

Heritage Preservation of Shilin – Conserving Taiwan’s Unique Identity

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Heritage Preservation of Shilin – Conserving Taiwan’s Unique Identity

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1.0 Introduction

Compared to most countries found in East Asia, the history that defines modern-day Taiwan is quite short. Taiwan's historical narrative includes distinct influences from multiple diverse cultures, shaping its unique and dynamic heritage. Each of these unique influences employed the same method: throughout each century, each administrative government tried to remove any trace of their predecessor to fully establish present control. This erasure included tactics such as renaming significant historical locations and enforcing an educational system based on the current culture's traditions (Hon and Culp, 2007).

Taiwan has always lacked a systemic approach to cultural conservation (Morris, 2018). Although the traditional law and single party dictatorship transitioned to multiparty democracy, the practice of "heritage preservation" did not. As the Taiwanese identity continues to develop today, the significance of cultural asset protection becomes ever more important.

In favor of short-term economic gains and the pursuit of "modernization," local Taiwanese government organizations continue to destroy cultural assets and heritage sites (Morris, 2018). To lose cultural assets is to erase history, and to erase history is to lose the Taiwanese identity entirely. Eliminating the physical and symbolic representations of the past makes it difficult for future generations to understand and connect with their history. This history plays a crucial role in defining the identity of Taiwan.

After our initial research that we discuss in the background chapter, our team found a disconnect between modernization/industrial development and the preservation of culture. In particular, the Shilin District and surrounding areas in the Tamsui River Watershed experienced the historic transformations of Taiwan from a traditional Chinese immigrant society to one embedded in a modern world.

The sponsor of this research project is Dr. Fu-sheng Shih, an assistant professor at the Department of Sociology at Soochow University in Taiwan. Dr. Fu-sheng Shih is a co-author in multiple published journals surrounding topics on land, economic and social development in Eastern Europe. This upcoming spring, Dr. Shih will be teaching two courses: a master's level course entitled "Conservation of Cultural Heritage and Social Changes," regarding the differences in cultural policies and heritage in Europe and Taiwan, and an undergraduate course "Space, Community and Society," featuring coursework on urban planning and qualitative research. Dr. Shih's main goal for our team is to pursue strategies to preserve the heritage and history of Taiwan.

The goal of this project is to develop a prototype website that captures the richness of Shilin's historical development in ways that resonate with and benefit present-day Shilin. In addition, the deliverable of this project will effectively showcase the rapid modernization of settlements in Shilin for locals. We aim to accomplish these goals by implementing the following four objectives:

1. Determine key features for website and select development platform.
2. Collect and analyze data in the field for website content.
3. Develop a mock website and receive feedback on layout.
4. Implement feedback and develop a final prototype.

Conducting interviews, surveys, and field research to complete these objectives will hopefully yield a website that not only digitally conserves the heritage of Taiwan but also highlights the rapid modernization of Shilin's society.

2.0 Background

This chapter begins with a summary of Taiwan's history. To understand why Taiwan is unique and worthy of conservation, the first section (Section 2.1) provides a basic understanding of significant events and influences the nation endured. Conserving this identity involves acknowledging the cultural and historical elements that have shaped the nation over centuries. Sections 2.1.3 and 2.2 focus on specific examples of industrialization in the nation and how modernization altered the cultural landscape of Taiwan. These two sections highlight the disconnect between modernization/industrial development and the preservation of culture. We then zoom in on the Shilin District specifically and highlight the industrialization that area faced along the Tamsui River. The conclusion of this chapter considers what methods for cultural heritage preservation we can implement today to benefit present day Shilin and its surrounding districts. In essence, this chapter highlights the need for cultural conservation in the Shilin District of Taipei and considers the significance of heritage preservation theories.

For this paper, a “cultural asset” refers to the language, arts, music, traditions, and histories that make up a community's identity, character, and customs. “Cultural conservation” refers to the active practice of protecting cultural assets. Cultural conservation efforts can preserve cultural heritage, or the tangible and intangible cultural assets of a community. This paper uses the terms “preservation” and “conservation” interchangeably (Kourtit and Nijkamp, 2019).

2.1 Introduction to History of Taiwan

Taiwan, an island formerly known as Formosa, began with the Aborigines, whose origins stem from Indonesia. The Aborigines spoke Austronesian languages and identified as Austronesian people. Austronesians hail from Taiwan, Mainland Southeast Asia, Melanesia, and

Polynesia, and they have different ethnicities, including Vietnamese, Cambodian and Thai (Rubinstein, 2015). In 1889, Dutch Indologists created the southern origin theory, which states that the Aborigines originated from the Malay Archipelago. The Malay Archipelago consists of islands in Indonesia, Singapore, Malaysia, and the Philippines. The arguments of the southern origin theory are as follows:

1. “Aboriginal tradition” of legends is “that their forefathers came from a southerly direction”.
2. “Consensus of foreign opinion” is that “travelers see in the various tribes of Formosa the features and manners of the inhabitants of Luzon, Polynesia, the Malay Peninsula”.
3. “Natural migration” of northward-flowing ocean currents supports the concept of instances of boats from the Philippines and Pelau washing onto Taiwan’s shores (Rubinstein, 2015).

The southern origin theory also established Taiwanese Aborigines as being independent from the Chinese population, countering the Chinese government’s claim of historical ties with Taiwan as justification for considering it part of China’s territory (Rubinstein, 2015).

Taiwan has been entangled with several nations due to its advantageous geographical position for trading in Asia (see Figure 2.1). In the 17th century, China, Japan, Spain, and the Netherlands aspired to settle on the island to establish trading ports. Chinese merchants and fishermen had begun to visit the island of Taiwan. The Dutch first arrived in Taiwan off the coast of the P’eng Hu islands in 1604 (Rubinstein, 2015). The Dutch travelers’ demands with the Ming empire in Taiwan were to access trade routes. When the Ming empire pushed back against the wishes of the Dutch, it forced the Dutch to stay on the P’eng Hu Islands. Diplomatic tensions

between the residents in Taiwan, as well as the Japanese government, rose throughout the Dutch colonization due to trade disagreements. These conflicts resulted in hostile relations between the Dutch, Japanese, and Chinese, resulting in the Dutch's expulsion from the island in 1662.



Figure 2.1 Map of Taiwan and Neighboring Countries of Asia (Cooper, 2024)

The end of the conflict marked the beginning of Taiwan's first Chinese ruler, Cheng Ch'eng-kung, a Ming general, who was in power from 1661 to 1683. Cheng's reign quickly weakened after conflicts with several members of his family. Eventually, his grandson, Koxinga, surrendered to the Qing Dynasty, which controlled Taiwan from approximately 1680 to 1895 (Tsai, 2016). During the Qing Dynasty, rice and sugarcane became the prime export, spurring an agricultural revolution in Taiwan. Taiwan exported these products to most of Asia, including China and Japan. During the Qing Dynasty's rule, Taiwan transformed into a settled society from

its previous status as a country bordering China. The Qing Dynasty assisted Taiwan's economic growth by establishing rice and sugarcane exports, as well as implementing policies to regulate trade. However, the Qing Dynasty's rule would end in Taiwan after over 200 years of improving the economy (Rubinstein, 2015). Over time, as Japan's interest in Taiwan and Korea heightened, conflicts arose. Thus began the Sino-Japanese War between the Qing Dynasty and Japan, which lasted from 1894 to 1895. Although China had more troops, Japan had leverage in its advanced technology and quickly overwhelmed the Chinese soldiers, ending the war. The Treaty of Shimonoseki resulted in the ceding of Taiwan to Japan. This marked the beginning of Japanese colonization, which lasted from 1895 to 1945 (Rubinstein, 2015).

2.1.1 The Japanese Influence in Taiwan

During this period, Taiwan underwent industrialization and experienced many cultural changes. The Taiwanese people were now under Japanese rule, leading to unrest in the population. The Japanese government's primary focus in 1895 was to exploit resources from Taiwan while abolishing the Chinese customs that Taiwanese individuals adopted, such as foot binding and the use of opium. The Japanese government's goal was to keep Taiwanese nationals in the country and banish Chinese residents. Their strict rule and prohibition of Chinese customs resulted in a hostile relationship between the Taiwanese and Japanese (Tsai, 2016).

In 1895, the Taiwanese people led a rebellion against the Japanese, causing 30,000 Japanese casualties. Japan decided to station its military force on the island to counter these attacks and retaliated by causing 6,000 Taiwanese casualties in the town of Touliau. After years of continuous bloodshed, Goto Shimpei, Japan's Chief Civil Administrator, recognized that education could serve as a remedy to the violence. He introduced the agenda "Urgent Remedy for Taiwanese Governance," in 1898, which established self-governance—a practice that the

Aborigines followed before non-Taiwanese-natives appeared in Taiwan. Goto's political goal was for the Japanese government to act as external forces to improve the nation, while the Taiwanese population improved Taiwan internally. The internal improvement involved allowing influential Taiwanese citizens to participate in Taiwan's politics. Goto's agenda also attempted to provide Taiwan with modern technology that Japan had developed, such as railroads, and public hospitals to help with the Opium Epidemic; Goto's main objective was to shift the loyalty of the Taiwanese population to Japan. Additionally, he implemented changes in the education system (see Figure 2.2). Goto ensured that schools taught Japanese, alongside Mandarin Chinese. Japanese mannerisms were taught to Taiwanese students as well. He believed that if Taiwan's population spoke Japanese and followed their customs, the bloodshed would end, and the island would become economically independent. Japan's effect in Taiwan not only altered the Taiwanese heritage and identity, but also increased the speed at which Taiwan industrialized (Tsai, 2016).



Figure 2.2 Taiwanese School Girls Waving Japanese Flags (Taken Adams, digitized Bingo, 2014)

2.1.2 Industrialization in Taiwan

During Taiwan's period of Japanese colonial rule, the island underwent substantial industrialization and modernization. The colonial administration concentrated on expanding the tea and sugar industries, though with differing levels of achievement. While sugar production flourished tremendously, the tea industry proved more challenging and eventually declined due to the increased competition and transportation costs. Seeking to construct a modern infrastructure, the Japanese government invested greatly in developing Taiwan's transportation systems. This led to the construction of the crucial North-South Railway in 1908 (note the dark blue line in Figure 3.3), which connected Taiwan's northern and southern regions for the first time. The new railway helped consolidate local rice tariffs and established a free market economy across Taiwan, enabling goods and resources to flow more freely within the island (Tsong-Min, 2017).

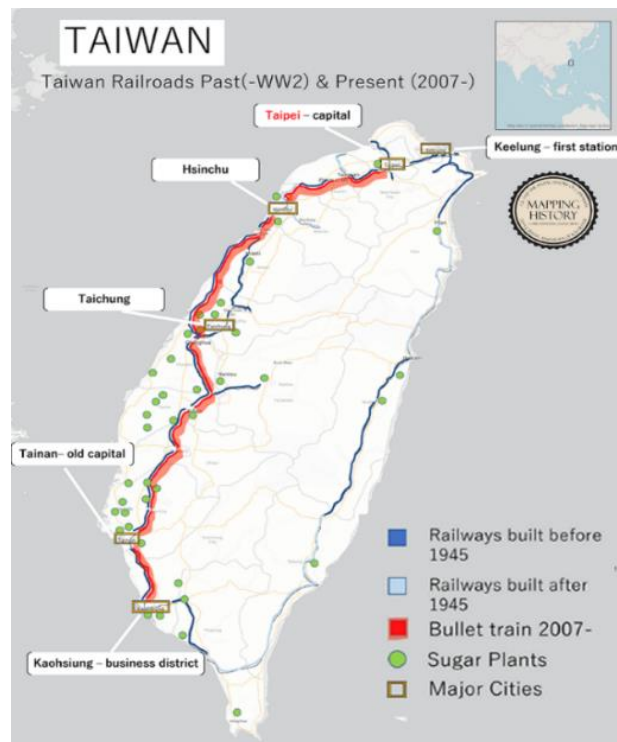


Figure 2.3 Taiwan Railroads - Mapping History (Kuwabara, n.d.)

The increasing costs of importing sugar and advancements in sugar production methods in Taiwan greatly impacted the development of the industry. However, making sugar in Taiwan still proved more expensive than in other parts of the world due to high production costs. During this time, improvements in Taiwan's transportation aided sugar exports. Under Japanese rule, exportation started to expand to many areas since trading opportunities became more practicable and affordable. While domestic production enhanced over these years, imports continued to affect the local market (Tsong-Min, 2017).

The industrialization policies of the Japanese colonial authorities had a significant impact on the establishment of colonial reforms in Taiwan. These policies attempted to modernize and advance Taiwan's economy, infrastructure, and social systems. Efforts to industrialize included improving education, healthcare, and travel opportunities for Taiwanese citizens (Tsai & Cai, 2001). In addition to those efforts, the Japanese authorities took steps to promote economic expansion by cultivating industries and trade connections. However, that did not stop Taiwan's industrialization from facing challenges, particularly after Japan's defeat in 1945. This defeat caused greater hardship on the Taiwanese sugar and tea industries due to competing in the global market (Tsong-Min, 2016).

Nevertheless, the growth of exports throughout Taiwan's Japanese colonial time had substantially raised the GDP, which laid the groundwork for Taiwan's rapid development in the early 1960s (Tsong-Min, 2017). This continuous move towards industrialization caused underemployment in agriculture, which resulted in poverty in farm families and a low standard of living for laborers. The modernization of agricultural equipment and the greater opportunities for travel created a surplus of laborers in the agricultural sector and provided many low-wage jobs for the industrial market (Tsai & Cai, 2001). The export-oriented approach significantly

influenced the development of various industries within Taiwan, particularly in electronics and basic metals. In turn, this focus on export-orientated manufacturing played a role in the incentivization of economic growth over the preservation of the past agricultural norms of the time (Tsai & Cai, 2001).

2.1.3 The Cultural Impact of Industrialization in Taiwan During Japanese Rule

Taiwan's industrialization significantly impacted how its people preserved their aspects of culture. The country's shift from an agrarian society to an industrialized economy significantly affected traditional agricultural practices. Transitioning from small scale farming toward other work led to the loss of traditional agricultural lands and displacement of many farmers from their livelihoods (Bishai, 1991). The control Taiwan's government had over land usage created a disruption of customary farming practices and with it jeopardized its potential to preserve that aspect of their heritage.

Establishing industrial parks and estates transformed natural landscapes. This affected the cultural identity and heritage connected to these areas. By tightly controlling the supply of industrial land, the government limited companies' autonomy in a negative way. In conclusion, while modernization and industrialization brought Taiwan economic prosperity, it also negatively impacted people's ability to uphold their own values. This brings up the importance of protecting both customary values and encouraging economic growth (Bishai, 1991).

2.2 America's Influence in Taiwan

Due to treaties at the end of World War II, Japan had to leave Taiwan and renounce their rule. Taiwanese loyalty shifted towards the United States due to their perception of having been "liberated" from the Japanese. In 1943, the United Nations Relations Relief and Rehabilitation Administration, also known as the UNRRA, was created to:

Plan, coordinate, administer, or arrange for the administration of measures for the relief of victims of war in any area under the control of any of the United Nations through the provision of food, fuel, clothing, shelter, and other basic necessities, medical and other essential services (Guptil, 1992).

Once a UNRRA team had arrived in Taiwan in 1946, they set out a plan to help the Kuomintang Nationalist Party of China, the KMT, establish control over the nation. Despite these efforts, most American citizens disagreed with helping the KMT. Vice Consul George H. Kerr had become deeply involved in Taiwan's culture by serving as an American consulate in Taipei and writing the Taiwan Civil Affairs Handbook in 1944. He disagreed with the views of KMT rulers due to their practices of taking a large quantity of natural resources from Taiwan and ruling with an iron fist (Tsai, 2016). Despite the divide in opinions, the KMT gained control of Taiwan 1949, in turn, taking over Japan's trading monopoly. The KMT had a strong desire to integrate Taiwan as one of China's provinces. As a result, the Taiwanese people held an independence movement, known as the February 28 incident. The February 28 incident was seen as a rebellion movement against Nationalism by the KMT. The incident was initially incited by the mistreatment of a female tobacco vendor by the KMT authorities, which led to an increased number of disturbances, resulting in the Taiwanese people protesting (Kuo, 2020). The authority of the KMT felt threatened, which resulted in the movement's suppression. Tensions between the United States and China grew after the communist movement in Shanghai. Regardless, President Truman announced that America would not establish military bases in Taiwan to defend from their looming conflict with China. In 1951, the US Congress passes the Mutual Security Act (Tsai, 2016). This act stated that it would defend nations to protect their liberties. For Taiwan, they gained monetary assistance from the United States, which totaled \$1.49 billion to aid

Taiwan's economy. With the help of American loans, Taiwan's economy witnessed exponential growth, assisting postwar food struggles and facilitating the country's movement towards industrialization (Tsai, 2016).

In the early 1960s, the local market had become oversaturated with agricultural products, which led to Taiwan's expansion into exports. Agricultural products made up 86 percent of Taiwan's exports, which improved Taiwan's economy significantly. The government promoted exports and later encouraged the population to invest and develop domestic industries. These industries ranged from textiles, plastic, paper, and rubber products. Due to the increase in labor-intensive industries, the production of agricultural products decreased, thus shifting Taiwan into an industrial economy (Tsai, 2016).

In the late 1960s, economic minister K. T. Li proposed that bringing American chip companies, like Texas Instruments, on the island would give jobs to the masses and integrate the US further with Taiwan. This was amid fears that America's security promises were diminishing in Asia as the situation in Vietnam deteriorated – the more economic ties Taiwan had with the West, the more willing the United States would be to defend the nation. This marked the start of the Taiwanese semiconductor industry, eventually birthing the behemoth Taiwan Semiconductor Manufacturing Company (TSMC), which today supplies tech giants such as Apple and Nvidia (Miller, 2022).

2.3 Cultural Preservation Around the Tamsui River in Shilin

Taiwan's history has rapidly evolved. Through several conflicts and regime changes, from Dutch and Spanish colonists to the Japanese and Chinese, many different cultural influences have been present on the island. It is a natural byproduct that port areas such as Tamsui have been at the center of cultural change. The Tamsui River flows through the heart of

Taipei and along the southern border of Shilin District. The Shilin District is approximately 24.08 square miles (62.37 square kilometers), and Figure 2.4 illustrates its proximity to the Tamsui River. The river has been a strategic area for settlers as early as the 1620s, when the Spanish constructed a fort overlooking the river's mouth. Soon after came the Dutch, who took control of the fort and claimed the area, including local aboriginal tribes. Later, in the mid-1700s, Chinese immigrants began settling around the river. Today, various Buddhist and Taoist temples are present, indicating diverse influences (Guy, 2009).



Figure 2.4 Map of Districts of Taipei City and Tamsui River (Torty3, 2016)

An example of the rapid evolution in Shilin is the once-burgeoning tea industry. In short, during the 1860s, businessmen John Dodd and Li Chungsheng began incentivizing indigo farmers to grow oolong tea. As the industry kept growing, tea eventually accounted for over 50%

of total Taiwanese exports. The success gained the attention of several Western companies, who opened satellite offices in Tamsui (Shuhua, 1996). Although the major exports of Taiwan have since shifted to textiles and western electronics since the 1960s, this change in exportation garnered further foreign influence in Taipei. Due to the cheap work force, foreign influences took advantage of the Taiwanese working class (Rubinstein, 2007).

Once the KMT retreated from mainland China to Taiwan in 1949, the population density among the riverbanks, and consequently Shilin, skyrocketed. More than 1.5 million people emigrated to the area from mainland China and surrounding Asian countries, furthering the cultural diversity. As a result, the river got more polluted from domestic human waste and industrial sources. Thankfully, former Environmental Protection Agency member Hau Lung-pin won the Taipei mayoral election in 2006 and was responsible for significantly cleaning and restoring the river (Guy, 2009). It is important that the government preserves the Tamsui River – not only by taking care of the area’s natural beauty, but also by safeguarding its rich history. When the government preserves the heritage and natural beauty of a place, it gives locals a connection to their roots and visitors a deep appreciation. It even has economic benefits; tourists are more likely to visit areas that have natural beauty and a rich history (Rypkema, 2008). The mayor’s early 2000s restoration efforts revitalized the Tamsui River and Shilin District. The clear cultural and industrial evolution that the Shilin District has experienced is the reason this project focuses on cultural preservation.

2.4 Methods for Cultural Preservation

There are many methods to ensure cultural preservation. These include oral tradition, the act of verbally recounting history and stories from memory throughout generations; the display of cultural assets in public museums; preventing the inhabitation of historic lands; and publishing

literature relevant to the cultural, historical, or geographical past that recounts important histories (Kourtit and Nijkamp, 2019). What all these methods have in common is the idea that preservation of cultural heritage is for the benefit of current and future generations.

Preserving cultural heritage enables future generations to connect with their roots, appreciate their history, and maintain a sense of identity. Conservation allows for the passing down of values, knowledge, and skills from one generation to the next, creating a bridge between the past, present, and future. It also contributes to the diversity of global cultures, fostering mutual respect and understanding among different communities. In addition, preservation provides a basis for the continuity of traditions, rituals, and customs. This continuity is vital for maintaining a sense of community and social cohesion. Through the preservation of cultural assets, one may also understand the evolution of society and develop an appreciation for both the challenges and achievements that have shaped their culture. Cultural heritage sites also attract tourism, contributing to the local and national economy. By preserving historic landmarks and traditions, communities can leverage their cultural heritage for sustainable tourism, in turn generating economic opportunities, creating jobs, and supporting local businesses (Otero, 2022).

In summary, the preservation of cultural heritage is an investment in the present and the future; it enriches societies, fosters understanding, and contributes to the well-being of individuals and communities on various levels. Our initial research has uncovered a disconnect between modernization and heritage preservation.

2.4.1 Significance of Digital Conservation

One modern solution to heritage preservation is digital conservation. The first public use of the term “digital conservation” dates to 2011. There are numerous approaches to digital

conservation, including augmented reality tours, virtual museums, and 3D scanning/modeling of cultural assets (Van Der Wal & Arts, 2015).

Encouraging the modern notion of “embracing new technologies,” implementing a website is a feasible option for the digital world of Taipei. Nearly 91% of the population has access to the internet, leading us to believe that a website may be a realistic technique to capture the richness of Shilin’s historical development (Statista, 2023). According to the United Nations Educational, Scientific and Cultural Organization (UNESCO), use of the internet leads to a significant increase in digital heritage, specifically in areas that are disadvantaged by the predominant use of English (UNESCO, 2019). A website can easily support multiple languages, so, regardless of personal background, it can serve as a worldwide portal to share the value and significance of the culture displayed. In essence, digital heritage widens the capabilities of creation, communication and sharing of knowledge among all peoples (von Schorlemer, 2020).

In addition, unlike its tangible cultural assets, the digitized counterpart has a higher probability of standing the test of time, continuing to preserve cultural heritage for current and future generations (UNESCO, 2019). Once the intangible cultural asset is digital, it becomes tangible. For example, the present generation can easily forget key aspects of the Taiwanese identity like music, dance and oral traditions if no one digitally records them. With an online presence, digital conservation also promotes education and increased awareness. Internet users can instantly share cultural memories via digital platforms, that expose them to information that may previously been unknown. Having the community interact with both the design and final product engages the community and encourages our research to interact directly with the intended audience (Mason and Vavoula, 2019).

2.4.2 Key Aspects of User Experience

To capture the richness of historical development in a manner that benefits present-day Shilin, we believe the solution should be digital. "Interactivity" is a critical factor when assessing media that is web-based. Interactivity is the degree to which users can exchange information and exercise control over an online medium (Young Chung et al, 2011). There is a strong positive correlation between interactivity and attitude towards a web site. When a function of a website provides you with sufficient detail and realism, one can imaginatively put themselves into a physical setting or picture either the grand scale or small significance of an object. Mental imagery processing leads to greater flow state intensity, in addition to positive attitude changes (Young Chung et al, 2011). In other words, users will want to continue exploring an interactive map of Shilin, if it provides them with sufficient detail and interactivity.

2.5 Summary

This chapter covered a brief history of Taiwan, the impact of modernization on heritage conservation and the importance of Shilin and surrounding areas as locations of interest. It concluded by considering the importance of heritage conservation and digital features that can be used as a tool to conserve cultural assets. The research outcomes of this chapter heavily impacted our team's decisions regarding methodology and specific historical aspects of Taiwan we want to highlight. In addition, it provided a more complete appreciation for Taiwan's complex history and how our project can effectively capture the Taiwanese identity in a way that benefits the nation.

3.0 Methodology

The goal of this project is to develop a prototype website that captures the richness of Shilin and surrounding districts' historical development in a manner that resonates with and benefits present-day Shilin. In addition, our deliverable needs to effectively showcase the rapid modernization of settlements in Shilin for both locals and visitors. We aim to accomplish these goals by realizing the following four objectives:

1. Determine key features for website and select development platform.
2. Collect and analyze data in the field for website content.
3. Develop mock website, receive feedback, and make improvements.
4. Develop final website, receive feedback, and make improvements.

Throughout the methodology chapter, the word “site,” or “historical site,” refers to any place that we will visit, document, and showcase on our website. “Website” refers to the deliverable that we are developing for our sponsor, not to be confused with “site”. “Area,” or the “Shilin Area,” refers to the Shilin District and the neighboring districts.

The purpose of this chapter is to consider the specific methods and analytical tools we will use to achieve each of our four objectives, in turn accomplishing our overall goal. It concludes by discussing certain challenges and limitations we expect to experience and, importantly, the ethical standards that will guide our research. Figure 3.1 depicts the clear connection between our four objectives and the methodology we plan to use to accomplish each one. In short, we first perform case studies to determine necessary website functionality and features. Next, we will interview locals of the Shilin Area and document historical sites and cultural assets of interest. Then, we develop a mockup website to assess progress with our

sponsor and to develop a draft final website based on feedback. Finally, we receive feedback on the draft final via a survey, and improve the final website based on the feedback.

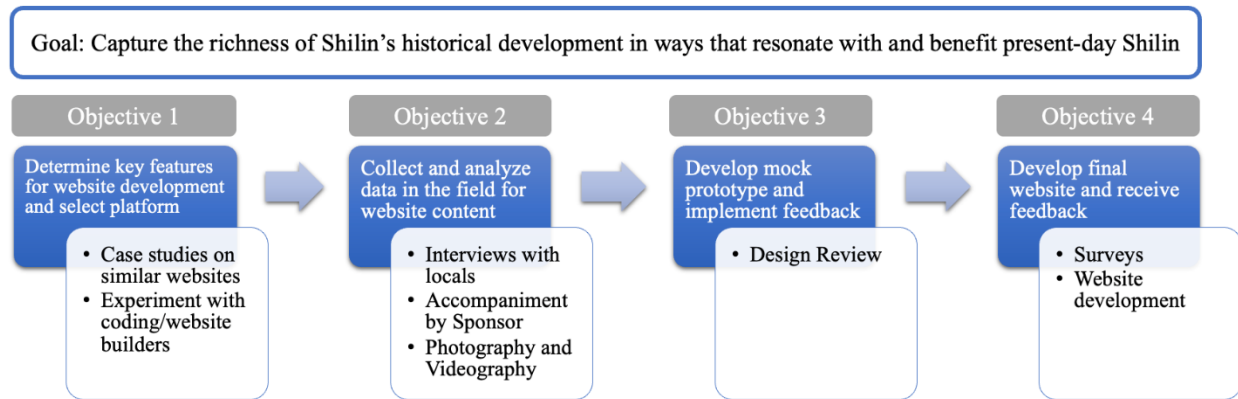


Figure 3.1 Goal, Objective, and Methodology Overview

3.1 Determine Key Features for Website Development (Objective 1)

The group's first objective in Taiwan is to determine the key features that the heritage-preserving website will implement. Performing case studies on similarly themed websites will establish the most important features to include in a website that the team plans to build.

Furthermore, case studies will assist in predetermining the layout of the website to produce a quality user experience. Alongside case studies, the team will research the best website development tool to maximize the number of features and designs that the team can implement while in Taipei. Table 3.2 shows two example websites the team will use as case studies to discern what functionalities are important to include. The team will continue to build upon the table while in Taiwan.

Website Title	Background	Similarities
Humans of New York	A website that documents direct quotes from people on the streets of New York City to examine the challenges that people from different backgrounds face.	They documented human experiences through interviews on the streets of New York City, which is what the Shilin team aims to produce on their website.
IQP: Developing a Website for Rasnov, Romanic as a Strategy for Historical and Cultural Preservation	A WPI IQP that focuses on preserving the culture of Rasnov by designing a website and encouraging users to submit stories.	This IQP team created a website that includes historical photos of Rasnov residents to preserve Rasnov's culture and history. The IQP team also implemented a map on their website, along with stories about historical moments. They encouraged users to submit their own stories.

Table 3.2 Website Case Studies

3.1.1 Performing Case Studies on Similar Websites

The team will perform case studies on four websites that have a similar goal of cultural preservation and storytelling. The goal is to uncover and implement important functionalities derived from the case studies on the website to create a good user experience. By performing case studies, the team can discover necessary functionalities found on similar, heritage preserving websites in a short amount of time. Having something to base our work on will aid us in development. Another important objective for the case studies is to research the design of the website. The team will design the website using inspiration from case studies and other notable websites. Design is an important feature in a website as it determines how user-friendly and engaging it is - a bad design may confuse users and keep them away.

3.1.2 Choosing a Tool to Develop Website

Building a website in less than seven weeks is challenging, but manageable, which is why it is crucial for the team to choose the best development tool. One option is to use a website builder, such as Wix or Squarespace. A website builder can save the team time and offer needed design capabilities. However, website builders may not be able to implement all the features a project may need. The second option is to create the website from scratch using HTML, CSS, and JavaScript. By coding the website, the team can incorporate arbitrary design and feature needs. It also gives us more flexibility in choosing how to host the website and allows easy integration to any current webserver. The downside is that it will take significantly more time to design and develop compared to using a website builder. The team is scheduled to select the development tool in Taiwan from March 18th to March 22nd. The team also plans to meet with their sponsor to determine the website's platform so that the sponsor can update and maintain it. The allocated time gives the team room to discuss and experiment with using a website builder and coding the website from scratch.

3.2 Collect and Analyze Data for Website Content (Objective 2)

The website will include qualitative data, such as stories, photos, and videos. The first step to gather data is to perform interviews with members of Taiwan's locals. The interviews will be open to all genders and ages. The team will use the "snowball method," and the "man on the street method," to engage with a broad-spectrum of people so that the interview process is inclusive. The snowball method is an approach to gather people for interviews and surveys. The "snowball" method implies the identification of an initial set of respondents who will be interviewed and who will be requested at the end of their interview to recommend potential subjects who share similar characteristics and who are relevant for the purpose of the subject

survey (Voicu and Babonea, 1997). The “man on the street” method is another way to discover potential interview participants. The main objective of this method is to go out in the field and find a random individual. This method often involves impromptu interviews to capture an unrehearsed story.

These interviews aim to collect information that highlights the culture of Taiwan, as well as the participant’s personal history and major events that have impacted their heritage. Additionally, the team will document historical sites that showcase the rapid development of Shilin and surrounding districts. By means of digital preservation, we will document the interviews and locations to serve as accompanying visuals to the historical facts and personal stories shown on the website.

3.2.1 Performing Interviews

The website will contain the stories of the area’s locals, which makes performing interviews imperative to our goal of resonating with the community. Our methodology involves interviewing locals of all generations and genders to document their lived experiences and capture their story, which is a qualitative interviewing process known as a “narrative research method”. A narrative research method consists of learning about the lives of the interview participants to combine different views in chronological order (Creswell & Creswell, 2018). If the interviewee is fully fluent in English, the interview will be in English. Regardless of fluency, we will bring a translator to aid us in overcoming the language barrier in case any issues arise. We will digitally record the interviews with a phone or video camera, with the consent of the participants (see Appendix A for the consent statement). Additionally, the team will take a photographic portrait of the participant to include on the website, which will serve as a visual accompaniment to their story. The interview will take no more than fifteen minutes to balance

between sufficient data collection and necessary translation efforts. The interview will focus on the interviewee's childhood experiences, the transformation of Taiwan over time, and locations or cultural assets that are important to them. These questions aim to help the team understand important factors of the participant's identity, in turn, allowing us to help preserve the area's cultural heritage (see Appendix A for the current set of questions).

3.2.2 Documenting Cultural Assets

To reiterate, in this paper a “cultural asset” refers to the language, arts, music, traditions, and histories that make up a community's identity, character, and customs. Our primary objective is to digitally preserve these assets, recognizing that documentation can take form in various mediums. For example, if the cultural asset of interest is related to music, our method of documentation could include an audio recording. Perhaps the asset is related to a natural scenic spot; our documentation would take the form of photography or videography. Regardless of the narrative we collect from our interview, documenting these cultural assets will require preserving the heritage of the individual digitally, whether that be photographing it on our own or receiving data from interviewees.

Additionally, the team will document historical sites that characterize the rapid modernization of the Shilin area. From an architectural standpoint, photographic documentation must clearly portray the detailing found at the historic site or building. The materials used, the overall façade design, and the program organization reveal cultural influences and period of its design. Consider for example Japanese architecture, which has Chinese influences. Traditional Japanese architecture frequently utilizes an “open plan,” in combination with wood craftsmanship and minimalistic design, as pictured in Figure 3.3a (Hamaguchi, 2020). On the other hand, Chinese architecture features imperial layouts based on principles of feng shui, in combination

with stonework and open courtyards - see Figure 3.3b (Shen, 2023). Taking note of these details contributes to the documentation of the Shilin Area's development over the influence of different administrative governments.



Figure 3.3a Traditional Japanese residence (Israel, 2015)



Figure 3.3b Traditional Chinese residence (Li, 2015)

Another method the team will use to determine sites that characterize the rapid modernization is finding abandoned or uninhabited buildings that once played a crucial role in the Shilin area's society. Furthermore, we will consider buildings that have been retrofitted to include the

traditional façade of its time and converted on the interior to meet the requirements posed by a modern society. Ideally, we will conduct preliminary research to select these sites alongside our case study research.

3.3 Develop Mock Website, Receive Feedback, and Make Improvements (Objective 3)

The first step in making our deliverable is to create a draft of the final website, called a mockup. In this paper, we use “prototype” and “mockup” interchangeably. A website mockup is a model of a proposed design, which details the final overall look and interaction of different pages. It is important that we make a prototype early in the timeline of our project so that we receive preliminary feedback from our sponsor and advisors and can implement agreed upon foundational improvements. The previous IQPs “Developing a Website for Rasnov, Romania...,” (Decelles et al.) and “Promoting Sustainable Tourism in Prague” (Lam et al.) used this method successfully.

We expect that creating the best possible user experience will take a significant amount of time. To ease our schedule, we will begin our prototype as early as possible. Our mockup will be a skeleton version of the final website, in English, featuring the same core structure as the final. As this will happen before our interviews and documentation is complete, it will have meaningless filler content such as the transcript from a fake interview with a well-known fictional character. This way, the user can still get a feel for the site. Some studies in the past have used PowerPoint (Lam et al.) for their mockup, but we would like to get hands-on-keyboard as soon as possible and have an actual website. We will rely heavily on git, a version control software, to aid us in this process.

We will wait to develop the mock website until our case studies are complete; this way, the team will have several high-level functional requirements regarding user experience. The

Gantt chart in Figure 3.4 shows that one of our earliest tasks in Taiwan is to complete case studies, which lets us get started as soon as possible. We will conduct interviews, visit sites, and develop the mockup somewhat in parallel to improve our team's efficiency. Once we have the mockup, we will hold a design review with our sponsor and advisors.

3.3.1 Mockup Design Review and Improvements

To receive feedback on our mockup, we will hold a design review with our sponsor and advisors. We need to make sure the prototype aligns with what our sponsor wants. The only way to avoid communication errors, which are unavoidable when working across languages, is to get the mockup in the hands of the reviewers. To this end, we will have one-on-one meetings with Professor Du, Professor Shih, and Professor Kinicki. To assist with the language barrier, we will add a Google Translate widget to the mockup so it can be translated to Mandarin. These meetings will be a conversation where the user will have a chance to interact with and explore the mockup. We will take notes on any questions that arise, as well as record any suggestions for improvements.

Once we receive the mockup's feedback, we will implement it as soon as possible on the first draft of our final. The group members on our team who will be responsible for web development will be mainly Will Buchta and Rose Strobel, given their background in computer science. Ideally, replacing the filler content with data we collect from interviews and documentation will be straightforward. At this point, our website will be called the "draft final."

3.4 Develop Final Website, Receive Feedback, and Make Improvements (Objective 4)

The final objective of our project is to improve our website based on feedback from a survey of a large sample of users. Once we have a significant number of responses (> 50), we will assess it as a group and decide on any last-minute changes we can do, or what we should set

as future improvements. This type of methodology – prototype, evaluate, reiterate – is concrete, a standard part of the engineering design process, and will hopefully result in a fine-tuned deliverable (TWI, n.d.).

3.4.1 Survey to Get Feedback on Draft Final

To get hard feedback on our draft final, we will create an online survey through Qualtrics. As language may be an issue, we will make sure Qualtrics can translate the survey for us. If that doesn't work, we will first write the survey questions in English, then translate to Mandarin through an online tool such as Google Translate or DeepL Translate. Once these tentative questions have been written and translated, we will have a native speaker who is proficient in both English and Mandarin review and fine-tune them.

Sending out a survey and getting adequate responses will give the team a good idea of what works and what needs to be improved upon. As mentioned, we plan on having locals of Taipei submit feedback through the survey, including those who we feature on the site. Having the community interact with the design engages them and encourages our research to apply directly to the intended audience (Mason and Vavoula, 2019). Additionally, we will send the survey to several groups of varying ages we are linked to back in the United States, to get the opinions of those who are not as familiar with the area. See Appendix B for our tentative survey questions. We will make sure to record the survey taker's age and gender to get an idea of how popular different features are among various age groups. Additionally, we will include privacy statements, letting the survey taker know exactly how we will use the information they provide.

3.5 Ethical Considerations

When embarking on interviews and surveys to gather information from participants, it is crucial to consider ethics before conducting them to maintain the integrity and validity of the

research process. Upholding ethical standards such as ensuring informed consent, protecting privacy, avoiding potential harm, and being respectful and honest is vital. This helps establish trust with participants and allows researchers to obtain reliable and meaningful information. When there is a need of a translator, it is their role in interviews uphold those same ethical standards and to translate with confidentiality to protect privacy. Maintaining a sense of confidentiality in interviews while talking about sensitive topics is essential to cultivating trust between interview participants and those conducting the sessions, guaranteeing a protected environment for talking about these sensitive details. Upholding confidentiality protects the privacy of people, motivating sincere and transparent dialogue, critical for acquiring precise understandings and information.

3.5.1 Translation and Transcription

Guaranteeing reliability in transcription and interpretation is an essential part in collecting data from participants. This requires the individual performing the interview to cautiously consider the words they utilize and how to translate them to accurately to reflect the participants association of thought (Hadi, 2023). When reviewing the video recording, it is important acknowledge that word-to-word translation cannot always be done since one concept in Mandarin may not have an exact equivalent when translated into English.

When conducting research that involves other cultures, it is imperative to demonstrate cultural sensitivity. Researchers need to be cognizant of cultural norms and differences to guarantee that translations respect those norms and are suitable for the intended community. Similarly, when conducting interviews, it is important to consider what location they will be held to stay within the cultural norms of the community. By consulting with our sponsor, who is more in tune with the surrounding population, we will attempt to make sure that the translations

respect cultural nuances and embrace people of different backgrounds than our own. By maintaining neutrality from both our team and translators involved, it can help validate the integrity of this process and reassures the audience receiving the deliverable that the findings reached them in an honest and impartial way (Hadi, 2023).

3.5.2 Photography/Videography Laws

In Taiwan, privacy laws protect humans' rights, prohibiting the photographing or filming of humans in private settings without their explicit consent. Private settings are environments which can consist of homes, workplaces, and wherein people can reasonably assume privacy. Conversely, Taiwan commonly authorizes public photography and videography across its public areas. Nevertheless, people carrying out such activities must be attentive to avoid encroaching on the privacy or personal rights of others inside these public settings. Therefore, it is important to not take any photos of individuals without their permission, especially since publishing photographs of a person in a public space does require consent in most cases. There is not a proper definition of the "proper of portrait," but this right is understood as part of rights of personality or rights of privateness and is covered through the Civil Code Articles 18, 19, 152, 184, and 195-1. Nonetheless, the honor, reputation, and public image of the depicted person must not suffer infringement (Civil Code - Chapter - Laws & Regulations Database of The Republic of China (Taiwan), n.d.). This plays into the concept of ethical photography and how contextualizing photos to provide context around an image helps to avoid stereotypes (*Ethical Photography* |, n.d.). When taking the role of photographers, it is important to promote empathy and understanding by giving cultural and historical context. This helps storytelling follow ethical standards while remaining culturally sensitive.

3.6 Challenges & Limitations

The greatest challenge our project faces so far is without a doubt the language barrier between Mandarin Chinese and English. We designed our project to conserve the heritage of Shilin and surrounding areas; to have the greatest impact, our deliverable needs to be consumable by the entire community. That is one of the main reasons why we decided to embark on a digital preservation project, as we plan to design the website to support multiple languages with English and Mandarin Chinese critical for site evaluation. Nonetheless, when collecting data through interviews or surveys, ambiguous language can distort the true meaning of the interviewee. We will confer multiple native speakers of Mandarin Chinese to relay the most accurate translation.

Furthermore, the scope of the website is limited by the allotted time the team must utilize efficiently to create a well-designed mockup and develop key features. Creating the layout and design of the website is difficult, due to the number of features desired, such as grid layouts, implementing videos, personal stories, and writing a condensed history of specific locations. Constructing the website from scratch also adds a layer of complexity due to the extensive amount of HTML, CSS, and JavaScript knowledge required to create a responsive and functional website that is easily accessible for all users, regardless of the user's ability to navigate around a website. Choosing the route of utilizing a website builder, such as Wix and Squarespace will come with its share of difficulties due to its limited amount of functionalities, causing the team to work around the intended design and mockup.

3.7 Next Steps

This chapter considers the specific methods and analytical tools we will use to achieve each of our four objectives, in turn accomplishing our overall goal. In addition, this report

justifies the specific methodology and analytical tools we plan to use to collect and understand the data implemented into the team's website. The chapter concludes by discussing certain challenges and limitations we expect to experience and, importantly, the ethical standards we must keep in mind for our social science project. The team's immediate next steps are to research case studies to begin determining the desired functionalities of the project's website and finalizing interview and survey questions in preparation for the IRB process. We have been keeping our sponsor up to date throughout our research process and intend on reviewing this proposal, ensuring that our goals and deliverables align. *Figure 3.4* contains a Gantt chart to keep deadlines and objectives organized and to anticipate the time needed to complete each task.

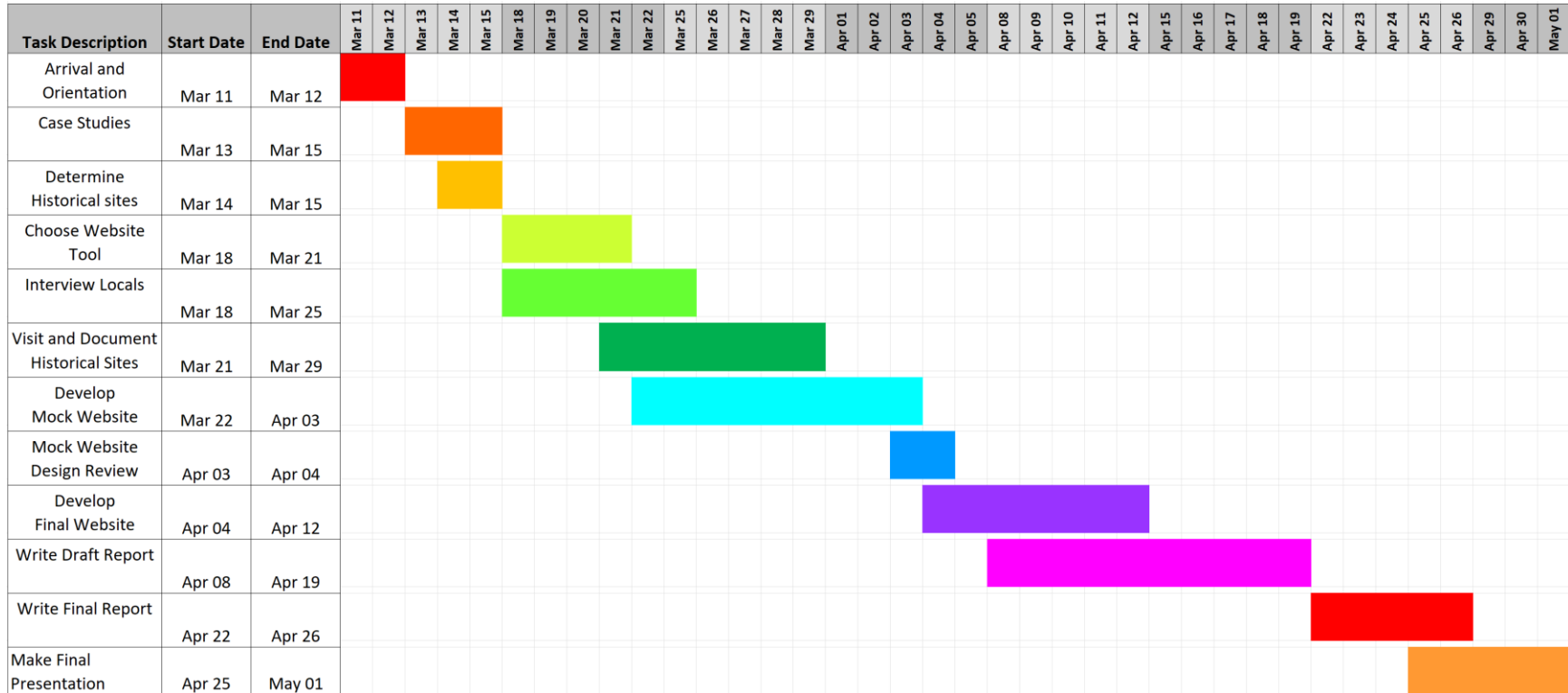


Figure 3.4 Gantt Chart describing anticipated timeline for each task

4.0 Conclusion

Collaborative efforts from our team at Worcester Polytechnic Institute and Soochow University aspire to create a website geared towards conserving the rich heritage of Shilin and its neighboring districts in Taiwan. The background relays necessary context as it examines the influences of Japan and America, and the effects of industrialization on the cultural landscape. The chapter provided the reason for preserving the uniqueness of Shilin and surrounding districts. The methodology chapter describes how case studies, local interviews, and surveys will address the project's objectives, in addition to the data collection and analysis necessary for the prototyping and development of the website.

Going forward, this project will integrate our research findings into a final website, which will focus on providing important features that meet the needs of both the sponsor and the community. Additionally, the subsequent steps in the process help to target the collection feedback through the prototype of the website and making iterative improvement-based feedback from our sponsor, advisors, and the Taipei community. The feedback collected allows us to provide an overall positive user experience. By interconnecting this academic research to practical implementation, the main goal of this project is to involve and empower the community to preserve their identity through our final deliverable.

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Appendices

Appendix A: Interview Questions for Natives of Shilin

Introduction:

We are students from Worcester Polytechnic Institute (WPI), an engineering and science university in Worcester, Massachusetts in the U.S.A. *[each introduce ourselves with name, major, year]*. We are conducting research alongside Soochow University to find information about the locations or cultural assets that are important to residents of Shilin (and its surrounding districts.) We plan to develop a website that will highlight the unique aspects of Taiwan's culture. Through this website, we hope to preserve the heritage of Taipei and highlight some of the ways modernization has affected Taiwanese culture over time. We are interviewing current Shilin residents about their culture and listening to stories that we may feature on the website. Soochow University hopes that this will preserve the rich history of Shilin and have positive impacts economically through an increase in tourism.

Consent for Interview:

1. Would you be willing to participate in an interview?
2. Do you understand that your participation in this interview is voluntary and that you may freely refuse to answer any questions?
3. Do you consent to the researchers recording and translating this interview for future analysis?
4. Do you consent to our taking your photograph to use on our website alongside your photo and the transcript of this interview?

Confidentiality Statement:

I want to reiterate that we fully respect your desire for confidentiality. Records of your participation in this study will be held confidential so far as permitted by law. However, the study investigators, the sponsor or its designee and, under certain circumstances, the Worcester Polytechnic Institute Institutional Review Board (WPI IRB) will be able to inspect and have access to confidential data that identify you by name. If you are comfortable with us recording this interview, only the investigators will have access to the interview recordings, and they will be transcribed and coded for common themes. You may decide to stop participating in the research at any time.

If you are willing, we would appreciate associating your interview with your name. However, you have the option to remain anonymous as well; if you choose that option, the records of your participation will be kept confidential. Another option is to use a nom de plume, also known as an alias, to protect your identity even further. Can we utilize your name on our website?

This is the layout of an interview that will be conducted by _____. Clarifying questions may be asked to determine further details. An additional researcher, _____, will take notes, observe the interviewee and ensure the recording equipment is working properly.

- 1) Please tell us about yourself.
 - a. Are you originally from Taipei?
 - i. If yes, how long have you lived here?
 - ii. If not, where are you from? What brings you to Taipei?
 - b. How old are you? Only if you are comfortable sharing that information.
 - c. What is your current occupation? Have there been any changes in work opportunities in the area in your lifetime?
 - d. Tell us about a tradition that you practiced growing up and/or tell us about one of your fondest memories from living in the area.
- 2) What is your favorite thing about the culture in Taipei? Why?
 - a. Ask supplementary questions to determine specific examples/locations.
- 3) Do you think it is important to preserve history/heritage?
- 4) What is a historical building in Taipei that is significant to you?
- 5) Do you feel a strong personal connection to Shilin [or the district we are interviewing in]?
- 6) Are you associated with any groups in the area that you would like to mention?
- 7) Is there anything else you'd like to let us know / tell us?

Appendix B: Tentative Survey Questions for Final Draft Website

Introduction:

Hello! We are students from Worcester Polytechnic Institute (WPI), an engineering and science university in Worcester, Massachusetts in the U.S.A.; *[each introduce ourselves with name, major, year]*. We are conducting research in Taipei, Taiwan alongside Soochow University to find information about the locations or cultural assets that are important to residents of Shilin (and its surrounding districts.)

We plan to develop a website that will highlight the unique aspects of Taiwan's culture. Through this website, we hope to preserve the heritage of Taipei and highlight some of the ways modernization has affected Taiwanese culture over time. We are interviewing current Shilin residents about their culture and listening to stories that we may feature on the website. Soochow University hopes that this will preserve the rich history of Shilin and have positive impacts economically through an increase in tourism.

This survey assists our research team with collecting data to improve the website for best possible user experience. Explore the features of this website in its entirety and enjoy learning about the rich culture of Taiwan! Feel free to email our team at gr-shilin-d24@wpi.edu with any questions you may have. Thank you for your participation!

Confidentiality Statement:

We want to reiterate that we fully respect your desire for confidentiality. Records of your participation in this study will be held confidential so far as permitted by law. However, the study investigators, the sponsor or its designee and, under certain circumstances, the Worcester Polytechnic Institute Institutional Review Board (WPI IRB) will be able to inspect and have access to confidential data that identify you by name. You may decide to stop participating in the research at any time.

The survey will have an N/A option for each question on Qualtrics. Each 'scale' question will use its corresponding Likert scale.

- 1) What country do you currently live in?
- 2) What is your gender identity?
- 3) How old are you? Choose one of the age ranges below:
 - a) 18-29
 - b) 30-44
 - c) 45-59

- d) 60 or older
- 4) How would you rate your overall experience with the site?
a. *Very Poor, Poor, Acceptable, Good, Very Good*
- 5) How easy is the website to navigate?
a. *Extremely Easy, Very Easy, Somewhat Easy, Not so Easy, Not at all Easy*
- 6) “I enjoyed the presentation of material on the website.”
a. *Strongly Agree, Agree, Neither Agree or Disagree, Disagree, Strongly Disagree*
- 7) What feature of the website has the strongest impact on your appreciating cultural heritage?
a. *Photos of Buildings, Personal Narratives, Portraits, Other _____*
- 8) “The content on the website resonates with me.”
a. *Strongly Agree, Agree, Neither Agree or Disagree, Disagree, Strongly Disagree*
- 9) How likely are you to recommend this website to a friend?
a. *Very Likely, Likely, Neutral, Unlikely, Very Unlikely*
- 10) How likely are you to use this website when visiting Taipei (if you are not native)?
a. *Very Likely, Likely, Neutral, Unlikely, Very Unlikely*
- 11) “The website captures the culture of Shilin”
a. *Strongly Agree, Agree, Neither Agree or Disagree, Disagree, Strongly Disagree*
- 12) “The website showcases the area’s modernization.”
a. *Strongly Agree, Agree, Neither Agree or Disagree, Disagree, Strongly Disagree*
- 13) What is one thing you find pleasing about our website?
- 14) What is one thing you find frustrating about our website?
- 15) What is one thing you would add to the website?

- 16) Any other comments?
- 17) [Question related to a design idea we discover in case studies]