push mechanism. Integrated Research Approach: Combining multidisciplinary knowledge to comprehensively analyze the social impact of algorithms. Comparative Research Method: Compare the effects of different algorithms to reveal how algorithms shape information reception patterns.

Elements of scientific novelty. Multidisciplinary Integration: Combines knowledge from the fields of design, communication, sociology and psychology. Combination of practice and theory: not only theoretical research, but also the presentation of research results through visual art forms. Innovative visual communication design: Convey complex concepts through innovative methods such as posters, logos, and font design.

Practical significance. Raise public awareness of the impact of algorithms. Promote the construction of a healthy and orderly network social environment. Provide guidance and reference for policymakers and technology developers

Structure and volume of the thesis. The dissertation includes an introduction, research background and purpose, research content and methodology, design process and results, and conclusion. The specific structure and length arrangement follow the general norms of academic papers, ensuring the integrity and systematization of the research content.

Chapter I
SOURCE OF SELECTION

1. 1 The Research Purpose And Significance Of The Topic Selection Concept

(1) "Echo chamber effect": The echo chamber effect is a critical phenomenon in the digital age that demands a deeper understanding of how internet algorithms influence the evolution of an individual's information consumption habits and the construction of their views. This term encapsulates the idea that users, when surrounded by a stream of information that is remarkably uniform and aligned with their existing beliefs, experience a reinforcement of their inherent positions and preferences. This reinforcement occurs through a feedback loop that amplifies their perspectives and diminishes exposure to diverse viewpoints, ultimately leading to the creation of an "information cocoon room." The research into this effect is vital as it seeks to uncover the subtle yet powerful ways in which algorithms can erode our capacity to engage with and comprehend a multiplicity of perspectives. It highlights the invisible forces at play that shape our informational landscapes and the potential for these forces to narrow our understanding and foster an environment where dissenting voices are marginalized.

⑵ "Information cocoon room":The concept of the information cocoon room delves into the personalized information ecosystem constructed by algorithms based on an individual's search history and click behavior. This tailored environment, while seemingly beneficial for providing relevant content, may inadvertently limit our exposure to a broad spectrum of information and hinder our ability to engage with diverse ideas. The research into this phenomenon is significant as it aims to reveal how the algorithmic mechanisms of information curation can fundamentally alter our modes of information acceptance and processing. It raises questions about the potential for such environments to create cognitive biases and affect our decision-making processes, thereby impacting our understanding of the world and the issues that shape it.

(3) "group polarization": Group polarization is a study that examines how algorithms within social networks can exacerbate existing biases and intensify conflicts between different groups, leading to a heightened sense of societal differentiation and polarization. This research is profound in its implications, as it suggests that the very algorithms designed to connect us can also drive us apart. It points to the potential for algorithm-driven amplification of group identities and the exacerbation of societal divisions, which can have far-reaching consequences for social harmony and the democratic process.

(4) "Filtering bubbles": Filtering bubbles represent a phenomenon where algorithms create an information environment that insulates users from viewpoints that challenge their existing beliefs and interests. This study seeks to understand how algorithms can inadvertently or intentionally curate content in a way that reinforces users' preconceived notions, thereby forming a bubble of filtered information. The research aims to elucidate how these algorithmic interventions can distort the information acquisition and viewpoint formation processes, indirectly contributing to the fragmentation of society. It underscores the importance of understanding the role of algorithms in shaping public discourse and the need for mechanisms to counteract the formation of such bubbles.

(5) "Algorithm push": The study of algorithm push explores how algorithms, through push services, have transformed the way we access and process information. This research delves into the profound impact that this new mode of information dissemination has on our lifestyles, consumption behaviors, and even our social concepts. It seeks to clarify the comprehensive influence that algorithmic push has on individuals and society at large, highlighting how these systems can shape our preferences, decisions, and interactions in ways that were previously unimaginable.

(6) "Balkanization": The term "Balkanization" in the context of algorithms refers to the fragmentation and isolation of viewpoints, information, and communities online, leading to the formation of separate and distinct informational enclaves. This study aims to investigate how algorithms can inadvertently or deliberately contribute to the division of the online space into smaller, isolated segments, akin to the historical fragmentation of the Balkans. The research is fundamental in revealing the challenges that cyber Balkans pose to social unity and in seeking strategies to address and mitigate these issues. It emphasizes the importance of understanding the role of algorithms in fostering or preventing social cohesion and the need for a collective effort to promote a more integrated and harmonious online environment.

In conclusion, the overarching objective of this comprehensive exploration is to attain a profound understanding and shed light on the intricate and multifaceted impacts that algorithms exert on contemporary social dynamics. The focus is particularly directed towards pivotal domains such as the acquisition, processing, and molding of information and viewpoints, which are the cornerstones of our societal interactions and collective consciousness.Furthermore, the risk of excessive social polarization and differentiation, fueled by the subtle nudges of algorithmic curation, must be proactively mitigated. This necessitates a collective effort to promote and uphold the values of openness and pluralism in our algorithm-influenced world. It involves advocating for transparency in algorithmic processes, encouraging media literacy, and fostering a culture that values diverse viewpoints and resists the gravitational pull of homogenized information spheres. In essence, the core message is a call to action for individuals, communities, policymakers, and technology creators alike. It is a reminder that while we harness the power of algorithms to enhance our lives, we must also remain vigilant guardians of our social well-being. By doing so, we can strive towards a future where the benefits of algorithmic advancements are balanced with a robust and resilient social fabric that is capable of embracing diversity, fostering understanding, and nurturing a sense of unity in our increasingly interconnected world.

1.2 Research Contents

"Algorithm Life" is an insightful examination of the big data era, concentrating on six key concepts that are integral to our interaction with technology. This project takes a holistic approach by not only exploring these concepts theoretically but also giving them tangible form through various design elements. The development of logos, fonts, blind box designs, IP image designs, and image posters for each concept is carried out in tandem with the creation of peripheral derivative products. These designs are not just aesthetic; they serve a deeper purpose of enhancing public awareness and comprehension of the subtle yet profound influence that algorithms have on our daily lives.

The core of the study lies in demystifying how algorithms operate based on user behavior to offer personalized recommendations. It delves into the construction of an information ecosystem curated by algorithms and examines the transformation in the way individuals receive and process information due to these mechanisms. The project aims to make the abstract nature of algorithms more concrete and accessible through the use of creative design and information visualization technology. This approach is designed to clarify the often opaque processes through which algorithms shape our information landscape.

By presenting these concepts in a clear and visually engaging manner, "Algorithm Life" seeks to foster a greater public understanding of the issues surrounding algorithmic influence. It encourages users to cultivate critical thinking skills, to approach the information delivered by algorithms with a discerning eye, and to avoid over-reliance on the content that algorithms promote. Instead, the project advocates for a more active engagement with information, urging users to broaden their horizons by seeking out a variety of information sources.

In essence, "Algorithm Life" is an educational initiative that bridges the gap between complex algorithmic processes and public understanding. It promotes a balanced approach to information consumption, where users are empowered to make informed decisions about the content they engage with. Through thoughtful design and clear communication, the project aims to contribute to a more aware and discerning digital society.

1.2.1 Research Technique

(1) Literature reading method: Collect and read about the living habits of sea turtles through the Internet. The appearance of books and literature, understand the appearance and habits of endangered sea turtles, extract the part that can be designed, give the creative design fresh life connotation, and create creative and unique visual derivative products.

(2) Discussion method: While exploring and learning relevant materials of sea turtles, communicate the creative design of sea turtles with tutors and students. Constantly enrich the expansion of sea turtle knowledge and design inspiration.

(3) Comprehensive research method: Go to the offline Marine Museum to learn about the relevant knowledge of sea turtles and enrich the understanding of sea turtles.

(4) Comparative research method: on the basis of the study of sea turtles, the common character of sea turtles is found through the comparison of sea turtles.

1.2.2 Research Status, Both At Home And Abroad

(1) Research progress of the echo effect: The academic circle has carried out a comprehensive and in-depth exploration of the echo effect in the field of social media and information diffusion. It not only constructs and tests the

theoretical model of information transmission, but also analyzes various key elements affecting the echo effect in detail. On this basis, many scholars especially focus on the functional operation of the echo effect in the social network communication dynamics, public opinion guidance and information screening mechanism and the design and implementation of antagonistic strategies.

(2) The current discourse surrounding the Information Cocoon Theory is quite extensive and nuanced. Scholars have delved into the intricacies of this phenomenon, examining its multifaceted implications on society and individuals.There is a pronounced focus on how the Information Cocoon Theory affects the development of personal ideologies. Scholars are exploring the ways in which individuals' beliefs and perspectives can become narrowly tailored to their existing biases, leading to a reinforcement of preconceived notions rather than a broadening of understanding.Research is being conducted to understand the extent to which the Information Cocoon Theory alters the way individuals consume information. It is observed that people may gravitate towards sources and content that align with their existing views, potentially leading to a skewed perception of reality.The research also delves into the constraints that the Information Cocoon Theory places on social communication activities. It is argued that this phenomenon can lead to a reduction in the diversity of discourse and inhibit the free exchange of ideas.The collective body of work on the Information Cocoon Theory is contributing to a deeper understanding of the complex interplay between technology, society, and individual cognition. It is shaping a more informed discourse on how to navigate the challenges posed by a world where information is increasingly personalized and segregated.

(3) Overview of group polarization research: Researchers generally focus on the concrete embodiment and influence of group polarization in the field of social media and online public opinion, focus on analyzing its internal generation mechanism and decisive factors, and carry out in-depth discussion on the coping strategies to alleviate the antagonism and contradictions between

different groups.

(4) Research dynamics of filter bubbles: In the academic circle, the impact of filter bubbles phenomenon on information acquisition and social communication quality was fully discussed in the academic circle, especially the key role of information filtering in network platform design and algorithm push logic. The researchers systematically analyzed how the filter bubble weakened the diversity and authenticity of information acquisition, and put forward a series of constructive suggestions on improving the algorithm push mechanism and optimizing the information ecology.

(5) Algorithm push research frontier: experts have made a comprehensive review of the practical application of algorithm push in personalized recommendation, accurate information filtering and public opinion guidance. They deeply studied the impact of algorithm push on the user information acquisition path and cognitive preferences, and combined with the actual situation, advocated algorithm optimization and emphasized user privacy protection, providing feasible guidance for the industry.

(6) Exploration of network Balkan issues: The academic community has carried out in-depth research on the specific representation and negative effects of network Balkan phenomenon in the process of information flow and ideological transmission. They analyzed the severe challenges posed by the Balkanization to the network integration process of cyberspace and the effective dissemination of information, and put forward a series of strategic measures to promote information sharing and encourage cross-cultural dialogue and communication.

Combining the above research results, academic to related phenomenon has a significant research results, formed for these phenomena in social networks, information dissemination and public opinion environment operation law, influence factors and the deep understanding, for reasonable specification algorithm push behavior, improve information transmission efficiency and create a healthy and orderly network social environment provides valuable theoretical support and practical reference.

Summary Of The Chapter I

1. Research Background of Internet Algorithm Push:

The development and widespread application of Internet algorithm push technology is profoundly changing the way information is disseminated and people's habits of obtaining information. Although the personalized recommendation system improves the efficiency of information acquisition, it also raises social problems such as information cocoons and group polarization, which have a potential negative impact on social harmony and democratic processes.

2. Research Purpose and Significance of Internet Algorithm Push:

The purpose of this study is to deeply explore the impact of algorithmic push on individual information reception and social interaction, evaluate its potential impact on social differentiation and polarization, and propose coping strategies. This is of great significance for promoting information diversity, improving the public's information media literacy, and maintaining social harmony and democracy.

3. Research contents, methods and research status at home and abroad pushed by Internet algorithms:

The research includes the working principle of algorithm pushing, the social impact of personalized recommendation systems, and the ethical issues in algorithm design and application. Research methods include theoretical analysis, case studies, questionnaires, and data analysis. Scholars at home and abroad have carried out extensive research in this field, constructed theoretical models, analyzed the influencing factors, and put forward strategies to optimize the algorithm push mechanism, protect user privacy, and promote the healthy development of information ecology.

Chapter II

DESIGN CONCEPTION AND DESIGN FORMULATION

2.1 Brief Introduction Of Topic Selection

2.1.1 Brief Introduction

These concepts are all theories that describe the influence of Internet algorithms and social media on information reception and social interaction. The following is a brief explanation of each concept:

(1) Information Cocoon Room (Information Cocoons): This concept refers to the tendency of users to only contact and pay attention to the information in line with their existing views and interests, thus unknowingly establishing an information island. Living in the information cocoon for a long time may lead to narrow individual vision, difficult to accept different views, and increase social differences and estrangement.

(2) Echo Chamber Effect (Echo Chamber Effect): The Echo chamber effect describes a phenomenon, that is, in social media or online community, users can hear voices consistent with their own views. This effect would strengthen existing beliefs while reducing exposure and considering different views, potentially leading to radicalization of views.

(3) Filtering bubbles (Filter Bubble): Filtering bubbles is a phenomenon caused by search engines and social media algorithms, in which the algorithm personalization the search results and news feeds according to the user's historical behavior, preferences and background. This may result in users being only exposed to information that matches their views, thus limiting the diversity of information.

(4) Network Balkans (Cyberbalkanization): Network Balkans refers to the fragmentation of people on the Internet into many isolated small groups due to differences in interests, beliefs, ideology and so on, similar to the division of the g

eographical Balkan Peninsula into multiple ethnic states. This phenomenon may have weakened the quality of public discussion and increased social fragmentation.

(5) Population polarization (Group Polarization): Group polarization refers to that in the group discussion, the initial average view of the members becomes more extreme after the discussion. In the online social environment, due to the influence of algorithm push and selective contact information, the group polarization phenomenon is more significant, which may lead to social antagonism and conflict.

(6) Algorithm push (Algorithmic Push): Algorithm push involves social media and news platforms using algorithms to determine which information to present to users. This push can be based on the user's click behavior, search history and personal preferences, thus affecting the scope and type of information that users are exposed to, and then shaping their cognition and behavior.

Together, these concepts depict the complexity of information reception and social interaction in the Internet era, and the role that algorithms play in it. They are important for understanding the processes of information dissemination, public discussion and individual decision-making in modern society.

2.1.2 Content

"Algorithm Life" deeply explores the influence of Internet algorithms on the individual information receiving and social interaction, and reveals the key role of algorithms in modern society through a series of visual communication design works. This work will comprehensively show the core concepts of "echo room effect", "information cocoon room", "group polarization", "filter bubble", "algorithm push" and "network Balkan" through poster design, logo and font design, blind box packaging design, surrounding cultural and creative product design, and original IP character design. The design works will adopt the acidic art style, through eye-catching and avant-garde visual effects, to vividly interpret the phenomenon of information dissemination in the digital age. At the same time, this design work has developed a series of derivative products closely related to the theme, including but not limited to key chains, pillows, postcards, tickets, bookmarks and stickers, etc., aiming to enhance the public awareness of the impact of the algorithm and promote open and diversified information exchange through these practical cultural and creative products. The design is aimed at improving the public's understanding of the social impact of the algorithm and promoting the construction of a healthy and orderly network social environment, which reflects the belief in the harmonious coexistence of scientific and technological progress and social responsibility, and promotes the goal of protecting information diversity and harmonious coexistence with the society.

2.2 Research And Analysis Before The Design

2.2.1 Social And Cultural Background Research And Analysis

According to the latest statistics, by the end of 2023, the number of social media users worldwide has reached 4.76 billion, which is 59.4 percent of the total global population. The widespread adoption of social media platforms offers a vast landscape for the application of algorithmic recommendation systems. However, it also presents challenges such as the intensification of information filtering bubbles and echo chamber effects.

Currently, over 70 percent of Internet users rely on social media platforms to access news and information, with an even higher percentage among young people, at 85 percent. This trend underscores that algorithmic recommendation systems have become the primary conduit through which modern individuals receive information.

The research highlights that these systems could potentially exacerbate social polarization. An analysis of social media behavior suggests that users tend to engage more frequently with content that aligns with their existing views. This pattern of interaction can lead to the formation of relatively closed social circles where like-minded individuals predominantly interact with each other.

The implications of this are significant. As algorithms curate content based on user preferences, there is a risk of creating a feedback loop that further reinforces users' preconceived notions. This can result in a limited exposure to diverse perspectives, which may contribute to a more polarized society.

To address this, it is important to encourage a more balanced consumption of information. Users should be made aware of the potential for algorithmic bias and be encouraged to seek out a variety of viewpoints. Additionally, social media platforms could implement measures to promote a more diverse range of content, ensuring that users are not solely confined to their own informational echo chambers.

By taking these steps, we can work towards a more informed and balanced digital environment where the benefits of algorithmic recommendation systems are maximized while mitigating the risks associated with social polarization and the formation of echo chambers.

2.2.2 Target Audience Analysis

The Annual Report on China's Core Trends of the Internet for the year 2023 presents some intriguing insights into the online behavior of Chinese Internet users. With 1.224 billion users spending an average of 160 hours online each month, it's clear that the Internet has become an integral part of daily life. The significant number of monthly active users on small programs, such as WeChat, Alipay, TikTok, and Baidu, which stands at 980 million, further underscores the prevalence of digital platforms.

The demographic data highlights that the majority of these users fall within the 18 to 35 age bracket, with a slight male predominance at 58% compared to

42% female. This age group is notably adept at embracing new technologies and are often the most engaged on social media platforms and online news sources, as noted by Johnson & Lee in their 2022 study.

When it comes to perceptions of algorithmic recommendation systems, the survey reveals a mixed response. A substantial 65% of the audience expresses satisfaction with the content delivered by these algorithms, appreciating the tailored experience they provide. However, there is also a notable 43% who voice concerns about the creation of information cocoons, indicating a growing awareness of the potential downsides of personalized content.

This suggests that while the target audience appreciates the convenience of algorithmic personalization, there is a concurrent wariness of the information bubbles it might foster. Living predominantly in urban settings, these users have firsthand experience with the challenges of information overload and the intricate nature of social networks in contemporary society.

Culturally, this audience is characterized by a quest for personal identity and meaningful social connections amidst the rapid changes of the modern world. They are a generation that is highly educated and deeply reliant on social media, seeking to navigate the digital landscape with a keen sense of balance between embracing technological advancements and maintaining a broad perspective on information consumption.

In summary, the target audience represents a segment of young, Internet-savvy individuals who are both the beneficiaries and the critics of algorithmic recommendation systems. They are keenly aware of the convenience these systems offer, yet remain vigilant about the potential for information silos, striving for a more conscious and diversified approach to their digital interactions.

2.3 The Formation Of The Design Concept

The design initiative "Algorithm Life" is an endeavor to shed light on the pivotal role that algorithms play in contemporary society, particularly focusing on their influence over our lifestyle, consumer habits, and even our societal perceptions. The primary objective of this design work is to cultivate a heightened public consciousness regarding the potential impacts of algorithms on our daily lives.

At the onset of conceptualization, extensive research into the social and cultural contexts was conducted. This research revealed that while the ubiquity of social media offers a vast canvas for the application of algorithmic recommendation systems, it also introduces challenges such as information filtering bubbles and the echo chamber effect. There is a growing public concern that the content curated by algorithms might restrict the diversity of information and exacerbate social polarization.

A thorough examination of the target audience's preferences uncovered a dichotomy: a clear inclination towards personalized content coexists with an awareness of the potential risks associated with information-filtering bubbles. This duality underscores the need for design that not only appeals aesthetically and functionally but also upholds social responsibility by advocating for a more diverse and equitable distribution of information.

In essence, the design ethos of "Algorithm Life" is a holistic endeavor, encompassing a profound understanding of the social and cultural milieu, a precise understanding of the target audience's needs, the selection of design styles and color schemes, the utilization of information visualization techniques, and the consideration of cultural diversity and social responsibility.

In conclusion, the "Algorithm Life" design concept is a multifaceted achievement that seeks to resonate with the public, provoke introspection on the role and impact of algorithms, and champion an online social environment that is more open, diverse, and equitable. It is a call to action for both designers and users to be mindful of the subtle yet significant ways in which algorithms sculpt our digital interactions and to work towards a balanced approach that maximizes the benefits while mitigating the risks.

2.3.1 Development Of The Design Scheme

The design of the search algorithm life series includes five aspects, namely, IP image design and poster design, poster design, font design, packaging design and cultural and creative product design.

First of all, IP image design adds fashion elements, gives the IP image and people's emotional resonance point, and endows the person's character characteristics, which not only have people's objective feelings of the algorithm push, but also add personal subjective wishes.

Poster design is the introduction of six concepts, in the production process of the neat specification, visual simplicity, and strong readability.

Font design is designed for the theme of algorithm life, using pixel style, reflecting modern elements, and directly hitting the theme.

Packaging design is for the series of ip blind box packaging, to add interest to the series of design works.

Cultural and creative product design, cultural and creative products are the derivative and application of algorithm life-related IP image. Good cultural and creative products can improve people's sense of identity and stimulate the consumption of related products.

Summary of Chapter II

1. Theme selection and brief description of the content of the design work:

With the theme of "Algorithmic Life", this design work deeply explores the impact of Internet algorithms on the reception of personal information and social interaction. Through a variety of visual communication design techniques such as poster design, logo and font design, blind box packaging design, peripheral cultural and creative product design, and original IP character design, the core concepts of "echo chamber effect", "information cocoon", "group polarization", "filter bubble", "algorithm push" and "network balkanization" are comprehensively displayed. The design works use an acidic art style to vividly interpret the phenomenon of information dissemination in the digital age through eye-catching and avant-garde visual effects, and develop derivative products closely related to the theme, such as keychains, pillows, postcards, bills, bookmarks and stickers, etc., aiming to raise public awareness of the impact of algorithms and promote open and diverse information exchange through these practical cultural and creative products.

2. Analysis of the social impact and target audience of algorithm push:

According to the pre-design social and cultural background study, the number of social media users worldwide has reached 4.76 billion by the end of 2023, accounting for 59.4% of the world's total population. The widespread adoption of social media platforms has provided a wide range of possibilities for the use of algorithmic recommendation systems, but it has also brought challenges such as information filtering bubbles and echo chamber effects. The study highlights that algorithmic recommendation systems may exacerbate social differentiation, and users are more inclined to interact with content that is consistent with existing views, forming a relatively closed social circle. To combat this, it is critical to encourage users to balance their consumption of information, be aware of the potential for algorithmic bias, and seek diverse perspectives. Social media platforms should also take steps to promote more diverse content and ensure that users are not limited to their own message chambers.

3. Formation of design concept and formulation of design scheme:

The "Algorithmic Living" design program is an initiative that aims to reveal the key role of algorithms in contemporary society, with a particular focus on their impact on our lifestyles, consumption habits, and even social perceptions. Extensive research on the social and cultural context was conducted at the beginning of the design, and it was found that although the popularity of social media provides a huge space for the application of algorithmic recommendation systems, it also brings challenges such as information filtering bubbles and echo chamber effects. Target audience analytics reveal a clear propensity for personalized content, while also being aware of the risks that can come with information filtering bubbles. The design philosophy is comprehensive and includes a deep understanding of the social and cultural environment, an accurate understanding of the needs of the target audience, the choice of design style and color scheme, the use of information visualization techniques, and the consideration of cultural diversity and social responsibility. The design concept is a multifaceted achievement that aims to resonate with the public, prompt reflection on the role and impact of algorithms, and advocate for a more open, diverse, and equitable online social environment.

Chapter III

DESIGN PROCESS AND DESIGN RESULTS

1.1 Design Plan

Collect and analyze relevant data pushed by big data algorithms, including sociocultural background, target audience behavior, etc.Based on the analysis results, determine the overall design style.The design content includes poster design, logo and font design, IP image design, etc.Complete all design works and prepare display materials.

3.2 Design Process

3.2.1 Font Design

The core goal of font design is to create a visual language that can intuitively convey the characteristics of the algorithmic recommendation system, while triggering the audience to think about the role of algorithms in information reception and social interaction.

Design concept

The following is the first draft of the font design. Through the pixelated design technique, the font is transformed into basic graphic units, reflecting the process of reducing complex information to tractable data. To draw inspiration from the working mechanism of the algorithmic recommendation system and understand its influence on information screening and personalized recommendation. Try different font shapes and pixel combinations, and whether stroke and typesetting styles to capture the dynamic nature of the algorithm. The sketch was converted into a digital format and pixelated using Adobe illustrator software to ensure **accuracy** and consistency for each font unit.(As shown in Figure 3-1)

Design finalized

In the design, the messy colors in the first draft are modified to integrate and decoration to further coordinate and echo, reflect the order of the algorithm to make the design more complete, deepen the meaning and characteristics while the font agrees to be neat, which can show the characteristics of the algorithm more vividly. In the preliminary design stage, try to use the gradient background and the poster design background to form a visual resonance. However, when examining the design effect, I found that the gradient effect was not ideal in terms of clarity and visual simplicity. In order to enhance the cleanliness and visual impact of the overall design, we decided to blur the letter background to create a more smooth and harmonious visual effect. The first draft has been refined and become the final draft of the logo. The following is the final draft of font design and typesetting.(As shown in Figure 3-2)

3.2.2 Ip Image Design

IP image design

IP image lovely features, color and overall design color echo, overall modeling relaxation degree, dream and lovely. IP image to, color and modern clothing features, to attract users to watch. After the IP image is determined, the corresponding style of clothing is designed, and the design of the extended expression package is carried out to make the work more substantial and reasonable. The overall shape is relaxed, dreamy and elegant.(As shown in Figure 3-3~3-6)

Poster extension

Through the extended application of IP image, to further deepen the public's understanding of the impact of the Internet algorithm. Based on the lovely features, combined with the tone of the overall design, to create both a dreamy and lovely visual effect. The color selection is consistent with the theme poster to ensure the coordination of the whole series. Through the extended design of the IP image, the poster not only serves as a visual display of the project, but also is a creative reflection on the social impact of the algorithm. Attract the audience in a light-hearted manner, encouraging them to think and discuss the impact of algorithmic techniques on everyday life.(As shown in Figure 3-7~3-10)

Poster layout

The purpose of this design is to show the image and personality characteristics of the four IP characters - XiaoSuanhe, XiaoGuo, XiaoYin and XiaoXin in the form of posters, as well as their related derivative products. Through the poster design, it is hoped that we can have a deeper understanding of these four characters and stimulate interest in the research topic. The design includes basic information such as the character's name, zodiac sign, favorite things, and hobbies. Front, side, and back views show off your character in all directions. An attractive poster in a similar style to a themed poster. Design character-related spin-offs such as cups, fans, keychains, etc.(As shown in Figure 3-11~3-14)

3.2.3 Poster Design

Centering on the core concepts of information cocoon room, echo chamber effect, filtering bubbles, network Balkan, group polarization and algorithm push, we plan a set of six unique poster design projects in total, cleverly using the current popular acidic art style to build an eye-catching and avant-garde visual effect. Create a visual atmosphere with a full sense of science and technology, so as to vividly interpret and compare the phenomenon of information transmission in various digital ages.

Information cocoon room poster design

This poster design, centered around the concept of the "information cocoon room," seeks to visually articulate the constraints and possible hazards that individuals face in their reception of information within the realm of big data and algorithmic influence. The design aims to illustrate how the algorithmic recommendation system delineates the boundaries of an individual's information intake, highlighting the restrictions imposed on individuals within a uniform information landscape and the psychological and societal ramifications that such a scenario might entail. It is intended to provoke thought and discussion on the importance of information diversity and the value of open communication.

The imagery of chains encircling the brain in the poster serves as a metaphor for how human thought processes and the reception of information are constricted by the invisible yet powerful forces of algorithms and big data. By employing a cool color palette and a stark, graphic texture, the design intensifies the perception of confinement and constraint, creating a visual language that resonates with the theme.

The poster design is crafted to guide the audience towards contemplating the effects of algorithmic recommendation systems on personal information reception. It poses questions about how to sustain exposure to and comprehension of diverse information sources while simultaneously enjoying the conveniences offered by personalized content curation.

By presenting these ideas in a visually compelling manner, the poster not only captures the viewer's attention but also encourages a deeper engagement with the subject matter. It serves as a reminder of the need for a balanced approach to information consumption, advocating for a critical evaluation of the algorithms that shape our digital experiences and a conscious effort to seek out a wide array of perspectives.

In essence, this poster is more than a piece of art; it is a thought-provoking tool designed to stimulate public discourse on the role of algorithms in shaping our informational ecosystems. It invites viewers to reflect on their own information consumption habits and to consider the broader implications of living in a world where data and algorithms play an increasingly significant role in determining what we know and how we think.(As shown in Figure 3-15)

Network Balkan poster design

This poster design, with the "Balkan of the Internet" at its core, seeks to artistically illustrate the division and seclusion of ideas, information, and communities within the digital realm. It addresses how algorithmic mechanisms that drive the fragmentation of online discussions can lead to the splintering of information and the isolation of communities. The goal is to shed light on the potential ramifications of Internet Balkanization on social interaction and the quality of public discourse.

The design employs contrasting colors and a disjointed spatial layout to enhance the visual sense of separation and detachment. This aesthetic choice is intended to mirror the disjointed nature of online interactions when communities are segmented by algorithmic filters.

By utilizing abstract design techniques, the poster translates complex social dynamics into accessible and straightforward graphics. This approach aims to simplify the representation of intricate social phenomena, making them more readily understandable to the audience.

The poster is crafted to inspire contemplation among viewers about the importance of unity within cyberspace and the broader concept of social cohesion. It serves as a visual reminder of the need for interconnectedness and shared spaces where diverse ideas can be exchanged and discussed.

In essence, this poster is a visual commentary on the current state of digital communication, advocating for a more integrated and cohesive online environment. It prompts viewers to consider the implications of balkanized information and the value of fostering a digital landscape that encourages unity and open dialogue. The design is a subtle yet powerful call to action for both individuals and platforms to work towards a more harmonious digital ecosystem.(As shown in Figure 3-16)

Group-polarized poster design

The theme of this poster design is centered on the phenomenon known as "group polarization," aiming to depict the profound impact that algorithms have on group discourse and thought within social networks. The poster uses the striking visual metaphor of a house of cards to illustrate how fragile and susceptible to collapse a cohesive group opinion can be when influenced by algorithmic biases. This visual representation highlights how algorithmic influence can lead to the amplification of one-sided social opinions within a group.

The design employs the domino effect as a powerful visual tool to symbolize the cascading influence of algorithms on group opinion formation. The falling of each domino represents how opinions can topple one after another under the sway of algorithmic recommendations, creating a chain reaction that is challenging to halt once initiated. This visual metaphor effectively conveys the idea that group opinions can quickly become polarized to an extreme, reflecting the rapid shifts that can occur within a group dynamic.

The poster aims to draw attention to the significant role that algorithmic recommendation systems play in shaping discussions within social networks. It provokes thought on the implications of such systems on the diversity of opinions and the potential for polarization. By presenting the domino collapse as a strong visual metaphor, the poster encourages the audience to consider the broader impact of algorithms on collective thought and the importance of nurturing a range of viewpoints in the digital age.

In summary, the poster serves as a visual reminder of the subtle yet profound influence that algorithms can exert on group dynamics, leading to polarization. It calls for a critical examination of how algorithms shape the information landscape and a collective effort to ensure that online discussions remain diverse and balanced. The design is a call to action for both individuals and social media platforms to be mindful of the potential for group polarization and to work towards fostering an environment that encourages a multiplicity of perspectives.(As shown in Figure 3-17)

The algorithm is to push the poster design

This poster design, themed around "algorithm push," utilizes the visual motif of a closed-loop conveyor belt to depict the cyclical and pervasive nature of how algorithms mediate our consumption of information. The poster aims to illustrate the subtle yet impactful way algorithms shape our methods of information acquisition, daily routines, and consumer behaviors.

The closed-loop conveyor belt, as the central visual element of the poster, symbolizes not only the ongoing and circulating nature of algorithmic curation but also the somewhat passive state of reception that users find themselves in. It serves as a metaphor for the automated and seemingly inevitable process of algorithmic push, highlighting the system's closed-loop nature that perpetuates a cycle of information dissemination and consumption.

The poster uses this metaphor to underscore how algorithmic push services can influence an individual's reception of information. It suggests a system where personal data feeds into algorithms that, in turn, push more tailored content back to the individual, creating a closed feedback loop.

Through the conveyor belt metaphor, the poster vividly conveys the influence of algorithmic push on our reception of information, prompting the audience to contemplate the broader implications of how algorithms are sculpting our worldviews. It raises questions about the balance between convenience and autonomy, and the degree to which our digital experiences are curated by unseen forces.

In essence, the poster acts as a visual commentary on the omnipresence of algorithms in shaping our informational diets. It invites viewers to reflect on the role these algorithms play in constructing our realities and encourages a mindful approach to engaging with digital content. The design is a subtle reminder of the power algorithms hold in influencing our perceptions and a call to consider the value of diversity and critical thinking in our digital age.(As shown in Figure 3-18)

Echo chamber effect poster design

The poster design centers on the "echo chamber effect" as its core theme, employing a spherical mesh space as its primary visual language. This unique approach aims to demonstrate how individuals, within the vast expanse of internet information dissemination, tend to engage with and accept only the information that aligns with their pre-existing views. This selective exposure results in the formation of an information closed loop, reinforcing one's beliefs and limiting exposure to diverse perspectives.

The spherical mesh space, as the central visual element of the poster, acts as a metaphor for the individual's information reception sphere. Its enclosed structure suggests the boundaries of one's informational horizons, indicating a restricted scope of content that is considered and absorbed. The use of a sphere implies a self-contained and self-reinforcing system where information dissemination is not open to external influences.

Inside the spherical space, the meshwork represents the type of information that a user encounters, with uniformity in texture and connectivity to emphasize the homogeneity of the information. This visual choice underscores the idea that within an echo chamber, the information landscape is not only limited but also remarkably consistent, lacking in variance and depth.

The poster design seeks to provoke thought and discussion about the implications of living within such informational bubbles. It invites viewers to consider the consequences of an unvaried information diet and to reflect on the importance of breaking out of these closed loops to engage with a wider array of ideas and viewpoints.

In summary, the poster serves as a visual representation of the echo chamber effect, using the spherical mesh space to symbolize the self-reinforcing and closed nature of information consumption within such environments. It encourages a critical examination of the role algorithms and personal biases play in shaping our informational ecosystems and promotes the value of diversity and openness in our digital interactions.(As shown in Figure 3-19)

Filter-bubble poster design

The poster design zeroes in on the phenomenon of "filtering bubbles," utilizing the visual metaphor of encapsulating the human brain within a bubble to illustrate the manner in which search engines and social media algorithms curate information based on user preferences. This visual representation highlights the potential for an increasingly homogenized information landscape that users are exposed to, as these algorithms selectively filter content.

The bubbles enveloping the brain symbolize the encirclement of individual thought and cognition by algorithmically filtered information. This design element suggests that the user's perspective is confined within a sphere of curated knowledge, which may not represent the full spectrum of available information.

The poster contrasts the information contained within the bubble against that which lies outside, emphasizing the isolating effects of information cocooning and the creation of filtering bubbles. This juxtaposition serves to underscore the potential narrowness of perspective that can result from such a filtered information environment.

By employing the potent visual metaphor of the brain encased in bubbles, the poster prompts the audience to contemplate the mechanisms and impacts of algorithmic information filtering. It incites reflection on the dynamics that contribute to the formation of these filtering bubbles and stimulates dialogue on strategies to bridge the information divide.

The poster aims to inspire a deeper understanding of how our digital experiences are shaped by algorithms and encourages the exploration of ways to foster a more open and diverse information ecosystem. It advocates for critical engagement with the platforms that mediate our information intake and for the cultivation of media literacy skills that empower users to seek out and engage with a broader range of viewpoints.

In essence, the poster acts as a visual nudge towards a more mindful interaction with digital platforms, reminding viewers of the importance of questioning the algorithms that govern our access to information and the need for deliberate efforts to expand our informational horizons.(As shown in Figure 3-20)

3.2.4 Information Visualization Design

The objective of information visualization design is to demystify the abstract nature of algorithms by rendering them into graphical form, thereby heightening public consciousness and comprehension of the role algorithms play in sculpting our information reception habits and their potential to deepen social divisions. By translating intricate data into digestible visuals like charts and graphs, the audience is enabled to swiftly apprehend the essence of the information presented.

These designs serve as visual aids that complement the textual content, offering a more intuitive pathway for the audience to grasp the mechanics of algorithms, their societal implications, and possible mitigation strategies. Each piece of information visualization is crafted around one of four central themes, providing a focused exploration of different aspects of algorithmic influence.

The first design might focus on illustrating the process of how algorithms filter and recommend content, making visible the often invisible decision-making process that determines what information a user sees.

The second could address the concept of "filter bubbles," using visual metaphors to depict the creation of personalized information environments and the resultant isolation from diverse perspectives.

A third design might explore the "echo chamber effect," visually demonstrating how online platforms can reinforce existing beliefs and the implications this has for public discourse and consensus-building.

Lastly, a design could tackle the issue of "group polarization," showing how algorithms can inadvertently lead to more extreme group opinions and the societal fragmentation that can occur as a result.

Each design is intended to be more than an aesthetic piece; it is an educational tool that aims to foster a deeper engagement with the subject matter. By presenting complex information in a clear and accessible manner, these visualizations aim to empower viewers with knowledge and encourage a more informed and critical interaction with digital platforms.

In summary, the suite of information visualization designs is a cohesive collection that aims to shed light on the multifaceted impact of algorithms in our digital age. They are designed to provoke thought, stimulate discussion, and ultimately contribute to a more discerning and aware digital citizenry.

Information cocoon room:

The purpose of this design is to reveal the causes and harms of the information cocoon phenomenon, and to propose effective solutions to promote the balanced dissemination of information and the all-round development of individuals.

The concept of information cocoons is graphically illustrated, i.e., how individuals are guided by their own interests to form information silos. The reasons for the formation of information cocoons were analyzed, including filtering mechanism, recommendation factors, psychological motivations, time factors, etc. This paper points out the possible negative impact of information cocoons on individuals and society, such as information bias and thinking solidification. Propose a series of strategies to solve the information cocoon, including divergent thinking, expanding information sources, focusing on diverse areas, and brainstorming. Through the graphical design, the concept and impact of the information cocoon are more intuitive and easy to understand.

The purpose of this design is to raise the public's awareness of the phenomenon of information cocoons, guide users to take active measures, break down information silos, and promote the diversified dissemination of information and the all-round growth of individuals. (As shown in Figure 3-21)

Echo chamber effect:

This design aims to reveal the causes, characteristics, formation mechanism and its impact on society, and at the same time propose ways to avoid and solve this phenomenon, so as to promote the pluralistic dissemination of information and the comprehensive thinking of individuals.

Demonstrate how a business website provides similar information based on user search results, and how people filter when choosing a source of information. This paper analyzes the problems of social differentiation, social antagonism, knowledge reduction and polarization of views brought about by the echo chamber effect. Explore how business websites, social media, and user preferences work together to create an echo chamber effect. Through data and case studies, demonstrate the level of awareness and understanding of the echo chamber effect in society. Through specific cases, the echo chamber effect is shown in practice.

The purpose of this design is to raise the public's awareness of the phenomenon of information cocoons, guide users to take active measures to break down information silos, and promote the diversified dissemination of information and the all-round growth of individuals.(As shown in Figure 3-22)

Group polarization:

This design aims to reveal the meaning, manifestation, and mechanism of group polarization and its impact on network group decision-making, and to propose effective prevention and improvement strategies to promote rational decision-making and the construction of a healthy network environment.

Elaborate on the definition of group polarization, i.e., how group discussions can lead to the polarization of members' views. Demonstrate the different manifestations of group polarization in online groups, such as risky shifts and conservative shifts. Explores the rules and mechanisms in the group decision-making process and how they affect group polarization. Analyze the arguments and claims behind group polarization and how they affect the views of group members. This paper explores the role of information leadership mechanism and social restraint mechanism on words and deeds in group polarization. Strategies to prevent and ameliorate group polarization are proposed, such as encouraging critical evaluation and increasing the voice of members.

The purpose of this design is to improve the public's understanding of the phenomenon of group polarization, guide users to take active measures, avoid the extreme tendency in the process of group decision-making, and promote rational decision-making and the construction of a healthy network environment.(As shown in Figure 3-23)

Filter bubbles:

This design aims to show the public the concept, causes, distribution range and possible negative effects of filter bubbles through information visualization, and explore how to eliminate or reduce the impact of filter bubbles, so as to promote the diversity of information and the exchange of views.

This paper introduces the definition and origin of filter bubbles, as well as their ubiquity in modern society. Analyze the factors of bubble formation, including personalized recommendations of big data, user preferences, and isolation of information and concepts. Data visualization shows the distribution of filter bubbles in different populations. Illustrate with charts or diagrams how filter bubbles can hinder the communication of diverse perspectives and the formation of objective judgment. Strategies and methods to eliminate filter bubbles are proposed, including the optimization of technology, the balance of social structure, and rational negotiation and dialogue.(As shown in Figure 3-24)

3.2.5 Creative Derivative Design

The visual effects of the present design derivatives are displayed through physical and chemical means. Through artistic processing, artistic creation, and propaganda channels. The peripheral products are mainly packaging bags, mobile phone cases, small mirror, and key chain and other decorative products. IP image and posters and other related elements to assist, the production of many delicate and beautiful cultural and creative surrounding. Let the audience's thinking on the mechanism and influence of the algorithm filtering information slowly integrate into people's daily life through creative extension, to meet the efficient and practical needs of the public while promoting and spreading.(As shown in Figure 3-25)

3.2.6 Packaging Blind Box Design

The blind box packaging design is a product design that combines mystery and collection fun, often used for toy figures, small art pieces, or other collectibles. Use colors consistent with the project theme to maintain brand consistency. Algorithmic and network-related graphical elements such as data points, connecting lines, and network structure maps were used as visual background for blind boxes.(As shown in Figure 3-26)

Summary of Chapter III

1.Design Plan: Collect and analyze relevant information pushed by big data algorithms, including socio-cultural context and target audience behavior. Based on the results of the analysis, the overall design style is determined. The design content includes poster design, logo and font design, IP image design, etc. Complete all design work and prepare presentation materials.

2. Design Process:

Font Design:Goal: To create a visual language that intuitively communicates the characteristics of the algorithmic recommendation system. Design concept: The font is transformed into a basic graphic unit through pixelation technology, reflecting the information simplification process. Final Design: Adjust the clutter of colors in the first draft, blur the background of the letters, and create a more harmonious visual effect.

IP Image Design:

Design a cute IP image, echo the overall design color, and attract the attention of users. After determining the IP image, design the corresponding clothing style and emoji to make the work more complete

Poster extension:

Use IP images to deepen the public's understanding of the impact of Internet algorithms and create dreamy and lovely visual effects.

Poster layout:

Showcase the images and personality traits of the four IP characters, as well as related spin-offs, to enhance understanding of the characters and research topics.

3. Poster Design:

Six unique sets of posters were designed around the core concepts of information cocoon, echo chamber effect, filter bubble, network balkanization, crowd polarization, and algorithm pushing. The acid art style is used to create a visual atmosphere full of science and technology, vividly showing the phenomenon of information dissemination in different digital eras.

4. Information Visualization Design:

Objective: To translate the abstract nature of algorithms into graphical form and to raise public awareness of the impact of algorithms. The design includes four topics, which explore the process of algorithms filtering recommended content, filtering bubbles, echo chamber effect, and group polarization. It is intended to be used as an educational tool to promote in-depth understanding and knowledge of the subject.

5. Creative Derivative Design:

Through artistic processing and creation, the visual effects of derivative products such as packaging bags, mobile phone cases, small mirrors and key chains are displayed. Combine IP images and poster elements to create exquisite cultural and creative peripherals, and enhance the public's understanding of the mechanism and impact of algorithmic information screening.

6. Packaging Blind Box Design:

Product packaging design that combines mystery and collecting fun for toy figures, small works of art, etc. Use colors that align with the project's theme to maintain brand consistency. Algorithms and network elements such as data points and connection lines are used as the visual background of the blind box.

The above summary organizes the content of the article into sections, and clearly shows the key points of design plan, design process, poster design, information visualization design, creative derivative design and blind box packaging design.

CONCLUSIONS

Algorithm recommendation system, through personalized information push, may cause users to fall into the information cocoon, limiting the access to multiple information, and thus affecting the individual cognitive structure and decision judgment of individuals. Algorithms in social networks may catalyze the deepening of bias and conflict between groups, and aggravate the social differentiation and polarization. The phenomenon of filtering bubbles filters the information through the algorithm to build a closed environment consistent with the existing views of users, which weakens the diversity and authenticity of information acquisition. Algorithmic push services change the way we obtain and process information, and have a profound impact on one's lifestyle, consumption behavior and even social concepts. The phenomenon of Internet Balkanization causes the separation and isolation of views, information and communities in cyberspace, posing a challenges to social cohesion.

Through the creative poster design and creative font design, the study enhances the public's understanding and understanding of these problems. The designed IP character image strengthens the transmission power and memory point of the concept through the lovely and exquisite image, so that the abstract theory can be vividly presented. Through the design of the surrounding cultural and creative products, the exquisite illustration elements are closely combined with the theoretical concepts, and a series of cultural and creative products with rich connotation and strong practicality are created, which enhances the public's understanding of the influence of the algorithm.

Future studies could further explore the impact of algorithmic recommendation systems on different cultural and social groups, and how to design more impartial and transparent algorithms. More interdisciplinary collaboration is needed, combining knowledge and methods in the fields of design, communication, sociology and psychology, to jointly solve the complex social problems caused by algorithms.

Encourage the public to improve their information literacy, cultivate critical thinking, be cautious about the information pushed by algorithms, and actively seek diversified sources of information. Designers and technology developers should pay more attention to the social impact of algorithms, and design more humanized algorithm push mechanisms that consider the diverse needs of users. Policy makers should consider the formulation of relevant policies and regulations, and regulate and guide the rational application of algorithms to reduce the negative impact on society.

Through this study, it is expected to promote a healthier, balanced and diversified network environment, reduce the possible negative social effects of the algorithm, and improve the information literacy and participation of the public.

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In closing, I convey my profound respect and appreciation to our country and party for the steadfast support and opportunities provided to the people and to me. I will forever cherish this benevolence and extend my wishes for our nation's continued prosperity and eternal youthfulness.

REFERENCE

1. 1.Lu Zehua. Don't let "algorithm" become "calculation"[N].People's Daily Overseas Edition,2024-02-05(008). https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1Kf3vXalre64614NGKSS-5hGi-J0Z58B74ClS6tsixVey0hNPYMDO0cb6sIPuM7lg0VgEyY-XPhba2nSF_h64nHkvrAbcV2uRHWOanja8t-mECZXDajJmKsySufPnwriPE=&uniplatform=NZKPT&flag=copy
2. Jiang Tingting, Lv Yan, Fu Shiting. Dealing with Filter Bubbles: The Influence of Algorithm Curation on the Selectivity and Attitude Extremes of Users' Information Consumption Behavior[J/OL].Modern Intelligence,1-17[2024-05-10]. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1LrI8cL4u3v-tfqg27XfoJ6laYj7CD0YW3LEEY14FkbtbDbO2kgNQ1MEu-h7Oc-XuaupczzTXr27rZt2Luz5Y8ng2JHwGITiP1stQGepEcsdDg7M7dkaoBNIMMQDZQZ2pA=&uniplatform=NZKPT&flag=copy
3. Jiang Tingting, Lv Yan, Fu Shiting. Dealing with Filter Bubbles: The Influence of Algorithm Curation on the Selectivity and Attitude Extremes of Users' Information Consumption Behavior[J/OL].Modern Intelligence,1-17[2024-05-10] https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1KqywjpxrOajjfptuttCwtMCObT2ufFV1dFOGbP4vHDva9suRoMFQRq3G5AGjp9ZEYWdSWlZbsrxXOtELZrtZ_gZqmtB2Vn23bUvHC5w7Ny4bMS9nnWj1vStsD_EZUMoQ4=&uniplatform=NZKPT&flag=copy
4. Wang Yan, Gao Xiaohu, Sun Kezheng. An empirical analysis of personalized news recommendation based on browsing records[J]. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1La-_czq09achajq0coX04Jk276ow7hI2J52H1vspATd-aRjVw3hdwsxqmJaU4VuTetLwmMMDe8UFOcZZpXFDmXaeHm8HW3cG5Tdc530lpU0bHgNv7yob3aSgB8K0YWIhQ=&uniplatform=NZKPT&fla

g=copyAlgorithmic

5. Niu Niu. The impact of the phenomenon of Internet "filtering bubbles" on the news media [J]. Construction of News Culture, 2023, (18): 175-177. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1KoQLT4p19cQY10dcNkDdPOx_wgnsbBOMLOtrGF2QpIAVFiNXbJU6C883byyVd5dHrm8brzbA2s3PbG2jlChaPXfkLbakFXevuSRqCkc-2soKvclPWns9QTIAb8zM7SF2s=&uniplatform=NZKPT&flag=copy
6. Yu Huan. The endogenous logic and adjustment strategy of "Internet Balkanization" on the influence of youth values [J]. Theoretical Guide, 2023, (04): 102-107. https://kns.cnki.net/kcms2/author/detail?v=m2RMPZxbF1ICGIv_IsMbSvpjvRGi8MhfDTGT3lJj4yjrQ-VCT4lUxuRUmML1HunU3jeO2zKm_uosC_z38xQCbi6ZH6ma9AlUUNb4JhVnzp0=&uniplatform=NZKPT&flag=copy
7. Miao Bo. Consensus and divergence: Media diversity, echo chamber effect and issue identification in the Internet era [J]. Technology Communication, 2023,15(15):74-78.DOI:10.16607/j.cnki.1674-6708.2023.15.012. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1IzmQ6c3RyTbJS0ojvq1MaqLoBG8OxwkwGbD9Kw_tIcL44A4Gu2XROU4s-V0I027M_t5TFW46amF2ZF1dBkHSK8h_BHNXPbQJyGZqbJ6_EYNN5oNKpYy1VwdzrQIweeLk0=&uniplatform=NZKPT&flag=copy
8. Zhuo Li. Research on international law governance and China Scheme [D]. Beijing Foreign Studies University, 2024. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1Ir4QGYjz8GoTZmdr-SBdJVcawxZxe4_m_Sfu4dQhtUF9X1iRgnabAVqliNscyr9eNvLQxovxKD_jdVeOy3X4768N0sijtoM3QnB2okEEeb2x4DhjtulhzLUpOYnozeIVE=&uniplatform=NZKPT&flag=copy
9. Zhang Xue, Bida Tian, Chen Gongkun, et al. Study of recommendation algorithms integrating cross-platform user preferences with heterogeneous

information networks [J / OL]. Modern intelligence: 1-19 [2024-05-10] https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1LBOj2egIBXjsPG8z7fZHAK2DLWKY0v7GrZ1ap3uC_kIWjE9OTSe3H_21RfCbn4aLX9Q5OuMeoT8_78jZlWpXVwcTyJ-Ojp2v6vnmdv8QWYos0-wF6ytpbAi3hbRVdyL_k=&uniplatform=NZKPT&flag=copy

10. Zhang Xiruo, Liao Yuan, Peng Jiaqin, et al. A weighted directed network evaluation algorithm based on the propagation model [J / OL]. Complex Systems and Complexity Science: 1-7 [2024-05-10]. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1LnPRn3XAfAaQPdd5rd8Zfivw0Ms3uwBc7QGz32KbXHXrCx9GCCCei60oH_MECqr08jSDWiAhfExChV3DLPp9ExIofXsubpYl908tA2K2P4JUDl3UW8ZSj4vwHUYR-wXdY=&uniplatform=NZKPT&flag=copy
11. Shao Yuhang, Zhao Jiarui. Research on the reconstruction of algorithmic push technology [J]. Today Media, 2024,32 (04): 25-28. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1LCu8EbYbxjv5fa73niKvW9tbBLYBThtH8Xvi1E5_fCEHb_6sJloIwQfVxZ0aj_AjwmaNd7suagWA57U9Vjcjl-Of8J8l4KjHHwUxDCg35W045CWyRMTGFZ&uniplatform=NZKPT&flag=copy
12. Liang Weiliang, Yang Dong. Ethical reflection and governance dimension of "algorithmic captivity" in meta-cosmic information dissemination [J]. XueHai, 2024 (02): 162-175 + 216. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1IDVVg4qK74vOxzLy0FxNmQgu22pPOf7bJGmeBuC2s28PAJJG4NGnGKGqgOEjp3hJSitPimPk87aU8fsY71I6OuxGwe73N9YoXIatcrmCuMRqTHVa7eoquM&uniplatform=NZKPT&flag=copy
13. Su Muqing, Yuan Hang. Ad push and personal information protection under the algorithm [J]. Procuratorial situation, 2024 (06): 14-15. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1IKglFzAJLuM0lOgD1tigB5TtxK0vlS7A-

RPt5Chs8W1sVRPtMLC0d2PqHmYZaIjUn60Gja3wjF483yMYghJYr-ucawR_-GywzjH3GeEyaOSqz7NaCKCaJq6rObp35lJSs=&uniplatform=NZKPT&flag=copy

14. Dai Yanli, Xiao Yang. Study on the influence of recommendation algorithm on the thought and behavior of young college students [J]. Journal of Shaoyang University (Social Science Edition), 2024,23 (01): 93-99. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1JwwKuFFD-wP8K8iOBli8daQR-gDGh0PB_8Itw7UvAp4r40yZHgsTV10pELtpK-J3YKcNJdHNhX80-ch_uAQud7VjGH4tVsP73KJvbVe9Y3KSaKMiXT3gE0S7zRVQmZ8Bc=&uniplatform=NZKPT&flag=copy
15. Jiang kiss, Li Yan. The dilemma and countermeasures of the mainstream thought dissemination of college students under the perspective of "information cocoon room" [J]. Internet Weekly, 2024 (08): 81-83. DrS77VqV3AsZRDbjuJipCCp6fXWAzVbYXi-7sxwAQEMxBhHd2mkDYc-zHqV0HMH5V2PvnPIJZ_ozzxcY_BJHpeabGhNcjhqrv&uniplatform=NZKPT&flag=copy
16. Liao Yi is known. Study on the influence of "information cocoon room" on higher vocational students [J]. Liaoning Silk, 2024 (02): 123-124. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1KxnzD8xKssc7037q0Htx7kcysiPKiJJJnkiKReBJXoFdxTAqOolNsYg2MmFt1DQDopg9zrJ_zCXFTElpF76pDkxP4uexywLH02LpPBpG80n0yZnkEyQfVi&uniplatform=NZKPT&flag=copy
17. Jiang Zhongbo, Xue Danyang. Analysis of the "echo chamber" and "filter bubble" in the era of social media [J]. News & Communication Review, 2024,77(03):101-114.DOI:10.14086/j.cnki.xwycbpl. 2024.03.008. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1Kst_bzMT82gMrmm0QMn4RPMMvNxpIqhcH0lxs5fklxKdbVqFH7JjoyY9615PaqfqjDL

Wl9vV-VBoK_qBRVUzsX-8YauoywTt_v1zObFqrkK81Bx0hR6JUL&uniplatform=NZKPT&flag=copy

18. Yang Fangfang, Song Xueyan, Zhang Weimin. Research hot spot and evolution trend of domestic information cocoon room: both static and dynamic dual perspective [J / OL]. Intelligence Science: 1-13 [2024-05-10]. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1IKVQY458PoCFMAEy0fxGrdKAsoNztSvSNg5SDTW6ING_t6Tg7BvTA-VYX-rI9J8bRc-iC2VFX25HEYfX9zx_lUfO5IU7cLfpr1T3-xpJDHuEvBp9v41gBnLH69sPmFqgY=&uniplatform=NZKPT&flag=copy
19. Fan Lei Lei Lei. Algorithmic checking study of personalized news recommendation [J]. News Research Guide, 2024,15 (05): 5-7. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1LSvnPnRA33lP5lxNC4KWWgm4sk5zoQsUbzdDbaagIKQbCGUYuZtV_x2akkryunl0wI0YzlZypAph1n1apdRfN4R1rD2e91pC2XVAAaFGVtukD_4VFDcHKceBwGtP0J40g=&uniplatform=NZKPT&flag=copy
20. [1] Zhou Qinyue, Wu Zhibin, Xu Jiuping. The public opinion evolution of echo chambers is considered in the small-world scale-free network [J]. Journal of Systems Engineering, 2023,38(06):753-764.DOI:10.13383/j.cnki.jse. 2023.06.002. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1LSaC20CYmaHH_80TStcXVjXfBeCzIvOpZG0o_RzsKePSbjuA-WSGkA9fy25RiedGsg-muFcccrbM_Xki3lKu1kzXNd8pT-vBiyj1z4ZKy2geP2spuypIC0vR5n0ia8v2M=&uniplatform=NZKPT&flag=copy
21. Jia Ruonan, Wang Xiwei, Wang Nan a Xue. Research on group polarization risk assessment of emergency online public opinion [J]. Library and Information Work, 2024,68 (06): 83-92. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1Jn_sHrAfYqvrGf8h4H7DF1LHi5i12i9ssX4YJgYZBMJ4zbrfDmLObPbJD1j2Eer_I677rtwqb-

igTzkb8dyB1x6Fhh0MKyE6tQNsDlcK9UdAP5y_mDO4MuJWprztDf8yM=&uniplatform=NZKPT&flag=copy

22. Yuan Chang, Sun Yonghui, Wang Sen, et al. The PDHFSs-TODIM multi-attribute group decision algorithm [J / OL]. Journal of Zhejiang University (Science edition): 1-11 [2024-05-10]. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1JPMEdmAeugzjItUC-ajUBd27QCdNb4q_Uk4YQ_3fpWjTeJvFXHCrnpflFJ6L1vSohBdDewiJWolV-1B7fK3K1mh4_y1GwcihmpqV1P5jy3WW0FBIkgi1x_nujdkDhgsH8=&uniplatform=NZKPT&flag=copy
23. Chen Zijun, Ma Delong, Wang Yishu, et al. GPPR: a personalized PageRank algorithm [J / OL] in a cross-domain environment. Journal of Software: 1-17 [2024-05-10]. https://doi.org/10.13328/j.cnki.jos.007072. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1K3S1bVBzs_fhkeRHLqY-JdPPwURGeVP75FT0tQY27TgKK9F3RstH-7abX6-TEF4_HB12kPzmG__-11Y8J_26z72mq5lxKbH4hbpwm7_CpuYyhiB2WyGbrtG-eH7dyf6XE=&uniplatform=NZKPT&flag=copy
24. Liu Jianming, Zhang Yan. Digital division and neighborhood differentiation: the "Balkanization" of the community information space and its governance [J]. Dongyue Theory Cong, 2023,44(09):67-77+191. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1JUyCJt2CEGWl-3De5lUAiRpGCVyI1UER8i7M9RAnhskvJlT4yB3MC-x4PWE8tmxZvh6iZ1oYZt3WAHUFbnUYojXuw5O0q15hisM7i6IFWfn20zq5HD53FnjnjxcSsvfYw=&uniplatform=NZKPT&flag=copy
25. Ma Xinyue, Song Linlin. Analysis of the Balkan phenomenon of online fans' collective action [J]. International PR, 2021(11):124-126.DOI:10.16645/j.cnki.cn11-5281/c. 2021.11. 044. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1KlE7f2xby7mcY5ryyZTSclidq-APGJI8nZj716FbJAy40OlvKV7YNq0RFnLJswx0qIxys6gh5xwydqD9wr5E

FfKNbPSzJuLHtgBx8321qBjn0GPw9TCpApBWJ0ec3DgcY=&uniplatform=NZKPT&flag=copy

26. upright and foursquare. Can the mainstream ideology create a "filter bubble"?—— Based on the perspective of media environment theory [J]. Theoretical Monthly, 2024(02):142-153.DOI:10.14180/j.cnki.1004-0544.2024.02.017. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1K4siLYnRExkoB4Th0SU4-EKudm5bd3W2WaJwSq05F1eHOHUc0dYLsiuk0lzu1dWA4T3qcgad2Li0qK0mK3IXQpnrsYDE6WDctDbUbyjtVlPWnLe7Tx2gYWGN_VBzfbbsQ=&uniplatform=NZKPT&flag=copy
27. Niu Niu Niu. The impact of the phenomenon of Internet "filtering bubbles" on the news media [J]. Construction of News Culture, 2023 (18): 175-177. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1Kr9VIMkVEfCu0OOViAO1XhOaojwrQe6-IAwWc0JXLEJXN3rnhC80WHHImKLtqC8RkZlpeG18oa1i1OkvW6J5Ayh7hkP-Y02EH78l1WzKULNXDGhYQ9cdC6HyLWW5iznfE=&uniplatform=NZKPT&flag=copy
28. Dong Fangxu, Kang Xupei, Zhao Lequn. The formation, influence and avoidance of "filter bubbles" under the algorithm recommendation mechanism [J]. News lovers, 2020(11):44-49.DOI:10.16017/j.cnki.xwahz. 2020.11.011. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1Lw9wRX6sXJqg1MU-4zhxUM3PGWKIroGONPvrSEX3rVdefoMVAb1G2wC3nrXvFSIszesjFFtoSsmWG744CM-CZBduoHHrRY8FuDaoy2ZxnddtMnlMMcu-DDqveWpk-v2h4=&uniplatform=NZKPT&flag=copy
29. Su Junbin. "Filter bubble" and Zou Ji in the era of algorithm —— A non-deterministic view of "filter bubble" [J]. Young Reporter, 2020(18):20-

22.DOI:10.15997/j.cnki.qnjz. 2020.18.007. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1KwpudSjneKmPFxR95DoZTt_a9dbfD7HwJeKwRWNBXECFTMHkg7_yTG9skRnCPV3raUqlIp5Zkst9BZIqoDRjy4n8b327UoQ-GyqiEfdOl9qhw5oDUyylULCpYOF4KOBAQ=&uniplatform=NZKPT&flag=copy

30. Party west people, Li Nuozhang. Technical bias and collaborative governance of Algorithmic News [J]. Special Economic Zone Economy, 2023 (12): 38-42. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1JWH84_n4X1MMOxDDfhy-xdKRMH8y3fOJmMbB0AONVAcDWNbErfey-KYUF9_02fMU0j6OhOa0zf-a3igu0b-E6kj5d2Q9q5sVwlDqnwCG7pxNFiVVEJjPbectybwLE9EPA=&uniplatform=NZKPT&flag=copy
31. Huang Hongzhen, Li Pengfei. "Black box" and governance path analysis of Internet advertising in the era of intelligent media [J]. Journal of Changsha University, 2024,38 (01): 25-30. https://kns.cnki.net/kcms2/article/abstract?v=m2RMPZxbF1Kg8X1036dQj2zzPD8_AY5JUI0jG8kWEPkKKj43TSNXWsmzyIxShwUDvKjCHPVXGTpCfPTf_PKZ7kRNzj8Mcllb7RNsn_U3wzFAyvkUz1DrUlW9d-Wxm17r&uniplatform=NZKPT&flag=copy

ANNEX

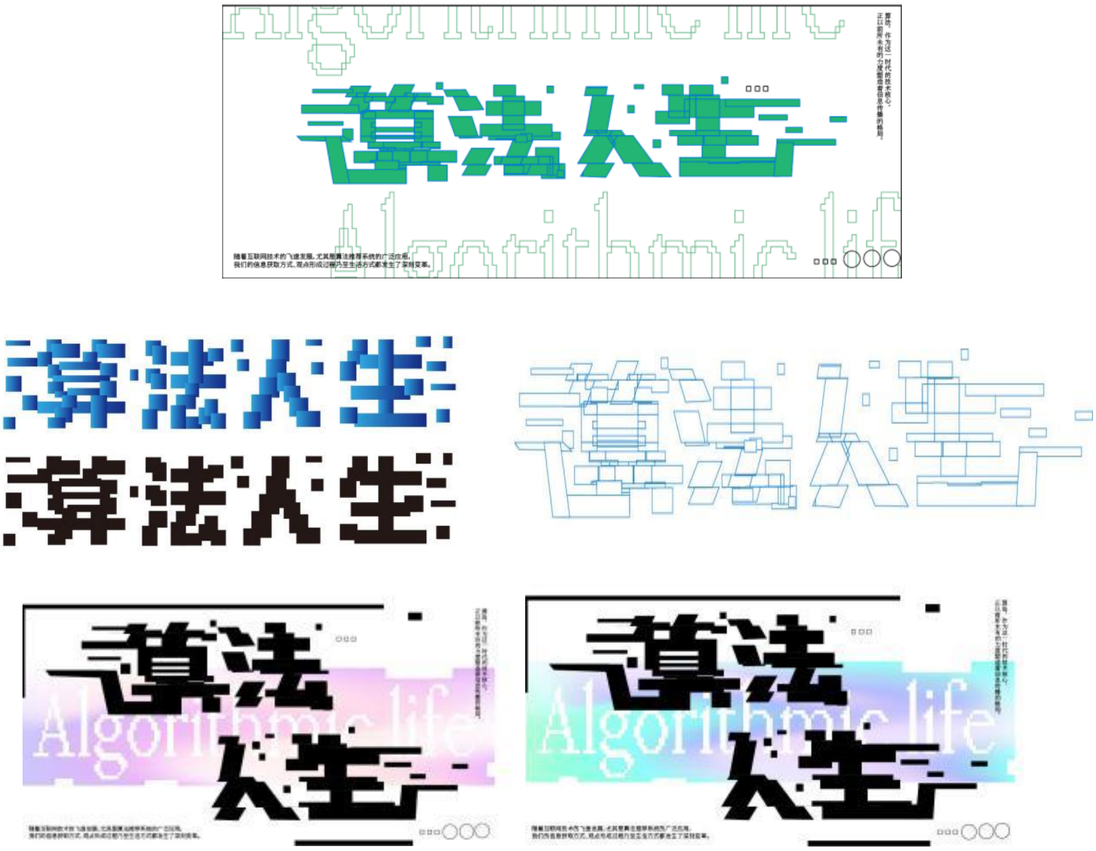

算法人生
Algorithmic life
算法，作为这一时代的技术核心，正以前所未有的力度塑造着信息传播的格局。
随着互联网技术的飞速发展，尤其是算法推荐系统的广泛应用，
我们的信息获取方式、观点形成过程乃至生活方式都发生了深刻变革。

Figure3-1

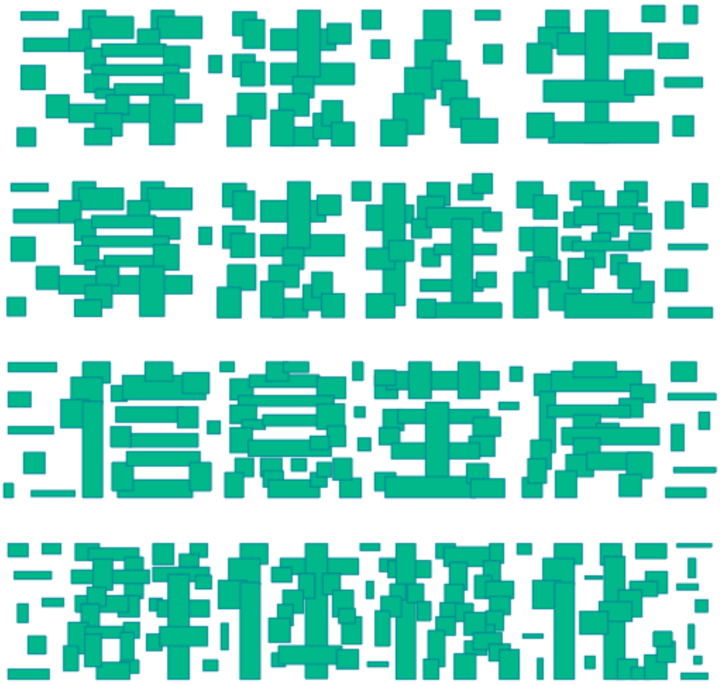

算法人生
算法推荐
信息茧房
群体极化

Figure3-2

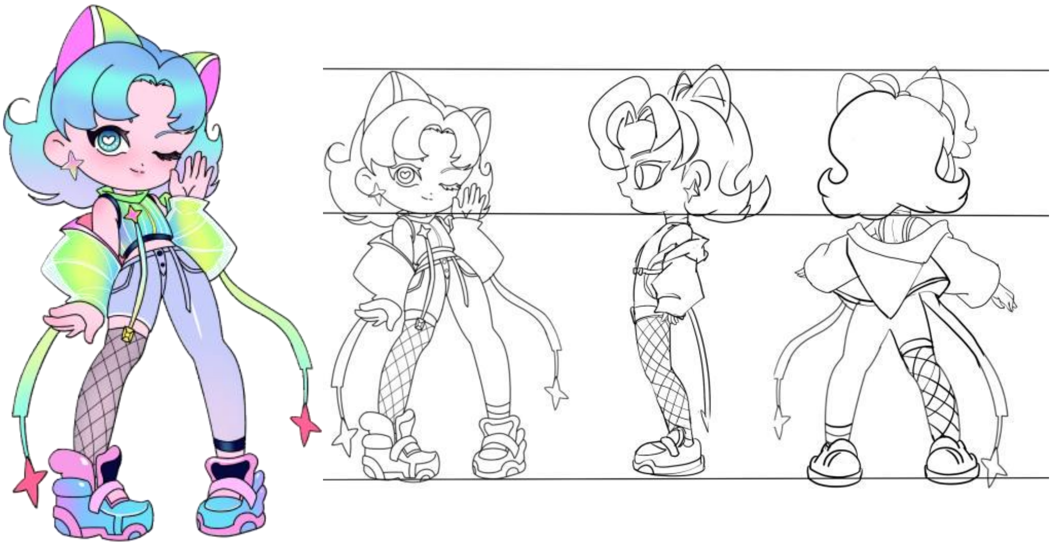


Figure3-3

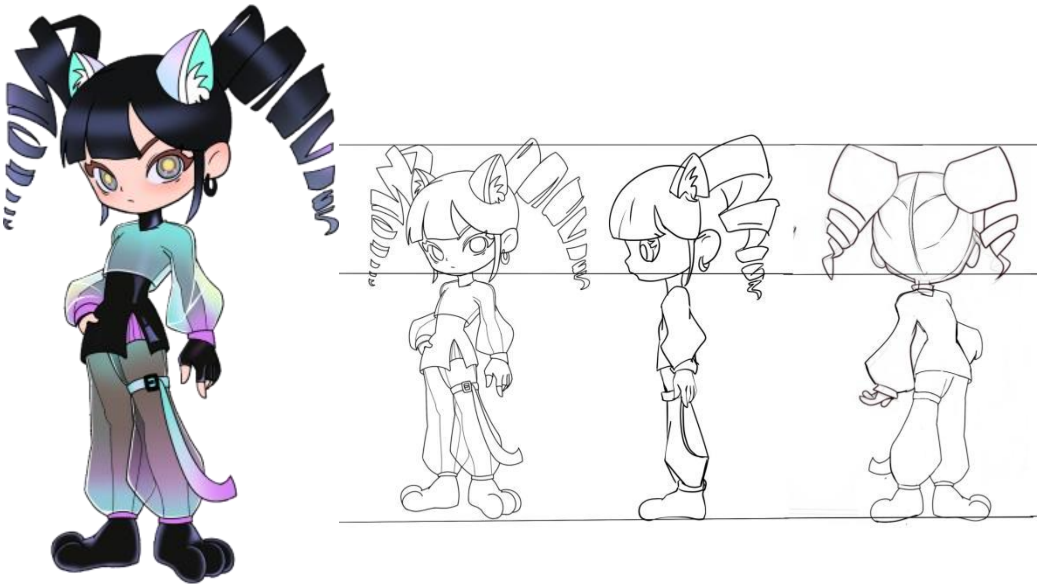


Figure3-4

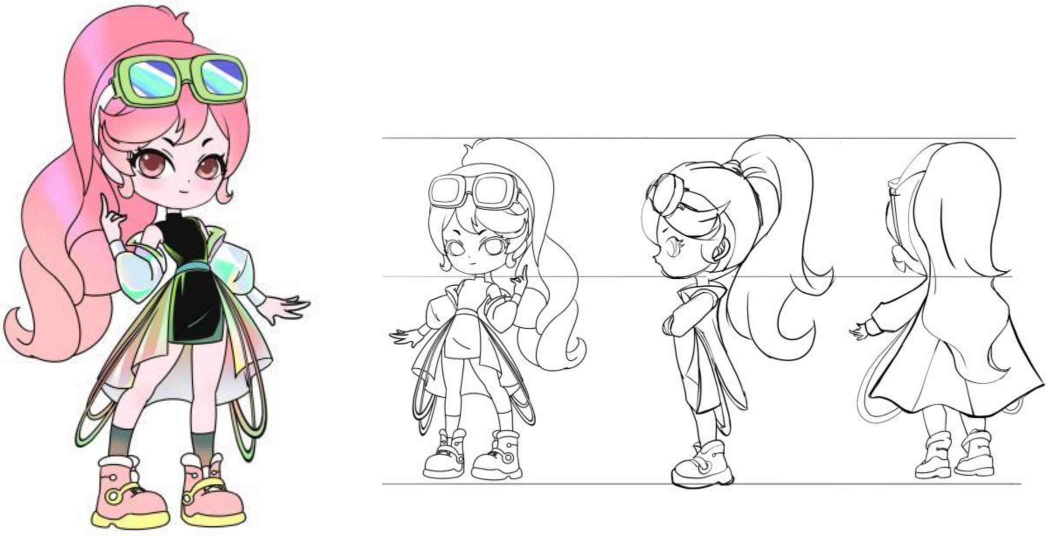


Figure3-5

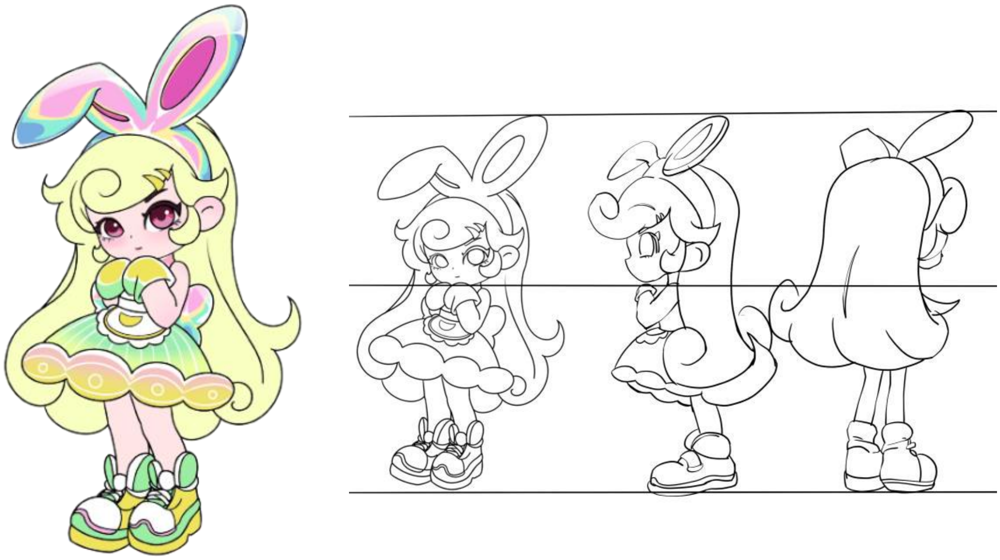


Figure3-6

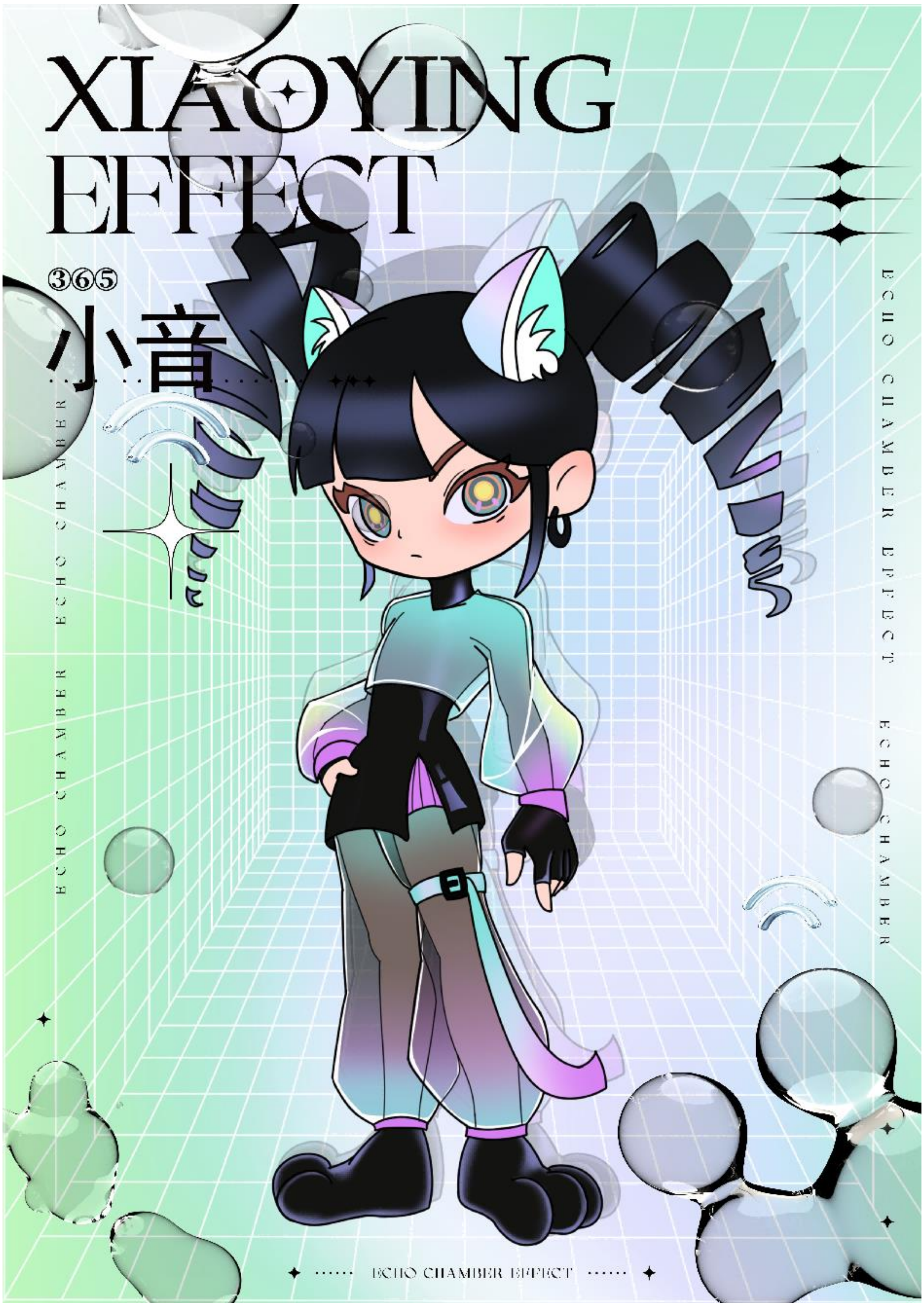

XIAOYING
EFFECT
③⑥⑤
小音
ECHO CHAMBER ECHO CHAMBER ECHO CHAMBER
ECHO CHAMBER EFFECT ECHO CHAMBER
ECHO CHAMBER EFFECT

Figure3-7

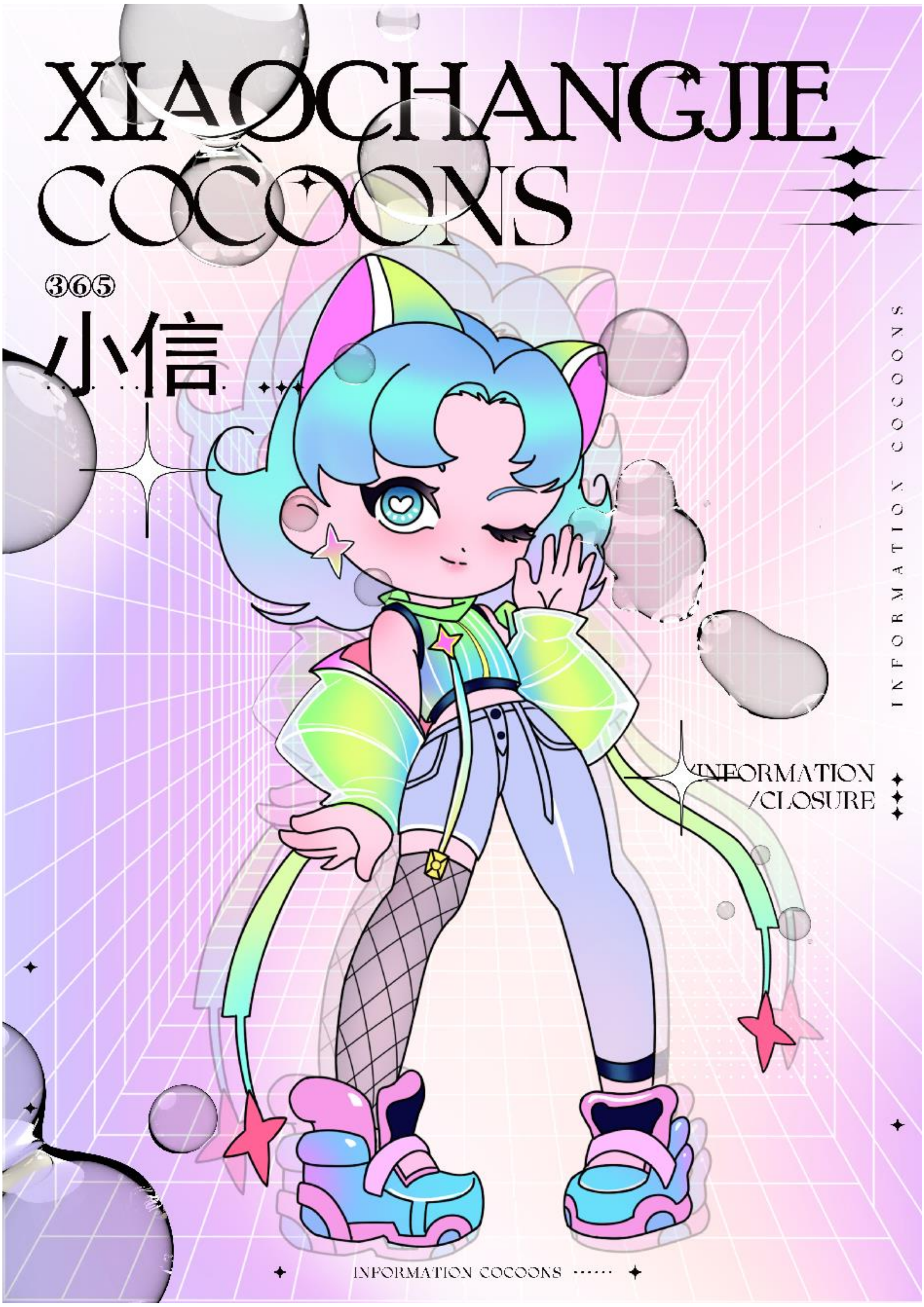

XIAOCHANGJIE
COCOONS
③⑥⑤
小信
INFORMATION COCOONS
INFORMATION
/CLOSURE
INFORMATION COCOONS ······

Figure3-8

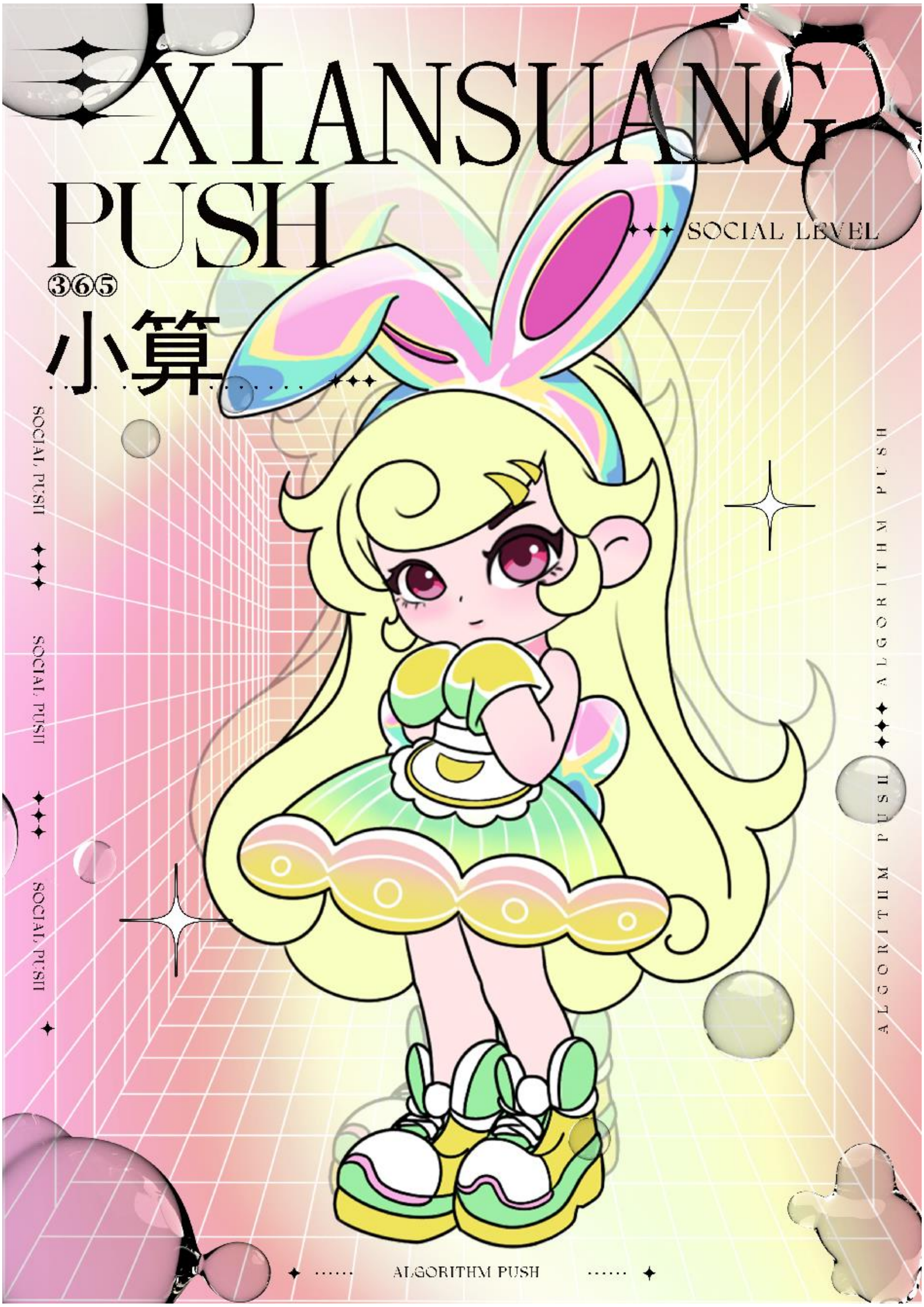

XIANSUANG
PUSH
SOCIAL LEVEL
③⑥⑤
小算
SOCIAL PUSH
SOCIAL PUSH
SOCIAL PUSH
ALGORITHM PUSH
ALGORITHM PUSH
ALGORITHM PUSH

Figure3-9

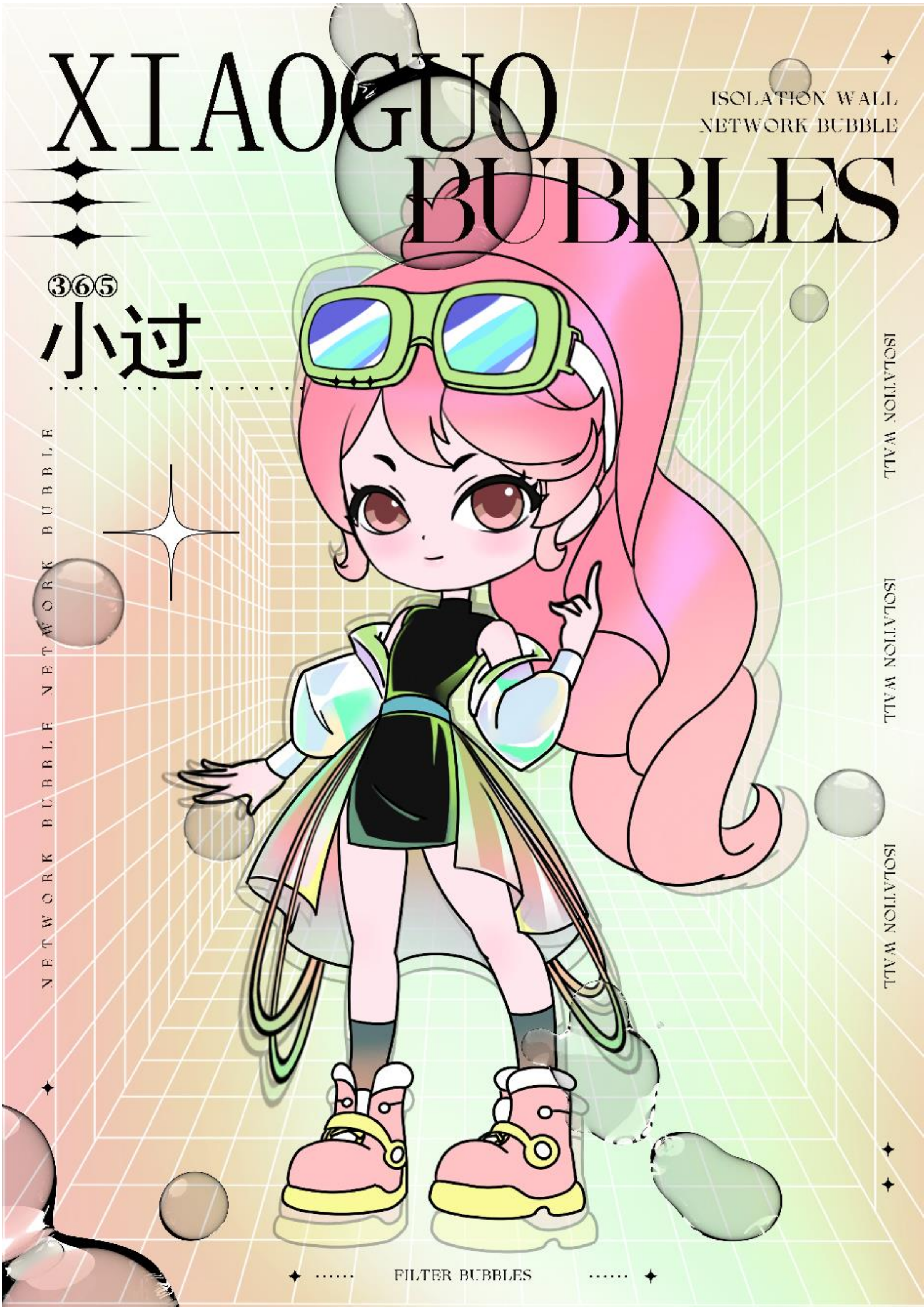

XIAOGUO
BUBBLES
ISOLATION WALL
NETWORK BUBBLE
③⑥⑤
小过
NETWORK BUBBLE NETWORK BUBBLE
ISOLATION WALL
ISOLATION WALL
ISOLATION WALL
FILTER BUBBLES

Figure3-10

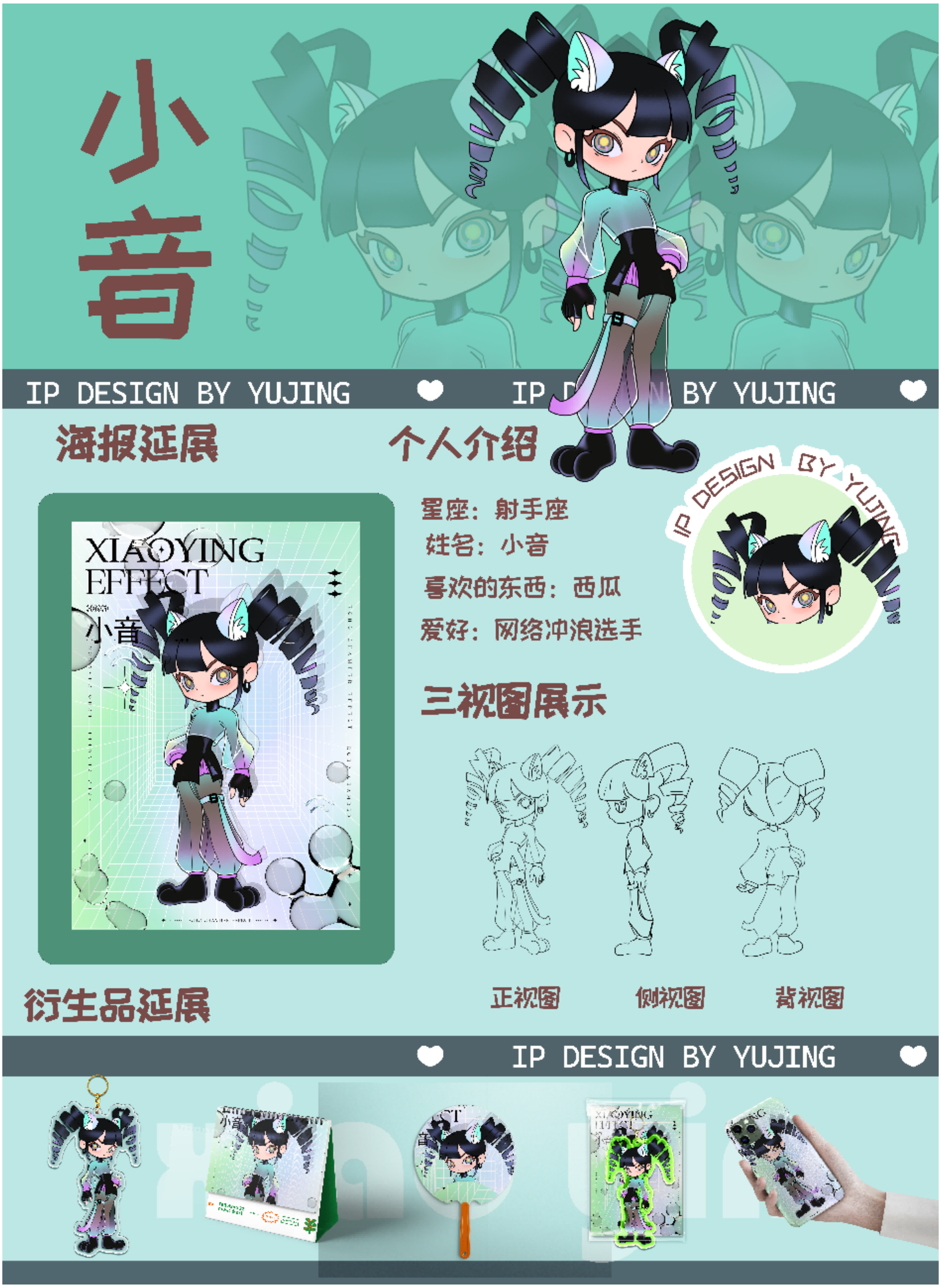

小音
IP DESIGN BY YUJING
IP DESIGN BY YUJING
海报延展
个人介绍
XIAOYING EFFECT
小音
星座：射手座
姓名：小音
喜欢的东西：西瓜
爱好：网络冲浪选手
IP DESIGN BY YUJING
三视图展示
正视图
侧视图
背视图
衍生品延展
IP DESIGN BY YUJING

Figure3-11

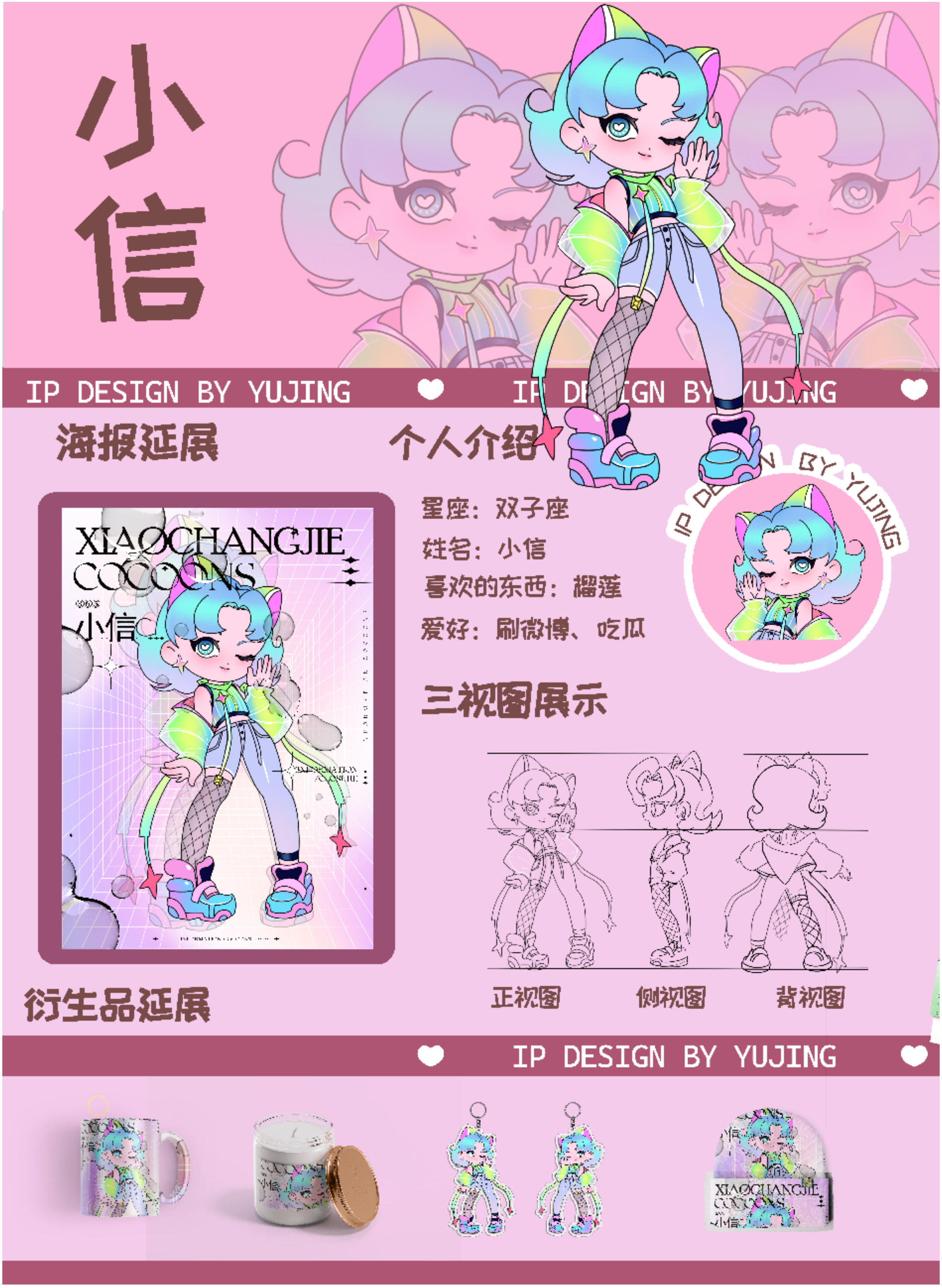

小信
IP DESIGN BY YUJING
海报延展
个人介绍
XIAOCHANGJIE
COCOONS
小信
星座：双子座
姓名：小信
喜欢的东西：榴莲
爱好：刷微博、吃瓜
IP DESIGN BY YUJING
三视图展示
正视图
侧视图
背视图
衍生品延展
IP DESIGN BY YUJING

Figure3-12

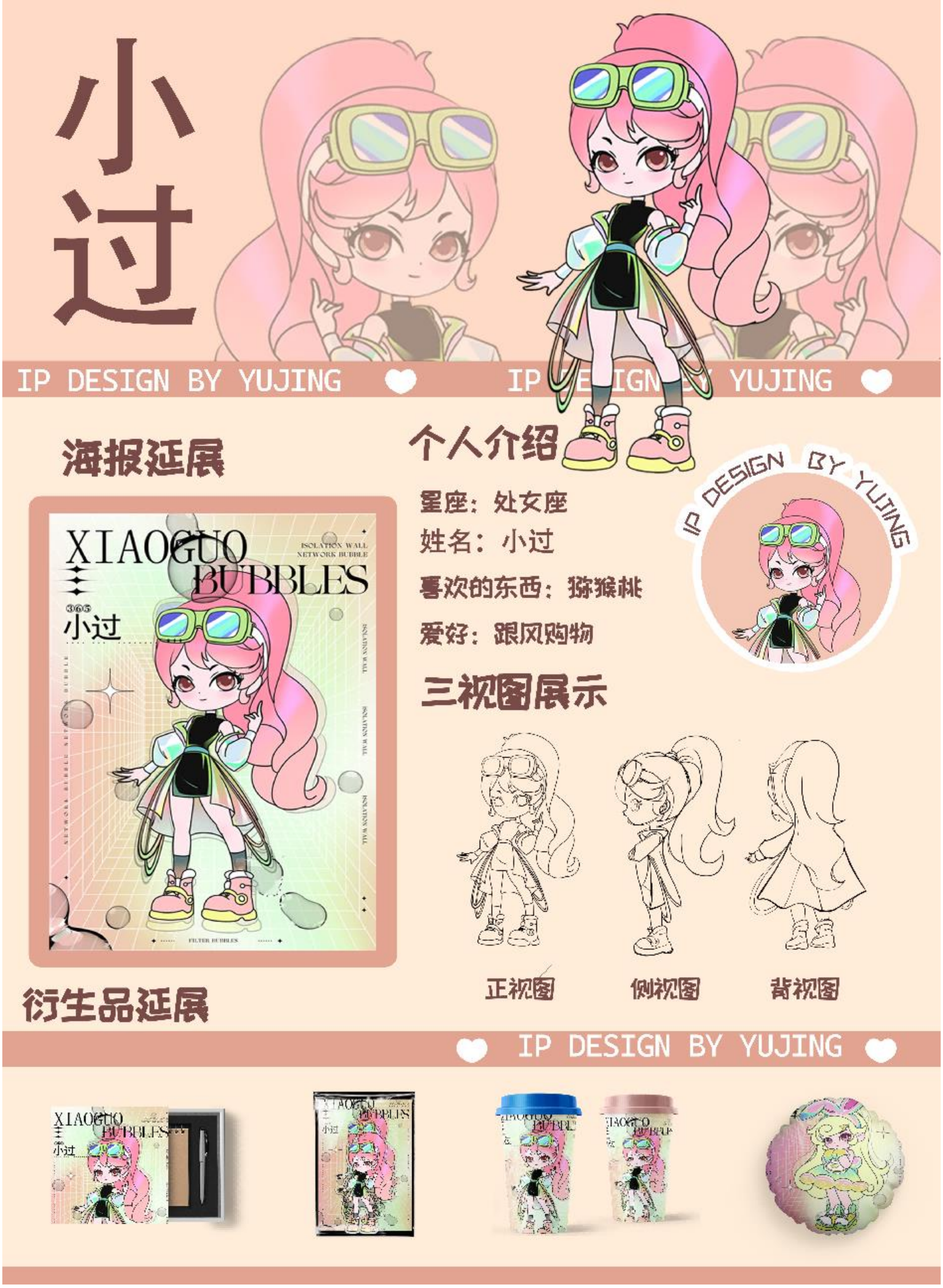
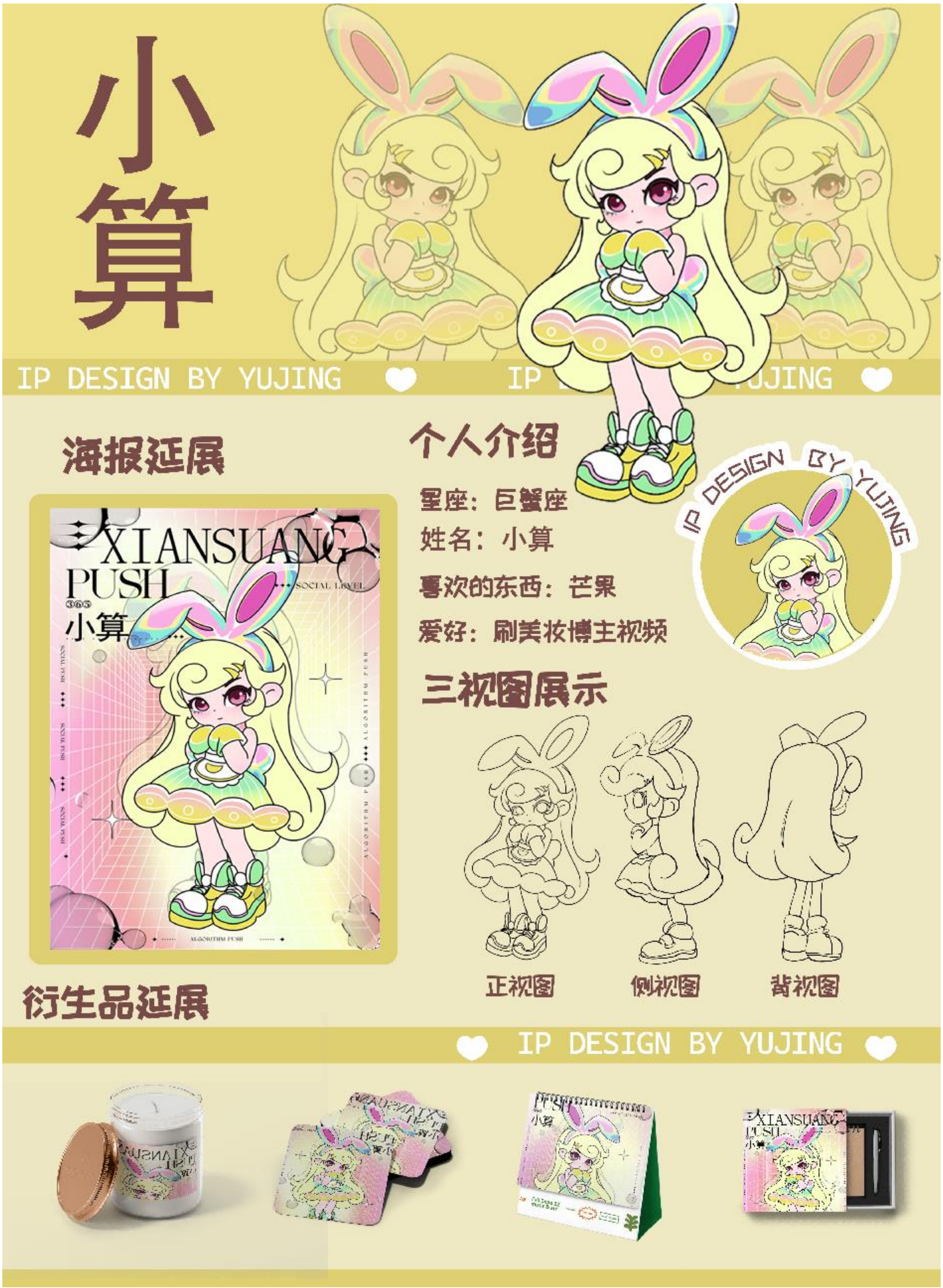

小过
IP DESIGN BY YUJING
IP DESIGN BY YUJING
海报延展
个人介绍
星座：处女座
姓名：小过
喜欢的东西：猕猴桃
爱好：跟风购物
IP DESIGN BY YUJING
XIAOGUO BUBBLES
365
小过
ISOLATION WALL NETWORK BUBBLE
三视图展示
正视图
侧视图
背视图
衍生品延展
IP DESIGN BY YUJING

Figure3-13


小算
IP DESIGN BY YUJING
海报延展
XIANSUANG
PUSH
SOCIAL LEVEL
小算
ALGORITHM PUSH
个人介绍
IP DESIGN BY YUJING
三视图展示
正视图
侧视图
背视图
衍生品延展
IP DESIGN BY YUJING

星座：巨蟹座
姓名：小算
喜欢的东西：芒果
爱好：刷美妆博主视频

Figure3-14

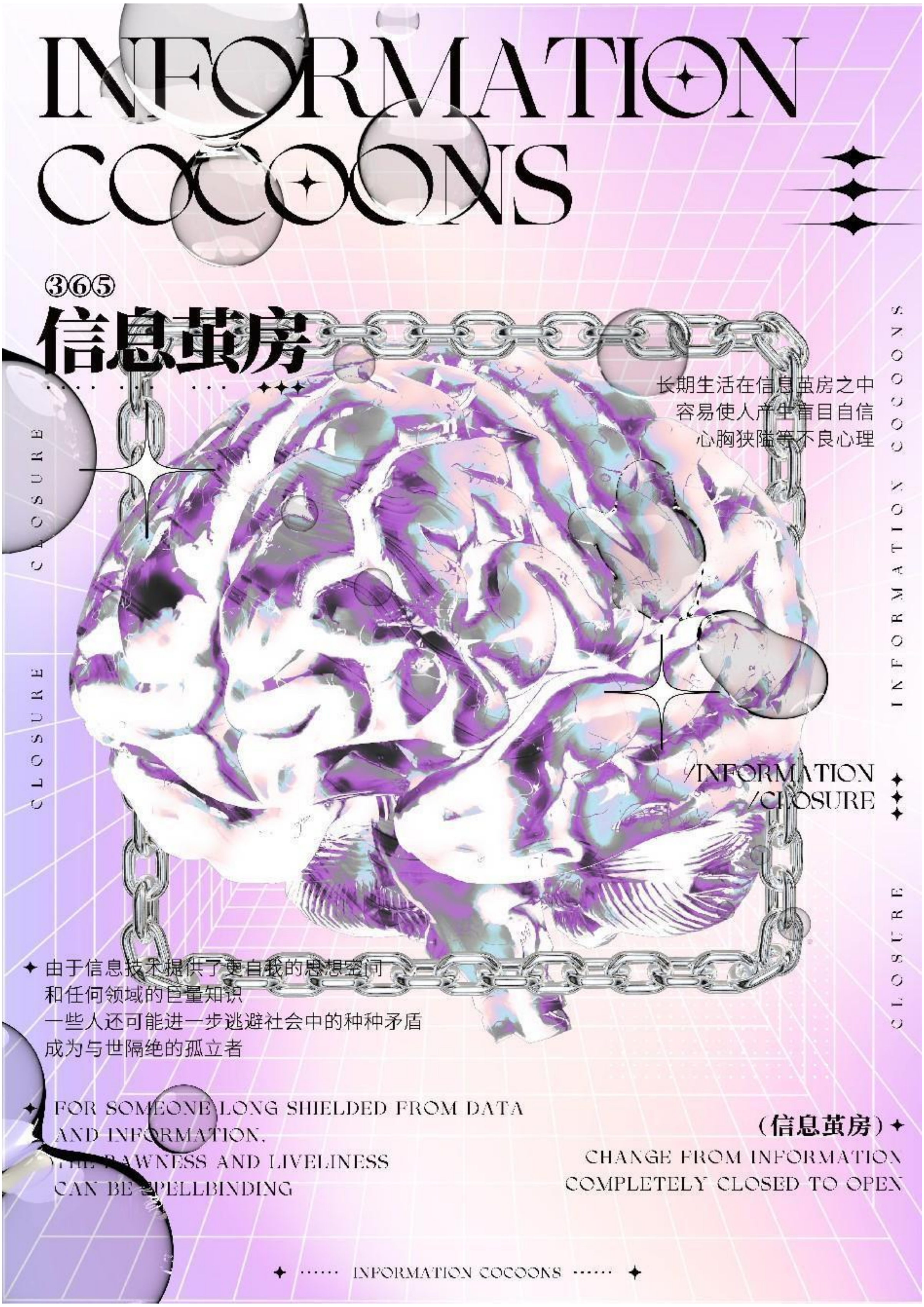

INFORMATION
COCOONS
③⑥⑤
信息茧房
长期生活在信息茧房之中
容易使人产生盲目自信
心胸狭隘等不良心理
CLOSURE
CLOSURE
INFORMATION COCOONS
/INFORMATION
/CLOSURE
CLOSURE
由于信息技术提供了更自我的思想空间
和任何领域的巨量知识
一些人还可能进一步逃避社会中的种种矛盾
成为与世隔绝的孤立者
FOR SOMEONE LONG SHIELDED FROM DATA
AND INFORMATION,
THE RAWNESS AND LIVELINESS
CAN BE SPELLBINDING
（信息茧房）
CHANGE FROM INFORMATION
COMPLETELY CLOSED TO OPEN
INFORMATION COCOONS

Figure3-15

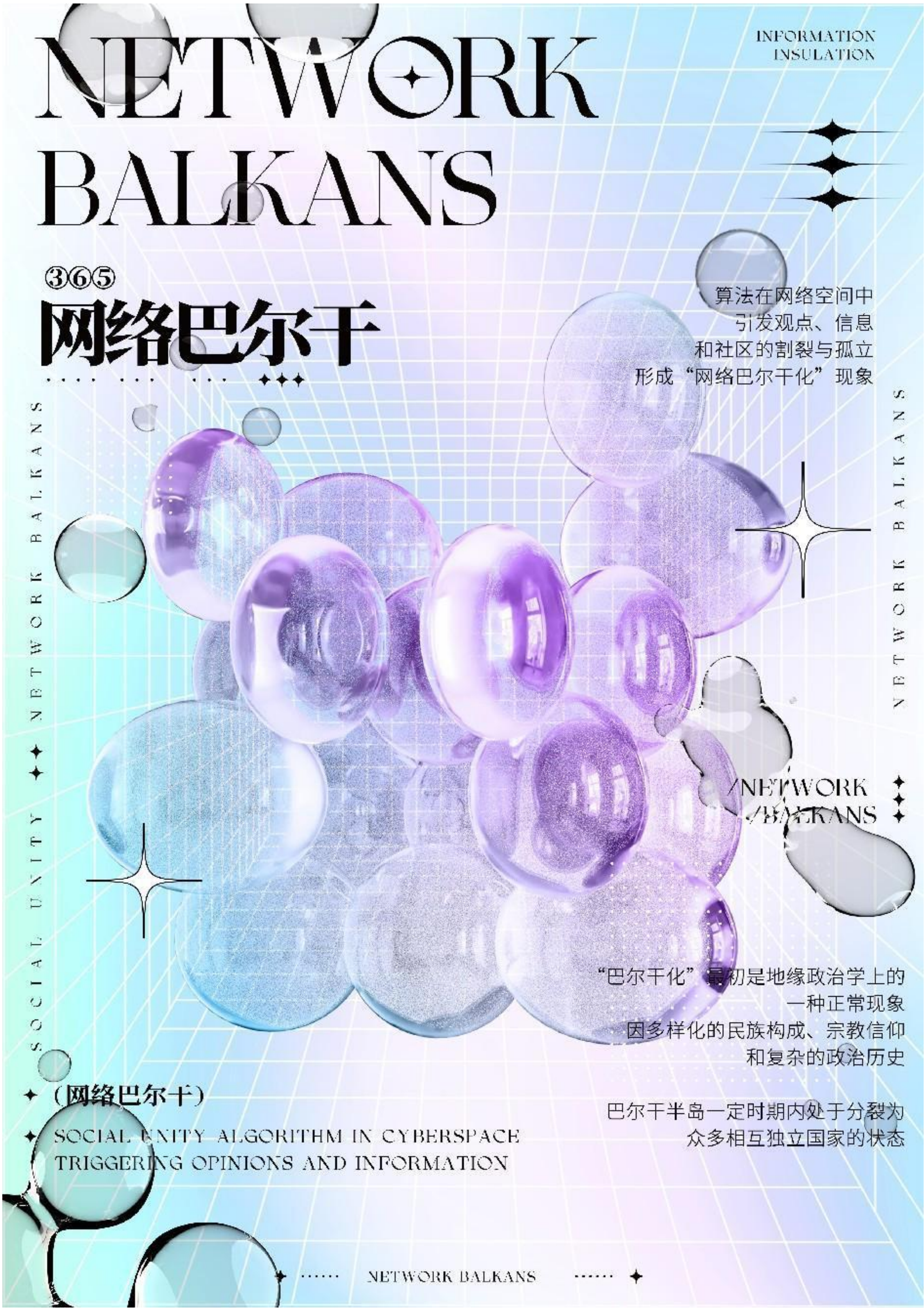

NETWORK
BALKANS
INFORMATION
INSULATION
③⑥⑤
网络巴尔干
算法在网络空间中
引发观点、信息
和社区的割裂与孤立
形成“网络巴尔干化”现象
NETWORK BALKANS
SOCIAL UNITY
NETWORK BALKANS
/NETWORK
/BALKANS
“巴尔干化”最初是地缘政治学上的
一种正常现象
因多样化的民族构成、宗教信仰
和复杂的政治历史
巴尔干半岛一定时期内处于分裂为
众多相互独立国家的状态
（网络巴尔干）
SOCIAL UNITY ALGORITHM IN CYBERSPACE
TRIGGERING OPINIONS AND INFORMATION
NETWORK BALKANS

Figure3-16

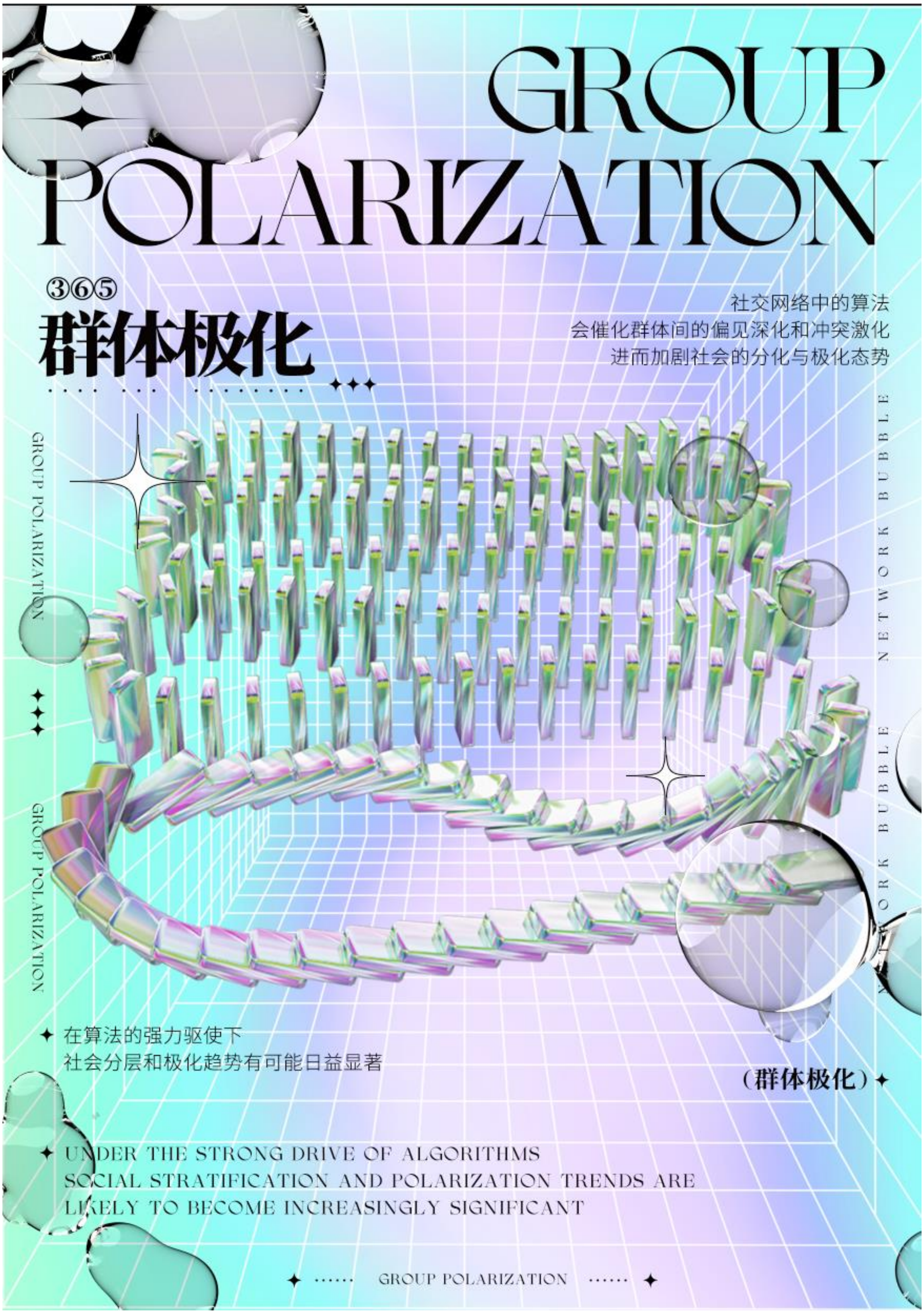

GROUP
POLARIZATION
③⑥⑤
群体极化
社交网络中的算法
会催化群体间的偏见深化和冲突激化
进而加剧社会的分化与极化态势
GROUP POLARIZATION
GROUP POLARIZATION
NETWORK BUBBLE
NETWORK BUBBLE
在算法的强力驱使下
社会分层和极化趋势有可能日益显著
（群体极化）
UNDER THE STRONG DRIVE OF ALGORITHMS
SOCIAL STRATIFICATION AND POLARIZATION TRENDS ARE
LIKELY TO BECOME INCREASINGLY SIGNIFICANT
GROUP POLARIZATION

Figure3-17

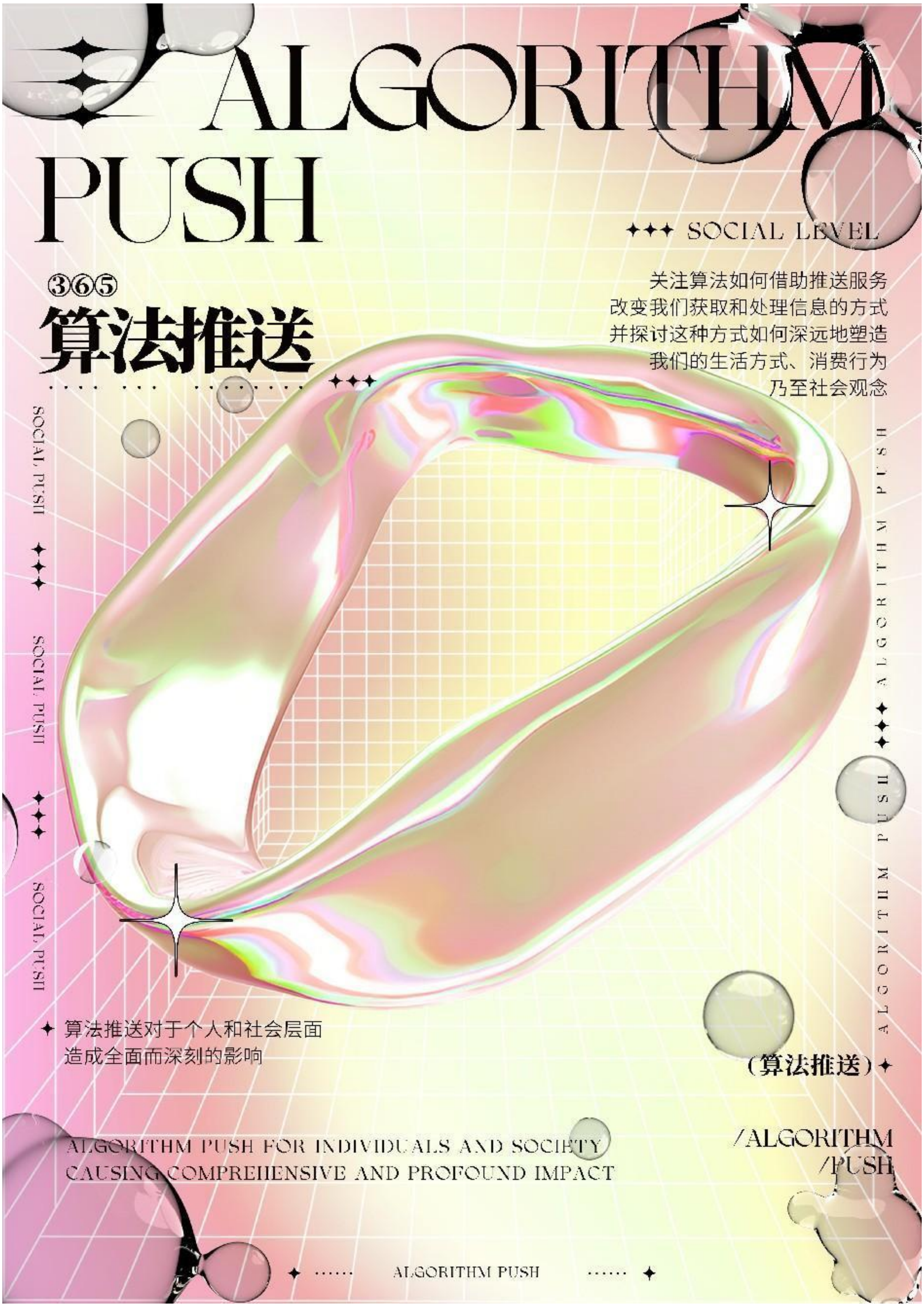

ALGORITHM
PUSH
SOCIAL LEVEL
③⑥⑤
算法推送
关注算法如何借助推送服务
改变我们获取和处理信息的方式
并探讨这种方式如何深远地塑造
我们的生活方式、消费行为
乃至社会观念
SOCIAL PUSH
SOCIAL PUSH
SOCIAL PUSH
ALGORITHM PUSH
ALGORITHM PUSH
算法推送对于个人和社会层面
造成全面而深刻的影响
（算法推送）
ALGORITHM PUSH FOR INDIVIDUALS AND SOCIETY
CAUSING COMPREHENSIVE AND PROFOUND IMPACT
/ALGORITHM
/PUSH
ALGORITHM PUSH

Figure3-18

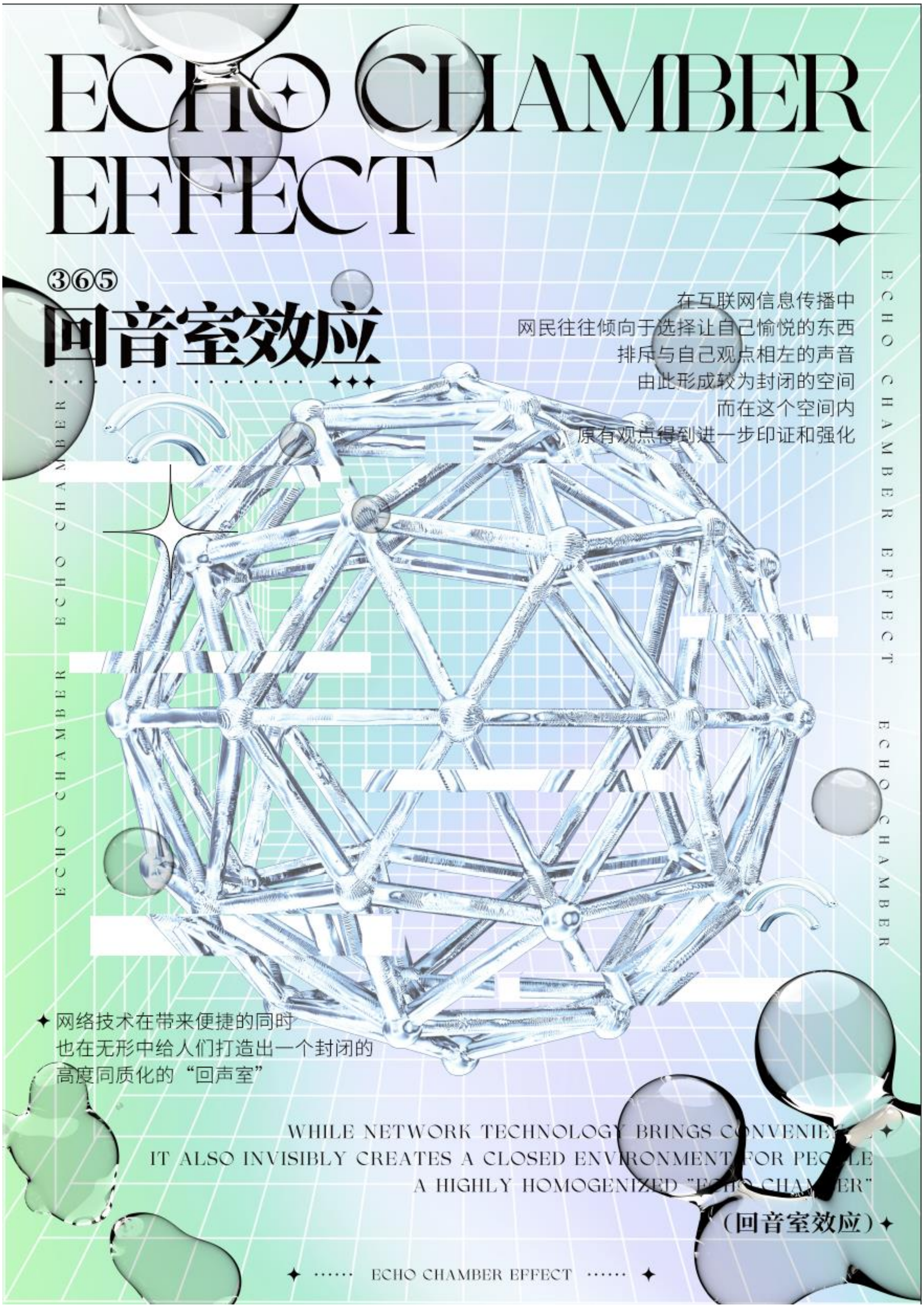

ECHO CHAMBER
EFFECT
③⑥⑤
回音室效应
在互联网信息传播中
网民往往倾向于选择让自己愉悦的东西
排斥与自己观点相左的声音
由此形成较为封闭的空间
而在这个空间内
原有观点得到进一步印证和强化
ECHO CHAMBER EFFECT ECHO CHAMBER
ECHO CHAMBER ECHO CHAMBER
网络技术在带来便捷的同时
也在无形中给人们打造出一个封闭的
高度同质化的"回声室"
WHILE NETWORK TECHNOLOGY BRINGS CONVENIE
IT ALSO INVISIBLY CREATES A CLOSED ENVIRONMENT FOR PEOPLE
A HIGHLY HOMOGENIZED "ECHO CHAMBER"
（回音室效应）
ECHO CHAMBER EFFECT

Figure3-19

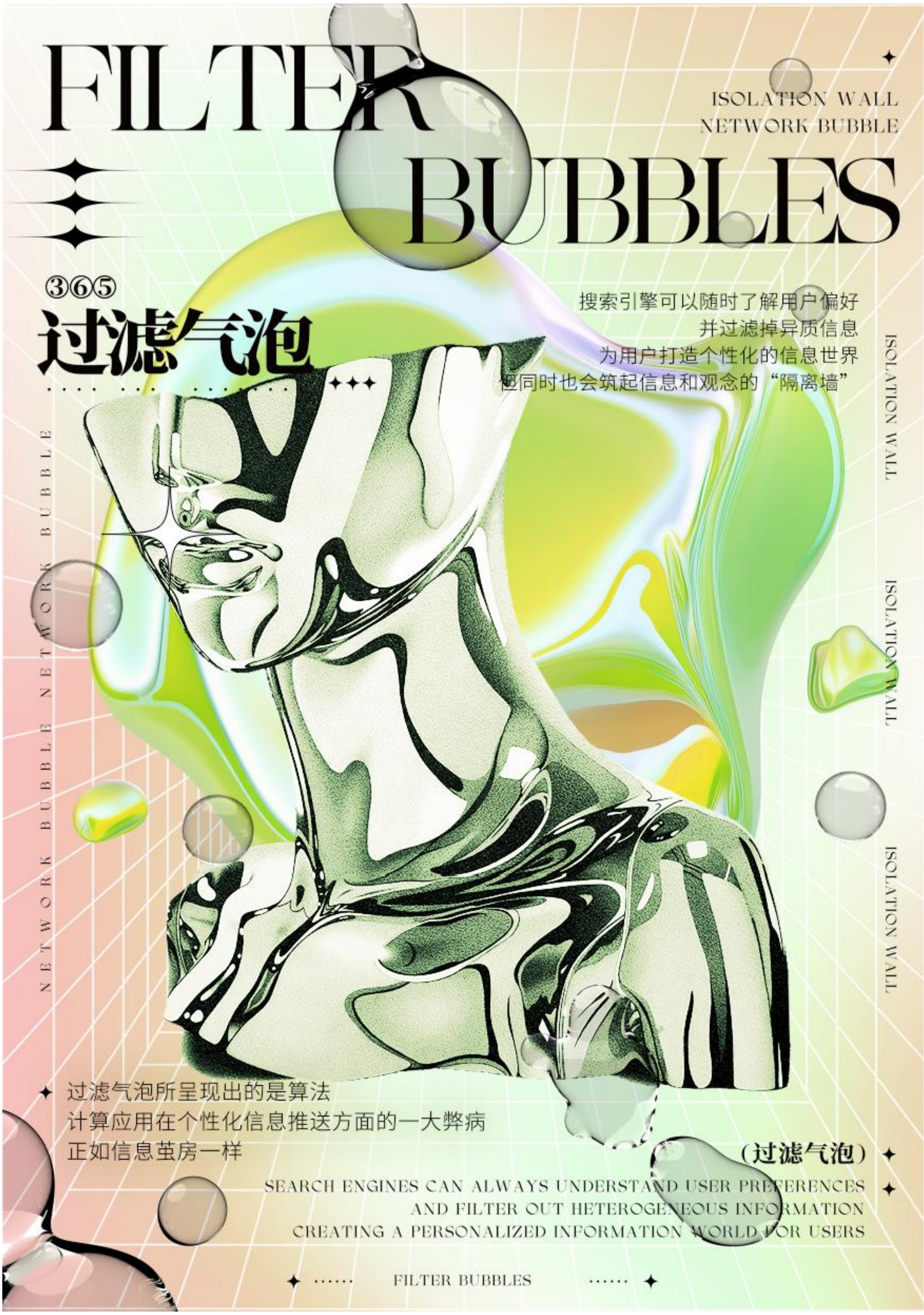
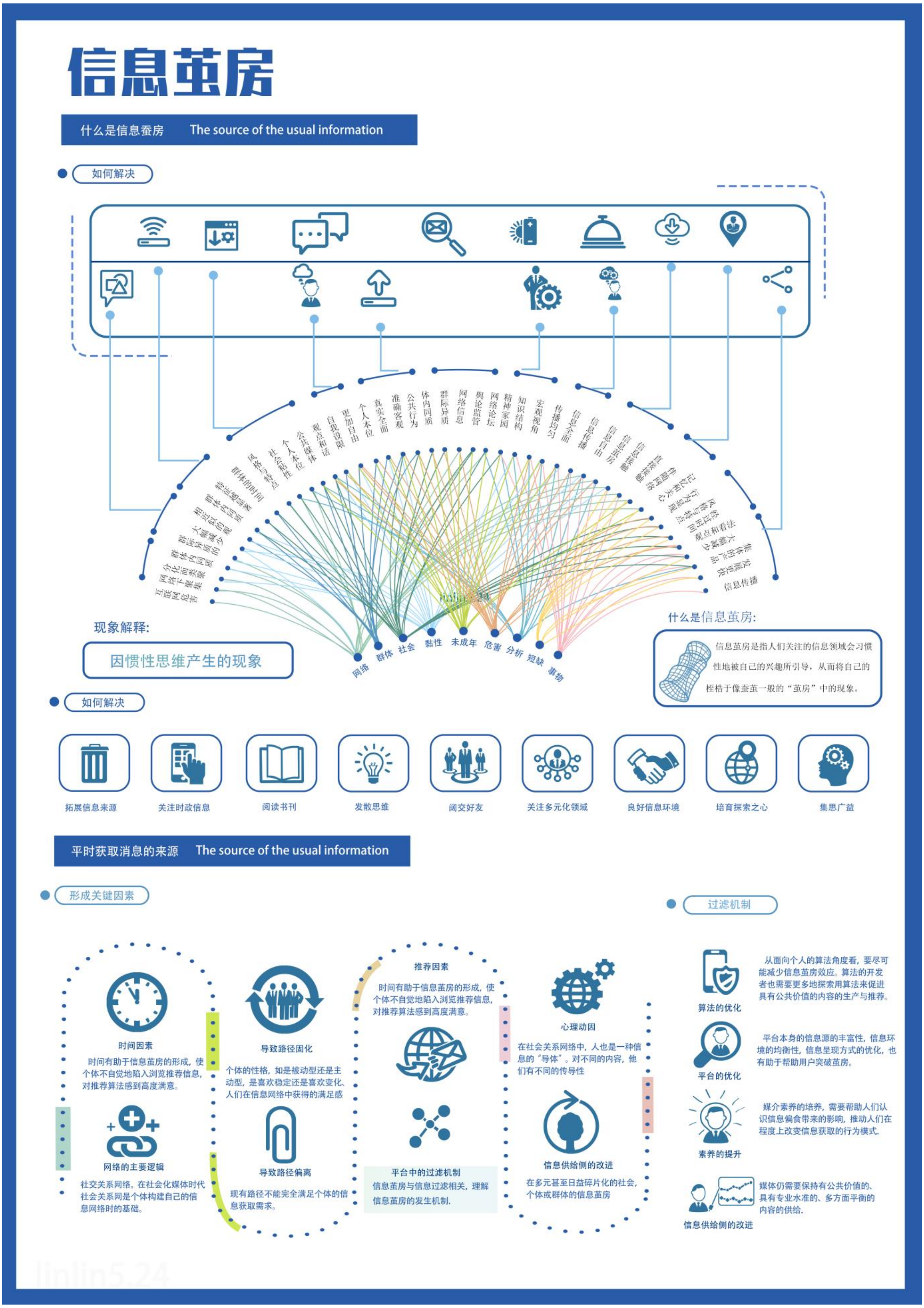

FILTER BUBBLES
ISOLATION WALL
NETWORK BUBBLE
③⑥⑤
过滤气泡
搜索引擎可以随时了解用户偏好
并过滤掉异质信息
为用户打造个性化的信息世界
但同时也会筑起信息和观念的“隔离墙”
NETWORK BUBBLE NETWORK BUBBLE
ISOLATION WALL
ISOLATION WALL
ISOLATION WALL
过滤气泡所呈现出的是算法
计算应用在个性化信息推送方面的一大弊病
正如信息茧房一样
（过滤气泡）
SEARCH ENGINES CAN ALWAYS UNDERSTAND USER PREFERENCES
AND FILTER OUT HETEROGENEOUS INFORMATION
CREATING A PERSONALIZED INFORMATION WORLD FOR USERS
FILTER BUBBLES

Figure3-20



信息茧房

什么是信息蚕房　The source of the usual information

如何解决

互联网危害
网络下聚集
分化而类聚
群体内同质
群际异质的
大幅减少
相近似的观
群体内同质
特征越显著
群体的时间
风格与特点
社会粘性
个人本位
公共媒体
观点和话
自我设限
更加自由
个人本位
真实全面
准确客观
公共行为
体内同质
群际异质
网络信息
舆论监管
网络论坛
精神家园
知识结构
宏观视角
传播均匀
信息全面
信息传播
信息自由
信息茧房
信息接触
直接接触
伴随网络
记忆和关心
行为显现
风格与特点
经过时间
观点和看法
大幅减少
集体的产品
发展更快
信息传播
网络
群体
社会
黏性
未成年
危害
分析
短缺
事物

现象解释:

因惯性思维产生的现象

什么是信息茧房:

信息茧房是指人们关注的信息领域会习惯性地被自己的兴趣所引导，从而将自己的桎梏于像蚕茧一般的“茧房”中的现象。

如何解决

拓展信息来源
关注时政信息
阅读书刊
发散思维
阔交好友
关注多元化领域
良好信息环境
培育探索之心
集思广益

平时获取消息的来源　The source of the usual information

形成关键因素

时间因素

时间有助于信息茧房的形成，使个体不自觉地陷入浏览推荐信息，对推荐算法感到高度满意。

网络的主要逻辑

社交关系网络。在社会化媒体时代社会关系网是个体构建自己的信息网络时的基础。

导致路径固化

个体的性格，如是被动型还是主动型，是喜欢稳定还是喜欢变化、人们在信息网络中获得的满足感

导致路径偏离

现有路径不能完全满足个体的信息获取需求。

推荐因素

时间有助于信息茧房的形成，使个体不自觉地陷入浏览推荐信息，对推荐算法感到高度满意。

平台中的过滤机制

信息茧房与信息过滤相关，理解信息茧房的发生机制.

心理动因

在社会关系网络中，人也是一种信息的“导体”。对不同的内容，他们有不同的传导性

信息供给侧的改进

在多元甚至日益碎片化的社会，个体或群体的信息茧房

过滤机制

算法的优化

从面向个人的算法角度看，要尽可能减少信息茧房效应。算法的开发者也需要更多地探索用算法来促进具有公共价值的内容的生产与推荐。

平台的优化

平台本身的信息源的丰富性，信息环境的均衡性，信息呈现方式的优化，也有助于帮助用户突破茧房。

素养的提升

媒介素养的培养，需要帮助人们认识信息偏食带来的影响，推动人们在程度上改变信息获取的行为模式.

信息供给侧的改进

媒体仍需要保持有公共价值的、具有专业水准的、多方面平衡的内容的供给.

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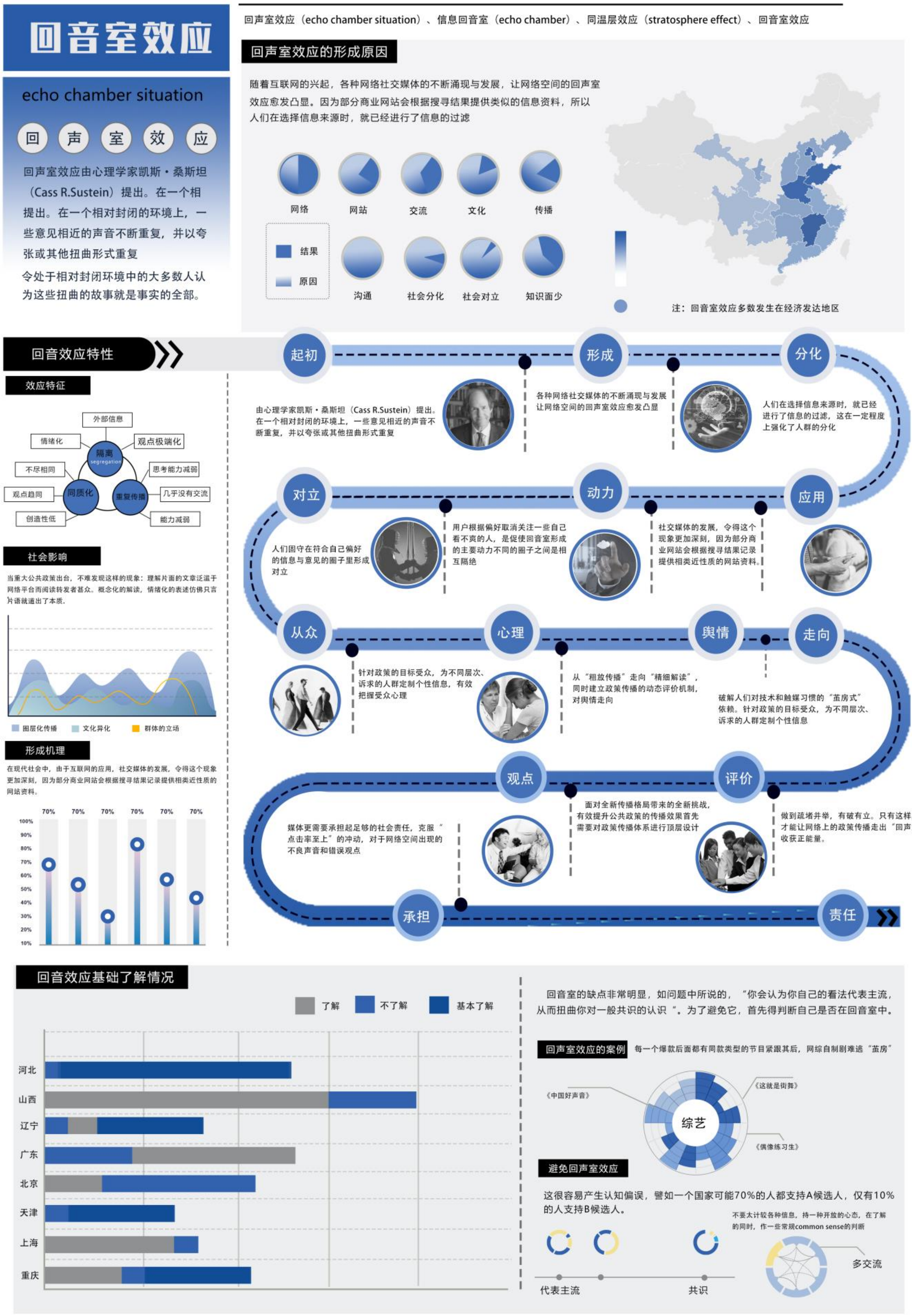
Figure3-21



回音室效应
echo chamber situation
回 声 室 效 应

回声室效应由心理学家凯斯・桑斯坦（Cass R.Sustein）提出。在一个相提出。在一个相对封闭的环境上，一些意见相近的声音不断重复，并以夸张或其他扭曲形式重复

令处于相对封闭环境中的大多数人认为这些扭曲的故事就是事实的全部。

回声室效应（echo chamber situation）、信息回音室（echo chamber）、同温层效应（stratosphere effect）、回音室效应

回声室效应的形成原因

随着互联网的兴起，各种网络社交媒体的不断涌现与发展，让网络空间的回声室效应愈发凸显。因为部分商业网站会根据搜寻结果提供类似的信息资料，所以人们在选择信息来源时，就已经进行了信息的过滤

网络
网站
交流
文化
传播
结果
原因
沟通
社会分化
社会对立
知识面少

注：回音室效应多数发生在经济发达地区

回音效应特性

效应特征

外部信息
情绪化
观点极端化
隔离
segregation
不尽相同
思考能力减弱
观点趋同
同质化
重复传播
几乎没有交流
创造性低
能力减弱

社会影响

当重大公共政策出台，不难发现这样的现象：理解片面的文章泛滥于网络平台而阅读转发者甚众。概念化的解读，情绪化的表述仿佛只言片语就道出了本质。

圈层化传播
文化异化
群体的立场

形成机理

在现代社会中，由于互联网的应用，社交媒体的发展，令得这个现象更加深刻，因为部分商业网站会根据搜寻结果记录提供相类近性质的网站资料。

70%
70%
70%
70%
70%
70%
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%

由心理学家凯斯・桑斯坦（Cass R.Sustein）提出。在一个相对封闭的环境上，一些意见相近的声音不断重复，并以夸张或其他扭曲形式重复

各种网络社交媒体的不断涌现与发展让网络空间的回声室效应愈发凸显

人们在选择信息来源时，就已经进行了信息的过滤，这在一定程度上强化了人群的分化

人们固守在符合自己偏好的信息与意见的圈子里形成对立

用户根据偏好取消关注一些自己看不爽的人，是促使回音室形成的主要动力不同的圈子之间是相互隔绝

社交媒体的发展，令得这个现象更加深刻，因为部分商业网站会根据搜寻结果记录提供相类近性质的网站资料。

针对政策的目标受众，为不同层次、诉求的人群定制个性信息，有效把握受众心理

从“粗放传播”走向“精细解读”，同时建立政策传播的动态评价机制，对舆情走向

破解人们对技术和触媒习惯的“茧房式”依赖。针对政策的目标受众，为不同层次、诉求的人群定制个性信息

媒体更需要承担起足够的社会责任，克服“点击率至上”的冲动，对于网络空间出现的不良声音和错误观点

面对全新传播格局带来的全新挑战，有效提升公共政策的传播效果首先需要对政策传播体系进行顶层设计

做到疏堵并举，有破有立。只有这样，才能让网络上的政策传播走出“回声室”收获正能量。

回音效应基础了解情况

了解
不了解
基本了解
河北
山西
辽宁
广东
北京
天津
上海
重庆

回音室的缺点非常明显，如问题中所说的，“你会认为你自己的看法代表主流，从而扭曲你对一般共识的认识”。为了避免它，首先得判断自己是否在回音室中。

回声室效应的案例 每一个爆款后面都有同款类型的节目紧跟其后，网综自制剧难逃“茧房”

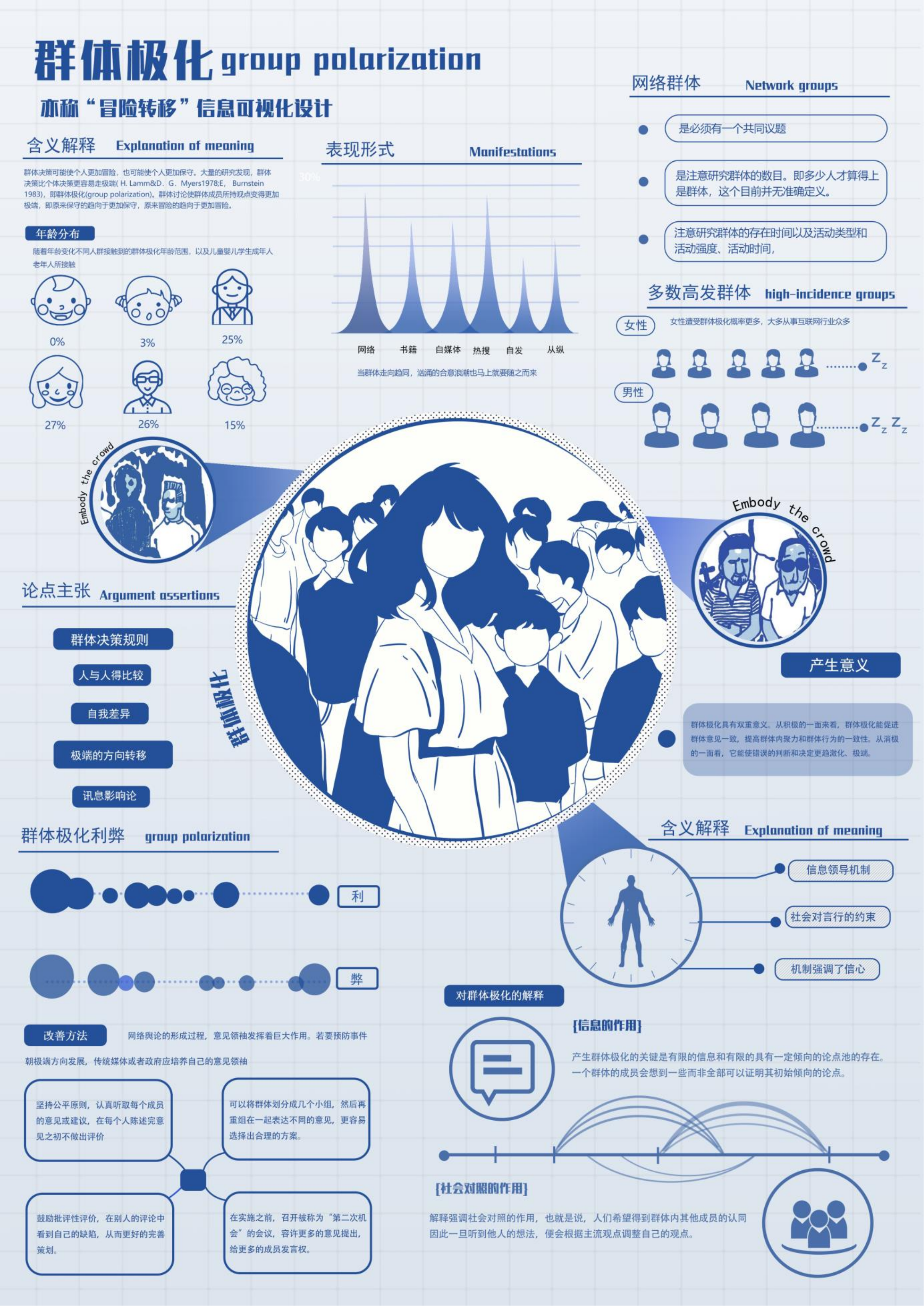
《中国好声音》
《这就是街舞》
综艺
《偶像练习生》

避免回声室效应

这很容易产生认知偏误，譬如一个国家可能70%的人都支持A候选人，仅有10%的人支持B候选人。

不要太计较各种信息，持一种开放的心态，在了解的同时，作一些常规common sense的判断

Figure3-22



群体极化 group polarization

亦称“冒险转移”信息可视化设计

含义解释 Explanation of meaning

群体决策可能使个人更加冒险，也可能使个人更加保守。大量的研究发现，群体决策比个体决策更容易走极端(H. Lamm&D．G．Myers1978;E， Burnstein 1983)，即群体极化(group polarization)。群体讨论使群体成员所持观点变得更加极端，即原来保守的趋向于更加保守，原来冒险的趋向于更加冒险。

年龄分布

随着年龄变化不同人群接触到的群体极化年龄范围，以及儿童婴儿学生成年人老年人所接触

表现形式 Manifestations

当群体走向趋同，汹涌的合意浪潮也马上就要随之而来

网络群体 Network groups

- 是必须有一个共同议题
- 是注意研究群体的数目。即多少人才算得上是群体，这个目前并无准确定义。
- 注意研究群体的存在时间以及活动类型和活动强度、活动时间，

多数高发群体 high-incidence groups

女性 女性遭受群体极化概率更多，大多从事互联网行业众多

男性

论点主张 Argument assertions

群体决策规则

人与人得比较

自我差异

极端的方向转移

讯息影响论

产生意义

群体极化具有双重意义。从积极的一面来看，群体极化能促进群体意见一致，提高群体内聚力和群体行为的一致性。从消极的一面看，它能使错误的判断和决定更趋激化、极端。

群体极化利弊 group polarization

含义解释 Explanation of meaning

信息领导机制

社会对言行的约束

机制强调了信心

改善方法 网络舆论的形成过程，意见领袖发挥着巨大作用。若要预防事件朝极端方向发展，传统媒体或者政府应培养自己的意见领袖

坚持公平原则，认真听取每个成员的意见或建议，在每个人陈述完意见之初不做出评价

可以将群体划分成几个小组，然后再重组在一起表达不同的意见，更容易选择出合理的方案。

鼓励批评性评价，在别人的评论中看到自己的缺陷，从而更好的完善策划。

在实施之前，召开被称为“第二次机会”的会议，容许更多的意见提出，给更多的成员发言权。

对群体极化的解释

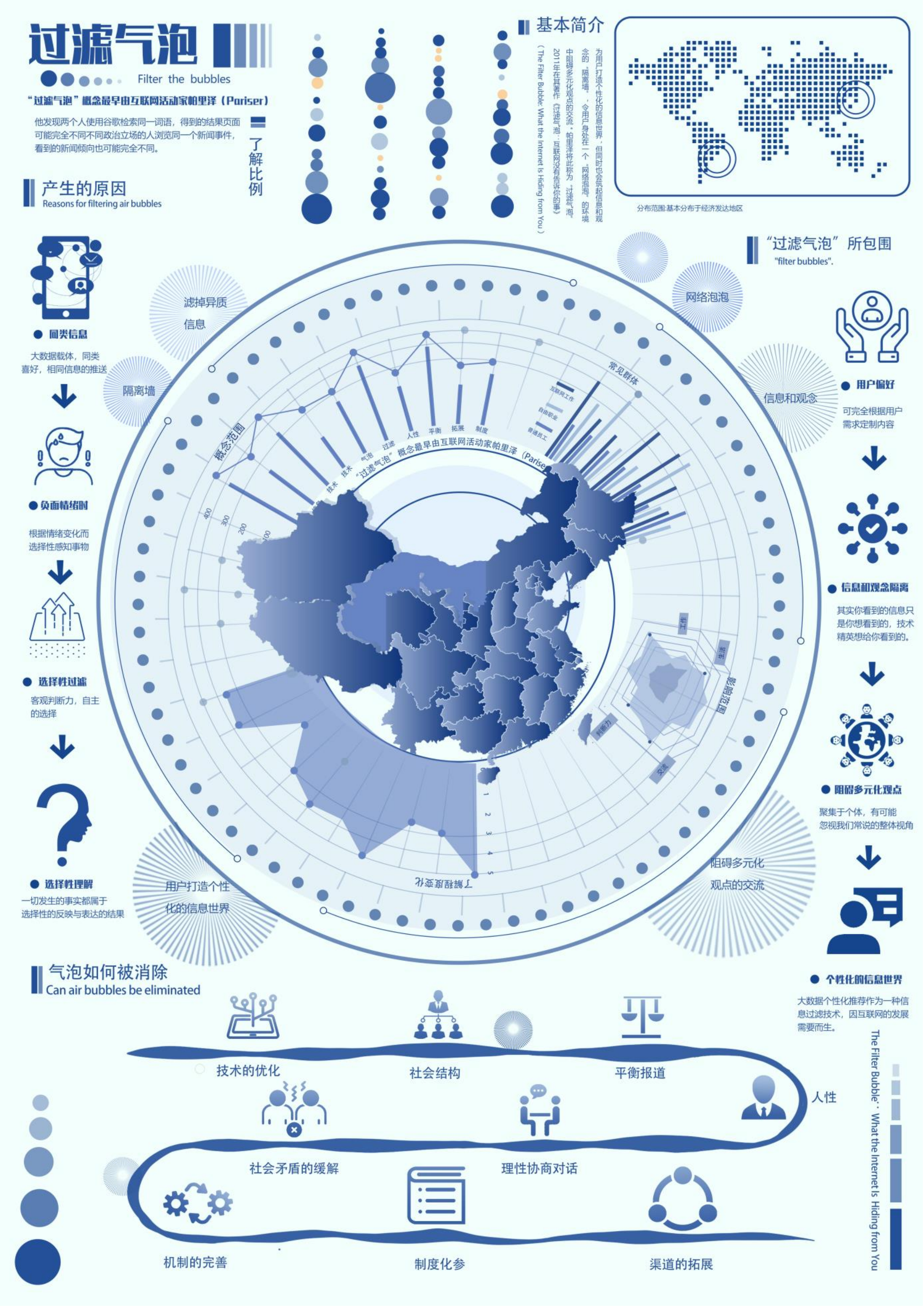
{信息的作用}

产生群体极化的关键是有限的信息和有限的具有一定倾向的论点池的存在。一个群体的成员会想到一些而非全部可以证明其初始倾向的论点。

{社会对照的作用}

解释强调社会对照的作用，也就是说，人们希望得到群体内其他成员的认同因此一旦听到他人的想法，便会根据主流观点调整自己的观点。

Figure3-23



过滤气泡

Filter the bubbles

“过滤气泡”概念最早由互联网活动家帕里泽（Pariser）

他发现两个人使用谷歌检索同一词语，得到的结果页面可能完全不同不同政治立场的人浏览同一个新闻事件，看到的新闻倾向也可能完全不同。

基本简介

为用户打造个性化的信息世界，但同时也会筑起信息和观念的“隔离墙”，令用户身处在一个“网络泡泡”的环境中阻碍多元化观点的交流。帕里泽将此称为“过滤气泡”。2011年在其著作《过滤气泡：互联网没有告诉你的事》（The Filter Bubble: What the Internet Is Hiding from You）

分布范围:基本分布于经济发达地区

产生的原因

Reasons for filtering air bubbles

- **同类信息**

大数据载体，同类喜好，相同信息的推送

- **负面情绪时**

根据情绪变化而选择性感知事物

- **选择性过滤**

客观判断力，自主的选择

- **选择性理解**

一切发生的事实都属于选择性的反映与表达的结果

“过滤气泡”所包围

"filter bubbles".

- **用户偏好**

可完全根据用户需求定制内容

- **信息和观念隔离**

其实你看到的信息只是你想看到的，技术精英想给你看到的。

- **阻碍多元化观点**

聚集于个体，有可能忽视我们常说的整体视角

- **个性化的信息世界**

大数据个性化推荐作为一种信息过滤技术，因互联网的发展需要而生。

气泡如何被消除

Can air bubbles be eliminated

了解比例
滤掉异质信息
隔离墙
网络泡泡
信息和观念
用户打造个性化的信息世界
阻碍多元化观点的交流
概念范围
“过滤气泡”概念最早由互联网活动家帕里泽（Pariser
技术
技术
气泡
过滤
人性
平衡
拓展
制度
400
300
200
100
常见群体
互联网工作
自由职业
普通员工
影响范围
工作
生活
判断力
交流
了解程度变化
1
2
3
4
5
技术的优化
社会结构
平衡报道
人性
社会矛盾的缓解
理性协商对话
机制的完善
制度化参
渠道的拓展
The Filter Bubble’: What the Internet Is Hiding from You

Figure3-24

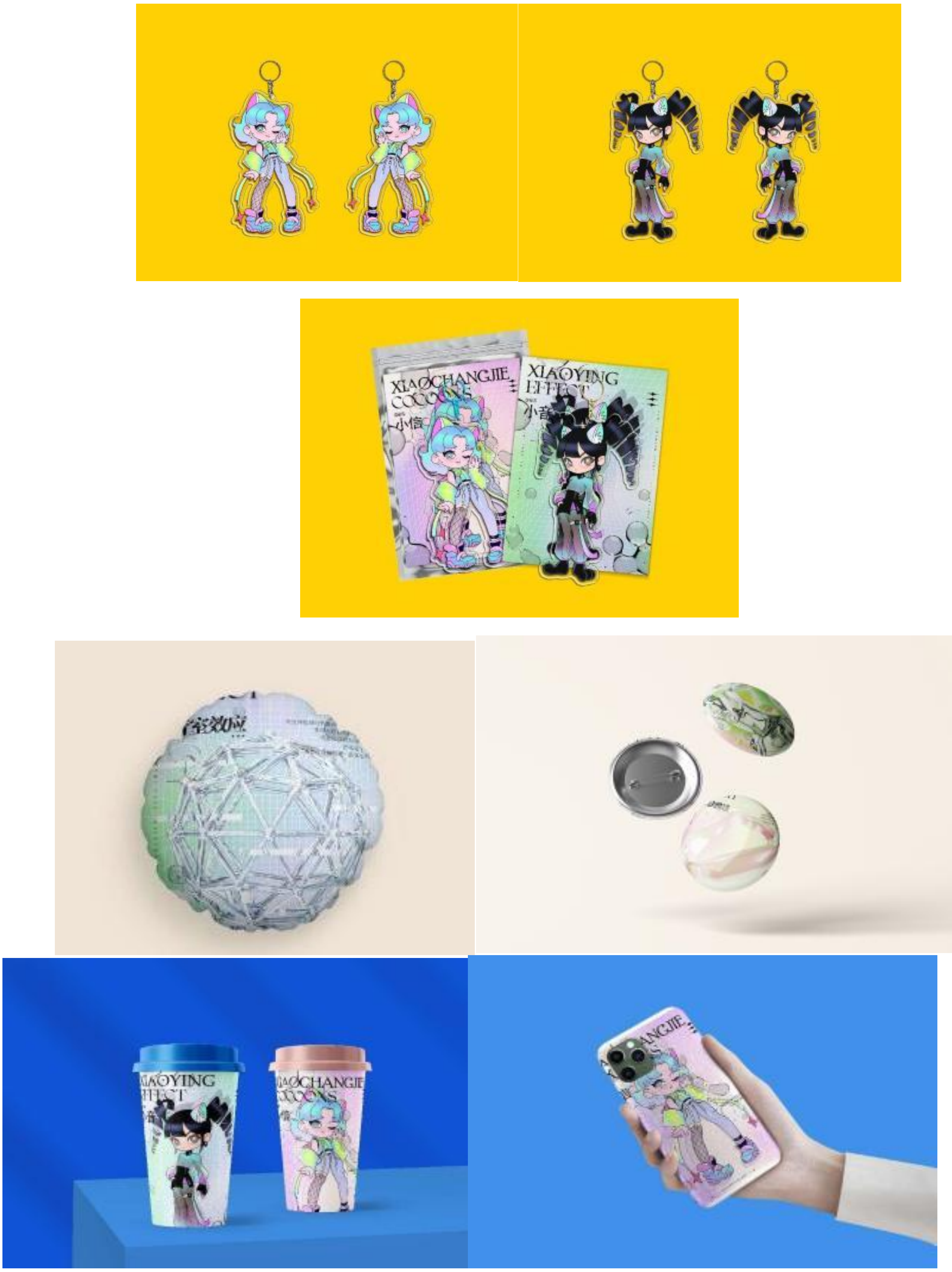

XIAOCHANGJIE
COCOONS
小信
XIAOYING
EFFECT
小音

Figure3-25

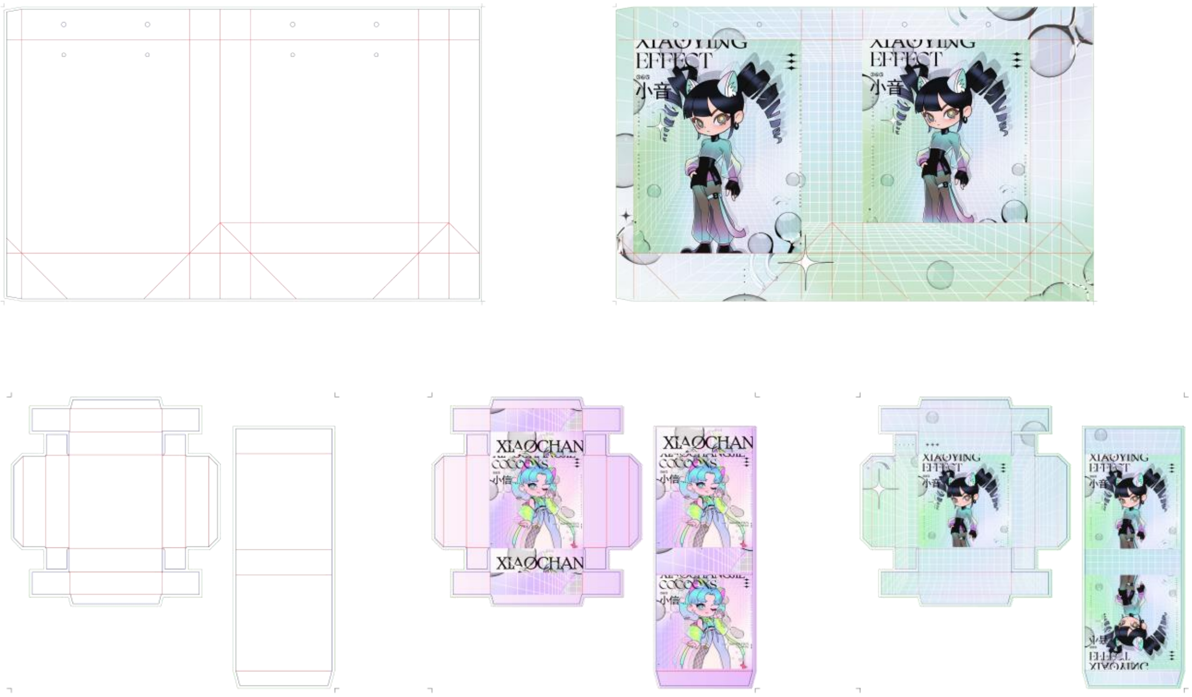

XIAOYING
EFFECT
小音
XIAOYING
EFFECT
小音
XIAOCHAN
COCOONS
XIAOCHAN
XIAOCHAN
COCOONS
XIAOYING
EFFECT
XIAOYING
EFFECT

Figure3-26