1. BACKGROUND

No.27 Mijia Xiang is GHF’s second restoration and rehabilitation project in Pingyao Ancient City. It is a courtyard house with 1 courtyard enclosed by five extant structures. The total surface area is 220 sq meter, and built area of 127 sq meters. The courtyard has intact layout and good structural integrity, it is fairly representative of the residential courtyards commonly found in Pingyao ancient city.

After Pingyao became a popular tourist destination in the last decade, there emerged a large number of spontaneous conversions of residential courtyards into privately-ran guesthouses. Deterioration of historic houses over the years and the large expenses associated with the maintenance and repair, and the lack of public infrastructure has driven many of the original inhabitants (especially the more affluent class and young generations) to move outside of the old city. The guesthouse phenomenon has in part provide incentive for the house owners to upkeep and refurbish their old houses and found new value for vacant courtyards whose owners has left the ancient city. However, uncontrolled development has led to over-supply of such guesthouses and there exists great disparity in rehabilitation and management qualities.

Currently, there is neither technical standard nor guidelines on acceptable rehabilitation practices, often leading to inappropriate alterations, destructions and even demolition. 27 Mijia Xiang was a typical example of such establishment and is representative of the characteristics and problems associated with the phenomenon.

The courtyard is of close proximity to GHF’s pilot restoration project, No.12 Mijia Xiang. The owner has moved away from the ancestral home but will still like to keep the property within the family and maintain the historic structure in its extant state. Therefore, they have attempted to convert the courtyard house into a small family-run guesthouse in order to make use of the structure and at the same time cover the costs for maintenance and repair. However, due to inexperience and limitation in funding, the operation has not been very successful.

After witnessing GHF’s restoration effort at No.12 Mijia Xiang, the owner initiated contact with the local Urban Planning Bureau to request for assistance from GHF. The terms were that the ownership remains within the family and the original structure and layout will be kept intact (the owner were very conscious of preserving the original state of the courtyard during the conversion). After assessing the conditions of the courtyard and consultation with the Urban Planning Bureau, the GHF Pingyao Project office recommends 27 Mijia Xiang as a worthwhile rehabilitation and community development project to pursue.
2. LOCATION AND HISTORY

The courtyard is located within the Mijia Xiang in the ancient city of Pingyao, on the south side of the street. The street is bound by the prosperous South Avenue on the west, Miliangshi Street (the Chenghuang Temple) on the east, and intercepts with Xingsheng Street in the middle section.

Mijia Xiang’s literal meaning is Mi’s Family’s lane. The history of Mijia Xiang can be traced back to Yuan Dynasty (AD 1271-1368), which is about the same time when the Mi family moved to Pingyao. Following the clan tradition, the entire lane was owned by the Mi’s family, hence, the name. On the north side of the street, between Miliangshi and Xingsheng Streets was the Mi Family Ancestral Hall. Due to the prosperity in trade during mid Qing dynasty, Mijia Xiang was regarded as prime location right next to the busy main commercial street, the South Avenue, therefore the residential courtyards were sought after for commercial use. Almost all of the courtyards were occupied by businesses by late Qing Dynasty, including gold ware shops, textile shops, pawn shops, hat shops, etc.

The courtyard is formerly known as Gong’s Family Inn, it was a small family-run B & B converted from the owner’s home in 2009. Before the conversion, the courtyard house is use for residential purpose by the Gong family. The actual history of how the courtyard came into hands of the Gong family is unclear, from the architecture design and layout, local architecture historians think that the courtyard may be built as private school to educate children of the family clan.
3. CURRENT STATUS AND CONDITION

After Pingyao became a popular tourist destination in the last decade, there emerged a large number of spontaneous conversions of residential courtyards into privately-ran guesthouse. 27 Mijia Xiang is a typical example of such establishment and is representative of the characteristics and problems associated with the phenomenon:

(1) General threats and issues
There are no active and effective conservation efforts, nor rational planning and usage of the spaces. Though there are no major structural threats, other problems threatens the integrity of the historic fabric: the original mural paintings have serious flaking and detachment problems; the interior brick and earthen walls are suffering from moisture problem; the appearance of the external wall is further undermined by pollution from coal burning. The interior is dingy and dark with poor ventilation and the rigid old fashion interior layout is not suitable for modern lifestyle.

(2) Inadequate living facilities
The guesthouse employs the traditional method of coal-powered boiler for heating. Such heating method needs to install bulky boiler facilities in the courtyard and consumes large amount of coal in the winter; this not only takes up space, but also cause serious air pollution. The electric lines are unorganized and messy, and are exposed on the exterior of the building. This not only undermines the integrity of the original façade design but also presents potential hazard causes by short circuit. The same problem also exists in the plumbing layout. In addition, the extreme local winter climate accelerates the aging of both the exposed electric and plumbing systems.

(3) Corruption of traditional architecture vocabulary and inappropriate “over-ornamentation”
In recent years, the local government and residents have realized the importance of preserving the historic cityscape, but due to lack of proper understanding, the common restoration approach is the undiscriminating and abusive application of historic design elements such as red lanterns, paper cutting, stone carving, etc, without distinction of authenticity and quality. At the same time the truly valuable historical fabrics did not receive effective protection. It is under such circumstances that the historic wall paintings of 27 Mijia Xiang were covered and repainted over with poor quality modern finishes of an imagined traditional style.
4. PURPOSE AND OPERATION MODEL

The rehabilitation project aims to achieve the following goals:
• Retain the original external appearance and structure as much as possible;
• remodeling of the interior spaces to satisfy modern living needs and functional space planning;
• reorganization and restoration of the exterior courtyard spaces;
• install a fully functional and hidden mechanical system that is not intrusive on the historic appearance;
• testing of new low energy consumption equipment.

All of the above will attempt to satisfy technical research needs and serve as model for the local community in experimentation of new conservation and rehabilitation technologies and approach.

After completion of the restoration and rehabilitation, the courtyard will be Pingyao’s first non-profit lodging operation: all the profits from the courtyard will go back to the project office fund for courtyard conservation purpose. The project office and Pingyao Municipality will jointly support the compensation for the owner, rehabilitation and start up running costs. The daily operation will be run by a local team put together by the Pingyao Urban Planning Bureau and GHF Pingyao project office.

The courtyard function was jointly decided with the local government in review of the following circumstance:

1. The owner is the first local resident to request for assistance from GHF after seeing the result of the restoration of 12 Mijia Xiang;
2. the owner has relocated outside of the ancient city and does not have the time nor means to operate the business and yet will like the courtyard continues to be in use;
3. the innovative operation model can create a new example for Pingyao: profit generated from the adaptive reuse can self-fund the running of the courtyard and into a Pingyao courtyard conservation fund;
4. to satisfy lodging needs of i) GHF project office (consultants, trainees, interns, researchers, etc.) and fellow professionals and students in related fields; ii) the Pingyao Municipality. As a popular tourist destination, Pingyao Municipal has huge amount of public spending on hosting government officials and relevant personnel from all over the world. Currently, all the government hosting happens in privately run hotels, most of them new built. 27 Mijia Xiang can direct some of the government spending towards the conservation fund and also demonstrate their support in protection and adaptive reuse of vacant historic courtyards. In agreement with the municipality, the Pingyao Urban Planning Bureau and Cultural Heritage Bureau courtyard will exclusively assign all future government-paid lodging to 27 Mijia Xiang. The courtyard may also open up to selected visitors by reference.
5. LAYOUT AND INTERIOR DESIGN

Taking into account the different types of residents and business models, the plan has been adjusted several times and finally decided on the final design: 6 rooms with attached bathrooms and can accommodate up to 12 people. The street-lined north structure serves as the public activity areas, including a communal kitchen and office. The roof terrace of the main building will serve as outdoor recreation space.

The rooms are relatively small, with the 4 east and west chambers rooms at 12 sq m each and the 2 main south chamber rooms 15 sq m each.

Style and Materials
Taking into account the cost and the targeted group, the interior style is minimal and simple, focusing on improvement in comfort level of living in a historic house, reducing the need for unnecessary decorations. The primary color scheme follows the traditional style including black, white, gray and natural wood, using local grey brick as interior partition to reflect the adaptive re-use. The traditional “kang” bed design element is improved with use of wooden material that is more comfortable to touch and works better with the new heating system.
Design plan for 27 Mijia Xiang
6. CONSTRUCTION PROGRESS

Construction project officially started in end of September 2011, completed work to date includes demolition of added structure including the bulky coal broiler room, basic structural assessment and repair, installation of air-source heat pump air-conditioning unit, structural wall reinforcement, built up of interior partition wall and improvement of water piping and electricity cabling.

(1) Drainage
Majority of the Pingyao courtyard houses are 1 story high, and typical drainage design is to collect all discharges into a common pipeline in the courtyard that flushes out into the street. The original pipe line is more shallow and was deformed due to freezing action, the drainage system has been adjusted and improved.

(2) Electricity
Including electricity supply for equipment, lighting circuits, electrical outlets, telecommunication lines and temporary lighting. The original cabling can no longer satisfy new power requirements, and new cabling system has being installed. All the new circuit layout are hidden in the walls or under the roof eaves as much as possible to minimize the impact on the building exterior.

(3) Air-conditioning facility
In order to avoid the pollution caused by the old heating method (coal burning) and to conserve energy, 27 Mijia Xiang choose to install air source heat pump air conditioning system, where the principal unit is installed on the roof terrace of the main structure, and the air outlet inside each rooms are hidden above the ceiling. The main unit is running at low speed and drives all the split units. As with the traditional split-type air-conditioning system, all split units can be individually controlled, but has lower energy consumption, interior effect is more aesthetically pleasing and avoided the commonly found problem in Pingyao of obtrusive air-conditioning unit installed on the exterior walls. The main yaodong structure at 12 Mijia Xiang will employ carbon crystal embedded ground heating where the ground heating system can better maintain the integrity of the vaulted structure. The employment of these two new energy technologies is an experiment to resolve 2 major widespread problems in Pingyao: polluting and ineffective local traditional heating in winter (coal powered boiler) and obtrusive installation of split-type air conditioning units on historic buildings that greatly impacts the traditional streetscape.
4. 顶面及照明布置