Q&A for Webinar: Lighting University - The 3 CLUE winners sharing their projects - Light and

the senses

Date: 26 July 2018

 $\ensuremath{\mathsf{Q}}\xspace$ Is this project implemented in the wall? Do you have videos of people interacting?

This project was developed only for the Clue Competition, it is just an idea and was not implemented anywhere.

Q: Have you made the working prototype?

A>>

No, it is an expensive technology. However, we would really enjoy if some company decided to invest on it.

Q: Do you think your project is applicable in what type of environment/community? A>>

We had the idea for communities that are in conflict to create empathy, but it could be applicable anywhere, like public places, for entertainment.

Q: What are your next steps with the project?

A>>

A>>

We do not have a plan for the project now. We are still on college and here in Brazil it is very difficult to get money for research, so for now we cannot really do anything with it, unfortunately.

Q: Do you plan to take this to development or further research?

We wish, but, as we already answered on the question before, it is very difficult to get money for research in Brazil, and as we are still in college, we do not have time to look for investment outside

Q: Are there any investors looking at this?

A>>

No. We were invited for a meeting with someone from the city hall of Curitiba to talk about the project but they only did that to tell how proud they were of us and to say they didn't had money to invest on us, but they really wish they had.

Q: who produce such type of panel?

A>>

It is not a real project, so there aren't anyone producing this right now.

Q: Do they have some proposal to finance it?

A>>

As we answered already, there are no proposal to finance it, unfortunately.

Q: What other applications do you think this technology will be used for?

A>>

We think this could also be used for entertainment in public places and also for security in some scenarios that people are not supposed to see the other side, but still needs to know what is going on there.

Q: Do we need panels in both sides of the wall, or just in one side? Will we have two silhouettes like the one of the women walking and when you touch it it'll become red?

A>>

We need panels on both sides of the wall for both communities to see the silhouettes of who is passing on the other side. The red glow will be seen by the ones on the opposite side of the people who touched the panel. It indicates that someone is there ready to talk with anyone on the other side.

Q: I think many people are against the walls of any kind. But this system can record conversation, fingerprints, etc. Can this be used by state personnel for uses against the population on both sides or not?

A>>

No, it would not.

Q: What are those color and scent associations coming from? How did you relate tiger with lime? A>>

You're right associating a colour named 'Tiger' with the scent of lime, don't make much sense. This is, however, only for presentational purposes. I suppose I ran out of ways to name different shades of colours!

In reality, however, there is a common theme linking the different scents and colours. For example, the Lime scent is part of the 'Blossom' Family which comprises of 6 different shades of yellows each carrying a floral or fruity aroma. The same applies for the remaining 'Spring', 'Sugar', and 'Spice' families each having their own unique set of auras and aromas.

Q: Eventually the scent textiles will no longer have smell on it. What will happen to preserve the smell longer? A>>

Based on my research, having these strips of fabric scent-dyed with microencapsulated scent twice a year seems like a good estimate. However, should this not be the case, then they can be dyed on a monthly basis depending on initial testing.

Q: Did you study the actual output of the EL wire? Did it give you enough output to provide usable light on the stairs?

A>>

You are absolutely right that Electroluminescent wires do not provide a large of output of light. I believe that I am taking that flaw to my advantage since I do not want the space to be too well lit. Instead, I opted for dimmed lighting to create a cosy and warm mood. I think the final light output would be just enough so people can make their way up and down the stairs, but still dimmed enough to accentuate the mood I'm going for.

Q: How long does the scents last? A>>

Well that depends on several environmental factors, such as weather, wind, and humidity. So, it's hard to pinpoint an exact duration. However, there are new ground-breaking technologies out there today where smells are being captured in fabrics indefinitely. I did not want to take it that far, so I am assuming microencapsulated scents would last up to 6 months. Of course, this is prone to change as it is only an estimate.

Q: What about rain and scents?

A>>

If Auraroma is to be implemented, there obviously needs to be more testing done to the specific type of fabric used. However, I think naturally water-resistant fabrics such as tweed would be strong contenders. The most important thing is for the fabrics to be able to hold the scents when scent-dyed, but not rainwater when it rains.

Q: The Flipping Mechanism between Daylight and Night time was not fully clear. If a continuous strip how to flip it?

A>>

The first thig to note is that the fabric strips themselves have the daytime colors on one side and the night-time colours on the opposite sides. During the day, the sides that have the daytime colors are on the exterior of the structure while the sides that have the night-time colours are concealed inside of the canopy.

When the sun sets and it's time to transition, the strips automatically flip onto a third rail of the skeleton, and that in essence turns the canopy inside out revealing the night time colors on the exterior while hiding the daytime colors inside.

As for the scents, the daytime scents are dyed on night time color's and vice versa. The reason for this is because friction is created on the interior side of the strips and that is how the scents are released into the atmosphere. So, when done in this way you would get to see the daytime colors from the outside and smell the daytime aromas coming from the fiction created on the inside. In other words, only the desired colors and scents are at play according to the time of day and this is how the system works.

Q: Can you please say something about the light controls? $\Delta >>$

During the day, there is no need for light control, because all the light that is being used or manipulated is natural daylight. On the other hand, during the night, the EL Wires are programmed to continuously dim in and out in a slow "breathing" rhythm. Therefore, not much light control is needed here either.

Q: Have you used any astronomical clock in this project? $\Delta >>$

I have not, but now that you've asked me that question I wish I had thought about that before! I think that's a splendid idea, and would definitely be looking into adding an astronomical aspect to Auraroma.

- 0: What would be the dimensions of the SOL?
 - A> The project is still on an early phase and there are many factors that will end up defining the final size of the SOL. Based on some early calculations, the estimated diameter of SOL will be between 4-5 meters.
- Q: Is there an alternative material as it's likely to be a target for vandals?
 - A> The main idea of this project is to place a large emitting light source over a public square creating an illusion of an artificial sun. I decided to express this in a specific way for the competition but there are many ways to create this effect. As the project moves forward towards realization we will explore all the possibilities to overcome the operational challenges.
- Q: Are you already presented to the authorities of Copenhagen?
 - A> I am currently in conversations with the organizers of the Copenhagen Light Festival which is held every year in public squares around the city. We are considering building a temporary installation for this project and I am in the process of finding sponsors that could fund this project.

- Q: Any ethical issues? May be some do not want the light exposure, for instance those returning in the morning from a nightshift?
 - A> The square that was proposed in the competition is a very large space in the city centre and surrounded by a School, a Food court and a park. There are a few residential buildings close by and we would try to place the SOL as far as possible from those. Of course, it will need to have the approval of the neighbours.
- Q: Is it not risky to use helium instead of a simple pole with some special features to allow it beautiful as well?
 - A> As I said in a previous question, the main idea is to place a large emitting light source over a public square creating an illusion of an artificial sun. This can be made in many ways. I thought creating a helium balloon was a very poetic way to recreate a sun and also an easy way to build it as a temporary installation with no need for new construction. If this system however proves to be unfeasible, there are many other ways to explore the same idea like, as you mention in the question, using a pole.
- Q: Why do you want to include sounds?
 - A> SOL aims to create an experience of a bright day. The presence of light has an effect on animal cycles and therefore it also affects the sounds that we hear on those days. By combining these two elements together we aim to create an even more accurate experience.
- Q: Will the sun need to be re inflated with helium every once a while?
 - A> As I mentioned before, the project is still an idea. The next step of this project would be to build a temporary installation so people can experience it for a few days. It will for sure need an occasional helium refill but I do not know yet at what rate or how this will be done. This is something that will be discussed if it ever became a reality.
- Q: Is there any feature to protect it from birds, insects, etc & cleaning?
 - A> These are all very good points and relevant questions to the project. As I said, so far the project is just an idea. I imagine that the balloon could be deflated periodically for cleaning purposes. But, again, we will take on all those issues if the project ever moves on to a next phase. I am convinced that with experts advice we will be able to find solutions for all challenges. Now it's the time to dream.
- O: Would the light be dimmed at different times of the day to mimic the natural movement of the sun?
- A> That is exactly the idea of this project. Both the light colour temperature and light intensity will vary automatically to recreate the sun conditions of a longer and brighter day. This means that the day would start with a warmer and softer light and move to a colder and brighter one towards noon just as it does in nature.
- Q: Can we use it to make artificial life in space invasion like make colonies on Mars?
 - A> That is a crazy and interesting idea. It could be an easy way to illuminate whole settlements during night time. However the conditions in Mars are quite different than on earth in terms of atmosphere, pressure, gravity and air temperature so it is hard to know if it would work.
- Q: Is the light powerful enough to the wave lengths impact the persons in order to have a positive effect?
 - A> One of the main challenges of this project is to achieve the desired amount of lux at ground level. This topic will be explored with help of lighting experts if this project gets to a new phase.
- Q: Any astronomical clock has used in it?

- A> No astronomical clock has been used. I am not sure how an astronomical clock could have an effect on this project but I will be happy to hear the idea behind it.
- Q: when will it be available in Markets?
 - A> The project is still an idea and there are no plans to release this as a product to the market.