RETIREMENT VILLAGE

Harish Haran

Submission Description

The architectural model of a retirement village was designed and created by me as part of my HSC major project for Design and Technology. I have created this project over 10-month period where I have inputted all my hard work, efforts, analytical and model making skills. I was also required to submit a portfolio which was done over the 10-month duration during the model making journey. I have successfully design a sophisticative and skilful model that required a variety of skills and knowledge.

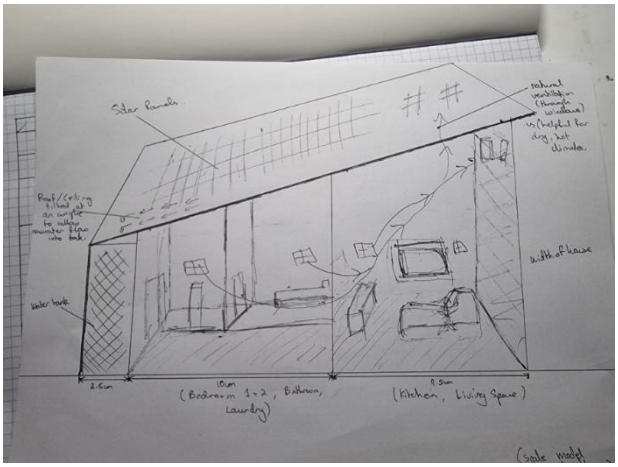
Purpose of My Design

The main purpose and aim of my architectural model were to show a realistic and detailed representation of a retirement village that was designed to be located in Boxhill (NSW) to help the elderly and the retiring community to live in a sustainable and comforting manner where they are accessible to close by services. The main idea of my design was to promote the elderly community to garden in share spaces within a secured environment. Throughout my journey of designing a retirement village I have considered the following factors, which include aesthetics, cost, environment, safety, and size.

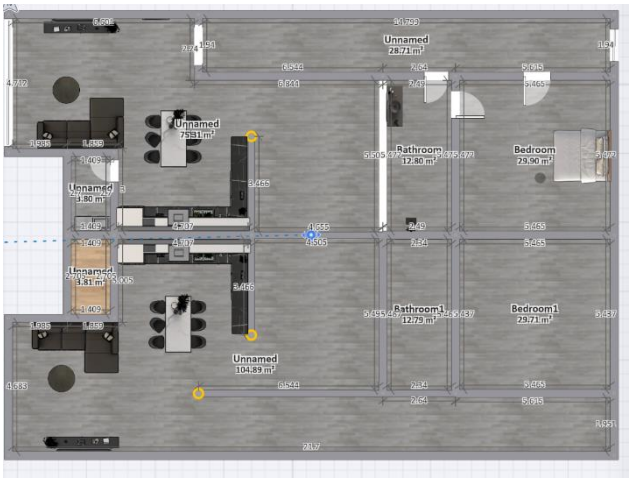
Characteristics and Features of My Design:

- Dimension: 880mm x 880mm
- Circular in shape
- All Trees were hand made by me (coarse foam-leaves, metal wiring, rubber coating, brown painting)
- Housing pieces and retirement village shape pieces were cut using laser cutter, hence using adobe illustrator software.
- Slope roofing is designed to improve water drainage and water collection system to help improve gardening and sustainability.
- I used corrugate cardboard to represent roofing design.
- The centre hemispherical design is designed as a share space for the elderly community to socialise and interact more.
- The housing colouring that I have used are all light colours. I have used mid grey with white roofing. This is to reflect light and to maximise insulation. The light colours are used to represent the eco-friendly environment.
- Each housing is a duplex house, where there are 11 house structures and a total of 22 identical homes for the elderly individuals to live inside.

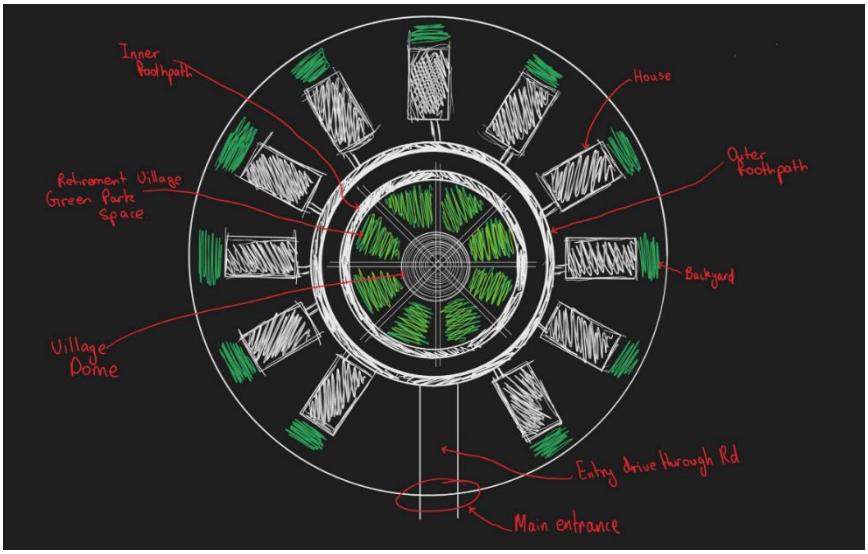
The Process



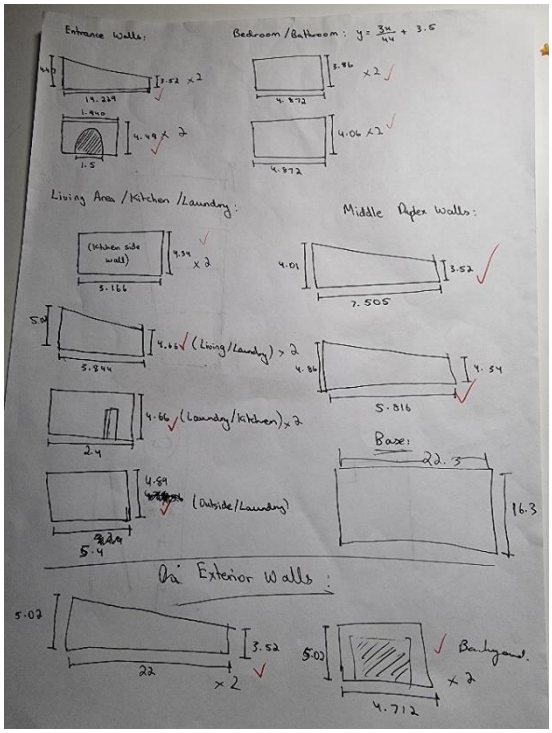
The sketch on the left demonstrates my initial idea of my Retirement housing design, characteristics, and features. I am incorporating a wide range of features such as solar panels, slanted roofline design, water tank, natural and effective ventilation of air.



This floorplan was done and created using 'homestyler'. This is the floorplan for my second prototype. There is a huge difference in floorplan from my first one compared to this one. I have changed the housing layout into a duplex.

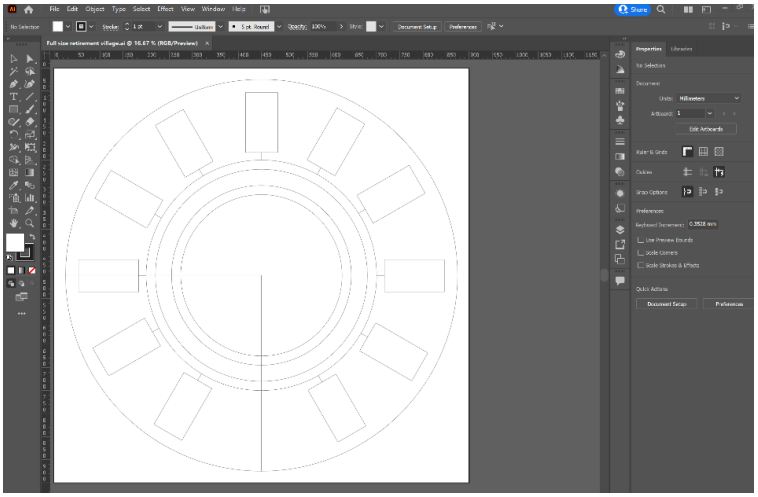


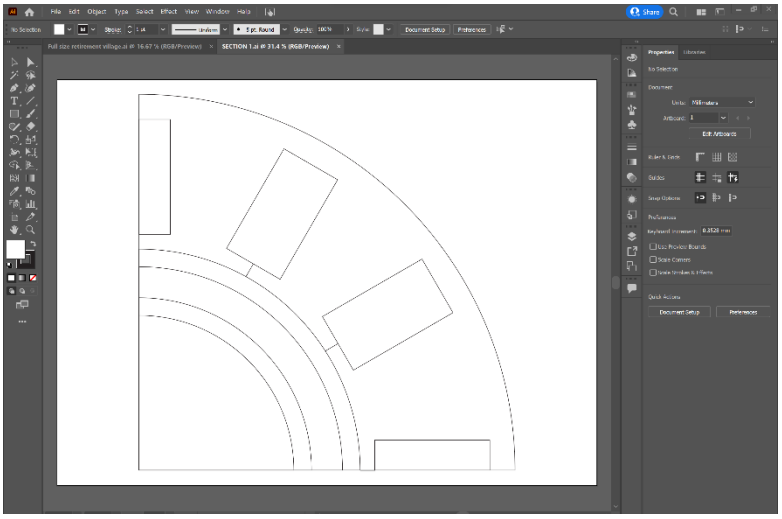
The image on the left demonstrates a digital drawing of a bird's eye view perspective of the retirement village as a whole.



I took all the measurements and found the dimensions of each wall inside the housing. I had to calculate the gradient of the roof since, it was a slanted roof design. So, some walls had different heights.

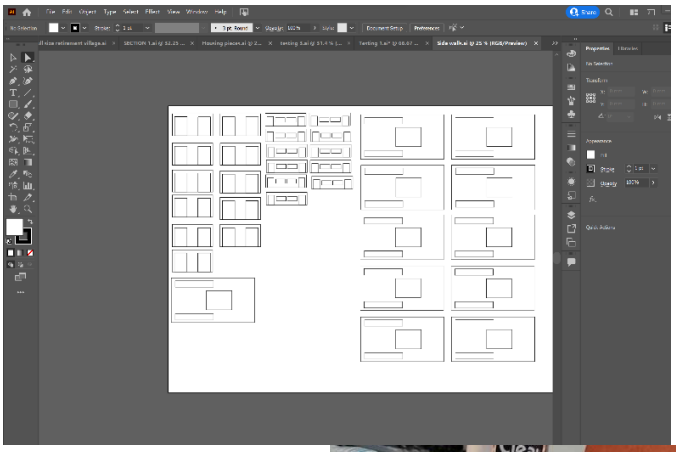
Finished top view of the Retirement Village model. I considered this as a prototype and a Birdseye representation of the entire retirement village.

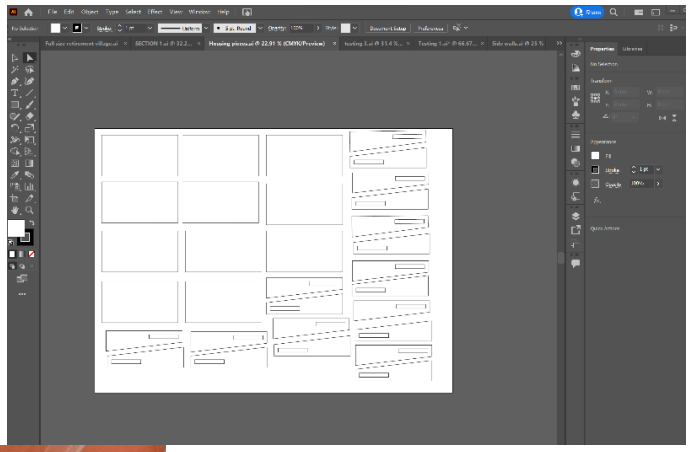




From the previous progress I have realised that the dimensions of this retirement is too large in size to laser cut, since recommended maximum dimensions for laser cutting is 650mm by 410mm. As a solution my teacher advised me to section cut the retirement village in to 4 quarter sections.

The image shows the results of cutting the retirement village model into 4 individual sections.



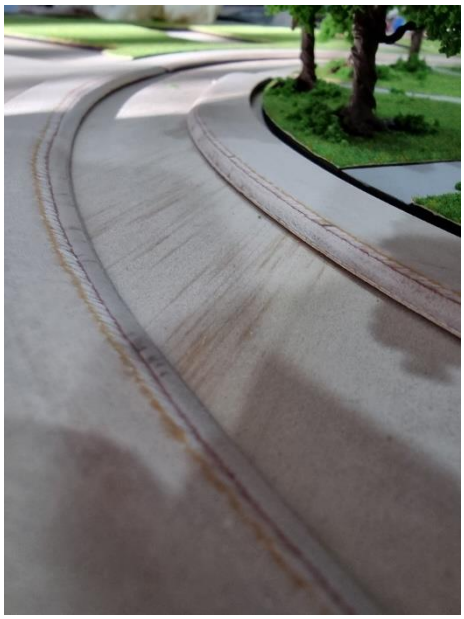


For my retirement village I needed trees to create an architectural model. I was planning to buy ready made trees from a craft store (Eckersley's art & craft) however, after checking online the prices were too expensive and I wasn't able to find trees that were the right size for my retirement village. This brought a lot of stress and critical thinking on how I could possibly achieve to get the right size trees for my retirement village model. I decided to do research and watch videos until I got inspired by a particular video (https://www.youtube.com/watch?v=0FNQTxX_jT4) that showed easy steps in making a model tree. This allowed me to create my own little trees that were suitable in dimensions for my architectural model. I first used a plyer to twist thin metal wiring to achieve a tree shape. Then I reshaped the strands of wiring to create branches. I then coated the trees with rubber coating which filled the unnecessary gaps between the metal wiring. I repeated this process to create approximately 16 rubber coated trees.

I bought green foam coarse from Eckersley's art & craft. This green foam coarse is used to create a leafy or grass affect. I used adhesive spray to coat the branches with the foam coarse. I sprayed it again and again till the tree becomes more dense with leaves. I repeated this procedure for around 16 trees.

I repeatedly glued and trimmed the grass until I achieved this.

In this case I began to start covering up my entire model with grass through the repeated process of gluing and trimming with a cutting knife.



In this process I decided to create a curved edge footpath. I did this through sanding the edges of the footpath to create a curved effect. The sanding process is shown on the left image. Sanding required a lot of time, effort and energy.

I wasn't able to buy streetlights as it was only available online and the shipping time takes a long time. So I decided to create my own street lights by using hollow 2.8mm metal rods. I first cut the rods into lengths of 8 cm and then marked each rod at 6cm. The mark at 6cm is where I used the plyer to bend the rod to shape it into modern streetlights. On the right image shows a flat dent on the streetlight. I used the plyer here to flatten the front section of the streetlight to create a light effect. I repeated these steps 8 times until I got 8 streetlights and then painted it with black acrylic paint.

I glued the street lights onto each section. I then began to paint the road with a dark acrylic grey paint.

I decided to place all the pieces together to see how the possible end design may look like. Also I created those hedge fencing using laser cutting of plywood coated with foam coarse.

I used the laser cutting machine to laser cut the garden bed (brown rectangular shape). I then applied PVA glue to stick the craft stones that were bought from the craft store.

I repeated the above step until I got this finish. I glued all the sections together using gorilla wood glue.