A photograph of a penguin standing on a blue ledge in a museum exhibit. The background is a blue wall with a large, stylized graphic of a penguin. The text 'RACE to the End OF THE EARTH' is visible on the wall. The penguin is illuminated by a spotlight.

Exhibition Plan & Design Based On Product Service System Design

——A Design Practice On The Shanghai Auto Museum
'Modern Design History In 150 Years' Exhibition

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PERFACE

As the public to cultural and spiritual consumption increases and the arrival of the era of experience economy, museum, art gallery, exhibition hall and other places of cultural display is no longer a niche academic research circles, but more for public consumption, popular culture and the role of citizen education. In this paper, using the theory and method about the design of service system, combining the actual function of the museum exhibition, cars in the jiading district of Shanghai museum and the "150" modern design exhibition for the design of the service system, is a research combined with the design of the practice exploration.

Paper first exhibition planning design characteristics are analyzed and summarized, summarizes the exhibition activities, content and principle of planning design work. At the same time, the four elements around the service system design: user, situation, product and process, and connecting with the world expo 2015 milan's case, get the exhibition project design and the general method and service system. Then, combined the actual project background, the present status of research and analysis of the automobile museum, Shanghai auto museum and exhibition of "modern design 150" development opportunities and find its market positioning; On this basis, through the establishment of the target user type, layout, site function, establish service system, build the whole service system architecture design. Finally, based on the service to the general public users and professional users of function orientation, the use of development resources, service system design vision, application of research results, the Shanghai auto museum with "150" modern design system planning and the bottom of the service system

At the end of the article puts forward prospect for development tendency of the future, let the user in a wider span of time and space in the process of interaction of memorable experience, display exhibition service system designed to provide new ideas for the future.

KEY WORDS :

Exhibition planning, Service system design, Display design, User experience

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Background & Research

The development of modern museum has made great progress in China. , but compared with developed countries, there are still has a big gap. In the country, the total number of museums is now more than 4000, more than 10000 exhibitions each year, the annual reception number to 500 million. The social consumption of high level exhibition reached an unprecedented height.

A good exhibition can not do without a high level of exhibition planning and service system design. I research, explore and practice on this topic through this article, hopping that it will become a test for my three-year graduate studies career achievements, and to make some modest contribution to the area of exhibition planning and service system design.

1. Background & Research

1.1 Background

Each museum (including art gallery, exhibition hall, etc.) are we sow the seeds of well-being for later generations.

In the history of mankind's first museum - "Muse" temple, built in Alexandria, Egypt in the 3rd century BC. , founded in 1753, the British museum was founded by the British royal family, the first of the modern significance of the national museum, is also the first large museum open to the public. The establishment of the international museum day, can be traced back to 1977, the international association of museum will be a year of this day as the anniversary of the May 18. Development today, has become a multi-functional museum, diversification of cultural syntheses. Museum is a product of human society development to a certain stage, its development, with the development of the society and also will be with the progress of the society and constantly create new extension, new function, new concepts and new form.

Modern museum development in our country has made great progress, but compared with developed countries there is a big gap. Now a total of more than 4000 national museum, exhibition is held every year more than 10000 times, in total more than 500 million. Social demand of high level and high level exhibitions reached an unprecedented height.

A good exhibition without a high level of exhibition design planning and service system. The author will through the related work, this paper carried on study, discussion and practice. Hope to be able to on his three years of graduate school career as a result of inspection; Also for our country's exhibition planning design and service system design field to do some small contribution.

This topic comes from the author mentors studio carries on a practical project, Shanghai auto museum "modern design 150" exhibition planning design. I have the honor to participate, and is mainly engaged in the exhibition content planning, exhibition planning and exhibition service system planning of work space. My tutor professor YanZhengSheng for many years engaged in industrial design, environmental art design, design history research and design education, participated in the Shanghai science and technology museum, museum of the Shanghai world expo, Shanghai subway, and many other well-known exhibition planning, design and evaluation work of the project, has rich experience of theory, practice and guidance.

Second year graduate student at the same time, the author has a chance to travel to Italy in milan polytechnic university for a one-year study, major Service System for the Product Design, Product Service System Design, PSSD) professional.

With the growth of cultural consumption, spiritual consumption, our country mainly museum, art gallery, exhibition hall of exhibition economy developed rapidly, and has a pivotal position in the social and cultural life. Museum architecture is to realize the function space carrier museum, exhibition and display design and quality will directly affect the operation and use of the museum, has great research value.

Exhibition planning design development brought to the attention of the modern museum height, which is seen as a museum shows important extension method, is not merely that can consolidate existing museum education results, at the same time, it can expand the museum with the audience, as well as the communication and society. Different types of museum at home and abroad, is true.

Most of the museums and exhibition institutions of developed countries attaches great importance to the planning design of exhibition work. The French national museum of natural history, for example, in 1994, will be the focus of the exhibition and temporary exhibition as the memorial. Rosie of Florence, Italy, the Palace Museum has the largest temporary exhibition space in Florence, held a number of heavyweight art. In exhibition planning, rosie palace has a powerful advisory committee, a squad members from the Louvre museum, the bayesian foundation of the world's top art institutions, such as "is not only the exhibition (Non solo mostre)" is the motto.

1.2 The research object and content

Increased as the Chinese people's cultural consumption and a lot of museums, exhibition hall facilities of new, even each big commercial space and building also started through the exhibition as a marketing tool. Thus, how to in limited time and space presents a high-quality exhibitions, for institutions bring more popularity and value growth. To provide consumers with the exhibition experience is a question worth thinking about. At the same time, with the experience economy, the concept of "Internet +" wait for a new exhibition will become a provides platform for communication, culture, entertainment and education, as an important component part of our spiritual and cultural life.

Shanghai auto museum in the process of "150" modern design of the exhibition is a good practice opportunity, has certain experimental and demonstration. Shanghai auto museum and exhibition has many features: first, the Shanghai auto museum is located in the suburbs of the jiating auto city park, and city centre traffic inconvenience of problems; Second, Shanghai auto museum's popularity is not high, can't and the Shanghai museum, the palace, Shanghai museum of nature new and other well-known institutions, in consumers' mind, brand image is not enough bright and deep; Finally, modern design and its related history exhibition, to average consumer lack of relevant cultural background knowledge and knowledge reserves and the distance of large exhibitions and daily life. How to attract consumers to come to this remote and not familiar museum, how to make the exhibition can take an interest in the development of modern design, is that we need to solve the problem, and to service design thinking under the guidance of exhibition planning design work, is the most can give a satisfactory answer.

The author hope around the user experience, the article USES the method of service design, combined with the brand of Shanghai auto museum, and the characteristics of the environment, presents a distinctive "modern design 150" exhibition planning design. - from the design of three main parts, the environment of people and activities. The first is: given a variety of exhibition group, for design professional scholars and related professional students, ordinary tourists, such as different groups, to provide to satisfy their needs of display content; Second is activities: careful study service behavior in the system, service process and the relationship between the different stakeholders in service design, and according to the service, service before and after the service of

the exhibition experience in the process of target system and interactive way for further research and optimization; The third is the environment: the environment and can be divided into the space environment and the environment, space environment is the whole experience the place of the route design, space layout of the facilities, etc., while items environment including service system of tangible and intangible contact contacts.

1.3 The research goal, significance and application value

Museum, exhibition hall, such as the vigorous development of cultural industry, the increase in consumer demand, and exhibition planning design level and scope of business expanded. Exhibition development as an important part of wenbo industry development, the museum is also the inevitable trend of economic marketization. Based on the above background, combined with investigation and study, through the analysis of data in the "service design thinking under the guidance of" on the basis of this particular category, improve the degree of attention to the exhibition design, improve the strength of the spread of culture, perfect the design system, improve the user experience, to increase the exhibition as the role of cultural dissemination and public education platform and the economic benefits of preparations for the unit.

The author will use during the milan polytechnic university's collection of famous exhibition at the forefront of the dynamic analysis and as a case study, on this basis, through the introduction of service design thinking and design methods of induction and summary, the results are obtained. And finally the results applied to the actual project to validate its practical and applied value.

From the theoretical level, the significance of this paper lies in: first, the design of the service design method can be applied to exhibition planning design in the field of traditional use of service design ideas for better exhibition planning more solution; Secondly, enrichment of exhibition planning design related theory and research, literature for museum, art galleries, exhibition display as your own contributions to research in the field of some academic value; Finally, the Shanghai auto museum exhibition 150 "modern design" as the research object, is the current construction of cultural power, build the positive response of the knowledge learning society strategy and explore.

From the practical level, the significance of this paper lies in: on the one hand, can provide better for Shanghai auto museum exhibition design planning, and for the future will be more ideal for tourists visiting the exhibition experience: upgrading the brand value for organizing units at the same time, the economic benefit through holding exhibitions.

Exhibition Plan & Design Based On PSSD

The exhibition planning and design has already get a relatively perfect and mature theoretical system and practical method of operation. Today, most of domestic and foreign museums, art galleries, exhibition hall and other exhibition institutions are work followed this methodology in related work. The design and layout of the construction work is normally organized by the exhibition and design team from the museum itself. However, the defect of this method of work are increasingly showing off in front of everybody, the result is the exhibition has a very good content and perfect hardware, but it cannot attract enough popularity. To meet the growing concept of exhibition visitors experience requirements, we need to change old way of exhibition plan which focus on the hardware build. The introducing of service system design and thinking is a new way of solving this kind of problems.

2. Exhibition Plan & Design Based On PSSD

2.1 The Concept & Development of Exhibition

As the example of the "exhibition" is defined as: display for people to watch: exhibition, photography, etc. Coming up from the generalized understanding, exhibition is that: a predominantly visual conveying information through the behavior. Human visual sense to accept all the behavior and morphology of the transaction are the content of the exhibition. The exhibition is the essence of information transmission and reception. It is not only convey information the aim and demands ability embodiment of desire, but also the viewer a process of cognitive, recognition and identification.

Original presentation: as early as in primitive society and slave society, with characteristics of display in the activities, such as hanging totem, ritual activities, etc. Original exhibition, trade fair to barter bazaar in the later, tribal production produced by oneself, concentrated stalls display to the public choice.

Ancient presentation: feudal period of the main show form two aspects concentrated in the religious activities and commercial activities. Religious activities, make the temple, temple, ancestral temple, and so on has the space enclosing structure began to form the independence. Seen from space, the use of this part of the religious activities to reveal a space has the characteristics of the pavilion.

Modern display: since modern times, industrial revolution has greatly increased the productivity of mankind, and strongly promote the development of the exhibition activities. Traditional market already can not adapt to the needs of the mass exchange of information and product display, real world expo thus arises at the historic moment. Since the 1970 s, contemporary presentation: exhibition planning design into a period of the combination of science and art. World expo 1970, Osaka, many new way of exhibition has been perfect. Advanced video technology, multimedia technology.

2.2 Exhibition Design Process & Method

On the research of the exhibition on display, is mainly to display exhibition content and form of design research. At the same time, to deal with the relationship between the two, who plays a main role between, who assist. This relationship if handled badly, will directly affect the display effect.

First of all, the relationship between content and form of display exhibition.

Display exhibition, the relationship between content and form is content to form, the form of content services, for the dependency relationship between. At the same time, display exhibition content and form a harmonious, achieve complementary advantages. Display the relationship between content and form design, has always been museum circles the topic of discussion. Content to the concept of form is more recognition in the industry. Form design from belong to display content, however, does not mean that the content is locked in the design of the rational creation and play. When the content can't performance through cultural relics exhibition, when exhibits lack of persuasive and attractive, can make up for, by clever design in the form of the display content on the form, form a more coherent and comprehensive, in-depth, three-dimensional, multi-angle display space and atmosphere, to give the audience a relatively complete, vivid,

real, persuasive, reasonable, clear exhibition concept, form design plays an important role here. Form the designers should fully understand the display content. From content to form the basic principles, forms the designer only on the basis of fully understand the display content, to display content in the true sense of form design. With a wealth of material, broaden horizons, accurate, seized the distinctive features, has been clear about the goal, form designer can clear design ideas, through the creation of art in and sublimation, finally completed a successful exhibition form design.

Second, display exhibition text writing elements.

Museum display text is the bridge of communication between the display and audience, through which can display the purpose, content, function, etc. To convey to the audience. So the text interpretation work, is very important in the position in display and exhibition, second only to cultural relic. Only pay attention to the outstanding theme, view clear, bright color, professional standards, unified the five basic elements, to edit text display exhibition. Theme: every display has the corresponding theme, require a central idea like writing an article. To display the exhibition theme, on the display front, each text notes should be reflected.

Finally, the design content should have form design concept and accomplishment.

Museum display design personnel, not only need to have the ability to content design, but also the accomplishment and form design concept at the same time. To be the most appropriate way to show, interpretation, improve display content. Boot form designers complete display design.

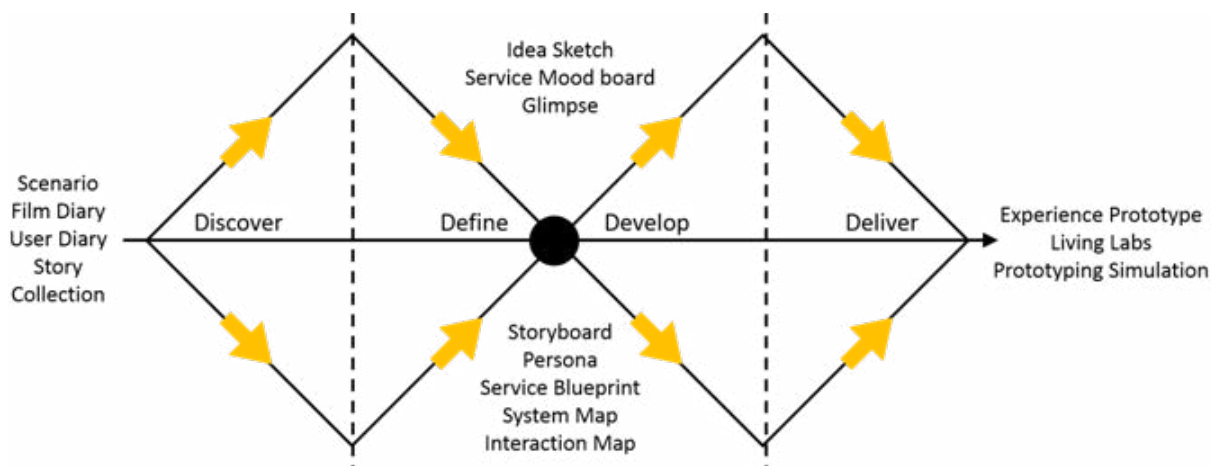
In first, will display outline scripts provided to form designer. Outline the feet is to avoid form design deviation display content the most direct and effective way of the orbit. At the same time is also content the designer and form designer communication medium. To actively participate in the design of display form a complete process. Exhibition planning personnel involved in the whole process into form in display design stage is very necessary. On the one hand, also for checking form design, appropriate requirements and Suggestions, on the other hand, in the form designer to provide related information display content as much as possible. Finally the content involves the personnel to be able to own learning form the new idea of design, understand the display form of new ideas and new technology. Need to be able to display content to the form design practical requirements and Suggestions, and let the forefront in the form of a design concept to get play on display performance and use, without the display in the form of a behind The Times.

2.3 Service System Design In Exhibition Planning

Service design incorporates a variety of disciplines in a variety of research methods, it is an emerging discipline, not view it as a new way of thinking is more suitable. Since 1994, the British standard association issued the first global guidelines on design management (BS7000-3, 1994), and then to gradually develop to the latest version (BS700-3, 2008), in the process of service design long development, the definition of it has been extended. Just as there will be one thousand one thousand readers heart Shakespeare, different scholars and experts also have their own unique definition for service design. Service design base on the experience, to provide users with more smooth and hope not only from the user's point of view: the interaction between them and the service is more ease of use and appeal; From the Angle of the service provider: at the same time make its internal service more reasonable and efficient operation of the overall process.

Therefore, Stefan Moritz defines service design: the design is to help create a new service, or by optimizing the existing services, and let the "development" service can not only provide users with the possibility of more, meet the needs of users more, at the same time also can make the provider also have common benefits.

Service design process and method, in short, is a process of 4 d, or is also translated as "- - powder - or" process. Begin from a wide range of exploration (Discover), then and to summarize related clue, Define related issues and methods (Define), which in turn deepen the development of the design (Develop), finally in display and scheme of the present (Deliver). The design of the 4 d process need to be repeated many times, iterative, revisions, can ensure the accuracy of design. In the different stages of service design, all need to use the related design methods and tools.



Service Design Thinking Process

When we shift focus from simple planning content and the form of after service system design, we found that the challenge is completely different from the traditional exhibition planning services system. If ever the same train of thought to design the service system, will inevitably cause the user's wall. Exhibition content and the design of the space is relatively independent, and because of that, the design of exhibition mechanism, market, propaganda and so on are assigned to different departments to achieve, each one aspect of the problem in a professional way, vertical chains is demand, so it is done in a big silo.

(1) User - Centered

Learn the user's requirements is the precondition of starting a service design and important link. Designers need to user demand, behavior, habits, motivation and social environment and so on into the in-depth analysis, so as to get the user to the service of real opinions and look forward to. Designer in the process of research and design, it is necessary to set up with users quickly effective communication and feedback method and the mechanism, seek common language to communicate with users, deep and true understanding of users, for example, you can use the methods such as ethnography to record and communicate.

(2) Creative together

Collaborative innovation is the necessary direction of the current design industry, is also the future development trend of it as a new design thinking and method, can bring more inspiration and of the design process. Design a scholar once said: if the designers hope to expand their services, it should be in the initial stages of design, considering the environment space conditions, carried out in cooperation with your target service participants to design.

(3) Evidencing

Service is inevitable in the design of a situation that many services do not too much physical contact, so how to make our customers can have a more profound awareness, enhance the confidence in the service, make the immaterial services became more vivid? This would require the project service design effectively in the real perceived entity material.

(4) Sequencing

Service is a gradual process, each Service is divided into Service before (Pre - Service), Service (In - Service), and After Service (After - Service) three stages, through the begin to contact the Service from the user, the end of this Service and fully experience the three processes. In the corresponding phase, when there are interaction with the user and the service, can make a contact, the contact is can provide users with chic experience, can produce user viscosity of the important factors for a long time. So in the planning of the service, should attach great importance to the design of each contact.

(5) Holistic

Service has certain systemic design, in the certain service design are derived, need to first clear service to provide the related features and experiences and form a System of service supply graph (Offering Map), at the same time also should fully consider the service need to involve all stakeholders (gaining Holders) and form a reasonable Interaction experience figure (Interaction Map), combined with the whole service System in the information Flow, material Flow and cash Flow of three kinds of resources to run Flow state (Flow), the formation of the final System diagram (System Map). Under this kind of service design method, can make the whole process fully take into account the factors and more systemic.

Project Research

Shanghai Auto Museum is located in Anting Auto City, Jiading District, surrounded by a landscaped park. It is one of the Shanghai key cultural projects and it is China's first professional automobile museum. It opened to public on January 17th, 2007.



3. Project Research

3.1 Shanghai Auto Museum Introduction

Museum building area and exhibition area reached 30000 square meters and 30000 square meters, the floor height of 32.45 m. The project total investment of nearly 400 million yuan. In the process of implementation, the project design work from home and abroad well-known companies, universities and professional designers. At the same time for each phase of the design results of sufficient argumentation and audit, also hired a famous scholar in the field of related to participate in.

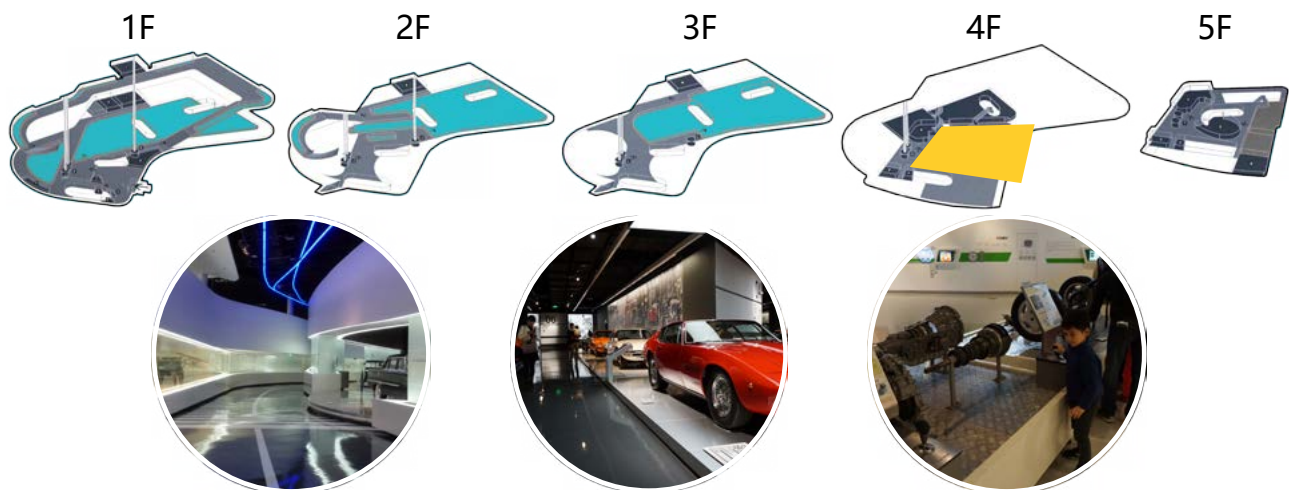
Precious historical traffic and legendary characters and technology evolution by introducing auto development course, is to show in the museum. History museum, collection, explore pavilion and pavilion in the four functions such as different display regions, more than 20 brands of nearly a century classic vintage car display, presented to the audience some moment of auto development in one hundred.

Shanghai auto museum is a mass culture transmission organization, brings together the car character, history, technology and creativity, as well as Shanghai international auto city science and education expo and a sign of cultural tourism function project; Domestic and foreign car makers to show brand culture medium of communication. Shanghai auto museum for the vast number of car enthusiasts provides communication, parties, entertainment platform, for the majority of teens also provides a new way to understand the car history, technology and culture, but also become the public experience automotive culture, experience the art of fashion heights has become a new landmark of Shanghai urban culture.

3.2 Facility Present Situation Analysis

Shanghai auto museum is an important part of the Shanghai auto expo park, the expo park built around the museum, black jade in the west south road, park road, in the north of Suzhou Creek and Wen algae respectively two rivers flowing through the city park. Car entertainment expo park to cars, motor show, car culture as the theme, is a construction of the total land area of 768000 square meters of comprehensive park.

Park by the convention and exhibition expo area and visit recreational area of two relatively independent part. Exhibition expo area in the west, forming a relatively concentrated garden exhibition expo public area. Visit recreational area is in the east, is not only the space of touring, at the same time also embodied car theme culture. Visit recreational area made up by superposition of three parts: the garden, natural mountain and water garden and car culture theme park. Park the car around the garden, through the China, the United Kingdom, the United States, Germany, Japan and Italy and other countries of different architectural styles and different expression of the traditional method of gardening, implicated the shows of automobile power unique landscape. Colorful, amorous feelings of different landscape under the car show in photograph reflect with other countries, make the car culture and landscape culture every wall, bring tourist's perception of rich experience.



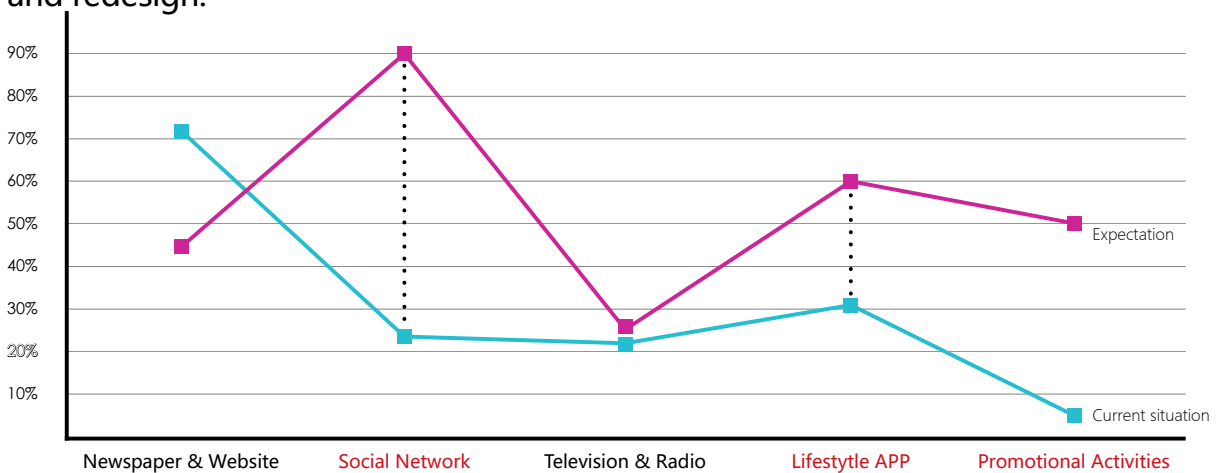
Five Floors of the Museum

Exhibition expo area contains the car driving accused of paradise (new energy automobile driving experience), Shanghai auto exhibition center, EV Zone trial test center (new energy electric car and bike rental) and Shanghai auto museum. At the auto expo park surrounding, but also distribution of Crowne Plaza Anting Golf Club, and several large residential areas.

Shanghai auto museum, a total of five layers and a building area of 27985 square meters, the exhibition area of more than 10000 square meters. The main function of a layer for building entrance hall, ticket office, desk, souvenir sales, coffee bar, cloakroom, the first exhibition hall, etc. The first exhibition hall and the second floor of the layer, three layer for the museum exhibition space, show different topic content respectively. Four layers for the planning of the "150" modern design exhibition space, at the same time on the floor and VIP rooms, dining room and a roof terrace fails to commence business. As the top five layer space is small, the main function of functions of the office conference room, VIP rooms and the museum. The tourists can only reach a layer, the second and third floors, the rest of the floor is not open.

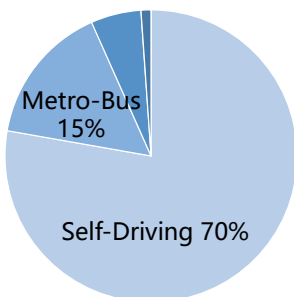
3.3 Service System Present Situation Analysis

The above detailed analysis, the author introduces the Shanghai auto museum in the ground, buildings and existing exhibition. From the point of hardware facilities, Shanghai auto museum is a high quality cultural facilities. And a museum and exhibition project whether can gain more audience's affection and success, the software and hardware in harmony is very important. And around the museum exhibition service system by design is an important way to enhance the level of museum software. The author in this section will combine their desktop research, field visits, questionnaire investigation and relevant interview (Shanghai auto museum librarians Shen Danji lady), Shanghai auto museum service system of the existing a carding and analysis, and find out the deficiencies and problems of them, so as to make more targeted improvement and redesign.



Note phase is the user to contact a service system of the first link, before this, users often don't know the specific content of the service provider, even even the provider's own concept and image is not clear. According to the questionnaire survey of geared to the needs of society, with 58.7% of respondents said that had never heard of the Shanghai auto museum. Note stage is the foundation of the whole service system, if users can't clear for services and their providers and interested in the subsequent experience, the concept of the four stages will become a castle in the air, after losing the meaning of existence. Shanghai auto museum at attention stage mainly through three channels, advertising, since the official media operations and related activities participation and organization.

How did you arrive the museum?



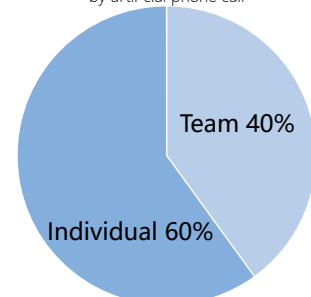
Low Public Traffic Usage

The ticket price order channels is disordered



Disordered Ticket Channel

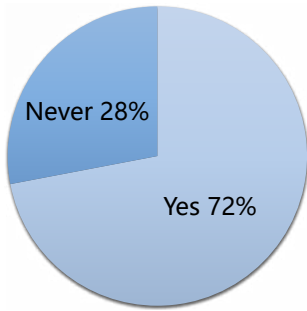
Tens of thousands of people make appointment by artificial phone call



Pre-register Inefficient

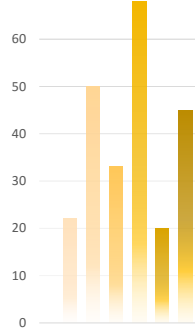
Museum and exhibition stage mainly through ticket ordering, group reservation and transportation to the three aspects to reflect, is by the user attention stage know relevant stadiums after the exhibition information, leads to the excessive levels of use stage. If join stage service experience, is likely to cause the user have grasped the exhibition information, to interested but cancel the travel plans of embarrassment.

Have you ever experience interactive exhibition ?



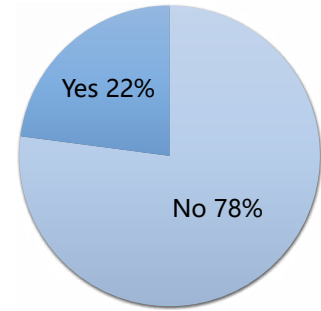
Like Interaction Display

How do you want to improve the way of interactive?



Simplified/Entertaining/Memorable

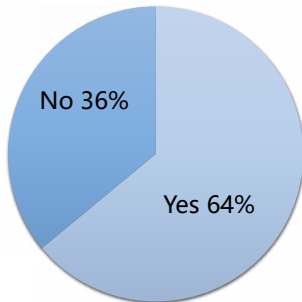
Have you ever downloaded exhibition APP?



Low Penetration For APP

More traditional car museum exhibition interactive way, basic to watch the reading text, images and physical model of display is given priority to, cooperate with or WeChat the commentary, constitute the basic exhibition viewing experience. Car museum of individual tourists, mostly young families with children, in the author field observation, found some problems in use, especially for low age children and exhibits, the interaction between the parents.

Have you ever joined activities in museum?



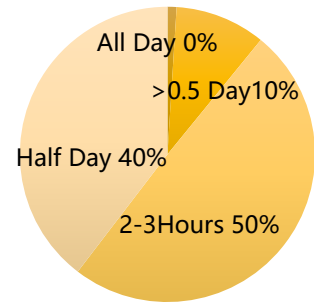
Activities Joined In High Rate

Whici kind of activities you like?



Workshop Is Popular

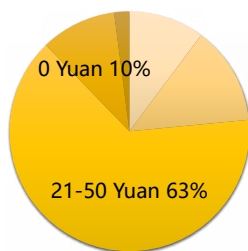
How long do you stay in the museum?



Tourists Stay Time Is Short

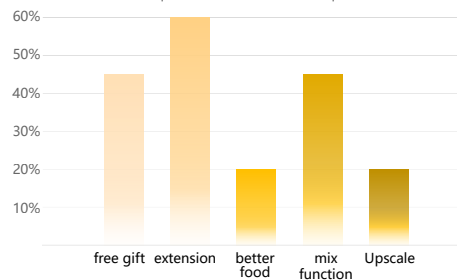
The fourth stage of the service lifecycle for the development stage, is to use the phase of the extension and upgrading, although still is a part of the exhibition experience, but not everyone is willing to, or have the opportunity to participate in. In car museum at present, this kind of experience of the links have a volunteer service, parent-child class, and to undertake the business activities.

How much is your additional consumption ?



Per Capita Consumption

How to improve restaurant and retail experience?



Method Of Improvement

In the "out of phase", represented by supporting the restaurant and a memorial service problems with the needs of consumers and museum. Form a complete set of the coffee shop is located in the core area, the entire exhibition but lack the number of consumers, providing services and tourist demand also exists dislocation. Souvenir shop, selling high is buckled, following from such as products, low prices and occupy a memorial area of large-area in lower sales of high-end models and toys. Therefore, souvenir shops and cafes are existence space utilization unreasonable and supply and demand do not match.

Target User Research

In this chapter, the author mainly aimed at the design of three factors "person" and "environment" in-depth analysis, through the research on the target user groups, such as the form of questionnaire survey, in-depth interviews and expert interview users come to the relevant requirements, at the same time set up user profiles of each representative to reach appropriate functions and model design, want to combine the service system of the location at the same time, further analysis of the "people" to achieve the precision and clarity, on the level of "man" user requirements and service architecture of effective docking; At the same time, in the "creation" level, "150" modern design exhibition service system running needs corresponding "materialized" means to help, so we need according to the design of large space will be for the overall one of the three elements of "environment" decomposition. At the same time, applying the related analysis results of "user" to the construction of the "space", in the design of the space environment reflect the user's actual demand. Designed three elements in the category of "activity" and "environment" in the "object" part will be in the fifth chapter in the design of concrete

4. Target User Research

4.1 Questionnaire & Interview

The author for exhibit potential visitors to design a set of questionnaire, to the present situation of the public exhibition behavior, habits and hobbies, to produce a more comprehensive understanding, the questionnaire survey can be provided to respondents is more sufficient time to carefully choose the deep, at the same time can also be the respondents to the object of study way of thinking and attitude position relatively objective expression, anonymous questionnaire survey method can guarantee the rationality of the data to a certain extent and authenticity, these are the direct observations cannot guarantee on the spot. A detailed questionnaire can be found in appendix B.

Questionnaire name: "Shanghai auto museum exhibition planning and service system design of the questionnaire survey,

1. The questionnaire design

The questionnaire items made up of single topic selection and multiple choice questions. Two kinds of choice is in the given option

Considering a range, such as choose "other" option, you can manually enter content. Questionnaire, a total of 46 questions is very detail and ensure the respondents in a certain time interval for the answer patiently. But real personal answer number can produce change, according to the results of some different options and answer per person for 30 items. Questionnaire through a web client and WeChat end page, reading time for 5 to 10 minutes, to ensure that the questionnaire will not affect the quality of participants answered by too cumbersome.

2. Questionnaire distributed way

The participation of the questionnaire way all through online manner. Online questionnaire through "questionnaire star" site

Meter and generate the final document. Via E-mail, QQ and WeChat link questionnaire sent to respondents, asked participants to self-service and sharing of filling out a questionnaire link. Questionnaire investigation, and on the basis of online for questionnaire for rapid and wide range of transmission, at the same time ensure that the zero error of questionnaire data statistics. The lottery system at "questionnaire star" function also promoted the enthusiasm of people to answer.

3. The questionnaire sample groups

This questionnaire recycling effective questionnaire of 46, the total in all participants in the survey respondents

Men accounted for 58.7%. Age distribution is concentrated in the 15 to 34, young group was 89.13%, 35-64 - year - old middle-aged people accounted for 10.87%. , the questionnaire survey sample up to the present the main car museum, at the same time, young people to try new things have strong willingness and ability.

In-depth interviews as one of the important means of qualitative research methods, for the comprehensive treatment of research results have important role. Through direct observation and questionnaires collected a lot of first-hand data, for many tend to have a macro understanding behavior and phenomena, the use of one-to-one in-depth interviews survey method can clearly understand the respondents for exhibition experience when driving motivation, attitude and their behavior, and respondents should be say, for building exhibition service system thoughts and expectations. And in the process of conversation between the two sides, the interviewer can be people's state of mind, feelings, language tendency in observation and questionnaire research beyond the range of the subjective factors are sufficient to capture, maximize the reduction of the respondents experience reality as much as possible.

(1) the interview people choice

The design object of this paper is "150" modern design exhibition service system, so its use

For tourists. In the research of the above, the museum's team visitors account for 42% of the total, the individual account for 30% of the total. At the same time, because of the professionalism of the exhibition subject is stronger, therefore in the proportion of visitors, practitioners and the proportion of teachers and students in school will increase slightly. Based on the above two points, the object of the in-depth interviews set as represented in the field of professional students of tongji university; Xinjiang university design professional teachers ZhaiYu on behalf of the professional team.

(2) the interview purpose

Using the ladder advancing in-depth interviews, to access the object depth of understanding. Aim to study

Type of service system users to participate in the exhibition activities of the nature of motivation and essential requirements, as well as the difficulties of under existing condition, to extract from the typical target users demand, so that the subsequent design can focus on the needs of users.

(3) the interview results summary

Through in-depth interview of two different types of users, the author tries to find they have the typical requirements.

The first is the guidance for the organizers of the navigation and the demand of the professional interpretation services, respondents said they only depend on oneself to active reading text panel the way it is difficult to fully understand the contents of the display. The second is for display, interaction means diversification demand, such as hardware equipment of the innovation, the introduction of the Internet means, etc. Finally is for academic campus design defects in history teaching, teachers and students want to be able to with the aid of exhibition, is the second classroom, make up for the school learning and relying on new technology and exhibition held when the accumulated data, formed an academic database, so information access.

To learn from the Angle of the curator designers exhibition planning and service system building situation, the author of a designer with a new exhibition planning experience for the structured interview. Problem set is given priority to with open questions, learn more about the participants' subjective feelings and experiences, encourage people to use their own language and expression is described. In the process of interviews,

the author has carried on the recording, and combined with notes to organize it into interview transcript, so that for later analysis.

(1) the interview objects

Designers, associate professor of tongji university ms Wu Duan. In the second half of 2015 at the Shanghai art fair city space mainly points "-" is sure to be more of the exhibition hall as a curator in the exhibition designer. Main research direction for environmental design, public design, information design and sign system design, etc.

(2) the interview purpose

Hope through to the related practice experience of the designer interview, learn to exhibition planning, the design method of the advanced concepts. Also found in current exhibition service system design of shortfalls and challenges. Through the analysis of the interview data, provide a reference for further design work and guidance.

(3) the interview summary

Ms wu in this time in the early period of the "-" is sure to be more curator, and its "sense" is sure to the exhibition hall

The entire work, including from the early stage of the curator, design, implement, and construction. "-" is sure to be more is investment in urban space art fair 2015 Shanghai's largest exhibition hall, there are many ancient town is sure to be cultural exhibition in the exhibition. "Sense" is sure to exhibition hall is divided into two layers one, two. A layer is given priority to with the strong sensory stimulation, presents a huge, interactive map of the ancient town, such as video, sound, interactive form, let visitors know the ancient style and cultural history. Show a context of carding on the second floor space, on the part of tongji university grade three summer practice operation, from the ancient multiple levels, such as plants and traditional craft, revetment structure analysis analysis was carried out on the town. In a fast and slow two exhibition halls cross technique, make tourists to town had a deeper understanding.

"-" is sure to be more exhibition at the curator stage has carried on the preliminary planning for service system. Using the APP interaction in exhibition, in the hope that the APP can not only related to the exhibition, at the same time to guide the tourists to explore interesting places in town, in the implementation stage, because the time is pressing, APP "micro" final feature is given priority to with augmented reality means exhibits explain. In the process of the curator, ms wu, don't think service system into a system design is a big regret: "because there is no system to consider, so the (design) can't together, at a very narrow". At the same time, ms wu has also combined with their own personal experiences and academic research, provides some in exhibition service excellence design cases, such as natural and cultural heritage park visitors to children in vancouver, Canada to develop a system of quiz game and related services.

4.2 User Archive

1. The definition of user profiles

User profiles (Personas) also known as "characters", this design can't be used to analyze the prototype of the target user, to describe and define the user behavior, values and needs. Characters can help designers in design project experience and communicate the user's behavior in real life, the values and needs. When carries on the analysis, often

through some representative character of virtual or real people to represent one kind of the crowd, and is described by the representative factors such as age, occupation, hobbies, habits and customs, highlight the characteristics of target, in preparation for the further design and bedding.

2. The classification of user profiles

Shanghai auto museum exhibition 150 "modern design" service system of the main service crowd is museum visitors, tourists as museum is the most important participants in service system should have sufficient power. This word is too vague to the visitor, due to the different age, identity elements such as lead to its exhibition there is a big difference in the purpose and manner. Therefore, through the analysis of the research mentioned above, "modern design exhibition 150" service system of the main user can be subdivided into the following categories: parent-child class tourists, team tourists, professional visitors and the four ordinary individual classes.

(1) the parent-child class user - Mr Zhang's family

The first kind of users is a delegate with a "zhang" parent-child class user. On the choice of way to travel, will give priority to with the driving, so want to be able to easily access to relevant traffic and parking information. The focus of the whole tour that children, the parents hope to guide and companion to gesture to take children to discover and explore, through rich, want to be able to display to increase the interaction between children and their own. And, of course, if you can have some activities to let their children to explore voluntarily or cooperative engagement with other children, parents can have break time. Has a rich family interaction, intuitive interesting exhibition is what they want to see. After the end of wonderful exhibition process, give children back to a novelty gift will be the day. Main experience link: interactive exhibition, parent-child classroom, restaurant and retail.



亲子类用户——张先生一家

用户基本信息：
张先生，40岁 企业部门经理
兴趣爱好：旅行和运动

妻子，35岁 中学教师
兴趣爱好：烹饪

孩子：5岁 幼儿园大班
兴趣爱好：看动画片和做模型

用户语录：
儿子最近迷上了汽车。有一次在刷微信时发现了嘉定的汽车博物馆，于是决定全家一起来汽车城渡一个周末。平时由于工作的关系，和家人在一起的时间不够，希望这次能够和他们玩的开心！

Mr Zhang's family

(2) teams of user classes, miss li

The second category of users is a delegate with "li" miss team class user. They often come from a certain company, school, or other organizations, less number of people, more than dozens of the team is a unit of their travel. On the choice of traffic tools, they will often need to charter travel services. Tickets from the first team, interpretation services, scheduling, and even ground rent, group meals service etc. All need to implement one by one. They want to be able to pass the digital platform for basic

information to confirm, if there are other special requirements, there is hope to be able to connect, complete solution through direct communication. Sometimes they also needed a museum site, some special activities. This user accounts for large proportion in the museum tourism, and there is still room for improvement.



团队类用户——李小姐

用户基本信息：
李小姐，26岁 公司人事部助理
兴趣爱好：读书和音乐

用户语录：
我们公司以汽车配件的研发生产为主营业务。在上周的会议上，公司决定组织一次全员工的团度活动，经过讨论，我们认为嘉定的汽车博物馆很适合我们公司。上司把这次活动的安排交给我负责。要安排好这几十号人一天的活动行程可不容易啊！


希望博物馆方面能够进行便捷、高效的团队活动预约和辅助活动的策划。

Miss Li

(3) professional user classes, huang

The third type of user is a delegate with "huang" professional class user. Professional class user for a basic services such as transport, booking tickets, food and beverage requirements and parent-child classes, individual users basic same, but they are more strict to the requirement of exhibition content and means. They tend to be in the school teachers and students, or related field, for the exhibition, they are not too care about entertainment experience, but in the deep information, hope to be able to. This type of users with the new technology also has a strong ability to accept, mobile phones, computers and even VR equipment they will be able to use handy. Museum make full use of their ability and knowledge, also for their exhibition quality improved.

Main experience link: short barge services, professional explanation, the exhibition interaction and theme activities.



专业类用户——黄同学

用户基本信息：
黄同学，23岁 某大学汽车设计专业学生
兴趣爱好：电子产品，资深驴友

用户语录：
汽车设计是我所学的专业，同时也是我的爱好！不出意外的话，我以后应该会成为一名汽车设计师！这学期我们开设的课程中需要学习很多有关设计和汽车历史的内容，可以课上和书上的内容总觉得有些枯燥。

在微博上了解到汽车博物馆新开设了一个展览，所以我过来看一看，如果好的话还能推荐给其他同学！

Student Huang

(4) the ordinary individual user classes: Zhu and his girlfriend

The fourth class user is "zhu and his girlfriend" class represented by the ordinary individual users. The composition of this type of user way more diverse, may be a few

friends, colleagues, lovers, or alone. They will often through weibo, WeChat and lifestyle APP to know about the details of the museum and exhibition. Way to give priority to with public transport, if know in advance the related short barge service, will enhance their willingness to go to the exhibition.

In the process of the exhibition, the degree of depth for exhibition content and demand interaction between parents and children between users and professional users. Exhibition contents need to be more universal, popularization, and would like to contact some less too sophisticated and complex interaction. Throughout the browsing time periods, the exhibition hall is one of the links, and supporting the people together to enjoy the food in the restaurant industry, to participate in some activities, custom some souvenirs of individuality will account for a large proportion. After all the knowledge in the exhibition and books through the network can also superficial understanding, come all have to experience some special content! Main experience link: promotion, interactive, catering a memorial exhibition, theme activities



普通散客类用户——朱先生与女友

用户基本信息：
朱先生，27岁 互联网公司职员
兴趣爱好：登山与美食

朱先生女友，25岁 在校研究生
兴趣爱好：手工艺和养小动物

用户语录：
她是一个文艺女青年，在自己的朋友圈里看到了汽车博物馆。之前由于路太远一直懒得去，不过听说最近汽车博物馆的活动内容丰富了很多，所以我们决定找一个周末一起去看一看。

Zhu and his girlfriend

PSSD For Exhibition

In this chapter, I mainly do the in-depth analysis about the people and environment of the project. Through the research about the target users, such as questionnaire, deep interview and expert interview, get the core requirement and build the persona. Combined with the location of service system, making the analysis of people more precise and clear. According to the need of different target users, the environment and exhibition space is designed to reflect the needs of different users.

5. Product Service System for the exhibiton

5.1 Target Users Hardware & Space Requirements

In this chapter, the author in view of the Shanghai auto museum and its service system for users to carry on the investigation and study, and identify the four types of main target user. Museum exhibition service system, need to build the entity space and at the same time, the service on the space to create value. Space planning requires planning according to the actual needs of users. To this end, the author will all kinds of target users, for the demand of the entity space in all phases of the comb, as the reference for building and planning exhibition hall space. Because of the service system of "note" level are more about advertising, promotion and marketing experience, the entity space is less, so the author from the stage of "join" as a starting point for analysis.

(1) the parent-child class user - a Mr Zhang

Such users sometimes get to the museum by means of self-drive, so want to put on the main city roads

Buy traffic guide system, parking area is arranged at the museum. In the exhibition hall, information and communication must be suitable for children, parents and the experience of class is an important node. Restaurants and souvenir shops also have certain requirements.

(2) teams of user classes, miss li

Such users will often go, by means of the team charter also need city road marking guide and

The corresponding parking space. Decorate in the exhibition space, the need to consider the short time the emergence of large passenger flow, avoid showroom in narrow and prevented visitors gathered. Some open business, activity space is such user's special requirements. On catering facilities, also to be able to cope with the short-term big passenger flow.

(3) professional user classes, huang

Such users often arrive by public transport, in the subway station needs corresponding advertisement logo, and cloth

Short barge traffic facilities. For space decorate should consider its professional exhibition hall, the ductility of exhibition information. Related activities such as speech, the theme of the report and other activities will cause their participation.

(4) the ordinary individual user classes, zhu and his girlfriend

The way to involve drive travel and public transportation. Demand for exhibition and between professional class users

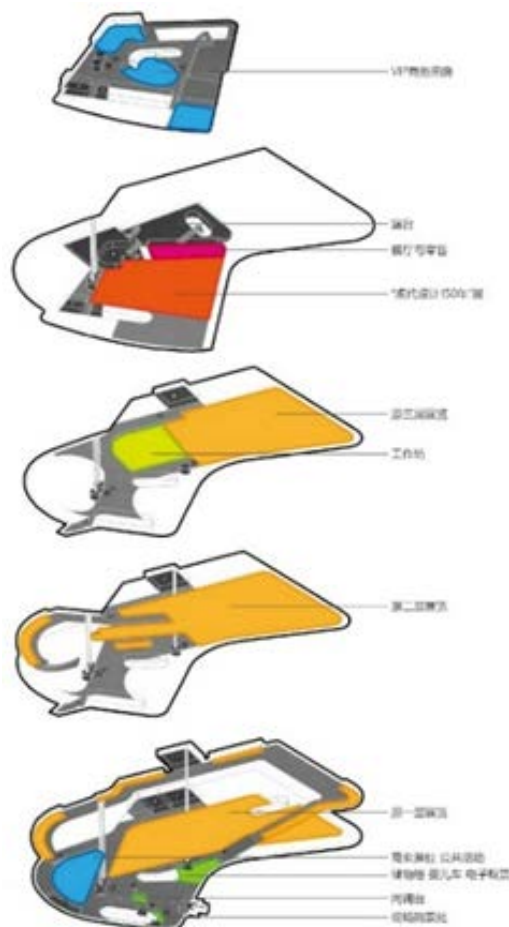
Between users. Theme action classes space has certain requirements, and catering, souvenir for such user has strong appeal.

In the third chapter, the writer of the Shanghai auto museum building function distribution are analyzed. The current exhibition distribution only in one, two, three layers, so we can not meet the new "150" modern design exhibition and the upgraded service system needs. So the author based on a section of the user requirements, to adjust the museum functional partition.

In the structure of the layer, the author compares the original space more adjustments. Site tickets left for the entrance area, the right to a comprehensive space, provide personal belongings in storage, children's cart facilities rental, and temporary storage, at the same time to collect the tickets and electronic equipment on the network transfer here, shorten tourists use a line. The original space only set a low utilization rate of a coffee bar. The author of the new plan, the whole area will be used as business and public activity area, can make temporary exhibition for motor vehicles used for at ordinary times, in a big event, can use the advantage of its open space and accessibility is strong.

The second and third floors of the buildings less adjustment. At the entrance of three layers, the integration of the low utilization rate of the original dynamic cinema, mini circuit and other facilities, expanding the scope of "parent-child small classroom", formed a scale and professional workshop has more space, enhance the professionalism of the workshop, for activities organized around the theme of better quality.

The four layers of the original building is not open to the public of the enclosed area, now as the "150" modern design exhibition venues. At the same time, the author USES the original yet in restaurant facilities, to be in the planning of new restaurants and souvenir integration in four layers. Can bring the route optimization, spatial integration and service promotion effect. Specific four layers of space planning will make a detailed analysis of the next section.



The exhibition hall floor space

5.2 Vision & Mood Board



Mood Board 1

Vision 1: rich interactive experience

Car museum visitors are mostly flock, more types are friends, relatives and parents. An exhibition is not only provided by the dry information transfer, and shall, by means of novelty, let people and things, people and environment, and the benign interaction between people. For the exhibition process entertaining, enhance people's engagement for exhibition. This interaction can be through the physical device, touch panel, provided by the exhibition space tourists their mobile phone, wearable devices, and even held exhibition hall and organize activities of some of the games, and other means to achieve. An interactive experience good exhibition, more easy to let a person leave deep impression, is willing to spend more time to participate in, at the end of their browsing at the same time, also has more willing to share their happy experience.



Mood Board 2

Vision 2: optimization of space

Successful museum in the world or exhibition tend to have the same good supporting services, such as restaurants and souvenir, the development of online virtual museum and other facilities and services. The content constitutes the complete experience of tourists with the exhibition itself. At the same time, the museum also can pass these facilities, improve the added value of venues, create the objective profits. In the existing car museum, has been equipped with catering facilities and souvenir shops. But both occupying an important space, is unable to perform the corresponding functions. In the research phase, you can see that both tourists and show producers are attaches great importance to this part of content. So by the space of surrounding facilities, improve service, tourists will get a more complete, more mature exhibition services.



Mood Board 3

Vision 3: convenient academic services

The "150" modern design is according to a certain historical and academic background of the exhibition, so the relevant organizations and professionals will need higher professional services, at the same time, this part of content can also serve as expanding knowledge and information, provided to interested in other tourists. Use this service platform, exhibition organizers also can use professional knowledge to provide exhibition continuous help and make the exhibition presents content has a solid academic foundation, a form an audience, to improve the quality of the exhibition, attract more audience's virtuous cycle.

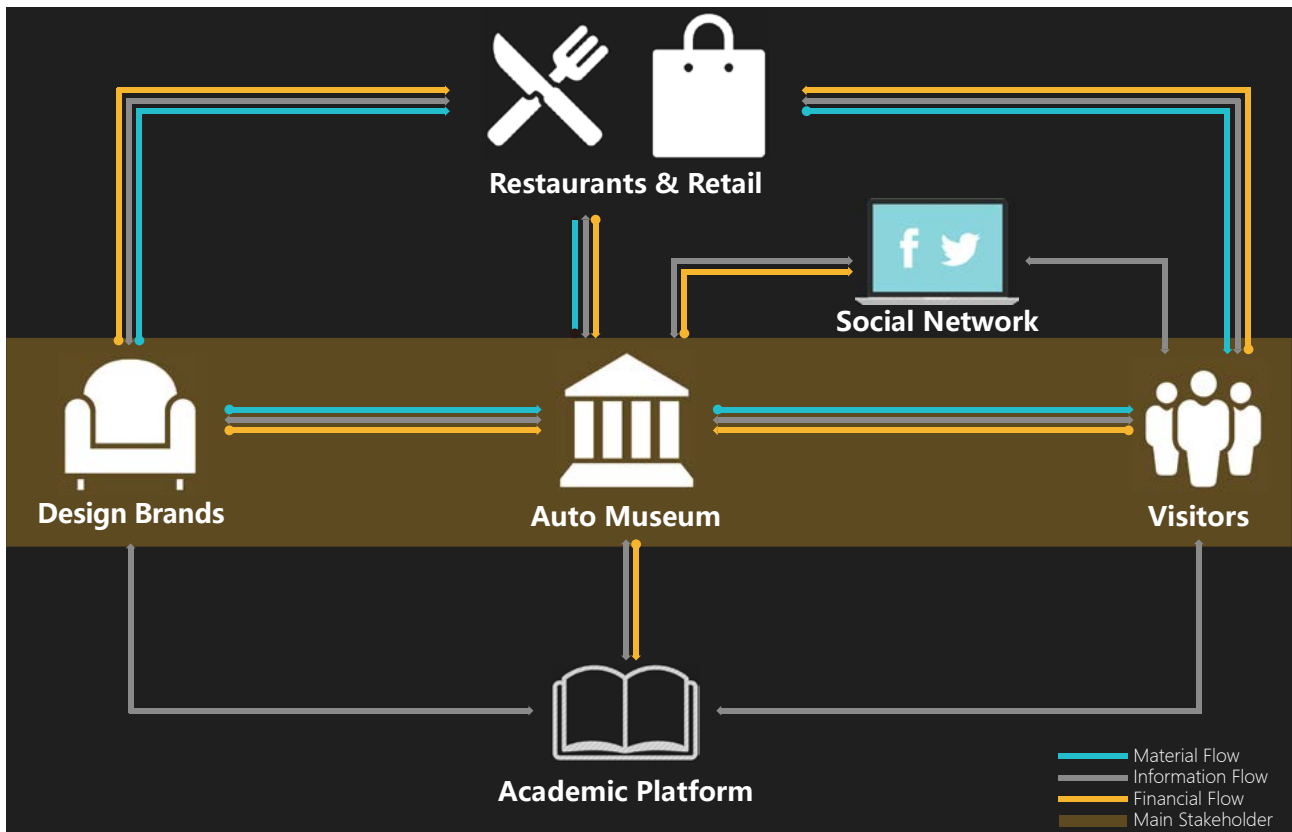


Mood Board 4

Mood board is service design tool is an important design methods, it can guide the design personnel more clear, clearly outline the characteristics of the target service system, users want to foil the atmosphere and want to express emotions. Mood board use visual language to appear, such as the pictures, can help users a more intuitive feel soft language and product character of the design. Is the author in the form of a mood board, intuitive expression "150" modern design visual intention of exhibition service system and space.

5.3 System Map

In service System design, System diagram (System Map) is associated with a particular service different participants that stakeholders (gaining Holder), capital, information and material exchange between them with visual or physical way. The interaction between these different roles listed table analysis, to clarify the staff, customers, partners and other stakeholders. For a service provider with thought to improvement and breakthrough, a comprehensive and easy-to-use system diagram is an efficient and useful tool.



Service System Map

Shanghai auto museum service system is a long time span, the spatial span range of integrated systems. In order to more accurate and clear through the system diagram to express its core connotation, at the time of rendering system mainly expressed in the museum space within the service process. Related to the early stage of the promotion, online booking and short barge system service is relatively mature operation model, therefore was not included in the calculations of system diagram.

Car museum, design of consumers and brand as the core stakeholders; Food and beverage and retail operators, social networks and academic platform for the secondary stakeholders. As the exhibition organizer, through exhibitions entity and the construction of the virtual space, to design a brand and the user provides the opportunity to contact with each other. Consumers in the prophase through social platform for exhibition consultation, will through the exhibition space, the academic information platform and food and beverage retail space three channels benign interaction with the museums and design brand, obtain related cultural knowledge and entertainment experience. While design brand by offering museum exhibits and material support, in the catering and retail space in brand marketing, academic

information platform to provide consultation and so on, to promote their brands and products, thereby giving impetus to the development of enterprises. Academic information platform as an extension of the exhibition in the virtual space, enrich the diversity of exhibition means, meet the use requirements of different people. At the same time set up a communication bridge between the user and the design brand, to upgrade the exhibition itself continuously optimize also provided certain support.

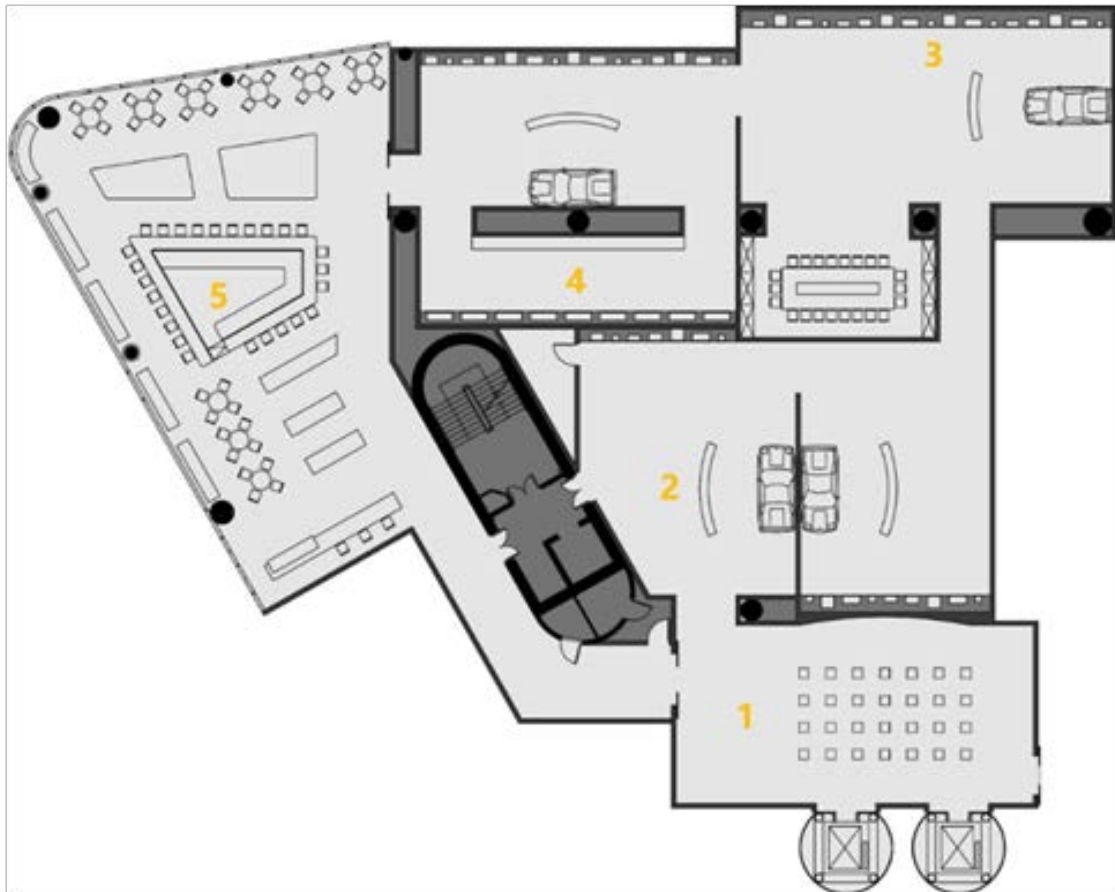
	意识阶段			参与阶段			使用阶段			发展阶段			离开阶段			
	通过品牌传播的品牌建立、品牌推广工作，让公众和博物馆知晓品牌，熟悉品牌的名称、理念、活动、交通与路线。通过产生品牌认知感的过程			用户已正式决定前往博物馆但尚未进入展厅，正式购票。在购票阶段完成购票、行李寄存、扫码、取票等安全的事项			游客进入展厅，使用各类展览项目，通过不同的交互手段，体验期待设计不同发展路径			在展览过程中接触各环节，包括工作坊、体验制作与零售等。这部分内容将贯穿整个展览过程更加完整和有趣			游客结束观展参观，进行经验分享，学术APP为专业人士、博物馆及设计品牌提供延伸			
用户 USER	品牌 BRAND	展览与推广	品牌与展览	预订与购票	到达	寄存	馆内入场	VR虚拟展交互	APP互动	寻找3D车	工作坊与主题活动	体验式展览	纪念品零售	分享	资料提供	
	网站 REFERENCE	品牌的前期立项与设计工作	品牌传播和渠道推广	在线购票、预约讲解活动报名、路线推荐	电动车与自行车租赁服务、扫码取票	寄存服务物品、扫码取行李等事宜	出行提醒入场	利用VR设备进行沉浸式体验与互动	通过AR设备与APP与展品进行互动	通过AR设备	博物馆讲解不同类别的工作坊、主题活动、品牌发布会等	博物馆讲解	设计主题活动零售体验	通过社交网络和自己的朋友圈进行经验分享	设计从专业人士延伸使用APP为专业人士	
	品牌 FACE TO FACE					与工作人员交流	与工作人员交流	与工作人员交流	与工作人员交流	与工作人员交流	与工作人员交流	与工作人员交流	与工作人员交流	与工作人员交流	与工作人员交流	
	品牌 PRINT		CX展架、海报		导览标识		门票与导览册			纪念物展架	活动相关衍生品	海报、宣传册等	产品目录、软袋等			
	品牌 JRE STYLE APP		广告海报													
	品牌 HOMEPAGE		展览介绍	展览链接页面												
	品牌 SOCIAL MEDIA		广告投放宣传													
	品牌 SPACE															
	品牌 PRODUCT															
	品牌 PUBLIC MEDIA															
	品牌 EXHIBITION APP															
	品牌 AUXILIARY ID															
	品牌 HOTLINE															
	后台 BACK STAGE	展览运营部门 EXHIBITION SERVICE	展览运营	展览运营	展览运营	展览运营	展览运营	展览运营	展览运营	展览运营	展览运营	展览运营	展览运营	展览运营	展览运营	展览运营
展览运营部门 RECEPTION STAFF																
设计品牌 DESIGN BRANDS		成为赞助商	品牌宣传													
新车公司 EV ZONE																
蔚来汽车 NIO																
展览运营部门 RECEPTION STAFF	展览运营	品牌宣传														
食品零售 FOOD & RETAIL	成为合作方															

Service Blueprint

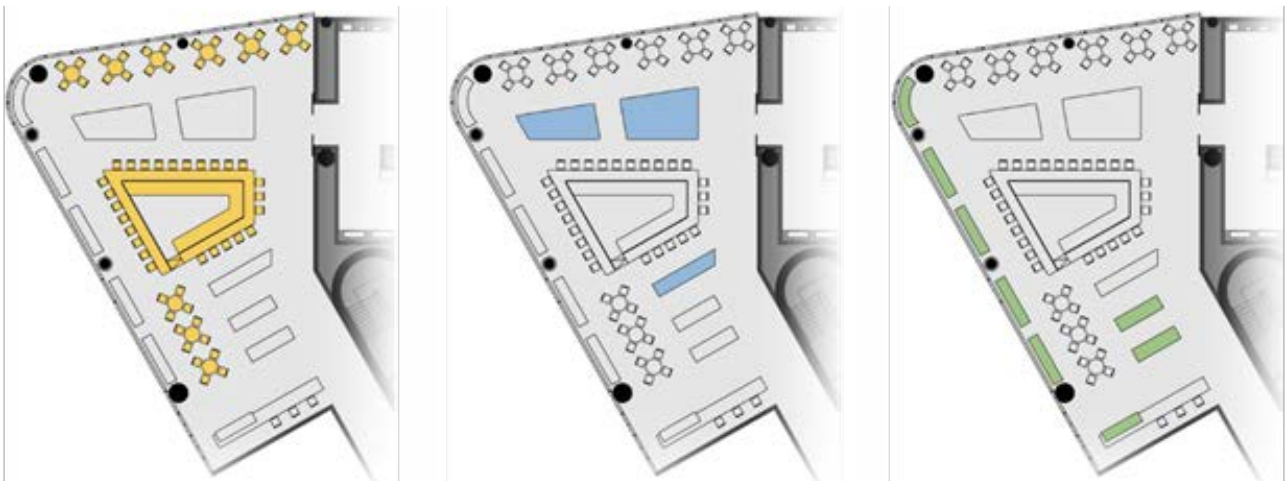
The author for Shanghai auto museum exhibition 150 "modern design" mapped the complete service system blueprint, clearly express service, involved in all phases of the channels of contact, back-office operations and other information. The whole service system is divided into five stages and fourteen subdivision steps. First stage of consciousness, and its main purpose is through the museum's brand building, publicity and promotion work, let the public know the museum and exhibition familiar with the contents of the exhibition, fares, activities, such as traffic information. Now there are to the will of the exhibition. Which subdivided into prophase of planning and design ", "propaganda and delivery" and "booking and loan". Second is participation stage, when the user has officially decided to go to museum but not yet entered the exhibition hall, exhibition officially. During this time about the traffic reach, luggage, yards, tickets and other complex issues. Mainly include the "reach", "carry-on luggage and scan code", and "take admission ticket" three steps. The third and fourth stage for the core and the subject part of the service system, namely the use and development stage. Here visitors enter the exhibition hall, the use of conventional exhibition project. Through different means of interaction, experience different development course of the modern design, and to participate in additional steps in the process of the exhibition, including workshops, experience the restaurant and retail, etc. The content will make the whole process of the exhibition is more complete and interesting. Of the two part of the service, mainly including the "VR virtual reality interaction", "exhibition custom APP interaction", "car hand draw 3 d game", "workshops and events", "experiential restaurant" and "souvenir". The last part to leave the stage, visitors will end exhibition, to share experience, academic APP designed for professionals, museums and provide service brand.

5.4 Touchpoint Design

Contact service system in the space, is located in the car museum four layers of "150" modern design exhibition halls and restaurants, covers an area of 850 square meters and 370 square meters respectively, a total of about 1220 square meters. Part in the exhibition hall, divided into the preface hall, VR (virtual reality) experience, physical display and interactive game four parts, restaurant and retail area is designed as a function of hybrid integrated space. These five node specific space design and interaction will be detailed in the next section.



Exhibition Hall Floor Plan



Food & Retail Area



The Preface Hall

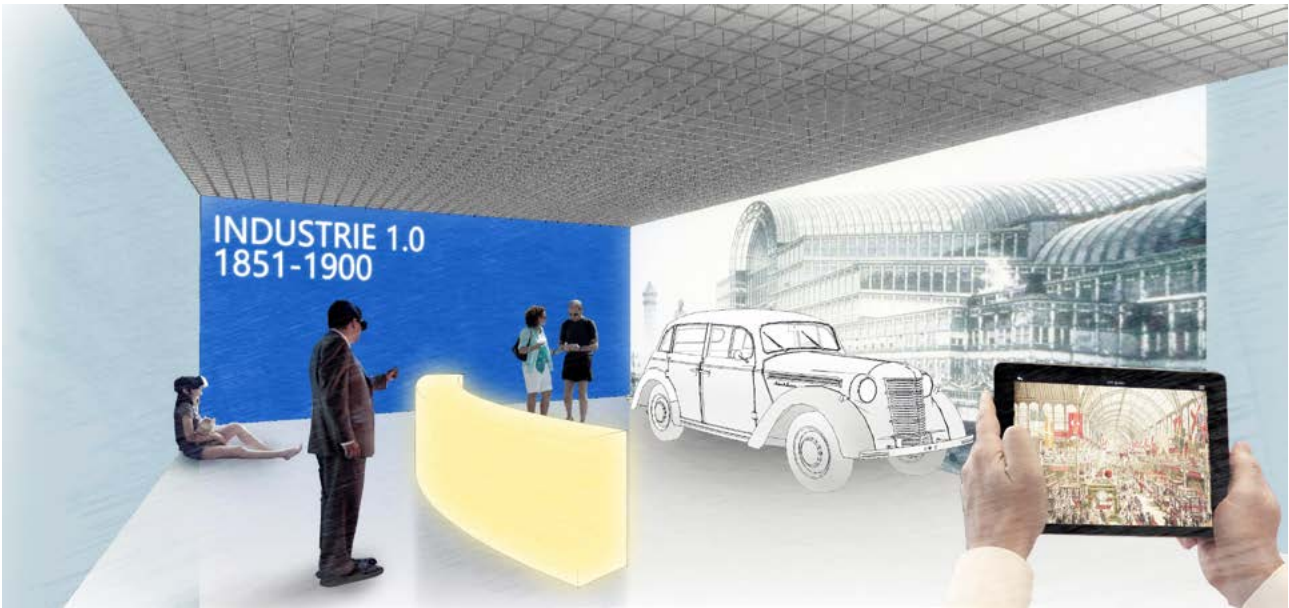
The preface hall is located in the beginning of exhibition space, as well as tourists from the place where exhibition hall, whether from the spatial experience, or from the point of service system, a space is very important. In this 130 square meters of space, mainly to undertake the following functions:

(1) the spatial channel: preface hall is an important part of the streamline distribution space, there are two elevators around the perimeter of the space layout, a gateway to the toilet, an exit door to the restaurant, as well as the entrance to the first floor. As a stream of intensive cross space, preface hall reserved a larger space, also in the aisle width of 2 meters.

(2) software download and teaching: "150" modern design exhibition have their own special exhibition with APP. After research for many need to APP exhibition cases, the author found that the unreasonable on the spatial planning as well as the shortcomings of network leading to the experience of users unable to get ideal effect. In the preface hall, have sufficient rest space and network infrastructure, can let visitors smoothly completed APP to download and install, and through the video teaching to master the use of the equipment.

(3) the preface shows: preface preface hall is the core functions of exhibition show, many exhibition preface is often a great length of text, read a few lines will leave tourists. The author hope that through a short video to tourists were introduced historical and cultural background. So as to achieve ideal effect of information dissemination.

(4) the rest: as the entrance of the exhibition, can is a place where tourists for short stay or rest. May wait for here left behind peers, organize your belongings, reading related exhibition materials, or study the phone software, and so on. Here, the need of preface teaching and combining with the video display, set up a sufficient number of seats. The height of chair is different, so both children, adolescents and adults, can take a break here, prepare for after the exhibition.



VR Experience

"150" modern design core exhibition hall for four themes, from industry between 1.0 and 4.0 respectively corresponding to the four stages of development. Each theme exhibition hall, will be divided into VR experience interaction and physical exhibits two parts. Interactive area by the era of a typical VR experience of antique cars and a huge wall. Antique cars from the car brand car museum collections or cooperation. Play the record images on metope, showing the city style, important buildings, clothing, etc., allow visitors to intuitive feel the style of the society at that time. With voice, at the same time let people for history background and design history has a preliminary understanding.

Besides watching the video exhibition hall, visitors can also be provided by the museum of virtual reality devices, immersive experience. Virtual reality devices to 360 - degree simulation space, let visitors immersive feeling, can move back and forth in the streets, buildings, and even to stand beside the historical figures. Visitors can also by moving, the movement of the head to change your perspective, such as interaction with the equipment of the story.

Considering the equipment quantity is limited, tourists can also pass in the preface hall to download the APP and scene to interact with the car, such as dissect watch, click on the auto parts in the scene change a different perspective, retrieval architecture, costumes, the characters in the plot information and so on.



Product Display

In each topic exhibition hall, in addition to the introduction of VR virtual reality experience above, classic design of actual products display is also an important means. These exhibits through collection, loan, or partner support manner to collect and display. Through these representative works, visitors to the development of design history context has a more dimensions.

Regular physical museum display technique is often will mothball exhibits in a sealed glass display rack, match with a piece of instruction plate. Ordinary people usually compare hasty seen the exhibits and brand. In order to improve this problem, exhibition experience to involve the perception of the body, trying to develop beyond the visual sensory experience. The author combine mobile interaction with physical display, refer to the world expo has been part of the pavilion adopts the intelligent reveals ark, through a transparent display, interaction can will reveal ark and exhibits CARDS together. Visitors through the interaction with display, know more exhibition information.

Each display has its code, through the APP code input, tourists intelligent terminal can establish connection with intelligent display case. Operations by mobile phones, LCD screen display different information, such as product introduction, the designer's information, can change the Angle and the scaling of 3 d model display, more detailed information is introduced for professional users, such as the content to the form of text, images, sound and video, even in the retail area in order to purchase in advance. The content in the APP is open, visitors can edit, comment and share by mobile phones, increase the pure physical of the interactive display and exhibition experience.



Interactive Space

A great development trend of modern museums and exhibition is to gradually strengthen the social interaction of visitors. Museum design personnel need to create a different age, different demand for exhibition opportunities for interaction between people. That to cultivate the public's social role and participation is very important. At the end of the exhibition in an exhibition hall - industrial hall 4.0 provides such an opportunity. On display here are not for the industry as a result, it has provided by the exhibition visitors think about future, let visitors not only is the receiver of exhibition content, but also have the opportunity to become the creator of the content, become the focus of attention.

Industrial hall 4.0 had been divided to two Spaces, the external space, like other exhibition hall, be able to experience virtual reality and physical display. While the contents of the virtual reality experience created by "the background" space. Visitors can according to before the exhibition in the process of inspiration, or their life inspiration and demand, to create a future car. After completion of the mapping, the use of APP scanned synthesis of the exhibition, 2 d paper sketches automobile will be automatically generated into a 3 d virtual car, carvers can deserve to go up a voice or video at the same time, introduce their works and ideas. Other viewers will through their APP or VR devices to see everyone's work. Have finished drawing template, will also be able to take home, made into a car model, be their own personalized small souvenirs. This interactive elements and at the same time can also be a theme or brand activities, such as race together, better play to their participation and transmitted.

5.2 Online Platform

"Modern design exhibition 150" service system, aims to build a can let visitors, professional staff and design brand sharing platform, the spread of the modern design culture in society and cultivate. In order to realize this vision, physical space and light by the museum, it is not enough. Therefore, when making the design of the service system of contact, introduced the online contact. Through a combination of online and offline exhibition design academic platform space, make dimensional experience.



Website & APP

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Main Pages of APP

In the process of research, the author found that the design of professional practitioners and students generally want a simple and easy to use design history of access platform, become a tool and database. The exhibition museum collections and academic accumulation can be used to build such a tool. Users can to refer to the "historical timeline", comments and editing, constantly enrich, improve and update existing data, its contents will also link to synchronize and exhibits physical experience. In to provide professional services at the same time, also for exhibition and platform itself brings the kinetic energy of the sustainable development. At the same time of rich history information, the second function of academic ", "plate release latest, hottest product consultation. Design brand, independent designers, and even students and ordinary users to be able to get the chance to publish. In addition to product information, will show the designer profiles and other work. Popular works will also be brought to the exhibition site to meet with the audience. Finally one of the main function of the APP is full of the milk of human kindness, "man," is to people, the story behind the product and its combined plate. Here will be a video released on a regular basis, the protagonist in the video will introduce a favorite or have special meaning of products, to share your story with him. Such as home the first car, my father left a watch, and so on.

Summarize

Through the four stages: the theoretical research, case studies, project research and service system design. I finish the design work and thesis about the “Modern Design History in 150 years” in the way of research design. Now, the discovery and insights during the writing process is summarized. We hope to sort out a research results, but also provide some personal insights to other designers.

6. Summarize

6.1 Conclusion

(1) cross domain: service system design is an interdisciplinary science, contain and make all kinds of activities create links between different areas. We couldn't complete reference to all related to service system design field, because they have too many number, even like engineering, information technology, architecture, psychology and other disciplines can also be involved. In milan polytechnic group allocation, almost no repeat background between team members. In the study of this project design, also involving many fields, such as electric transportation leasing business model, website and APP development, the design of multimedia exhibition equipment, store display layout, and sponsored design brand cooperation, even the choice of restaurant food, etc., are involved in many different professional category. Comprehensive interdisciplinary team, therefore, to better provide service system design, meet the demand of comprehensive.

(2) across departments, and the design team are faced with the problem, the museum exhibition or preparations for the party is also the need for collaboration across departments. The author in the research phase and communicate with all the relevant person in charge of the car museum, you'll find the museum functions between the division of labor is meticulous, cross slightly lower. Asked so many didn't involved in exhibition design and display, the head is often unable to give an answer. At the same time, some operational data and information also need through the application of red tape to get. Therefore, a relatively flat, crossover operations team is more suitable for become a service to connect the design team, work together, make the service system is increasingly perfect.

(3) across time and space: the traditional exhibition planning not to introduce the concept of service system and exhibit is on the time dimension, from visitors enter the exhibition hall to walk out of the hall; Seen from space dimension, the range of design limited within the scope of the exhibition space. This leads to poor user experience, incomplete, and not for a long time. Service system design concept are introduced to exhibition planning dimensions be extended, how to get from the visitors began their design exhibition information, even if the whole process of the exhibition ends, exhibition or its brand and image still has a certain influence.

(4) across the media: digital and network media is gradually becoming the star of exhibition means. It is to apply information technology to culture, art, science and art in the field of business and management of highly integrated comprehensive interdisciplinary, based on mass communication theory, guided by the modern art, dominated by information science and digital technology. In addition to the display screen, touch screen, projection, multimedia interactive technologies such as network in recent years, the rise of smartphones and wearable devices, and open a new door for multimedia display. More personalized, customized and mobile display mode has been explored. With the popularity of hardware equipment and network conditions, optimization and innovation, alternative projection screen, a display and a touch screen of a new generation of new media interaction just around the corner.

6.2 Expectation

Design thinking, Design Thinkng) is a kind of method to systematically identify and solve problems of innovation. Tim Brown language: in the "design change everything" design thinking will be a fundamental influence on the reconstruction of the enterprise and management, design thinking should be closely combined with enterprise's superstructure; And personal meaning for design thinking is special, it makes us realize the importance of group, find more possible ways to solve the problem. In museum exhibition service system design, in order to improve the experience, must want to come to "service design thinking" in the future is also up to the whole operation system of the core position, from two aspects of structure and quality of hair increase the cultural exhibition industry's future prospects.

Hope our art gallery, exhibition hall, museum, and business place held by institutions such as exhibition, to use a new way of thinking and technical means, about to do, the better, is more suitable for citizens to create a cultural life of the environment.

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