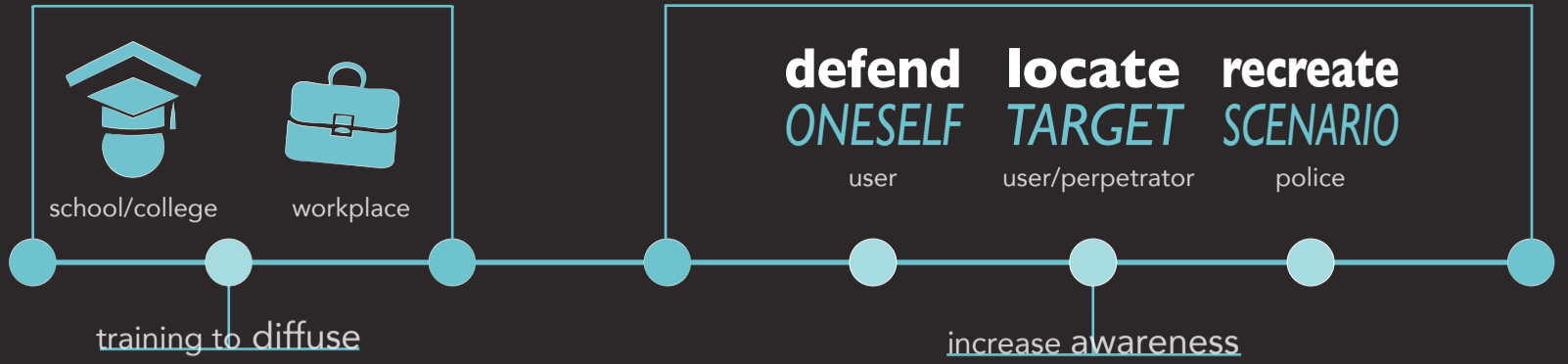


empowering through education & skills



TRAINING TO DIFFUSE

For target market this would be best undertaken during school or college but could be implemented in the workplace too (particularly for refreshing knowledge).



Police hold regular, monthly training sessions for school staff.



The staff pass this knowledge on to a small team within the school.



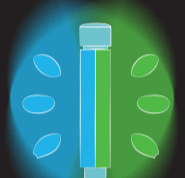
The staff organise a workshop which is advertised around the school.



The workshop could be held during PSHE or other lessons.



Engaging workshops using a variety of medium requiring students to participate.



Workshops include demo's of the light tracking unit.



Refresher workshops held throughout the academic year.



Students directed to a website for further information and guidance.

Proposed design and 'safe route' system will be promoted to ensure users aware of new system with the use of advertising at bus/train/tube stops/stations, flyers distributed to local residential areas and links with existing popular travel/transport apps user's may already own e.g. 'CityMapper'.

EXPERIENCE PROTOTYPING

Role play of mugging in a secluded street. Lights were "awesome, I feel empowered!"

* Alice, age 21, 'the victim' (2014)

participants per scenario

scenario



victim



thief



police

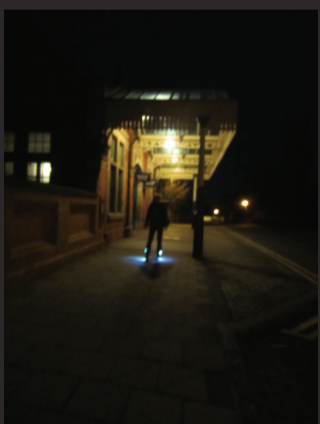
x2

4 participants

Key issues raised for development:

1. Perpetrator could run in road to avoid being seen - ensure they are always visible.

2. "I couldn't give a description" of the perpetrator -
Naomi, age 22, 'the victim' (2014)
lighting from the ground isn't enough to illuminate perpetrator and the victim was surprised.



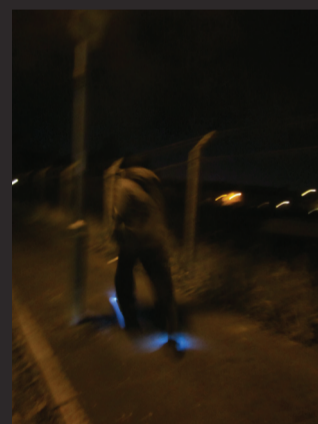
2 torches strapped onto users feet to simulate light on pavement (initial concept).



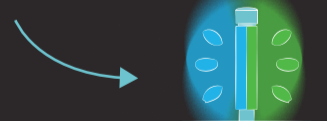
Early warning of someone approaching as perpetrator and victim clearly visible.



In a struggle, light at feet was not enough to help identify perpetrator.



* The perpetrator feels "very obvious" fleeing.
Oscar, age 22, 'the thief' (2014)



BENEFITS OF DESIGN

01 LIGHT



Most 'relaxing' & 'calming'.

Provides awareness of people in area, preventing a surprise attack.

02 'SMART SYSTEM'

Ensures user is protected by the environment.

Link to 3D CAD software to reconstruct a scene².



03 ALARM

Instant awareness of victim's location.

Perpetrator flee's or is distracted long enough for victim to run away.



04 'SAFE ROUTES'



Perpetrators deterred from acting in designated areas.

User comforted by knowledge of safe route home.

04 AFTER THE INCIDENT

Victim receives immediate support from local police.

Reports incident immediately and perpetrator can be convicted.



This follows an approved University Ethics protocol and all people photographed have given prior consent for publication of images, names and quotes.

¹38 Respondents from SurveyMonkey, 2014

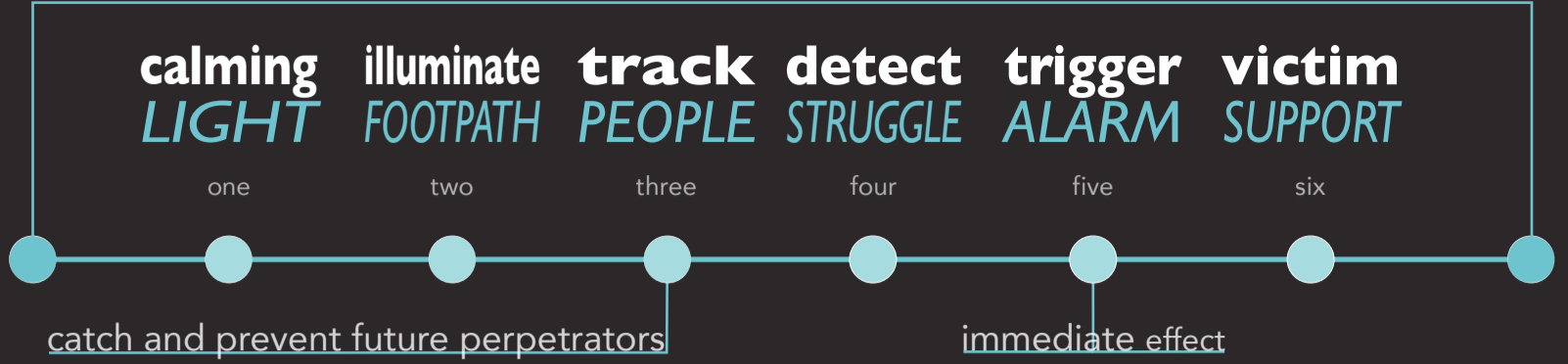
²AMC Bridge, MoveIT App, 2014

Hannah Sage
© 2015

04 DESIGN

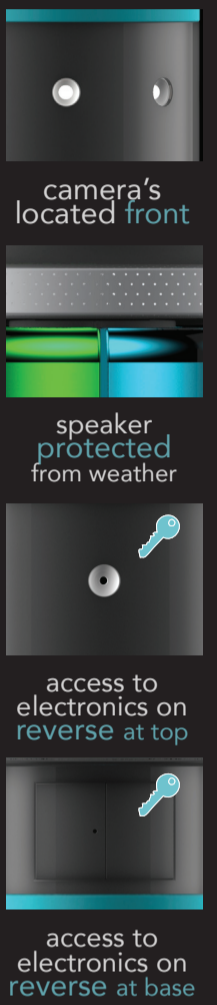
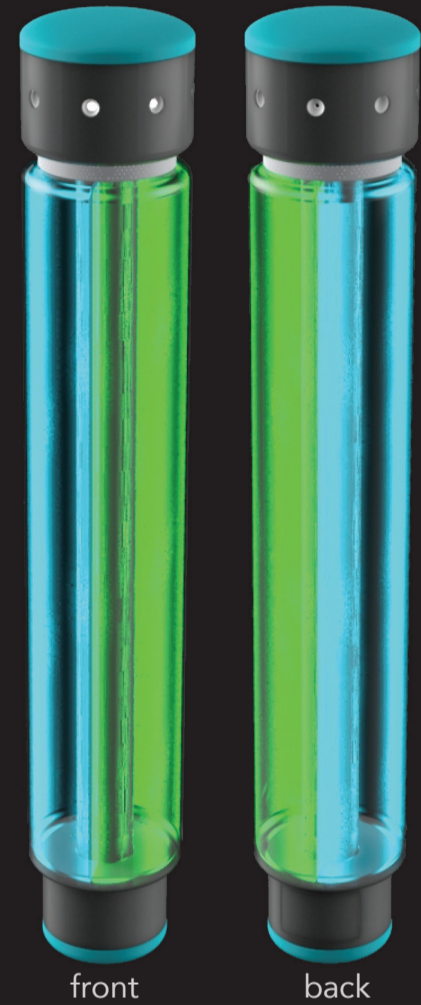
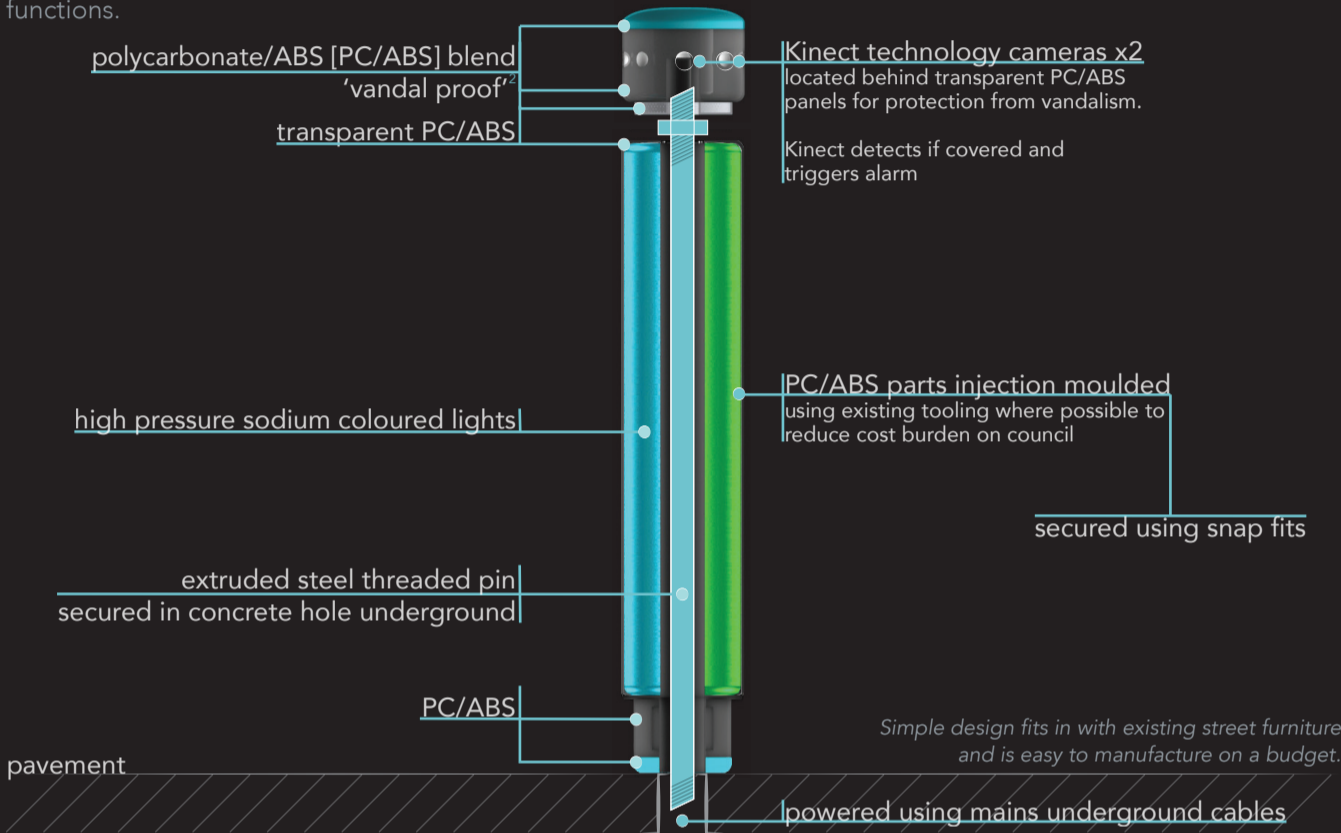
BRIEF Design a way to encourage harmony on public transport after hours.

safe ROUTE



DESIGN PROPOSAL

Proposition: Alongside training, 'light tracking units' will be placed at intervals along the pavement on dedicated safe routes. These units provide calming light triggered by the users presence and provide advanced CCTV functions.



STORYBOARD OF USE

'Safe routes' determined by assessing areas with highest crimes and most common routes used late at night using crime reports from www.police.uk.

Alice selects a new bus route home to make use of the 'safe routes'.

After the bus she still has to walk home in the dark. She notices the coloured light.

Alice walks the safe route alone and the units light up as she nears them.

She notices someone on the other side of the road by the coloured light.

Alice is attacked and caught in a struggle.

Microsoft Kinect technology and associated software detects the struggle.

Local police are notified and watch footage to determine if a false negative.

As Alice is really in danger the police trigger an alarm in the unit and footage is recorded.

Alice's attacker flees when he hears the alarm. She is no longer in immediate danger.

Local policeman arrives. Alice receives support/help getting home and reports the incident, describing her attacker.

Following the incident the perpetrator can be tracked and then convicted thanks to the footage recorded of the incident using the Kinect technology and Alice's testimony at the time.

TECHNOLOGY REQUIRED

Microsoft's Xbox One Kinect technology proves viability but future developments required to reduce cost and improve functionality. Existing functions are as follows:

AIR (Active Infra Red) allows it to 'see in the dark'¹.

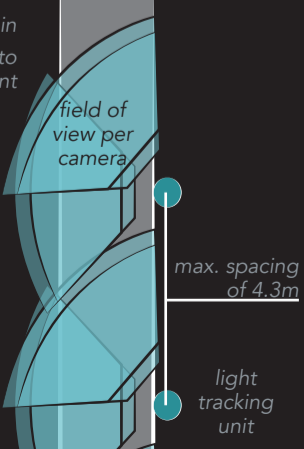
Detects, tracks⁴ and distinguishes each user⁵.

Tracks eye movements, detect facial expressions⁴.

Kinect footage used for gait analysis identification⁶.

Kinect triggers lights when user in field of view.

2 cameras per unit, set in Near Range Mode⁴, to cover pavement



This follows an approved University Ethics protocol and all people photographed have given prior consent for publication of images, names and quotes.

¹Streetscape Guidance, TfL, 2009 ²Plastipedia.co.uk, 2014 ³Daily Mail, 2013 ⁴Microsoft, 2014 ⁵Xbox.com, 2014 ⁶ForensicMag.com, 2014