Spatial Planning with an emphasis on Urban Design in China and Europe

Landscape Planning of Urban Lake Park in China
A case study on Nanjing

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# Table of contents

Abstract ................................................................................................................. 4  
Introduction ........................................................................................................... 5  

Chapter 1 Background of Xuanwu Lake Park ................................................. 10  
1.1 History and culture in Xuanwu Lake Park .............................................. 10  
1.2 Evolution of Nanjing city and Xuanwu Lake Park through times .............. 11  
1.3 Xuanwu Lake Park today ........................................................................ 14  
1.4 Chapter summary ..................................................................................... 16  

Chapter 2 Users and designers with human-nature connection ...................... 17  
2.1 Users’ and designers’ perception and association in design process ........... 17  
2.2 Urban Design: Human – Nature Connection ........................................... 20  
2.3 Color guidelines ....................................................................................... 22  
2.4 Historical-cultural landscape .................................................................. 27  
2.5 Chapter summary ..................................................................................... 28  

Chapter 3 Analysis of Xuanwu Lake Park ....................................................... 30  
3.1 The area outside Xuanwu Lake ............................................................... 30  
3.2 The area inside Xuanwu Lake ................................................................. 39  
3.3 The questionnaire survey results---what do users tell the designers? ......... 51  
3.4 Chapter summary ..................................................................................... 55  

Chapter 4 Case study: New designer proposal for Xuanwu Lake Park  
(In separate document)  

Chapter 5 Conclusions ...................................................................................... 56
Spatial Planning with an emphasis on Urban Design in China and Europe

Tianci Yuan

Index 1: Figure source ...........................................................................61

Index 2: Table source ...........................................................................63

Index 3: Questionnaire .........................................................................64

Index 4: Designers list .........................................................................66
Abstract

Urban public spaces have always played an important part in urban development process. In this paper, a redesign proposal of Xuanwu Lake Park in Nanjing, China, will be made. This urban lake park is a symbol of the city and has a very long history. I want to make it as an attractive and ecological city public park which can combine human and natural environments together, so that it will be an enjoyable place for both tourists and inhabitants in Nanjing city.

I will reconstruct the lake-ring roads and islands inside the lake based on Amos Rapoport and Stephen R Kellert’s ideas. Rapoport argues that users are more important than designers in the design project, because whether the designed place is good or not depends on users’ perspectives through their use and evaluation. Kellert argues that the human built environments cannot exist independent of the natural environments. If you design a place based on this idea, you can construct a harmonious environment. However, if you do not, it will cause damage to the environment. From this perspective, the human-nature environment should be connected together in design work. Therefore, in my redesign project, I will emphasize the role of the users. I will also combine man-made environments and nature environments together to make the park more balanced and attractive.

I developed a set of color guidelines to help me to analyze the presence and use of different elements in Xuanwu Lake Park. From my analysis of the color elements in Xuanwu Lake Park, I found users’ and designers’ opinions for each element of the lake-ring roads and islands inside the lake. Then, I start my new design proposal of Xuanwu Lake Park in details to make it as a successful city park combine users, designers and human-nature environment together. My design proposal for Xuanwu Lake Park also gives an example to other historical and cultural urban lake parks.

**Keywords:** Xuanwu Lake Park, designers, users, human, nature, color guidelines
Introduction

Eliel Saarinen said: “A city is an open book, from which its ambition is revealed. I can tell you what the cultural aspirations of the citizens are, if you let me take a look at your city” (Saarinen, 1943: Preface). If we consider Nanjing as a book, Xuanwu Lake Park is the most significant chapter in it. In this paper, I want to redesign Xuanwu Lake Park in order to make it into an attractive city park, where the nature environments are valued and highlighted, and where there is a much closer relationship to people’s daily life.

Background information

You can see from the world map that China is in the southeast of the Asia plate (See Fig.1). Nanjing is the capital city of Jiangsu province which is in the southeast of China (See Fig.2). It has been a city for 2470 years and it was the capital of China during 5 dynasties. Therefore, the city has a very rich cultural and historical heritage that results from its long history. Xuanwu Lake Park is in the middle of Nanjing, it is an important symbol of Nanjing. Xuanwu Lake Park is also one of China’s imperial gardens includes lake-ring roads (three lines), four lakes and five islands. Nowadays, Xuanwu Lake Park is used as a city lake park which is opened to the public.
Rationale and why I focus on Xuanwu Lake Park

The reasons why I focus on Xuanwu Lake Park and choose this as my redesign project are as follows:

✧ The geographical location- It is in the centre of Nanjing.
✧ The role in history of different dynasties- It was chosen as the imperial palace several times and plays an important role in Nanjing city through times in history.
✧ The water system- It occupies the biggest part of the water system in Nanjing city.
✧ The water culture- It has been an important water element in the urban history of Nanjing. The lake has functioned differently throughout time, but it was always important. Chinese believe water is sacred.
✧ The significance- It is the symbol of Nanjing city.
✧ The tourist potential, including both national and international tourists- It is a place of interest which can attract lots of people.
✧ The green space- The large scale of green spaces in the park can provide quality recreational area for both citizens and tourists.
✧ The ecological efficiency- The large water area and green spaces can balance the city’s ecological environment, such as absorb the CO$_2$ in order to clean the air and reduce the noise.

Nature and scope of the research

My idea is to divide the redesign of Xuanwu Lake Park into two areas. One is outside Xuanwu Lake Park, which includes the lake-ring roads around Xuanwu Lake, which are 9.5 kilometers in length. Another is the inside of Xuanwu Lake, including the five islands (See Fig.3). The following research questions will serve as a guideline for my paper:

✧ What do designers think about Xuanwu Lake Park?
✧ What do users think about Xuanwu Lake Park?
✧ How to redesign Xuanwu Lake Park in order to connect human-nature environment together?
How to establish a closer interaction between designers’ and users’ perspectives, and human and nature connection through the redesign of Xuanwu Lake Park in order to make the whole place more environmentally friendly and attractive?

Review of pertinent literature


In Amos Rapoport’s book, he writes that, “One of the hallmarks of man-environment research is the realization that designers and users are very different in their reactions to environments, their preferences, and so on, partly because their schemata vary. It is thus users’ meaning that is important, not architects’ or critics’; it is the meaning of everyday environments, not famous buildings-historical of modern.”(Rapoport, 1990:
He discusses about the users’ and designers’ perception and association in the design process and emphasizes the significance of the users in the design project.

In Stephen R Kellert’s book, he argued that, “The great design and development fallacy of our time is the presumption that the human built environment can exist independent of the natural environment (Kellert, 2005: p92).” Kellert talked about how to harmonize the natural environment and the man-made environment.

In this paper, I would like to emphasise the users’ opinions in my redesign proposal as well as discuss the relationship between human activities and natural environment, and use the emphasis and discussion to formulate a design proposal for the historical and cultural landscape lake park that can change the current situation of neglect, and create a recreational and pleasing green area for the people in the future.

● Method of investigation

I created a set of color guidelines based on my literature review, to guide the analysis of the situation of different elements (water, buildings, green, accesses) in Xuanwu Lake Park and provide potentials for each element. I also collected relevant materials about Xuanwu Lake Park to prepare the investigation. Previously, I did the fieldwork, took some pictures and collected some data of the four elements to understand the current situation of the Park. These will help me to redesign it combining the designers, users and human-nature environment together through the use of the color guidelines. I have some opinions as a user in the park. Also I made a simple questionnaire survey for the other users of the park to understand the users’ perspective better. Xuanwu Lake Park’s redesign is an ongoing discussion all the time, therefore, I collected many designers’ opinions from some newspapers and journals. As well as I am a designer, I also have my own ideas about the redesign project of Xuanwu Lake Park, I get some good ideas from the other designers and mix them with my own opinions to compose the designers’ opinions in my analysis.
Main conclusions and contribution of the thesis

Through my investigation I find that the water areas are polluted and are not fully used, that the artificial facilities are limited for people to enjoy their free time, that more green plants should be planted in the park, and that the park lacks water platforms to enhance the accessibility of it. The biggest problem is how to integrate people’s daily life with the national park in an environmentally and culturally pleasing urban environment. At the same time, the issue of preserving the cultural heritage and the natural resources should also be taken into consideration.

This research takes advantage of comprehensive investigation, analysis and evaluation to explore the essential problems about this redesign plan. The research scientifically puts forward proposals for solving the problem and sets up a direction for future development. This will help Xuanwu Lake Park to become the largest wetland within Nanjing city and also function as a natural environmental air conditioner. So, it can be a historical-cultural landscape that can offer people an urban green space for entertainment and to relax. At the same time, it also enhances the charm of Nanjing city. It will be a successful urban lake park to connect designers, users and human-nature environment together to make an ecological system in Nanjing city in my redesign project.

My research not only contributes to the discussions on the development of Xuanwu Lake Park, but also to other urban lake parks which face similar problems as Xuanwu Lake Park. Therefore, my redesign of the Xuanwu Lake Park can serve as an example to other historical and cultural urban lake parks.
Chapter 1 Background of Xuanwu Lake Park

In the present chapter, I will introduce history and cultural evolution of Nanjing city and Xuanwu Lake Park in different times----from the ancient time (BC221) until nowadays, and also state how the park is used today in four different seasons.

1.1 History and culture in Xuanwu Lake Park

Nanjing has a very rich culture and a precious world historical and cultural heritage that results from its long history, such as Ming Xiao Ling and the city wall. Xuanwu Lake Park is in the middle of Nanjing, next to The Purple Mountain (See Fig.4), which is also an important symbol of Nanjing. This area is surrounded by the ancient city wall in the southwest part (See Fig.4). The existing Ming Historical Wall is an important world heritage in the city. Xuanwu Lake Park is also one of the China’s imperial gardens. The city area of Nanjing is 6516 square kilometers, while Xuanwu Lake Park occupies 5.3 square kilometers, including the 3.68 square kilometers of the water and 1.62 square kilometers of the land (Zhou, 2004). Xuanwu Lake Park includes lake-ring roads (three lines), four lakes and five islands (See Fig.5 and Fig.6).

Fig. 4: The position of Xuanwu Lake Park in Nanjing

Source: Official map from Nanjing.
1.2 Evolution of Nanjing city and Xuanwu Lake Park through times

Nanjing is a typically irregular city, the city shape is like a pear. Xuanwu Lake Park is in the middle of Nanjing. Until the 1970s, geologists studied the geological features, and investigated a lot of materials, discovered an ancient channel which went through the south and north part of Nanjing city. Therefore, the geologists have the inference: Xuanwu Lake Park is the outcome of the ancient Qinhuai channel, which is the brand of Changjiang River (Li, 2001). In the past 450 years, the evolution of spatial form of Nanjing city and Xuanwu Lake Park can be divided into four stages (Hu, 2006).

- **During the Imperial times**

  Xuanwu Lake Park’s history can be traced back to the Qin Dynasty (BC221-BC207), 2218 years ago. In the early period of the Qin Dynasty (BC221-BC207) to the Han (BC202-AD220) Dynasty, Xuanwu Lake Park was known as Jiangling Lake Park, the area was vaster than now, and with some small population.
In the Jin and Nan Dynasties (AD265-AD589), Xuanwu Lake Park was used as a navy training place and had very important position in the military.

In the Six Dynasties (AD229-AD589), Xuanwu Lake Park was considered to be an entertainment place of the emperors, created the period of culture prosperity. An emperor of Song Dynasty (AD960-1279) constructed three mountains in the Xuanwu Lake Park. He also created the sculptures and pavilions in the west east part of the lake. Xuanwu Lake Park became the royal garden at that time.

In the Sui Dynasty (AD581-AD618) and Tang Dynasty (AD618-AD907), Xuanwu Lake Park’s importance gradually faded because the capital moved to the north part of the city. Xuanwu Lake Park was not used for more than 200 years. In 1343, the park re-appeared in Nanjing map. But the area had been greatly reduced, only about one-third of the Six Dynasties (AD229-AD589).

In the Ming Dynasty (1368-1644), the emperor built the first city wall in Nanjing city. All the city’s palaces were almost built on one line, which become a central axis. The emperor of the Ming Dynasty decided Xuanwu Lake Park would be used to store the household register, so it was forbidden to go to the park for more than 260 years.

Xuanwu Lake Park was reconstructed in the Qing Dynasty (1644-1911). The government rebuilt the transportation line and enlarged the green spaces inside the lake, and also established places of interest on the islands such as pavilions to enjoy lotuses.

- In the Republic of China (1911-1949)
The government rebuilt the city axis in Nanjing, and enhanced the relationship between the city and Xuanwu Lake Park by building some roads and wharfs. Still keep the city’s former formation. Xuanwu Lake Park had been enlarged, flower varieties increased, and some constructions were built.
In the Founding of the State (1949-2000)

Nanjing city developed quickly, and the urban district was enlarged. The residential areas of the former emperors in the older city were protected and opened as the city public park or beauty spot, Xuanwu Lake Park was one of them. After the founding of the state, the government turned Xuanwu Lake Park to a major culture and entertainment park in Nanjing, and did a large scale of extension and reform on it. People moved out of the lake, more flowers were planted, more attractions were added. Therefore, Xuanwu Lake Park had a totally new look.

In the 21st century

In 2002, the lake-ring roads of Xuanwu Lake Park opened to the public. The government rebuilt the lake-ring roads in order to make a beautiful lake scenery landscape. Xuanwu Lake Park won the grade AAAA tourist area at the end of 2005.

The evolution of spatial form of Xuanwu Lake Park goes through several dynasties’ large-scale artificial modification. At the beginning, it is some small islands (See Fig.7, 1), and then changes to the royal navy training place and royal garden, after that, it become the place to store the household register (See Fig.7, 2). Xuanwu Lake Park’s evolutions combine artificial modification and natural changes together. Actually, it is an artificial landscape which integrates natural changes. In the founding of the state (1949-2000), important royal gardens in Nanjing were all around Xuanwu
Lake Park. Xuanwu Lake Park gradually becomes the lake in the form of isolated islands to the urban green oasis which linked with the surrounding urban area (See Fig.7, 3). Nowadays, Xuanwu Lake Park becomes an urban green space, which has five islands inside and other green spaces outside (See Fig.7, 4).

1.3 Xuanwu Lake Park today (Xu, 2003)

Nowadays, Xuanwu Lake Park is an important component of Zhongshan mountain national park in the ancient city of Nanjing. It is one of the three famous lake parks in the south part of China, and also the biggest urban lake park among the three of them. It is a tourist area, and also a historical site. It is the city’s largest integrated culture and entertainment park which is free to public. People like to go to Xuanwu Lake Park and consider it to be a good green space for recreation and to have rest.

Xuanwu Lake Park changes a lot according to the different seasons. In spring, from March to May, the whole park becomes alive because all plants are germinating and showing a variety of beautiful colors (See Fig.8). The whole park looks like a colorful garden, full of energy. A lot of people come to the park as a spring travel.

Fig.8: Spring scene in Xuanwu Lake Park

Source: www.xuanwuhu.net
In summer, from June to August, the lotuses on the lake attract a lot of people to come, especially the tourist. People also like to go boating on the lake (See Fig.9).

In autumn, from September to November, maples become red which is a beautiful scene in autumn. There is also a chrysanthemum exhibition inside the park accompany with some activities which attracts lots of people to the park (See Fig.10).
In winter, from December to February, the whole park is in silence. The plants are withering either on the land or in the water except the plum flowers. There are very few people in the park. When snowing, photography enthusiasts will come to the park to take some snow photos (See Fig.11).

Fig.11: Winter scene in Xuanwu Lake Park
Source: www.xuanwuhu.net

1.4 Chapter summary
This chapter described the evolution process of Xuanwu Lake Park- What is it used to be in different times and how the park is used today. It is necessary to know the development process of Xuanwu Lake Park and the current situation of it, so that the readers can have a primary impression and understanding of Xuanwu Lake Park. As a conclusion, I would like to highlight that the lake-ring roads of Xuanwu Lake Park opened to the public in 2002. This is important for my proposal because people will use the lake-ring roads in their daily life, and I want to make it more useful through my redesign project.
Chapter 2 Users and designers with human-nature connection

In this chapter, I will introduce and discuss two arguments that relate to the objective of this thesis of making the redesign project for the Xuanwu Lake Park in China. The first one is presented by Amos Rapoport and he claims that the design project should consider the users experience of the place, while the designers often only consider the place in their professional way. The other one is presented by Stephen Kellert that argues for the establishment of the human-nature connection in the built environment. Based on these ideas, I will formulate a set of guidelines for my investigation of the four elements to use in my analysis of the case and the design proposal.

2.1 Users’ and designers’ perception and association in design process

In Amos Rapoport’s book *The Meaning of the Built Environment—A Nonverbal Communication Approach* he writes: “One of the hallmarks of man-environment research is the realization that designers and users are very different in their reactions to environments, their preferences, and so on, partly because their schemata vary. It is thus users’ meaning that is important, not architects’ or critics’; it is the meaning of everyday environments, not famous buildings-historical of modern.”(Rapoport, 1990, P15-16)

In Amos Rapoport’s opinion, the role of the users is much more significant than that of the designers. He believes designers only create the place for some time, but users use this place in their daily life, probably every day. At the same time, the purpose of the designers to create this place is for users to use it, not for the designers to appreciate it. In the above quotation, Rapoport stressed the significance of the users to bring character to the living environment. To this degree, the users are more important than the designers.

From my own perspective, I agree with Rapoport’s opinion. Only recently, maybe
influenced by communicative and post-modernist ideologies in design (Lynch, 1960), planning (Healey, 1997) and architecture have design proposals started to include the users’ perspectives and experiences of the place. How can the designers judge whether the proposed design for a place will be good, attractive, and used by the community or not? It depends on the users’ use and perception of that place. Only the users can find advantages and disadvantages in the process of using that proposed space. So, they are best qualified to do the evaluation of this design than designers.

Worthy of note is that a users-oriented approach does not mean to deny the creativity of the designers or even to ignore them. The design of a historical and cultural landscape place, such as the Xuanwu Lake Park’s redesign, depends on the appreciation of the users, they are very important to the design work because they can judge the design from their experience, sensibility and attachment of the place. However, the design work also depends on the analysis and creative work of the designers. The designers’ purpose is to design some place which can attract people. This is the importance of the designers.

In another one of Rapoport’s book, *Human Aspects of Urban Form*, he also introduces two new concepts: “perception” and “association”. From Rapoport’s perspective, users and designers have different reactions to the environment. Designers give the meaning of the environment from a perceptual reaction, and the users give the meaning of the environment from an association reaction.

The distinction between associated and perceptual worlds is partially based on “the existence of a hierarchy of levels of meaning associated with any object in the physical environment which range from the concrete, though use and value to symbolic meaning.” (Rapoport, 1977, p316) In other word, the distinction is based on their own degrees or levels. Therefore, there exists linkage between the two worlds and the associational world cannot exist without the perceptual one. Meanwhile, according to the suggestion that “higher levels of meaning are more culturally
determined since appropriate associations need to be elicited and the object needs to be “read”" (Rapoport, 1977, p316), comparing variability of associational aspects of the environment with perceptual ones, it is easy to conclude that “the same forms in the perceptual world can elicit very different associational meanings for different groups and in different periods”. (Rapoport, 1977, p316)

We should not emphasize either only designers or users, both of them are indispensable. According to the different purpose, the meanings of the designers and users have different importance. As emphasized by Rapoport, perception is actually the basis of association. He said, “It should be noted that perceptual and associational aspects are linked: The former is a necessary condition for the latter. Before any meaning can be derived, cues must be noticed, that is, noticeable differences are a necessary precondition for the derivation of meaning. These differences are needed and are useful for associations to develop.” (Rapoport, 1990, P26)

Rapoport said, “We have also discussed the variability of associational aspects of the environment as compared to perceptual ones: the same forms in the perceptual world can elicit very different associational meanings for different groups and in different periods.” (Rapoport, 1977, p316) He exemplifies this notice of perception and association with an example from the home for the elder people in Hertzberqer, Amsterdam. The architects design this place from their perceptual part. They plan the crosses and coffins in black and white because of historical reasons, and also because they think it is more beautiful. However, the users do not think so. They evaluate this place from their association part. When they see the crosses and coffins in black and white, they do not like it, even feel fear for this design. They do not wish to live here. Therefore, even if the designers recognize the importance of the meaning of the construction, they still should ask with the users how they perceive the ideas proposed in the project. Especially since the designers and users are totally different groups, they think of different things when they see a landscape, it is necessary for the designers to ask him/herself which kind of groups should be considered.
Similarly, we will obtain totally different opinions of Xuanwu Lake Park’s redesign if we stand on the different perspectives. Both the designers’ perceptual idea and the users’ association idea are useful. In my project, I will consider both of them and draw inspiration from their opinions.

2.2 Urban Design: Human – Nature Connection

Energy inefficiency and segregation between natural and built environments are often reflected in the old designs. Most built environments in the past considered very little the aspect of the connection between human and nature (Kellert, 2005: p2). This connection not only includes the contact between people and nature, but also relates to the use of natural resources, transformation of natural landscapes and pollution. Professionals like designers and architects are aware of this situation today and attempting to improve it, but there is still a long way to go to take a more holistic view on human society and its natural and built environments. “Modern construction and development have separated people from beneficial contact with the natural environment, leaving the majority of urban residents to spend most of their waking hours in buildings lacking daylight, fresh air, and exposure to nature” (Kellert, 2005: p92). From the perspective of Kellert, the notion that the human built environment can exist independent of the natural environment is a fallacious presumption. “The result of this presumption has been buildings and landscapes that routinely abuse and degrade people’s experience of nature, fostering alienation and destructive environmental practices” (Kellert, 2005: p92). This result is definitely not following contemporary ideas, suggesting a way of harmonizing humanity and natural environment. The “conventional design and development paradigm is neither necessary nor desirable and is certainly not sustainable” (Kellert, 2005: p93).

Psychologist Judith Heerwagen also noticed that “modern workplaces are often seas of bland cubicles that isolate rather than integrate people with anything natural— not unlike the cages in the old style zoo” (Heerwagen, 2000: p24). Political scientist David Orr argues that today’s built environment “reflects no
understanding of ecology or ecological processes. . . . Most buildings tell its users that . . . knowing where they are unimportant. . . . Most buildings tell its users that energy is cheap and abundant and can be squandered. . . . Most buildings are provisioned with . . . materials and water and dispose of their wastes in ways that tell its occupants that we are not part of the larger web of life. . . . Most buildings resonate with no part of our biology, evolutionary experience, or aesthetic sensibilities.” (Orr, 1999: p212-213). This kind of environment should not be the expectation if it is considered under the concept of connecting human and nature today. A right direction of current designing will lead to a rationally managed resource use, people’s awareness of being part of nature and in the end it will result in a positive cycle in terms of environmental, social and economic aspects. Therefore, in order to improve the problematic reality and prevent it from going worse, the idea about human-nature connection should be considered within the current design process.

Kellert is promoting the idea of “creating less damaging, more positive relationships between nature and humanity” (Kellert, 2005: p93). This idea indicates a goal that rational use of natural resources should be much more enhanced than before in order to harmonize the human and natural environment and this will also help to meet both the physical and spiritual demands for the development of human society. To achieve this goal, we need to adopt a “restorative environmental design” for the contemporary buildings and landscapes. The design should be able to restore the distorted part of the current urban developing system. It is a process that gradually increases the positive effects of nature in the built environment. This concept can “reduce the adverse effects of modern design and development on natural systems and human health, and also can promote more positive contact between people and nature in the built environment” (Kellert, 2005: p93). It is a learning process rather than a fixed mode of reconstruction. This is because designing concepts will still be kept developing and refining. Currently, a good design means to bring people back to nature and rebuild the interaction between human built environment and the natural one. Design with high impacts on the environment can cause “widespread habitat fragmentation,
disrupted food chains, compromised nutrient and energy flows, and impaired reproductive and feeding strategies of many species” (Kellert, 2005: p100). Therefore, the ideas about human-nature connection are inevitable in the process of urban development.

To use the human-nature connection in my redesign project means to consider two aspects, the human environment and the natural environment. The things one designs will benefit both of them. This idea will be suitable in my project.

### 2.3 Color guidelines

From the above two discussions of Rapoport’s and Keller’s arguments, I have conceived my own guidelines for how to analyze my case study and formulate the project proposal. I call it the *color guidelines* (See Fig.12).

![Color Guidelines](image_url)

**Fig.12: Color guidelines**
The introduction of color guidelines

The purpose of these guidelines is to:

- Find what the essential elements in my design work are.
- Analyze these elements easily and clearly.
- Evaluate these elements according to the standard in the color guidelines based on some questions.
- Find interaction of these elements between users, designers and human-nature connection.

I made these color guidelines to evaluate the blue, brown, green and yellow elements outside and inside Xuanwu Lake Park by answering the following questions:

- What is each element?
- Why is each element important?
- What does each element mean for the users and designers?
- How should I analyze each element?

I made four questions for my evaluation of each element.

- Do they exist? Introduce the current situation.
- What do the users think about them?
- What do the designers think about them?
- Does this design combine human-nature environment together?

I will analyze the current situation of each element in the next chapter based on answering these questions, stating problems and potentials of it, and give suggestions in my design proposal.

- Blue elements

The blue element refers to the water system in Nanjing city, the use of water area in Xuanwu Lake Park and the conditions of water surface.
This is the most important element in the color guidelines because the water system is the most essential circulatory system in nature environment. The nature circulatory system here means that the sun, the air, the water and the plant interact with each other in the natural environment. The water system is the basic aspect in ecosystem just as an old saying in China, *water is the source of all the things*.

Nanjing has an abundant water system. Water is a basic condition for urban development. In Chinese history, emperors always located their capital near water. They believe that water can bring them good luck. Today people still like to live nearby water, because they think water is like the financial resources which are flowing. Therefore, the city’s formation and development has a very close relationship with the water system. The Xuanwu Lake occupies the biggest part of Nanjing’s water system, it has an essential role in the Nanjing city.

There are many rivers and lakes in Nanjing city. Changjiang River and Qinhua River go through the city, while the branches of Qinhua River run inside the city. Xuanwu Lake and Mochou Lake locate separately in the east and west of Nanjing city. In addition, there are lots of small streams that run inside the city, such as South Lake and Bailuzhou. The nature separation of Nanjing city’s water system is a series of hills (Fugui Hill, Jiuhua Hill, Jilong Hill, Wutai Hill). The south part belongs to Qinhua River system, while the north part belongs to Jinchuan River system, compose the water system of Nanjing city together. Xuanwu Lake belongs to Jinchuan River system (See Fig.13) (Chen, 2000)

The ancient rivers are the boundary of Nanjing city, there are also the basis of the design of city road system. Qinhua River has the impressive influence to the city’s inner structure, it also the important place of the commerce and a source of cultural prosperity.
Fig. 13: The water system of Nanjing city

Source: Official map from Nanjing.

<table>
<thead>
<tr>
<th>Number</th>
<th>Water</th>
<th>Area (ha)</th>
<th>Location</th>
</tr>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>1</td>
<td>Xuanwu Lake</td>
<td>368</td>
<td>In the middle north of the city</td>
</tr>
<tr>
<td>2</td>
<td>Mochou Lake</td>
<td>32.8</td>
<td>In the southwest of the city</td>
</tr>
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<td>10.3</td>
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<td>In the east of the city</td>
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<tr>
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<td>South Lake</td>
<td>3.2</td>
<td>In the southwest of the city</td>
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<tr>
<td>6</td>
<td>Bailuzhou</td>
<td>2.3</td>
<td>In the south of the city</td>
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<tr>
<td>Line Water:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Qinhua River</td>
<td>Length: 12.8 km</td>
<td>In the south of the city</td>
</tr>
<tr>
<td>8</td>
<td>Yueya Lake</td>
<td>12</td>
<td>In the east of the city</td>
</tr>
<tr>
<td>9</td>
<td>Hucheng River</td>
<td>22</td>
<td>In the southeast and northwest of the city</td>
</tr>
</tbody>
</table>

Table 1: The water system of Nanjing city

Source: Chen, *Then history and protection of Nanjing’s water system*, 2000
Xuanwu Lake, Qiuhuai River and Changjiang River are the most important water system in Nanjing city. Because Xuanwu Lake occupies the largest area in the city’s water system (See Table.1), Qiuhuai River flows through the east to the west of the city (See Fig.13), while Changjiang River is the boundary of the city form. Xuanwu Lake was connected with Changjiang River in Qin Dynasty (BC221), it was a huge flow out lake. However, because of the change of the water system and the frequent rebuilding of the artificial embankments many times, Xuanwu Lake becomes the inland lake, which has faint connection with Changjiang River from Six Dynasties (AD229) until now (Chen, 2000). Therefore, the polluting industries for the water along Changjiang River nearly have no influence to the water quality of Xuanwu Lake. The water quality of Xuanwu Lake is mainly decided by people’s activities surrounding and inside the lake.

The blue element is the design core of my case study both to users and to designers. Users like the park because there is a large water area here, they can both enjoy the sight view of the lake and take a boat on the lake. Designers would like to use this large water area to attract people because the water surface occupies the biggest area in Xuanwu Lake Park and is the main charm of the park. This large lake is a natural environment, people want to take a walk around it, or they can just sit and relax on its shoreline- human activities. Therefore, this water area is the place to combine human-nature together.

- Brown elements

The brown element refers to the existing object of human environment which means buildings surrounding Xuanwu Lake Park, artificial constructions such as the service facilities, exercise facilities and recreation facilities.

The brown element is the indispensible element in color guidelines. The man-made objects represent human activities and from these artificial facilities we can see what human’s daily life is going on.
Users will use these objects in the park which were planned by designers. Designers are programming these facilities according to the user’ demands. The man-made objects should be blend into nature while the nature environment can be used by human at the same time.

- **Green elements**
  The green element refers to the forest, parks and green corridors near Xuanwu Lake Park and also the trees, bushes, flowers and other plants included within the green space in the park.

  The green element is another essential element in nature circulatory system. They are improving and beautifying the living environment all the time. They are also the backbone of the balanced ecological system because photosynthesis of green plants can maintain the oxygen balance of the earth’s atmosphere. Green plants also can absorb carbon dioxide, purify water and decrease the noise. They play an important role in urban environment just as an urban designer in England named Clouston said: “parks are the design of plant material, and its purpose is to improve the human environment, other content can only play a role in an environment of plants” (Clouston, 1977). This is why green plants are very significant in the design of Xuanwu Lake Park’s landscape both inside and outside.

  Users need the green plants to have a pretty sight view, the green space to have fun. While designers design green element in Xuanwu Lake Park to make it more beautiful in order to attract more people. It also has the purpose of making an ecological environment both for the residential people that live nearby and for the whole city. Therefore, the man-made green element can balance the natural environment as well.

- **Yellow elements**
  The yellow element refers to the accessibility and usability to the park. The
accessibility is the magnificent city wall, the water platform close to the water, the hammock, the benches, all of which can make people have a closer relationship with the park. Also included are the island, dike and bridge, and the shoreline of Xuanwu Lake Park. The usability is the sunlight and shade.

The yellow element is also important because it is the best element showing how human activities exist in nature environment. It can tell the readers which things people are using in order to have closer relationship to the park.

Users use the water platform, the bridge and so on to get closer to the nature, and have a fun and relaxing time. The purpose of the designers to design these things is to make the users have more close activities with nature in the park. Such as the sunlight and shade, I will use them as an element in the design, so people can have the sunlight place to enjoy the sunshine or recreation, the shaded place to relax and sit. It is the representation that human behavior is blend into nature environment.

2.4 Historical-cultural landscape

From the introduction of Xuanwu Lake Park, I have a new concept: historical-cultural landscape.

Landscape is a mirror of culture, because the culture landscape is the transformation of the natural landscape by human, a culture landscape shows the characteristics of a region. It not only records the history of human culture, it also reflects the different era of the times. We can see more clearly the trajectory of social change. It is necessary to keep the historical-cultural landscape in the urban city.

Historical-cultural landscape can be divided into material cultural landscape and non-material cultural landscape. The study of material culture is the analysis of cultural landscape in a variety of visible, physical and natural features; cultural geography’s investigation of material cultural landscape is mainly for the settlement geography. However, the non-material cultural landscape mainly analysis the
imaginations, feelings and impressions of the people, which means, social and cultural geography. Therefore, the cultural landscape is composed of cultural identity together; it is the collection of impressions and feelings of a local culture (Tang, 2000: p70-79).

Xuanwu lake Park is a typically historical-cultural landscape. It is an urban lake park with a profound culture and long history. Historical-cultural landscape design goals can be protection-oriented, which means the first goal is to protect the historical and cultural heritage, view-oriented, which means to design this place just as a beautiful sight spot without any use, or it also can be the public recreation-oriented, which means that the main purpose is to make the public have fun in this place. Different orientations have different theories and methods reflected in the values, methods, means and technical measures in all aspects. In my paper, the Xuanwu Lake Park I analyzed is a historical-cultural landscape place and an urban lake park. Its heritage is shared by the collective. As a designer, I think it should be emphasized the significance of public users, as they are the first ones to use it. So, I choose the public recreation-oriented way of redesign the Xuanwu Lake Park in order to make it as a successful urban lake park for people to relax and for their entertainment.

2.5 Chapter summary
The main ideas discussed in this chapter are that I should consider more about the users’ opinions as well as connect human-nature environment together in my redesign project. These ideas were essential to the definition of the guidelines that I will use in the empirical analysis of my study case, and for the formulation of my design proposal. As a conclusion, I would like to highlight the color guidelines. There are very important for my proposal because they will give me a standard on how to analysis my own study case in the following chapter.
Chapter 3 Analysis of Xuanwu Lake Park

In the present chapter, I will introduce my investigation of landscape inside and outside Xuanwu Lake Park through my field work. The investigation is based on color guidelines. The users’ opinions about Xuanwu Lake Park are partly from the questionnaire survey, and partly from my own experience as a user of the park. The designers’ opinions are from other designers’ ideas in the newspapers and journals mix with my own ideas as a designer.

Xuanwu Lake Park is in the center of Nanjing city. The whole area is 10 km², it is 2.4 km from the south to the north, and the widest length from the east to the west is 2 km (Li, 2001). Xuanwu Lake’s space landscape can be divided into two aspects: tangible and intangible. The tangible factor includes the space landscape inside and outside the water. The intangible factor refers to the spiritual and cultural feelings of people when they are using Xuanwu Lake Park such as the aesthetic taste.

3.1 The area outside Xuanwu Lake

Whether you see the Xuanwu Lake Park from the map or go to the park by yourself, you will have the strong feeling that Xuanwu Lake Park is surrounded by a region area, it is different to have the connection with the outside world. The east and north part of the Xuanwu Lake Park is restricted by the urban roads, while the west and south part is ruled by the city wall. This makes the open space of the lake-ring roads limited (See Fig.3). This situation should be changed. The whole lake-ring landscape is 11.5 kilometers, and I divide it into three lines (see Fig.6). In these so long roads, I will analyze them according to the color guidelines and based on several questions.
The water area on the lake-ring roads is scattered, most of it is small branches of Xuanwu Lake (See Fig.14). From question 7 and 8 in the questionnaire survey we
know that the users think these water areas on lake-ring roads are positive because they can have the sight view or have a rest on the shoreline, but sometimes there is some rubbish on the water surface which influences the whole environment. The designers also think these water areas are good to provide a place for people for recreation (Ji, 2011). These water areas combine human-nature environment together very well, they both make the nature environment more beautiful, and make people have more fun here.

✧ Potentials

Abundant city water system should be cherished because this is a precious resource in Nanjing city. The first thing is that the city water system should be protected, the government should take some steps to do this such like deal with the pollution water from human’s daily life, prohibit the direct discharge into the rivers and lakes, have regular treatment on the rivers and lakes, urge the public to protect water system and so on. Therefore, Nanjing’s water system can then maintain its good condition.

Regarding the water areas on lake-ring roads, they are very positive. The water areas have the potential to be combined with Xuanwu Lake to make a whole water circulate system. They can also be used as different kinds of waterfront landscape to make the lake-ring roads more attractive.

♦ Brown elements

✧ Present situation

Before the city’s development, the city landscape only had small density, height and scale, also had the small impact on the Xuanwu Lake’s landscape. You can see the beautiful city view when you are inside Xuanwu Lake Park. However, in recent years, with the rapid development of the city, the high-rise buildings are constructed quickly. Nowadays, when you inside the Xuanwu Lake Park, the space you can see is no longer only landscape. It can’t be avoided that the high-rise buildings go into the field of vision (See Fig.15). In 1980s, there were only three high-rise buildings in Nanjing
city, and the main characteristic of the skyline are the city’s natural attractions. After 1980s, because of the rapid emergence of the high-rise buildings in Nanjing, these became the main feature in the skyline.

From question 8 in the questionnaire survey we know that when the users walk on the lake-ring roads, they think the location of these constructions surrounding Xuanwu Lake are unreasonable because they only can see the high buildings like the building barriers which stop their sight view of nature attractions outside Xuanwu Lake Park. Designers have the same idea of these constructions on the lake-ring roads. They lack unified planning, and are destroying the trend of Purple Mountain line and surrounding tightly around Xuanwu Lake Park, make the park as a bird in the cage without freedom (Ji, 2011). These constructions on the lake-ring roads destroy the original nature environment, at the same time, they decrease the attraction of Xuanwu Lake Park for people. They do not follow the human-nature connection standard in my color guidelines (Wang, 2005).

![Fig.15: Views of constructions from different directions in Xuanwu Lake Park](source: Taken by the author.)
✧ Potentials

These high-rise buildings are negative because they block the users’ view of natural attractions outside Xuanwu Lake Park instead of these artificial buildings. However, they still have potential to create a silence environment in Xuanwu Lake Park, such like plant high trees or other landscape on lake-ring roads surrounding Xuanwu Lake Park to change people’s view of building barriers into green corridors. It will make Xuanwu Lake Park as a semi-public space at the same time, both the human and nature environments will benefit from this change.

● Green element

✧ Present situation

Generally, the green system around Xuanwu Lake Park is in good condition. The Purple Mountain is covered by green plants in the southeast of Xuanwu Lake Park. This is the biggest green forest next to Xuanwu Lake Park. There are other forests, parks and green corridors near Xuanwu Lake Park (See Fig.16). They are like the barrier that protects Xuanwu Lake Park out of the noisy and pollution from the city.

Fig.16:Greening around Xuanwu Lake Park
Fig.17:Greening on lake-ring roads

Source: Official map from Nanjing.

There are some greening already existing on lake-ring roads (See Fig.17), but from question 4, 7 and 8 in the questionnaire survey we can see that the users think it is
unattractive, not a pleasing environment. Configuration model of the plants is single, plants species are monotone and conservative, lack of application of colorful plants, mainly the green plants, especially in the winter. The designers also have the same idea with users, from my observation of the field view as a designer, I found human trampling and rain erosion seriously damage the integrity and viewing of the grounding. Another serious problem is that the plants lack protection (See Fig.18). The greening area is the best place to combine human-nature environment together, it provides a beautiful environment for people to have fun and have rest, it also prevents the noisy and pollution from outside world.

![Fig.18: Greening on lake-ring roads](source)

✧ Potentials

The greening condition along the lake-ring roads is currently good but quite simple. The green area has the potential to be enriched with some small sight spots and more abundant flora to attract people and make them feel comfortable when they walk
along the lake-ring roads. The green areas can be integrated as a whole so that make it a green corridor that has more links between different parts (Zhao, 2009). The current green areas also have the potential to be made into a quieter environment in the city by the enrichment of the plants and redevelopment of the surroundings. This will also contribute to reducing the noise and pollution from the outside.

- **Yellow element**
  - **Present situation**

Xuanwu Lake Park has the magnificent city wall in the southwest part (See Fig.1). Nanjing’ city wall in the Ming Dynasty is the world’s largest ancient city wall and has been preserved as the world culture heritage. It is also the most iconic buildings in Nanjing city, and has an important role in shaping the characteristics of the city itself, both today and in the future.

From question 3, 6 and 8 in the questionnaire survey we know that the users like the city wall because it is majestic and has a long history and culture. The city wall has a very good location. Users like to walk on the top of the city wall to appreciate the overall view of Xuanwu Lake Park. The designers believe this history and culture heritage should be protected in order to make it as a beautiful sight in the park. However, they think the top of the city wall is a bit empty in some degree. Users may feel disappointing when they are walking on it, so it should have more plentiful landscape and facilities. There is also a problem for rainy days, as users have no shelters on the top of the city wall (See Fig.19). The city wall can be the link between human activities and the nature environment, while human activities are blend into it deeply. They walk on it, appreciate it, which makes the city wall combine human-nature environment together.
The water scene is the most attractive sight in Xuanwu Lake Park, therefore the water platform has very good accessibility for people to get close to water. People would like to gather together around the water platform except raining and strongly sunning. The water platform is popular and used frequently (See Fig.20).

In my analysis, I also find that people like to have a rest in the lake-ring road. They bring the hammock and put it between the trees to have a break (See Fig.21).
Water platforms and the hammocks are so popular, users like them, they can get more close to water to have rest and enjoy their lives. Designers think water platforms are positive, but not enough for uses’ demand. Also more benches can be designed instead of hammocks which can provide a place for people to have rest. There is also a problem of how to protect people on the water platform in bad weather like rain, sun and snow. The water platforms should be used in any season and with any weather. The new water platform will have the roof to protect people from rain, sun and snow (Ji, 2011). Water platforms and the hammocks enhance the accessibility of people’s activity to the nature environment in the park. They are very good design to combine human- nature environment together in Xuanwu Lake Park.

✧ Potentials

The city wall should be protected, it has potential to be both the history and culture heritage and a beautiful sight in Xuanwu Lake Park (Yang and Ji, 2005). The top of the city wall has large idle space which has potential to be used as a small park with some plants and benches for people to enjoy the beautiful bird view of Xuanwu Lake Park and the whole city of Nanjing.

As the water platforms and hammocks are so popular, they have potential to make people get closer to water in order to enhance the accessibility of the people’s activity
to the park. Their number should be increased.

3.2 The area inside Xuanwu Lake

The Xuanwu Lake’s plan has five islands: Liang Island, Cui Island, Ling Island, Ying Island and Huan Island. These islands divide the whole lake into three parts: the north lake, the south lake and the southeast lake (See Fig.22).

![Fig.22: The layout of Xuanwu Lake](image)

- Blue element
- Present situation

Xuanwu Lake Park’s charm rests on its lake, a beautiful large water area. But now, the water area is facing a serious pollution that comes from two main sources, the first one is sewage water directly discharged into the lake, such as the water sports school, residential area around and so on (See Fig.23.1). The second one is the rubbish from the people using the park. They leave the rubbish in the lake. There is also alga which is overgrowing in the water. It makes the water surface look disgusting (See Fig.23.2).
From question 8 in the questionnaire survey we know that the users find the former deep blue lake has disappeared, they just see dirty water area which makes them feel disgusted. Designers also think some steps should be taken to change this situation of serious water pollution (Ji, 2011). The lake is the best place to combine human-nature environment together, however now, it is not combined in harmony. The disgusting water makes people go far away from it, and few human activities were done on the lake (Chen, 2009).

![Xuanwu Lake’s water surface](image1.png)

**Fig.23: Xuanwu Lake’s water surface**

Source: Taken by the author

✧ **Potentials**

There is a great potential of the lake. On one hand, it can be restored to make the water area more charming and attractive as scenic sightseeing. However, some steps must be taken to decrease the pollution. On the other hand, this large water area has the spatial potential to have a variety functions. Besides sightseeing, it also can be used as boating area for recreation and competition.

✧ **Brown element**

✧ **Present situation**

There are some artificial constructions existing in Xuanwu Lake Park now. However, still, there is rundown housing (See Fig.24.1). Some constructions like the aquatic amusement park, the facilities are old (See Fig.24.2). The store is nearly abandoned,
there is a lack of management and care, lack of unified management (See Fig.24.3). Also, there is a large amount of abandoned wasteland with no covers in the park (See Fig.24.4). In the green space, there are not many facilities for people to have exercise and rest (See Fig.25.1). Some of these facilities were built years ago (See Fig.25.2). The lake lacks water entertainment facilities. The large water area is without vitality (See Fig.26).

Fig.24: The present situation in Xuanwu Lake Park

Source: Taken by the author
Fig. 25: The land use in Xuanwu Lake Park
Source: Taken by the author

Fig. 26: The hollowness lake
Source: Taken by the author

From question 4 and 8 in the questionnaire survey we know that when users enter Xuanwu Lake Park, they feel the whole area is a huge place, big but empty. They think the exiting artificial environment is incompatible with the surroundings, some of them are too old to use. So users are not interested in these shabby abandoned things. When users walk in the park, they also find it lacks some service facilities such like the information center, small stores, toilets and so on which makes them feel inconvenient sometimes, especially for the tourists. The large water area is a bit open, lack of some human activities.

Designers think this situation appears because Xuanwu Lake Park has a long history,
some of the facilities which are few years ago need to be reconstructed, and some disordered land use should be changed. They like to build some artificial environment to make use of the waste land, such as the exercising facilities for people to recreate, which can supply both the older ones and children, the benches which are convenient for people to have a rest. Also some human service facilities, such as the bathroom, small shops, tourist centre, information center and so on will be increased. These will be some houses in the park, they will build them with the pretty appearance to make this human environment just like the nature environment which can blend into it (Zhao, 2009). Designers also like to build more historic buildings that can reflect the culture and daily life in the ancient time such as historical museum to help people to understand the history better by presenting pictures, texts, cultural relics and so on. At the same time, some interesting places and meeting points combine with sightseeing are also planned to be constructed in order to attract the tourists when taking economic aspect into consideration (Li, 2009). Also a designer, I think the 3.68 square kilometers water area is the mainly scenery of Xuanwu Lake and what the place is famous for, this big area can be better used with some water entertainment facilities. It will not only supply more recreation to people, but also make the lake more vivid.

The artificial facilities in the park do not connect human-nature environment together now because the artificial environments are separately, not connected to the whole nature environment and take users demands in to consideration, this situation is undoubtedly in need of changing.

✧ Potentials
These artificial environments have the potential to meet users’ demands and blend into the nature environment to make Xuanwu Lake Park more functional and beautiful.

● Green element
✧ Present situation
I analyze the plant landscapes inside Xuanwu Lake Park in three aspects: Land plants on the islands, Waterfront plants on the edge of the islands and hydrophytes. I choose some places in each of these three different plant landscapes areas as an example in my investigation.

For the land plants, they grow well and have abundant green space, particularly the small forests in communities, they are enough to supply a very good green space for people to recreation especially in this bustling city (See Fig.27).

![Fig.27: The land plants in Xuanwu Lake Park](source: Taken by the author)

The waterfront plants in the edge of the islands are in good condition. They have hydrophilic platform with flower arrangement. Flower borders layout a large number of pretty flowers, forming an elegant ecological and landscape environment (See Fig.28).
For the hydrophytes, the overall situation is pretty good. There are lotuses in the water; it is a famous scene of Xuanwu Lake Park. In the summer, a lot of people will come here to enjoy the lotuses. Also lots of tourists are attracted by this (See Fig.29).

From question 4, 7 and 8 in the questionnaire survey we know that users think the
green plant landscapes are generally in good condition. But for the land plants, the configuration model of the plants is single, plants species are monotone and conservative, there is lack of colorful plants. When I entered the park as a user, I think the waterfront landscape is basically the plant landscape dominated, and relatively the model is simple. It uses a “weeping willow, peach tree and grounding” structure. The shoreline landscape also lakes flowering shrubs on the shore and water plants. It does not take full advantage of the waterfront to create a multi-level landscape. For the hydrophytes, the space utilization is not optimal. There are large tracts of lotus in the water, but there are also lotus fragmentally, lack of the arrangement. Also the hydrophytes’ variety is so limited, only two kinds of them make the huge water surface boring.

Designers also have the same ideas with users. They think there is another problem, the government does not maintain the green areas and its flora. The trees and flowers are dying in the park. These plants can make the park more beautiful, but they are neglected and project a feeling of abandonment to the rest of the park. In the winter, there is no one in the park, the trees are dead, the lake is freezing, and the whole park totally loses its life. This situation should be changed (Li, 2009).

The green plant landscapes in Xuanwu Lake Park are the best places to combine human-nature environment together. More green space can both beautify the nature environment, make it more ecological and environmentally friendly, and it can also provide a place for people to spend their leisure time.

✧ Potentials
The plant landscapes in Xuanwu Lake Park have the potential to make a beautiful nature environment, especially if their numbers and varieties increased. There are different kinds to make different landscapes in spring, summer, autumn and winter.

● Yellow elements
Present situation

Island, dike and bridge are three important elements of divide the lake water space; they have the close relationship to each other and play an important role in creating the accessibility in the water area. The island, dike and bridge in the lake can alter according to people’s behavior and demands, combine with the environment in the park, connect the water and land transportation and establish sightseeing routes. It also has a strong landscape feature. The five islands separate the water, forming the different water area. And then, the bridges appear to combine the islands and dike together. The bridges also separate the water area as different shapes and sizes, that increase the level of the water space (See Fig.30).

Fig.30: Bridges in Xuanwu Lake Park
Source: Taken by the author

The shoreline of the lake has the important effect on the quiet and deep landscape. The quiet and deep landscape means the landscape has the depth of field and many levels, you have the narrow horizon, and you cannot see it at a glance. There are unfathomable mysteries in it. Quiet and deep, quiet and silence are the close related conditions of structuring the scene. It is the so called “winding” statement in China which means a quiet scene can create the good landscape. Therefore, the shore line more twists and turns, the better the design of quiet landscape can be created (See Fig.31).
The shoreline of the Xuanwu Lake is very low, mostly flat, resulting in no winding sense in waterfront landscape, and the waterfront revetment is mainly stone masonry; it is not only hinder the accessibility of human hydrophilic, and the poor ecological effects (See Fig.32).

Fig.32: The shoreline of Xuanwu Lake Park
Source: Taken by the author
From question 8 in the questionnaire survey we know that users think the bridges in Xuanwu Lake Park are positive to make them walk in the park more convenient, and shorelines can be changed to be more vivid and to provide a silent place in the park.

In designers’ opinion, the Xuanwu Lake’s shoreline is there, and the idea of through the transformation of the overall shape of the downturn, to make it winding, is clearly not feasible. Therefore, if we want to change this feature, we should do something else to attract people in order to add the accessibility between people and the lake while keeping the overall shape of the existing shoreline at the same time. The only way we can do this is to adjust the curvature of lake-ring roads around the lake, transform some local place, together with the multi-level plant block off, or use the ups and downs of the terrain to create a large curvature changes and semi-enclosed lake space (Zhao, 2009). As I am also a designer, I think another problem is that Cui Island and Ling Island do not combine together while other islands are having closely relationship with each other (See Fig.22). These two islands should be combined together to complete the whole connection of five islands. Some new sightseeing spot can also be added in the connection. The rudimental idea is to use bridge, dike or water transportation to connect them in order to enhance the accessibility of these five islands (Zhao, 2009). Designers also want to create some shaded areas for people to relax and sit in the park. It brings make people closer to the nature environment (Ji, 2011).

Bridges and shoreline are the designs which can combine human-nature environment together, they can make human’s activities more convenient in nature environment.

ıdır

♢ Potentials

The shoreline in Xuanwu Lake Park has the potential to be more attractive through some changes of the curvature in lake-ring roads. The five islands also have the potential to be combined together to make a whole connection inside the park.
The differences between the users’ opinions and the designers’ opinions of Xuanwu Lake Park.

<table>
<thead>
<tr>
<th></th>
<th>Blue elements</th>
<th>Brown elements</th>
<th>Green elements</th>
<th>Yellow elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users’ opinions</td>
<td>some rubbish</td>
<td>only can see high buildings</td>
<td>unattractive</td>
<td>like water platforms and the hammocks</td>
</tr>
<tr>
<td>Designers’ opinions</td>
<td>positive, good place for people for recreation</td>
<td>buildings around lack of unified planning, destroy the nature environment</td>
<td>damaged by human trampling and rain erosion, lack protection</td>
<td>positive, but not enough, change it to use it in any weather</td>
</tr>
</tbody>
</table>

Table 2: The area outside Xuanwu Lake
Source: Adapted by the author

<table>
<thead>
<tr>
<th></th>
<th>Blue elements</th>
<th>Brown elements</th>
<th>Green elements</th>
<th>Yellow elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Users’ opinions</td>
<td>dirty water area, feel disgusted</td>
<td>huge but empty, not interested</td>
<td>generally in good condition</td>
<td>bridges are positive, shorelines can be changed</td>
</tr>
<tr>
<td>Designers’ opinions</td>
<td>some steps should be taken to change the water pollution</td>
<td>need to be reconstructed and increased, supply more recreation to people</td>
<td>government does not maintain the green areas, lose its life in the winter</td>
<td>Cui Island and Ling Island should be combined together</td>
</tr>
</tbody>
</table>

Table 3: The area inside Xuanwu Lake
Source: Adapted by the author

Form the above tables, we can see that the users and designers have different opinions to blue, brown, green and yellow elements. The users have the direct feelings of Xuanwu Lake Park when they visit it, their feelings are not professional, they just state what they saw from their intuition. Such as they like something, they do not like something. While the designers have their opinions of Xuanwu Lake Park from profession ways, and they can also give some good ideas on how to improve them, such as something is positive, something is needed to be changed.
3.3 The questionnaire survey results---what do the users tell the designers?

I went to Xuanwu Lake Park several times to see who was using it, how it was used, and to understand the role of this place within the large neighborhood and city. I entered into the park as a user, I found what attracted me and what did not in order to decide which elements should be kept, which should be removed. But I only have my own opinion as a user. In order to enlarge the users’ scope, I conducted small questionnaires to survey other users to see what they thought about the place. The questionnaires were distributed at random, and do not intend to be taken as representative of the wide population of users, but merely to complement my analysis of the users of the park. I have handed out 100 questionnaires, and received 96 feedbacks of them. The feedback result is as follows.

Fig.33: The age group of visiting Xuanwu Lake Park

Fig.34: User visiting frequency
We can see from the above three figures that Xuanwu Lake Park has an important role as the public green areas for recreation (See Fig.35), especially for the teenagers and young adults (See Fig.33), but also reflects a problem that Xuanwu Lake Park as a place of interest is lack of attraction, as most users seldom went to the park (See Fig.34).

Fig.36: Users’ landscape preference about Xuanwu Lake Park

Fig.37: Most unique place among the users
We can get the result from the above two figures that Xuanwu Lake Park has a beautiful nature environment. The blue element (water area) and green element (green space) are in good condition while the brown element (artificial facilities) and yellow element (accessibility) are not good. Also, we can understand that the Xuanwu Lake Park’s charming is concentrated on the water, therefore we shall strengthen and enhance the waterfront landscape constructions (See Fig.36). We should emphasis on the human environment in the park, especially inside the water area of five islands (See Fig.37).

![Fig.38: The most popular activities among users’](image)

From the users’ activity performance we can see that the landscape redesign of Xuanwu Lake Park should supply enough rest place and facilities according to the users’ demands (See Fig.38). The shore and the lake-ring roads are very popular among users, we should emphasize these places (See Fig.39).
Users have some opinions for the landscape design in Xuanwu Lake Park from four aspects.

- **Blue element: water area**
The water area is the most attractive part of the park. It provides a beautiful sightseeing for us to enjoy, as well as recreation, such as we can boating in the summer. However, the water pollution is serious. Water plant and fish become very rare in recently years. The floating plants are breeding quickly, make serious eutrophication problem of the lake.

- **Brown element: artificial facilities**
When we walk in the park, we only can see the high-rise buildings surrounding the lake, they stop our views to the outside. When we inside the park, we found it is very big place but lack of management. The facilities were built in several years ago, it can’t satisfy our recreation supply today.

- **Green element: green space**
Generally, the green space in the park is good. A lot of trees and flowers make us like walking in the nature environment. However, lack of species makes the green space unattractive some times. The lotuses are very beautiful, there should be more beautiful landscape inside the park.

- **Yellow element: accessibility**
The water platforms and hammocks are very good for us to get closer to the park. As well as the bridges are also good to connect the islands inside the park. More of them should be built.

The users have their own opinions about Xuanwu Lake Park, they can see the advantages and disadvantages of the park clearly when they walk inside of it. However, the users’ perspective was harder to get than I thought it would be because
they are not professional. So my redesign proposal is built partly from the questionnaire and partly from my own experience as a user of the park. I am also a designer at the same time, I have my ideas in professional way. Therefore, as well as a designer, but also as a user to my redesign project, I can recreate Xuanwu Lake Park according to the users’ ideas and opinions, redesign the place according to their demands, but also professional. If it can attract more users to come here, it will be a successful redesign.

3.4 Chapter summary

In this chapter, I analysis the outside and inside area of Xuanwu Lake, and then discussed the questionnaire survey result. I will redesign Xuanwu Lake Park according to the color guidelines I used in this chapter based on three aspects: users experience in the park, designers opinions of the park and the human-nature connection in the park. As a conclusion, I would like to highlight my redesign point, it is mainly on lake-ring roads. Because through question 5 and 7 in the questionnaire survey, we can know that people would like to stay in lake-ring roads rather than in the islands, this is why I focus my proposal on lake-ring roads.
Chapter 5 Conclusions

The aim of my thesis is to make Xuanwu Lake Park as an attractive and ecological city public park which can connect designers’ perspectives, users’ perspectives and human-nature environment together, so that it will be an enjoyable place for people to recreate. The main research questions of the thesis are:
1. What do designers think about Xuanwu Lake Park?
2. What do users think about Xuanwu Lake Park?
3. How to redesign Xuanwu Lake Park connect human-nature environment together?
4. How to connect three of them together in my redesign project?

In order to fulfill my thesis goal, I started my thesis with different chapters.

In chapter 1 I introduced the background of Xuanwu Lake Park to give the readers a general impression of the park, and of its history and culture evolution. This also served as a basic preparation and introduction for my redesign project. I highlighted the lake-ring roads opened to the public in 2002. This is a new public space for the city and it is one of the reasons why I would like to focus my redesign on them.

In chapter 2 I focused on Rapoport and Kellert’s ideas as the theory to support my redesign project. In Rapoport’s book, he emphasizes the significance of the users in the design project. This is important for my research question about the designers’ and users’ perspective about Xuanwu Lake Park. In Kellert’s book, he argues that the human built environments cannot exist independent of the natural environments. This is important for my research question about human and nature connection in my redesign of Xuanwu Lake Park. Based on their work, I formulated a set of color guideline to provide a framework for my analysis. I highlighted the color guidelines because they give the readers a standard on how to analysis Xuanwu Lake Park from four different aspects: blue elements (water area), brown elements (artificial facilities), green elements (green space) and yellow elements (accessibility).
In chapter 3 I analyzed the area outside and inside Xuanwu Lake through my color guidelines. In addition, I also made a small analysis of the questionnaire survey I conducted to help me understand the users’ opinions about the park better. I highlighted the reason why I focus on lake-ring roads rather than the islands—through the questionnaire survey, we can notice that the users like to have their activities on lake-ring roads mostly.

Chapter 4 encompasses my redesign proposal. The main concepts for my proposal of the park were to connect the designer’s and the users’ opinions, and to re-establish a human-nature connection. These ideas/elements are meant to be developed together in my redesign work. This main concept is based on Rapoport and Kellert’s ideas and the analysis through color guideline of the previous chapters.

Briefly, the main alterations that I propose to the redesign of the park are:
1. Reduce the pollution of the water area.
2. Complete the artificial facilities in the park.
3. Add more green space.
4. Build more constructions to make people get closer to the water area.

I consider these four aspects to be essential to the creation of a public space that brings together the concepts defined in my theoretical analysis according to the four important elements in color guidelines.

However, there are some limitations of my thesis. Because of time constraints, I was only able to develop the design proposal for two aspects of the park, the lake-ring roads and the inside of the park. I focused the redesign mainly on lake-ring roads because the green spaces on the islands inside the park are almost the same of outside places.

In the future research, I would like to discuss some other comprehensive aspects
which needed to be redesigned, such as the transportation part. This should be taken into consideration in the next step. The transportation partly belonged to the yellow element- the accessibility aspect. It is an important element to attract more people to come to the park through convenient transportation. I will also think about the lighting effect to make Xuanwu Lake Park more beautiful even in the night.

Finally, I would like to conclude on a personal note and add that after studying the case of Xuanwu lake Park in Nanjing, China, I understand more about the concept of historical-cultural landscape and methods of how to redesign urban lake park to make it as an enjoyable and attractive place for people to visit. Rapoport and Kellert’s ideas give me an inspiration of how to redesign Xuanwu Lake Park. In addition, the color guideline is very important for my analysis of the park. It helped me to understand this redesign project more in depth from four different aspects.
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Index 1: Figure Source

All the figures in my paper are adapted by the author

Fig.1: The position of China in the world. © 2011 Google

Fig.2: The position of Nanjing in China. Official map from Nanjing.

Fig.3: The position of outside and inside area of Xuanwu Lake Park. Official map from Nanjing.

Fig.4: The position of Xuanwu Lake Park in Nanjing. Official map from Nanjing.

Fig.5: The Xuanwu Lake Park. ©2011Mapabc.com Image © 2011 GeoEye ©2011 Kingway Ltd. ©2011 Europa Technologies

Fig.6: The simple chart of Xuwu Lake Park.

Fig.7: Development and variation of Xuanwu Lake water area. Jiang, Yufang. The History of Xuanwu Lake. 2003

Fig.8: Spring scene in Xuanwu Lake Park. www.xuanwuhu.net

Fig.9: Summer scene in Xuanwu Lake Park. www.xuanwuhu.net

Fig.10: Autumn scene in Xuanwu Lake Park. www.xuanwuhu.net

Fig.11: Winter scene in Xuanwu Lake Park. www.xuanwuhu.net

Fig.12: Color guidelines.

Fig.13: The water system in Nanjing. Official map from Nanjing.

Fig.14: The water area outside Xuanwu Lake Park. Official map from Nanjing.

Fig.15: View of constructions from different directions in Xuanwu Lake Park. Taken by the author.

Fig.16: Greening around Xuanwu Lake Park. Official map from Nanjing.

Fig.17: Greening on lake-ring roads. Official map from Nanjing.

Fig.18: Greening on lake-ring roads. Taken by the author

Fig.19: The top of the city wall. Taken by the author

Fig.20: The water platform. Taken by the author

Fig.21: The hammock in lake-ring roads. Taken by the author

Fig.22: The layout of Xuanwu Lake.
Fig.23: Xuanwu Lake’s water surface. Taken by the author
Fig.24: The present situation in Xuanwu Lake Park. Taken by the author
Fig.25: The land use in Xuanwu Lake Park. Taken by the author
Fig.26: The hollowness lake. Taken by the author
Fig.27: The land plant in Xunwu Lake Park. Taken by the author
Fig.28: The waterfront plants in Xunwu Lake Park. Taken by the author
Fig.29: The hydrophytes in Xuanwu Lake Park. Taken by the author
Fig.30: Bridges in Xuanwu Lake Park. Taken by the author
Fig.31: The flat shoreline and the winding shoreline.
Fig.32: The shoreline of Xuanwu Lake Park. Taken by the author
Fig.33: The age group of visiting Xuanwu Lake Park.
Fig.34: User visiting frequency.
Fig.35: Main purpose of the users’ visiting.
Fig.36: Users’ landscape preference about Xuanwu Lake Park.
Fig.37: Most unique place among the users.
Fig.38: The most popular activities among users’.
Fig.39: Users’ outdoor activities’ location option.
Table 1: The water system of Nanjing city. Chen, *Then history and protection of Nanjing’s water system*, 2000

Table 2: The area outside Xuanwu Lake. Source: Adapted by the author

Table 3: The area inside Xuanwu Lake. Source: Adapted by the author
Nanjing Xuanwu Lake Park landscape Survey Questionnaire

Gender_____     Profession_______     Residence_______

Hello, in order to study the construction of landscape in Xuanwu Lake Park of Nanjing, we ask the following questions, please hit your options on the letter with"√".

Hope to receive your active support, thank you!

1 What is your age-group?
   A Child – 0 to 14 years old
   B Teenager or young adult– 15 to 24 years old
   C Adult – 25 to 45 years old
   D Senior – 46-60 years old
   E Old age – over 60 years old

2 How often do you go to Xuanwu Lake Park?
   A Once a day   B One or two times per week   C One or two times per month   D One or two times per season   E Seldom

3 The main purpose you go to Xuanwu Lake Park. (multiple choice)
   A Exercise   B Recreation   C Social activity   D Travel   E Others

4 What is the most attractive scenery in Xuanwu Lake Park in your opinion?
   A Beautiful environment and water surface
   B Beautiful landscape with green space and plants
C Long history and cultural significance
D Adequate facilities
E Easy to reach
F Others

5 What do you think is the most unique place among the lake-ring roads and five islands?
A Lake-ring roads  B Cui Island  C Liang Island  D Ling Island  E Ying island  F Huan island

6 Which activities do you prefer in Xuanwu Lake Park?
A Sports and entertainment activities
B History and culture museums
C Sightseeing
D Choose a quiet area to have rest.

7 Are your outdoor activities regularly held in any of the following areas? (Multiple choice)
A Lake-ring roads  B Stage  C Green space  D Shore  F Others

8 Do you have any recommendations of the landscape design in Xuanwu Lake Park about the following four aspects?

Water area:
Artificial facilities:
Green space:
Accessibility:

Questionnaire ends here, thank you for your cooperation.
Index 4: Designers list

A list of the designers which have been consulted
(As a counterpart to the users’ questionnaire)

Chen, Yuling-The professor of water environment control in Southeast University

Ji, Jianye-The mayor of the Nanjing city.
Participate in the symposium of NO.9 urban design study of Nanjing in Singapore in 2006.11-2006.12

Ji, Shijia-The expert of city wall in the Ming dynasty

Li, Haonian-The director of Nanjing landscape planning and design institution

Wang, Hao-The professor of landscape design in Nanjing Forestry University

Yang, Xinhua-The vice director of Nanjing culture heritage department

Zhao, Yongyan-The vice director of Nanjing Landscape department