

Sweet Street

LOST & FOUND

Wayfinding and orientation in dynamic spaces

1/3
24 August

STEP ONE (10 minutes)

Group: 3

As a group discuss and list what you normally rely on to navigate streets, neighbourhoods and a city:

- signs - visuals
- sounds
- tactile feedback / kinesthetic
- smells
- maps
- GPS
- Google maps / street view
- TTC website - station description
- lights
- landmarks
- Blind square - uses beacons
- asking people
- follow people
- blocks of colour

- numbering landmarks / columns areas

- TAI'S - tactile strips

• senses
• tech support

• predictability
• landmarks
• cues
• consistency

[Union Station]

- loud

STEP TWO (10 minutes)

As a group think about the situations when you got lost:

(What caused you to get lost? What wayfinding mechanisms failed you?)

Finding this building -

- GPS - maps - failed
- → poor routing - diverting
-

Solution:
Relying on ppl.
get me to...

[background noise]

Wanders away -

- not paying attention; losing track.
- situation-based teaching
- solution: listen to announcement

→ fixed landmarks

Union Station:

- noise: 4/low vision relies on hearing
- sound:

sidewalks are
directional indicators
→ wayfinding tool

Poor signage / identification

PROTOTYPE CHALLENGE

2/3

Group: 3

STEP THREE (30 minutes)

Think about how you would navigate a space that keeps changing, such as a dynamic street. (Come up with as many ideas as possible)

- moveable landmark
 - predictable (shape, size, colour, texture, sound)
 - teachable
 - locatable
 - wayfinding
- people
- safe/rest spaces
 - predictable
 - guaranteed/never changing/fixed
 - used for orienting yourself
- dynamic streets w/ lights → could there be a pole(s) to creating defining landmarks?
- could there be an area that is never changing with dynamic streets
 - one part always sidewalk area?

STEP FOUR (1 hour)

Select one idea from above and explore how you can make it possible.

(Think of what you would need, how technology can help you, and who else is involved)

-dynamic street hexagon



- Textile variable surface
- painted line like on Highway
- reflector glass beads inbedded
- Austrian Braille Trail
- Stainable - materials
- (not just eco friendly - Biofriendly)
- Turning some bad into something good (ie plastic)
- Braille Display - Refreshable
- Each Modul is dynamic - interchangeable
- textures / dots / domes / lines / none
- light interchange w pole with more wayfinding details

[stress & anxiety of nav/wayfind - Sid Thought team]

► PART 1

Describe your idea here: Dynamic street/road - Hexagons embedded with hole in the middle & retractable braille trail. If it is a walking area - bt can be put in place or retracted via technology. The hole in the middle can be filled with trees, light, poles or moveable landmarks. Moveable landmark is embedded with sound beacon and technology which when a button is pushed it will give location details to pedestrian, can be moved/reprogrammed

► PART 2

Who do you think is excluded by this idea?

- Could be confusing or disorienting

Who do you think is enabled/supported/empowered by this idea?

- People who can express themselves through the space
- People who use beacons
- Artists who could use beacons for storytelling
-

What are the advantages of this idea?

- Use of landmarks
creative expression
playfulness
- landmark to find out where you are in space, provides info on what's around to orient you.
- utilitarian + incorporates art + playfulness.

What are the disadvantages of this idea?

- Confusing because shaped in a hexagon. people can get lost.
- what is the point of getting a moveable landmark.

► PART 3

Describe your revised idea here:

- We would further clarify our assumptions
 - hex + light sys → tactile, using the tiles responsive + flex wayfind
- Art + storytelling important but we were trying up for more fundamental inclusion.

PROTOTYPING
CRIT most impactful
REVISION

SideThought

LOST & FOUND

Wayfinding and orientation in dynamic spaces

Group: _____

STEP ONE (10 minutes)

As a group discuss and list what you normally rely on to navigate streets, neighbourhoods and a city:

- SIGNAGE
- GRID
- GOOGLE MAPS/EARTH
- YOUNGEST N/S (KEY/MAJOR ST.)
- BUILDINGS/LANDMARKS
GREENSPACE
- LIGHTS
- DESCRIPTION/DIRECTIONS/ASK
- CURBS
- SUBWAY SYSTEM
- PICTURES/IMAGES
- SOUNDS
- NEIGHBOURHOODS (CULTURAL ETC.)
- MAPS
- EVENTS (C AND E, CONCERTS) ETC

STEP TWO (10 minutes)

As a group think about the situations when you got lost:

(What caused you to get lost? What wayfinding mechanisms failed you?)

- ~~BY~~ SITUATIONAL CIRCUMSTANCES (SAFE, DAY/NIGHT) TOURIST
- SIGNAGE (CONFUSING, PLACEMENT) - STREET ADDRESS #S
- NO GLOBAL STANDARD? LANGUAGE
- CONSTRUCTION/DETOURS
- CROWDS ARE DISORIENTING (SPACE)
- LANDMARK CHANGES
- ONE WAY STREETS
- INCONSISTENT STREET NAMES (MERGING STREETS)
- REDUNDANT NAMING OF STREETS
- CHANGES (NAMES OF SUBWAY STN. STREETS)
- DIFFICULT TO RE-NAVIGATE OR FIND WAY (U-TURNS, LEFTS ETC)
- LIGHTING
- PUBLIC TRANSIT (DIRECTIONS, STREET SIDES) LACK OF ORIENTATION SIGNALS NAMES - XPRESS
- ELEVATOR BROKEN/SPECIFIC ENTRANCES FOR DIFFERENTLY ABLED

PROTOTYPE CHALLENGE

Group: _____

STEP THREE (30 minutes)

Think about how you would navigate a space that keeps changing, such as a dynamic street. (Come up with as many ideas as possible)

- VISUAL/HAPTIC LIVE MAPS INDICATORS
AUDITORY
- HOW DOES THE STREETS COMMUNICATE? SENSORS
- SENDING NOTIFICATIONS (THROUGH TECH. DEVICE)
- PREPARING PEOPLE TO RETHINK IDEAS OF NAVIGATION, CHANGE, ACCESS (TUNNEL, KING ST.)
ISOLATION
- OBSERVATION
- NAVIGATING BY ASSOCIATION (CONSISTENCY)
PLACEMENT I.E. - BENCHES OF NORTH
- SIGNAGE - DYNAMIC (CULTURAL / CODE / SYMBOLS) - FOOD ON SOUTH
- SUCCESSFUL MODELS

STEP FOUR (1 hour)

HOW DO WE REMOVE FEAR & ANXIETY ABOUT GETTING LOST

Select one idea from above and explore how you can make it possible. (Think of what you would need, how technology can help you, and who else is involved)

- CONSISTENT LANDMARKS, SIGNAGE
- PLACEMENT - AIR MOVEMENT - SENSORARY ENGAGEMENT CHANGE
- PERSONALIZATION - MATERIAL, COLOUR, SMELL
TEXTURE, LANDMARKS
- NORTH/SOUTH - STREETS - ONE TEXTURE
EAST/WEST - AVE. - ANOTHER TEXTURE
- ICON/PICTO INDICATORS
- REFERENCING NATURAL BEHAVIOUR
- LANDMARKS/BUILDINGS - BUILT IN INDICATORS

ORIENTATION
MOBILITY
INSTRUCTION
GUIDING
DIFFERENTLY
ABLED PERSONS
TLC, STREET

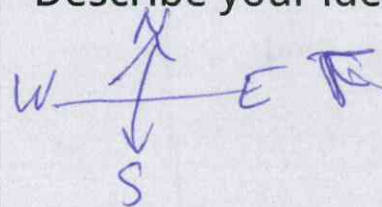
CHALLENGE - EXPERIENCE
SPACE KEEPS CHANGING
- COMMUNICATING IN TANGIBLES

INTERVENING

LOST & FOUND

► PART 1

Describe your idea here:



- PEDESTRIAN FOCUSED → DRIVING PERIMETER
- CODED NAVIGATION BY TEXTURE/COLOUR VIBRATION SMELL
- NAVIGATION FOCUSED - PHYSICALLY SPATIALLY
- LAND MARKS TO AMPLIFY NAVIGATION, CULTURE
- USE OF TECH WAYFINDING ON BUILDING FACING PEDESTRIAN
- MODULAR BY LIGHTING/HEAT

► PART 2

Who do you think is excluded by this idea?

People in a rush or in transit

Who do you think is enabled/supported/empowered by this idea?

People who aren't familiar with a space

The physically or visually disabled

What are the advantages of this idea?

- Inclusive - considers many groups
- Aesthetically pleasing features
- Clear wayfinding

What are the disadvantages of this idea?

- There are so many ways to navigate, it might get confusing (sensory overload)
- Cluttered - not necessarily maximizing space
- May require education - not clear how you figure out where to go

► PART 3

* REF. BARCELONA'S SUPERBLOCK MODEL

- GUIDING PRINCIPLES OF MOBILITY IN EACH SECTION

Describe your revised idea here:

- VEHICLE ACCESS - EVERY TWO BLOCKS ("BEHIND" BUILDING)
- BREEZEWAYS THROUGH BUILDINGS
- CONNECTION TO SUSTAINABLE SERVICES
- W/IN 4 CITY BLOCKS - MICRO COMMUNITIES

- encourage wayfinding as an activity, experience, social, cultural connection

Harmony

CO-EXISTING

Managing conflicting needs in shared spaces

Harmony

Group: 6

STEP ONE (10 minutes)

As a group discuss and list when your needs conflict with other street users:
(e.g. bikers, slow walkers, etc)

- ★ Safely crossing in absence of audible signals $\Rightarrow$ Conflict w/ cars + cyclists when accessing intersections
- ★ Gold medal transit user $\Rightarrow$ conflict b/w transit and private vehicles in accessing roads
 - When sidewalk is broader, people expand to fill it $\Rightarrow$ inter-pedestrian conflict, allowing for flow of different speeds
 - Safety of pedestrians vs. flexibility of movement (concrete barriers next to sidewalks)
 - Deliveries, drop-off/pick-up vs. cyclists and pedestrians and through-traffic
 - Street hockey vs cars/ (seems un-Canadian to ban street hockey)
bikes
 - Street festivals vs. cars/throughput
 - Tourists vs. Local pedestrians
 - Construction vs. sidewalk usage $\rightarrow$ Noise, construction traffic, road damage, debris
 - Police closures

STEP TWO (10 minutes)

As a group discuss what aspects of the street led to those conflicts.

- ★ Sidewalk is trying / meant to serve so many different uses (different uses have to self-organize)
- ★ Other infra encroaches on sidewalk space - bike racks, trees, signs, patios, ramps, bus shelters, constructions, garbage
- ★ Lights ~~and~~ / traffic signals do not support effective flow $\leftarrow$
- ★ Construction ruins everything
- ★ Infrastructure is very permanent - a system built for 10y/o needs might not be effective today
 - No one-way flow (or not enough)
- ★ ~~Drop~~ No drop-off / pick up
 - Investment in audible signals $\leftarrow$
 - Lack of ^{common} awareness / education on how street should be used.

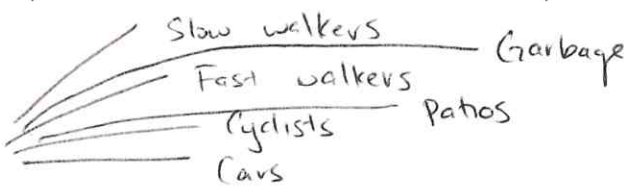
PROTOTYPE CHALLENGE

Harmony

Group: 6

STEP THREE (30 minutes)

Think about different ways to address conflicts in shared spaces. (How would you prioritize needs? How would you create spaces that address multiple needs simultaneously?)



- Strict allocation of all street usage
- Express pedestrian lanes - "one way pedestrian street"
- Mandatory training program to walk on busy streets - "walkers license"
↳ Awareness campaign - "how to be a good pedestrian"
- ③ • Place non-curb critical uses (e.g. bike racks) to alleyways
- Public shaming to discourage bad behavior (e.g. horn when you double park)
- Barriers (dynamic) to open + close streets
- Centralized control of deliveries, freight
- ① • More prescriptive management of the curb
- Dynamic fines
- ② • Coordinated construction planning
- Better mgmt of intersections (e.g. more turn signals)
- Pedestrian overpass/underpass

STEP FOUR (1 hour)

Select one idea from above and explore how you can make it possible. (Think of what you would need, how technology can help you, and who else is involved)

Physically

- 1 • Elevators/ramps to walkways
- 4 • Staggered steps
- 4 • Tactile forms w/i surface
 - "Pedestrian lanes" through an intersection
- 2 • Cyclist-specific signals
- 3 • Dynamic pavement
- 4 • Audible
- 1 • Barriers up/down
- 1 • Trip wires
- 2 • Accessibility lanes

- Data
- Volume flows (traffic/pedestrian)
 - Light timing
 - Navigation apps
 - Accidents, fatalities,
 - Historical vs. real-time vs. predictive
 - Navigation app knowledge of sudden blockages

Digitally

- 4 • Better, real-time adaptive signal changes
- 3 • Addable/removable turn signals
- 4 • Contextual signal optimization (e.g. train coming)
+ communication
- 2.5 • Video projection as deterrent to violation
- 4 • Awareness of pedestrian + cyclist flow
- Incentives/points for pedestrians waiting on flashing hand
- 4 • Sign above intersection that quantifies impact of blocking intersection

Regulatory

- 2 • Dynamic fines for pedestrians
- 4 • Intersection use fee

Including cumulative count

► PART 1

Describe your idea here: Our intersection is designed to reduce vehicle volume, congestion, and blockage, and optimize for pedestrian and cyclist throughput. We achieve this with the following features:

◦ Dynamic pricing to drive through the intersection (cars only)	◦ Staggered bicycle (yellow) and car (blue) stops to promote cyclist safety	◦ Signage to indicate to vehicles cost of blocking intersection (promote good behavior)	◦ Tactile crosswalk boundaries (pipe-cleaner)	◦ Adaptive signals that change based on real time demand + contextual data (e.g. extend a walking sign so pedestrians can catch an incoming train)	◦ Audible signals for the visually impaired
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► PART 2

Who do you think is excluded by this idea?

- People with developmental delays, processing issues, reading barriers, language barriers, financial barriers
- * not as much for visual issues other than auditory signal
 - * all abilities are not treated equally

Who do you think is enabled/supported/empowered by this idea?

- cyclists

What are the advantages of this idea?

- Being thoughtful of others/environment
↳ costing people minutes

What are the disadvantages of this idea?

- can be anxiety producing
- alot of signage/reading
- no indication of difference between sidewalk/bike path/roadway
tactile/visual/auditory
- * are walkways/bike paths and roads all on same level? Curb?

► PART 3

Describe your revised idea here:

- pricing dynamic for each vehicle based on transportation alternatives and income margin
- increased physical/tactical separation of boundaries
- consolidate signs into one dynamic sign that communicates the most important/necessary messages at a particular time.
- Note: colours not representative of actual implementation.

Boulevard

A CITY WORKING FOR EVERYONE

Shared spaces that are perceivable, operable and understandable for all

★ RUGO 5/8/1.

Group: 4

STEP ONE (10 minutes)

As a group discuss and list what aspects of the street work for you, and why:

(Think about your personal experiences) → *mistaken casting? not too big.*

- LIKE THE WIDTH OF SIDEWALKS IN TO 
- STREET NOT STAY NARROW + WIDE (BROAD ST.), not too many crossings
- BUMP STRIP → CAN FOLLOW (NOT IN TO, IN SEUL)
 - SQUAT SYSTEM + STREET,
 - SIDE OF SIDEWALK
 - CONSTRUCTION CAN BLOCK IT IN

ETOBICOKE IN

- REMOVED THE POLES!

STEP TWO (10 minutes)

As a group discuss and list what aspects of the street do not work for you, and why not: *Downtown in*

- really wide, no marking.
- INCONSISTENCY OF SIDEWALK WTL
 - BRICKS - SIDEWALK - CONCRETE 
- BUMP @ CURB CUTS
- DIFFERENCE IN STANDARDS (UTA)
 - ETOBICOKE, etc...
 - no sidewalks, narrow, wide
- SMALL SIGNS, NOT ACCESSIBLE TOO HIGH
- NEW POLES W/O NOTICE NEAR CURB CUT
- ADDRESSES ARE HIDDEN, HARD TO FIND DESTINATION
- CAN'T FIND ADDRESS → need to ask.
- BUS STOPS ARE NOT EASY TO FIND
- BUS DRIVERS TAKE DIFF. ROUTES!
- TRAFFIC LIGHTS ROW - T. - WALK IS HARD TO FIND!
- BIKE LANE CREATES BLINDSPOT
- AGGRESSIVE CARS
- STREETCAR IN MIDDLE!

PROTOTYPE CHALLENGE

Group: _____

STEP THREE (30 minutes)

Think about how you can make aspects of a shared street that are more perceivable, operable and understandable to a broader range of people.

(Come up with as many ideas as possible)

Crossing the street

- PUT ^{TACTILE} STRIPS DOWN IN ALL EMPTY AREAS → Chosen idea.
- OR BEACONS DOWN
 - LOCATION SYSTEM (BETTER THAN GPS)
 - TELL DIRECTIONS, BUS STOPS, ORIENTATION
- A APP THAT ACCOMPANIES YOU
 - Bus stops for you, CAN WALK WHERE YOU ARE
- A WAY TO REPORT OBSTRUCTIONS, EXPECT A RESPONSE

STEP FOUR (1 hour)

~~- WEATHER UNEXPECTED INTERRUPTION NOTIFICATION AND~~

Select one idea from above and explore how you can make it possible.

(Think of what you would need, how technology can help you, and who else is involved)

- App that you can use to cross- auditory input guide Key2access pedestrian.
- traffic signals that would detect person crossing + change when person has crossed.
- tactile strips, sound system/laser tone connected to smartphone/app, multiple language options (app provider options)
 - ↳ challenges → can't trust app to guide, maybe physical beacons are better.
- ↳
 - Robots to help cross street

► PART 1

Guided walk.

> position of the strip
in street

Describe your idea here:

Tactile strip to guide pedestrian from

- guided walk: addresses + street names embedded
store info
- audio feedback
- mobile app integration

► PART 2

Who do you think is excluded by this idea?

- ~~drunk people~~
- Balance issue, ~~drunk people~~ drunk people.
- The deaf community
- people who cannot speak. (elaborate)

Who do you think is enabled/supported/empowered by this idea?

- people with canes, low vision, blind - anyone who would need a cane/

What are the advantages of this idea?

- low cost.
- Enhance wayfinding.
- App/Use
- safe crossing
- ~~privacy~~

What are the disadvantages of this idea?

- there is nothing to prompt you to go
- Details: attached; weather proof, cost?
- People can become dependent.
- voice prompt - keyword universal / English / French?
- fluidity at the street.
- permanence of wayfinding strip vs. multipurpose of the ~~dynamic~~ dynamics.
- Does voice activation have to be connected to app?
- who sets up app - set up for - for people who can't hear - can't down + app users? can be yellow.

► PART 3

Describe your revised idea here:

- ~~mobile~~ mobile app that incorporates diff language (ASL + other languages + text) to personalize info to individual. (consult Deaf community, Deaf-Blind community).
- A vibration input to indicate when to cross (at the end of street) / auditory.
- yellow strip for people who can't see.
- a strip that is removable (gets set into channel)

Relink

A CITY WORKING FOR EVERYONE

Shared spaces that are perceivable, operable and understandable for all

Group: 2

STEP ONE (10 minutes)

As a group discuss and list what aspects of the street work for you, and why:

(Think about your personal experiences)

[Crowded, bumping into people, not enough space for pedestrians, cluttered congestion
- HISTORY
Wide streets w lots of trees
multi crossing like Yonge & Dundas
benches & parks (back from street but still part of it)
spots for rest & refresh
elements where we pay homage - statues, historical learning
murmur-storytelling
"love tree" painted
art & graffiti (not so much advertising)
sensory rest (break from noises, smells, touch)
tactile elements - (deafblind community) - Statues, flowers, sculpture)
air bursts / water / predictable sounds or vibrations to COMMUNICATE
friendly, non-overwhelming spaces for animals (spaces to pee)
places for people to pee - WALKABLE, uncrowded
less commerce focused
more experience focused
- curbs! changes in texture
benches, garbage cans, accessible public bathrooms

STEP TWO (10 minutes)

As a group discuss and list what aspects of the street do not work for you, and why not:

Construction (noise, impeding movement) - communication
lack of access for wheelchairs (bike lane btwn parking & sidewalk)
no indicators of change from foot to vehicular traffic (re visual impairment)
car dominated
poor communication & signage
unpredictability & change in the environment leading to risky behaviour
stressful high stimulation ~~imposed~~ environment that encourages
"everybody out for himself" thinking
anonymity, lack of accountability
garbage cans with the flap that close on your hand
intense smells
lack of places for people to meet & converse - lack of welcome
perceivable / understandable: what is public / private space? (getting arrested on Dundas Square)
spaces that are commerce-based & unwelcoming to low income ppl
policed, unwelcoming private spaces, discriminatory
Surveillance &

PROTOTYPE CHALLENGE

Group: 2

STEP THREE (30 minutes)

Think about how you can make aspects of a shared street that are more perceivable, operable and understandable to a broader range of people.

(Come up with as many ideas as possible)

- Air columns (feeling barriers)
- vibrations that indicate areas to avoid /
- barriers that are sensory activated
- texture changes /
- tactile markers
- multisensory zone indicators
- predictability (route planning, knowing I can go on this part of the street)
- AI Technology (CROSS ROAD digital communication)
- signs / kiosks → interactive / intuitive.
- responsive traffic lights

STEP FOUR (1 hour)

Select one idea from above and explore how you can make it possible.

(Think of what you would need, how technology can help you, and who else is involved)

AI.

1. Need for "incognito mode" → privacy + security.
2. Traffic lights / crosswalks are equipped w/ an AI kiosks that pass users to the dynamic street - input addresses / questions
3. Avatar / Blinking light - for individuals to follow
or haptic vibration / or audio → personalized.

► PART 1

Describe your idea here: To create multisensory interfaces located near intersections and various other location to provide support to help pedestrians better navigate space safely with other modes of moving through the space. The interface will be A.I. (artificial intelligence) based to help provide information on surroundings as well as help different user style interact (braille, asl, closed caption, facial recognition, etc.)

► PART 2

Who do you think is excluded by this idea?

- IS NAVIGATION DEPENDANT ON TECHNOLOGY? PEOPLE W/NO ACCESS TO TECH OF NOT ACCUSTOMED TO TECH
- How do you customize for different needs?
- mobility devices (scooter, wheelchair, walker)
- BICYCLES, motorized vehicles } How can you idea also be applied to others using space

Who do you think is enabled/supported/empowered by this idea?

- DIFFERENTLY ABLED POPULATION - INDEPENDANCE
- INDEPENDANCE → CHILDREN, ELDERLY
- PEDESTRIAN

What are the advantages of this idea?

- GREAT MODULAR REDESIGN OF SMART TILE PROMOTES CONSISTENCY - TILE FORMAT
- ACCESSIBLE TO MANY PEOPLE (SENSORY ENGAGED)

What are the disadvantages of this idea?

- SUSTAINABILITY - MAINTENANCE?
- IS THERE A ALTERNATIVE BACKUP ^{SEE} (POWER GRID) - HOW DOES YOUR PEDESTRIAN CROSS IMPACT DRIVING PROCEDURES (RIGHT / HAND LEFT)
- COST? - ACCESSIBILITY TO SERVICE?
- WEATHER CONSIDERATION MAINTENANCE (ICE, SNOW) - CONSIDERATION OF TURNS
- PRIVACY / ETHICS (AI, DATA RECORDING ETC)
- FACIAL RECOGNITION

► PART 3

Describe your rev

- SOLAR POWER }
- REC POWER

↑
DOES NOT
DEPEND ON
PERSONAL
DATA /
STATS BASED

For pedestrian
use ONLY

Multi-language
(animated greeting)
Starts w initiation
of language
preferences
- Needs to be large

multi-modal
- voice, touch,
- sensor activated

