

DOCUMENTATION

TEAM ELEVATED

By: Megan Chen, Goh Jet Wei, Russell Teoh, Su Keming, Gan Xiao Tong

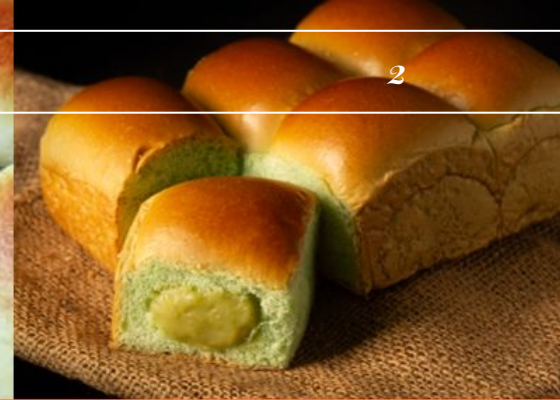
#TEAM ELEVATED

3.007 Design Thinking and Innovation

Group 1

Megan Chen Jia Yi
Gan Xiao Tong
Su Keming

Russell Teoh
Goh Jet Wei



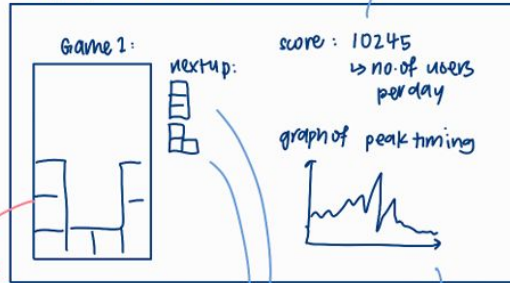
Our values:

- Just like how kaya spreads on the kaya bun, we believe in spreading our ideas and expertise.
- Just like how the dough rises when we bake kaya buns, we are driven by aspirations to elevate the quality of existing services.



Exploration on different themes, layouts and basic testing to see whether the solution can be implemented.

display 1: tetris vibe -



gamified display

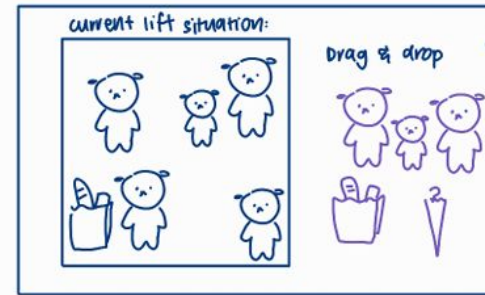
BUT idk how yall gonna program the thing for them to even fit

maybe not tetris cos like if filled up they will literally cancel out :-
maybe puzzle pieces but w/ tetris idea

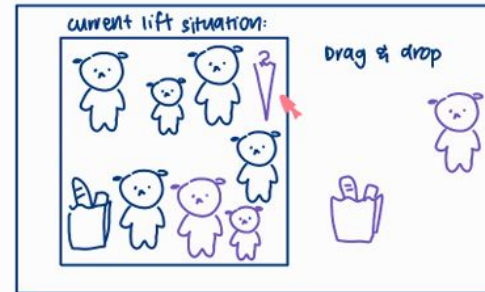
maybe a sensor outside can pick up how many ppl are outside & generate the 'next up' pieces (eg. now got 2 ppl waiting thats why only 2 pieces there)

idk bmn maybe to give more extra info

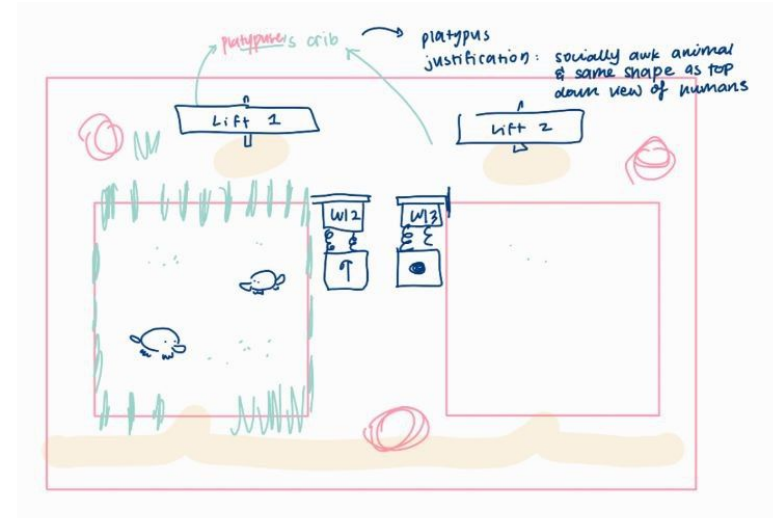
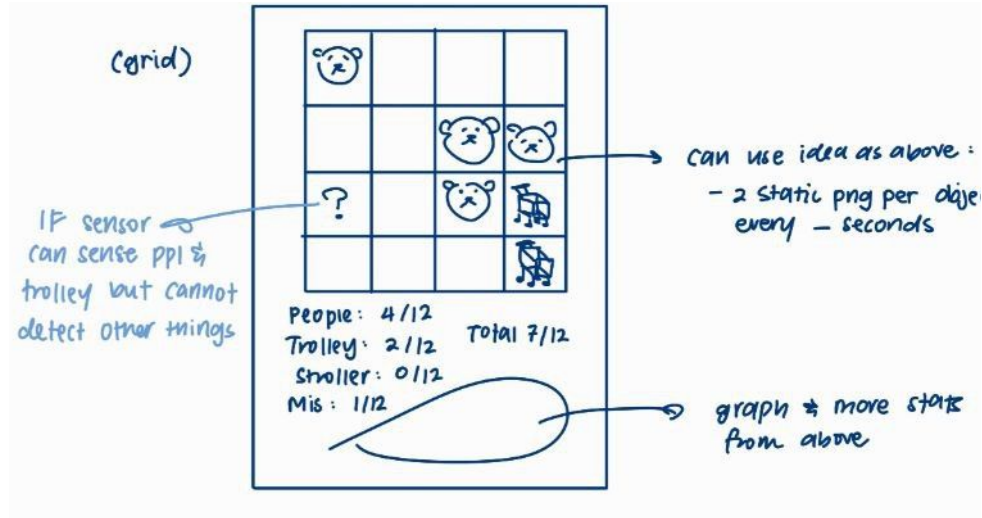
display 2: cartoon/animals idea
↳ more targeted towards kids + maybe more fun/ interactive

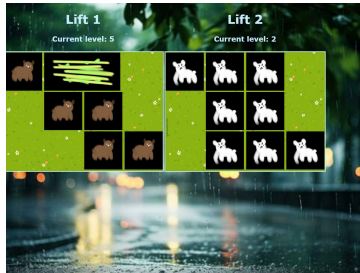
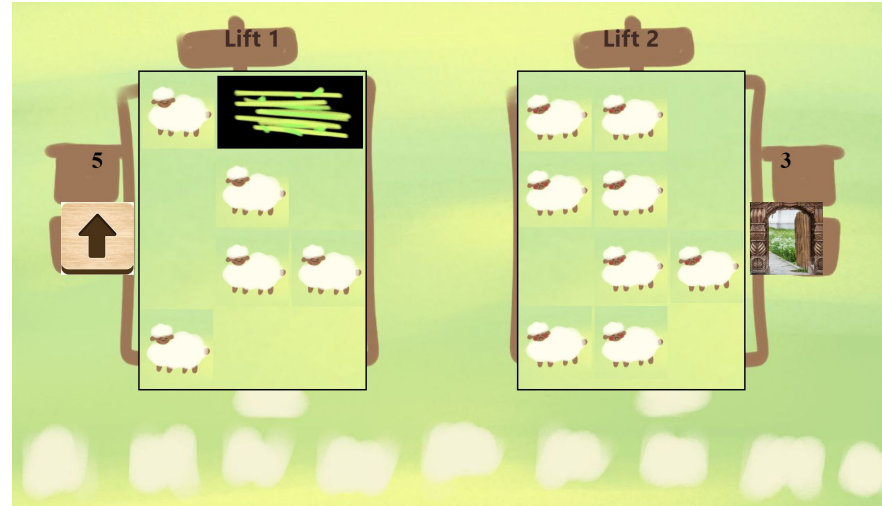
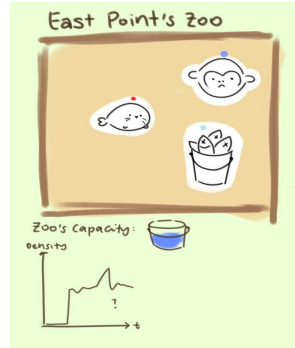


⇒ since touchscreen not v visible i set up a mouse / cursor for em



Exploration on different themes, layouts and basic testing to see whether the solution can be implemented.

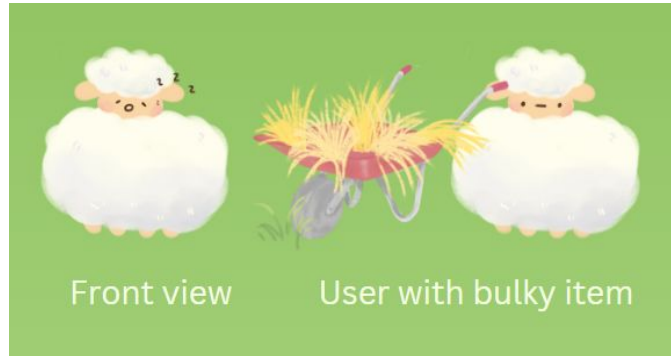




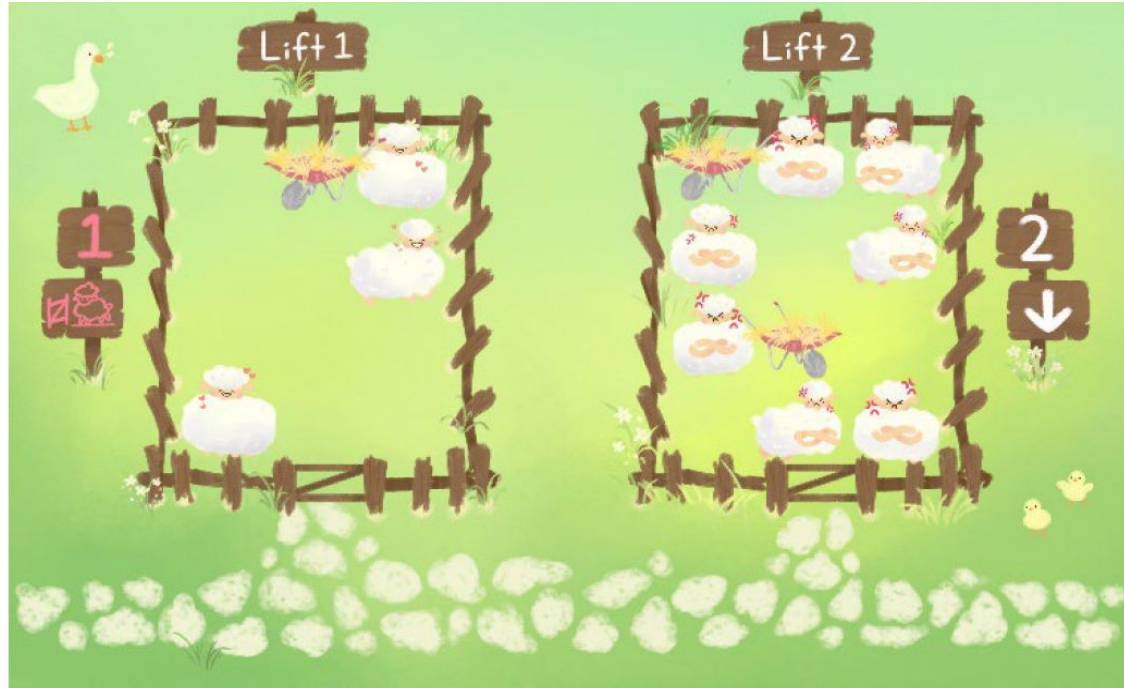
1-4 pax

5-8 pax

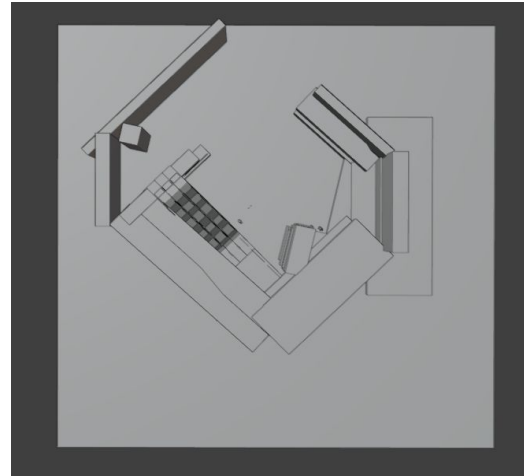
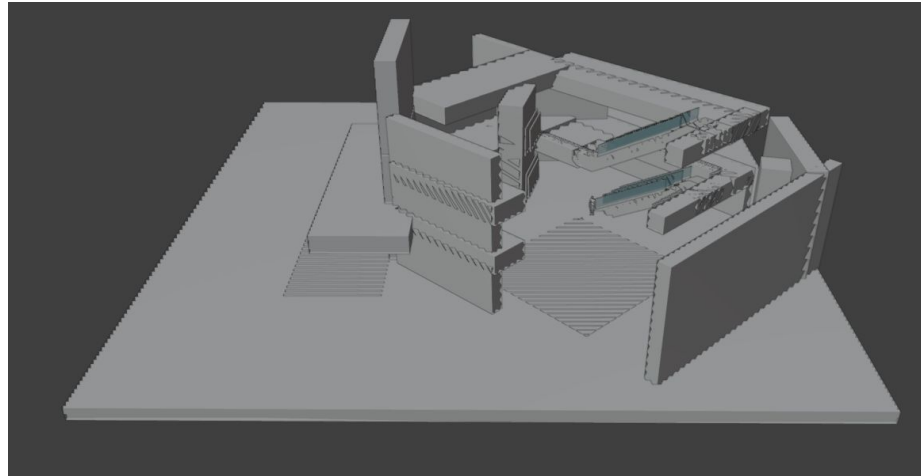
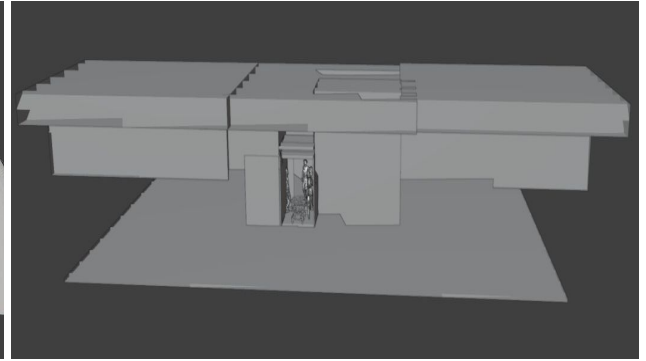
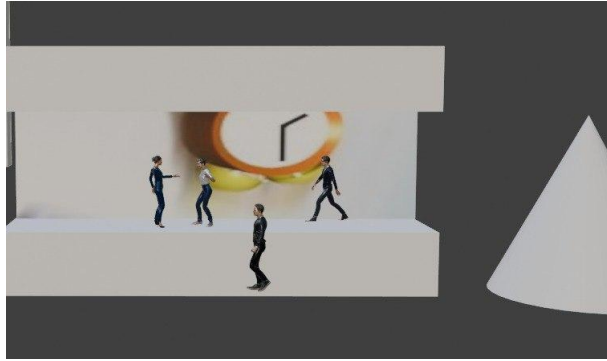
9-12 pax



Different sheep variations to create visual interest to portray the capacity of the lift and the types of users inside - eg. people with bulky belongings such as strollers or trolleys.



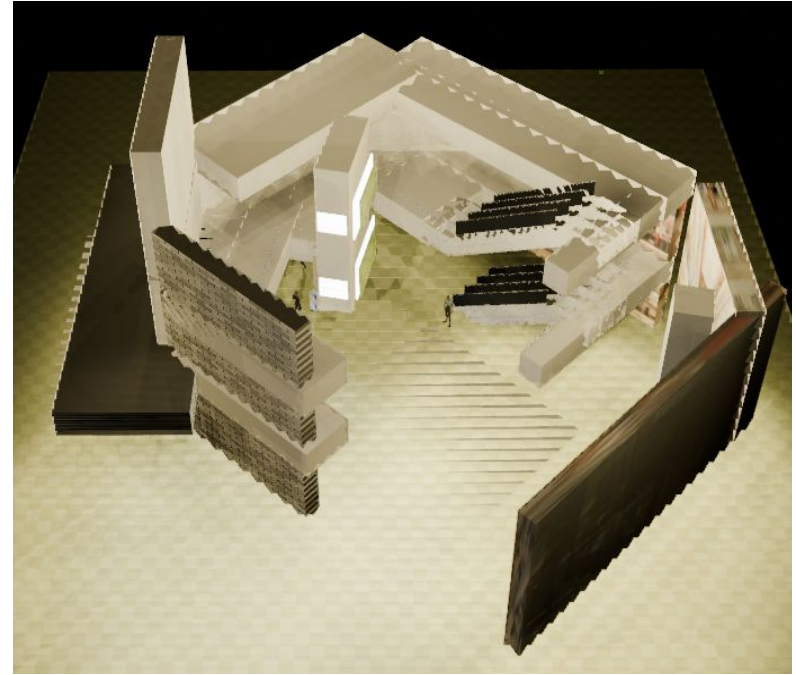
For 3D CAD-ing of our site (East point mall) and our project solution (LambLens), we decided to use Blender. Here are some images of early exploration of Blender tools such as animation, and creating the structure of the site for the A1 poster and Kickstarter video animations.



After much refining of the version of East Point Mall, here are the final rendered versions.



Front view of East point Mall

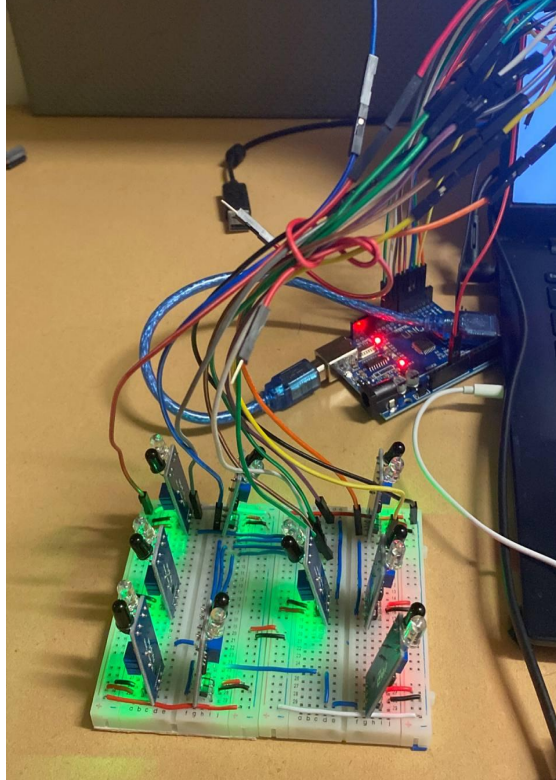
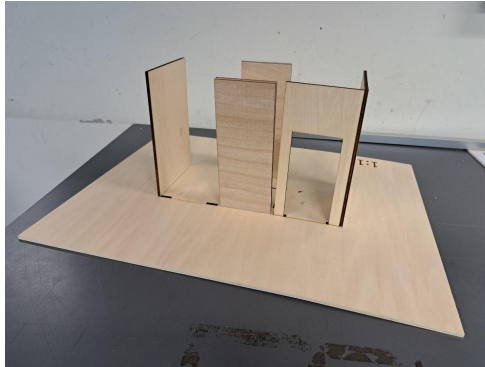
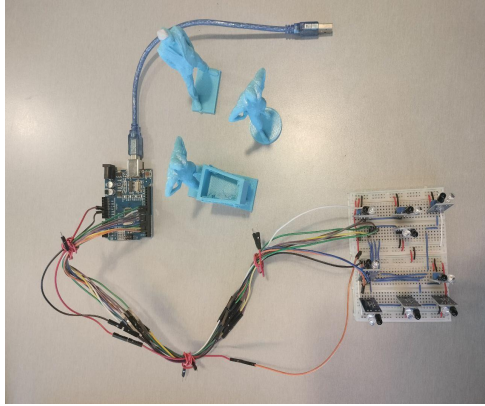


1st and 2nd floor view

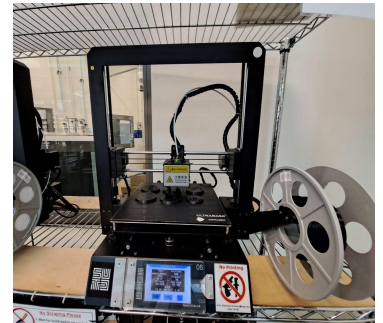
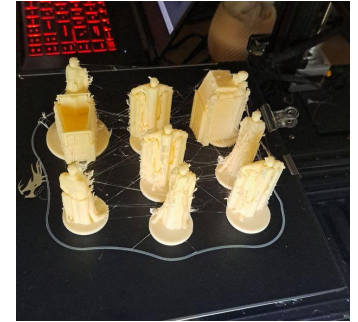
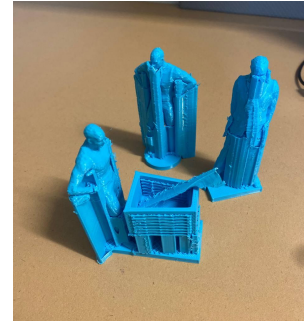
More images of fleshed out interiors of East point Mall.



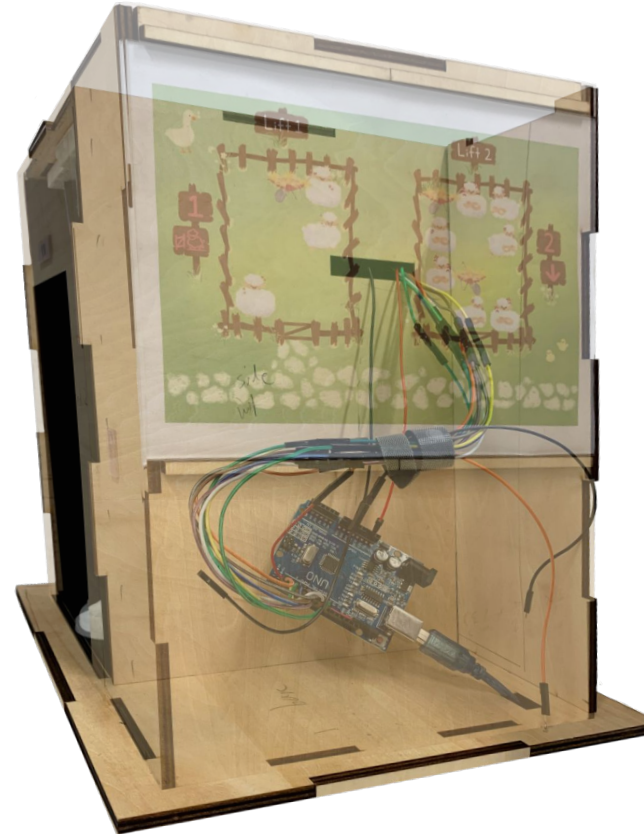
- Top left: Full view of LambLens
- Top right: A view of the lift lobby in the East point Mall Blender model
- Bottom left: A separate model of the East point Mall main lift lobby to make the animations for the Kickstarter video



Evolution of scaled down model of people to ensure that they can be detected by the sensors



Initial parts of the functional model to evaluate feasibility of solution implementation on a simplified scale



1 : 10
Functional
model
containing a
circuit
consisting of
sensors, wires,
breadboard,
microcontroller
connected to
an external
computer and
display screen.

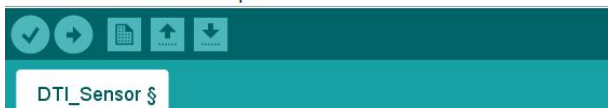

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display.html
C:\Users> megan > Downloads > booDTI > templates > display.html > html > body
2 <html>
7 <body>
11 <table>
100 <td id = "lift2">
103 {% for person in row %}
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105 {% if person == "PL" %}
106 {% if lift2capacity > 8 %}
107 <img src = "/static/personfull"
108 {% elif lift2capacity > 4 %}
109 <img src = "/static/personneut"
110 {% else %}
111 <img src = "/static/personempt"
112 {% endif %}
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114 {% elif person == "PR" %}
115 {% if lift2capacity > 8 %}
116 <img src = "/static/personfull"
117 {% elif lift2capacity > 4 %}
118 <img src = "/static/personneut"
119 {% else %}
120 <img src = "/static/personempt"
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124 {% if lift2capacity > 8 %}
125 <img src = "/static/personfull"
126 {% elif lift2capacity > 4 %}
127 <img src = "/static/personneut"
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129 <img src = "/static/personempt"
130 {% endif %}
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132 {% elif person == "T" %}
133 {% if lift2capacity > 8 %}
134 <img src = "/static/trolleyful"
135 {% elif lift2capacity > 4 %}
136 <img src = "/static/trolleyneut"
137 {% else %}
138 <img src = "/static/trolleyemp"
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DTI_Sensor | Arduino 1.8.16

File Edit Sketch Tools Help



```

int sensor1 = 2;
int sensor2 = 3;
int sensor3 = 4;
int sensor4 = 5;
int sensor5 = 6;
int sensor6 = 7;
int sensor7 = 8;
int sensor8 = 9;
int sensor9 = 10;

void setup() {
  Serial.begin(9600);
  pinMode(sensor1, INPUT);
  pinMode(sensor2, INPUT);
  pinMode(sensor3, INPUT);
  pinMode(sensor4, INPUT);
  pinMode(sensor5, INPUT);
  pinMode(sensor6, INPUT);
  pinMode(sensor7, INPUT);
  pinMode(sensor8, INPUT);
  pinMode(sensor9, INPUT);
}

void loop() {
  int state1 = digitalRead(sensor1);
  int state2 = digitalRead(sensor2);
  int state3 = digitalRead(sensor3);
  int state4 = digitalRead(sensor4);
  int state5 = digitalRead(sensor5);
  int state6 = digitalRead(sensor6);
  int state7 = digitalRead(sensor7);
  int state8 = digitalRead(sensor8);
  int state9 = digitalRead(sensor9);

  int states[9] = {state1, state2, state3, state4, state5, state6, state7, state8, state9};
  String result = "";
  int i = 0;

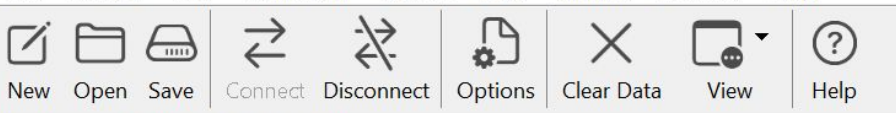
  for (i = 0; i < 9; i++) {
    result += String(i+1) + String(states[i]);
    if (i < 8) {
      result += ",";
    }
  }

  Serial.println(result);
  delay(1000);
}

```

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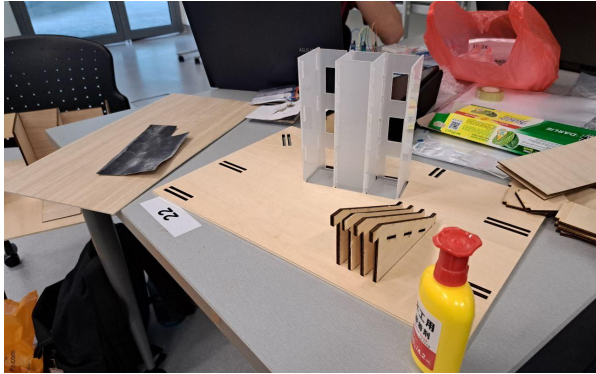
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10,20,30,40,50,60,70,80,90
10,20,30,40,50,60,70,80,90
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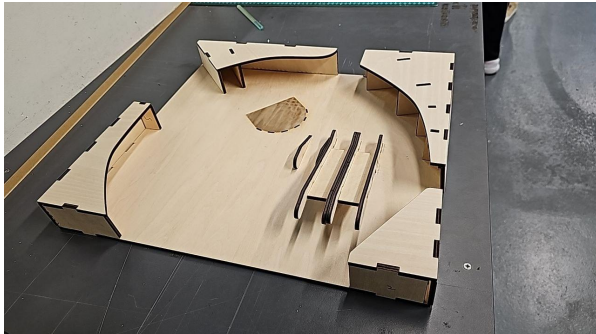
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Final program used to comprehend information received from sensors to generate live display.

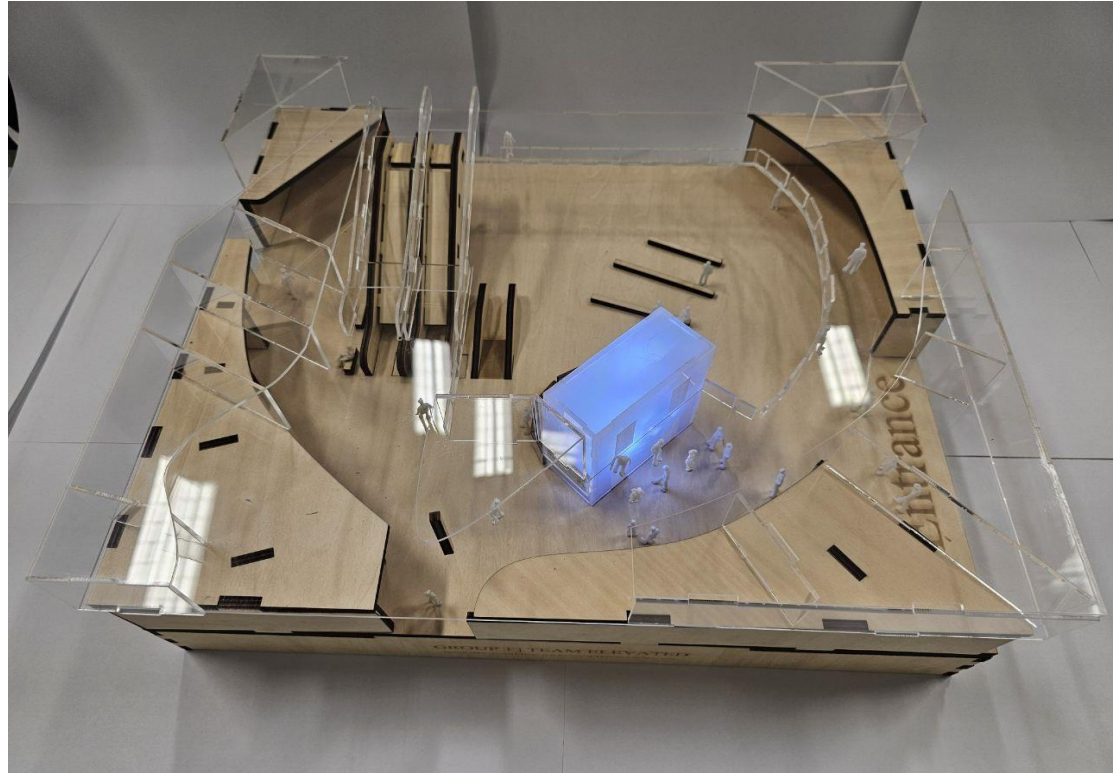




First attempt of building scaled model



Building the first floor of model
(2nd version)



Completed 1:75 model (topview)

