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**TRANSLATING TAI CHI MOVEMENTS INTO CONCEPTUAL INTERIOR ELEMENTS:  
A DESIGN APPLICATION IN AN ALL-FEMALE MARTIAL ARTS ACADEMY**

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**ABSTRACT**

This paper explores the translation of *Tai Chi* movements into conceptual interior design elements, positioning movement as a generator of spatial form and experience. While martial arts facilities are commonly designed based on functional and cultural references, the systematic transformation of bodily movement into interior spatial language remains underexplored. This study adopts a design-based approach in which *Tai Chi* movements are observed, abstracted into directional diagrams, and developed into conceptual models that inform spatial organisation and interior articulation. The design application is demonstrated through an all-female martial arts academy in Kuala Lumpur, serving as a contextual framework for testing the proposed approach. The findings reveal that *Tai Chi* movement principles such as flow, continuity, balance, and rhythm can be translated into curvilinear forms, spatial zoning strategies, and interior elements that enhance user experiences both physically and psychologically. The study contributes a conceptual framework for integrating movement-based abstraction into interior design processes, offering an alternative approach to generating spatial narratives beyond conventional stylistic references.

**Keywords:** Malaysian Female, Martial Arts and Self-Defence, Martial Arts Academy Design, Female Physiological Needs, Female Psychological Needs

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**INTRODUCTION**

Martial arts is an ancient form of combat consisting of various methods and techniques for fighting, defending oneself, and attacking. It encompasses physical, mental, and spiritual disciplines that help practitioners develop strength and skill. This academy is designed solely for the female community in Malaysia. As concerns surrounding female safety increase, it becomes increasingly important for girls and women of all ages to practice martial arts for self-defence purposes. Hence, academy is designed as a safe space where the Malaysian female community can practice martial arts in an all-female environment. The academy also caters to a female community and well-being centre. This project focuses on designing a brand new all-female martial arts academy for an existing martial arts centre known as SheFights Gym.

Females account for more than half of the Malaysian population. Unfortunately, gender discrimination, injustice, violence, and abuse have been estimated to affect up to 35 percent of the female population. In Malaysia, the current female population suffers numerous gender-related issues every day. The issues the Malaysian female population commonly face show the importance of self-defense for females of all ages. Children, teenagers, women, and the elderly who have been through traumatic experiences must be educated about how self-defense could positively affect them. The most famous and, inarguably, the best form of self-defense is martial arts. By learning martial arts, those who have been the target and victim of different types of violence and assaults must know that self-defense is highly important since it will allow them to fight against any attacker. With some martial arts training, those in the female community can learn techniques to help defend themselves and escape dangerous situations. Martial arts are also a great way to help them with their mental and emotional well-being by means of reducing stress and anxiety. Furthermore, martial arts training aids in improving physical health and strength, and gives the trainees a sense of empowerment and a confidence boost.

While the project is situated within the context of an all-female martial arts academy, the primary contribution of this paper lies in the conceptual design process rather than the building typology itself. Specifically, the study investigates how *Tai Chi* movements can be systematically translated into interior design elements and spatial flow. The academy serves as an application setting to demonstrate and evaluate this movement-based conceptual approach.

**PROBLEM STATEMENT**

Despite the increasing interest in concept-driven interior design, many projects rely on symbolic or stylistic references without clearly articulating how abstract ideas are translated into spatial form. In particular, the use of bodily movement as a conceptual generator remains insufficiently structured within design methodology. This study addresses this gap by proposing a systematic process for translating *Tai Chi* movements into interior spatial elements.

## RESEARCH OBJECTIVES

This study aims to explore the potential of Tai Chi movements as a conceptual generator in interior design. The research objectives are as follows:

1. To analyse Tai Chi movement characteristics and translate them into abstract directional and conceptual design diagrams.
2. To develop a movement-to-space translation process that informs interior form, spatial flow, and design articulation.
3. To demonstrate the application of movement-based concepts within an interior design context, focusing on spatial experience and user well-being.

These objectives position the study within a conceptual design research framework rather than a purely project-based development.

## METHODOLOGY

### MOVEMENT-TO-SPACE TRANSLATION

This study adopts a design-based research approach focusing on the translation of Tai Chi movements into interior design elements. The process is structured into four stages:

#### Stage 1: Movement Observation

Tai Chi poses and sequences were analysed to identify key characteristics such as balance, rhythm, continuity, and directional flow.

#### Stage 2: Graphic Abstraction

The observed movements were simplified into directional diagrams using arrows and flow lines to represent motion and transitions.

#### Stage 3: Conceptual Modelling

The abstracted diagrams were transformed into three-dimensional conceptual models, exploring form, intersection, and spatial relationships.

#### Stage 4: Spatial Translation

The conceptual models were applied to interior design elements, including spatial zoning, circulation flow, ceiling articulation, partitions, and feature elements within the selected design context.

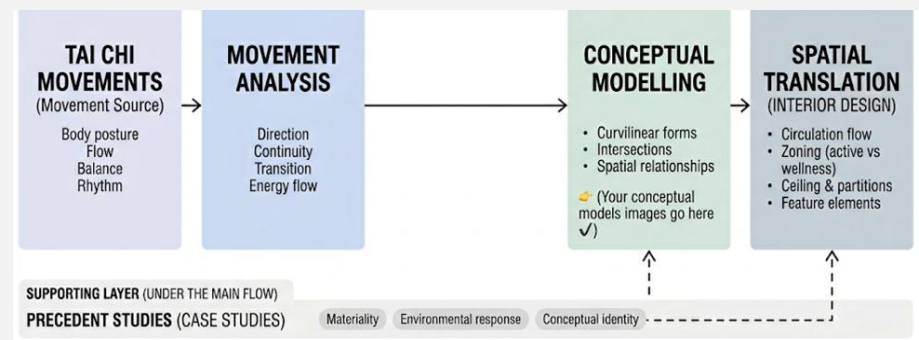


Figure 1: Conceptual Framework for Translating Tai Chi Movements into Interior Design Elements.

(Source: Author, 2025)

The framework (Figure 1) illustrates the process of translating Tai Chi movements into interior design elements, beginning with movement analysis and abstraction, followed by conceptual modelling and spatial translation. Precedent studies support the process by informing materiality, environmental response, and conceptual articulation.

As illustrated, the design process integrates both movement-based abstraction and precedent study analysis to ensure that the conceptual development is systematically translated into spatial design outcomes.

### PRECEDENT STUDY ANALYSIS

In addition to the movement-based conceptual exploration, this study incorporates precedent analysis as a supporting method to inform the design translation process. The selected case studies are Hagius Sports Studio, Dojo Saigon, and Épinay-sur-Seine Dojo which were analysed to extract relevant design strategies related to materiality, spatial organisation, and conceptual expression in martial arts environments.

Rather than serving as direct stylistic references, these precedents function as comparative frameworks that support the interpretation and application of Tai Chi-derived concepts. Each case study contributes to a specific aspect of the design development process:

- **Materiality and haptic experience** (Hagius Sports Studio)
- **Environmental response and spatial orientation** (Dojo Saigon)
- **Conceptual identity and cultural expression** (Épinay-sur-Seine Dojo)

The integration of precedent study analysis with movement-based abstraction establishes a dual-layered design methodology that bridges conceptual exploration and spatial application. While Tai Chi movements act as the primary conceptual generator, the precedent studies provide critical references for materiality, spatial organisation, and environmental response. This combined approach ensures that the translation process is not merely symbolic but systematically grounded in both theoretical abstraction and practical design strategies, resulting in a coherent and contextually responsive interior outcome.

The insights derived from these analyses are integrated into the movement-to-space translation process, ensuring that the conceptual design is grounded in both theoretical abstraction and practical spatial strategies.

## 1. HAGIUS SPORTS STUDIO



Figure 2: HAGIUS SPORTS STUDIO  
(Source: archdaily.com, 2023)

- Architects: Gonzalez Haase Architects
- Area: 600 m<sup>2</sup>
- Year: 2021
- Address: Torstraße 105, 10119 Berlin, Germany
- Working with unfinished, raw materials like untreated aluminium, maple, granite, linen and burlap, the textured materiality and overall palette provide a wholly haptic experience to highlight the physical nature of the venue.

## 2. DOJO SAIGON



Figure 3: Dojo Saigon  
(Source: archdaily.com, 2023)

- Architects: T3 ARCHITECTS
- Area: 80 m<sup>2</sup>
- Year: 2020
- Address: Ho Chi Minh City, Vietnam
- T3 placed the Dojo correctly in the garden using the existing Villa to be protected and right-oriented to avoid the main heavy rains/winds and designing the openings accordingly. As the building is air-conditioned, the Dojo is built with full insulation in its walls, double glazing in all the openings and rice husk insulation for the roof, which is an ecological and affordable material. Thanks to all of this, the building has high-level energy efficiency providing low-energy consumption to the client.

## 3. ÉPINAY-SUR-SEINE DOJO



Figure 4: Épinay-sur-Seine Dojo  
(Source: 88designbox.com, 2023)

- Architects: Nomade Architectes
- Area: 750 square metres
- Year: 2018
- Address: Épinay-sur-Seine, France
- Nomade Architectes constructed the Épinay-sur-Seine Dojo for the municipal council of Épinay-sur-Seine, France. The Dojo's design is heavily influenced by traditional Japanese architecture and the objective of the town council was to build a facility that not only provides a martial arts training centre but also serves as an urban landmark for the city.

Table 1: Comparative Analysis of Selected Case Studies

Case Study	Key Design Attributes	Lessons Learned & Translation to Project
Hagius Sports Studio (Berlin, Germany)	Uses unfinished, raw materials like untreated aluminium, granite, and burlap to provide a haptic experience.	<b>Materiality:</b> Inspired the use of organic, natural materials (wood, rattan) to highlight the physical nature of the martial arts academy.
Dojo Saigon (Ho Chi Minh City, Vietnam)	Features high energy efficiency through full insulation, rice husk roof insulation, and strategic orientation to avoid heavy rain/wind.	<b>Sustainability &amp; Comfort:</b> Informed the "well-ventilated" and "airy" space planning to ensure a comfortable indoor environment in the Malaysian climate.
Épinay-sur-Seine Dojo (France)	Heavily influenced by traditional Japanese architecture, serving as both a training center and an urban landmark.	<b>Conceptual Identity:</b> Reinforced the decision to use East Asian design elements (shoji doors, Zen gardens) to signify the cultural origins of the martial arts practiced.

## PROJECT PROPOSAL

The design of the martial arts academy is proposed at A Place Where - commonly known as APW, which is an event space in Bangsar, Kuala Lumpur. The academy will serve as not only a martial arts academy but is also meant to provide a female community and empowerment centre, as to educate girls and women of all ages on the importance of martial arts for the female community. The academy also caters for a female wellness centre whereby users and visitors will be able to enjoy spa treatments and be involved in group or one-on-one counselling sessions.

## PROPOSED SITE

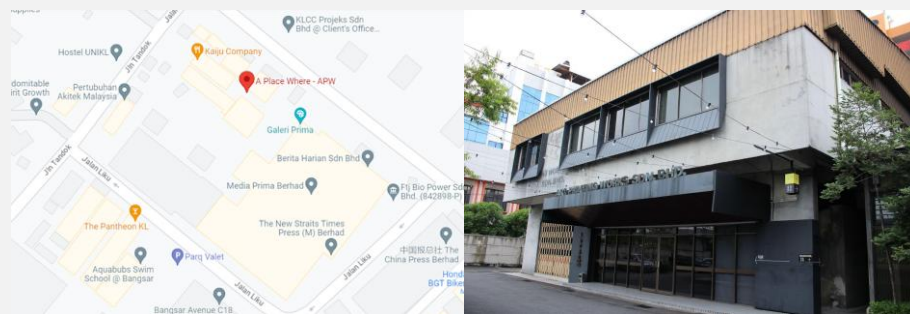


Figure 5: Key Plan of APW Bangsar (NTS)  
(Source: Google Maps, 2023)

Figure 6: Façade of the main building of APW  
(Source: Sarah Sophia, 2023)

The selected site is an event space called APW - short for A Place Where, located in 29, Jalan Riong, Bangsar, 59100 Kuala Lumpur, Wilayah Persekutuan Kuala Lumpur. The site was once a family-owned newspaper printing company established in 1952 formerly known as Art Printing Works. Its original location was in Lebu Ampang, before relocating to its present Bangsar location in 1965. From the 60s to the 80s, Art Printing Works was one of the most prolific printers in Kuala Lumpur.

## PROPOSED CLIENT

SheFights is an All-Women Martial Arts Gym where their accredited female coaches educate their clients on self-defence. The gym ensures that its clients learn and can apply their newly acquired skill sets. SheFights believes that women coaches are important because they can relate to young girls and women differently than men since they are same-sex role models. The client's mission is to empower women to understand better and clearly about personal safety and security skills with their mission statement, 'The Art of Self Defense & Self Defense is the State of Mind.' Their vision, on the other hand, is to support the health, safety and well-being of women and children, to keep women feeling a lot safer in any environment, and to empower all women to join martial arts and learn the proper education on self-defence.



Figure 7: SheFights logo  
(Source: shefights.my, 2023)

## CONCEPTUAL PROCESS, PROCEDURE AND SCHEMATIC



Figure 8: Design Inspiration  
(Source: Pinterest.com, 2023)

The concept for the proposed project is called "Flow." The concept is taken from the idea of well-ventilated spaces found in a typical East Asian interior. It is also derived from the selected design element, namely the Tai Chi movements, in which the movements posed in the martial arts depict flow rhythms. East Asian design elements inspire the concept for this martial arts academy. Since martial arts are dominantly practised in East Asian countries, namely Japan, China, and Korea, the design incorporates elements that signify the origins of martial arts, thus, the concept is selected based on the design features of the East Asian region.

The concept adopts airy and well-ventilated spaces, wooden walls and flooring, rattan and other organic and natural materials, yellow or warm lighting, simple and minimalist design, and moveable and modular furniture.

## DESIGN APPROACH

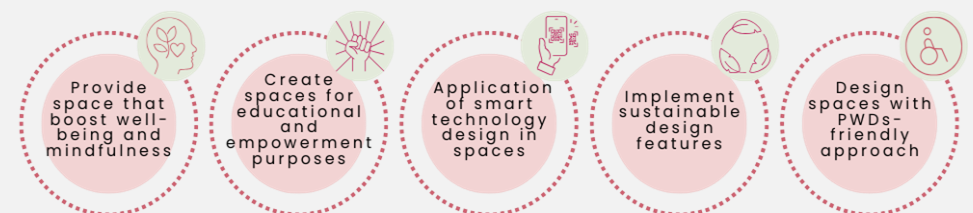


Figure 9: The selected design approach for the martial arts academy  
(Source: Sarah Sophia, 2023)

### SELECTED ELEMENT: TAI CHI MOVEMENTS

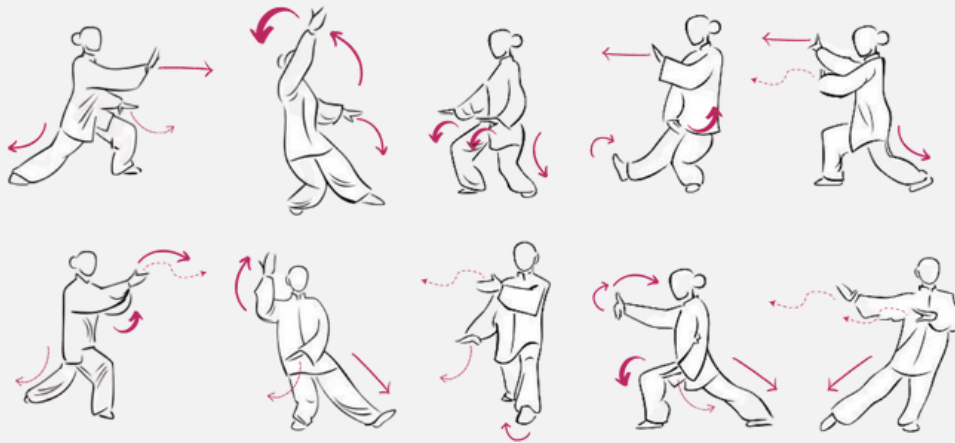


Figure 10: Tai Chi poses in various forms with arrows showing the movements  
(Source: Sarah Sophia, 2023)

The above figures illustrate the movements taken from Tai Chi exercise formations. The selected element is extracted from the various flows and rhythms of the martial art in which its movements have been interpreted in the form of arrows as shown in the diagram above.

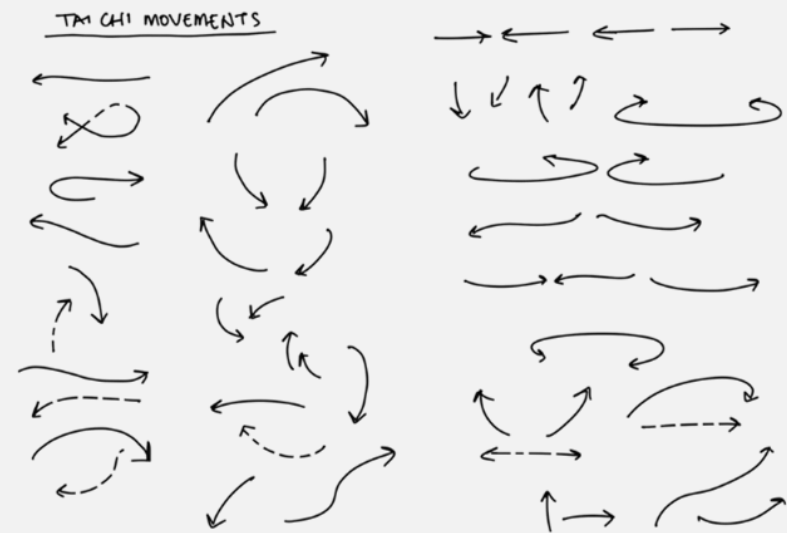
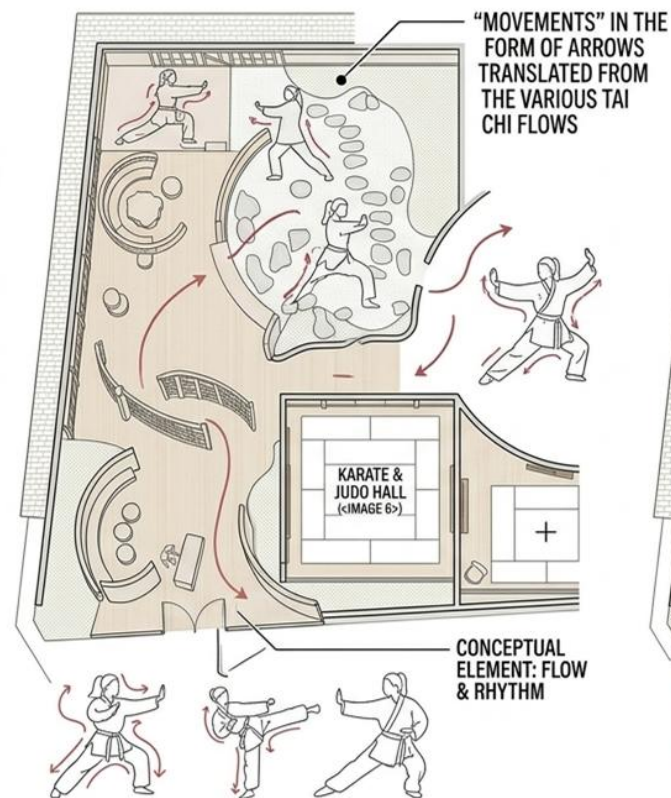


Figure 11: Arrows showing simplified directions of Tai Chi movements  
(Source: Sarah Sophia, 2023)

The arrows represent the flow of the posed exercises and show the directional movements by the practitioner. From there, the 'directional arrows' are extracted to create the ideated shape and form of the selected element, which is then conceptualised through conceptual models.

### TAI CHI MOVEMENT FORMATIONS (DERIVED CONCEPT)



### TRANSLATED INTERIOR DESIGN SOLUTIONS (PHYSICAL & PSYCHOLOGICAL NEEDS)

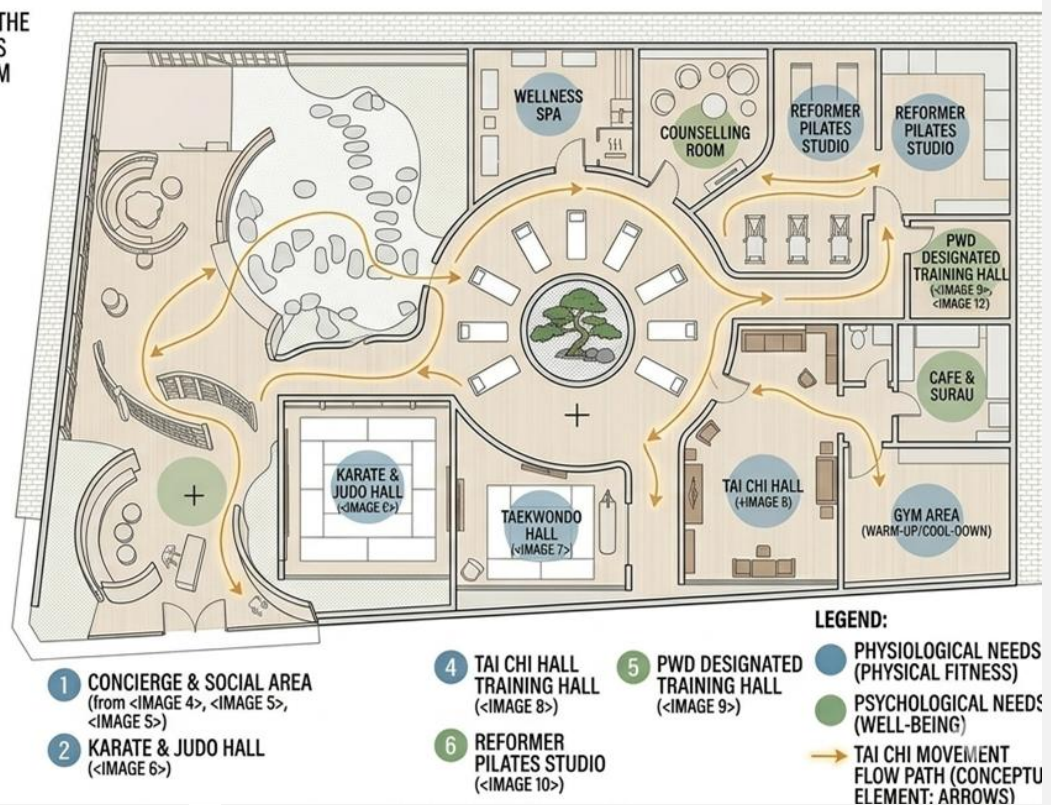


Figure 12: Comparative diagram image  
(Source: Authors, 2026)

## CONCEPTUAL MODELS



Figure 13: Concept models derived from the selected element, Tai Chi movements  
(Source: Sarah Sophia, 2023)

Figure 13 shows the three different conceptual models transformed from the first attempt to the third and final attempt. The curved line intercepting each other represents the Tai Chi movements, in which the movements posed in the martial arts depict flowy rhythms. It also represents the name of the concept, “Flow”, which depicts well-ventilated spaces often found in the traditional East Asian designs. The interconnecting forms of the model can also be translated into the unison of the female community coming together to one place to create a strong relationship with one another, whereby they will be able to connect, assist, empower and motivate each other through the provided activities and services in the academy.

## FINAL DESIGN PROPOSAL

The final design of the martial arts academy considers the East Asian traditional concept and applies the right elements where it should. The colour palette follows the natural, earth scheme as portrayed in most traditional East Asian designs. Healing design features are made prominent in the design with the implementation of Japanese Zen gardens which are accessible from all martial arts training halls to allow fresh air and to enhance healing properties. The application of design elements derived from the Tai Chi movements is applied in areas of the academy where the design does not clash with the geometric elements often found in East Asian architecture and designs.

The spaces of the academy are divided based on physical fitness and psychological well-being areas. The ground floor is dedicated to physical fitness activities, where it includes the four different types of martial arts training halls namely for the use of taekwondo, karate and judo, tai chi, and a designated hall for PWDs. Another space is reserved for the gym area where users can warm up or cool down before and after their activities. The ground floor also consists of welcoming areas such as the concierge, lounge and lobby. The floor is also equipped with an interactive informative gallery on female martial arts in the lobby and a Japanese-inspired walk-in garden for visitors.

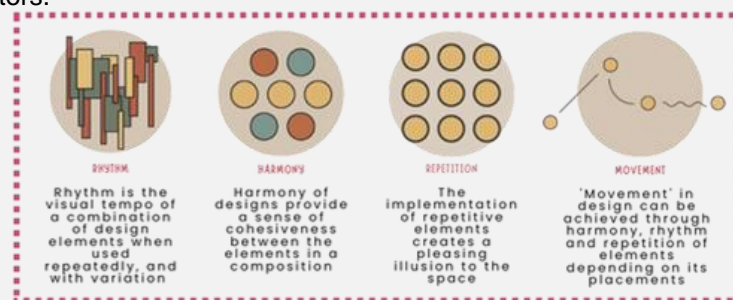


Figure 14: Design principles adopted in the design of the academy  
(Source: Sarah Sophia, 2023)



Figure 15: The Karate and Judo training hall which is equipped with Japanese interior elements such as shoji doors, Japanese wall art, and wooden samurai swords for practice.



Figure 16: The Taekwondo training hall which consists of decorative elements taken from its country of origin, Korea, and is equipped with Korean traditional sliding doors and windows, traditional geometric designs, and wall paintings. Punching and kicking bags are added for the practitioners since Taekwondo focuses more on its kicking techniques



Figure 17: The Tai Chi training hall is designed with dark wood as the material of focus. Since Tai Chi originates from China, the training hall adopts Chinese decorative elements such as Chinese paintings and geometry.



Figure 18: This training hall is provided solely for people with disabilities. The training hall is equipped with safety railings for the balance and safety of PWD practitioners.



Figure 19: Inspired by the Japanese Zen gardens, this indoor glass garden is designed with oriental-style furnishings and decorative elements, instilled with traditionally used Asian trees and plantations such as bamboo, cherry blossom trees, and bonsai trees. This space allows users and visitors for a quick nature escape where they can relax and unwind from their activities.



Figure 20: Issues and design solutions for the Martial Arts Academy  
(Source: Sarah Sophia, 2023)

The mezzanine floor is comprised of psychological well-being-related spaces where users can unwind and relax in the provided spa, sauna and massage rooms. It also consists of counselling rooms to treat the mental and emotional well-being of users, and two separate Pilates studios are provided. Although it is part of physical activity, Pilates are not strenuous in nature and relates more to healing and calming physical and mental well-being. The cafe and *surau* are also situated on the mezzanine floor.



Figure 21: The Reformer Pilates studio located on the mezzanine floor specifically caters for wellness activities. Pilates is known to increase physical strength, flexibility, and overall health.



Figure 22: Other than the reformer Pilates studio that uses training machines, the academy also offers a mat Pilates studio for mat workouts and stretches. It is also equipped with flying yoga hammocks that provide additional health benefits for women.



Figure 23: This group counseling area allows 10 to 12 people per session. Here, users and visitors can share their stories with one another and console each other

## SELECTED AREA



Figure 24: Designed with natural materials that depict an East Asian-inspired concept, the concierge creates an inviting ambience upon entrance.



Figure 25: The lobby and social area are located right upon the entrance of the academy. It is an open space area and shares the same space with the concierge and interactive, digital gallery on female empowerment and martial arts education.

The selected area for this project is the lobby and lounge area of the academy, located on the ground floor upon the entrance and concierge. The lobby is chosen as the selected area due to the visible concept and element interpreted in the design. The concept, based on the East Asian traditional design, is portrayed in the form of using natural materials as the seats, tables and partitions in the lobby that depict East Asian designs. The elements, following the Tai Chi movements as shown in the concept models, are wavy and non-linear in form which are decorative elements in the lobby design.



Figure 26: The Exploded Details of the Seating Area and Feature Plant at the Lobby  
(Source: Sarah Sophia, 2023)

Figure 25 shows the exploded details of the selected area, particularly of the seating area and the feature plant to show the structure of the two areas in detail. The two areas share similar design features that relate to the selected tai chi element, with curved design features seen below.

The blow-up detail drawing shown in Figure 26 is based on the wooden joinery system of the curvy, decorative ceiling element used in the seating area. The decorative ceiling element is created by joining two wooden curvy panels to make one full, long panel. To do this, the wooden structure must be attached with a tenon and mortise joinery system in which dowel pins are then attached for extra security.

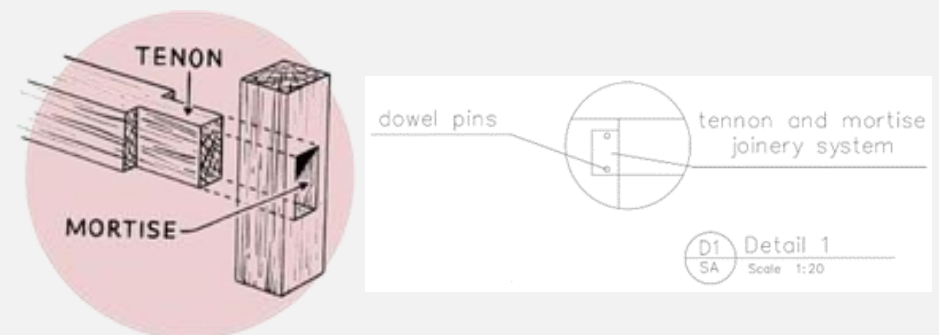


Figure 27: Detail Drawing of the Wooden Joinery System  
(Source: Sarah Sophia, 2023)

## ALL-FEMALE MARTIAL ARTS ACADEMY: DIAGRAMMATIC LAYOUT TRANSLATING TAI CHI MOVEMENTS AS CONCEPTUAL ELEMENTS

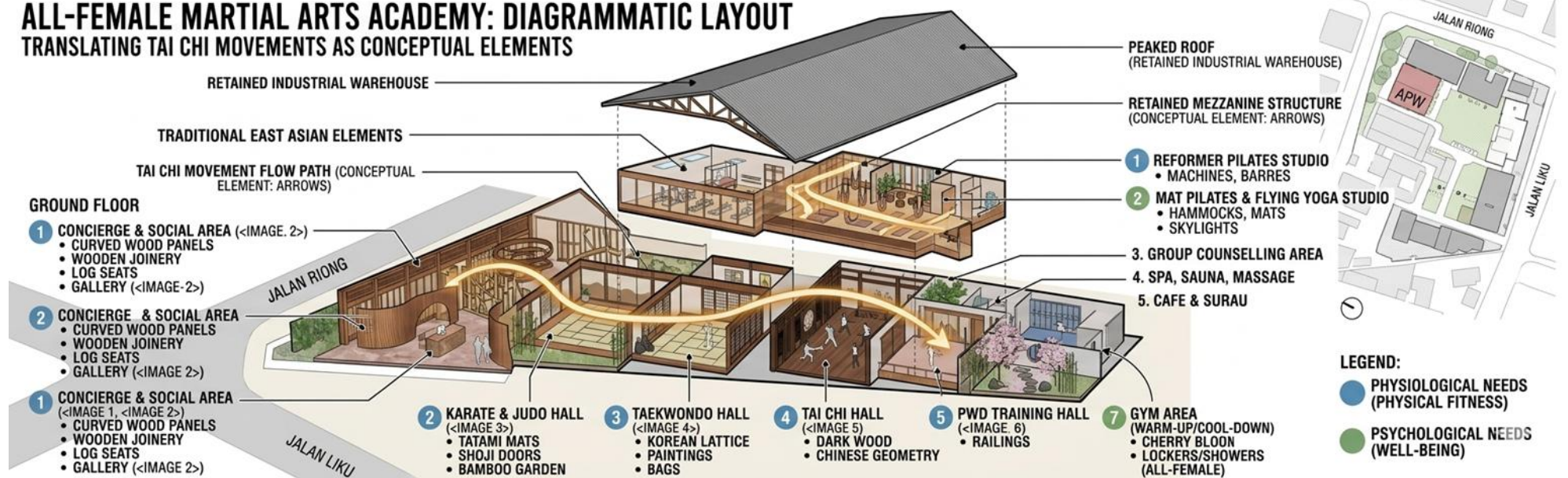


Figure 28: Diagrammatic explanation on translating the Tai-chi movement into the design elements  
(Source: Authors, 2026)

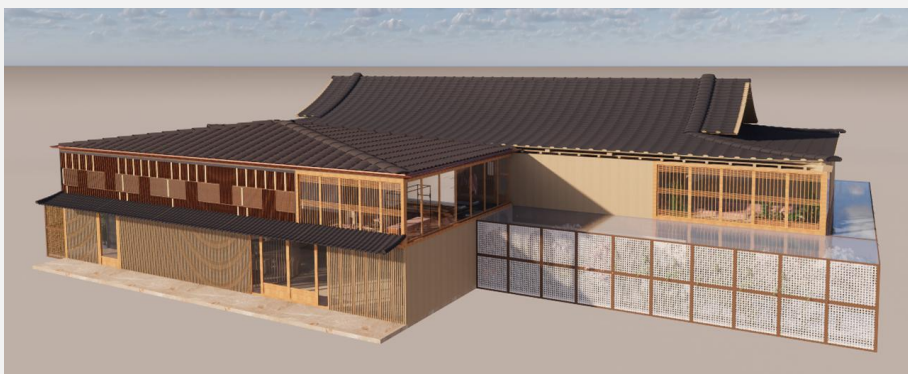


Figure 29: Axonometric View of the Proposed All-Female Martial Arts Academy.  
(Source: Sarah Sophia, 2023)

## CONCLUSION

An all-female martial arts academy aims to educate the female community about the significance of martial arts and empower them to defend themselves against any physical, emotional, or psychological abuse.

This study demonstrates how Tai Chi movement can be translated into conceptual interior design elements through a structured movement-to-space process. The findings show that principles such as flow, continuity, and balance can inform spatial organisation, curvilinear forms, and user experience within interior environments. In addressing the project objectives, the proposed design provides a female-centred environment that supports physical training, psychological well-being, and community empowerment.

More importantly, the study contributes a conceptual framework that positions bodily movement as a generator of interior design ideas, offering an alternative to conventional stylistic or symbolic approaches. The application within an all-female martial arts academy highlights the potential of this approach to create meaningful and experiential spaces grounded in movement-based concepts.

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