

Vertical Forest

垂直森林

設計者」水相設計／李智翔
參與者」李智翔 陳曉伶 蔡凱竹 黃凱峯 藍元凌
攝影者」李國民
空間性質」住宅
坐落位置」台灣林口
主要材料」橄欖綠花崗石、烤漆鋼板、蔚藍海岸大理石、萊姆石、
鍍鉻鐵件、橡木、竹皮、檜木、鋁料、雞翅木、白甘木、卡拉拉
白大理石、柚木實木、貝殼馬賽克、雕刻白、陽光白光崗石、印
度黑、山西黑
面積」280坪
設計時間」2011年 03月至 2012年10月

Designer」Waterform Design co. Ltd. / Nic Lee
Participants」Nic Lee, Joanne Chen, Y-Bam Tsai, Kyle Huang, Yuan-Chun Lan
Photographer」Kuomin, Lee
Category」Residence
Location」Linkou, New Taipei City
Materials」olive color granite, painted steel panel, Inax tile, marble, Lime
stone, Titanium plated panel, oak wood, bamboo veneer, Chinese juniper
wood, aluminum panel, wood, Carrara white marble, teak wood, mosaic,
Indian black marble, Shensi black marble
Size」925 meter squares
Design period」March 2011- October 2012

李智翔

畢業自紐約PRATT INSTITUTE室內設計，2008年成立水相設計，擅長幽默的設計語彙與賦予空間強烈故事性，具有不按牌理出牌的設計特徵，並榮獲2007~2010年間台灣十大室內設計師之一。
得獎記錄/
2012台灣室內設計大獎 複層住宅空間類TID獎 ·
2012台灣室內設計大獎 工作空間類TID 奖 · 2011台灣室內設計大獎住宅空間類TID 奖 · 2011國家金點設計獎 · 2010台灣室內設計大獎《2007~2010台灣十大設計師》 · 2010國家金點設計獎 · 2010台灣室內設計大獎住宅空間類TID 奖 · 2010亞太空間設計協會Excellent Award · 2009台灣室內設計大獎商業空間類金獎

Nic Lee
Education/ Master in Interior Design ,PRATT INSTITUTE · Experience/ General director ,Waterform · Design Award/2012 Taiwan Interior Design Award , residence category (multi level) , TID Award · 2012 Taiwan Interior Design Award , working space category, TID Award · 2011 Taiwan Interior Design Award , residence category, TID AWARD · 2011 Golden Pin Design Award · 2010 Taiwan Interior Design Award, Best 10 interior designer since 2007-2010 · 2010 Golden Pin Design Award · 2010 Taiwan Interior Design Award , residence category , TID Award · 2010 Asia Pacific Space Design Award(APSDA) Excellent Award in Beijing · 2009 Taiwan Interior Design Award , commercial space category, Golden Award



1

在地表皺褶起伏景觀中，從地塹到險峰，人類總野心勃勃地以建築模仿和丈量這些尺度。當代建築裡，巴別塔式的超越不再是盲目主題，更多小規模、映現地域主義與個人化的建築計劃，逐一藉著住宅這種特別能載負生活節奏的量體形式，讓建築回歸人體與空間的關係本質，一如李智翔此回的設計實踐。

建築：天井流光

漫遊台灣鄉野，總有砌在阡陌田埂旁，一幢幢愜意滋長的自力造屋，但城市土地上卻也愈來愈多人拒絕原始建物規格，選擇從內而外展開獨特的個人住宅計劃。由李智翔建築、空間一手設計的「垂直森林」，原始基地存有毗鄰房屋棟距過窄缺陷，歷來正面採光做法讓居家難保有隱私。為解除隱私畢露窘境，形隨機能擬題下，李智翔率以四座挑高天井做下射式取光，慷慨替生活容器斟滿日照與氣流。

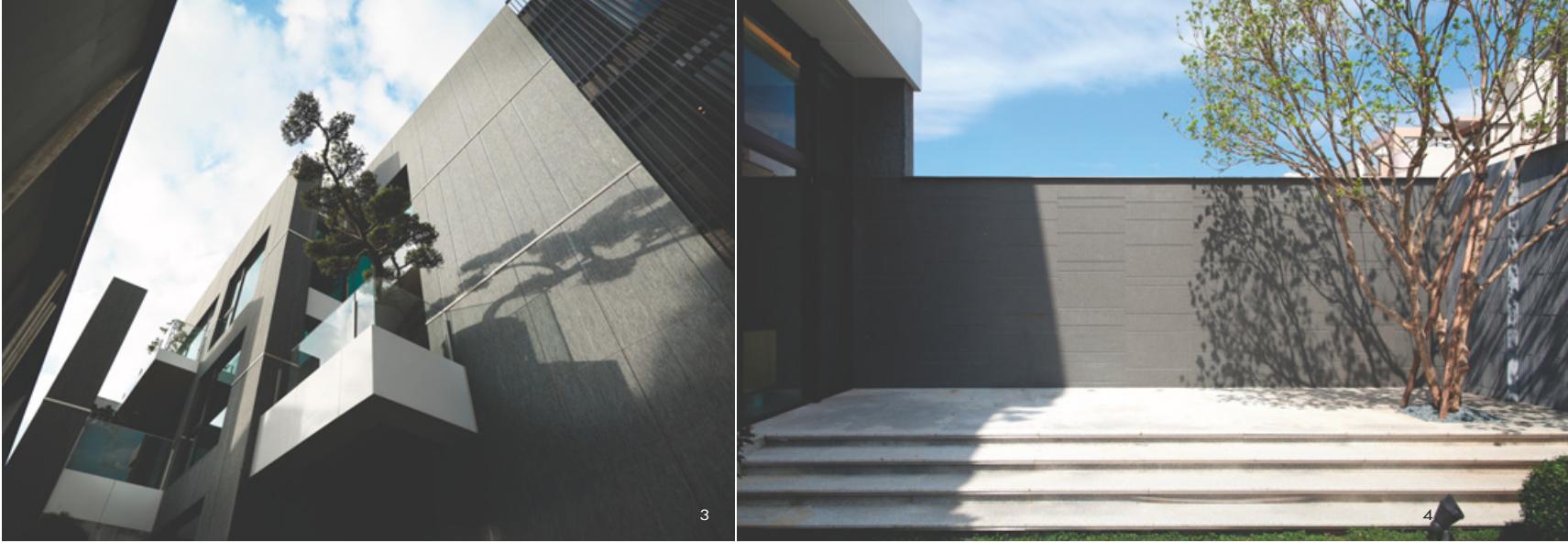
隨住家採光、氣流循環獲得解決方針，接踵而至卻有「建築立面」此一設計難題。李智翔談道，因四座天井方位錯落，讓外牆垂直立面無法整合於一條水平線上（參閱住宅立面圖），故建築最終利用三道皮層夾合天井，遞次組織成結構，讓這塊蒼穹底下形狀不規整的立方體每逢放望垂直立面，總能領略那股勁拔渾放的雕塑感。

面對「垂直森林」住宅計劃，李智翔從室內向建築輻射做全覽式檢討，讓量體內外達成良好採光、氣流循環與動線。由於天井為量體核心語彙，自然與空間動線密切依存，就客廳、樓梯、臥房及衛浴四座天井來看，其比例、距離均衡地佇列在建築四個方位，確保居家每個機能領域都能沾潤日光。李智翔談到，從生活上來思考，由於西側外環是庭院，和對棟住家可保持寬敞距離，隱私無虞下，適合正面採光，不過為避免西曬問題，每個樓層都設計大跨距露臺，藉著退縮屋體深度讓日光娉婷漫溢。而這種從垂直水平方向掌握光線動態，在該案中成為最重要的詮釋。



2

1. 夜幕低垂，深色的橄欖綠花崗石垂直立面與白色鋼琴烤漆，層次分明。
2. 平面圖
1. Green color and white color makes a perfect match in an evening view 2. Plan



外觀/Courtyards

3.6. 從側邊仰望建築立面，乾淨俐落的線條，洋溢著雕塑美感。4. 與垂直立面銜接的庭院地面，以淺色系語彙與深色立面劃分。5. 建築中因四座錯落的天井，無法讓牆面整合在一條水平線上，因此利用三道皮層夾合天井，組織建築結構。
 3.6. A view up towards the surface of the building 4. Joint detail where vertical wall intersects with the floor 5. Courtyard design and its main surface detail

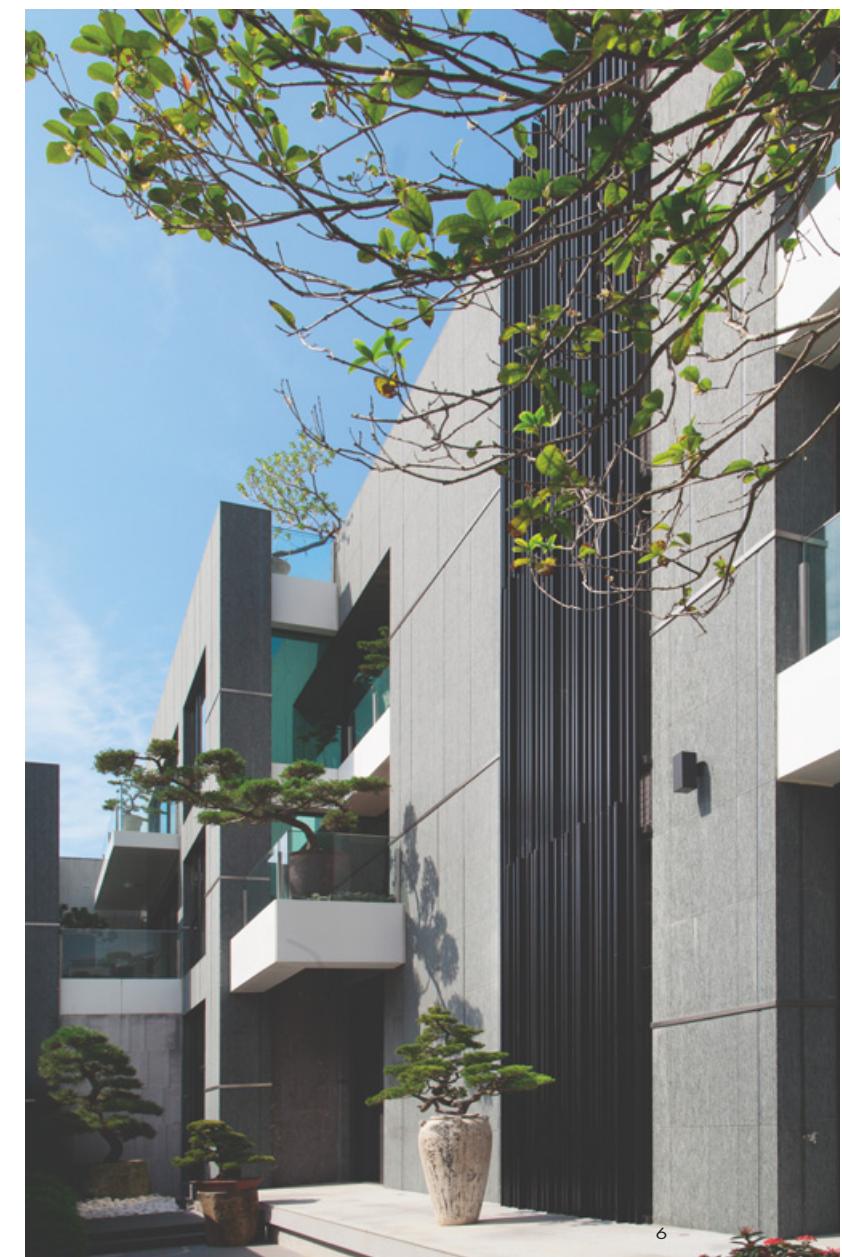


空間：一頁風景

格局坐南朝北的「垂直森林」，主入口開在北方、樓梯在南邊垂直攀爬，至於擁有正面採光優勢的西側，則規劃為每個樓層的起居室。整體來看，屋形東西橫幅長，南北縱向淺，從北側大門踏過庭院後可逕入玄關廳堂，但為隱藏玄關前方的電梯，此處設置了鐵件與台檜製成的屏風形構半遮掩效果，而一樓4.6米的挑高深度，則善用摺門勾勒尺度氣韻。作為東西、南北軸向交匯點的玄關口，動線自此分流，右轉向西可抵達起居室，左轉向東則配置餐廳、廚房與麻將間。從南邊的樓梯拾級而上後，二至三樓維持同樣的佈局策略，收攬正面光暉的西邊規劃為起居室，臥房與衛浴則調整在東側位置。

環顧室內環境，天井與露台不僅是汲取光線的幫浦，這些擺渡內外的中介場域更嵌放一道道的框景。李智翔聊道，住宅周邊景觀不算怡人，如何在封閉環境中讓視覺闊得一頁風景，正是「垂直森林」的概念與抱負。因此露台與天井內，僻靜落著如枯山水等園藝造景，以寫實觀點，替居家植養一步一樹的意境。就二、三樓來看，起居室和書房間的帶狀中庭即藉著天井植栽，讓穿銜兩端都能享受到一塊綠意；同樣地，露台空間亦能從內部觀賞花園或向外俯瞰庭院。因此室內綠意縱是人為開鑿，未顯雕琢反倒含潤空靈，一頁風景令人神之所暢。

其次，由於天井露台都以落地窗為界面，設計上更轉借框架套景，讓遊走的目光能被「景」捕捉。因此除了植栽，李智翔還以材質來說景，讓天井斜陽拂照時，藉著自然光洗濯出材料紋理細節，一如廚房天井，雖不若前院有著蓊鬱綠意，但特地以切割砂岩拼貼成的外牆，隨落地窗框一架上，搭配日光動態演繹，即能賦予端景別異於掛畫的寫意。

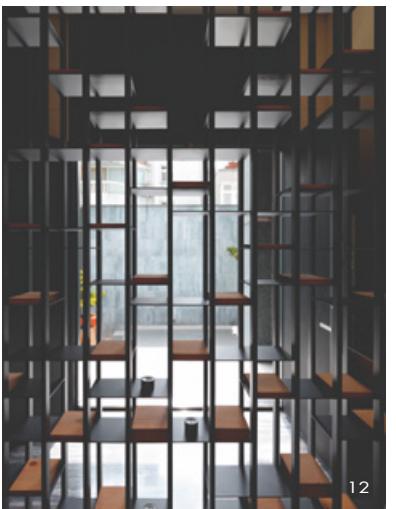




1樓/The first floor

7. 一樓客廳空間。8. 從一樓天井向上探望。9. 樓梯天井一隅。10. 客廳摺門以黑色噴漆竹皮製成，半掩映中，窺得客廳動態。11. 麻將間一隅。12. 從玄關向庭院看。玄關進入後，為遮掩前方電梯，特地以鐵件襯台檯的穿透式屏風，帶來隱密朦朧的半遮掩效果。13. 立面圖

7. Living room 8. A view from the first floor toward the top 9. A corner view of a courtyard 10. Folding door and its detail in living room 11. Mah-jong (a Chinese game) room 12. A view from the lobby towards the courtyard 13. Facade



材料：分割與融洽

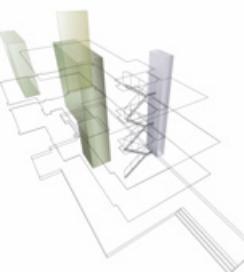
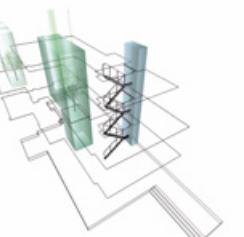
如何讓建築材料有效達成視覺分割與融洽，對面體進行一場豐富卻不混沌的材料創作，是這回設計案裡的美學鋪陳。在建築結構中，帶狀水平面以白色鋼琴烤漆作線條處理，垂直立面皮層則用橄欖綠花崗石做界面表達，於是黛黑粉白間，清楚劃分垂直水平屬性，讓建築瞬間釋放乾淨丰采。同樣地，為避免和深色橄欖綠的垂直立面暈染，包括庭院、梯廳等與建築立面銜接的區塊上，則一概選用天空白花崗石來鋪展。

除了用深淺對比賦予建築凝鍊、乾淨的修飾，在裝修材料繁多的室內空間，設計取徑則試圖讓各種材料平衡融洽。李智翔提到，由於業主期待居家能在低斂中遞送質感，因此一樓選擇化石紋樣的繁麗地磚，但為平衡視覺，主牆面以中庸米色系做調和，而梯間、麻將間等非主牆面區塊，則用萊姆石做輕淺分割，溫和地融洽環境色系。

而越過台檯鐵件設計成的幾何圖形屏風後，邁上二樓梯間，迎來一抹流線滑墜的壁面藝術裝置，每瓣猶如銀杏葉的立體陶片，實際上以抽象姿態詮釋龍的體態，呼應屋主對龍形圖騰的需求。迨轉

往二樓主臥，地面以踩踏觸感細膩的米色皮革磚鋪上，衣櫃也以白色皮革材質來維持乾淨的面體。至於臥鋪主牆，則用紋理漸層濃郁的雞翅木裁成長磚單元，再一塊塊做橫向拼接，因此即便是單一素材，卻藉著切割拼貼達到渲染與跳色，工藝手感質地蘊藉不已。同樣地，三樓也維持深淺色系的對比，包括以白甘木做成黑色櫃體，臥鋪壁面則以竹皮做白色烤漆，讓整個空間帶來較明亮的氛圍。

李智翔談到，雖然業主鍾愛華麗語彙，設計案裡也確實存在多樣素材的拼貼堆疊，但空間與建築依舊保留住乾淨線條，忠誠服膺了水相設計一以貫之的設計表達。採訪」劉芝君





14. 餐廳摺門掩起，米色皮革搭配鍍鈦收邊，挑高氣勢讓空間更顯典雅風範。15. 一樓地板的繁麗化石磚面。16. 屋主喜愛的台檯，以保留原色質地的做法，施做為牆面。17. 從餐桌望向天井，落地窗框將砂岩拼貼的外牆，引導出框景效果。18. 一樓廁所牆面為蕾絲印花磚，利用投影光線讓磚面效果突顯。

14. Titanium plated detail and leather surfaced in the dining room exhibits an elegant beauty 15. Extravagant pattern floor tile 16. Chinese juniper wood is used extensively in the interior 17. A view from the dining table to a courtyard framed vista 18. Printed hologram tiles in the first floor bathroom

On the changing surface of topography formed by natural forces, human beings are always ambitious in challenging it. But humans now are nevertheless facing difficulties because the nature is fighting back furiously. In the history of housing projects, internationalism was a violent force that harassed and directly changed the course of nature, yet people are gradually recognizing that more small scaled housing developments are actually friendly to both the nature and people who live within.

Building and its light well

This is a house situated in a dense city fabric and squeezed between two buildings. Even though it was possible to open the front and rear to accept a more favorable natural light and view there is virtually no way to preserve good privacy for the residents. The tactic to resolve the problem of light was to open up from above. Nic laid out the house plan with an internal courtyard that can easily accept light and facilitate internal ventilation. The recessed floor layout has a central court with a configuration that steps until the courtyard reaches to the top.

The so-called "vertical forest house" has good coordination between the building and the interior design, but most importantly is the layout that offers the best physical condition for the dwellers' comfort. Living room, staircase, a bedroom and a bath are the main components directly adjacent to the court thus offering the best lighting for the spaces. There are many balconies on the westward surface of the building; the deep balcony depth assures that the residents receive no excessive exposure to summer heat yet gently receive light as the element of life.



19



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21

22

Space: A view of a landscape

The plan shows the main entrance is located to the north while a staircase is in the south. The west side space on each floor is designated as the living quarter. Before entering the internal space the north side has a small garden and is the liaison space between the main gate and interior space. The lobby is 4.6 meter high and directs one to a fork leading towards the living room on the right and a dining space and service space on the left. A staircase in the south leads towards the upper floors that have similar plans on the second and third floor. Bedrooms on the upper floor face west and the service spaces face east.

Because these courtyards all face inward; they form a continuous spatial sequence like wonderment in a garden maze. The design team laid out many beautiful plants in the landscaping installations in the courtyard and on the internal balconies. Views cast down from above or inside any bedrooms will immediately touch to the beauty of the internal landscape that is only accessible to the people who live within.

To enrich the beauty of the interior, some specific views are framed from windows and viewed as pieces of art; for example, a granite wall facing towards the kitchen is like a picture with various details and surface textures. A window opening in the kitchen directly faces the wall where one can contemplate the "picture" in a direct view path.

2樓/The second floor

19. 二樓梯間壁面，以立體陶片拼接成一條抽象的龍形圖騰。20. 臥房旁的天井內，僻靜落下若枯山水的園藝造景。21. 米色的皮革磚與白色皮革衣櫃，與濃郁的雞翅木牆面形成色彩對比。22. 主臥衛浴採用華麗的貝殼馬賽克做視覺效果。23. 二樓中庭因天井而得以日光漫溢，而穿街兩端的起居室與書房，都能藉著天井植栽取得盎然綠意。

19. The second floor view towards the main partition featuring a dragon shape, grouped by many ceramic tiles 20. A view casting towards a view of a dry landscape garden 21. Beige color leather and white color leather cabinet. The color makes a strong contrast of wood floor and surface 22. Shell mosaic is used in master bedroom 23. Light coming down from the courtyard offers each room the best physical comfort



23



Materials: harmony

Selecting sound materials and putting all the materials together in the best way is as important as drawing up a good plan. The building appears in two main colors; there are bright white color horizontal bands to segregate the floors while the other part is mostly covered with olive green color granite. And in spaces such as the staircase lobby and courtyard floor paving light color white granites are used. The gradual change from dark to light and their fine balance polish of the profile of the surface emphasizes the contrast of shadows on the surface.

Behind a geometrical patterned screen, tailored by woodwork and steel members there is a high partition leading towards the upper floors and fencing in the staircase. The surface of the partition uses numerous ceramic pieces to cover it. Each piece resembles a ginkgo leaf and they are grouped together into a winding shape like a flying dragon. The master bedroom on the second floor is paved in expensive leather tile, and the surfaces elsewhere exhibit the finest woodwork craftsmanship. It can also be witnessed that the floor and partition use expensive solid wood pieces woven into beautiful patterns in color and rhythm.

3樓.4樓/The third & fourth floors

24. 三樓衛浴空間。25. 三樓臥房牆面，以白色噴漆竹皮做牆面效果。26. 本案為一層一戶的空間，小孩居住的三樓，空間維持較明亮的色彩。27. 三樓與二樓維持同樣的空間佈局，此處為樓梯上來的中庭，同樣能享受天井的垂直光照。28. 起居室一隅。29. 三樓書房。30. 四樓一處牆面以屋主喜愛的台檜製作而成，再以同色系的木地板統合語彙。31. 從書房望向三樓天井內的植栽。

建材分析 Material Analysis

建築外牆部分，以深色橄欖綠花崗石做垂直牆體，而水平面則以白色鋼琴烤漆處理，藉由色系達到垂直水平屬性劃分。一樓空間則以中性壁面顏色，藉以調和華麗地磚，非主牆面處則多用萊姆石作表現。其次，由於業主本身鍾愛台檜，故玄關屏風、餐廳牆面以及四樓的櫃體，都延續台檜作材料。在二樓主臥室的主牆面，則將雞翅木做拼磚切割，再逐一拼貼。

The building façade: horizontal bands uses white color, painted metal member, while vertical parts are covered by olive color green granite. Interior: The floor is paved with expensive tile. Limestone is used on many parts of the surface to balance the color of the wood floor. Expensive Chinese juniper wood was used to weave a screen in the lobby; this kind of wood tailors the dining space partition and cabinets in the fourth floor. Wenge wood was used on the main surface in the master bedroom.

溝通重點 Communication Notes

本案屋主對空間並無特定目標，僅提出綠建築觀點，於是設計上利用四座天井來作為屋體的光線引入與氣流循環。其次，屋主本身鍾情古典風格，因此空間內多以華麗與多層次鋪面材料，達到屋主所喜愛的華麗情調。至於四個樓層的建築結構，屋主提出以一層一戶的規劃，因此主要樓層皆配置起居室空間。

The client had no specific prejudice for certain building forms only asked that the building fit the standard of green substantiality. The Client wished the building be embellished with good materials, rich and expensive he also needed good privacy for each of the family members who live on his/her independent floor.

