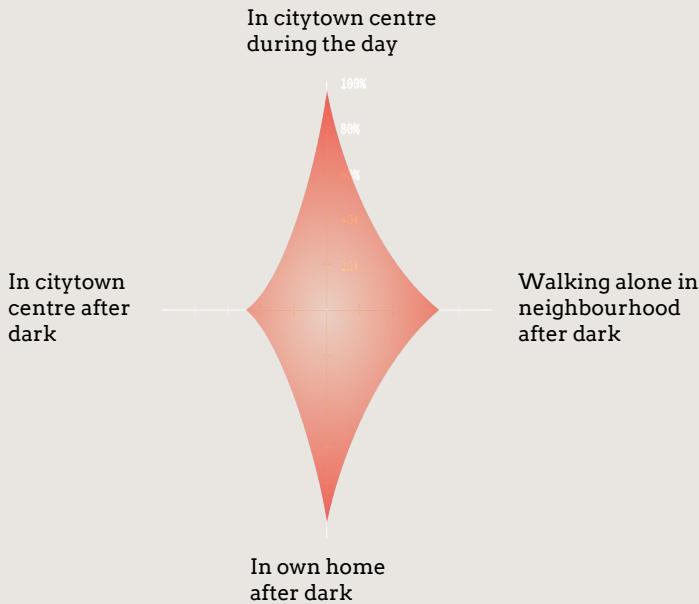




Solution to PSYCHOLOGICAL FEARNESS on a nighttime street

PROBLEM STATEMENT

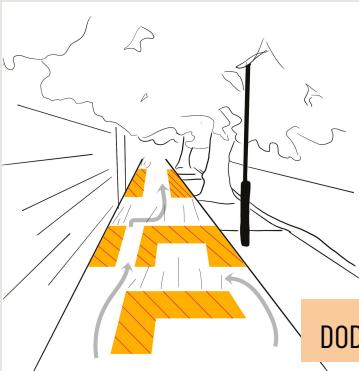
Below: Proportion of 18+ year olds reporting feeling fairly or very safe in four different situations, in greater Christchurch



Our research uncovered the prevalence of feelings of discomfort and lack of safety when travelling about urban areas at night. From recent studies (Jiang, Sze Mak, Larsen & Zhong, 2016) The psychological barrier - "the fear of the unknown" plays a significant impact to individuals well being and communities. An individuals lack of perceived safety, corresponds to further degradation of an environment. Consequently, triggering a vicious cycle of disorder.

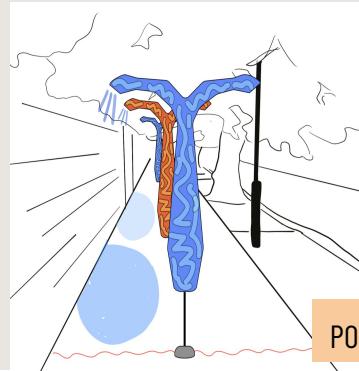


LOW-FI PROTOTYPE



The idea was inspired by the dinosaur game on google chrome. In general, the projections/ LED light of obstacles are generated on the ground and move towards the player. The objective of the participant is to avoid touching the obstacles and reach the end.

DODGE IT



The Pot Lite is an interactive art installation functioning as a light pathway. It guides people through the streets after dark, comforting and entertaining.

POT LIFE



URBAN STORY

The concept is based on the idea that when reading a story, you use your imagination to immerse yourself into a utopian world. As the concept will be visually projected onto the surrounding environment, it is only fair that the narrative of the story is based on the urban environment.



SAFE STOP

SafeStops is a network of urban safety checkpoints, designed as safe-havens for travellers on public transport and pick-up services in the evening.

FINAL CONCEPT



WALK WITH ME

'Walk with Me' is a companion concept designed to comfort late night commuters. Through light and animation, 'Walk with Me' aims to distract travellers from unsettling thoughts by providing an interactive source of mental distraction. The concept works by auto-generating projections unique to each user in order to evoke a feeling of connectedness with a display that travels alongside them as they walk, and which reacts to individual movements and interactions.

'Walk with Me' also incorporates elements of wayfinding to direct users in poorly lit environments to their destinations, giving them control to opt in or out.



TEAM STRUCTURE

Celia Stewart

Strength: Ideation & sketches



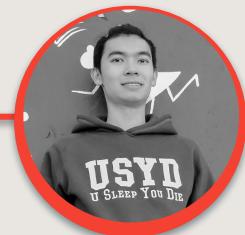
Madeleine Satterthwaite

Strength: Research & Insight



Lizzy Hennessey

Strength: Visual & Graphic



Jace Ng

Strength: Coding & development



MY ROLE

IDEAER

MARKETING RESEARCH

WEEK 1 - WEEK 4

Principal work

I did some marketing research at the early stage. I found 2 existing concepts. They are Lunar Resonant Street Light and Street Games that both are located in UK. Then, SWOT analysis was applied on both concept to find out what their strength and weakness were. Once we finished the analysis, I proposed a concept that might help solving our main problem with reference to the existing product.

ITERATION

WEEK 5 - WEEK 8

Principal work

The aims of iteration is to iterate our concepts, and choose one for further development. I helped building low-fidelity prototype by simple material like paper and sticky tape, tested out and jotted down the reaction and thought of our target audience. After that, I grouped the same commnet together and found the key insights from them. Finally, a new concept, walk with me, was generated based on the insights.

PROGRAMMER

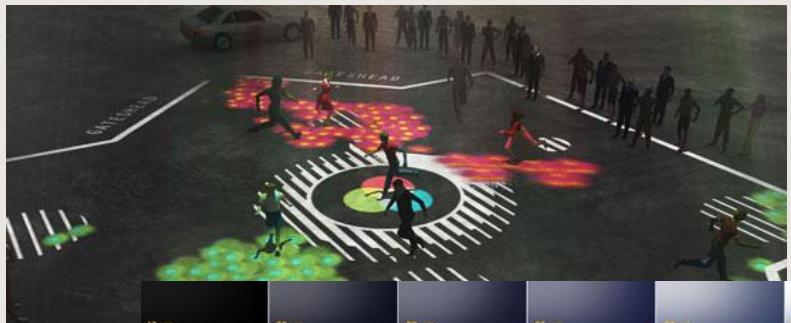
WEEK 9 - WEEK 13

Principal work

In the final stage, I was majorly responsible for the software part. I first did some researches on possible developing methods. I found 2 doable ways which are using motion sensors and using webcam/ kinect. After discussion with my groupmate, we decided to go for using webcam. I then kept coding on Processing as it is capable to read various input and also visualise animation.



CONTRIBUTION

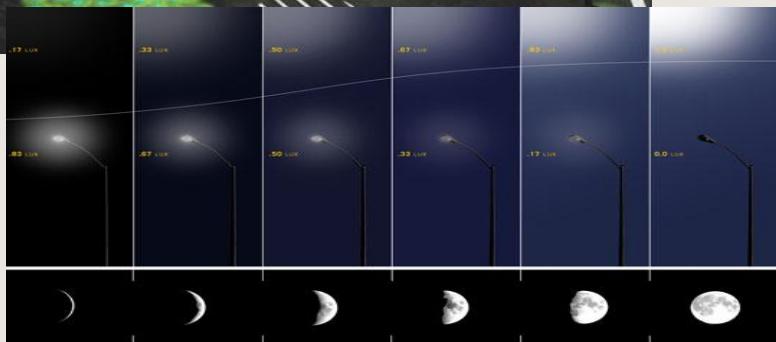


Strength
• Fun and Playable --> Easy rules
• Alternative lighting source

Opportunities
• Able to group people together
• Encouraging night activities
• Promoting social interaction

Weakness
• Play without music is boring --> would be noisy at night
• Energy consumption can be large
• Match basis --> hard to join in the middle of the game

Threats
• Disturbing pedestrian
• Weird to play alone/ walk through it



Strength
• Environmental friendly
• Improve mental health

Opportunities
• Solution to light pollution
• Less cost on electricity

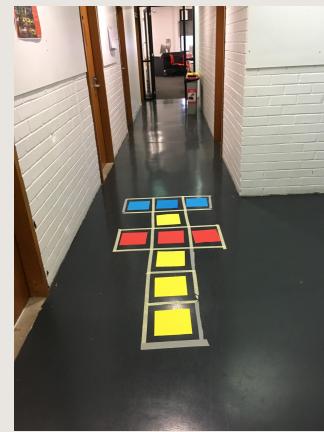
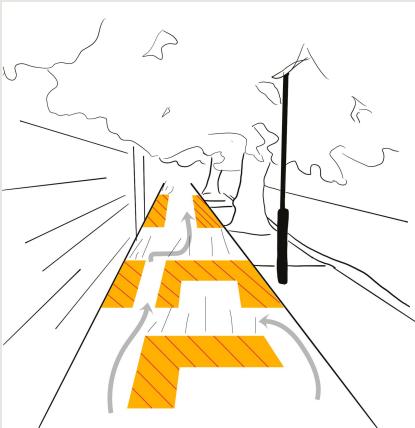
Weakness
• Full moon doesn't mean the brightness is enough
• Weather can affect the decision of the system

Threats
• Like a street light that doesn't work
• Pedestrian may need to bring their own flash when it is full moon

Marketing research - SWOT analysis is essential for us to brainstorm a new idea. As we were able to adapt the succeeding key into our design, where improving the threats from the design as well. From the above, playful and interactive elements should be a key stream in future design to improve external and environmental flaw, another words in our thesis, psychological fearness of unknown caused by darkness.



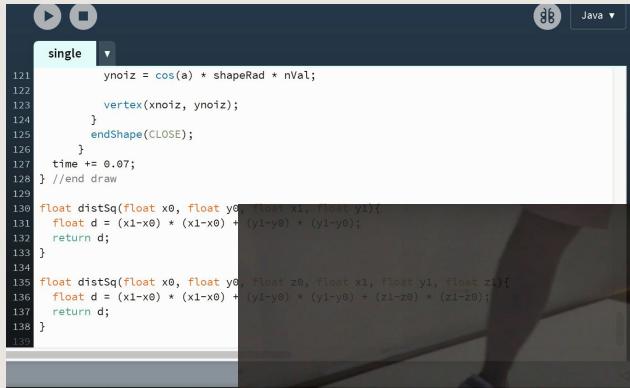
CONTRIBUTION



Prototyping and evaluating - Before we decided to go for the one idea, we did a lot of user evaluation on low-fi prototype. The initial prototyping is sketching, we sketch out our own ideas. Visualized idea is more influential than words because people always favors simple but easy understanding pictures. Then we held a couple of generative session to gain critical insight from our target audience. After that, we built our prototype with basic materials and did interview, observation etc, with the person who was involved. We kept refining our concepts and generating new ideas through these process. Consequently, we came up our final concept, walk with me.



CONTRIBUTION



```
single
121     ynoiz = cos(a) * shapeRad * nVal;
122
123     vertex(xnoiz, ynoiz);
124     endShape(CLOSE);
125   }
126
127   time += 0.07;
128 } //end draw
129
130 float distSq(float x0, float y0, float z0, float x1, float y1, float z1){
131   float d = (x1-x0) * (x1-x0) + (y1-y0) * (y1-y0);
132   return d;
133 }
134
135 float distSq(float x0, float y0, float z0, float x1, float y1, float z1){
136   float d = (x1-x0) * (x1-x0) + (y1-y0) * (y1-y0) + (z1-z0) * (z1-z0);
137   return d;
138 }
```



Programming - I did the whole core programming stuff on Processing. For this concept, I applied blob detection to recognise moving object under the webcam by comparing the color difference from 2 separated frames. Besides, our group had tried various of animation to follow the person, and finally we reckon the middle, jelly-fish-like one was the best.

Setup - hardware coordination and setup is as important as coding. At first the projector was mounted on the wall, and we tried to use a mirror to reflect it to the floor. However, it didn't looks well, so we decided to the remove it from wall and placed it vertically on the milk crate.

CHALLENGES



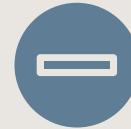
The biggest obstacle during this project was probably the hardware problem. As we were using a webcam to detect people, it was heavily rely on the quality of image and the surrounding environment. First was the webcam kept picking up the shadow as a moving object. Second, we couldn't turn off the auto brightness function of the webcam. The ideal way to solve it is to upgrade our hardware from webcam to kinect, as it release and read infra-red, the above problem can be solved easily. However, we had a tight budget on the hardware, a high-fi prototype should be simple but effective.

To solve picking up shadow as a moving object, technically we need to use kinect as release and read infra-red. It, therefore, is able to distinguish between shadow and object. However, we simply decorated our display area with dark curtain and black sheet in order to both block out the light source from surrounding and create a dark environment which in regard to our problem statement. Besides, when we block out the external light source, there were no extreme brightness change. So, the brightness of the webcam can be remained static.



CHALLENGES

The second challenge was about the animation. As we got a couple of design for animations, some of us thought the simpler was better, but some of us thought the other was better. They were totally different animation. One was kept generating colorful bubbles that fades over time in front of the person, the other one was an animation kept moving under the person's feet. As both had their unique characteristic, we can't decided in a short time.



The way we chose to solve the problem was to step back and read our concept again. As we aimed to build an installation that project light companion with pedestrian, we thought the one that does not fade is more suitable than the other one. Although the one we decided not to go for is more playful, we still reckon stick with our concept brief was what we should do. Therefore, we added more color and refined its shape to make it more appealing.



REFLECTION

How well did you work in your team?

I reckon all of my group member did a good job in this project. Some of us is good at graphic, they handled the design part. Some of us is good at programming, they focused on the code. Precisely, we all participated in different part of the project, and that made us to be more efficient. Although we all expertised in different area, we still help out each other when we got trouble and this is what a team should be like.

What could you have done differently?

I reckon I could do more on communication. As I was responsible for the coding, and they didn't know well about it. They had no idea on what I was doing. I've explained to them that what would I do in the coming weeks and asked them to focus on documentary and the animation. However, they were still worried about my progression. Therefore, I should keep them updated.

Will your team continue to work on the prototype further?

If there is an opportunity, I would like to. However, the scope of the prototype is really large if we want to present to the public. It is true that there are a lot that can be improved, but, the key element has been presented and we think it should be an end to the project.



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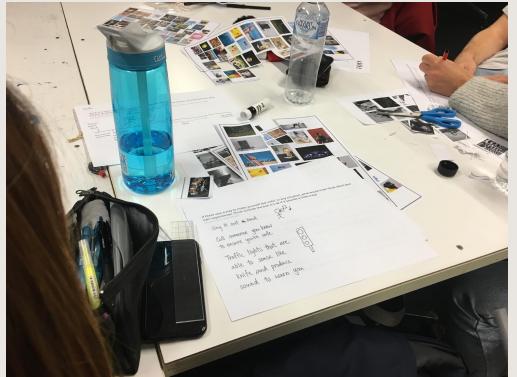
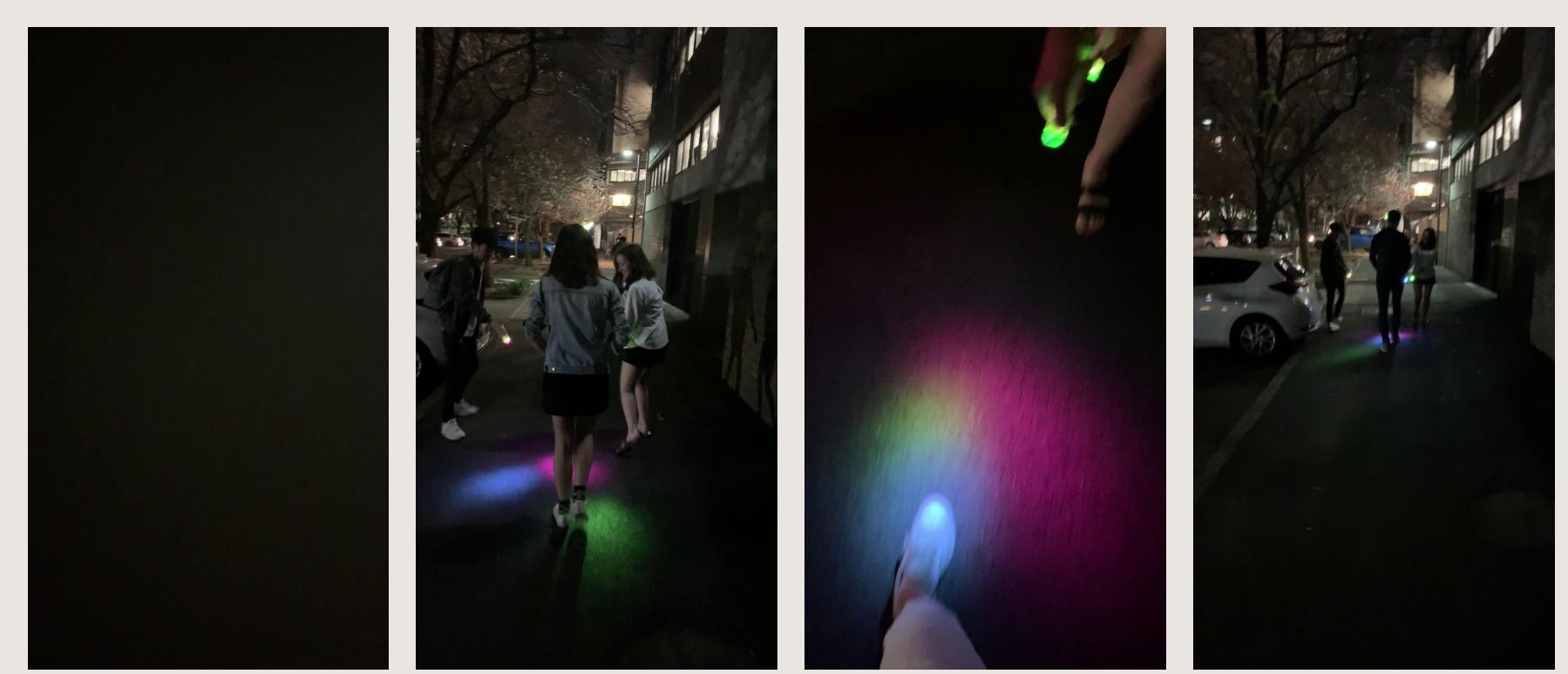


Photo of holding generative session on focus group

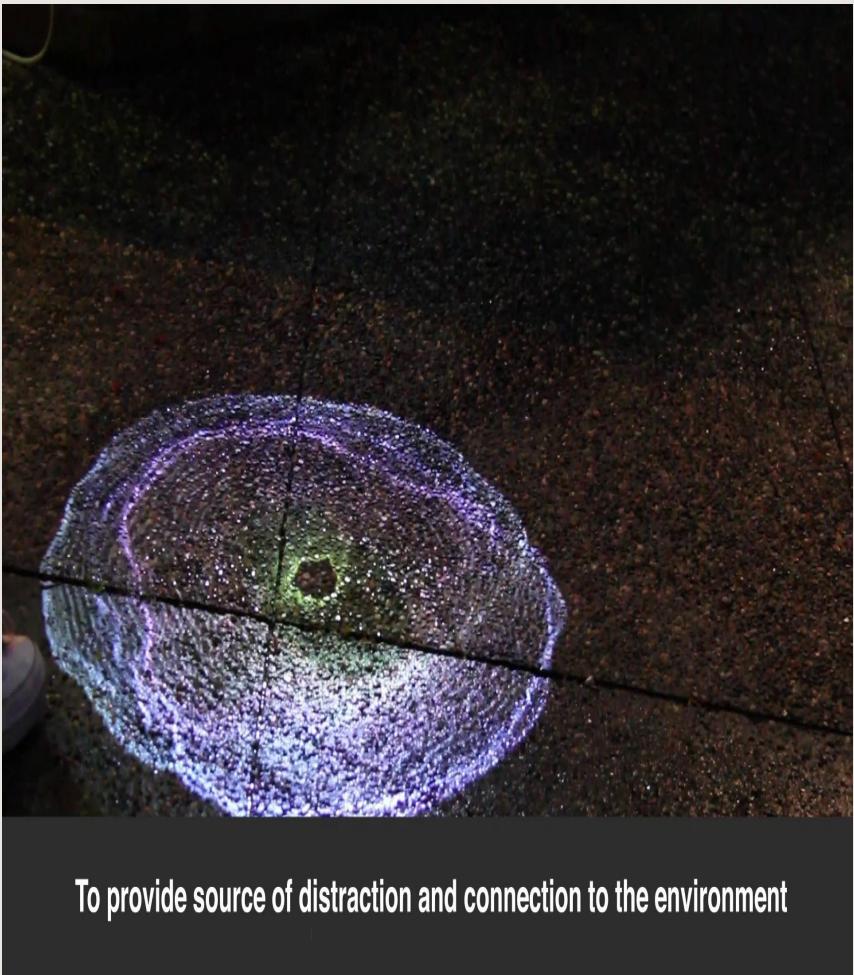


Video of prototyping and evaluating 'hopscotch'
(click to video link)

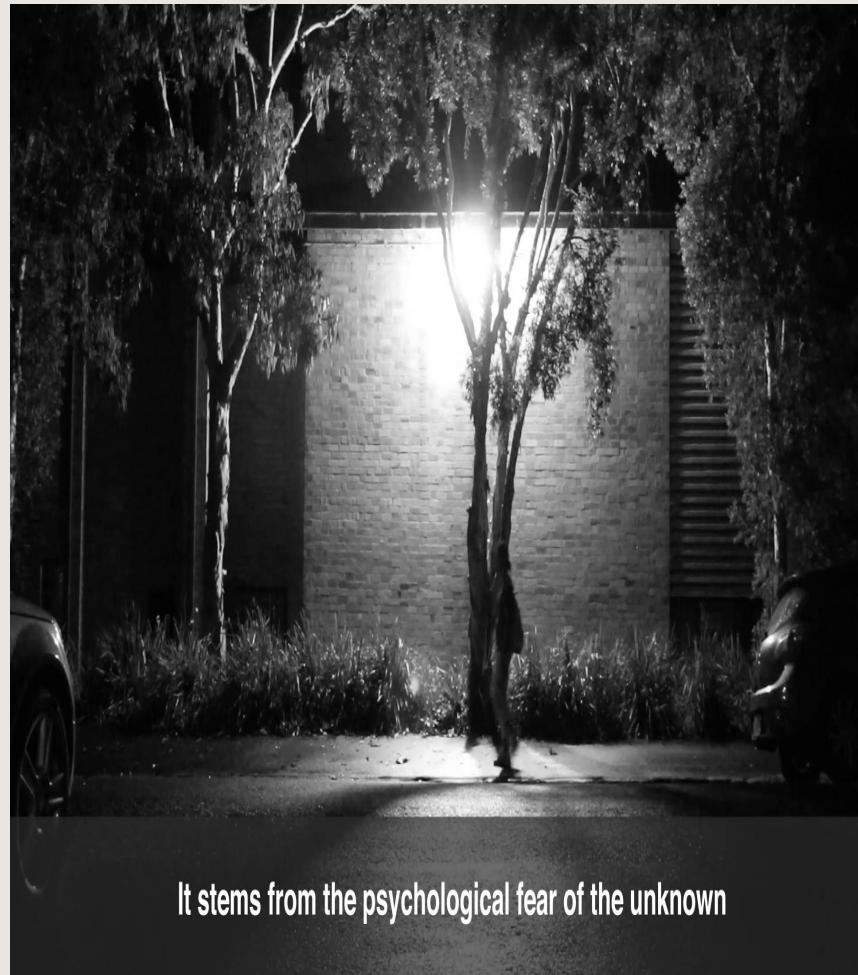
NO COLOUR		COLOUR+DIRECTION	
YES	NO	YES	NO
1H1 1H1	1H1 1H1 1H1	1H1 1H1	1H1 1H1
1H1 1H1			
<u>OBSERVATIONS</u>			
<ul style="list-style-type: none"> ★ people are doing it alone compared to people who aren't ★ people who did it took around if anyone saw ★ walking around it ★ People stopped and looked (after adding colour) as though "what do I do now plus") 			
<ul style="list-style-type: none"> ★ people with bags or items lets inclined to do so ★ people more inclined to play ★ Dodge it ★ If not in there path they won't interact with the game ★ more a walking around it ★ Friends playing with it 			



Video of final concept prototype
(click to video link)



To provide source of distraction and connection to the environment



It stems from the psychological fear of the unknown