Component 1: Three-dimensional design

Standard Mark: 53

Performance Levels 4: Competent and consistent

	AO1	AO2	AO3	AO4	Personal Study
Mark	10	11	11	10	11
Performance Level	4	4	4	4	4

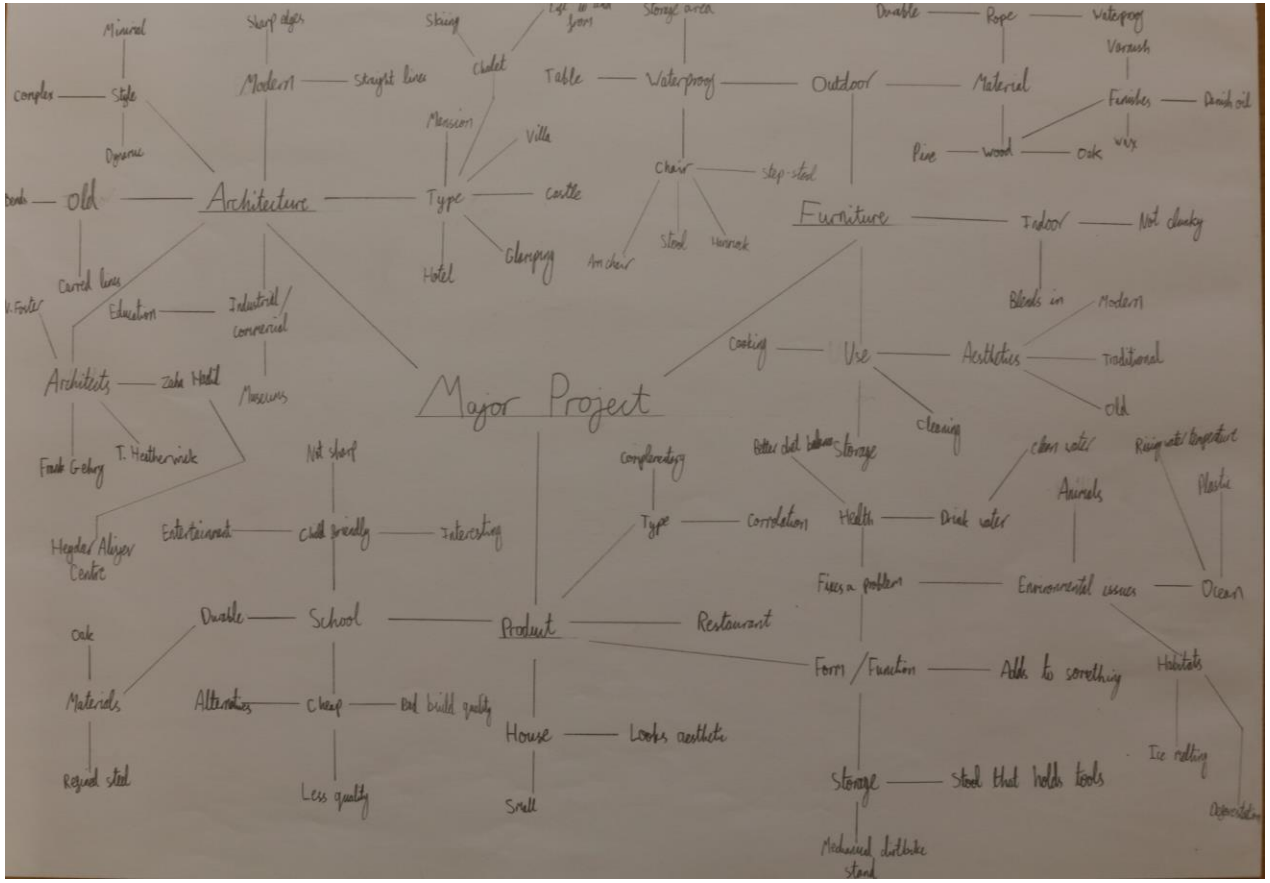
Moderator Commentary

Clarke is working competently and consistently at Performance Level 4, producing a well-structured and methodical body of work for his Three-Dimensional Design component. His project begins with clear planning through mind maps and mood boards, focusing on architectural forms and influences ranging from Gaudí to contemporary alpine and Canadian-style buildings. He gathers a wide range of secondary sources and organises these effectively into display sheets that inform his design thinking. Clarke explores different construction materials and techniques with thoroughness, demonstrating good understanding of process and functionality. His CAD work and small-scale models show sound technical ability and careful consideration of form and structure. He has also worked thoughtfully towards developing a complex of interconnected buildings rather than a single structure, which demonstrates ambition and sound economical consideration for a project of this scale. While the work could show greater creativity and risk-taking in exploring alternative solutions, Clark's project is carefully planned, coherent, and competently executed, reflecting a consistent performance placed securely within Level 4.

Clarke - Component 1 Three-Dimensional Design Standard Mark 53

Performance Level 4: Competent & Consistent

AO1	AO2	AO3	AO4	PS	TOTAL
10	11	11	10	11	53



Component 1 – Personal Study

Name: Theo Llamas

Candidate Number: 0672

Title: The Influence of Nature Within Architecture.

Introduction:

Antoni Gaudí's designs are inspired by many factors; where he said that '*nothing is art if it does not come from nature*', gothic architecture, oriental art, geometric shapes, religious symbolism and medieval art and architecture. (Catalan, F. 1952) Most of these are found in la Sagrada Familia being nature, gothic architecture, geometric shapes and religious symbolism. (Collins, G. 2024) Gaudi's buildings aren't only about the aesthetics of the structure but also about the different functions such as Casa Milà has ledges at the top of the windows that act as built in blinds so that people that lived in the building didn't have to spend money on blinds, another function of this building is that every window is purposefully positioned in a way that is needed so that there is a natural air draft to keep the rooms cool without needing any air conditioning or fans. He had different functions being natural air cooling and ventilation, natural lighting, organic and natural forms, material efficiency, water management, thermal mass and acoustic design; all of these extra points that he put thought into that no one else was doing is what I think makes him stand out. (*Casa Milà (La Pedrera) 2024*)

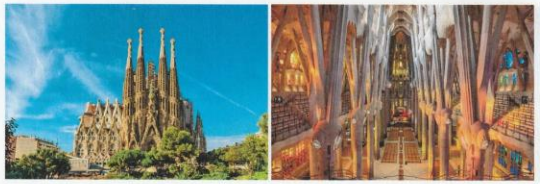


Figure 1 (La Sagrada Familia) & 2 (Interior of La Sagrada Familia)

In contrast, Zaha Hadid's buildings are inspired by futurism and modern art, technology and innovation, deconstructivism, urban context and landscape and cultural and historical references (*Zaha Hadid architects*. No date) but there are also some inspirations that Gaudí and Hadid share, being nature, mathematics and geometry. One of her buildings that she has implemented most of her inspirations into is the Heydar Aliyev Centre in Baku, Azerbaijan; many people say that the Heydar Aliyev Centre is a perfect representation of her architectural visions as it adds her various inspirations into one design. Just like Gaudí, Hadid also has various functions that she added into her designs such as organic and fluid forms that is found in the Heydar Aliyev Centre with its fluid wave like design, integration with the environment, innovative use of materials, spatial complexity, user experience and functionality, light and transparency and artistic and sculptural qualities but these were done after other architects such as Gaudí, so it wasn't innovative or new. (Hern & Fernandez, D. 2013) Another thing about Zaha Hadid is that she has taken a lot of inspiration from Gaudí just like many other architects such as Frank Gehry, she shows this in her designs as she implements nature into her buildings by using many curves such as with the Heydar Aliyev Centre in Azerbaijan, the curves make the building look wave-like as if it was meant to be moving. (Zamora, F. 2024)

In this essay, I aim to explore what inspired Antoni Gaudí and Zaha Hadid in order to realise their intentions. Gaudí's approach to nature and organic forms appears in contrast to Hadid's futuristic and deconstructivism approach but there also may be some similarities that I will discuss. By analysing the architecture, my aim is to expose Gaudí's geometric and naturalistic approaches and how they differ from Hadid's fluid and technological inspirations which will therefore allow me to showcase how both architects have changed the boundaries for architecture through their different styles and inspirations. This is going to help my project as it will give me a better understanding of the striking lines that Zaha Hadid uses and also the nature that Antoni Gaudi is inspired by into my design.

Figure 3 (Heydar Aliyev Centre) & 4 (Heydar Aliyev Centre)

Antoni Gaudi:

Antoni Gaudi is a famous and renowned Spanish architect that has changed what architecture is worldwide but especially in Cataluña. He has many different elements that make his buildings standout such as his unique geometry that is called Hyperboloids, his functions that he added to his buildings and most important of all; his inspiration from nature that he cleverly implements into his architecture.

Gaudi had many components that no-one had thought of in his time and have only recently started applying to modern architecture such as his functions. He had many functions that he would add to buildings that people would be living in such as his natural lighting which I have implemented into my Modern Villa by having large windows on either-side of the building (can be seen in figure 7); for example, in one of his famous buildings named La Casa Milà, he added short ledges at the top of the windows so that at certain times during the day the sunlight would not enter into the rooms, he did this so that people didn't have to spend money on blinds.

Another example is how he used different stained-glass colours so that the light that entered La Sagrada Familia would form a harmonious and consistent colour therefore enhancing the spiritual experience for people inside the building. (Park, M.Y. 2024)

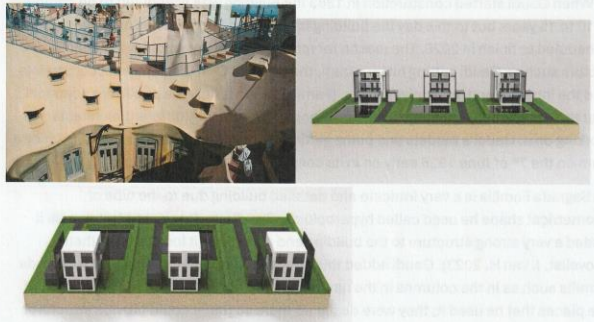


Figure 5 (Roof of La Casa Milà) of, 6 (Front view of my CAD model) & 7 (Back view of my CAD model)

Another thing that Antoni Gaudi did is that he implemented elements of nature in an abstract manner into his buildings such as the reptile scales that he added to the roof of La Casa Batllò and the different colours he added to the walls. I haven't made the colour of my Villas walls as vibrant and abstract as Gaudi has but I decided to use his technique to create a contrast between the light and dark marble that I chose to use (this can be seen in figure 10). (Sveiven, M. 2010)

Component 1 – Personal Study

Figure 8 (Roof of La Casa Batllò) & 9 (View of my CAD model)

The building I will be focusing on for Gaudi is his most famous building that is located in Barcelona, named La Sagrada Familia Basilica and how the influence of nature affected it. When Gaudi started construction in 1883 the building was scheduled to be complete in 10 to 15 years but to this day the building is still being built and has now been scheduled to finish in 2026. The reason for more than a 100-year delay is because of factors such as Gaudi getting hit by a tram, the Spanish Civil War, financial constraints and the intricate and innovative design. (Familia, S. No date). The public are sceptical that the design of the building has been changed due to many different architects working on it, Gaudi's models and plans getting burnt in a fire and Gaudi getting hit by a tram on the 7th of June 1926 early on in its construction. (Roller, S. 2020)

La Sagrada Familia is a very intricate and detailed building due to the type of geometrical shape he used called hyperboloids. Gaudi was fascinated by them as it added a very strong structure to the building and also made it look very aesthetic. (Novelist, J. van H. 2023). Gaudi added this structure in many key places in La Sagrada Familia such as in the columns in the nave where it is the most prominent out of all of the places that he used it; they were designed there so that it could provide structural support as it distributes weight efficiently and copies a natural form like tree trunks and branches while also allowing light to pass through which create dynamic patterns of light and shadows (Familia, S. No date). Another place where this structure is shown is in the vaults and ceilings; it was used here for the same reasons as the columns and naves, but it also gave and organic feel and aspect to the interior of the building so that Gaudi could achieve his natural element that he was going for (Novelist, J. van H. 2023). The last place that I am going to talk about where this structure is prominent is in the towers and facades, it also added structure while also allowing the stonework to contribute to the flowing lines that characterises Gaudi's architectural style. I also decided to give my building some extra structural support in a similar way that Gaudi did, so I chose to add dark marble shaded support walls that are attached to the body of the building which also helps create the contrast that I wanted (this can be seen in figure 10) (Roller, S. 2020).

Figure 10 (Ceiling view of La Sagrada Familia)

Gaudi was very inspired by nature and what surrounds him so in most of his buildings and designs he implemented it in various ways such as the scales on the roof of La Casa Batllò also known as "the house of bones" that I have already shown. Park Güell in Barcelona is probably the most explicit example of where he integrated nature as it features undulating forms, an extensive use of mosaic tiles that mimics natural forms and organic shapes. The park features various structures such as the Serpentine Bench, which resembles a flowing river, and the Viaducts which blend into its surrounding landscape. The reason why Gaudi designed the park is so that it can harmonise with nature by using different native plants and different structures that look like they are growing out of the ground (Roller, S. 2023). A second example of his use of nature is as already stated, La Casa Batllò. It features an aspect of waves and marine life; the balconies look like fragmented skulls and as already stated, the roof is often compared to *a reptile such as the scales from the back of a dragon or dinosaur (Inc, Barcelona.* com. No date). The last building that I am going to add is La Sagrada Familia as it has many elements of nature implemented into itself. The columns inside the basilica branch out like trees which creates a forest-like atmosphere. The facades are furnished with sculptures of animals, plants and other natural and organic forms. The reason that Gaudi designed and created this basilica is so that he can reflect the world by using geometrical shapes found in nature such as the hyperboloids and paraboloids structure which therefore allowed him to enhance the structural integrity and aesthetic appeal of the building.

Figure 11 (View of Park Güell)

Zaha Hadid:

Zaha Hadid is a well-known architect from Iraq that has created many magnificent buildings such as the Heydar Aliyev centre. She has many different factors that she includes into her buildings such as the use of curvy and striking lines that mimic nature just like Gaudi; because of this, I decided to create a villa that only had straight and striking lines so that it properly portrays Zaha Hadid's style (this can be seen in figure 12). Hadid has taken a lot of inspiration from Gaudi's buildings such as his use of nature and the way he used innovative and unconventional geometric shapes, so she therefore incorporated these similar elements into her designs which allowed him to create structures that are both dynamic and visually striking. In her architecture she integrated the art of supremacy by deconstructing her architecture in order to create an innovative architectural style. This is shown in five patterns: the supremacist or deconstructivism, architectural designs with water forms, the architectural organic style and the topographical.

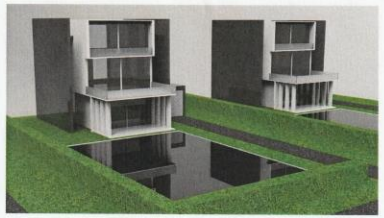


Figure 12 (View of my CAD model)

Component 1 – Personal Study

Zaha Hadid wanted to blend the surroundings and buildings with nature which is why her style is so similar to Gaudi's, so I want to mimic this by locating my Villa in Phuket, Thailand near Bangtao Beach. Her designs with water forms are very prominent in the Heydar Aliyev Centre, built on the 10th of May 2012, due to the flowing lines that look like a huge wave that you would get in the ocean (Khatib, O.A. and Khoukhi, M. 2019).

Figure 13 (Front view of the Heydar Aliyev Centre) & 14 (Side view of the Heydar Aliyev Centre)

Another building where this is shown is in the London Aquatics Centre in the Queen Elizabeth Olympic Park that she built in 2004; Hadid's aim was to make the building look like moving water so that it blends in well with the flowing water in the river beside it. The building is similar to the Heydar Aliyev Centre in terms of it looking like the roof of the building is flowing like the waves in a sea. (Khatib, O.A. and Khoukhi, M. 2019)

Figure 15 (Zaha Hadid building concept/design) & 16 (Zaha Hadid building concept/design)

Zaha was also inspired by Gaudi's use of complex geometry such as the hyperboloids and this can be found in the Guangzhou Opera House in China. Using these types of geometrical shapes helped her to create a unique design with futuristic and fluid curves which help with creating a visually stunning backdrop when people are performing; the lighting in the building also helps achieve this. (Saieh, N. 2011)

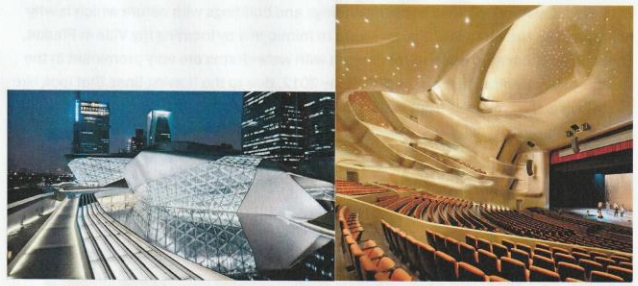


Figure 17 (Outside view of Guangzhou Opera House in China) & 18 (Interior view of Guangzhou Opera House in China)

The building I will be focusing on for Zaha Hadid is one of her most famous buildings that has previously been mentioned, named the Heydar Aliyev Centre. This structure is breathtaking and very impressive due to its innovative design and form. It looks to be very fluid and unique as it breaks away from the traditional architecture designs. The building features smooth, flowing curves with a flush transition from the plaza and interior spaces which help it create a sense of fluidity. The construction aspect of the building has proved many engineering difficulties due to its complex shapes. The structure of the building required many different advanced engineering techniques and materials in order to achieve its flowing, wave-like surfaces. Many people believe that this building showcases a 'interplay between engineering and architecture'. The visual impact that the Centre has makes it stand out because of its aesthetics; the smooth exposed white exterior creates a striking contrast against its urban surroundings and nature, and this links back to Hadid's love for working alongside nature. The building has received numerous rewards such as the Design Museum Design of the year and the London Design Museum's award for architecture in 2014 due to its dynamic and captivating appearance because of the way light and shadow reflects off of its curvaceous surfaces (Hern & Fernandez, D. 2013), (Hannah Martin, N.M. 2023)

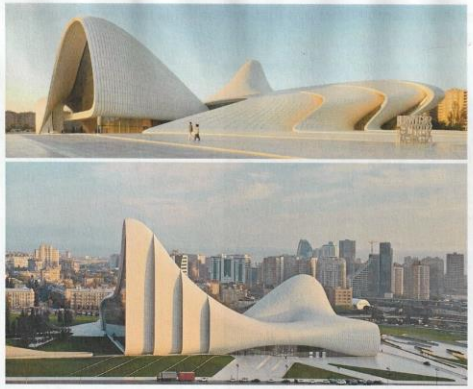


Figure 19 (CAD model of the Heydar Aliyev Centre) & 20 (Side view of the Heydar Aliyev Centre)

Comparison:

Gaudi and Hadid have similarities and differences in their architecture styles, even though they are both from different eras.

One similarity is that they both heavily implemented nature into their designs which is what I am going to try and do by surrounding the villa with a lot of nature such as the sea. Gaudi incorporated organic parts and flowing forms; his buildings usually feature curved lines, complex geometries and asymmetrical designs that mimic the forms found in the natural world whereas Hadid implemented more of a liquid form to her buildings. They are both seen as one of the most innovative architects as they have reshaped what architecture is; their works have left a long-lasting legacy as they showed how nature can inspire and redefine architecture. (Hern & Fernandez, D. 2013), (Novelist, J. van H. 2023)

Gaudi had a deep connection to nature, and this is why he implemented it into his buildings. He believed, "Nothing is art if it does not come from nature." For example, La Sagrada Familia is a mix of nature-inspired forms with complex geometric structures, such as hyperboloids, that provide the aesthetic element but also the structural strength needed to withstand the immense weight of the cathedral. He used natural lighting and ventilation in projects like Casa Batlló and Casa Milà which showed that his architecture can function with nature and the environment, long before sustainability became a concern in modern architecture which shows how innovating his works were

Component 1 – Personal Study

as he saw the future and implemented functions that no-one in his time had thought of. (Novelist, J. van H. 2023)

Figure 21 (Front view of La Casa Batlló), 22 (Front view of La Casa Milà) & 23 (Front view of La Sagrada Familia)

A difference with Gaudi and Hadid is that Gaudi was obsessed with geometrical shapes and forms such as the hyperboloids and parabolas that did not only help with the aesthetics of the building but also enhanced structural integrity. In La Sagrada Familia, these forms mimic natural elements such as tree branches; this therefore shows that he had a desire to perfectly and accurately imitate nature. (*The geometry of Antoni Gaudi*. No date)

On the other hand, Zaha Hadid's approach to nature was through a futuristic lens, reshaping organic forms into sleek, dynamic designs using advanced technology. The Heydar Aliyev Centre in Azerbaijan shows her approach, featuring fluid, wave-like curves that flow into the landscape, creating a sense of movement; unlike Gaudi, who looked for harmony with the environment, Hadid's work often pushed against the boundaries of nature, using certain technology, that was not available in Gaudi's time, to achieve forms that feel alive and fluid. (Hern & Fernandez, D. 2015)

Both architects explored the role of geometry in their work, although with different intentions. Gaudi saw geometry as a way to replicate nature's precision and strength, while Hadid used it to experiment with space and form in ways that people couldn't start to imagine. (*The geometry of Antoni Gaudi.* No date)

Both architects have left a huge influence on modern architecture.

Conclusion:

In conclusion, the influence of nature in architecture, as seen in the works of Antoni Gaudí and Zaha Hadid shows us that they both influence nature in very similar ways and different ways as well. Gaudi is from an older era which explains why they both have different styles of designing and ideas along with distinct ways of embracing nature.

Gaudí's deep-rooted belief that "nothing is art if it does not come from nature" was seen by many others as the backbone of his architectural approach and this is shown in his intricate designs that mimic organic forms and natural patterns. Meanwhile, Hadid's approach to nature was more futuristic and abstract, often inspired by fluid, liquid forms that don't follow traditional architectural norms, pushing the boundaries of design and technology.

Analysing these two architects will benefit my project greatly as my aim is to implement the way Gaudi uses nature to his advantage such as the natural lighting and ventilation because this will make the building more environmentally friendly as in a hot country there will be no need for something like air conditioning. I am also going to implement Zaha Hadid's natural element such as the use of straight striking lines as this help me create a contrast with the flowing lines that nature has and the different colours.

Figure 24 (View of my CAD model)

Now that I have compared the two architects themselves, I will compare two of their most renowned buildings being Zaha Hadid's Heydar Aliyev Centre in Baku and Antoni Gaudi's Casa Milà (La Pedrera) in Barcelona. The reason for choosing these two is because they both have similarities and differences.

The first similarity is that both display organic forms. In La Casa Milà, the iron balconies represent natural elements like plants and waves and in the Heydar Aliyev Centre, the building looks almost fluid due to the continuous curves that show the natural flow of water. (Vardanian, A. 2025)

This leads me onto their integration with nature, Gaudi was very inspired by nature, as I have already stated earlier, and due to this, in La Casa Milà you can see the forms from geology and biology in many areas of the building such as the chimneys and ventilation towers where they are shaped like twisted shells, plant stems and are even compared to a skeleton form. Hadid's structure of architecture mimics the natural fluidity which blends into its landscape without leaving any sharp edges, this can be found in areas of the Heydar Aliyev Centre such as in the exterior of the building, the roof has a wave-like structure. (Molloy, J.C. 2013)

The last similarity I am going to talk about are their techniques that they used when constructing and designing their buildings. Gaudi used advanced ironwork to achieve his designs such as La Casa Milà (*Casa Milà (La Pedrera) : The last civil work of Antoni Gaudí*. 2023) whereas Hadid relied on digital design tools and modern materials such as fiberglass or reinforced concrete in order to achieve the curves on the buildings such as the Heydar Aliyev Centre, the reason why I have said that they are similar is because these processes are very similar along with both of them using modern materials. (Hern & Fernandez, D. 2015)

They both have many differences, so I am only going to talk about the two that stand out to me. The first one is the tools that they used due to the different centuries that they were both in. Gaudi had to work with the constraints of the early 20th -century craftmanship which meant that he had to rely on manual labour and traditional methods (Picado, M. 2023) whereas Hadid could use the 21st-century computational designs and robotics to her advantage which allowed her to achieve complex geometries. This shows that Zaha had a much bigger advantage than Gaudi.

The second difference is their cultural narrative, La Casa Mila was deeply rooted in the Catalan Modernism and reflected Barcelona's identity whereas the Heydar Aliyev Centre represents a global and futuristic architecture that symbolises the cultural aspirations. This is important because it tells us where they got their influence from and that it wasn't only nature. (*Zaha Hadid architects.* No date)

Component 1 – Personal Study

Bibliography/Reference:

Catalan, F. (1952) *Art: Fantastic Catalan, Time*. Available at: https://time.com/archive/6608641/art-fantastic-catalan (Accessed: 12 February 2025).

Collins, G. (2024) *Antoni Gaudí, Encyclopædia Britannica*. Available at: https://www.britannica.com/biography/Antoni-Gaudi (Accessed: 12 February 2025).

Casa Milà (La Pedrera): Gaudí's iconic building in Barcelona - sagrada familia Barcelona (2024) *musei-vaticani-roma.it*. Available at: https://www.sagrada-familia-barcelona.com/gaudi-s-works/casa-mila-la-pedrera-gaudis-iconic-building-in-barcelona/ (Accessed: 12 February 2025).

Zaha Hadid architects (no date) *Heydar Aliyev Centre – Zaha Hadid Architects*. Available at: https://www.zaha-hadid.com/architecture/heydar-aliyev-centre/ (Accessed: 12 February 2025).

Hern & Fernandez, D. (2013) *Heydar Aliyev Centre / Zaha Hadid architects, ArchDaily*. Available at: https://www.archdaily.com/448774/heydar-aliyev-center-zaha-hadid-architects (Accessed: 12 February 2025).

Zamora, F. (2024) *Biomimicry and Parametricism: A Design Legacy spanning from Antoni Gaudí to Zaha Hadid, Journal*. Available at: https://architizer.com/blog/inspiration/stories/biomimicry-and-parametricism-gaudi-and-hadids-design-legacy/ (Accessed: 12 February 2025).

Casa Batlló: Antoni Gaudí's masterpiece in Barcelona - sagrada familia Barcelona (2024) *musei-vaticani-roma.it*. Available at: https://www.sagrada-familia-barcelona.com/gaudi-s-works/casa-batllo-antoni-gaudis-masterpiece-in-barcelona/ (Accessed: 12 February 2025).

Park, M.Y. (2024) *La Sagrada Familia: Everything you need to know, Architectural Digest*. Available at: https://www.architecturaldigest.com/story/la-sagrada-familia-everything-you-need-to-know (Accessed: 13 February 2025).

Sveiven, M. (2010) *Ad classics: AD classics: Casa Batlló / Antoni Gaudí, ArchDaily*. Available at: https://www.archdaily.com/90689/ad-classics-casa-batllo-antoni-gaudi/ (Accessed: 13 February 2025).

Familia, S. (no date) *Navigation, History of the Temple - Sagrada Família - Sagrada Familia*. Available at: https://sagradafamilia.org/en/history-of-the-temple (Accessed: 13 February 2025).

Roller, S. (2020) *La Sagrada Familia, History Hit*. Available at: https://www.historyhit.com/locations/la-sagrada-familia/ (Accessed: 13 February 2025).

Novelist, J. van H. (2023) *Sagrada Família in Barcelona - Gaudí's unfinished masterpiece, Art in Context*. Available at: https://artincontext.org/sagrada-familia-in-barcelona/ (Accessed: 13 February 2025).

Familia, S. (no date a) *Navigation, History of the Temple - Sagrada Família - Sagrada Familia*. Available at: https://sagradafamilia.org/en/history-of-the-temple (Accessed: 13 February 2025).

Novelist, J. van H. (2023a) *Sagrada Família in Barcelona - Gaudí's unfinished masterpiece, Art in Context*. Available at: https://artincontext.org/sagrada-familia-in-barcelona/ (Accessed: 13 February 2025).

Roller, S. (2020a) *La Sagrada Familia, History Hit*. Available at: https://www.historyhit.com/locations/la-sagrada-familia/ (Accessed: 13 February 2025).

Inc, Barcelona. com (no date) *Sagrada Familia finished, Sagrada Familia completion date > When will the construction be finished?* Available at: https://www.barcelona.com/barcelona_tickets/sagrada_familia/sagrada_familia_finished/ (Accessed: 11 March 2025).

Khatib, O.A. and Khoukhi, M. (2019b) *An overview of Zaha Hadid Biography: A closer look at architectural and structural designs, Iris Publishers*. Available at: https://irispublishers.com/ctcse/fulltext/an-overview-of-zaha-hadid-biography-a-closer-look-at-architectural-and-structural-designs.ID.000591.php#:~:text=Zaha%20integrated%20the%20art%20of,the%20architectural%20style%20with%20organic/ (Accessed: 11 March 2025).

Architecture (2024) *London Aquatics Centre*. Available at: https://www.londonaquaticscentre.org/about/architecture/ (Accessed: 11 March 2025).

Saieh, N. (2011) *Guangzhou Opera House / Zaha Hadid Architects, ArchDaily*. Available at: https://www.archdaily.com/115949/guangzhou-opera-house-zaha-hadid-architects/ (Accessed: 11 March 2025).

Hern & Fernandez, D. (2013) *Heydar Aliyev Centre / Zaha Hadid architects, ArchDaily*. Available at: https://www.archdaily.com/448774/heydar-aliyev-center-zaha-hadid-architects#:~:text=The%20Center%2C%20designed%20to%20become,that%20looks%20to%20the%20future/ (Accessed: 11 March 2025).

(No date) *Designs of the year prize 'about architecture rather than politics'*. Available at: https://www.dezeen.com/2014/07/02/design-museum-designs-of-the-year-prize-zaha-hadid-heydar-aliyev-centre-azerbaijan/ (Accessed: 11 March 2025).

Hannah Martin, N.M. (2023) *Zaha Hadid's 17 most striking buildings, Architectural Digest*. Available at: https://www.architecturaldigest.com/gallery/zaha-hadid-greatest-works-slideshow/ (Accessed: 11 March 2025).

Hern & Fernandez, D. (2013a) *Heydar Aliyev Centre / Zaha Hadid architects, ArchDaily*. Available at: https://www.archdaily.com/448774/heydar-aliyev-center-zaha-hadid-architects (Accessed: 11 March 2025).

Novelist, J. van H. (2023) *Sagrada Família in Barcelona - Gaudí's unfinished masterpiece, Art in Context*. Available at: https://artincontext.org/sagrada-familia-in-barcelona/ (Accessed: 11 March 2025).

Navigation (no date) *History of the Temple - Sagrada Família - Sagrada Familia*. Available at: https://sagradafamilia.org/en/history-of-the-temple/ (Accessed: 11 March 2025).

Novelist, J. van H. (2023a) *Sagrada Família in Barcelona - Gaudí's unfinished masterpiece, Art in Context*. Available at: https://artincontext.org/sagrada-familia-in-barcelona/ (Accessed: 11 March 2025).

The geometry of Antoni Gaudí (no date) *EscherMath*. Available at: https://eschermath.org/wiki/The_Geometry_of_Antoni_Gaudi.html (Accessed: 11 March 2025).

Hern & Fernandez, D. (2013) *Heydar Aliyev Centre / Zaha Hadid architects, ArchDaily*. Available at: https://www.archdaily.com/448774/heydar-aliyev-center-zaha-hadid-architects (Accessed: 11 March 2025).

The geometry of Antoni Gaudí (no date) *EscherMath*. Available at: https://eschermath.org/wiki/The_Geometry_of_Antoni_Gaudi.html (Accessed: 11 March 2025).

Vardanian, A. (2025) *Casa Milà Guide - what to expect, BarcaTrips*. Available at: https://barcatrips.com/locations/casa-mila/ (Accessed: 11 March 2025).

Molloy, J.C. (2013) *Ad classics: Casa Milà / Antoni Gaudí, ArchDaily*. Available at: https://www.archdaily.com/367681/ad-classics-casa-mila-antoni-gaudi (Accessed: 11 March 2025).

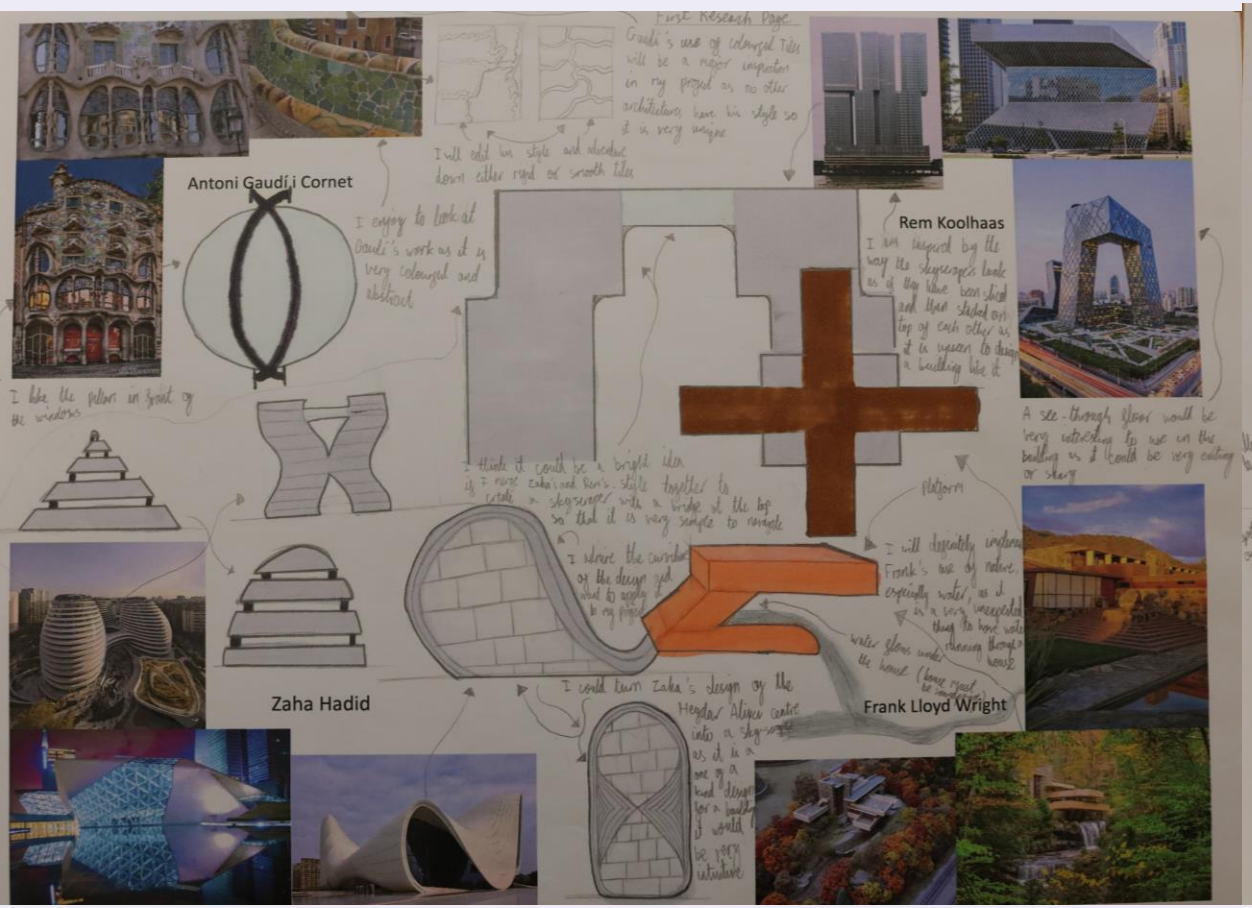
Casa Milà (La Pedrera) : The last civil work of Antoni Gaudí (2023) *Nanani World*. Available at: https://nanani.world/casa-mila-work-of-antoni-gaudi/ (Accessed: 11 March 2025).

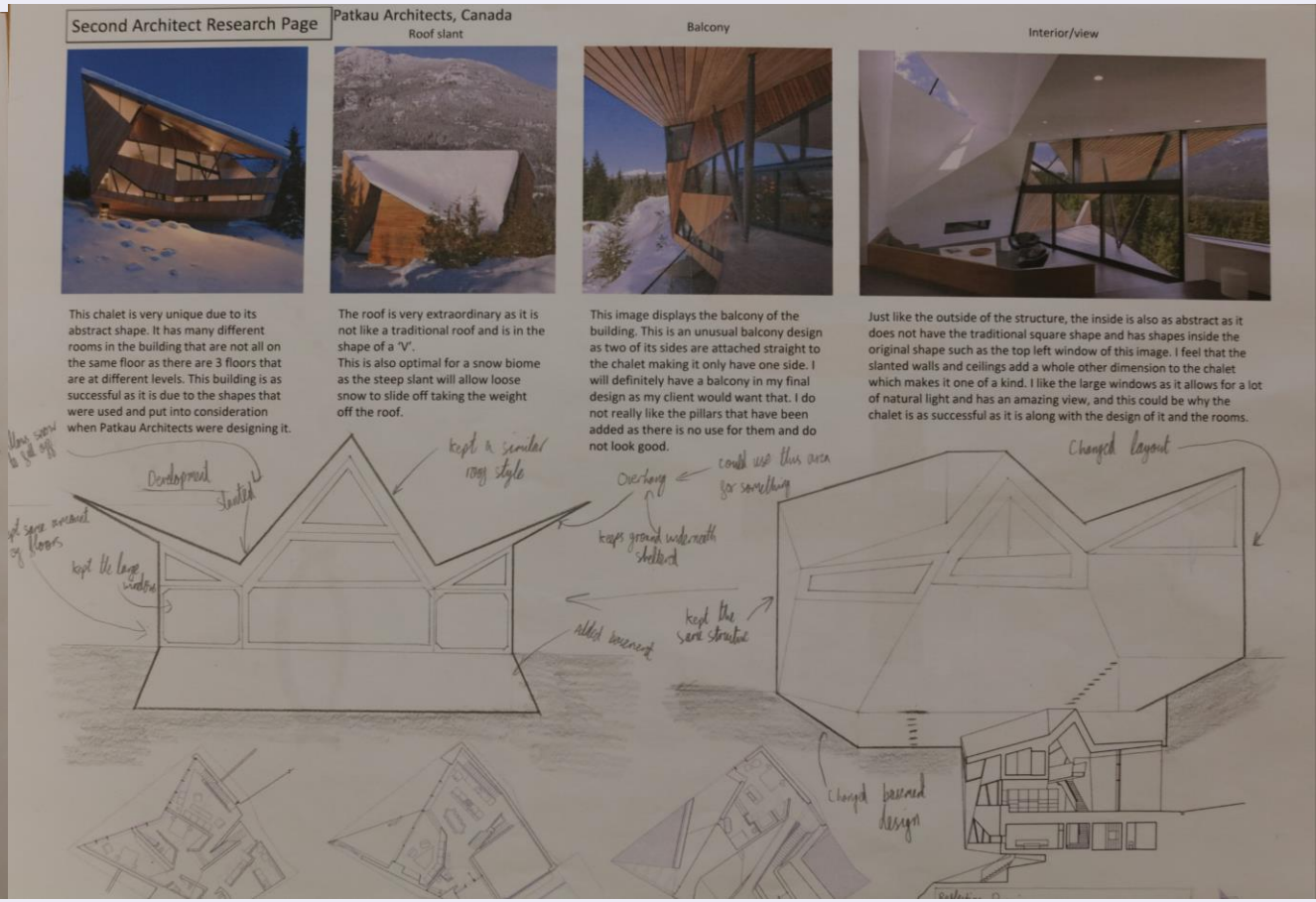
Hern & Fernandez, D. (2013a) *Heydar Aliyev Centre / Zaha Hadid architects, ArchDaily*. Available at: https://www.archdaily.com/448774/heydar-aliyev-center-zaha-hadid-architects (Accessed: 11 March 2025).

Picado, M. (2023) *Architecture guide: 10 must see gaudí buildings in Barcelona, ArchDaily*. Available at: https://www.archdaily.com/877599/10-must-see-gaudi-buildings-in-barcelona (Accessed: 11 March 2025).

Zaha Hadid architects (no date) *Thallus Installation – Zaha Hadid Architects*. Available at: https://www.zaha-hadid.com/design/thallus-installation (Accessed: 11 March 2025).

Component 1 Three- Dimensional Design





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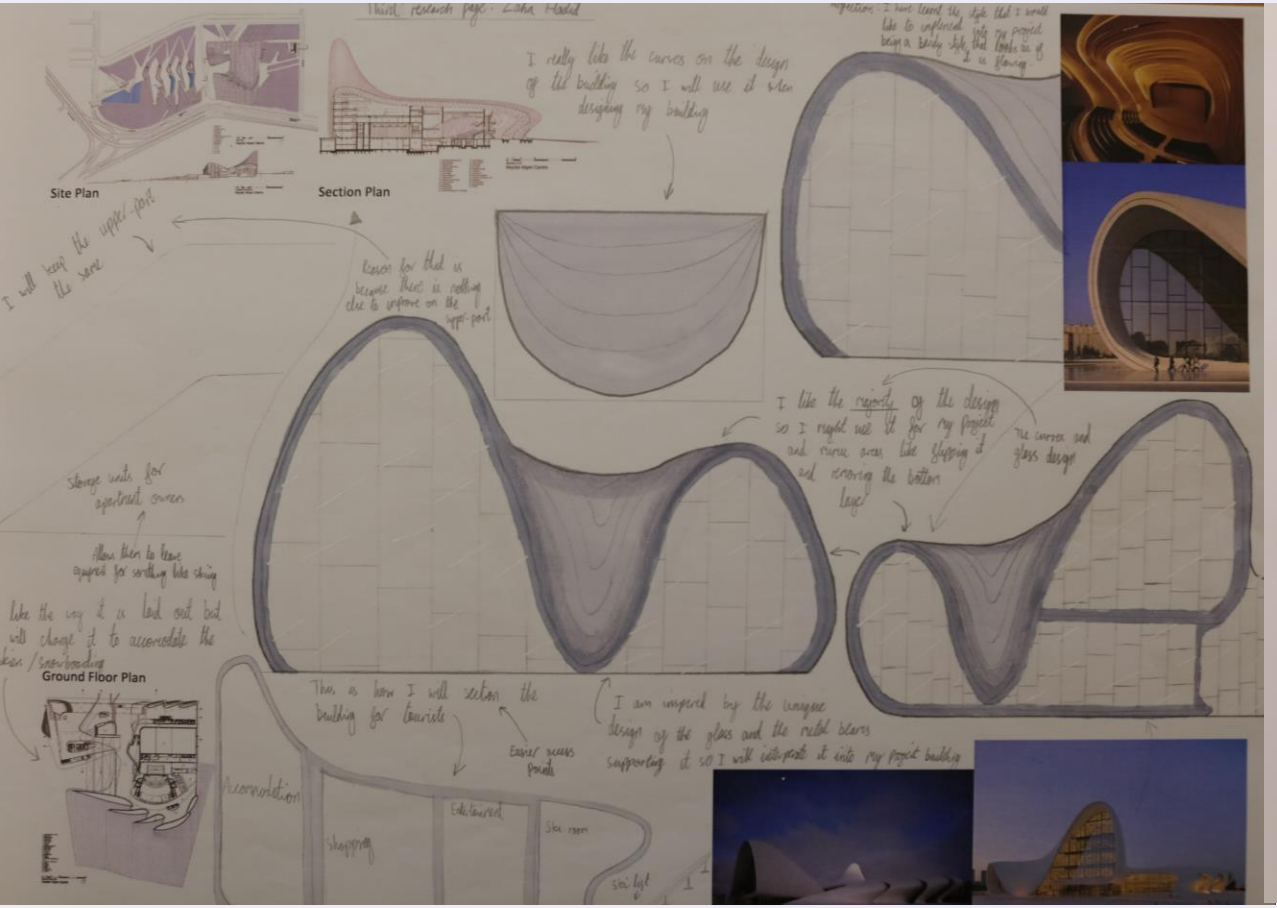

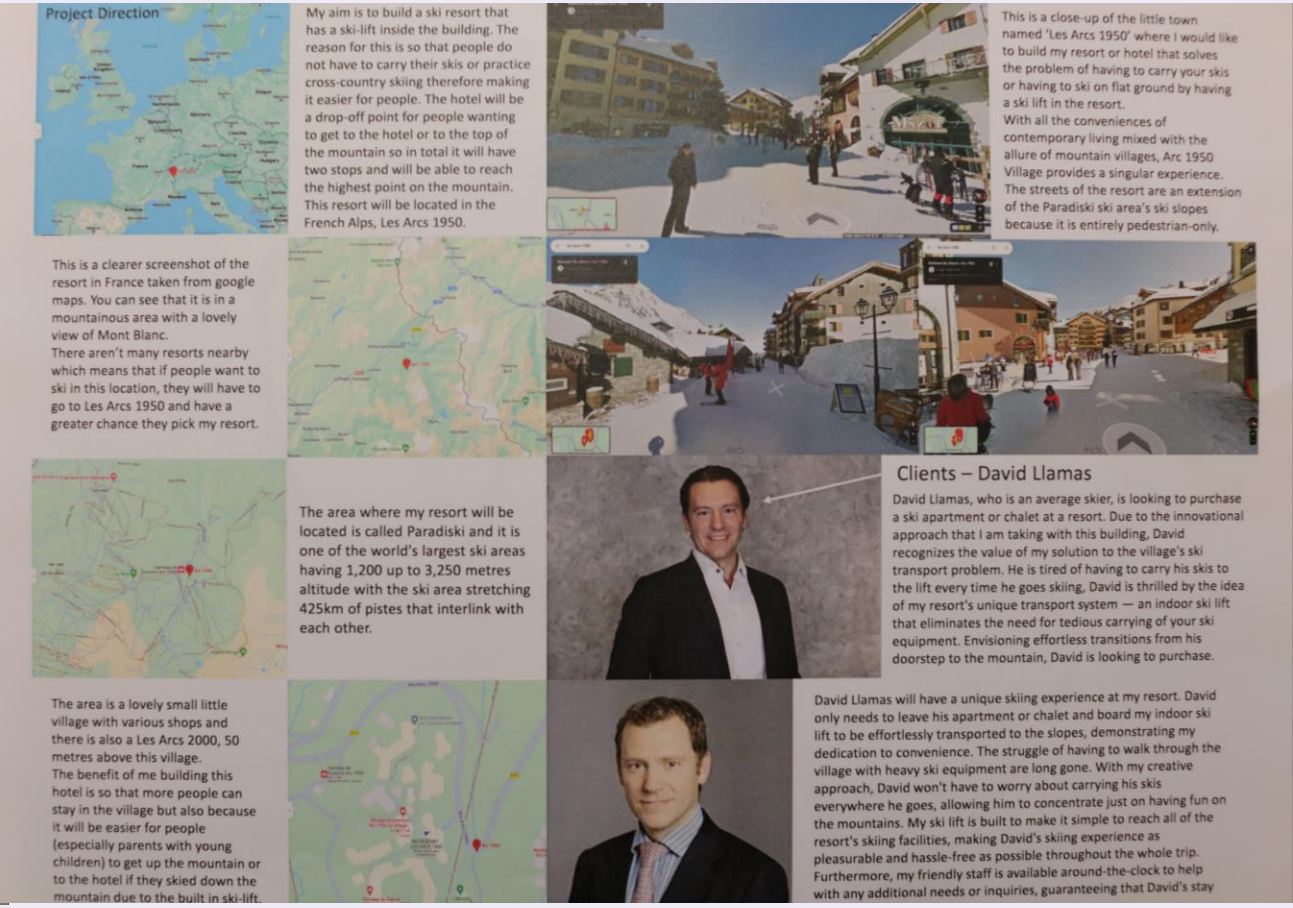

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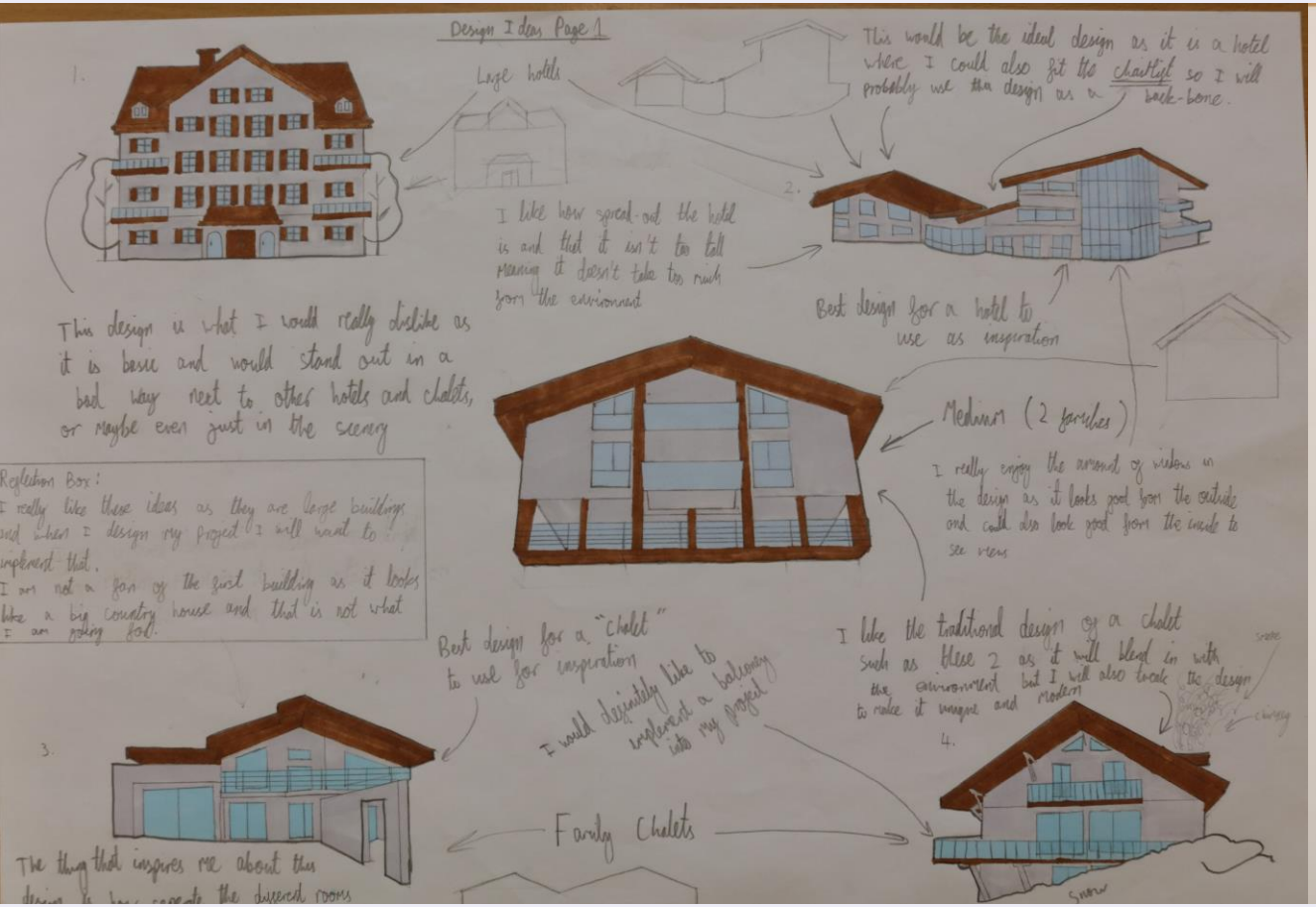

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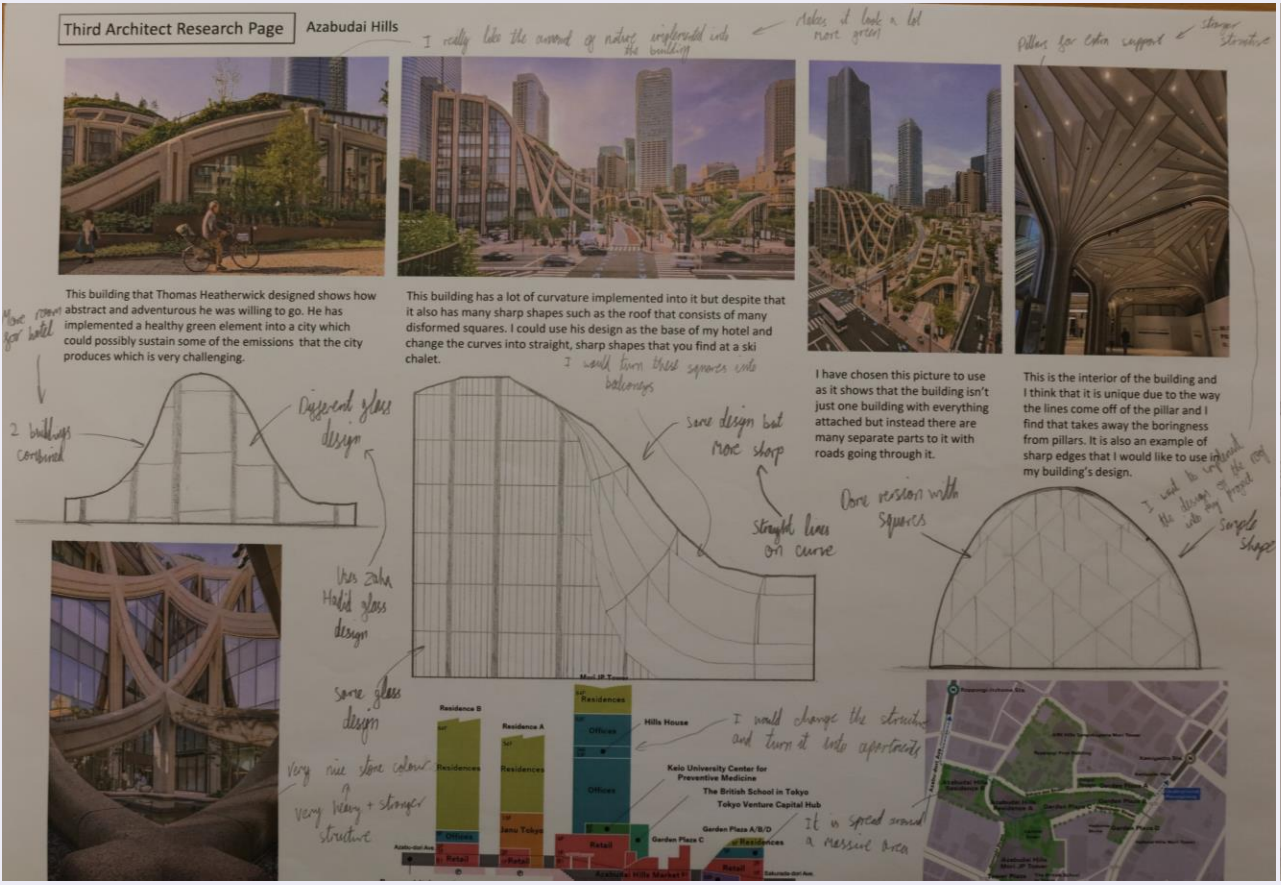

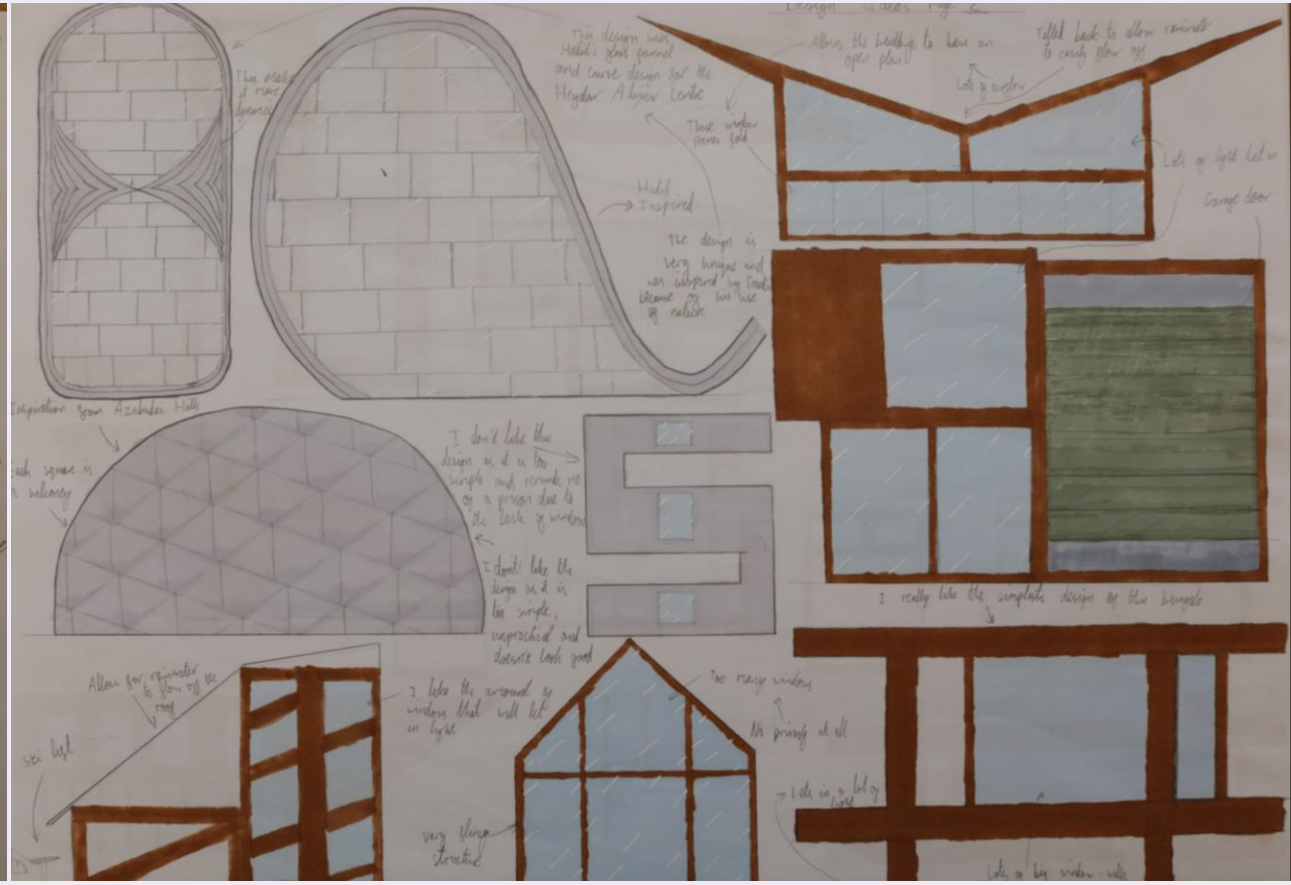

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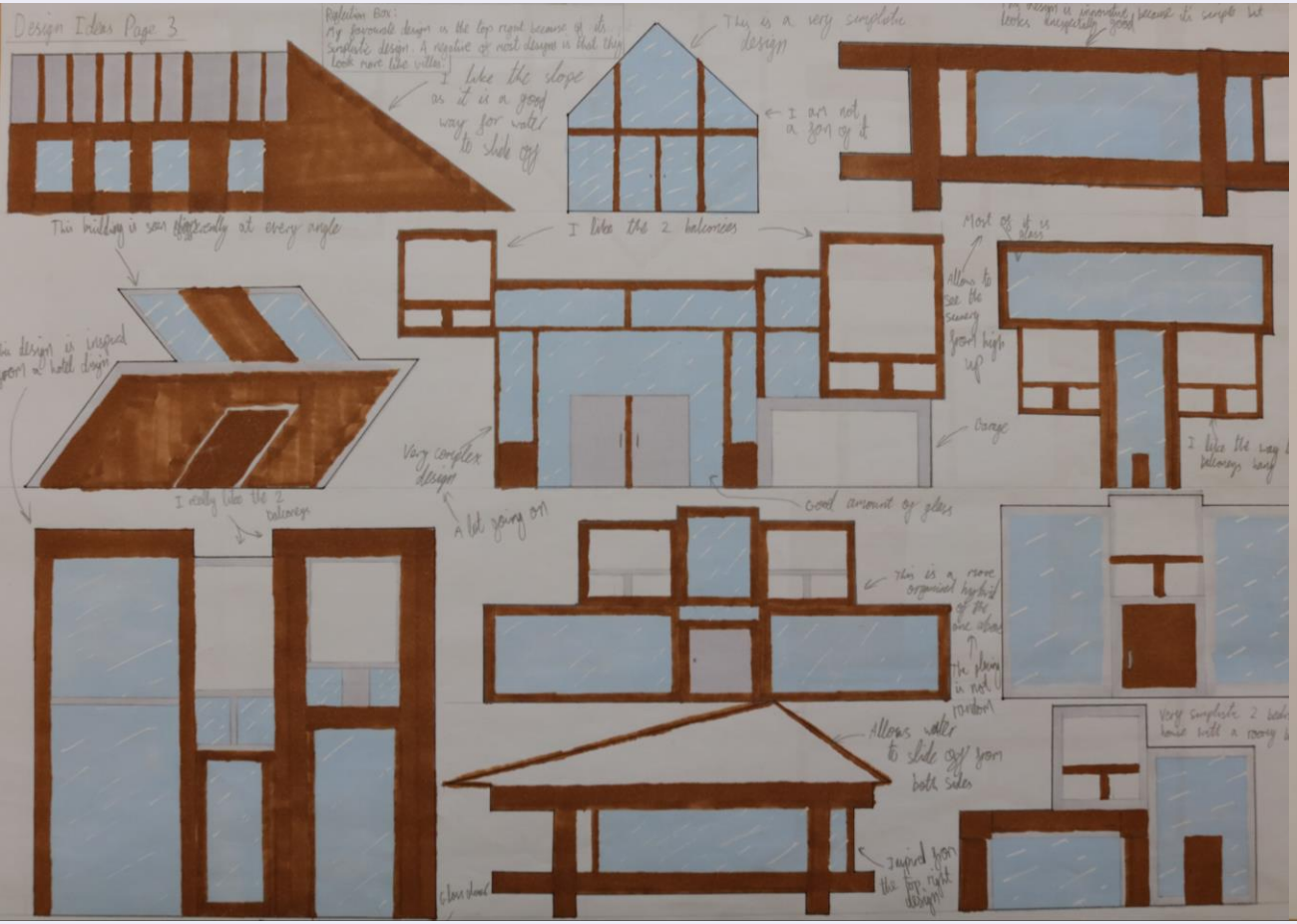

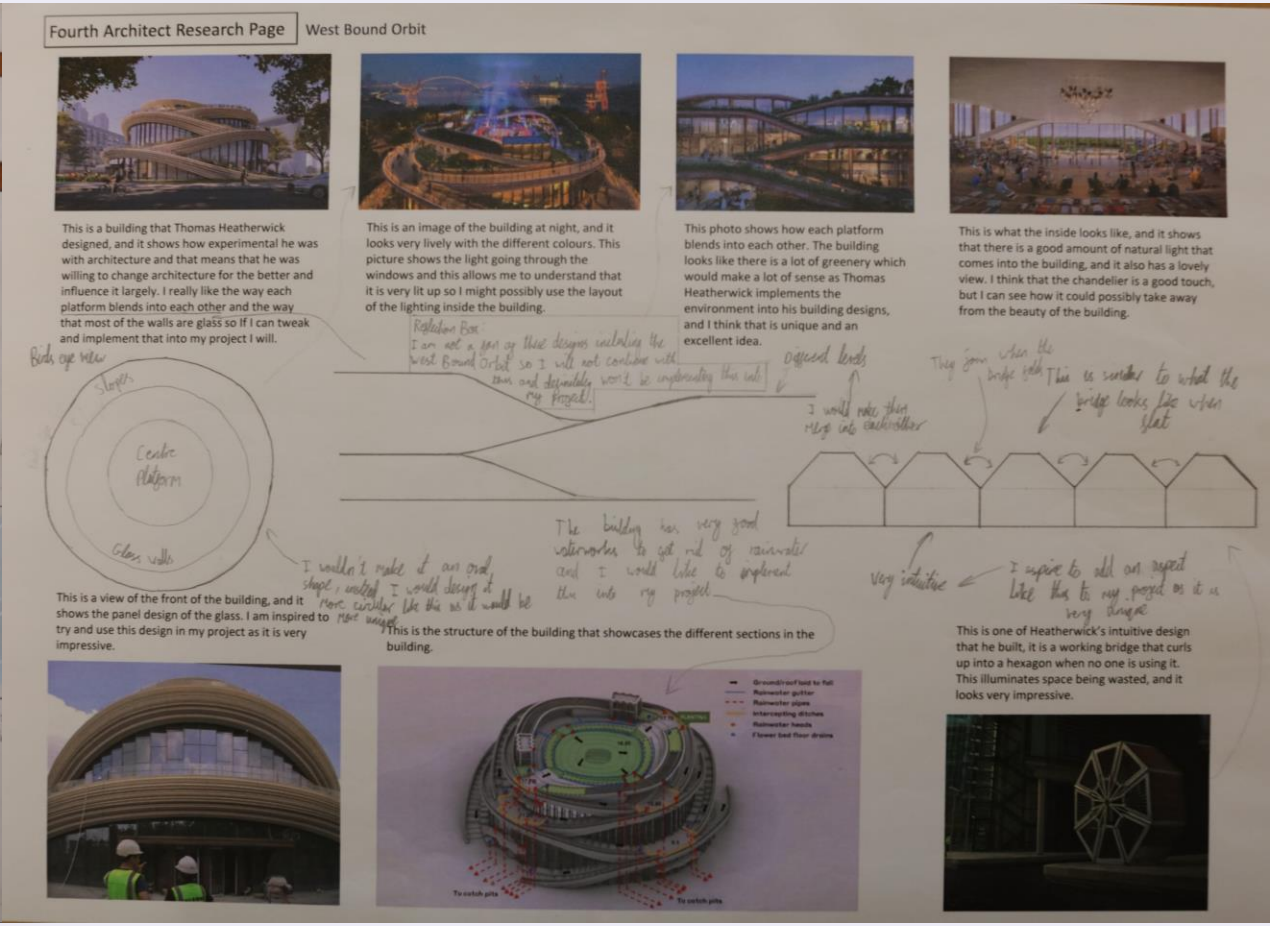

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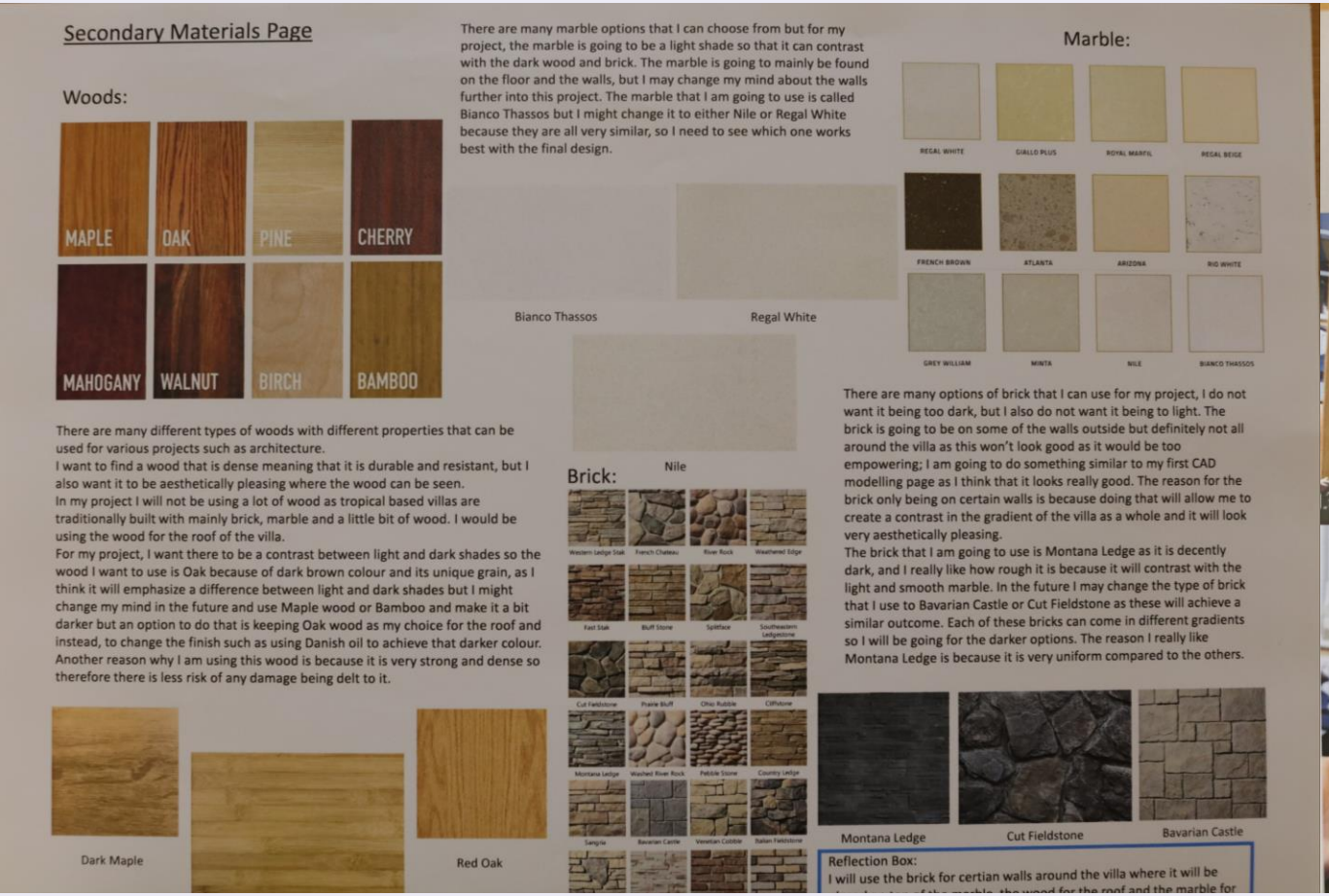


Component 1 Three- Dimensional Design

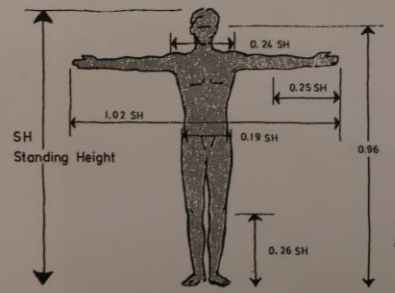
Secondary Ergonomics Page

What are ergonomics?
Ergonomics is the process of designing different objects and environments so that they fit the people who use them.

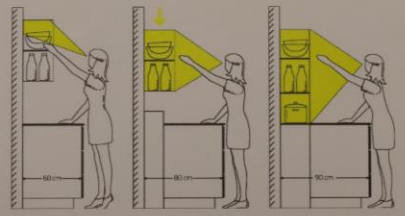
What are ergonomics in a house?
Ergonomics in a home refers to how individuals engage with their furniture and other household items, as well as how they utilize these objects in their daily lives.

Why are ergonomics so important?
Good ergonomics are so important because it makes our lives far easier to live without having to use a lot of energy or cause a strain doing something simple such as when opening a door.

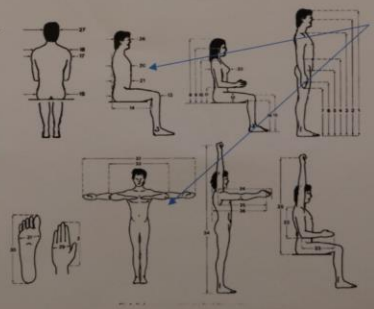
The ergonomics in this image above are perfect because the person does not have to add any extra strain and discomfort when doing something.



This is an example of good ergonomics in a doorhandle. The curvature of the handle matches with the curve of your hand when you open the door meaning that it is very compatible for most people. The reason why



The image above shows how much ergonomics can help in your day-to-day life and how much easier it makes certain tasks. It demonstrates how the placement of the shelves and the length of the table can make things easier which therefore makes it ergonomic.



These are most of the measurements of a person that have to be taken.

LIGHTING FOR YOUR HOME OFFICE

The image above demonstrates how lighting can play a huge part in an office, it is better that the light doesn't shine right into your eyes because then that would be very irritating, but the light also has to allow you to see what you are doing by shining onto that.

The ergonomics of this seat are not good because his back is arched which can make it very uncomfortable if you have to sit there for a long time as it can create aches and cramps on your back.

Reflection Box:
I now know that it is very important to consider ergonomics as it makes peoples day to day lives far easier. To properly get the ergonomics right, I must take a lot of measurements from an averaged hight person or from the client that is going to buy my building.

Primary Ergonomics Page 2

The ergonomics of this are not good as it is head hight, so it is easy to hit your head on it when you are cooking

The ergonomics of this are good because the sliding doors are very tall which allows any tall person through as well as short

The ergonomics of this table are very good as it is hip hight meaning that when you are preparing your food, your back will not hurt as you will not have to lean over

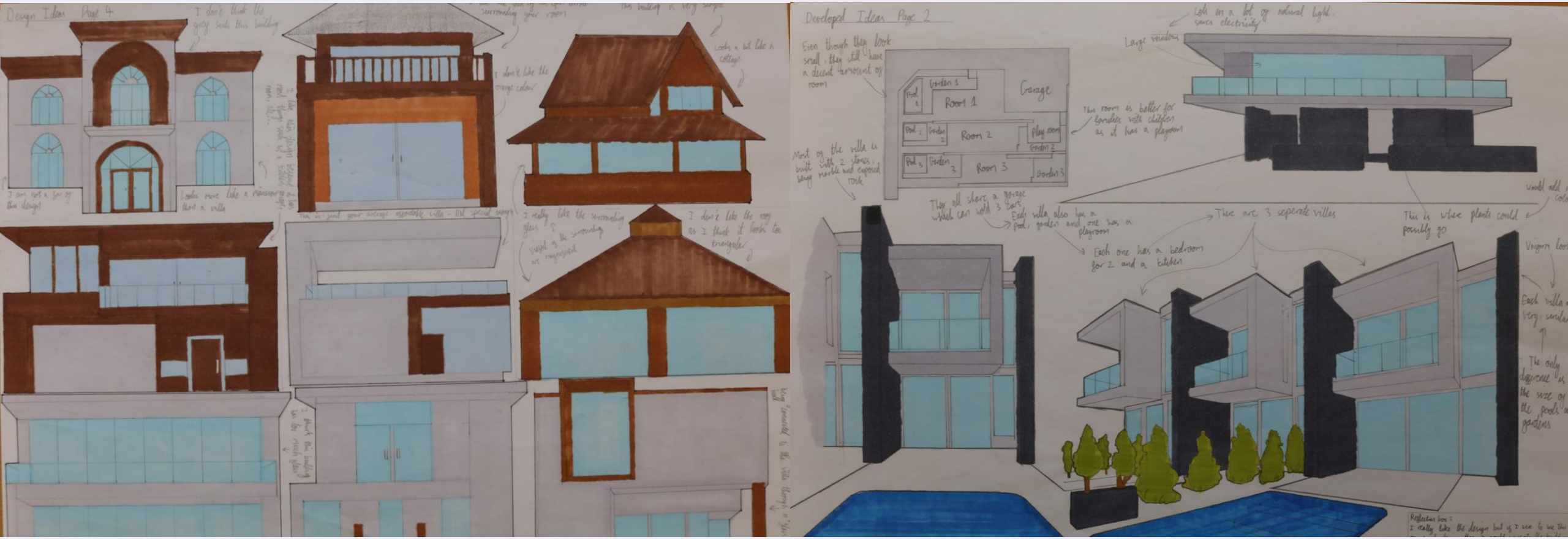
The ergonomics of the handrail are not good as it is bigger than your hand, so it is hard to properly grip, I think that this handrail was made mainly for aesthetics

This is another example of a table that is at the right hight, this table is slightly lower than the first as this table is where you sit down to eat which means it should not be as tall

The ergonomics of this light are very poor because it is so dim, this makes it hard for people to work at this desk as they can't clearly see what they are doing, and this could also hurt their eyes due to straining

These doors are another example of great ergonomics due to them being relatively tall so that people do not hit their head on it

Component 1 Three- Dimensional Design



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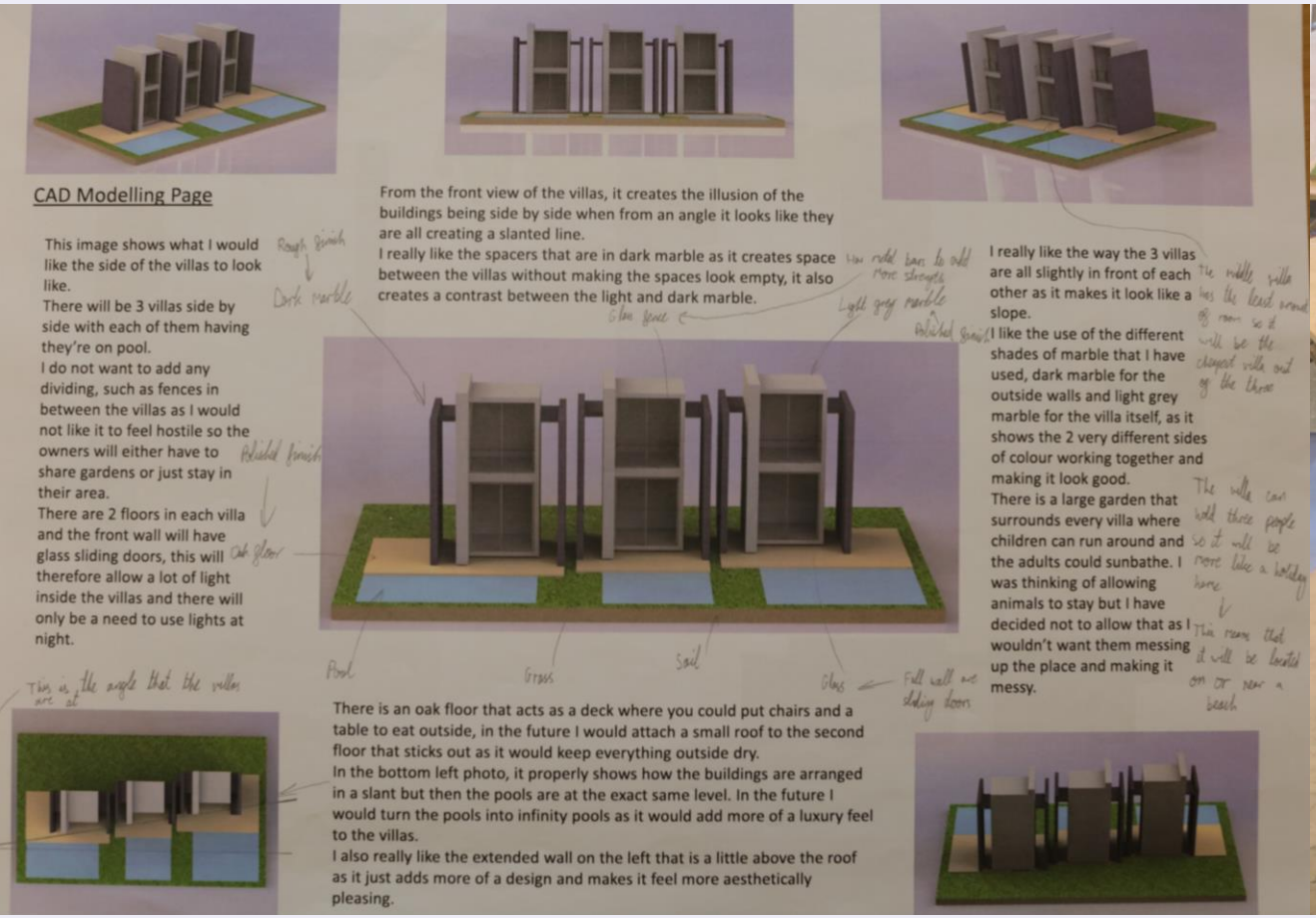


CAD Modelling Page

This image shows what I would like the side of the villas to look like.
There will be 3 villas side by side with each of them having they're on pool.
I do not want to add any dividing, such as fences in between the villas as I would not like it to feel hostile so the owners will either have to share gardens or just stay in their area.
There are 2 floors in each villa and the front wall will have glass sliding doors, this will therefore allow a lot of light inside the villas and there will only be a need to use lights at night.

From the front view of the villas, it creates the illusion of the buildings being side by side when from an angle it looks like they are all creating a slanted line.
I really like the spacers that are in dark marble as it creates space between the villas without making the spaces look empty, it also creates a contrast between the light and dark marble.

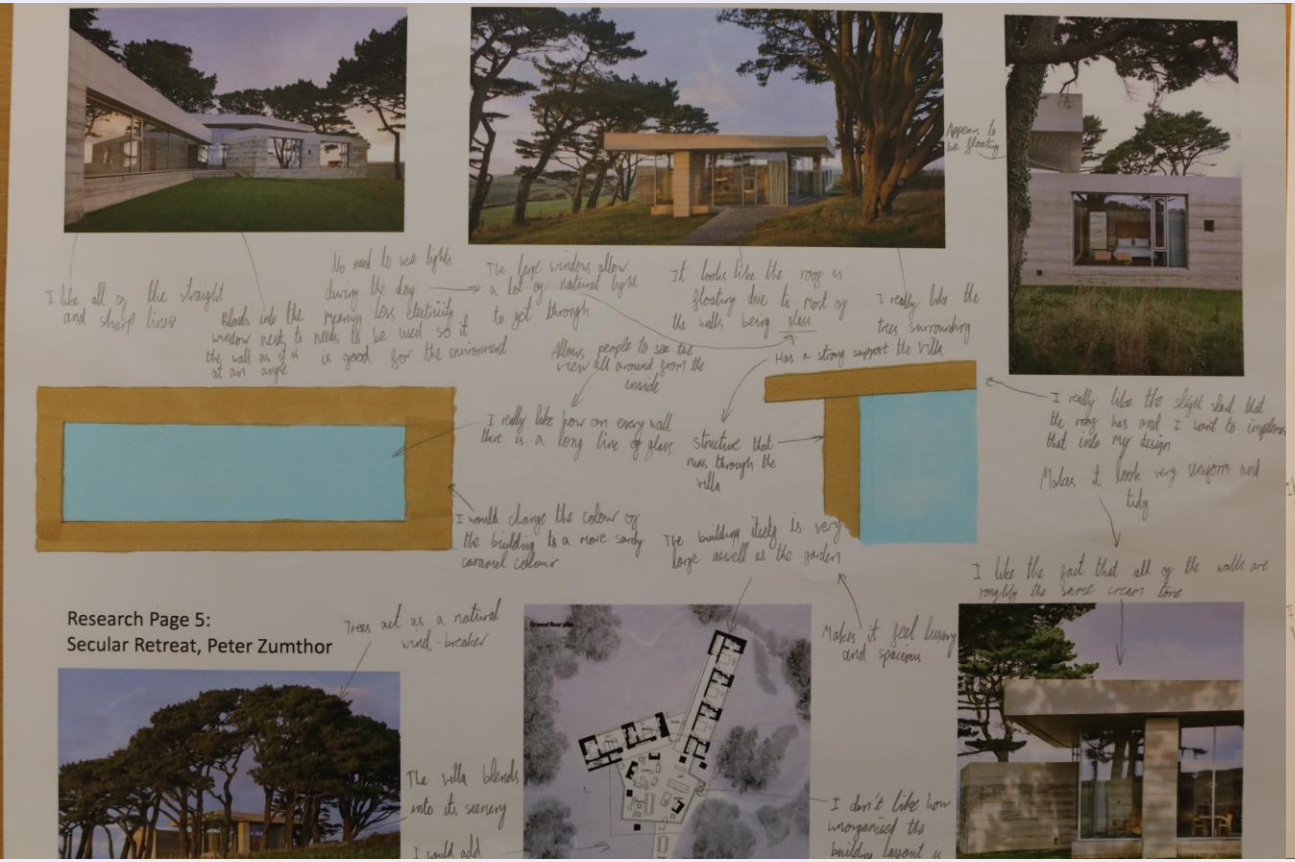
I really like the way the 3 villas are all slightly in front of each other as it makes it look like a slope.
I like the use of the different shades of marble that I have used, dark marble for the outside walls and light grey marble for the villa itself, as it shows the 2 very different sides of colour working together and making it look good.
There is a large garden that surrounds every villa where children can run around and the adults could sunbathe. I was thinking of allowing animals to stay but I have decided not to allow that as I wouldn't want them messing up the place and making it messy.

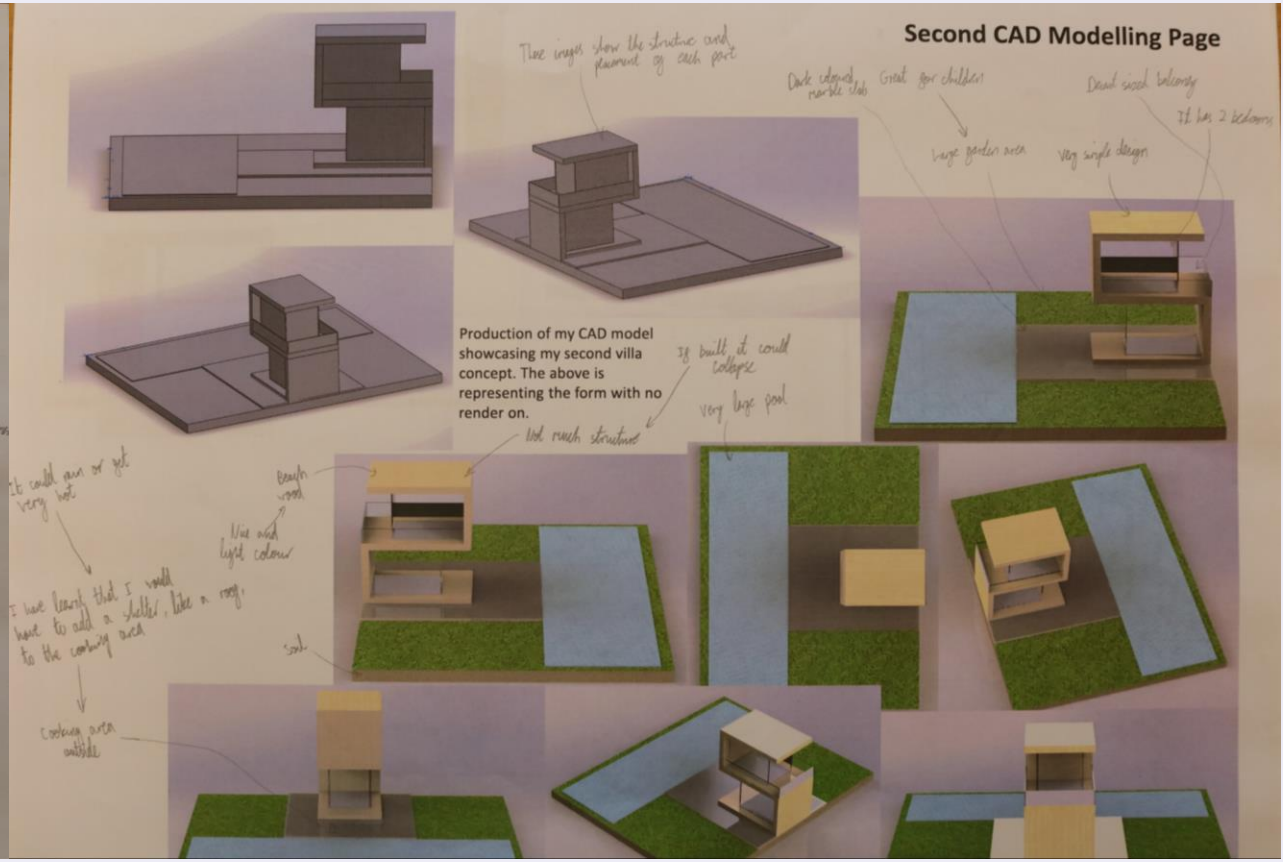
There is an oak floor that acts as a deck where you could put chairs and a table to eat outside, in the future I would attach a small roof to the second floor that sticks out as it would keep everything outside dry.
In the bottom left photo, it properly shows how the buildings are arranged in a slant but then the pools are at the exact same level. In the future I would turn the pools into infinity pools as it would add more of a luxury feel to the villas.
I also really like the extended wall on the left that is a little above the roof as it just adds more of a design and makes it feel more aesthetically pleasing.

Modelling Page

These are my models from the pages; Developed Ideas 1 and Developed Ideas 2.
I went with a plywood model and a foam model, and I found that the plywood model is a lot stronger and looks a lot more realistic so therefore in the future I am going to make the

Component 1 Three- Dimensional Design





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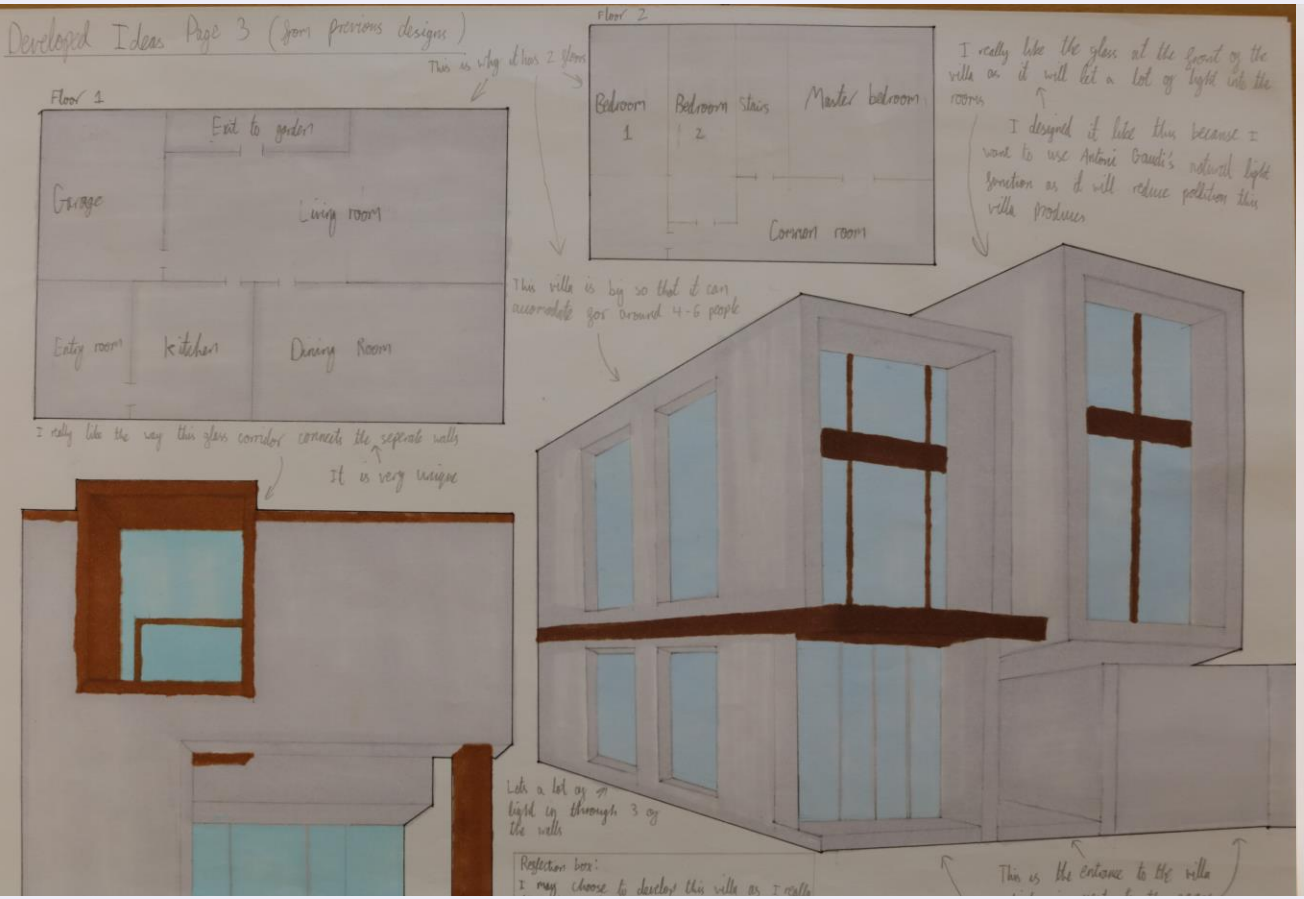

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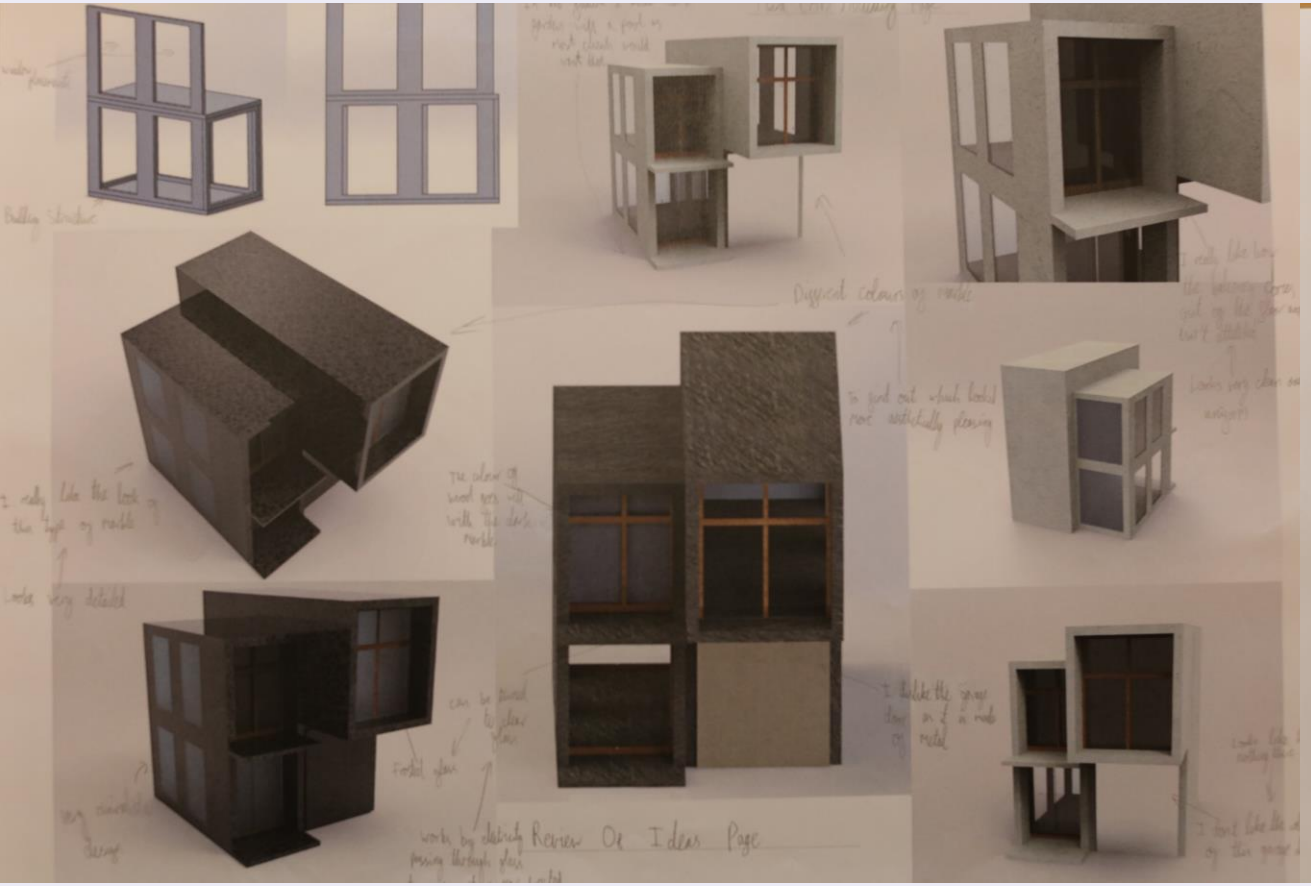
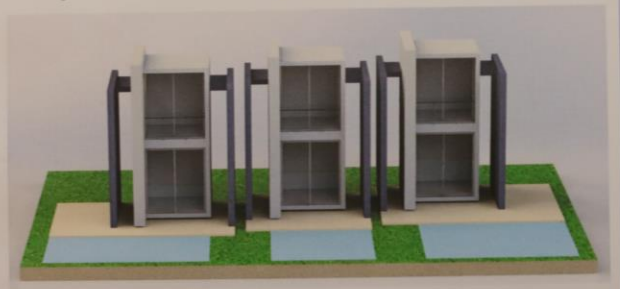


Ideas Review Page 1

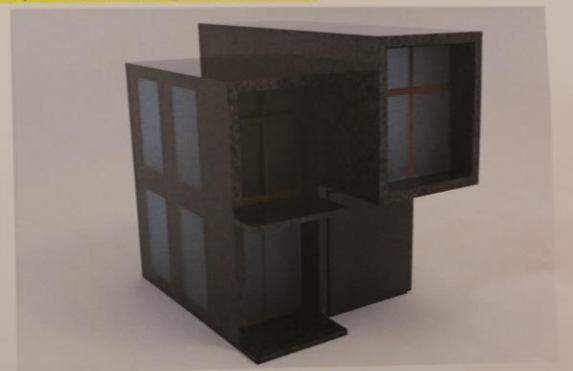
I have selected two of my designs that are different and that could be potential final designs. In this page I am going to further review them and change certain elements in the buildings.

This villa is inspired by Zaha Hadid as it is very luxury and has big crystal glass windows as walls and this was one of Zaha Hadid's main elements that she added to her designs. The main reason for this is because in many villas today, there is a lack of natural sunlight meaning that many people do not get the adequate Vitamin D amount causing people to develop depression as they are always fatigued. I would like to fight this problem.
This villa is also inspired by Thomas Heatherwick due to the strong vertical supports added to each side of the building, these supports also add a distinctive overall geometry compared to other traditional villas. These supports also add an aesthetic colour combination to the villa due to the dark and light shades coming together meaning that it has a functional and aesthetic element to it.



This villa has many positives and negatives.
The biggest positive is that it lets in a lot of light which helps with getting the daily recommended need for vitamin D which can help with many things such as depression. This design can also accommodate for three parties of two meaning that it is great for holidays as the gardens are shared even though each of them have separate pools meaning that it is easy to meet new people.
The main negative is that there are only two rooms being the kitchen and bedroom but there are many ways to overcome this being that the clients can buy a barbeque to put in the garden so that they can cook outside, and this will make it seem like they have more space. The reason the rooms are small is because this is only meant to be a holiday home and not a full-time home as it will be located near or on the beach.
In conclusion, these villas are great because all together they can hold a lot of people, and they have a large outdoor area. I feel the natural stone supports either side of the villas

This villa has a very minimalistic and modern design featuring clean lines, large glass windows and the use of marble and stone walls. This design integrates with its surroundings very easily. This building is inspired by modernistic architects that are known for their simplistic designs. An example of this could be Tadao Ando who focuses on simple aesthetics with strong geometrical shapes. Another example of an architect that this design is inspired by is John Pawson as he uses simple forms and natural materials, like Antonio Gaudi, which therefore creates the illusion of a space being very tidy and uncluttered. The last example of an architect is David Chipperfield who also includes strong simple forms with a restrained use of materials which therefore focuses on the relationship between the building and its environment.



This villa has many positives but not so a lot of negatives.
A positive is that it has a simplistic but aesthetic design from the front but once you are in the garden the building turns out to have a lot more elements to it and I feel like that is a great touch.
The biggest positive is that it is a very large building meaning that it can take in a large family of six people with the probability of being able to accommodate for more than that if the clients bought simple put-up beds that they can put into each room as the rooms are very large.
A negative is that this isn't a villa that would be located on the beach as it is very big but that isn't a big issue as it can be located around a ten-minute walk from the beach instead.
In conclusion, I prefer this villa to the first one because of its different in size and practicality with being able to accommodate for more people in each room. The only thing is that this villa doesn't have a pool, but this can easily be overcome by installing a small pool into the garden. If I were to re-design the layout of this villa, I would definitely implement an area for a large pool.

Reflection Box:
I really like both designs, but I am going to select the first design to continue as I prefer the look of it with the dark marble walls either side of the buildings. I can also develop it a lot by adding different elements such as a fence with a tall bush so that it feels more private, garages and I can make its surroundings look a lot more complex and interesting. The main thing that I will develop is the size of

Component 1 Three- Dimensional Design

Ideas Review Page 2

Here are another 2 designs that I am going to review so that it makes it easier for me to choose which out of the 4 in total I would like to choose for my final project. These 2 designs are very different as one is a bungalow, and the other is a tall villa with a pool.

This bungalow has a very simplistic design and would be found amongst a small forest as I think that it would blend into the environment very well. It only has one floor, but the living room and bedroom are located in the same room and the kitchen is hidden in a small separate room. I really like how it has stairs that look like a ladder leading to the patio where my customers could have some sort of sports area such as adding a basketball hoop. A disadvantage is that it is very small, and many people may not like that which therefore limits who I can and can't sell this building to; my target audience is a couple with no children who are young as this bungalow will not cost as much as a regular villa or house.

I feel like my customers will appreciate the simplicity of the building as that is what helps it blend into the nature of a forest

This villa has many positives and some negatives. The positives are that it has a simplistic design that is aesthetically pleasing and is very environmentally friendly as it is mainly built with wood and not much cement (other than the floor) is needed but because of this the bungalow might be quite flimsy so I will probably have to change that is I choose to work on this design as my project.

The negatives are that it is very small and can only fit 2 people as there is only one room that has the bedroom with the living room and kitchen as previously stated. Another disadvantage is that it is very simple, and the roof is very low so many people may not like it, especially if they are tall.

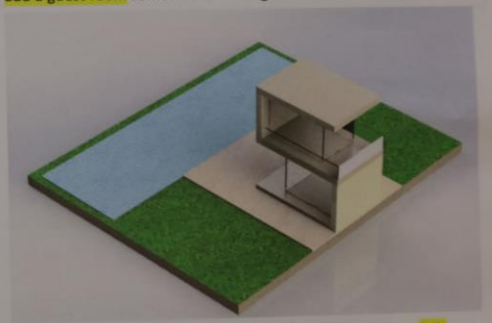
In conclusion, I am not a big fan of this bungalow as it is a bit too simple and basic to do this for my project as I feel I

Reflection Box:
I do not like both of these villas so I will not be continuing them, I feel that I can do much better for my clients and that is what I would

This is the last design that I will review.

This villa is much bigger than the previous bungalow but still small for a traditional villa. It is inspired by the 'S' shape, and this is why it allows for 2 floors.

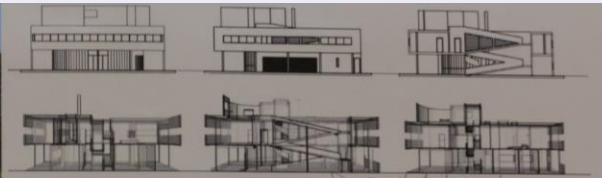
This villa would be found in a tropical country such as one in Bali and it will be overlooking the sea from a cliff as Bali has many different cliffs. The one bedroom is located on the top floor and the kitchen is on the first floor; there is no living room and the reason for this is because it has a large garden with a massive pool and patio. If I were to develop this villa then I would add a roof that would slide over the patio so that my customers can leave things there such as a barbeque and even a TV; this means that when they are not using it, they can retract the roof via a remote so that it can please everyone. The design is simplistic but not too basic so that it can appeal to more people. Just like the bungalow, this building can only accommodate for a couple or one person as it is small but if I were to develop it later then I would add a guest room somewhere in the garden where it is not connected to the main building.

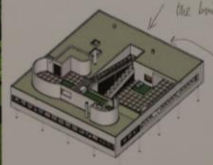


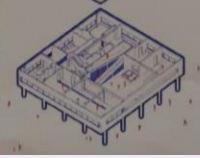
This villa has more positives and less negatives than the bungalow as it is a full-sized villa. I think this villa can work for my targeted audience because I am looking for a family of 4 or a couple. This villa has a huge pool, and this is great because it adds to the look and the experience that you will get from this villa. A negative of this villa is that it is built with wood and if it were to be built then it would just collapse as it doesn't have much structure so if I were to develop it, then the first thing I would do is add pillars so that it can add more structure to the building. This villa is made out of wood (for the main building), marble (for the patio floor) and glass (for the balconies).

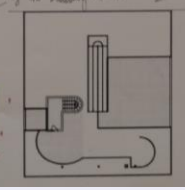
In conclusion, I will not be continuing with this villa design for my project as it is too basic and small. I feel that my target audience will not like it and therefore no one will be willing to

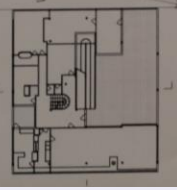
Research page 6
Le Corbusier
Villa Savoye

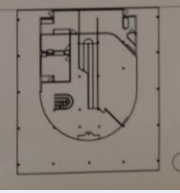


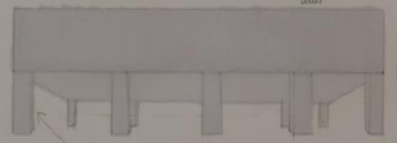












Component 1 Three- Dimensional Design

Specification Page

Purpose:
- These villas should be able to accommodate for a family of 4 to 6 people as it is going to be a holiday home in Asia, Thailand.
- It should also stand out amongst the surrounding villas as it will be built with luxury materials such as marble, high quality wood and stone.

Function:
- They are going to have an aspect of Gaudi implemented into them as Gaudi used techniques to do things naturally such as his natural ventilation as there was no air conditioning during his time.
- He also used natural lighting so that light came into the building at certain times throughout the day and I will be implementing these as it will be environmentally friendly, and this will be a good unique aspect of the villas and therefore it will appeal to more people.

Materials:
- The materials are going to be high quality so that it can give the customer a luxury feel for the villa such as the Bianco Thassos marble that is shown in my secondary research materials page.
- I have selected the following materials that are found in a lot of villas in Asia being, a Bianco Thassos marble for the building, smooth Montana Ledge stone walls for the supports on either side of the villa and a light-coloured wood which will probably be Red Oak or Dark Maple along with regular glass for the windows and frosted glass for the balconies. I believe that all these different materials and shades will come together well and create an impressive contrast.

Size:
- This villa will be around 5,000 to 6,000 square feet as this is a bit above the average villa size in Asia.
- The garden is going to fill out a lot of the land, but the villa itself will also be big, probably around 1/3 of the total land. The reason for needing a lot of land is so that a large pool and jacuzzi can be added. The land will be evenly divided by 3 other villas and bushes will mark where the land ends for each villa.

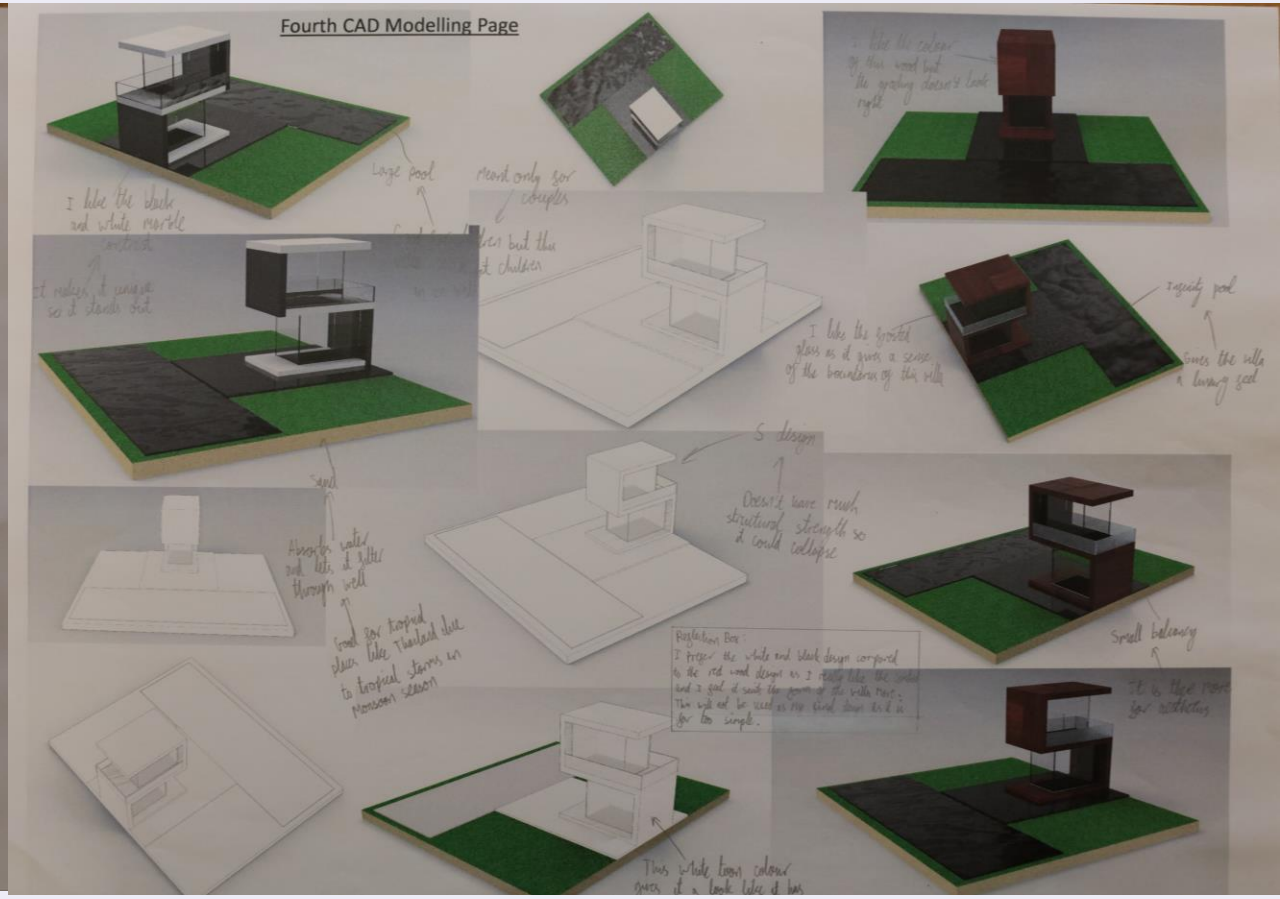
Quality:
- This villa is going to be built out of the highest quality materials, that are found in the secondary research materials page, as already stated but that won't be the only thing that is high quality, the building quality will also be well above the standard which will therefore make the customer feel safe when a tropical storm occurs, and it will also add that luxury feeling.

Cost:
- The cost for this villa is going to be expensive because of how luxurious it will be and the amount of land needed; with everything added up it will be in between 1 to 2 million pounds, so this villa is meant for wealthy people as they will be the ones who can afford it. The reason why I think people will pay this amount for the villa is because it will be built in a place in Thailand named Phuket which is a very popular tourist area so the villa will significantly go up in price meaning that if the customer chose to sell it in 10 years then they will get a high return on their investment, the cost for renting the villa will also be very high due to the location meaning that the customer could rent it out for around 15,000 pounds a month all year round and 20,000 in high season which is usually in summer and Christmas.
- Also, the bushes and plants will be looked after by gardeners that the homeowners will pay monthly if they want that service; it will be cheap as labour in Thailand is cheap.

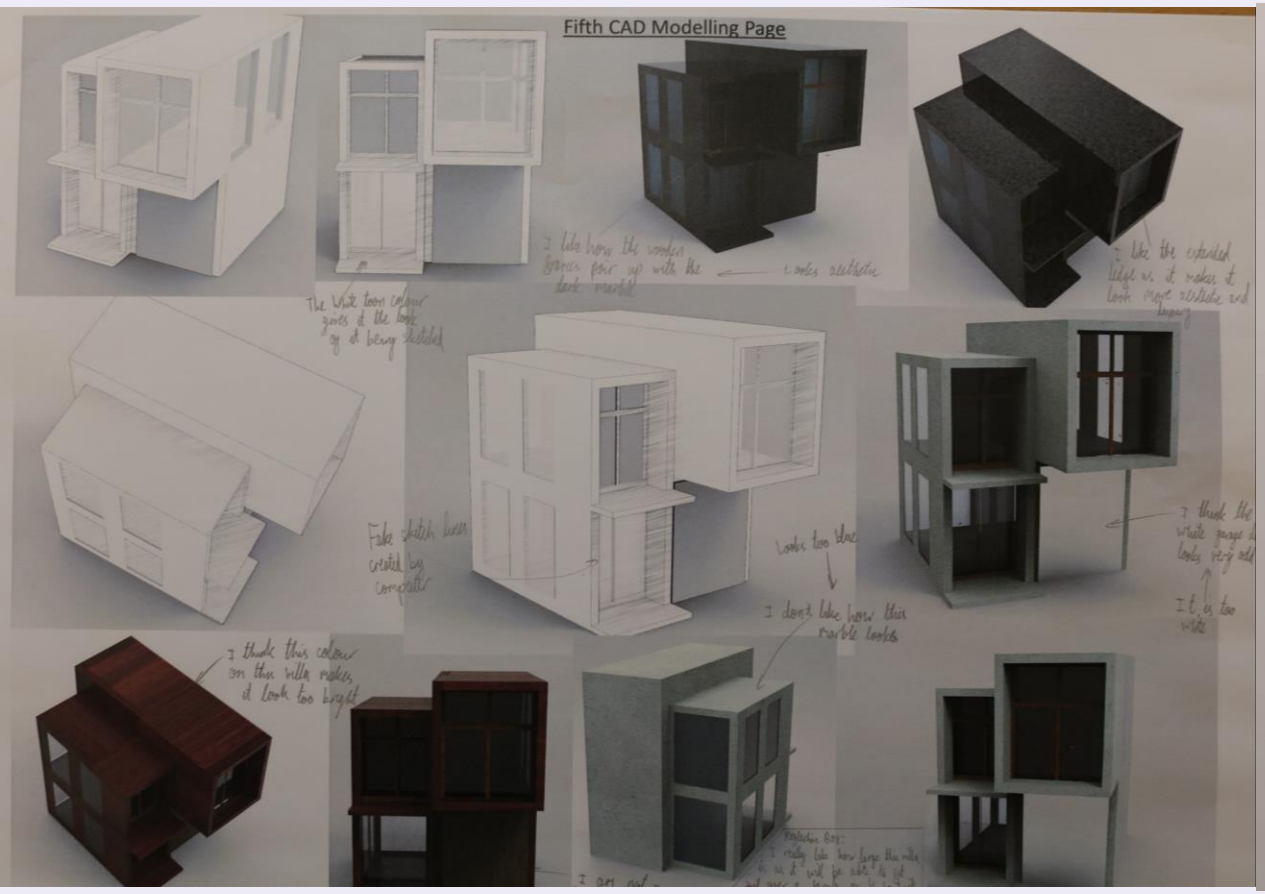
Sustainability:
- By implementing Gaudi's techniques, this villa is going to be very sustainable and environmentally friendly as it will have certain functions such as natural ventilation because the windows will be positioned in a specific way meaning the building won't get too hot, but it will also have natural lighting as there are going to be very large crystal windows put into the villa.
- I will also encourage the clients to put in palm trees and plants to help with the CO2 emissions as they are very high in Thailand; this will filter the air around the villa.

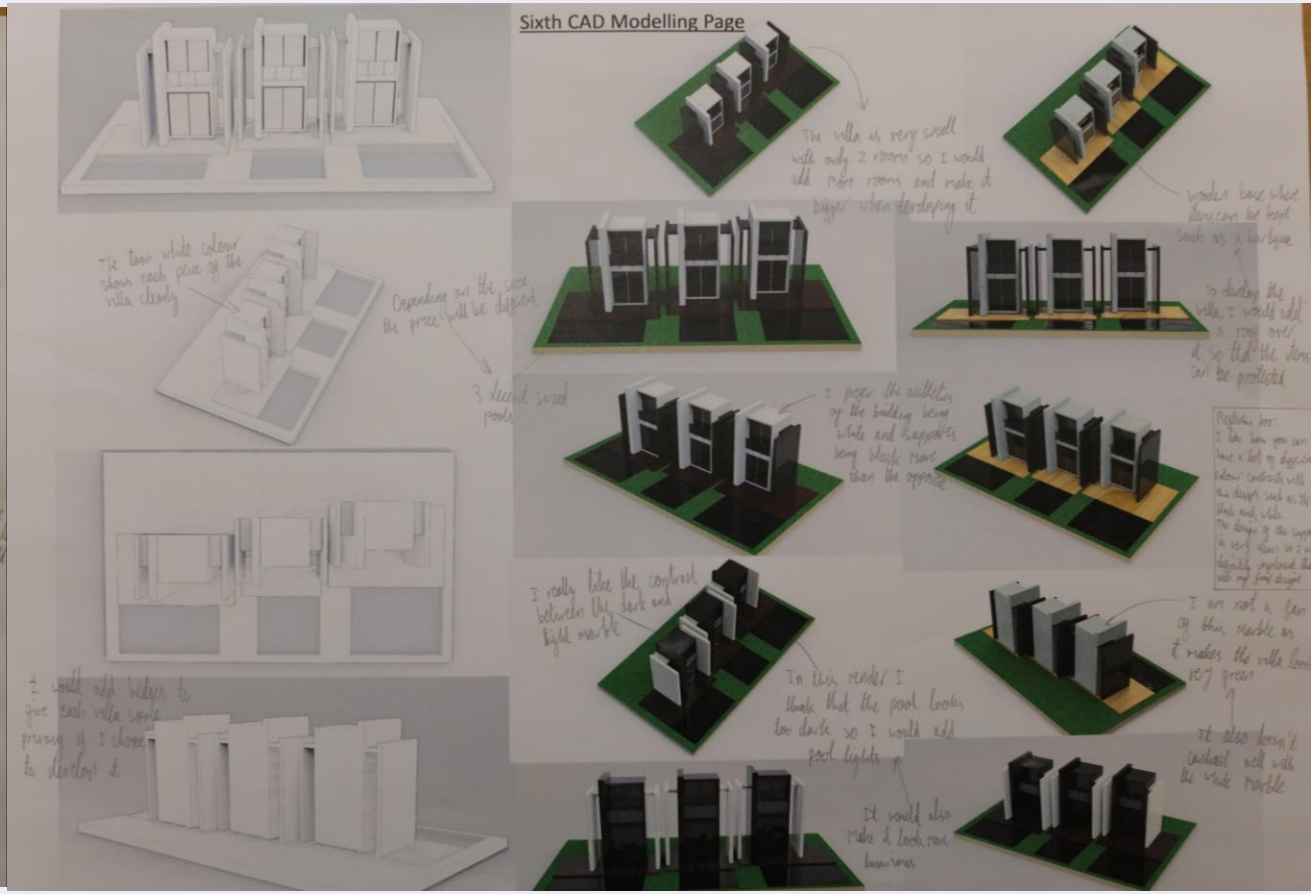
User Requirements:
- This building must be luxurious, from the materials used to the location to the design as it will be unique and no-one else will have one.
- It must have Gaudi's techniques implemented so this will [illegible] and the lighting as there will be natural

Fourth CAD Modelling Page



Component 1 Three- Dimensional Design





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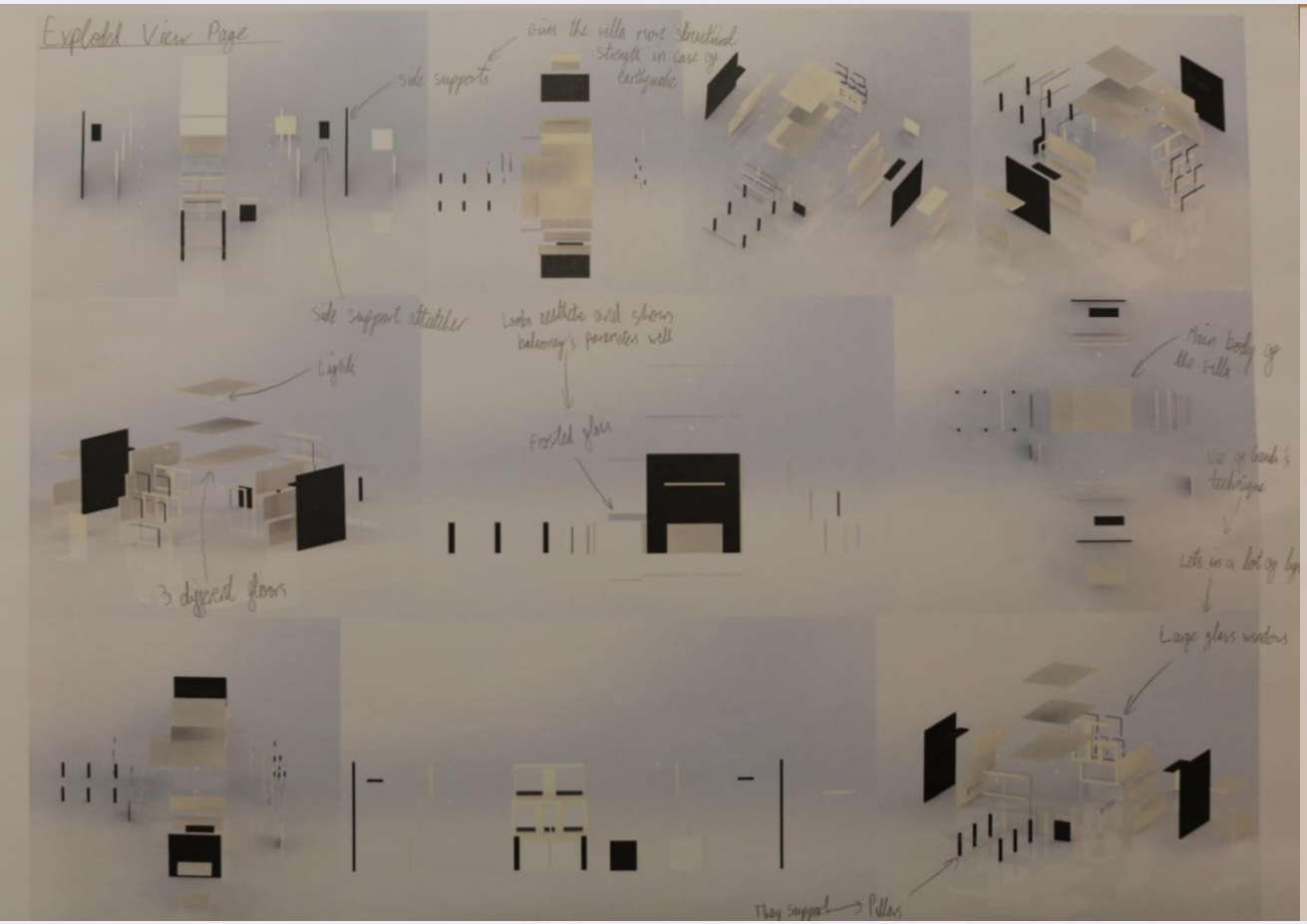

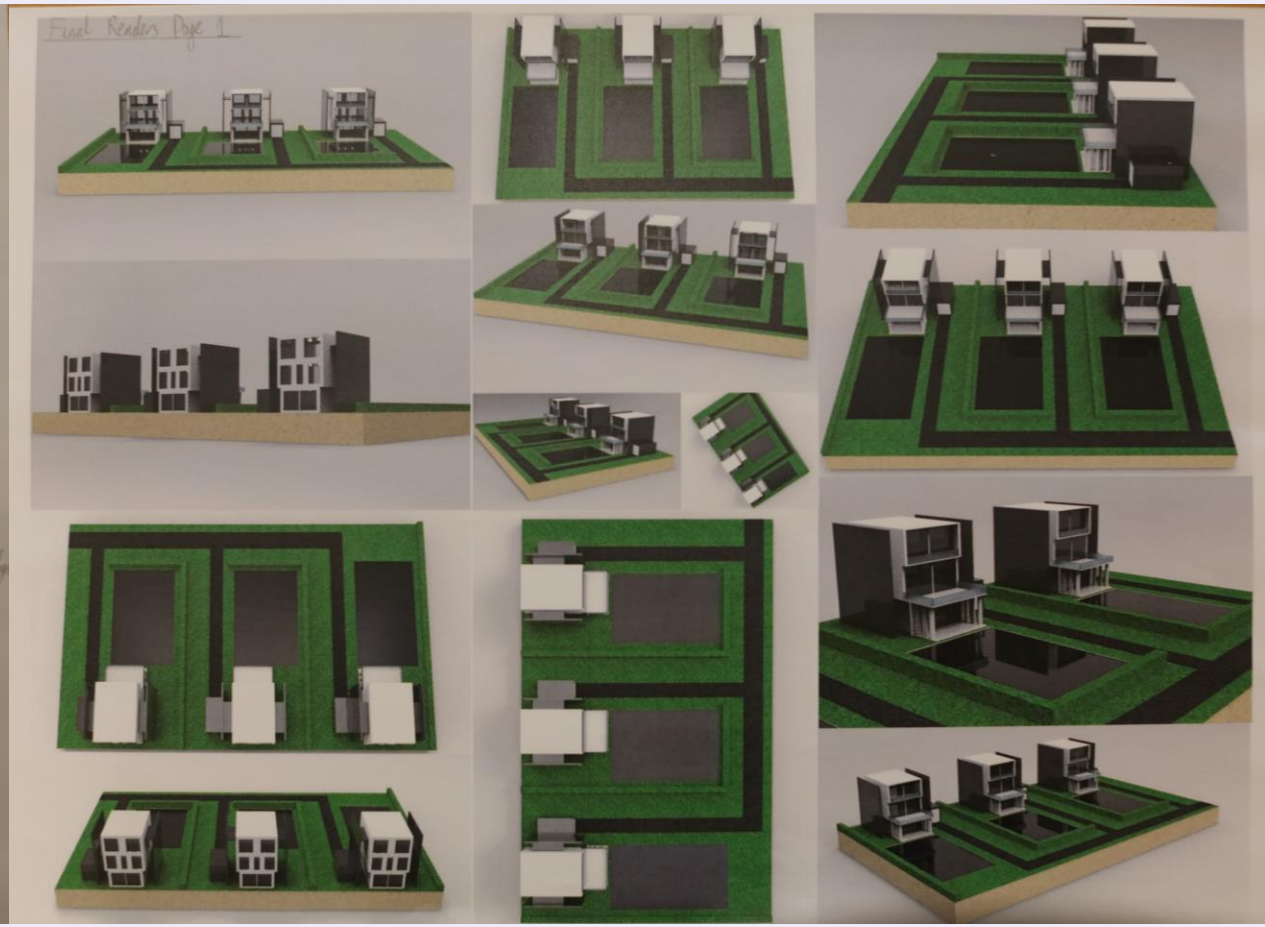

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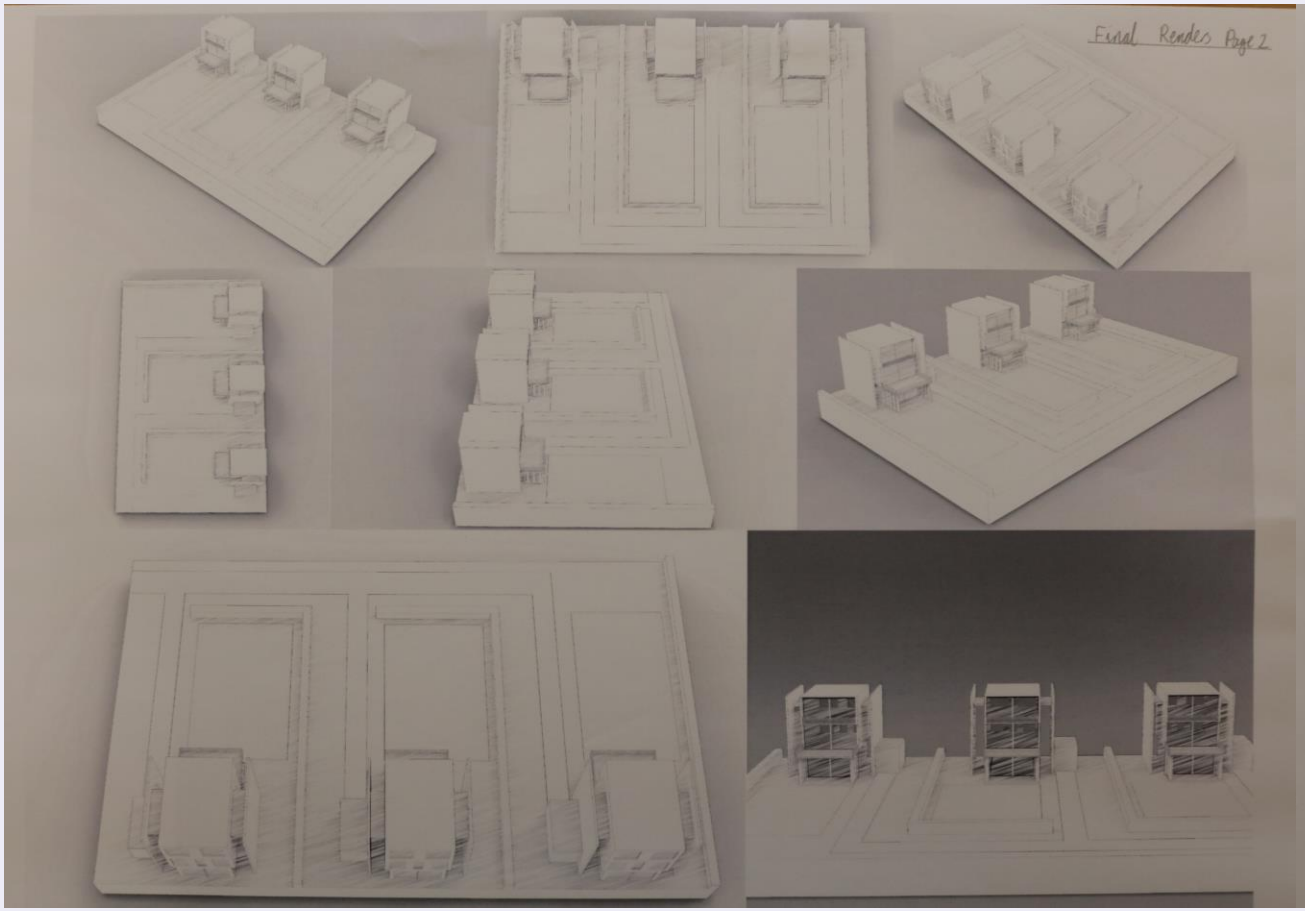

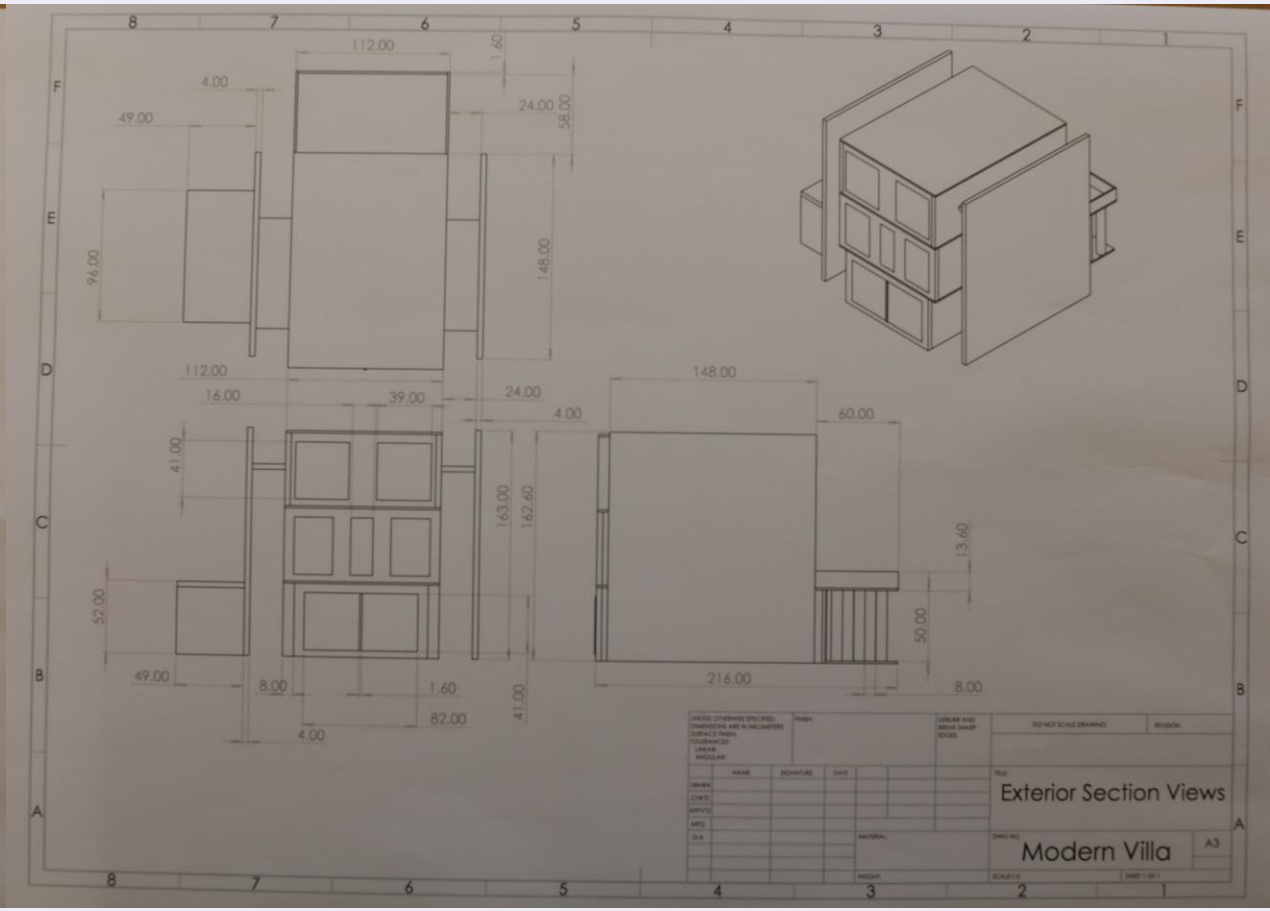

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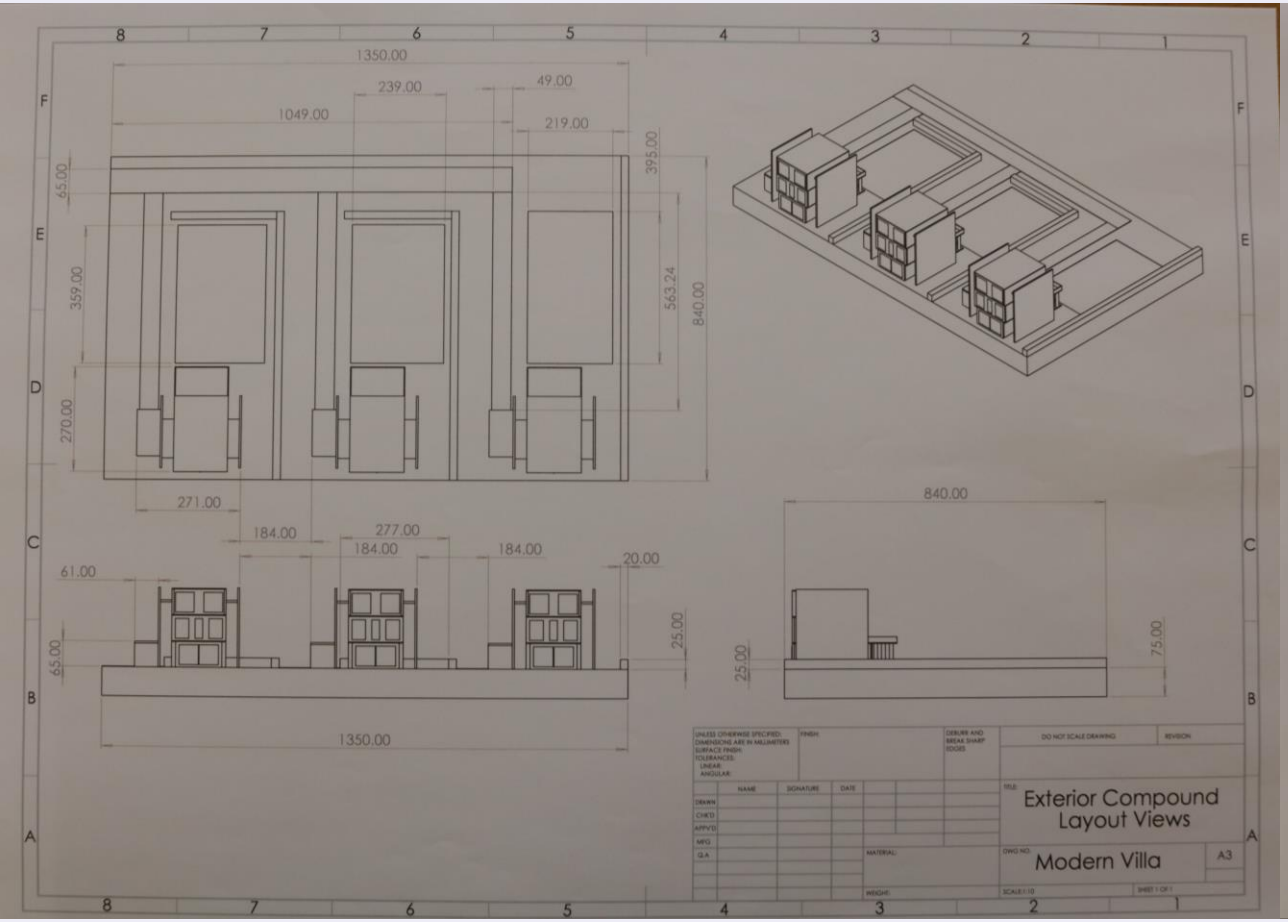

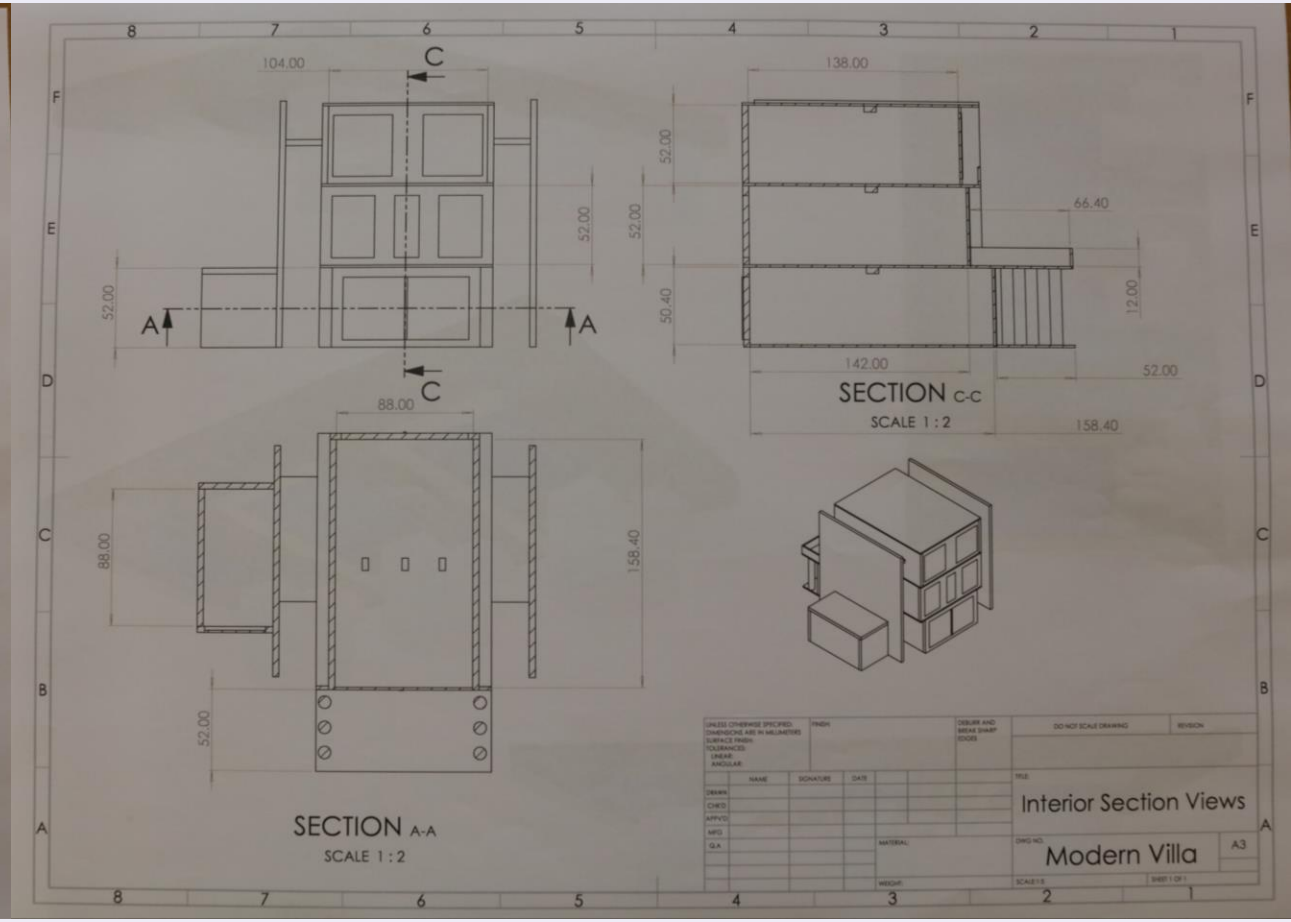

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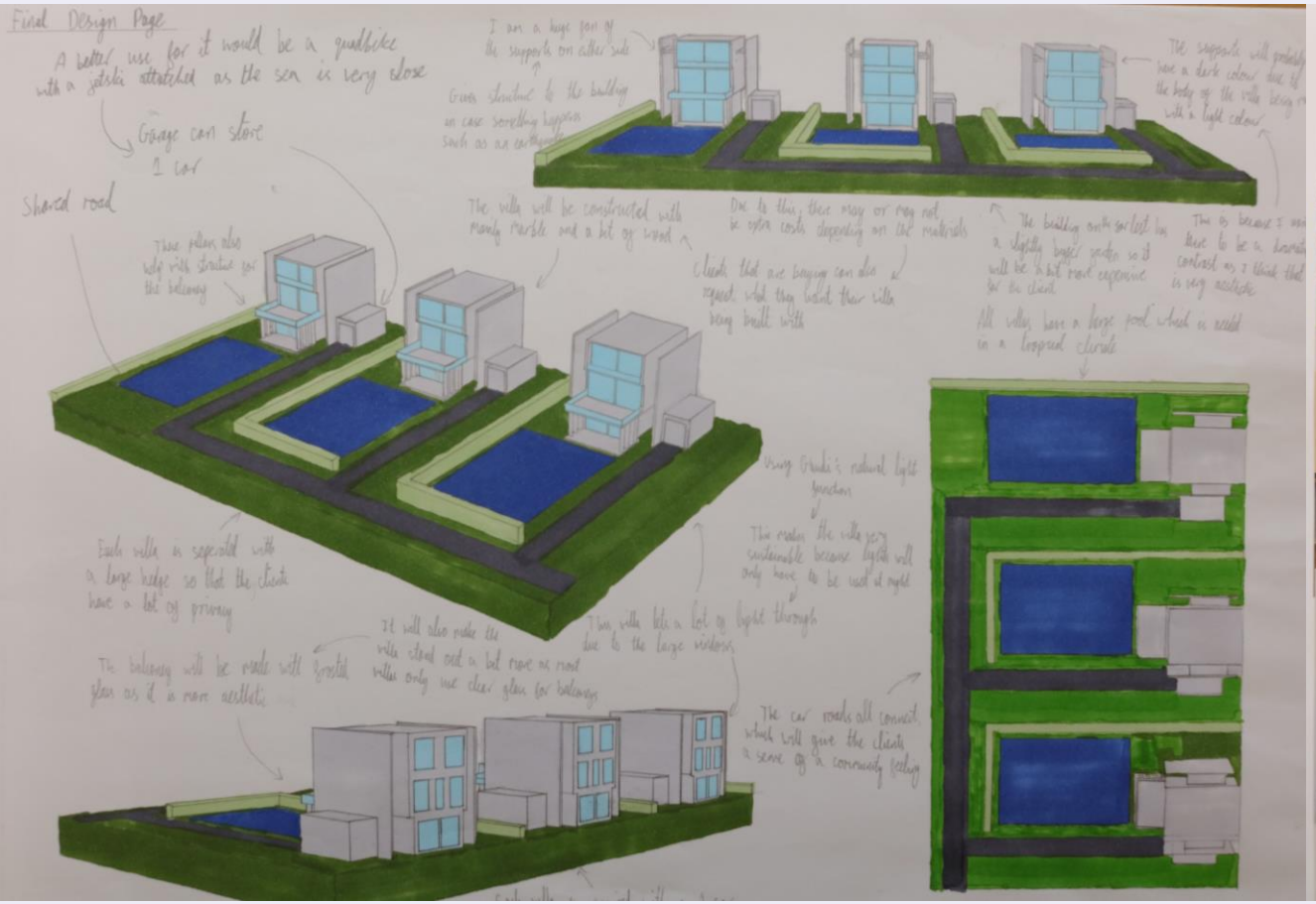

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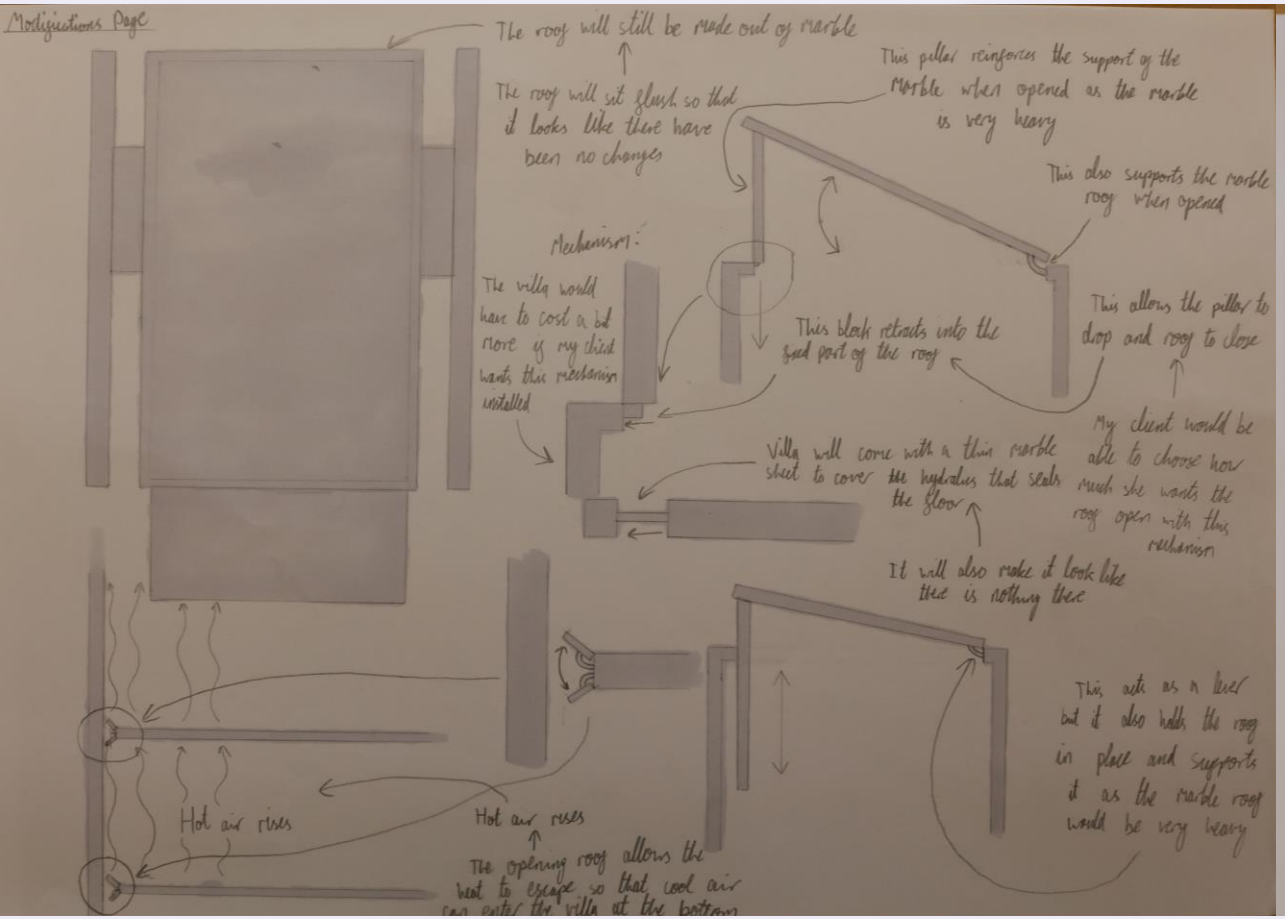
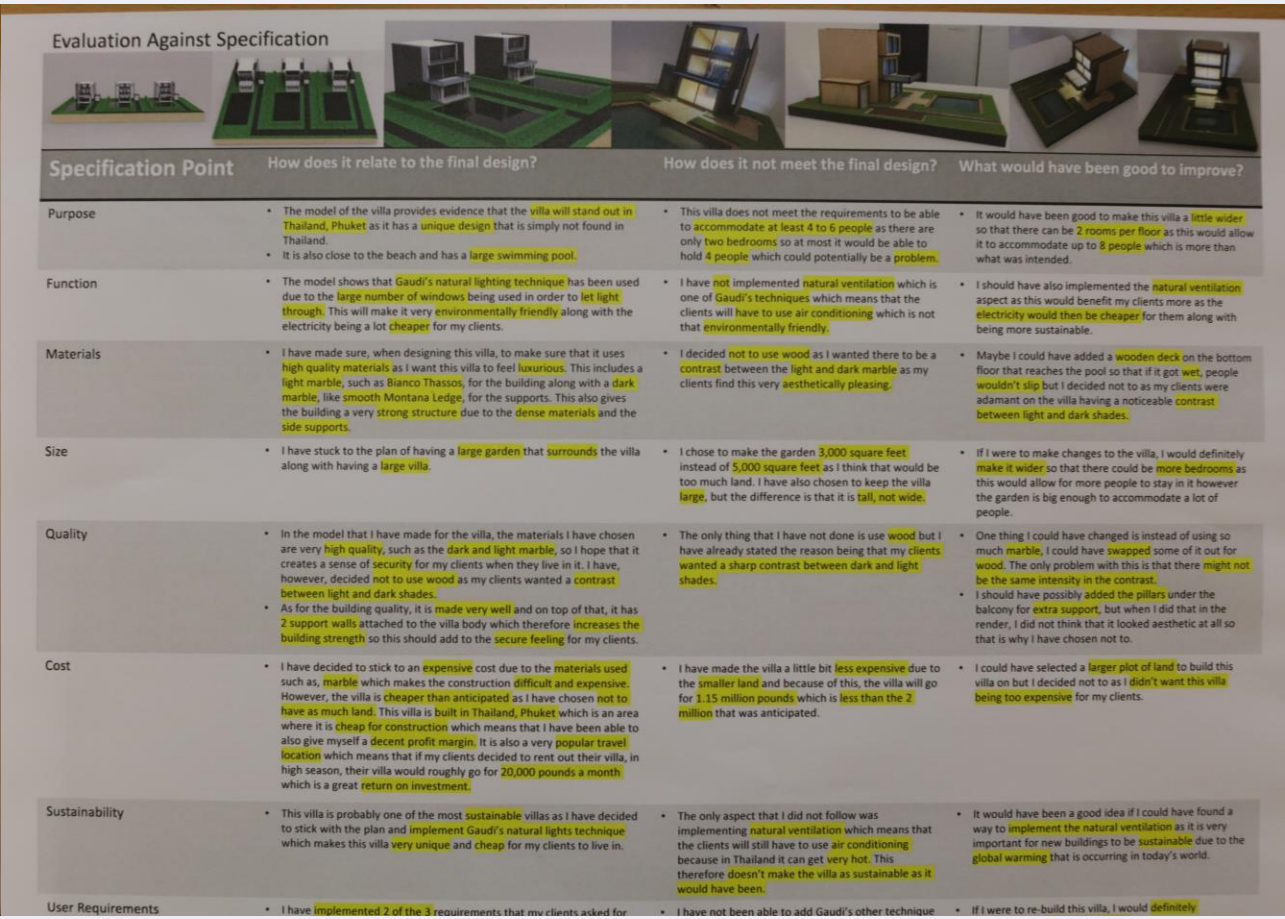




Evaluation Against Specification

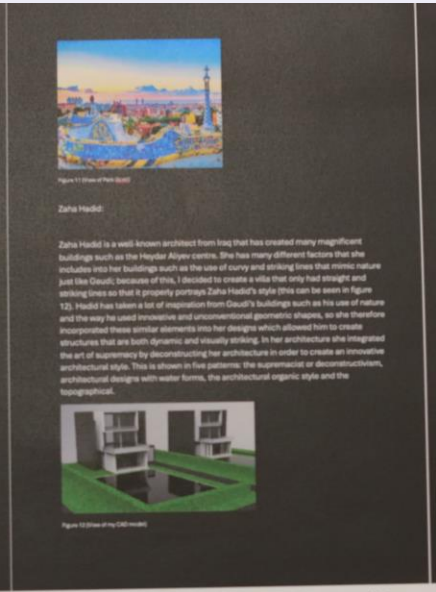
Specification Point	How does it relate to the final design?	How does it not meet the final design?	What would have been good to improve?
Purpose	• The model of the villa provides evidence that the villa will stand out in Thailand, Phuket as it has a unique design that is simply not found in Thailand. • It is also close to the beach and has a large swimming pool.	• This villa does not meet the requirements to be able to accommodate at least 4 to 6 people as there are only two bedrooms so at most it would be able to hold 4 people which could potentially be a problem.	• It would have been good to make this villa a little wider so that there can be 2 rooms per floor as this would allow it to accommodate up to 8 people which is more than what was intended.
Function	• The model shows that Gaudi's natural lighting technique has been used due to the large number of windows being used in order to let light through. This will make it very environmentally friendly along with the electricity being a lot cheaper for my clients.	• I have not implemented natural ventilation which is one of Gaudi's techniques which means that the clients will have to use air conditioning which is not that environmentally friendly.	• I should have also implemented the natural ventilation aspect as this would benefit my clients more as the electricity would then be cheaper for them along with being more sustainable.
Materials	• I have made sure, when designing this villa, to make sure that it uses high quality materials as I want this villa to feel luxurious. This includes a light marble, such as Bianco Thassos, for the building along with a dark marble, like smooth Montana Ledge, for the supports. This also gives the building a very strong structure due to the dense materials and the side supports.	• I decided not to use wood as I wanted there to be a contrast between the light and dark marble as my clients find this very aesthetically pleasing.	• Maybe I could have added a wooden deck on the bottom floor that reaches the pool so that if it got wet, people wouldn't slip but I decided not to as my clients were adamant on the villa having a noticeable contrast between light and dark shades.
Size	• I have stuck to the plan of having a large garden that surrounds the villa along with having a large villa.	• I chose to make the garden 3,000 square feet instead of 5,000 square feet as I think that would be too much land. I have also chosen to keep the villa large, but the difference is that it is tall, not wide.	• If I were to make changes to the villa, I would definitely make it wider so that there could be more bedrooms as this would allow for more people to stay in it however the garden is big enough to accommodate a lot of people.
Quality	• In the model that I have made for the villa, the materials I have chosen are very high quality, such as the dark and light marble, so I hope that it creates a sense of security for my clients when they live in it. I have, however, decided not to use wood as my clients wanted a contrast between light and dark shades. • As for the building quality, it is made very well and on top of that, it has 2 support walls attached to the villa body which therefore increases the building strength so this should add to the secure feeling for my clients.	• The only thing that I have not done is use wood but I have already stated the reason being that my clients wanted a sharp contrast between dark and light shades.	• One thing I could have changed is instead of using so much marble, I could have swapped some of it out for wood. The only problem with this is that there might not be the same intensity in the contrast. • I should have possibly added the pillars under the balcony for extra support, but when I did that in the render, I did not think that it looked aesthetic at all so that is why I have chosen not to.
Cost	• I have decided to stick to an expensive cost due to the materials used such as, marble which makes the construction difficult and expensive. However, the villa is cheaper than anticipated as I have chosen not to have as much land. This villa is built in Thailand, Phuket which is an area where it is cheap for construction which means that I have been able to also give myself a decent profit margin. It is also a very popular travel location which means that if my clients decided to rent out their villa, in high season, their villa would roughly go for 20,000 pounds a month which is a great return on investment.	• I have made the villa a little bit less expensive due to the smaller land and because of this, the villa will go for 1.15 million pounds which is less than the 2 million that was anticipated.	• I could have selected a larger plot of land to build this villa on but I decided not to as I didn't want this villa being too expensive for my clients.
Sustainability	• This villa is probably one of the most sustainable villas as I have decided to stick with the plan and implement Gaudi's natural lights technique which makes this villa very unique and cheap for my clients to live in.	• The only aspect that I did not follow was implementing natural ventilation which means that the clients will still have to use air conditioning because in Thailand it can get very hot. This therefore doesn't make the villa as sustainable as it would have been.	• It would have been a good idea if I could have found a way to implement the natural ventilation as it is very important for new buildings to be sustainable due to the global warming that is occurring in today's world.
User Requirements	• I have implemented 2 of the 3 requirements that my clients asked for.	• I have not been able to add Gaudi's other technique	• If I were to re-build this villa, I would definitely

Component 1 Three- Dimensional Design

3rd Party Feedback

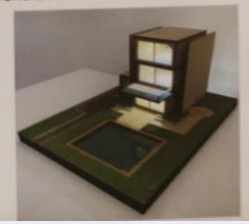
Specification Point	How does it relate to the final design?	How does it not meet the final design?	What would have been good to improve?
Client 1 & 2 – David and Kate Llamas (Dad and Mum) - Owners	• It is close to the beach in a tropical country being Thailand, this is evident in the building design due to the large windows that can open. • The villa also has implemented into it, Gaudi's technique of natural sunlight which will help us with paying less in electricity.	• The villa was meant to be able to have up to 6 people, but this was not possible as the villa has 3 floors, and the first floor is being used as the lounge area as the cooking appliances will be outside. • Gaudi's natural ventilation technique was not implemented which means that air conditioning will have to be used which is bad for the environment and will cause us to have to pay more for air conditioning.	• It would have been a good idea to make the villa a little bit bigger as I am worried that it could be a little bit cramped inside it. • More of Gaudi could have been implemented such as the natural ventilation. Another thing of Gaudi's designs that could have been used is his colourful ceramic tile design on the side walls or a living animal could have been designed as a part of the house; this would make it look a little bit more like Gaudi's designs.
Client 2 – Ted Cowin (Business, Maths and Economics Student)	• The building has Gaudi's natural lighting technique implemented into it which will help with saving money in the long-term. • The villa has been built to accommodate a family of 4 and is equipped with a swimming pool.	• Zaha Hadid's flowing line designs that are used in buildings such as the Heydar Aliyev Center have not been used in this design. This is evident as the villa only displays straight lines. • The building can't accommodate 6 people which means that Theo has designed it too small. Maybe he should have made the villa wider so that each floor could have 2 bedrooms instead of one.	• I feel like Zaha Hadid has been forgotten as nothing of hers has been implemented anything from her.
Client 3 – Mingyi Yang (Maths, Further Maths, Economics and Physics Student)	• You have done a good job at making sure that all of the materials that have been used are premium such as the light and dark marble. This is good because it makes sure that there is a luxury feeling which is what I wanted. • You have also managed to keep the dramatic contrast between the marbles	• The balcony doesn't have much support which could cause it to collapse so I think that you should have added the pillars even if it takes from the aesthetic look. • The garden is a lot smaller than anticipated which means that the pool takes-up most of the room which could be a problem for me as I have pet dogs I	• I think it would have been safer for my family and I if you had added columns under the balcony or walls either side so that we know the balcony is safe to have drinks all together on it. • You should have also bought more land so that the garden is bigger because this would allow my dogs to be happy and

This page in my essay talks about the different functions that Gaudi used when designing his buildings.
After doing some research, I decided to implement his natural lighting technique as it would help my clients keep their lighting costs low. This will be even more effective in Thailand as most of the time it is very sunny so I thought I should utilize this as well.
In the future, I would also implement his natural ventilation function as shown on my modifications page because this would keep the villa cool without my clients having to pay a lot of money on air conditioning inside the villa as this is not



This page talks about how Zaha Hadid uses striking lines in order to mimic nature.
After researching further into this, I chose to design a villa that only uses straight striking lines as I found this design style very aesthetic and because it would help me create a strong contrast between dark and light shades as my clients wanted that.

Overall, I found that my research helped me decide the design of the villa through researching Zaha Hadid, and how I could make it stand out with different functions such as the ones Gaudi used, Natural Ventilation and Natural Lighting.



Component 1 Three- Dimensional Design

Conclusion

What Went Well?

Overall, I think most of the project went well as I managed to make the model exactly like the CAD model.
The most challenging element that I had to get right for this villa was the lighting. I think this went well, other than the wiring being visible, because all of the lights function correctly on the same wire.
In order to get the lighting right, I had to drill a hole into the corner of each floor as that is where the wires are going through. I then had to glue each light, with the wires already being soldered to the light component, while I was assembling each floor which was difficult as the lights would sometimes come off but this was fixed with hot glue.

What Could Be Improved?

The main two things that could have been improved in terms of the villa model would be having 3 of these villas side by side in a compound as this would make it look like there is more happening.
The other thing I wish I did was implement Gaudi's natural ventilation into the villa as this is what my clients wanted but I haven't managed to implement it.
I could have also made the villa bigger so that there could be more than 1 room on each floor as this would allow the villa to hold more people which is what my clients would have wanted as well.

What Changed Were Made During The Project? Why?

While I was putting the Villa together, I had to adjust the wall size as I made it wrong in CAD. The reason this happened is because I had the walls inside each other and not mated correctly in the CAD.

Another element I had to adjust were the front sliding windows because in the CAD, I made it so that the separating line wasn't attached but this would have caused more glue to be used so there was a high chance the glue would spread onto the front windows or onto the surrounding wooden parts.

The last part that I had to change was the floor. I decided to laser cut designs onto the wood so that it could look like a gravel drive or tiling in front of the pool. This added to the villa's aesthetics. I also laser cut an outside sitting area on the right of the villa because I thought it would make the villa look better.

Final Conclusion:

As a whole, I think my project went well as I managed to create a villa that would fit a tropical environment but also stand out. The place chosen was Thailand, Phuket, which is where I live, and I can positively say that this villa would stand out and cause people to have a look at it.
I think I have achieved a good result with the design of the villa as I wanted to create a modern villa that was influenced by Zaha Hadid and Antoni Gaudi. Hadid's style can be seen in the striking straight lines of the villa along with one of Gaudi's functions, Natural Lighting, being implemented.
I am really pleased with how this villa has turned out, but I would have been happier if there was at least another villa so that it could be a compound as this would create a mirror effect which I think would be very aesthetically pleasing.

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I could have also made the villa bigger so that there could be more than 1 room on each floor as this would allow the villa to hold more people which is what my clients would have wanted as well.
Lastly, I could have tried to hide the wiring better.

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