COSO

Project Proposal by

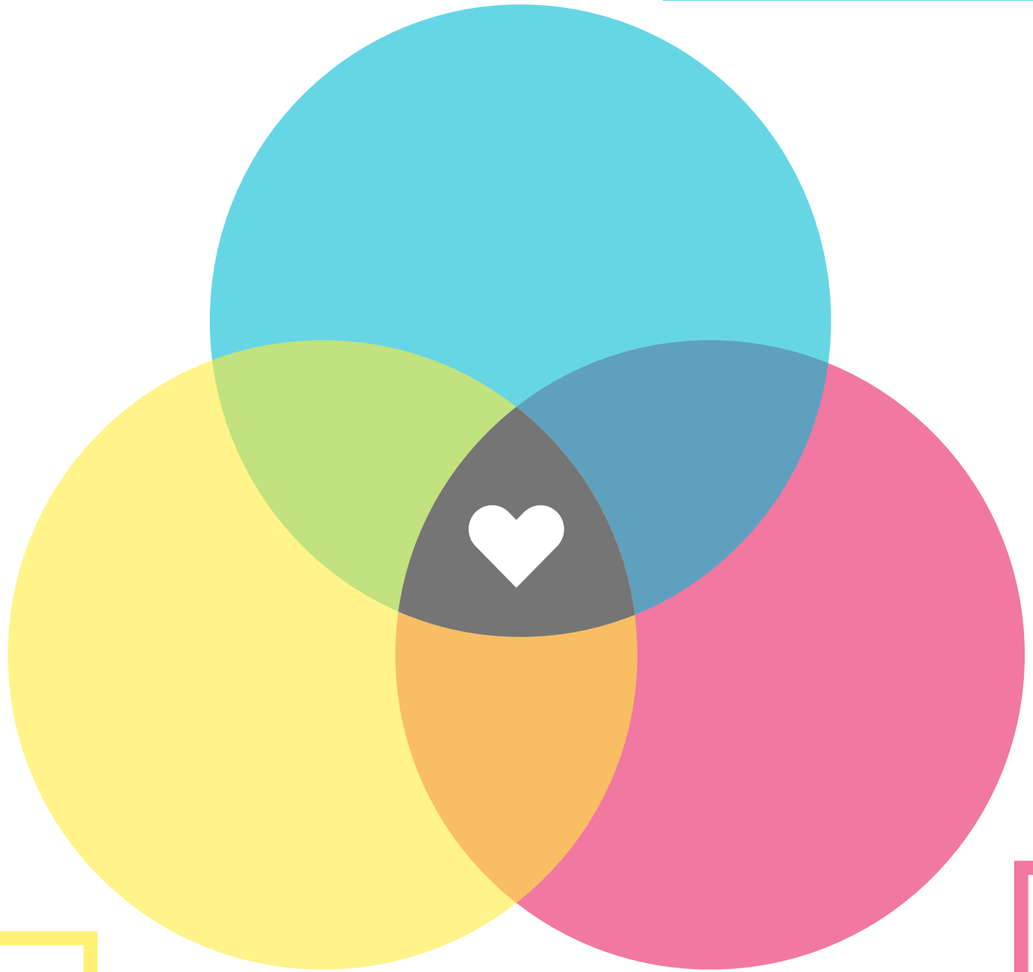
Pablo Fernández Vallejo

Interactivos?'17

MEDIALAB PRADO

Connected Outside Surface Observer

Citizen Science



Sustainability

Digital Art

Sustainable Mobility

Path is free from debris

Path is free from surface defects

Path links to key destination

Safety

Path links to other parts of the off-road network

The vegetation is maintained to a suitable standard

Surface roughness

Personal Satisfaction

Path is direct (cutting down travel time)

Air quality

Attractiveness

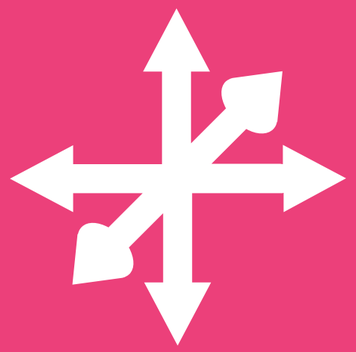
Comfort

Path has direction signs

Calvey, J., Shackleton, J., & Llewellyn, R. (2015).
Engineering condition assessment of cycling infrastructure: Cyclists perceptions of satisfaction and comfort.

~~Citizens~~
Riders
as sensors

Input

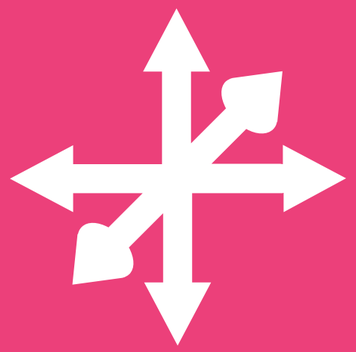


Accelerometer

Output

Light

Input



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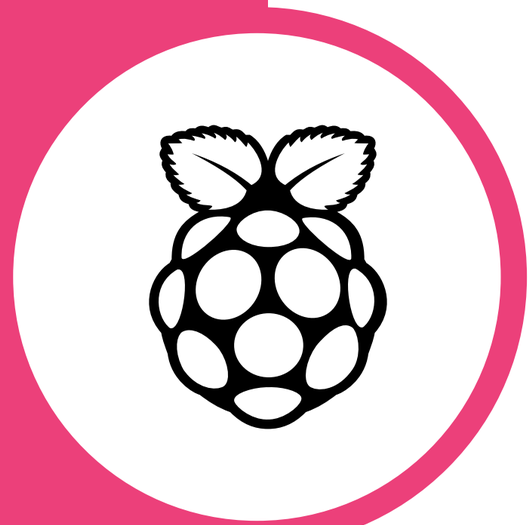
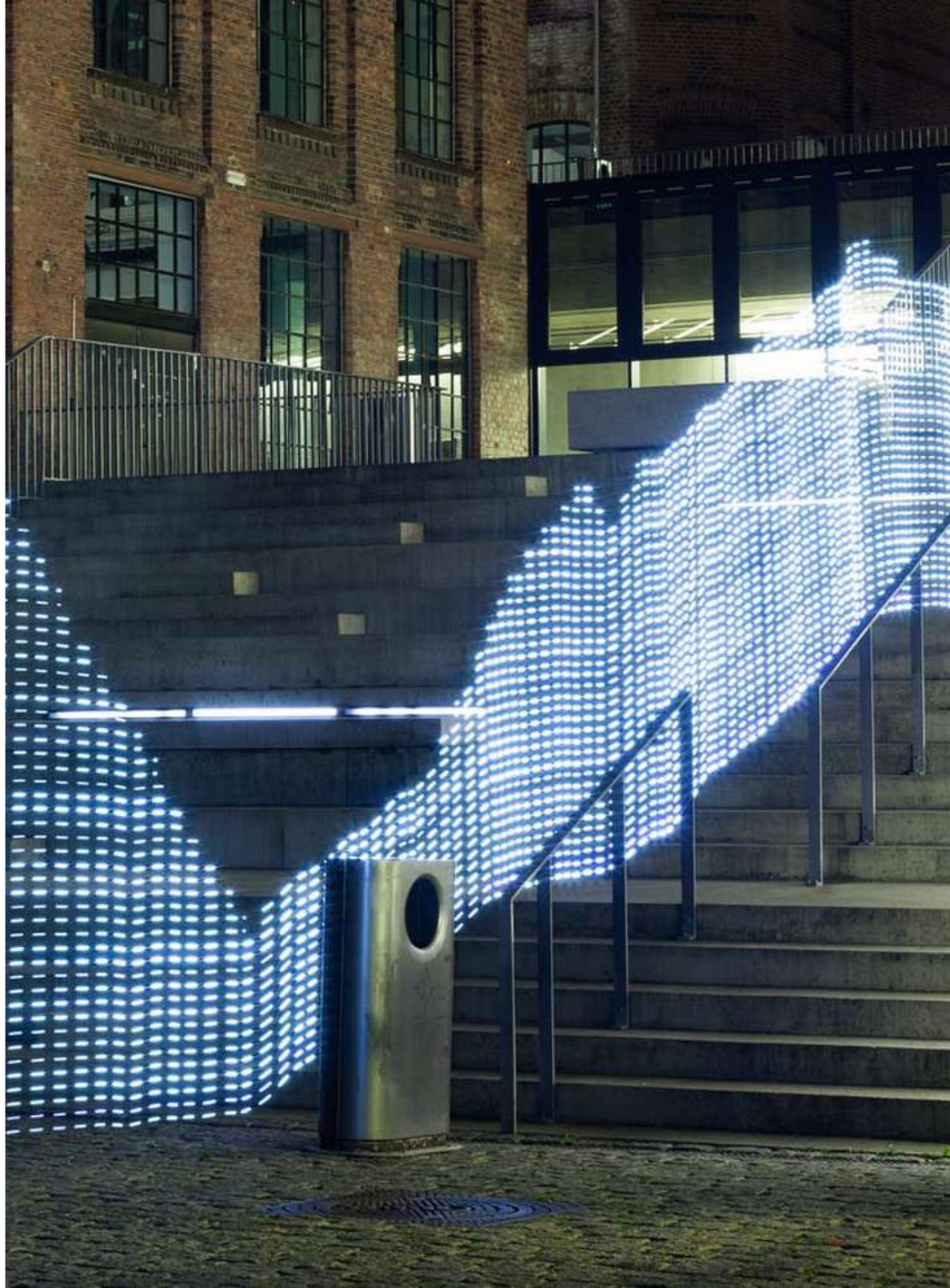


Output

Light

Immaterials: Light painting WiFi

Arnall · Knutsenand · Martinussen



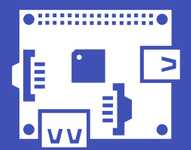
Collaborators

Digital Fab.

Developing case & bike mount.

PROTOTYPING
3D PRINTING / LASER CUT

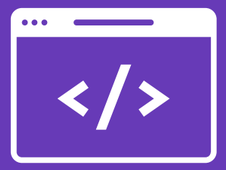
Electronics



Build electronic pack.

RASPBERRY PI
SENSORS

Programming



Develop code for the prototype.

C++

Photography

Work with light patterns.
Create the photography setup.

LONG EXPOSURE

Bikes

Be the bikers advocate.
Be amazing.

Design

Design around hardpoints.

3D MODELLING

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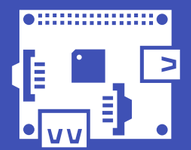

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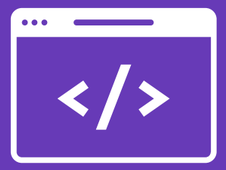

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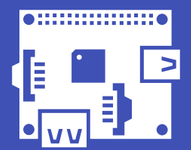

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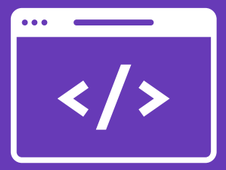

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Questions?

References:

Identifying factors of bicycle comfort: An online survey with enthusiast cyclists.

Ayachi, F. S., Dorey, J., & Guastavino, C. (2015).

Engineering condition assessment of cycling infrastructure: Cyclists perceptions of satisfaction and comfort.

Calvey, J., Shackleton, J., & Llewellyn, R. (2015).

Influences on bicycle use.

Hunt, J. D., E Abraham, A. J., Abraham, J. E., & Hunt AE J E Abraham, J. D. (2007).

How comfortable are your cycling tracks? A new method for objective bicycle vibration measurement.

Bíl, M., Andrášik, R., & Kubeček, J. (2015).

Raspberry Pi as a low-cost data acquisition system for human powered vehicles.

Ambrož, M. (2017)

Cycling comfort on different road surfaces.

Hölzel, C., Höchtl, F., & Senner, V. (2012).

Measurement of dynamic comfort in cycling using wireless acceleration sensors.

Olieman, M., Marin-Perianu, R., & Marin-Perianu, M. (2012).

All Icons are self made or from The Noun Project
Users: teleymon, Adrien Coquet, LA Hall, Keiran Lovett, Vladimir Belochkin, DesignBite, Kevin Schumacher, logan

Gracias!