Our city Experience

A game for stimulating social interaction in public spaces.

ISEP INSTITUTO SUPERIOR DE ENGENHARIA DO PORTO

The team

Lahore

Product Development

Alicja

Industrial Biotechnology

Eléna

Packaging Engineering

Felix

Industrial Engineering and Management

Sander

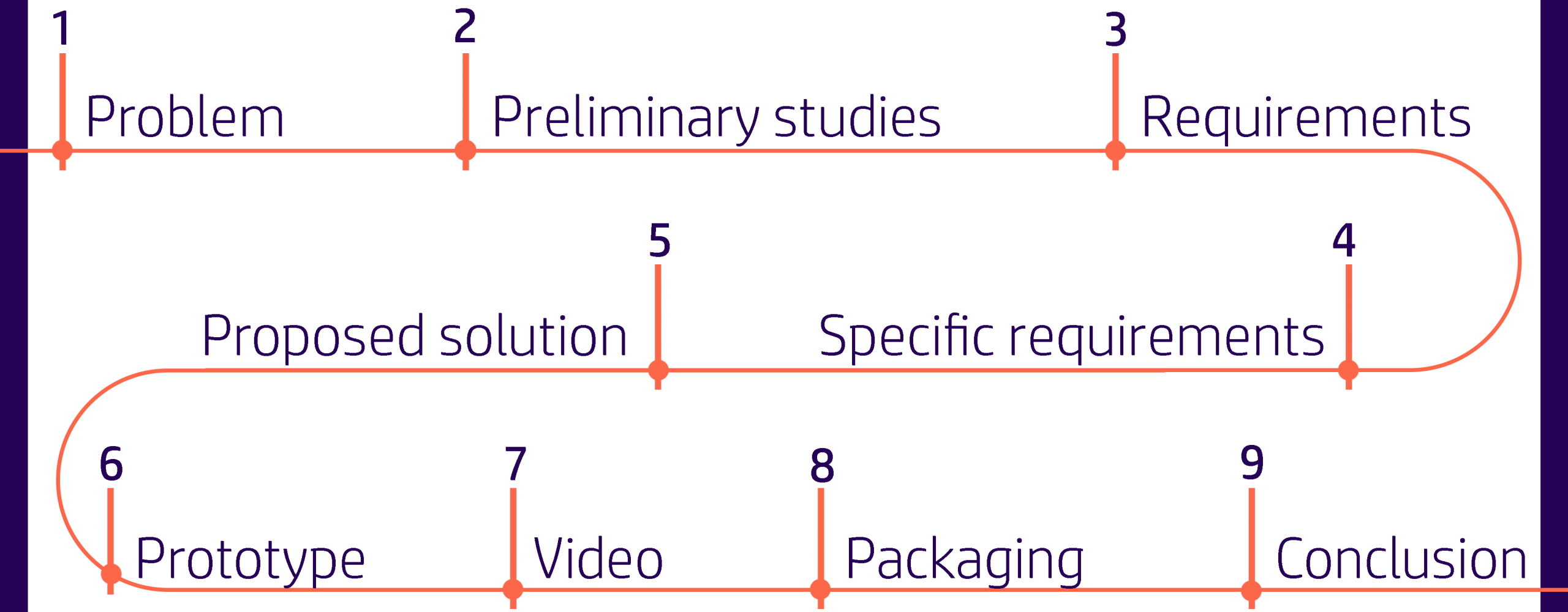
Electronics-ICT

Ângelo

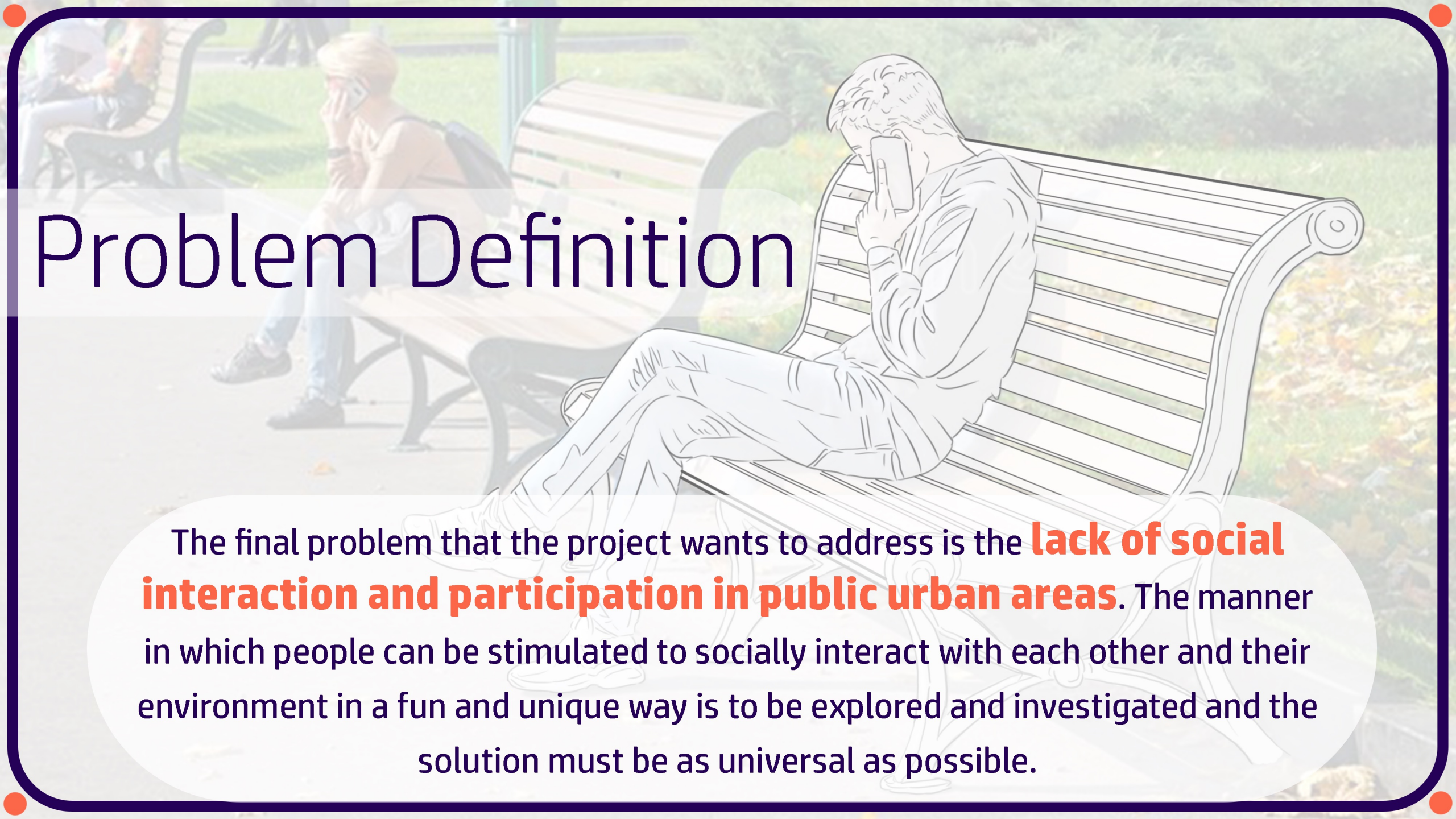
Mechanical Engineering

Agenda

Timeline



Problem Definition



The final problem that the project wants to address is the **lack of social interaction and participation in public urban areas**. The manner in which people can be stimulated to socially interact with each other and their environment in a fun and unique way is to be explored and investigated and the solution must be as universal as possible.

Preliminary studies

Requirements

Specific requirements

Stimulate social interaction

Be a type of game

More mentally challenging than physical

Encourage collaboration

Incorporate competition

Universal in use

Different:

- Ages
- Languages
- Cultures

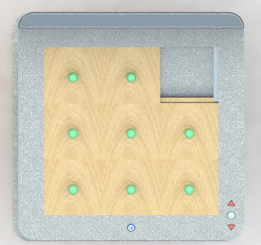
Install in public spaces in cities

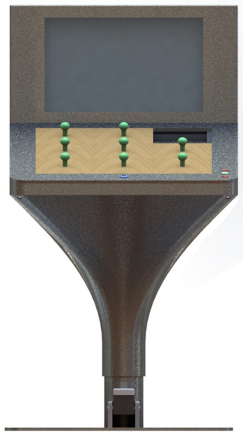
Incorporate physical components with technology

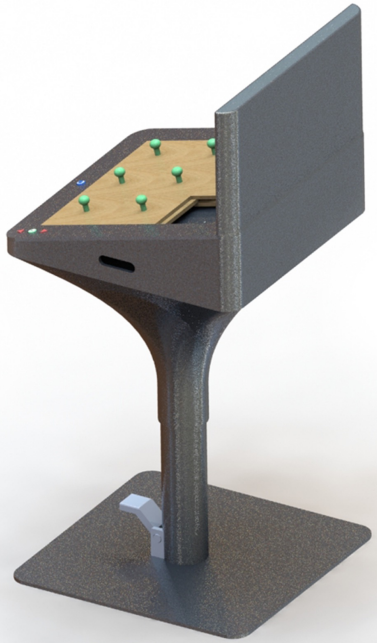
Implemented in the outdoors

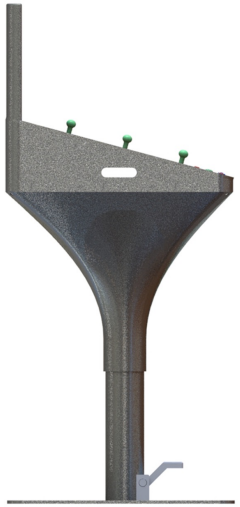
Free participation

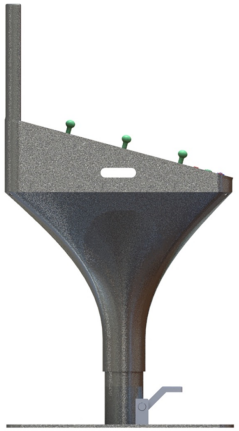
Respect privacy







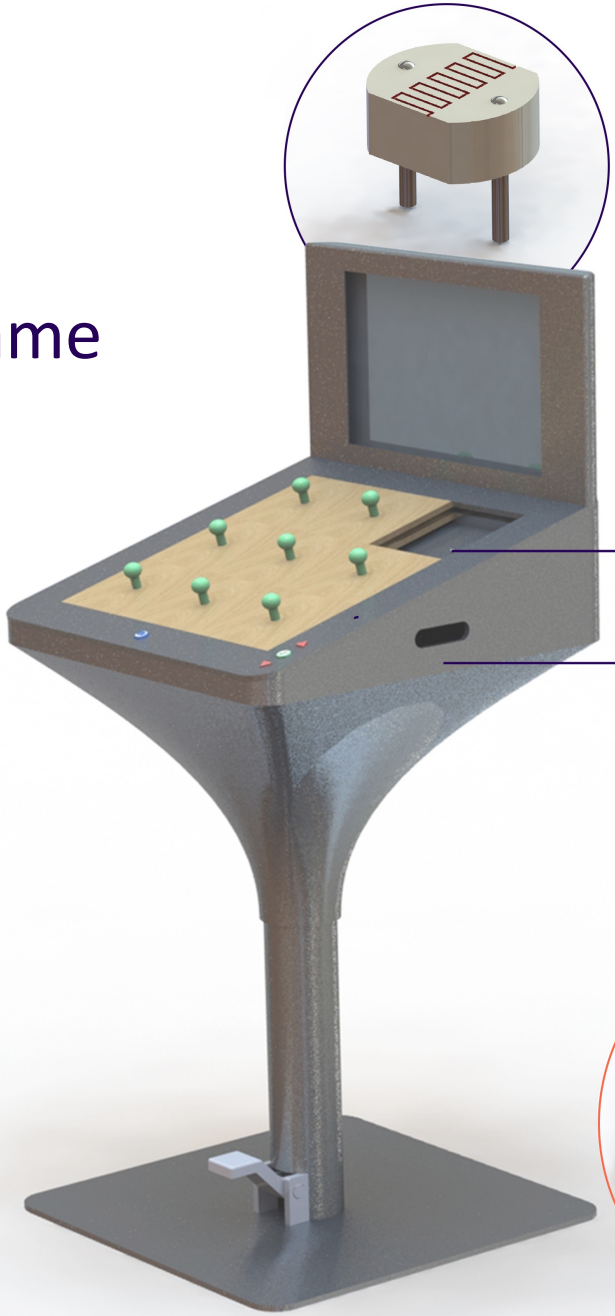




Proposed Solution

Sliding puzzle game

- **Installed in public spaces**
- **Take a photo & solve the puzzle**
- **Sliding puzzle pieces-** movement tracked by light sensors
- **Adjustable in height**- foot pedal

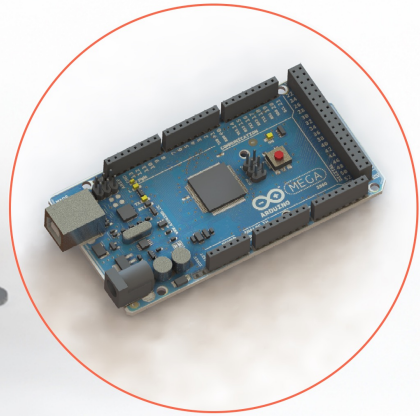


9 LDRs

Light sensors

Raspberry Pi 3

Microcontroller



Push buttons

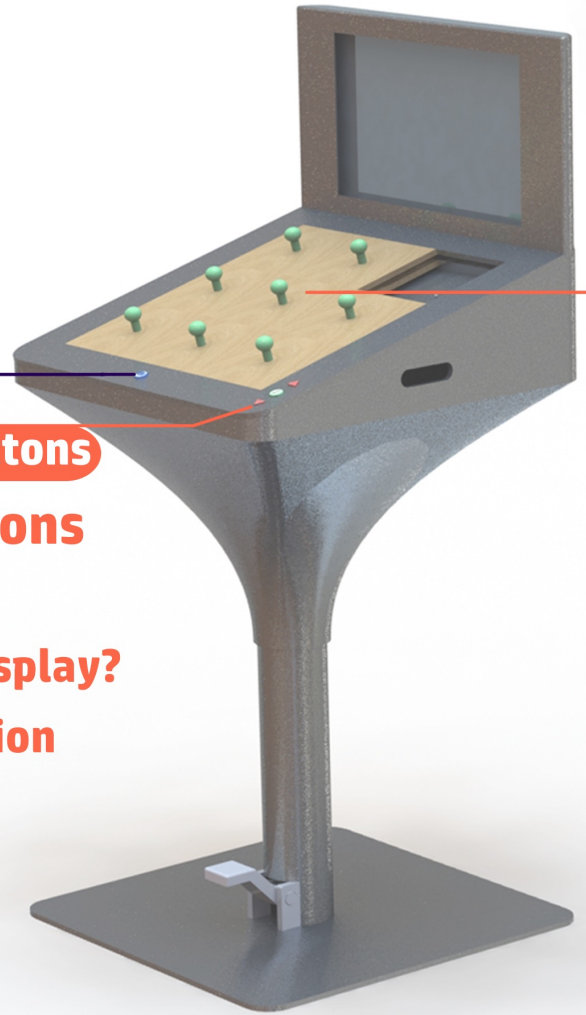
Camera

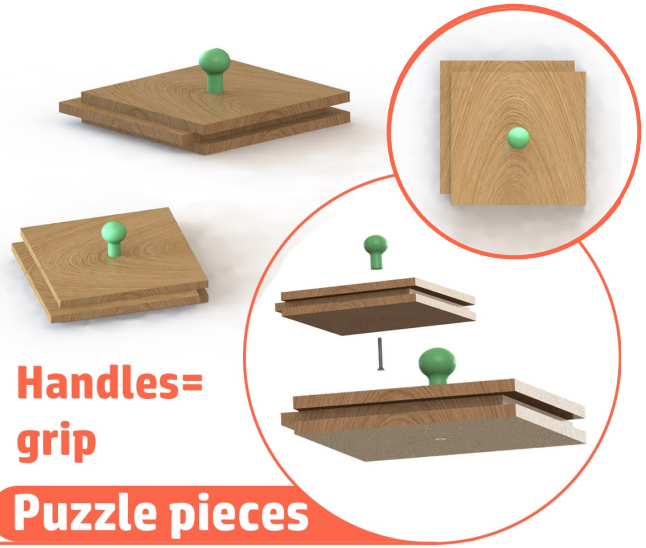
Selection buttons

Push buttons

-Publicly display?

-Filter selection



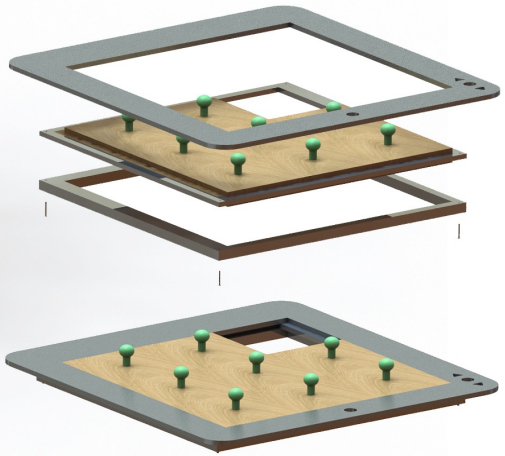


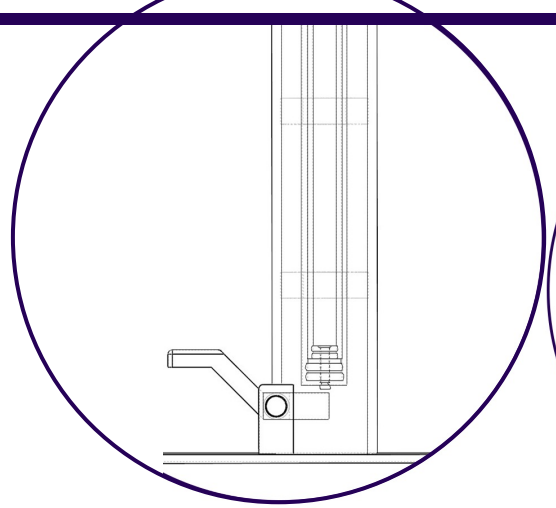
Handles=
grip

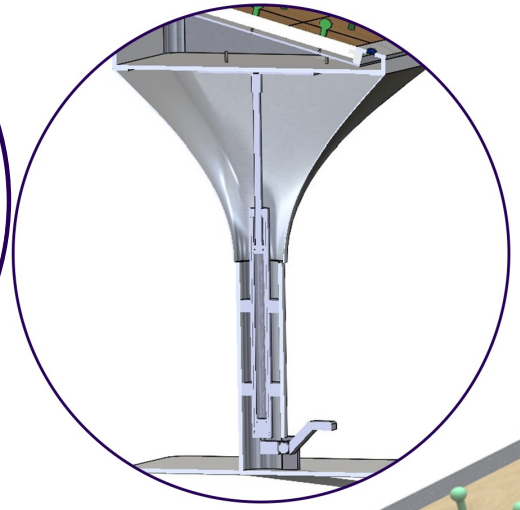
Puzzle pieces

8 Puzzle pieces

Lip-and-groove system
= sliding mechanism

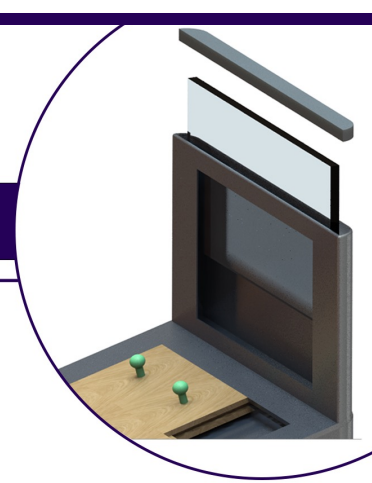






Screen

Display



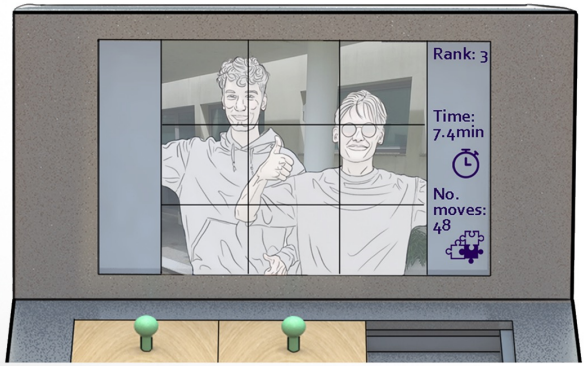
Screen

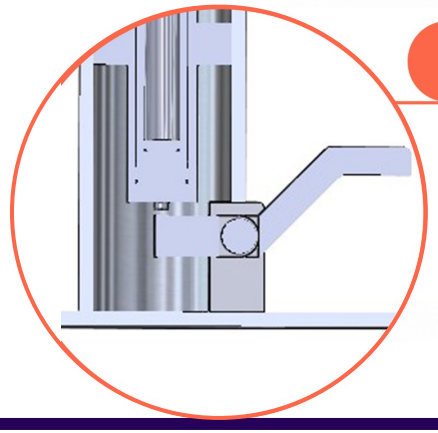
Rubber insert

Aluminium screen frame

Gas lift system
= Height adjustment

Pneumatic lift



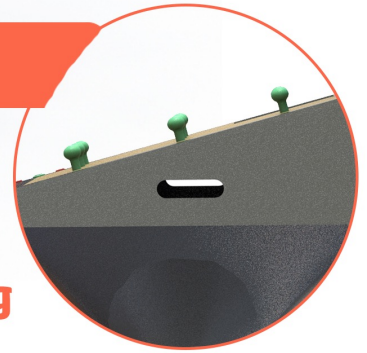


Foot pedal

Pedal lever
Pivot pin

Handles

Handle indents for easier handling

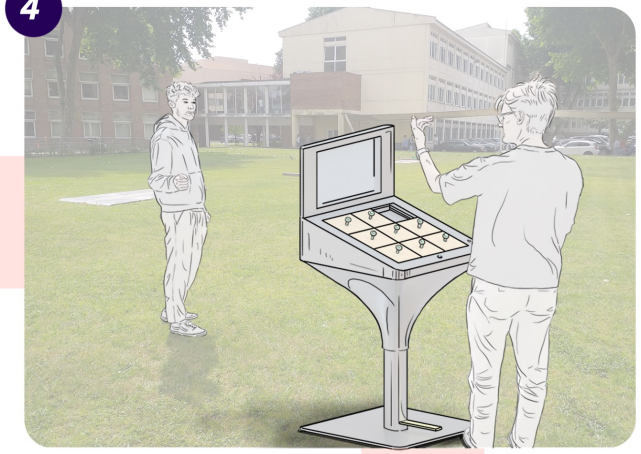


1

2

3

4



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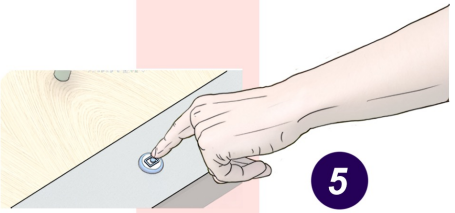

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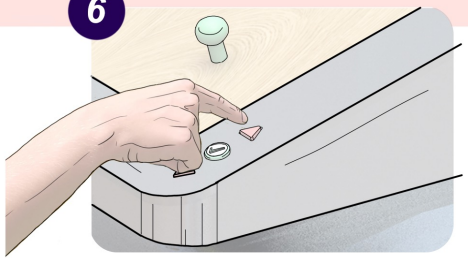

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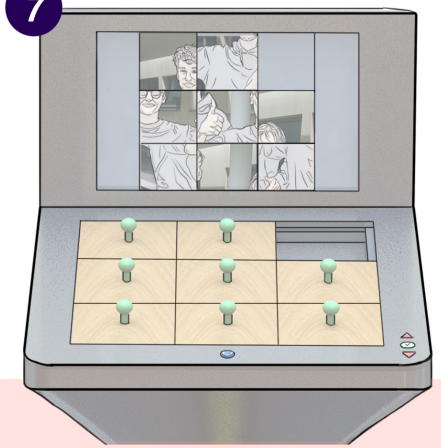

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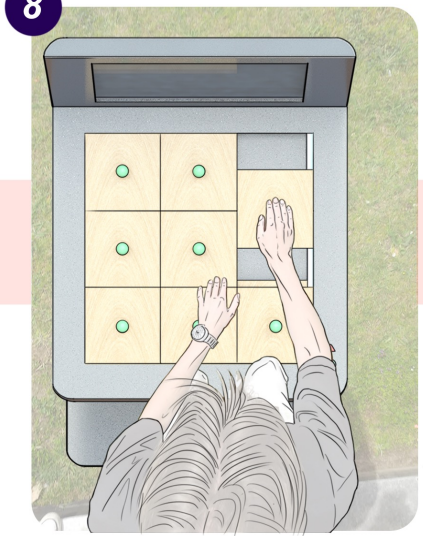

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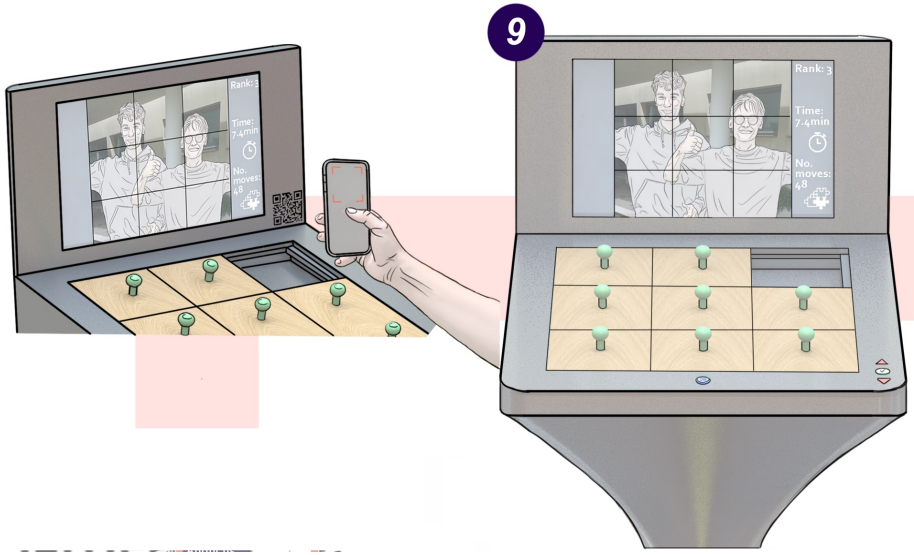


Prototype

Materials and construction adjustments and final design

White Oak

Plywood

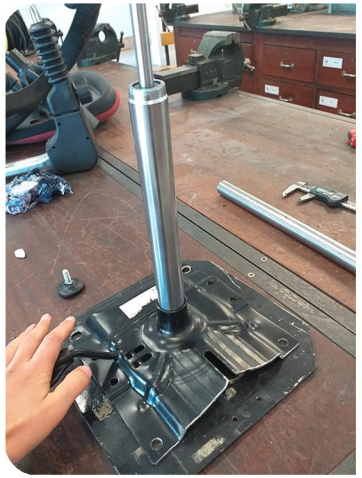
Aluminium

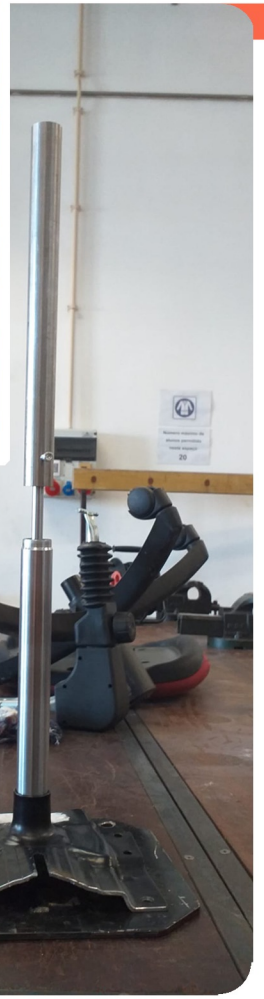
Steel

Pneumatic lift

Office chair gas lift

Prototype
- How it works

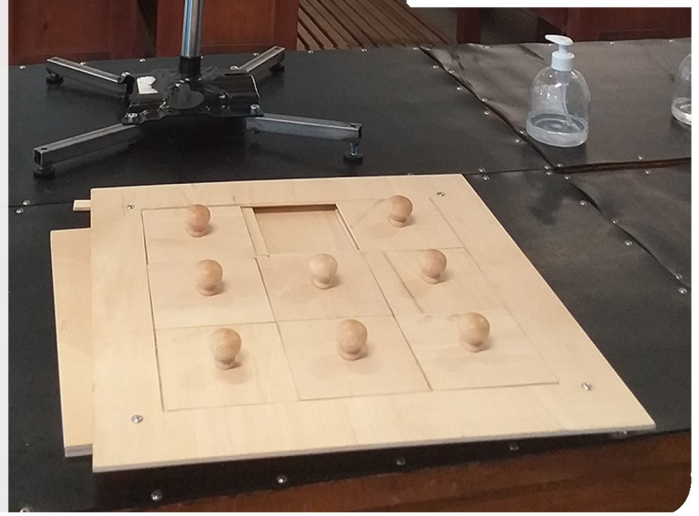




Pedal activation system
(How to lift and push down the equipment)

Lip and Groove system
in the sliding pieces

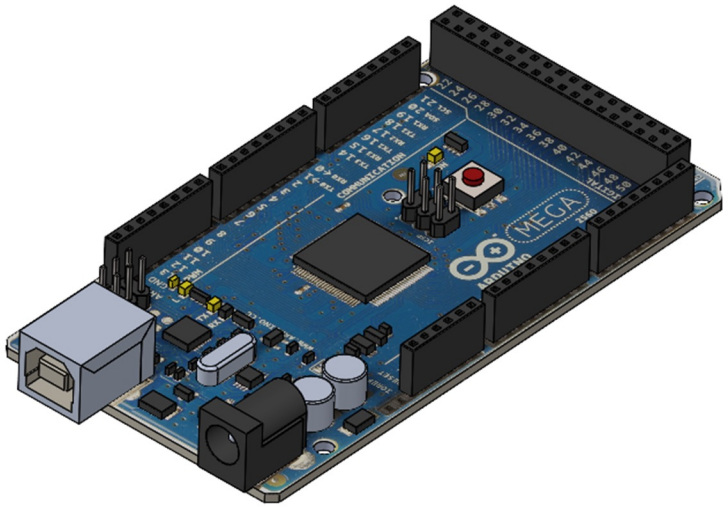
Handles for grip

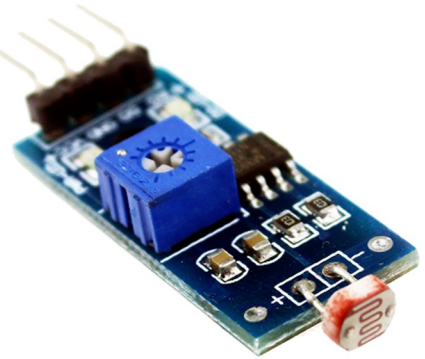


Use of a laptop

Prototype

Software and electronics





Microcontroller:
Raspberry Pi 3 > Arduino Mega

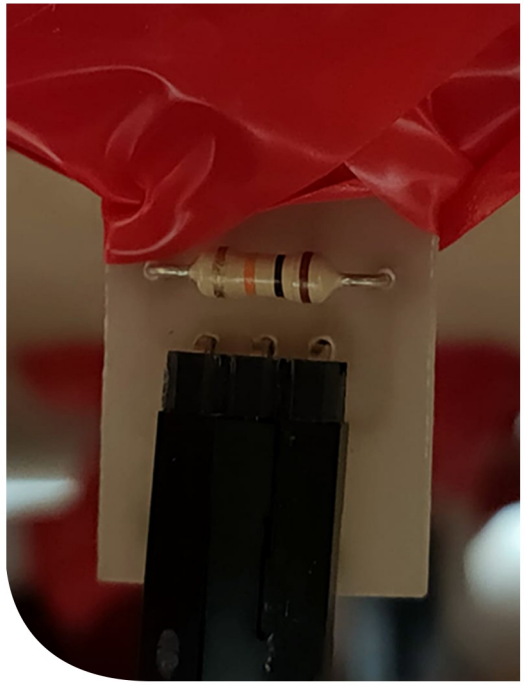
9 LDRs

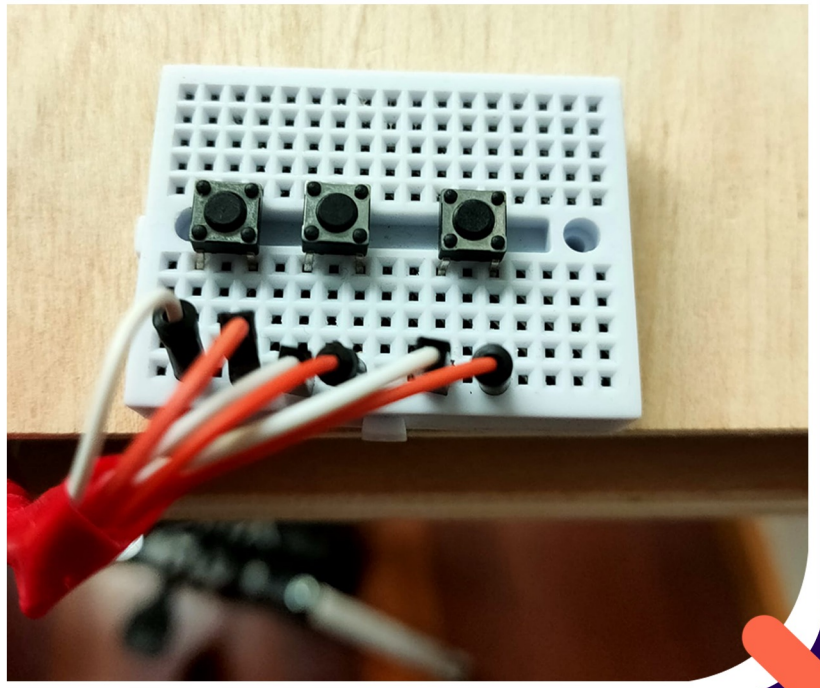
Wiring

LCD screen > Laptop screen

3 Push buttons

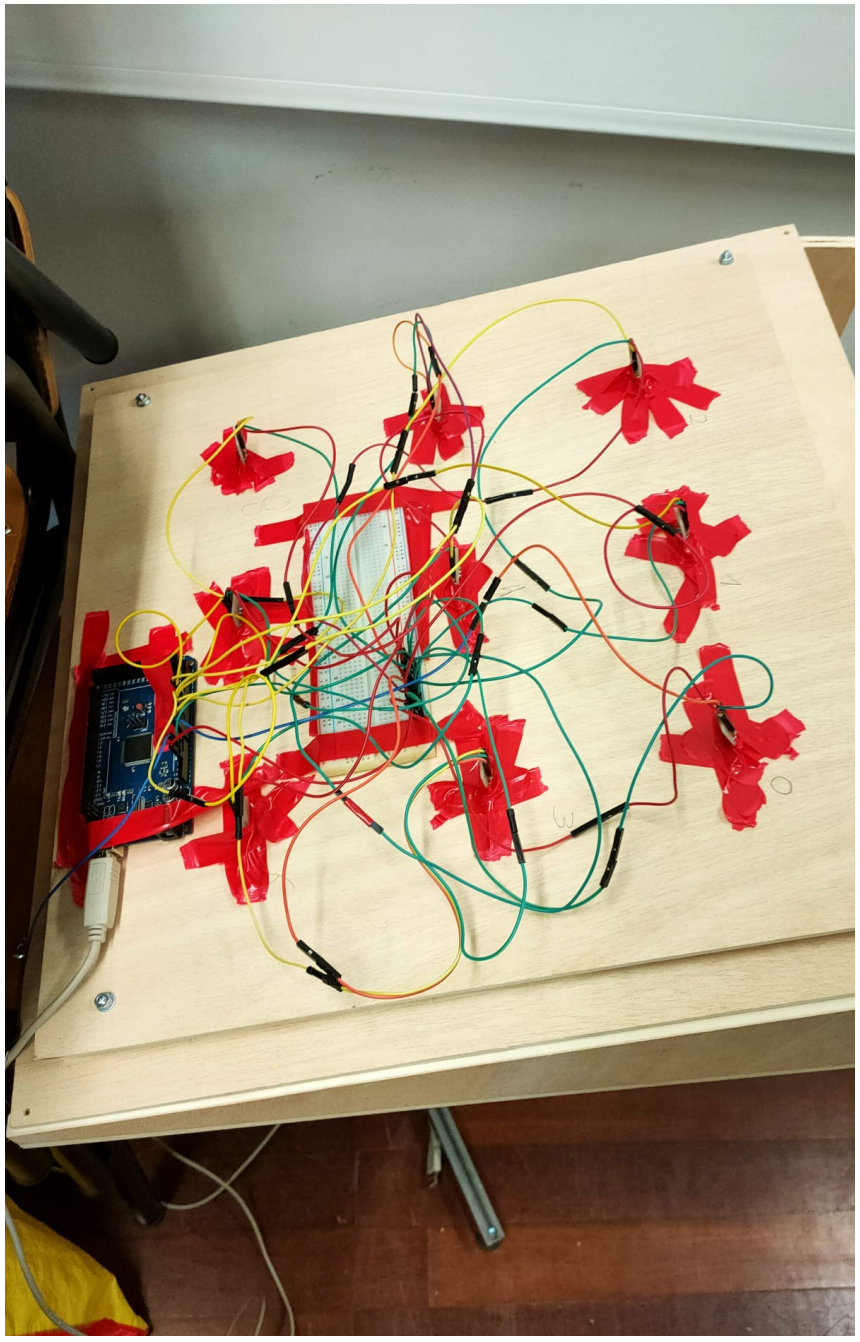
Resistors



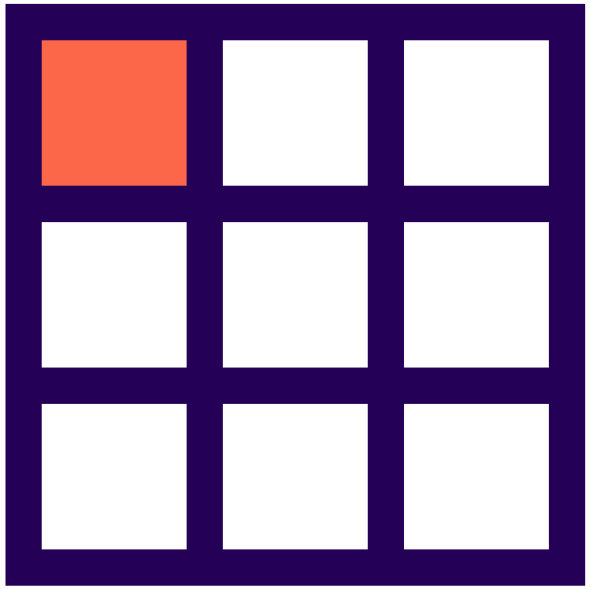


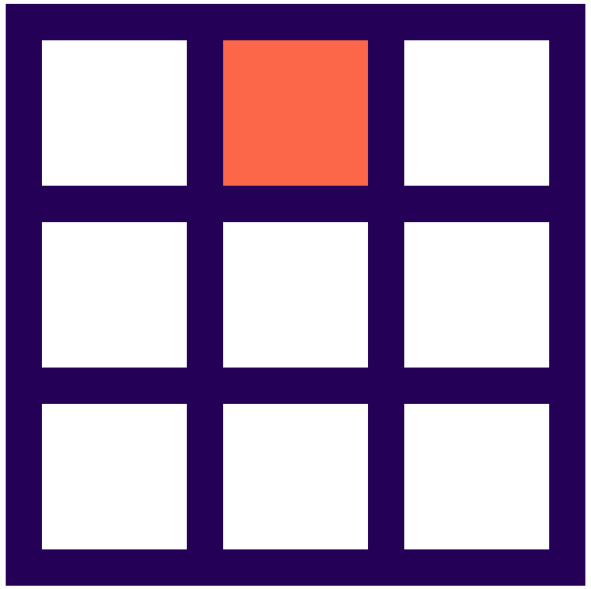
LEGION

EASTPAK



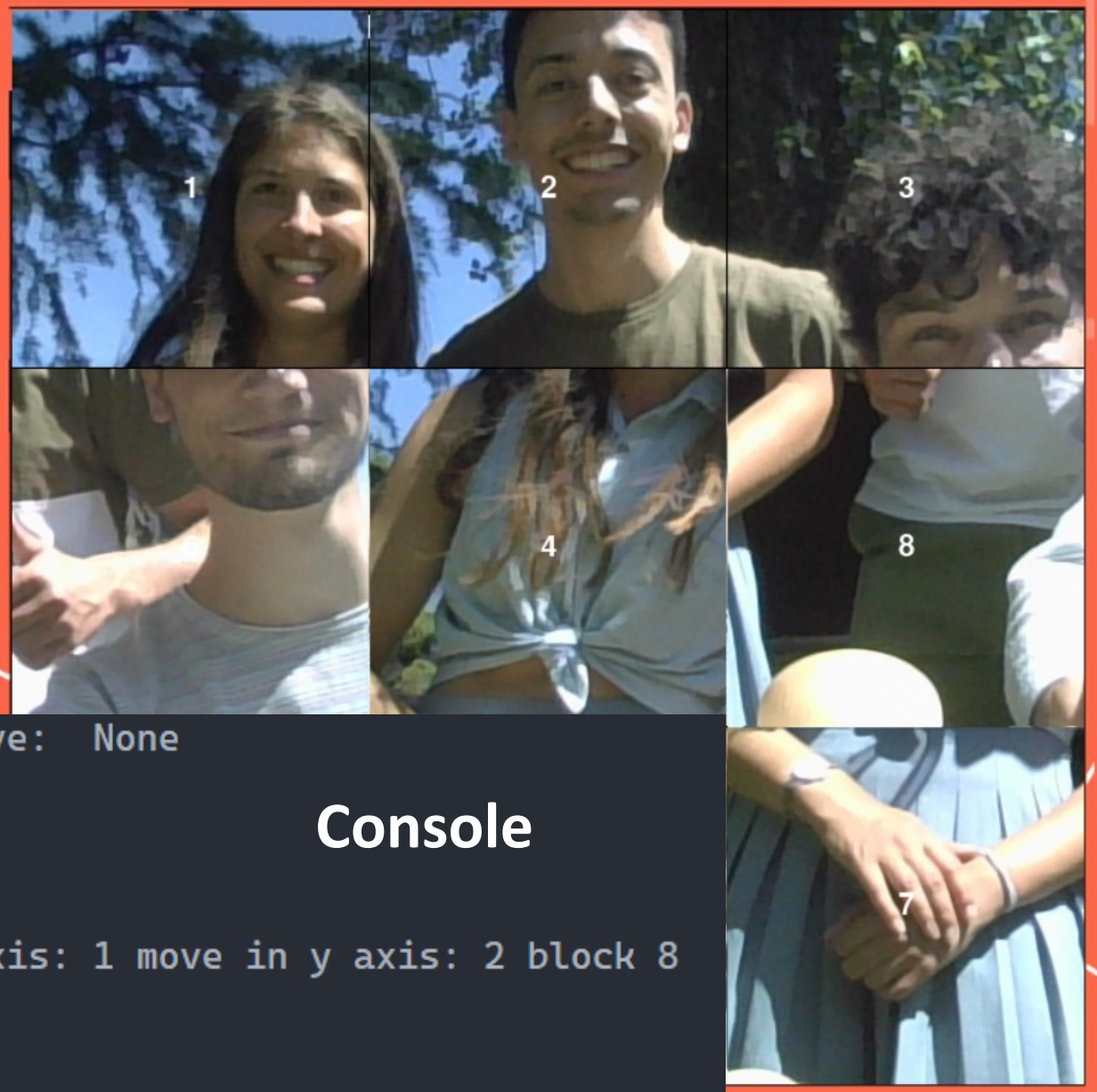
Pos 1 --> Pos 2





Receiving light

Total Moves: 1
Elapsed Time: 00:01



Sensor 0: 4
Sensor 1: 0
Sensor 2: 13
Sensor 3: 0
Sensor 4: 0
Sensor 5: 0
Sensor 6: 255
Sensor 7: 0
Sensor 8: 0

Last moved direction: LEFT

```
slide number:  0  last move:  None
board before move:  LEFT
[1, 2, 3]
[4, 5, 6]
[7, 8, 0]
directionLEFT move in x axis: 1 move in y axis: 2 block 8
updated board
[1, 2, 3]
[4, 5, 6]
[7, 0, 8]
```

Console

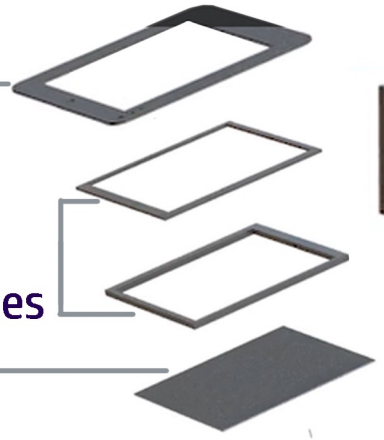
Software

Packaging

Puzzle frame

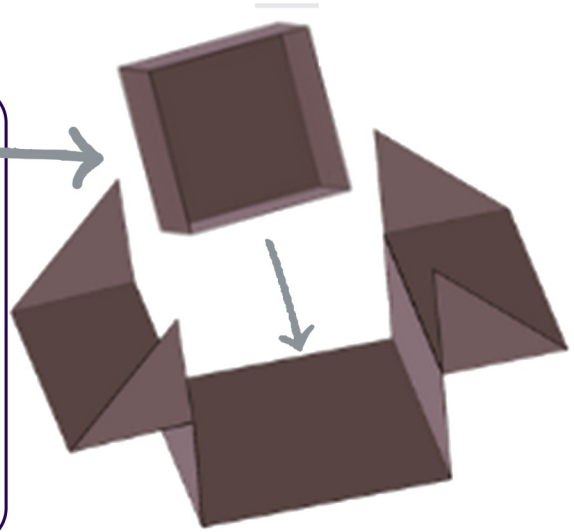
Lip-and-groove frames

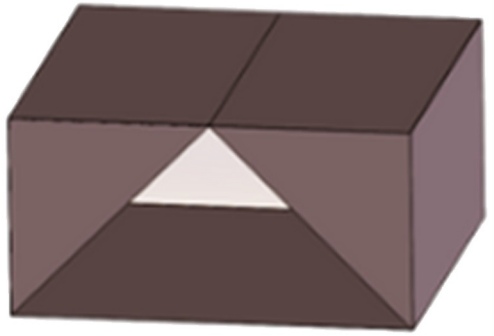
Puzzle bottom



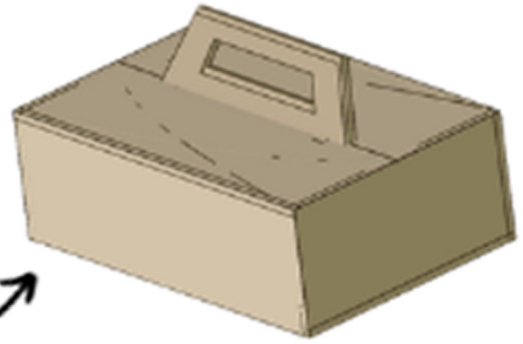
Screen frame

+ Platform of the puzzle game



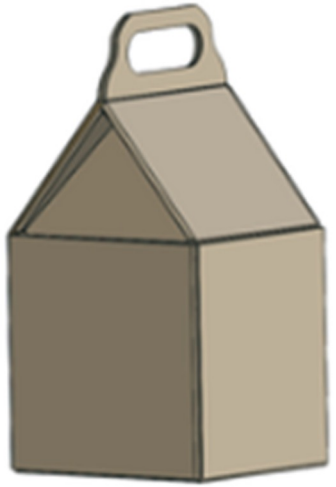


- Push buttons
- Screws
- Light sensors
- Cables
- Microcontroller
- Handles



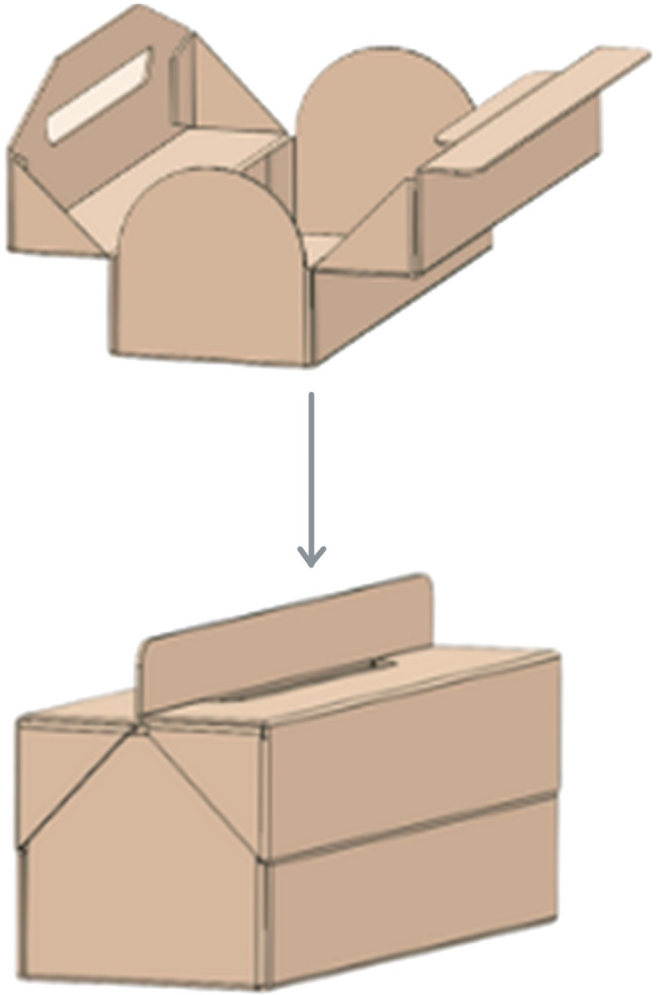
Puzzle casing

Puzzle pieces



Packaging

- Leg base
- Structure base
- Pneumatic lift
- 2 retainers
- Cylinder base
- Foot pedal



Video.....

Conclusion

Thank you for listening!

ISEP INSTITUTO SUPERIOR DE ENGENHARIA DO PORTO

SHIFT IT

Leaflet

SHIFT IT
Our City Experience
An interaction stimulating game for public spaces
ISEP INSTITUTO SUPERIOR DE ENGENHARIA DO PORTO
STEPS:
1 Push the button to take a photo-look at the screen to make sure you are within the frame.
2 Choose the artistic effects you want.
3 Your photo will appear jumbled up on the screen.
4 Slide the physical puzzle pieces vertically or horizontally to complete your photo on the screen as quickly as possible.
5 Your time and score will appear on the screen-have a race with another team!
SCORE
6 Once the puzzle is completed, choose whether your photo can be on display or not.
7 Scan the QR code if you want to download your photo.
WHY ?
People in public areas are often focused on their own digital world, unaware of the environment around them or the people in their nearby surroundings.
Public areas should be places where people go to enjoy the city.
Engaging in a challenging game stimulates social interaction between people, encourages participation and propels positive experiences in the city environment.
WHO ?
People who use public spaces alone, or joining with friends.
ANY
Age
Culture
Background
Language
Nationality
Locals
Capability
Tourists
Meet new people, face challenges together and overcome the barrier of talking to strangers with us!
LOOK FOR OUR OTHER DESTINATIONS
WWW.SHIFTIT.COM
00351 74 744 7944
SHIFTITPUZZLE@GMAIL.COM
SHIFT IT
Our City Experience
An interaction stimulating game for public spaces
ISEP INSTITUTO SUPERIOR DE ENGENHARIA DO PORTO
WHAT ?
A unique, interactive and exciting puzzle, offering visitors the opportunity to engage with others and create long-lasting memories.
The installation combines technology with physical moving components that allow people to pose and take photos of themselves together, which will be captured by a camera built into the product.
However, instead of the traditional photo printouts, the photo will be jumbled into digital pieces, creating a puzzle-like effect.
To see the full photo, people will have to complete a sliding puzzle by physically moving the corresponding puzzle pieces on the interactive platform.
STEPS:
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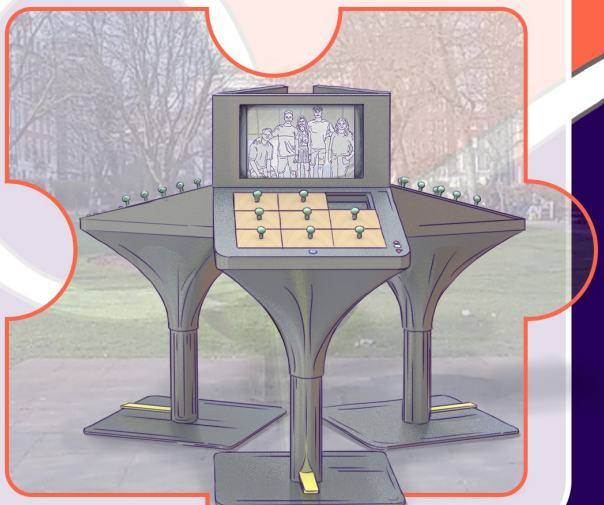

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Meet new people, face challenges together and overcome the barrier of talking to strangers with us!

LOOK FOR OUR OTHER DESTINATIONS

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SCAN ME

S H I F T I T

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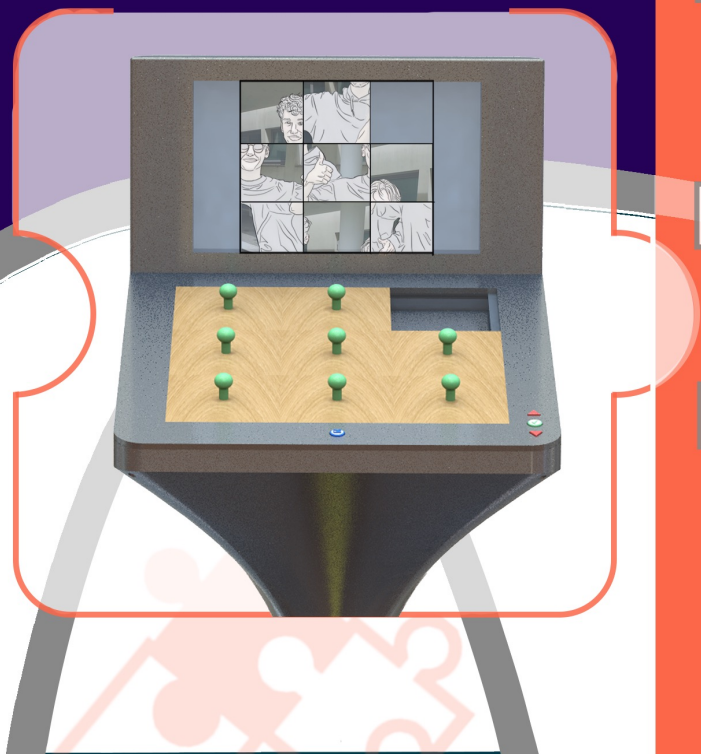
However, instead of the traditional photo printouts, the photo will be jumbled into digital pieces, creating a puzzle-like effect.

To see the full photo, people will have to complete a sliding puzzle by physically moving the corresponding puzzle pieces on the interactive platform.



STEPS:

1. Push the button to take a photo-look at the screen to make sure you are within the frame.

2. Choose the artistic effects you want.

3. Your photo will appear jumbled up on the screen.

4. Slide the physical puzzle pieces vertically or horizontally to complete your photo on the screen as quickly as possible.

5. Your time and score will appear on the screen-have a race with another team!

6. Once the puzzle is completed, choose whether your photo can be on display or not.

7. Scan the QR code if you want to download your photo.

Flyer

SHIFT IT
Our City Experience
WHAT?
An interactive sliding puzzle
A unique and exciting installation!
A fun and engaging way to interact with each other while creating lasting memories.
WHO?
Scan the QR code to discover the various locations in the city.
WHERE?
Scan the QR code to discover the various locations in the city.
1
Push the button, take a photo-
look at the screen to make sure you are within the frame.
2
Choose the artistic effect.
3
Your photo will appear jumbled up on the screen.
4
Slide the physical puzzle pieces to complete your photo on the screen as quickly as possible.
5
Your time and score will appear on the screen-have a race with another team!
SCORE
6
Choose whether your photo can be on display or not.
7
Scan the QR code to download your photo.
Participation is FREE!
SCAN ME

Poster

WHAT?

An interactive sliding puzzle

A unique and exciting installation!

A fun and engaging way to interact with each other while creating lasting memories.

SHIFT IT

WHO?

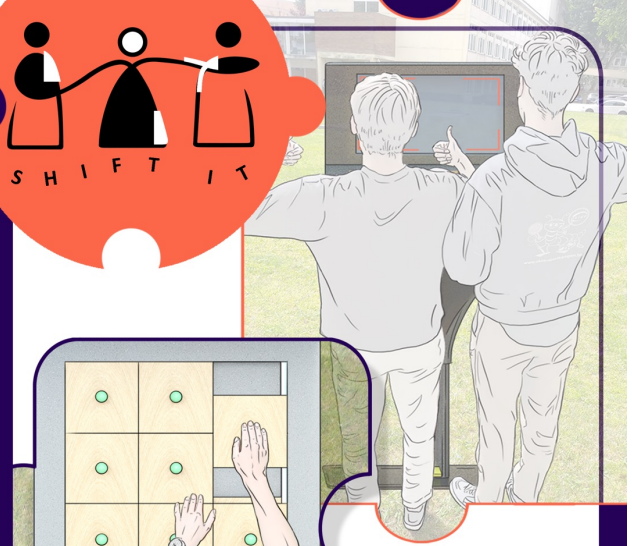
Tourists, locals, children, adults
Any language, culture, background, nationality.

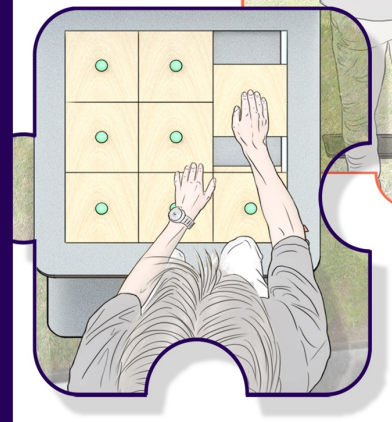
WHERE?

Scan the QR code to discover the various locations in the city.

HOW?

1. Push the button, take a photo- look at the screen to make sure you are within the frame.
2. Choose the artistic effect.
3. Your photo will appear jumbled up on the screen.
4. Slide the physical puzzle pieces to complete your photo on the screen as quickly as possible.
5. Your time and score will appear on the screen-have a race with another team!
6. Choose whether your photo can be on display or not.
7. Scan the QR code to download your photo.





Stimulating social interaction in public spaces

FREE!!

Alicja Faber
Ângelo Torres
Eléna Boucher
Felix Ljungkwist
Lahore Hauspie
Sander Spaas

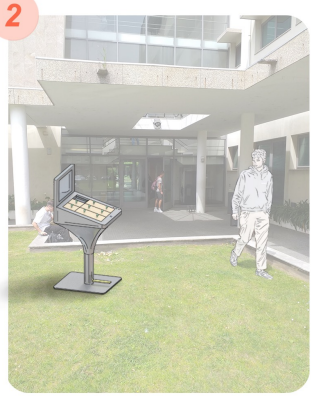
ISEP INSTITUTO SUPERIOR DE ENGENHARIA DO PORTO

User Journey

1

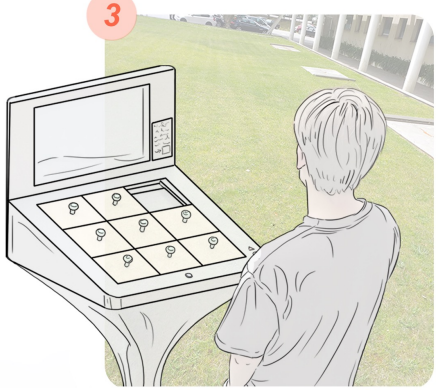
Public spaces within the city often lack social interaction

2



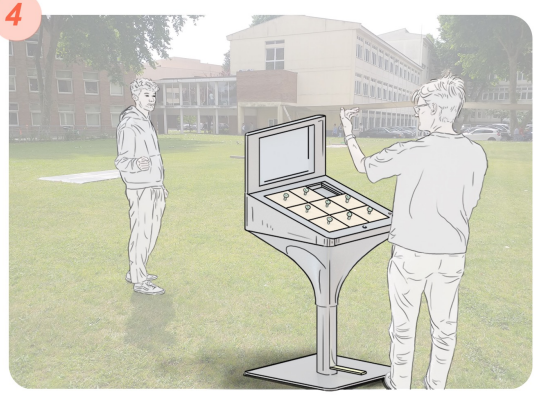
Game is installed in public space with photos on display. Gets noticed by a passer-by

3



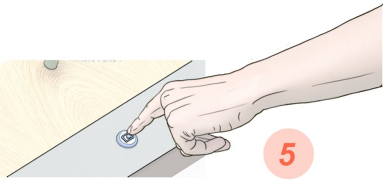
Read the instructions

4



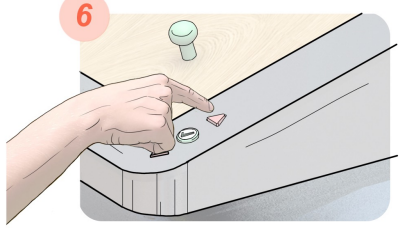
Find someone to collaborate with

5



Press the blue button with the camera icon and pose in front of the screen to take a photograph. The actual photo cannot be seen, but users can see in the frame where to stand

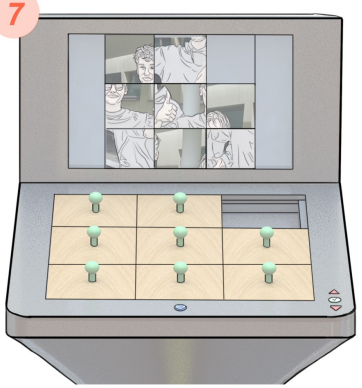
6



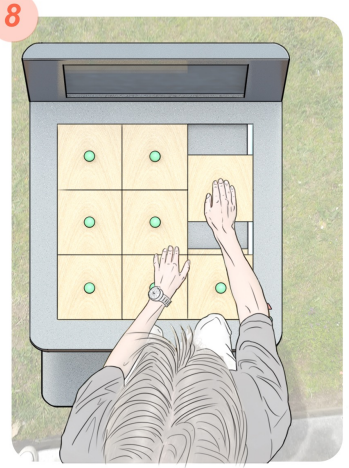
The photo appears scrambled up as 8 pieces on screen

Use the buttons to select the desired filter

7

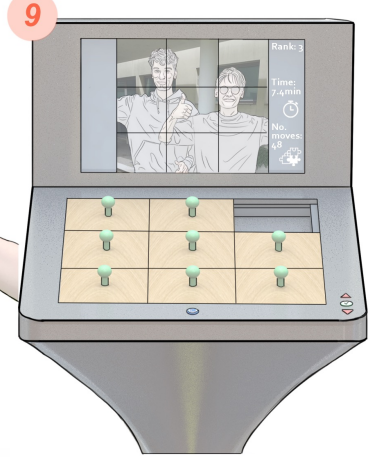


8



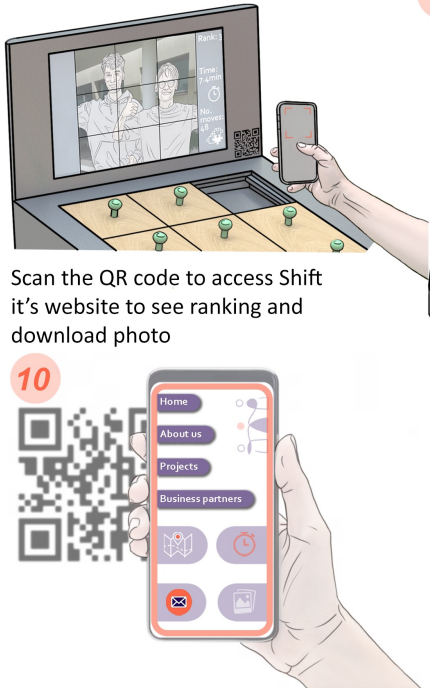
Slide the puzzle pieces horizontally or vertically to solve the puzzle onscreen. Use the handles for better grip

9



Once the puzzle is done, the original photo as well as time and number of moves for completion appears onscreen.

Use the buttons to select whether to publicly display it or not

Scan the QR code to access Shift it's website to see ranking and download photo

10