CONVERSATION
ON SAVING A HISTORICAL COMMUNITY   A Participatory Renewal and Preservation Platform

by
XU ZHANG

THESIS COMMITTEE

Advisor
Takehiko Nagakura
Associate Professor of Design and Computation

Reader
Caroline A Jones
Professor

Reader
Skylar Tibbits
Assistant Professor
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ABSTRACT

What if stakeholders, architects, and developers/bureaucrats could be in a conversation about preservation?

Community heritage in China is in great danger because of the lack of authority, financial support, knowledge of preservation, and requests for development. Local residents, students, and citizens want to preserve the history and living environment of the community but bureaucrats want to demolish entire communities and rebuild for economic development. Architects do not often have enough input and rarely collaborate, while preservationists try to save every piece of historical heritage.

Thus, a platform is proposed, here, to bring together voices from all the relevant participants, to democratically communicate between politicians and ordinary people, to create multiple architectural proposals for development reference based on crowd sourced materials. Furthermore, to establish also an experienceable digital world, archived from the evidence uploaded by stakeholders of heritages that are marked by bureaucrats for demolition.

In the end, win or lose, the stakeholders will have a digital archive and exploring tool of the former building.

Thesis Advisor: Takehiko Nagakura
Title: Associate Professor
# CONVERSATION

**ON SAVING A HISTORICAL COMMUNITY**

*A Participatory Renewal and Preservation Platform*

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RESEARCH
Every year, UNESCO announces increased cultural heritage, eroding our living space among these areas of nostalgia. The political aspect of UNESCO heritage is indifference and inhuman. It almost isolates space and turns a site into a place of "nobody."

There are, however, many heritage sites, e.g. buildings or spaces, still in danger that are not on the UNESCO or local government preservation lists. Although they may not be as famous as the Forbidden City, for the people who lived and continue living in such places, they are worth preserving. There needs to be a way of engaging with the occupants. These conditions need to be resolved in an integrated way of rethinking preservation.

In contrast to Rem Koolhaas's "Preservation is overtaking us," Liang Ssu-Cheng argued that "the whole of Beijing City needs to be preserved." Because of political power the benefits of economic growth, ever more countries are now supporting the criteria of preservation provided by either local governments or UNESCO. Thus, an increasing amount of land, from a small-scale monuments to a large-scale sites, such as entire regions, are occupied, leaving less and less land for development. Nevertheless, the preservation of old cities is important. So, is there a way to consolidate and reconcile the two contradicting ideas?
Is there a place where this contradiction can be reconciled?

Preservation is overtaking us!
Rem Koolhaas

We must preserve the entire Beijing City!
Liang Ssu-Cheng

The two contradict opinions toward preservation by Rem Koolhaas and Liang Ssu-Cheng

The dramatical growth of countries that support the various criteria of preservation
CONVERSATION ON SAVING A HISTORICAL COMMUNITY
Castelvecchio Museum historical change: It has undergone several phases of restoration. Today, we can only see the final three stages.

When we discuss Castelvecchio Museum, we only know the version designed by Carlo Scarpa. But before his design, there were many design changes made throughout its history. Regrettably, people only focus on the "famous," "well-designed" features of the museum but neglect the truth of its history.
LAYERS OF PARADOXES

As the scale of preservation expanded from objects such as monuments in 1790 following the French Revolution, to today's heritage of a cultural landscapes, the time span of preservation dramatically changed also, from more than 2,000 years ago to the present, or even ahead of a building's construction, preservation is overtaking us.

Few architects, however, consider preservation an issue or of importance when they design. The globally increasing number of applications to UNESCO for world cultural heritage status and its related tourist economy, however, should remind architects of the importance of considering preservation, and design driven force is increasing. Furthermore, the categories of preservation continue to grow, such as factories, national stadia, concert halls, and so on. Preservation is now even being considered before a building's construction. If, according to Rem Koolhaas, what should be preserved, exceptional or mediocre? Old or new? Prospectively or retrospectively? The dilemma is listed, below.
DESIGN VS STANDARD

The standard of preservation is ambiguous. Sometimes it is scale, sometimes it is the event, and sometimes it is the architecture. Most times, design and standard only differ a little. This small difference defines the unreasonable preservation target.
People have been preserving heritages for at least one hundred years, but now people pre-determine whether a piece of architecture should be preserved even prior to its construction.
OLD VS NEW

Should all heritage of a certain age be preserved? Should all newly built buildings not be preserved? Defining the relationship between old and new is a key question.
TEMPORARY VS PERMANENT

Sometimes, temporality means changeable. Therefore, should preservation be based on temporality to create alternatives, or should preservation be permanent?
The conflicts of land use caused by preservation and development is difficult to negotiate. Because of increasing territory occupation by preservation, development is forced to proceed vertically, and the speed of development is slowing down.
PERIPHERY VS CENTER

The typical model of Beijing preservation is based on its center and radiates to the periphery. But why could the center not be in another location? Why could the position of center and periphery not be exchanged?
The boundary is constantly in a state of change. Relatively, the center is usually static. Therefore, how can the changing part be preserved?
All or nothing are two attitudes toward preservation. Everything is well regulated and restored, meaning literally nothing is done to help the heritage protection. But it rehabilitates the neglected context.
EXCEPTIONAL VS MEDIocre

What is exceptional and who defines that? If preservation protects things regarded as exceptional, should mediocre be preserved also? If not, what is the destiny of the mediocre?
In China, because of colonization, political movements, and economic change, many historical cultural heritages have been destroyed. The preservation process and method, and how people treat these, is unique due to its complex context. The bureaucrat system always "renovates" historical communities arbitrarily, without collecting ideas and voices from relevant people.

In this section, several typical preservation methods in China are introduced. "Copy" is a way to reduce tourist pressure on the original site. Art installation illustratively gives visitors more information about the exhibited object. Faking ancient downs at completely irrelevant locations have recently become very popular among tourists. Tourism development of existing cultural heritage maximizes the benefits from local government for better maintenance. Newspaper debates are the only way that ordinary people's voices can be heard today. Online digital tools could permanently preserve vulnerable heritage.

No matter which method, there is a problem with a lack of democracy. Stakeholders, professionals, and politicians never have the chance to hold a conversation about the preservation process. This is the current state of preservation of historical heritage in China.
**POLITICAL BACKGROUND OF CHINA**

The deconstruction and damaging of Chinese cultural heritage has suffered four main time periods.

**TIME PERIOD OF CHINA**

colonization, war, cultural revolution, economic bloom etc.
FAKE EIFFEL TOWER IN HANGZHOU, CHINA

Agricultural land surrounds this fake Eiffel Tower. Farmers work on their crops. This is fake “heritage,” but how would one value it regarding preservation? Should we not say that it is reducing the pressure on the original site, thus “preserving” the original Eiffel Tower?

AI WEIWEI
REASSEMBLY OF A MING DYNASTY TEMPLE

Dramatic political change in the past destroyed the "order" of ancient Chinese buildings, including this one. Unlike the Western world system of industrialization and standardization, ancient Chinese architecture was more emotional and empirical. Therefore, what is preserved here, the physicality of this ancient structure, or the soft, visual, and psychological intangibility?

Source http://chuansong.me/n/1455988
GU BEI WATER TOWN, BEIJING, CHINA

Gu Bei Water Town is a newly built, fake ancient town imitating the water towns in southern China. It is fancy, heavenly looking, and extremely popular. Ordinary people do not care whether it is an ancient town or not. It appears to "preserve" something that never existed. More likely, this is a “utopian” enclave around a metropolitan area that is only visually similar to what we call "antiquity."

Source http://www.360doc.com/content/16/0711/13/594424_574695811.shtml
TOURISM

WU ZHEN, ZHEJIANG, CHINA

Wu Zhen is a historical heritage site well known for its Qing dynasty dwellings. The so-called "success" way of "preserving" this historical town has been to commercially develop and manage the town via government and large tourism companies. Because of the mass tourism, the soft heritages, such as sounds of street sellers, neighborhood relationships, and local resident life has all disappeared. Did they ask the local people for ideas on how to develop?

EN NING ROAD RENOVATION, GUANGZHOU, CHINA

En Ning Road is an ancient street in Guangzhou, China. There are many families who have lived on the historical site for decades. It is the center of Cantonese Opera also. Currently, there is a huge debate and protest between the government and residents. The renovation is ignoring the rights of the residents, such as blocking the view of some dwellings. Both the government and residents want to develop and preserve. So, is there a better way to achieve this, rather than arguing in the newspapers?

Source (left) http://www.910job.net/2016-05/15/c_161589.htm
Mogao Cave is the largest Buddhist art gallery in China. Although this world heritage site is well preserved in many ways, it is still decaying and will eventually disappear. Online digital galleries consisting of a virtual reality cave, panoramic cave viewer, and high-resolution images are available. This multimedia platform provides both researchers and the public free and simple access to the valuable cave.

Source http://www.e-dunhuang.com/section.htm?
SITE STUDY
Harbin, Jingyu District

Many historical communities have been demolished in the pursuit of economic development due to local government. Many of these communities have much valuable heritage, not only meaningful to the local residents, but also precious to a city's memory.

The site selected for this study is in Northeast China, which is deeply affected by Russian culture. The community is now mostly a residential block, partial commercial. The major influence of Russian culture is apparent in the architectural style. Following the invasion of the Russian Empire in the early 20th century, Russian merchants built Baroque style buildings in the area. Later, this Baroque style gradually developed as it combined with the local Chinese architectural style, becoming the so-called "Chinese-Baroque style." Furthermore, most of the city's famous food originates from this area. Citizens, visitors, and local residents buy food there.

The local government decided to renovate the area commercially, however, (the renovation is half complete) disregarding the opinions of local residents, citizens, and other relevant people. The other half is now in the process of demolition. So, what could be done to save this community as well as thousands of similar communities in China?
Authority
Preserved

Democracy
Demolished

Preserved as Authority and Demolished as Democracy

The Completed Commercial Redevelopment and the Ongoing Demolition

XU ZHANG
STREET

The street is very live and many events are going on.

CHINESE BAROQUE

The unique history of colonization brought baroque to Chinese architecture.
COURTYARD

Courtyard is the basic living unit and families live together.

OLD PLAQUE

Old-fashioned shops with their plaque as a representative of memory and history.
BASIC INFORMATION ON SITE SURVEY

Blocks
Good Condition
Medium Condition
Poor Condition
Not Relevant

Preserved by Authority
Historical Building with Some Historical Value
Historical Architecture with Traditional Layout and Form
Historical Architecture without Traditional Layout and Form
Irreconcilable Modern Architecture

1901-1920
1921-1940
1941-1960
1961-1980
1981-now

Chinese-Baroque
Eclecticism
Classicism
No Style
Modernism

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
FAMOUS OLD FOOD SHOPS ON SITE

Historical Food Shops that Attract both Citizens and Tourists
2

TECHNOLOGY
Dr Arthur Scherbius begins manufacturing the Enigma machine, capable of encoding information. Enigma is later used by the German forces in WWII.

A committee at the US National Archives determines that federal agencies (rather than archivists) can determine whether records stored in punch cards have historical value and should be preserved.

Hollerith's "Computer-Tabulating Recording Company" is renamed "International Business Machines Corporation" (IBM).

IBM introduces a rectangular hole punch card that becomes the industry standard.

First use of the term digital applied to a computer that operates on data in the form of digits or similar discrete elements.

The first national Preservation Week is celebrated. Memex wins the 2010 Digital Preservation Award.


The Getty Art History Information Program releases a Research Agenda for Networked Cultural Heritage.

Revisions to the "Guidelines for the Preservation of Digital Heritage".

World Digital Library

National Digital Stewardship Alliance established.

PLANETS wins the DPC Award for Research and Innovation for permanently changing the digital preservation landscape.

First use of the term digital applied to a computer that operates on data in the form of digits or similar discrete elements.

The first national Preservation Week is celebrated. Memex wins the 2010 Digital Preservation Award.
PHOTOGRAMMETRY MODELING

Photogrammetry modeling is a technology that can convert massive overlayed photographs of an object into a 3D mesh model. Unlike a regular digital model of a set of 2D drawings, it is much easier and less expensive to record complex site information. With excellent data collection, very useful geographical and texture information can be established as the photogrammetry model is built.

In this particular case, there are many historical buildings on the site. Many of these buildings are half demolished or damaged. Most of them have an interesting but complicated texture. Thus, one way of collecting the site information is photogrammetry modeling. The other benefit of using this technology is that it is easy to use and a camera phone can easily capture intricate site information.
Areal Site Model and Photo Positions

Photos Taken by Drone
Photogrammetry Modeling of an Object

Created Mesh from Photos and Texture
Comparison of Photogrammetry Model and Regular Model

- Street
- Facade
- Element
- Decoration
- Object

Photogrammetry Models Captured on Site
A game engine is a software framework designed to create and develop video games (Wikipedia.) The Unity game engine is a powerful platform with complex functionalities, such as a rendering engine, a physics engine, sound, and scripting. A multifunctional crowdsource platform that could collect media, such as photogrammetry models, images, videos, audios, and comments, could be created using the Unity game engine.
Unity Game Test with Photogrammetry Model

Unity Game Test with Entire Site Model

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THE CROWD SOURCE PLATFORM INTERFACE IN UNITY

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
Virtual reality is an immersive method of experiencing a virtual world that is difficult to reach physically. In this case, the advantage of virtual reality, especially the possibility of showing geolocated multilayers of crowdsourced information in the virtual world, is highly significant. It is an excellent way to represent the history of an old or demolished building.

The combination of photogrammetry, game engine, and virtual reality could create a comprehensive experience for debating and exploring the community.
Using HTC Vive to Show the Demo

The Virtual World Inside
COMBINATION OF THREE TECHNOLOGIES

PHOTOGRAMMETRY MODELING

GAME ENGINE

VIRTUAL REALITY

XU ZHANG
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PROPOSAL
To make the platform more reasonable and real, a persona analysis is implemented.

Users are divided into eight categories: "Bureaucrats" have the power to make decisions about whether to preserve or demolish a site or building block; "Architects" are the most professional users, and generally provide advice to other stakeholders about whether to preserve or demolish; "Citizens" have concerns about the city and spend at least some time in the community; "Visitors" do not have strong ideas about preserving or demolishing; most just wish to experience the original life scene; "Students" at the university in city accept new technology quickly, and thus are able to handle the photogrammetry modeling easily and quickly to use it to record the buildings on site; "Preservationists" want to preserve as much as possible, which might not be accepted by the bureaucrats, but preservationists can provide professional evaluation of a historical building; "Local residents" know the community the best. Their comments and uploads will significantly affect other stakeholders' opinions; "Community service people" work in the community, unlike local resident and citizens, they can provide another perspective.

The democratic process happens between these characteristics, and the results stem from the conversation between them. This democratic process could ultimately affect decision making in such a political context in China.
8 CATEGORIES OF PERSONAS

- Community Service
- Local Resident
- Preservationist
- Student
- Bureaucrat
- Architect
- Citizen
- Visitor
Architect

Liang Liu

“A good design should be a good combination of the client's request and designer's idea.”

Liang is a senior architect who has lots of design experience. He feels happy in his current job. He grew up in Hefei, city, and graduated from a local architecture school, after which he went to one of the best US architecture school and came back to his hometown to work right after his graduation.

He has led several commercial development cases including some renovation projects in China, which usually cooperate with either government or big foreign companies. Most of the places are now popular tourist spots, and he is very proud of his effort.

Regarding his expertise in architectural design, he is very visual, great at conceptualizing and loves to sketch. He is a good team leader and can manage the communication with clients very well. He is also very good at computer software such as AutoCAD, Revit and Rhino. He likes to accept new technology and uses social media such as WeChat and Twitter a lot everyday.

Usually, he generates outstanding designs that satisfy clients. He also keeps himself informed on the latest building material and technologies and building codes. He manages people and projects effectively. He believes that the best design is the combination of architect's expertise and client's needs.

Age: 38
Job: Architect
Hobby: Design
Goal: Make a better community, improve people's life.

Developer/Bureaucrat

Xu Li

“This old community has lots of problems. We want it to be a completely new district that could attract commercial investment.”

Mr. Li is an officer who works in local government for over 15 years. He is now in charge of the infrastructure construction and urban development. He knows the city very well and has already made several development plans in this city.

He has an economic education background, thus his opinion towards urban development tends to focus more on the economic growth. He knows how to maximize the tax income of a city block and how to minimize the cost of development construction. He and his office could easily estimate the cost of certain construction.

Mr. Li is very powerful in executing a development plan, and meanwhile he tends to listen and advise from different people's experiences. He is very democratic, on making a development plan for a district. He likes to attend his social activities held by local people, especially those who speak their ideas out. He thinks he can know what people need other than the overall economic growth, which is not directly related to people.

Age: 42
Job: Government Officer
Hobby: Social Activities
Goal: Develop the area to generate more income for government
Citizen

Xinyi Ma

“I do really like the food and neighborhood atmosphere there. Don’t demolish and rebuild, and I want the ordinary living scene.”

Liang is a senior architect who has lots of design experience. He led a team in a large design firm. He grew up in Harbin city and graduated from a local architecture school, after which he went to one of the best US architecture school and came back to his hometown to work right after his graduation.

He has led several commercial development cases including some renovation projects in China, which usually cooperate with either government or big tourism company. Most of the places are now popular tourist spots, and he is very proud of his effort.

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Age: 39
Job: Architect
Hobby: Watch Korean drama
Goal: Keep the neighborhood as it is

Community Service

Jie Bao

“I don’t know what will happen, but I hope the place I worked with for 20 years could remain.”

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Usually, he generates outstanding designs that satisfy clients. He also keeps himself informed on the latest building materials and technologies and building codes. He manages people and projects effectively. He believes that the best design is the combination of architect’s expertise and client’s needs.

Age: 38
Job: Community Service
Hobby: Watch TV
Goal: Keep the building and environment clean
Chenxue Wang

I want to help people in this city to attend more into the process of urban renovation.

Mr. Li is an engineer who works at local government for over 15 years. He is now in charge of the infrastructure construction and urban development. He knows the city very well and he has already made several development plans in this city.

He has an economy education background, thus his opinion towards urban development tends to focus more on the economic growth. He knows how to maximize the tax income of a city block and how to minimize the cost of development construction. He and his office could easily estimate the cost of certain construction.

Mr. Li is very powerful in executing a development plan, and meanwhile he tends to listen to advice from different people's expertise. He is very practical, even making a development plan for a suburb. He likes to attend the social activities held by local people, especially those who speak their minds out. He thinks he can know what people need other than the overall economic growth, which is not directly related to people.

Age: 21
Job: College Student
Hobby: Art exhibition
Goal: Help the local people make their voice heard and help them use new media

Jiahui Gao

I think the best experience for travelling is to see and get involved into local life.

Liang is a senior architect who has lots of design experience. He led a team in a large design firm. He grew up in a small city and graduated from a local architecture school, after which he went to one of the best US architecture schools and came back to his hometown to work right after his graduation.

He has led several commercial development cases, including some renovation projects in China, which usually cooperate with either government or big tourism company. Most of the places are now popular tourist spots, and he is very proud of his effort.

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Usually, he generates outstanding designs that satisfy clients. He also keeps his informed on the latest building materials and technologies and building codes. He manages people and projects effectively. He believes that the best design is the combination of architect's expertise and client's needs.

Age: 30
Job: Editor
Hobby: Travel
Goal: To see the real culture of the place
Preservationist

Junjiao Gan

"Because of the lack of evaluation of historical heritage, we are now losing more and more heritages in the process of development."

Junjiao Gan is a historian in China. He works as the head of Department of History in Harbin University. His research area focuses on the East Asia culture. He worked for several years on helping evaluating and preserving valuable historical heritages.

One thing he told was saying the back issues of his hometown newspaper, the Harbin Daily, after its offices were destroyed by fire on May 15, 1935. The next day he found through water to carry sparkling, burnt-edged bundles to a trailer and subsequently dried them out in the loft of a tobacco barn. Later he had the papers microfilmed at the Register of Historic Places. Other than this, he also preserved several historical plague of old shoes.

He has a really strong personal opinion of finding and preserving the heritage for common people especially people who do not have the power and do not know the value of the heritages in their life. He thinks that a historical community renovation project should be thoroughly investigated before demolition and reconstruction. And in this process, the entire block should be evaluated to tell what is preservable and what is not.

Age: 44
Job: Professor in University
Hobby: Research on history-related things
Goal: Preserve heritages that have history value

Local Resident

Jianguo Li

"It is a pity that the very historical plague of Zhang Bao Pu is now been destroyed."

Jianguo Li is 55 years old and now lives in the district. He lived here after he was born. He knows most of his neighbours and they are very close to each other. His entire family moved here since his grandparents moved here.

He worked in an old local factory and is now going to retire. He owns a courtyard and lived with about 5 people, his wife, his son, his son’s wife and his parents.

The house he lives in is already 60 years old. He lived here since he was born. The house condition is now really bad. The wooden structure decayed a lot but no systematical maintenance was been done.

Every morning he goes to the very historical bus stop, Zhang Bao Pu, to get breakfast for his family. And usually after breakfast he and his wife go to a local market to buy materials for lunch and dinner.

He really feels that the renovation project which is going on right now is neglecting the essence of democracy and the valuable heritage on this historical site. So the tool might be an access for him to debate and argue with what should be preserved.

Age: 55
Job: worker
Hobby: stroll
Goal: keep the community identity
In China, bureaucrats are always influential when it comes to architectural projects. They initiate the entire process through identifying (tagging) buildings and areas they believe should be demolished, forcing the various stakeholders to support or oppose the demolition of a building block through uploading digital evidence, such as photo-scanned models, images, videos, and audios within a certain period of time. Designers then can begin to design the tagged building blocks based on the materials crowdsourced from stakeholders. All users can discuss and debate any ideas and pieces of evidence via the platform before the due date. When the due date arrives, bureaucrats will see how strongly people want to demolish or preserve the building or site. The bureaucrats will consider the stakeholders' will and make the final decision. But, whether the site is demolished or preserved, all the crowdsourced materials will be digitally archived and reorganized so they can be experienced by people from three different perspectives: birds-eye view, street view, and virtual reality, creating a comprehensive relationship between preservation and all the people involved.

Through this platform, the democratic process is embedded in the system. And ultimately, win or lose, the stakeholders will have a digital archive and exploring tool of the former buildings.
STEP 1: TAGGING

TAG ONE BLOCK AND PROVIDE A DUE DATE FOR DEMOLITION

Bureaucrat Initiating the Process
Tagging the Building for Demolition with a Certain Reason

Developer/Bureaucrat

Xu Li

Age: 42
Job: Government Officer
Hobby: Social Activities
Goal: Develop the area to generate more income for government

Urgency by Giving a Limited Number of Days to Upload

DUE: 90 DAYS

Developer/Bureaucrat

Xu Li

Age: 42
Job: Government Officer
Hobby: Social Activities
Goal: Develop the area to generate more income for government

XU ZHANG
The building is too old. There is much trash in the courtyards, congesting the traffic in the building. The cost for repairing and replacing the broken parts is expensive. Also, there are no more people living in the site. So, this abandoned property should be demolished.
The building is too old. There is much trash in the courtyard, congested the traffic in the building. The cost for repairing and replace the broken part is expensive. Also, no more people are living on site. So this abandoned property should be demolished.
FROM STEP 1 [TAGGING] TO STEP 2 [CROWDSOURCING]

STEP 1

STEP 2

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
STEP 2: CROWDSOURCING

STAKEHOLDERS CHOOSE TO PRESERVE OR DEMOLISH

Due 90 days

Local Resident

Jianguo Li

Age: 55
Job: Work
Hobby: Stroll
Goal: Keep the community identity

Stakeholders Voting for Preservation or Demolition

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
STEP 2: CROWDSOURCING

STAKEHOLDERS CAN PLAY WITH THE DESIGNED SCHEMES

Citizen
Xinyi Ma

Design (Play)

Age: 39
Job: Retailer
Hobby: Watch Korean drama
Goal: Keep the neighborhood as it is

Stakeholders Playing with the Platform
I think that this building cannot be demolished because the scanned model is a very important baroque style decoration that has been here for decades. So this condition should be considered.
DUE: 90 DAYS

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PRESERVE

Browse

DEMO\LISH

59

Design (Play)
STEP 2: CROWDSOURCING

PROFESSIONALS PROVIDE CUSTOMIZED DESIGNS

Architects Participating Through the Design of the Tagged Block
Adaptive Reuse of the Tagged Building

Liang Liu

Age: 38
Job: Architect
Hobby: Design
Goal: Make a better community, improve people's life.
STEP 2: CROWDSOURCING

STAKEHOLDERS BROWSE AND TEST THE PREFABS CREATED BY ARCHITECTS

A Student Test with the Prefab Designs

Chenxue Wang

Age: 21
Job: College Student
Hobby: Art exhibition
Goal: Help the local people make their voice heard and help them use new media
STEP 2: CROWDSOURCING

STAKEHOLDERS SIMPLY RENEW AS ORIGINAL

A Citizen Test with Simply Renew Option
INTERFACE OF RENOVATING, PREFABS, AND COSTUMIZING
Well, I think this is a good call that this would be ignored if we do not mention this historical place. I think the design for this block should be revised.

Junliang Gan

Report: Liang Liu: What would you actually do for this piece? Why can’t we just put this in a community museum? I don’t think we should stop the development only because of this small piece of heritage.

Kaining Peng

This is a very typical Baroque style combined with Chinese style. This kind of combination is actually rarely seen. I think this should be preserved in some way.

Chenxi Wang

Report: Kaining Peng: What would be your suggestions to preserve this piece of heritage? I never been to Harbin before, but now I think it is very interesting to go there to see all these heritages.

Houjuan Zhou

I live next neighborhood. I also think this is an important piece for this block. And there are actually more heritages that we think should be preserved.

Jianguo Li

I think that this building cannot be demolished because this sectional design is a very important Baroque style decoration that has been here for decades. So this condition should be considered.
STEP 2: CROWDSOURCING

STAKEHOLDERS UPLOADING EVIDENCE—MODEL

Stakeholders Uploading Models to Support Preservation or Demolition

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
Photogrammetry Model Made by Drone and Uploaded by Student

Chenxue Wang

Age: 21
Job: College Student
Hobby: Art exhibition
Goal: Help the local people make their voices heard and help them use new media
STEP 2: CROWDSOURCING

STAKEHOLDERS UPLOADING EVIDENCE---IMAGE

Stakeholders Uploading Images to Support Preservation or Demolition
Visitor

Jiahui Gao

Age: 30
Job: Editor
Hobby: Travel
Goal: To see the real culture of the place

Images Uploaded by Tourists
STEP 2: CROWDSOURCING

STAKEHOLDERS UPLOADING EVIDENCE---VIDEO

Stakeholders Uploading Videos to Support Preservation or Demolition
Jie Bao

Age: 38
Job: Community Service
Hobby: Watch TV
Goal: Keep the building and environment clean

Community Service People Uploading a Video Where She Works
STEP 2: CROWDSOURCING

STAKEHOLDERS UPLOADING EVIDENCE---AUDIO

Stakeholders Uploading Audio to Support Preservation or Demolition
Local Resident

Jianguo Li

- Age: 55
- Job: Worker
- Hobby: Stroll
- Goal: Keep the community identity

Interview with Local

Local Resident Uploading an Audio of Interview
STEP 2: CROWDSOURCING

STAKEHOLDERS UPLOADING EVIDENCE---EVALUATION

Preservationist Uploading Evaluation of a Tagged Building Block
The site has many historical buildings that were built over one hundred years ago. But some buildings on site have no historical value and are now in poor condition. They do not have the same value as the historical buildings.
VIDEO UPLOADING AND DISCUSSION INTERFACE

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jianguo Li</td>
<td>I think this building cannot be demolished because this scanned model is a very important Baroque style decoration that has been here for decades. So, this condition should be considered.</td>
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<td>Junjiao Gan</td>
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</tr>
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</table>
FROM STEP 2 [CROWDSOURCING] TO STEP 3 [DECISION]

STEP 2

PRESERVE

MODEL

IMAGE

VIDEO

AUDIO

EVALUATION

DEMOLOISH

BROWSE

STEP 3

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
DECISION
Consider the supportive materials and architects' designs.
STEP 3: DECISION

DUE DATE AND THE FINAL RESULT OF PRESERVATION OR DEMOLITION

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
STEP 3: DECISION

FINAL DECISION MADE BY BUREAUCRAT

DECISION

PRESERVE

DEMOISH

REFURBISHMENT

RENOVATION

ADAPTIVE REUSE

Developer/Bureaucrat

Xu Li

DUE: 0 DAYS

Preserve

Demolish

Age: 42
Job: Government Officer
Hobby: Social Activities
Goal: Develop the area to generate more income for government

The End of the Democratic Process
I think that this building cannot be demolished because the scanned model is a very important baroque style decoration that has been here for decades. So this condition should be considered.
DUE: 0 DAYS

PRESERVE

DEMOLISH
FROM STEP 3 [DECISION] TO STEP 4 [EXPLORE]

STEP 3

MODEL IMAGE VIDEO AUDIO EVALUATION

REFURBISHMENT RENOVATION AD

STEP 4

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
STEP 4: EXPLORE

EXPERIENCE THE DIGITALLY ARCHIVED COMMUNITY THROUGH AN OVERALL VIEW

Model Viewer and Attached Detailed Models Uploaded by Stakeholders
STEP 4: EXPLORE

IMMERSIVE EXPERIENCE AND POP-UP MULTILAYER MEDIA

Walking through the Building and Related Geolocated Multi-Media

XU ZHANG
INTERFACE OF IMMERSIVE EXPLORE EXPERIENCE

FLY

Renovate

Back

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
SCENARIOS

On this platform, many different scenarios can happen. Two typical types are presented as follows:

SCENARIO 1: After the 90-day deadline, although many people chose to preserve, and uploaded much evidence and reasons they believed the site should be preserved, the bureaucrats still demolished it, disregarding the majority's will. Consequently, the digital materials are archived on the platform and people can view and experience the site even after its demolition. The democratic process ceased at the point of decision-making, but survived in the collected valuable historical information, preserving the site digitally.

SCENARIO 2: After the 90 days passed, more people had the firm intention to preserve the site. To begin with, some of the bureaucrats wanted to demolish the site, but some noticed there was a way to preserve the building by making minor changes. So, one of the bureaucrats proposed this adaptive reuse scheme to avoid complete demolition. The others accepted this, and the building is largely "preserved," and available for exploring what change is done.
SCENARIO 1: DEMOLISH

SCENARIO 2: PRESERVE
SCENARIO 1

Bureaucrat Making the Decision to Demolish

Before due date, many people uploaded many exotic materials. We've collected many valuable historical materials during this 90 days. These materials will play a significant role in later development of our district.
I didn't expect that so many people disagree with the demolition, even though the building is in bad condition.

But after a research of the redevelopment plan, we decided to demolish this building block.
SCENARIO 1

Stakeholders View and Experience Digital Archived Materials after Demolition
I uploaded videos, but we can now view through the platform.

I really love the street selling voice.

I uploaded some delicately models.

I uploaded an image.
SCENARIO 2

How the Architect's Scheme Affected the Decision
My project has multiple interventions. It preserves the original to create an open courtyard and expands the middle warehouse. The other parts will remain.

**Architect**

Xu Zhang
Senior Architect, 120

OK, PRESERVE.
SCENARIO 2

Geolocated Virtual Reality Experience
The virtual reality demo is built using Unity with HTC Vive. It is part of the Explore function. It is a simple test of how multiple layers of information could be implemented. It also informs the user what the experience of immersively exploring the crowdsourced digital archive would be like.

The demo begins with a real view of the whole site, with a function allowing the rotation of the camera to view from different angles. The user could then pop up the menu to choose to go to some detailed model or continue in street view. The photogrammetry model is supposed to be uploaded by stakeholders and could be placed in its original position. After being on the street, the user can walk or fast teleport to a certain point. When the user walks to certain specific spots, related media uploaded by stakeholders will pop up, including models, images, videos, and audios. The user could choose to view the multiple and massive crowdsourced memory of the place. If a site is preserved, then the scheme will appear in this virtual world. The memories of the place still pop up as the user walks through the new space, reminding the user of the original space.
Platform on Left Screen, VR Demo Playing on Right Screen

Walking on the Street with Photogrammetry Model
Street View Facing an Old Hair Cut Shop

Playing the Pop-Up Related Video
White Model Background

Textured Model Background

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
An Old Grocery Store and its Pop-Up Information

Switch the Pop-Up Related Images
CONVERSATION ON SAVING A HISTORICAL COMMUNITY

A Renovation Model

Menu and Pop-Up Information in this Renovation Scheme
Standing in the Building on a Higher Level Looking Out

Ground Level and View from Exterior with Pop-Up Information
In China, in the preservation process—particularly with historical communities—bureaucrats and developers always have the absolute power to make the final decision regarding preservation or demolition. The mechanism of this platform can, however, bring relevant people together to engage in a "conversation." Therefore, the original, exclusive decision-making process becomes negotiable and democratic. It is possible for professionals, ordinary people, and bureaucrats to meet and discuss the issues. Furthermore, compared with a single result made by bureaucrats and developers, the degree of freedom and flexibility of this platform can generate many alternative scenarios. Good or bad, the "conversation" involves all relevant stakeholders and embeds democracy into the process of preserving the community.

During the process, evidence for preservation or demolition, and architectural schemes are crowdsourced. No matter the final decision, these digital archives provide an important historical record for the community. Combining the crowdsourced data and virtual reality is a powerful and reliable method of creating an immersive experience of what is either lost or at risk. The advantage of multimedia and multi-layered information in the virtual world is that it can encompass users' experiences of inhabiting a much more comprehensive space compared with the physical world. Thus, community heritage can be permanently preserved and experienced in the digital world.

Ultimately, following a democratic conversation of a preservation process, whether a site is preserved or demolished, the community heritage remains digitally preserved.
INTERFACES

Starting Interface

Register and Select Role
Bureaucrat Tagging

Support for Preservation
Stakeholders Commenting on Evaluation

Play with the Schemes
CONVERSATION ON SAVING A HISTORICAL COMMUNITY

Renovation

Use Prefabs
Reviewing the Prefabs Warehouse

Apply the Selected Prefab to the Community
Architect Uploads Customized Design

Reviewing the Design
Stakeholders Uploading Materials

Reviewing the Model

XU ZHANG
Residents Play in Courtyard

Uploading Audios

Uploading Videos

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
Explore Mode

Explore Uploaded Model
Conversazione sulla salvaguardia di una comunità storica
Go to the Uploaded Detailed Model

Explore Uploaded Images and Comments
Street View on Demolished Street

VR Mode with Geo-Related Information Pop Up
FINAL PRESENTATION

FINAL REVIEW BOARDS

CONVERSATION ON SAVING A HISTORICAL COMMUNITY
CONVERSATION ON SAVING A HISTORICAL COMMUNITY
Before due date, many people uploaded many interesting materials.

It will be demolished in the end.

We choose to preserve!

There is an architect who provided this adaptive reuse scheme.
CONVERSATION ON SAVING A HISTORICAL COMMUNITY
5

BIBLIOGRAPHY


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