



# CELESTIAL NAVIGATION

AN INTERACTIVE STORYTELLING  
EXPERIENCE

# THE TEAM

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# THE Δ ATTRACTION

## Theme

- The Night Sky - Constellations

## Type

Interaction in Public Spaces: Museums & Cultural Heritage

## Genre

Storytelling, Learning experience

## Public Space

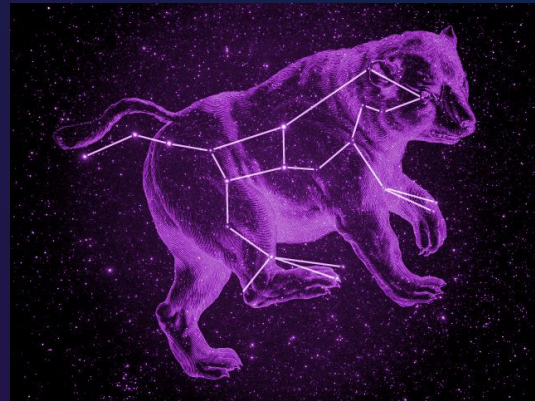
Museums, family entertainment centers, outdoor festivals

# THE ΔTTRACTION

## The idea

Participants try to form constellations that appear in the night sky projection by placing themselves on the correct tiles on the floor.

When they step on the correct tile, it lights up. Once all the stars of a constellation are lightened, the myth behind the constellation is triggered.



# INTERACTION

## Interaction

Participants will need to step on the correct tiles to light up the floor to correctly represent the constellation. They could also hold hands to create the connecting lines.



# INTERACTION

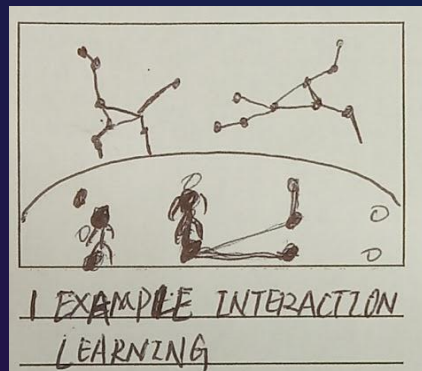
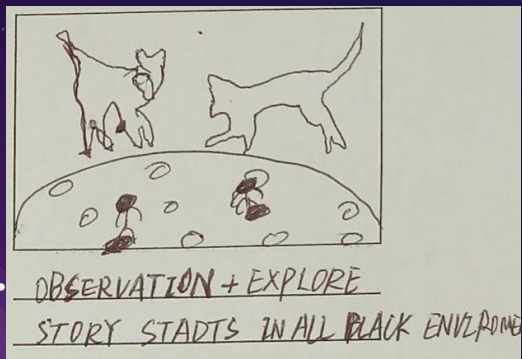
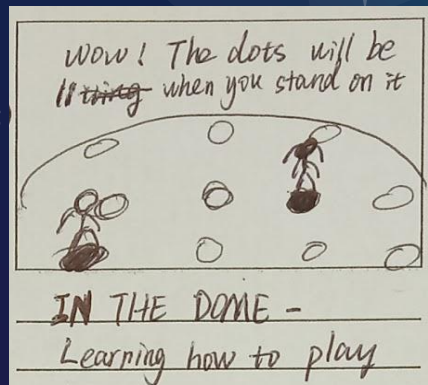
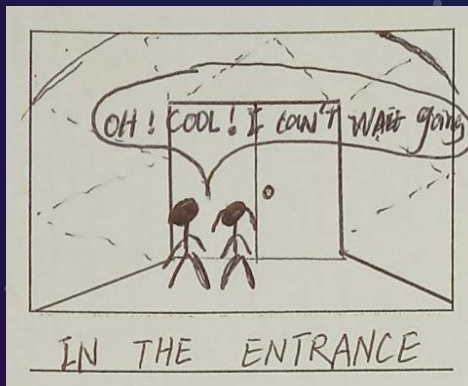
## Why Interaction?

- The participants will not only be able to learn about the constellations but they will also be able to replicate them through collaboration. It's an embodied interactive experience where you learn by physically moving around.

**Interaction rules:** Step on and Collaborate!

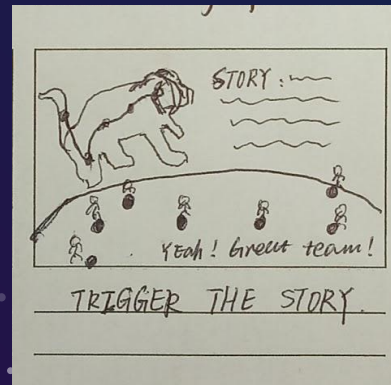
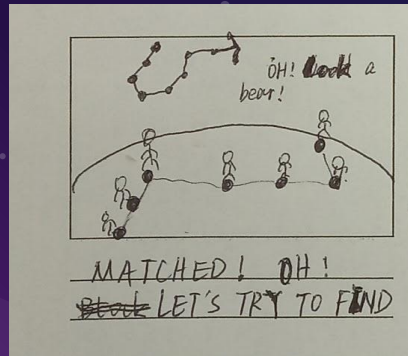
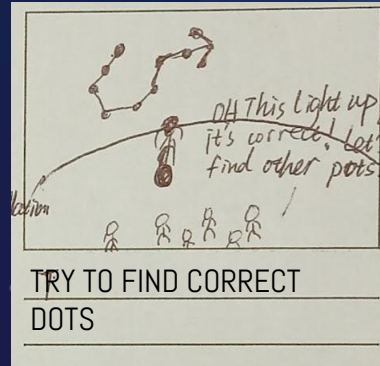
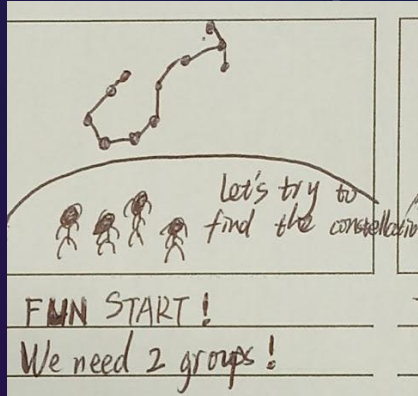
**Naturalness of interaction:** The participants move naturally in the space and wear no equipment. They are only required to stand on the pressure tiles and listen to the stories!

# STORYBOARD





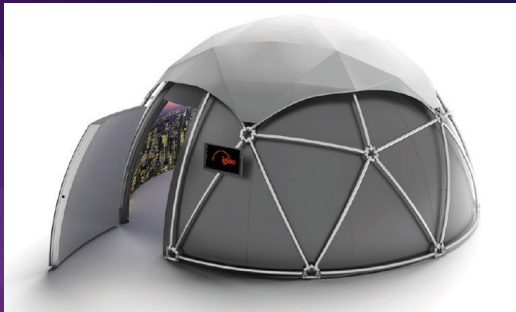
# STORYBOARD





# TECHNOLOGICAL SPECIFICATION

- ★ **Dome:** full dome with textured and coloured screen surfaces to allow maximum display capability.
- ★ **Projector:** four projectors across the dome to create the 360 degrees effect
- ★ **Motion tracking system:** video camera, depth sensor and software set on top of the dome
- ★ **LED floor tiles:** circular tiles with pressure sensor and LED lights





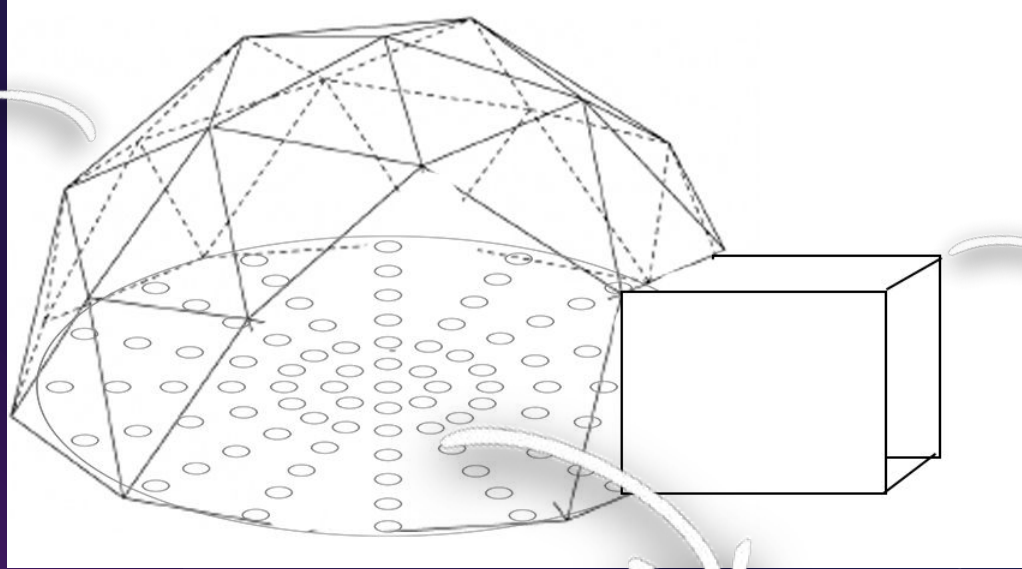
# ROBUSTNESS & MAINTENANCE

**Robustness:** Durability of LED floor tiles is approximated to 100000 hours.

**Maintenance:** software can be accessed through a cloud service for troubleshooting and updates.

# PROTOTYPE

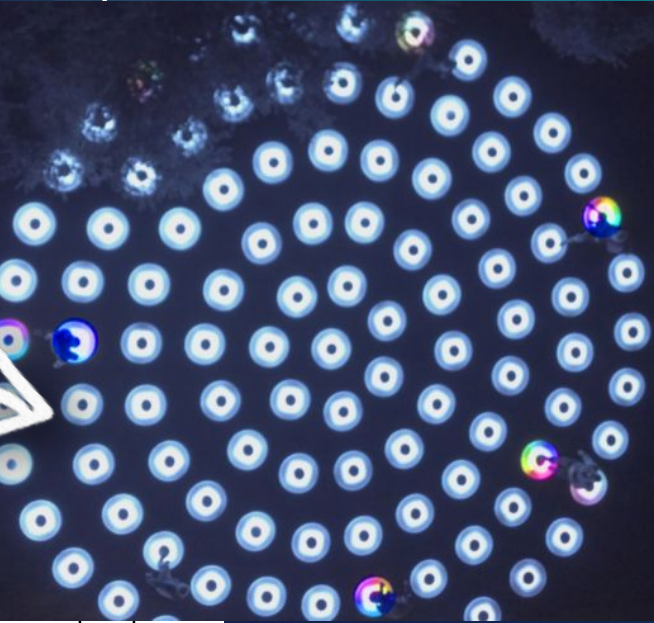
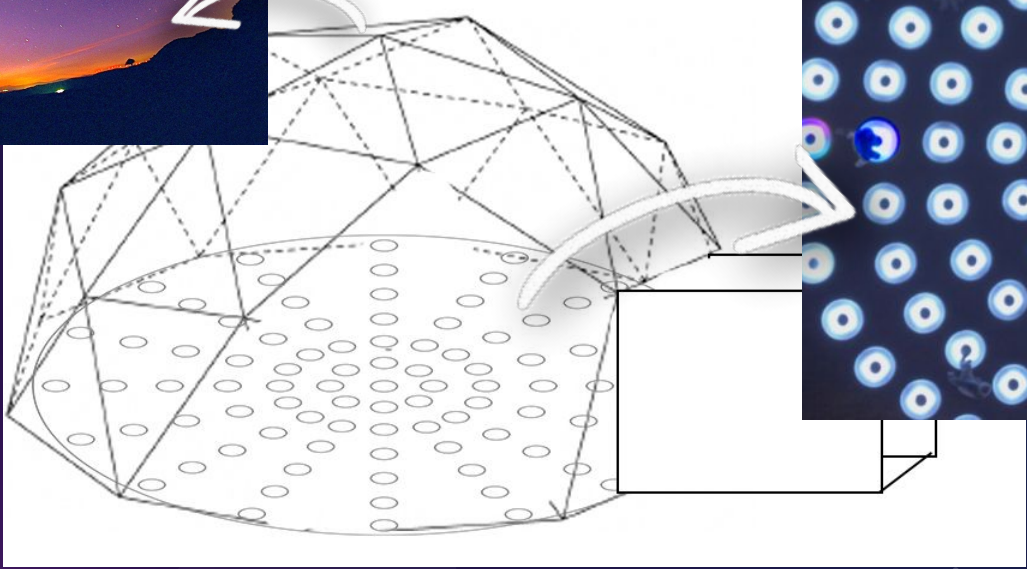
*Dome*



*Preparation  
Tunnel*

*LED floor tiles*

# PROTOTYPE





# PROTOTYPE



# THROUGHPUT



## Duration of experience

5 mins

## Preparation

1 min

## Throughput

~ 90 users/hour

# QUEUES



Length of queues:

- ★ **Preparation phase:** Tunnel before entering the dome to prepare the participants, set the mood, see different constellations
- ★ **Learning interface:** After each group entering the dome, allowing half a minute of free exploration to interact with tiles.
- ★ **Learning interaction:** Story starts with an example constellation marked on the floor. First constellations will be easier than the rest.



# INVASIVENESS AND ENCUMBERING

The participants will not be required to wear any external equipment and move naturally in the space by stepping on tiles:

- ★ Non-invasive
- ★ Freedom of movement
- ★ No safety consequences

# ANALYSIS OF SAFETY AND HYGIENE

**Safety:** A limited amount of people is allowed in a dome at a time. While entering the dome, each group goes through the first door which must be closed before the next one opens to avoid deflation. No safety risk from interacting with the installation or other users.

**Hygiene:** No hygiene concerns. Users interact with the installation by stepping on tiles

# ANALYSIS OF EXPERIENCE

Multiplayer, shared experience:

- ★ players need to form groups
- ★ try to discover where the constellation is and create it together
- ★ need to hold hands to form the lines of the constellation

# ANALYSIS OF REPEATABILITY

- ★ Users are encouraged to repeat the experience to try different constellations, as the smaller ones appear in parallel. Also, if they didn't manage to do the constellation right, they would want to try again.
- ★ A lot of different games can be supported, for example tiles light up and players try to memorize the constellation and repeat it.

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