

**POLIS**

CITIES AND REGIONS FOR TRANSPORT INNOVATION

ANNUAL  
CONFERENCE

**2022**

30 November  
1 December, 2022  
Brussels, Belgium



**#POLIS2022**

# The co-design of digital mobility tools

**Just transition: digital tools to support policy and practice**

*Julienne Chen*

*Citizen Engagement and Programme Manager*

*EIT Urban Mobility*



# Citizen & User Engagement at EIT Urban Mobility

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1. Develop and pilot new digital technologies for participation in urban mobility topics
2. Support youth, children and other under-represented population groups to co-create ideas for active mobility
3. Incorporate citizen and end user perspectives into urban mobility solutions

# The growth of digital tools and services

Increased rapidly in the previous years, accelerated by COVID.

## Administration, IT and data have priority for digital investments

In which areas is the need for investment in digital infrastructure and digital solutions greatest in your municipality?

### Administration

75%

### IT Infrastructure and Data Security

71%

### Data Platforms/Data Management

48%

### Training

30%

### Mobility

16%

### Society

6%

### Energy & Environment

5%

### Health

3%

### Public Safety and Order

2%

### Trade

1%

Base: All municipalities (n=623) surveyed, maximum of three entries possible

Source: Bitkom Research 2020



# Examples

5:41 4G

3 DEBATES

Filter

ORDER DEBATES BY Recently updated

### Micromobility parking design

Official debate

What design would you use for the micromobility parking area under the bridges (simply delineate space with paint; inverted U type structures for bikes/skateboards; parking like PVerde, etc.).

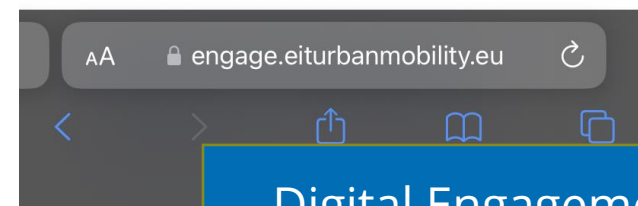
OPEN DEBATE

Commented 11 min. ago

PARTICIPATE

CREATED AT 09/06/2022

22 FOLLOW 6



Digital Engagement Platforms

8:48 4G

Moorkensplein

The EGG Brussels

46 min 1 hr 22 10 hr 2 hr 51

Depart at 8:48 PM

#### RECOMMENDED ROUTE

30 > IC > 11 1 hr 23 min

8:52 - 10:14 PM

early 8:53 PM from Borgerhout Langstraat

Modified schedule

#### OTHER OPTIONS

4 > 410 417 > 3 > 11 1 hr 26 min

8:48 - 10:14 PM

delayed 8:52 PM from Borgerhout Drink

Modified schedule

3 > 410 417 > 4 > 11 1 hr 3 min

9:13 - 10:16 PM

early 9:16 PM from Borgerhout Drink

6 > Thalys > 73 53 min

9:23 - 10:16 PM

9:33 PM from Antwerpen-Centraal

#### MORE BY RAIL

17 > IC > 11 1 hr 23 min

8:49 - 10:14 PM

Mobility as a Service

5:43 4G

Search a Velo-station or address

Map

Price

Profile

Alert

Menu

Bike Share

8:47

## Report incidents within Brussels' public space and help make your city better!

### Report an incident

Warning: Please call the police should a dangerous situation occur by calling the 112

Address

Street, number, post code, Report

### All incidents

fixmystreet.brussels

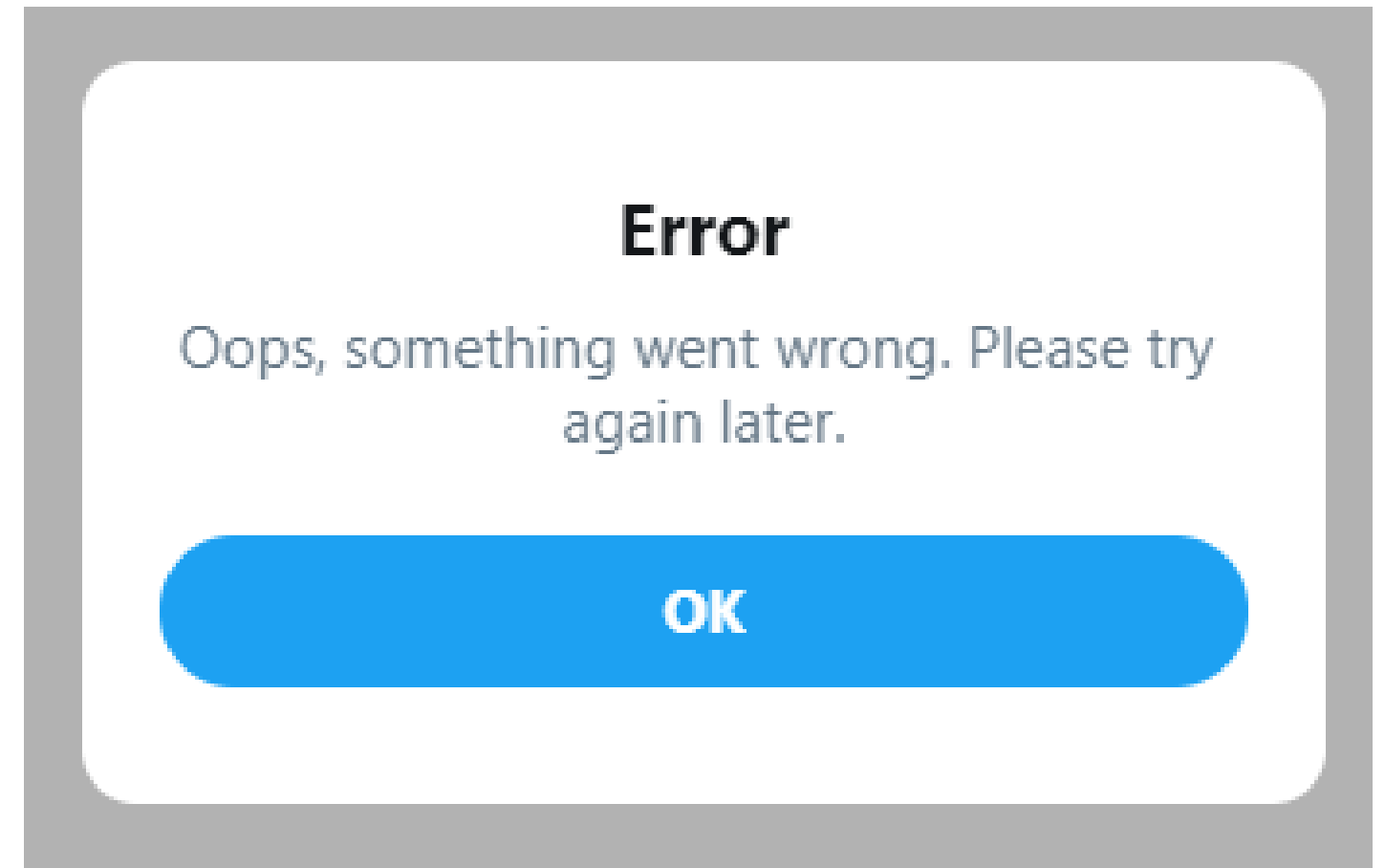
Issue Reporting



# Creating great digital experiences

Technology Acceptance Model (TAM) (Davis, 1989)

Perceived usefulness + perceived ease of use = adoption



# Fertile territory

Partnerships between cities, researchers, companies to co-develop and pilot new digital tools

E.g.,:

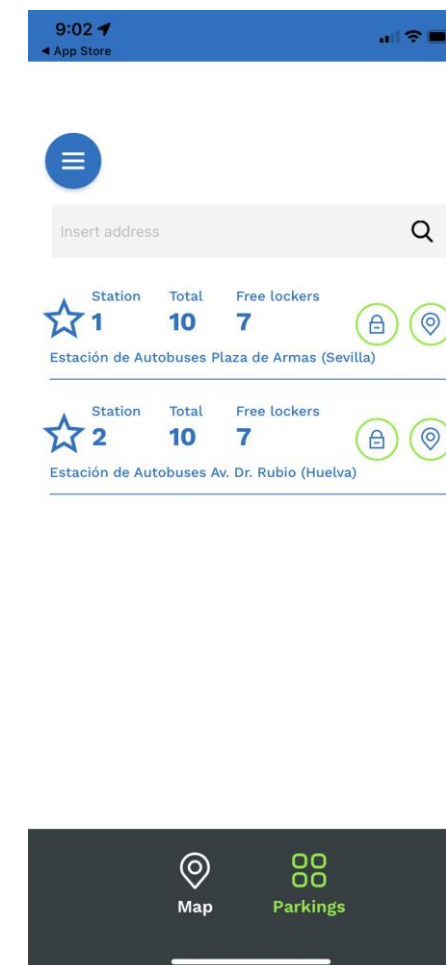
Digital twins for public input

Digital engagement platforms

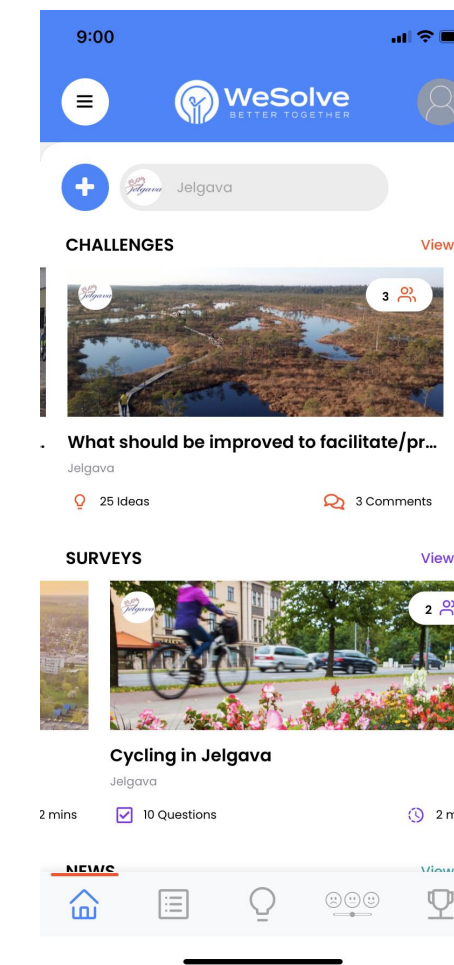
Urban mobility solutions w/ a digital interface



xD twin for Forum Virium (Helsinki)



Novality Smart Mobility Lockers



WeSolve Digital Engagement Platform

# Recommendations

1. Start with user research
2. Co-create functionalities with the target audience(s)
3. Incorporate time for continuous evaluation and iteration
4. Strengthen collaboration between cities and (digital) companies
5. Focus on communication (beyond, but including, language)



# Start with user research



- Flash interviews at bus stops
- In-depth interviews
- On-site demos + feedback
- Online focus group

## Outcome

Define 2 key target groups:

- Regular riders
- Infrequent riders

Develop the ideal user flow for each target group



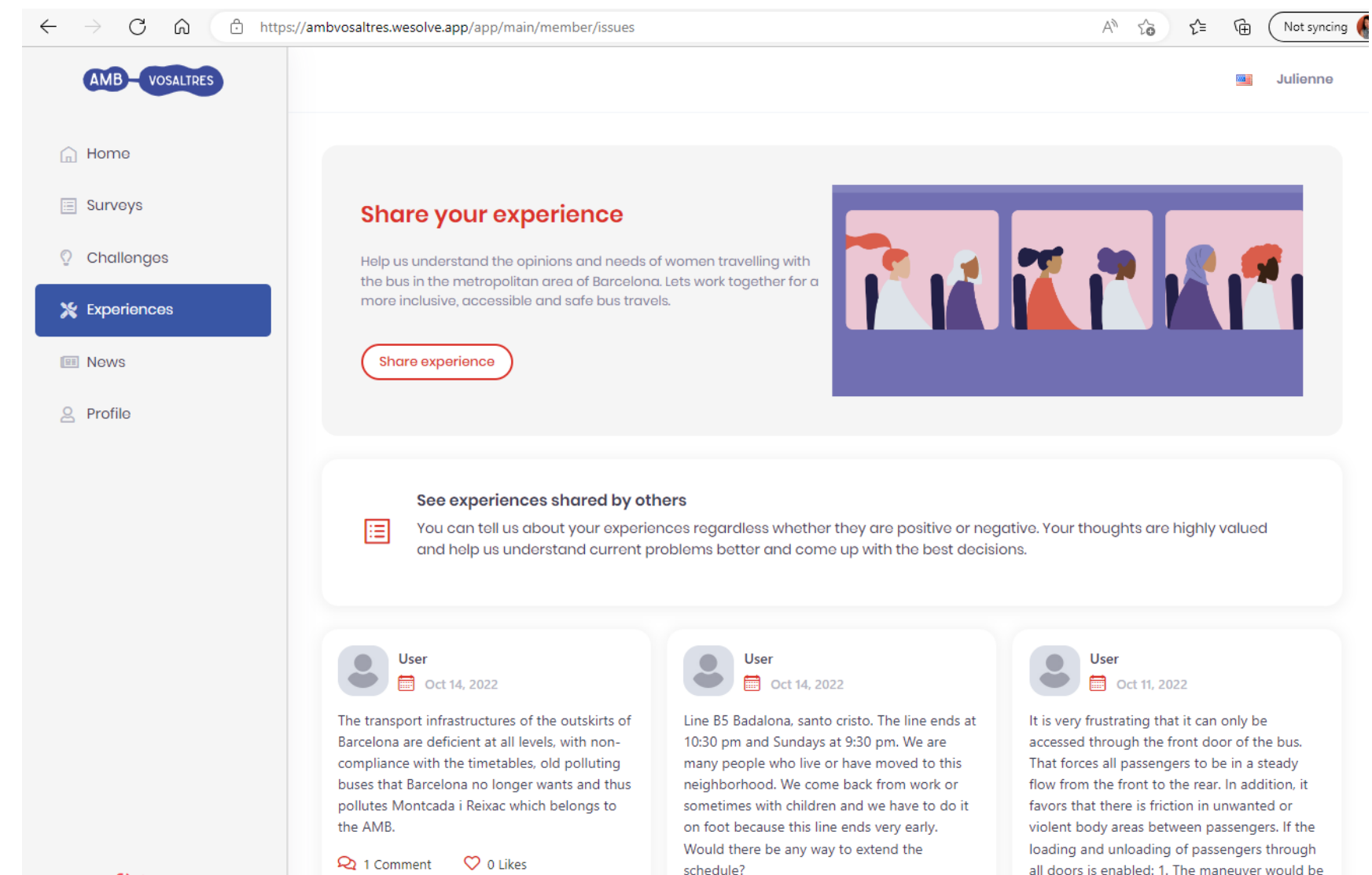


# Co-create functionalities with the target audience

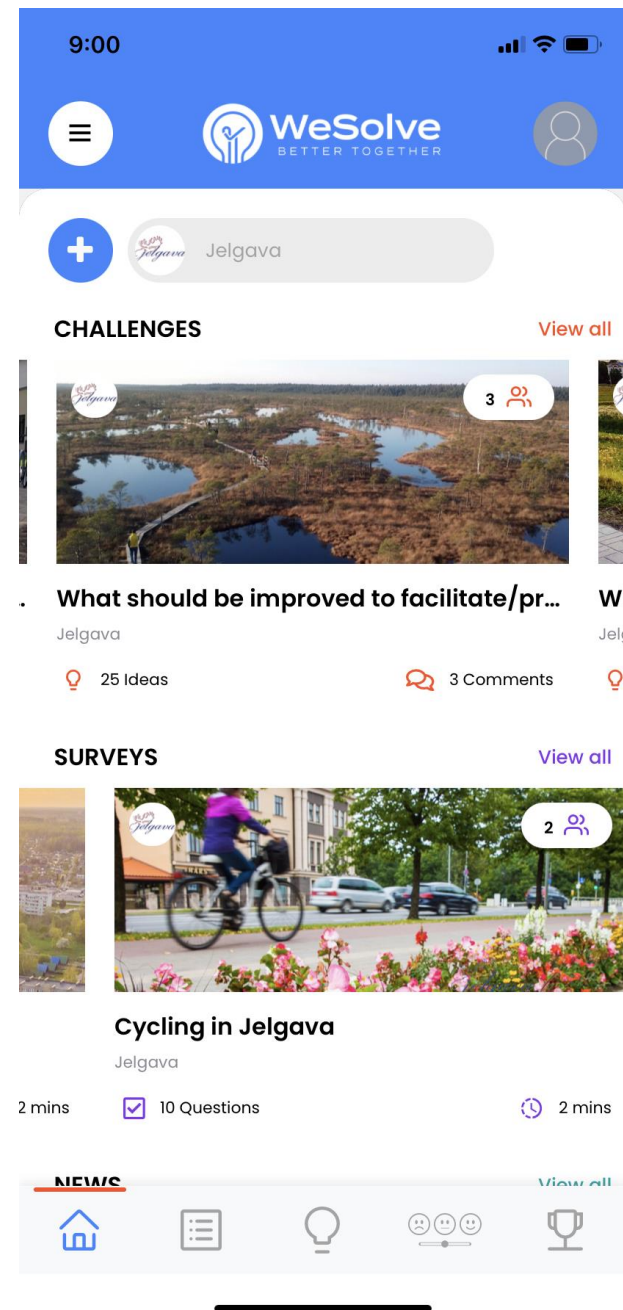
## Outcome

Define key functionalities for a web app to report concerns and propose ideas

Use of the AMB Mobility APP	😊
Willingness to communicate ideas and improvements through an App	😊
Preference to report issues with pre-codified items or with open fields	😞
Willingness about giving the location of the incidence	😊
Usefulness to attach photographs	😊
Possibility of see and comment on the contributions of other people	😞
Expectation to receive updates on their contributions	😊
Willingness you give personal details to register in the App	😞



# Build in time for continuous evaluation



Engagement Round I

- Evaluate and adjust



Engagement Round II

- Evaluate and adjust



Engagement Round III

- Evaluate and adjust



# Strengthen collaboration between cities and companies

## How to facilitate conversations and a defined process that:

- Prioritise most important needs and functionalities
- Discuss intricacies and trade-offs (design, effort, unintended consequences)
- Translate needs into developable technical specifications



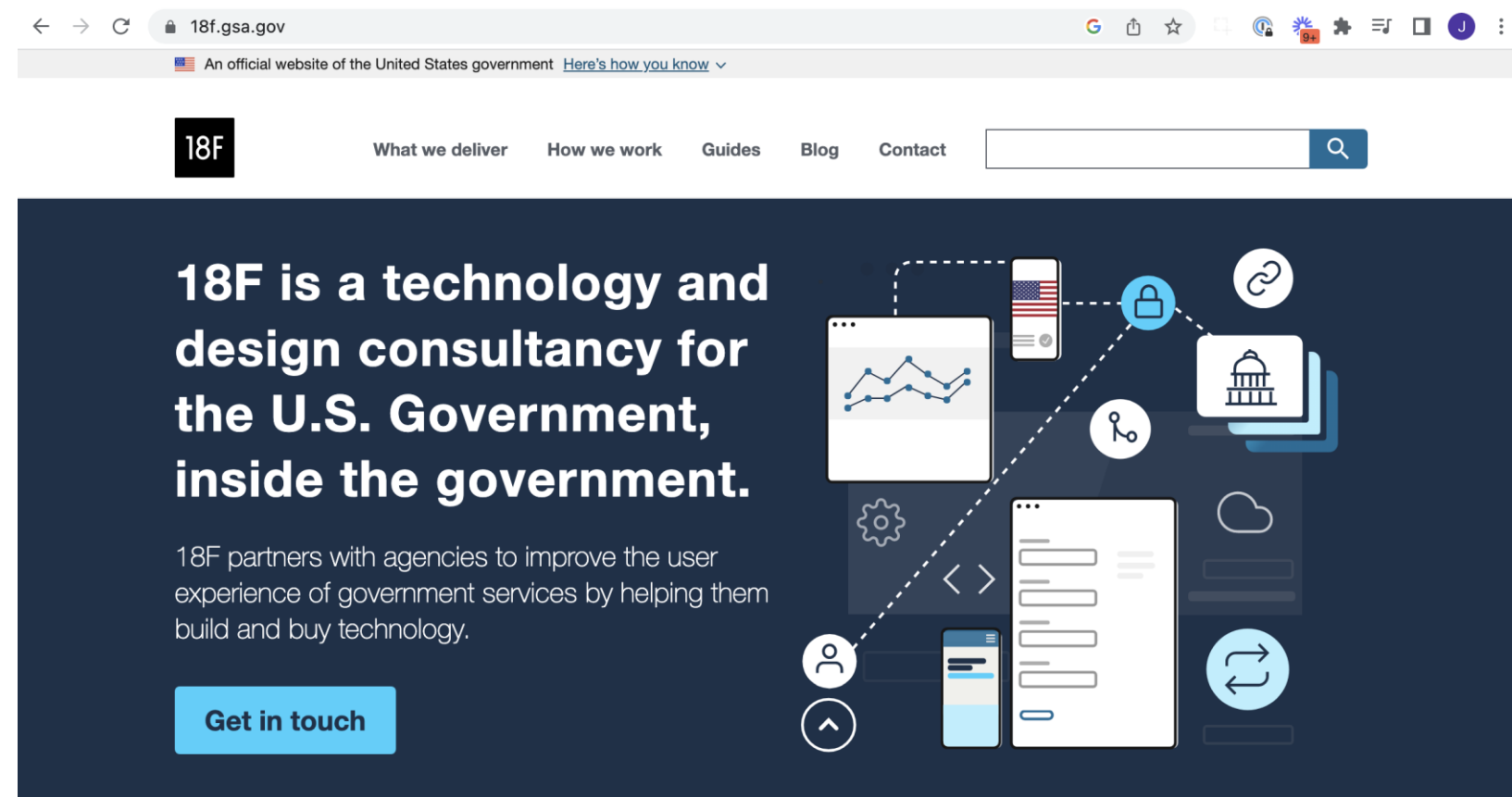
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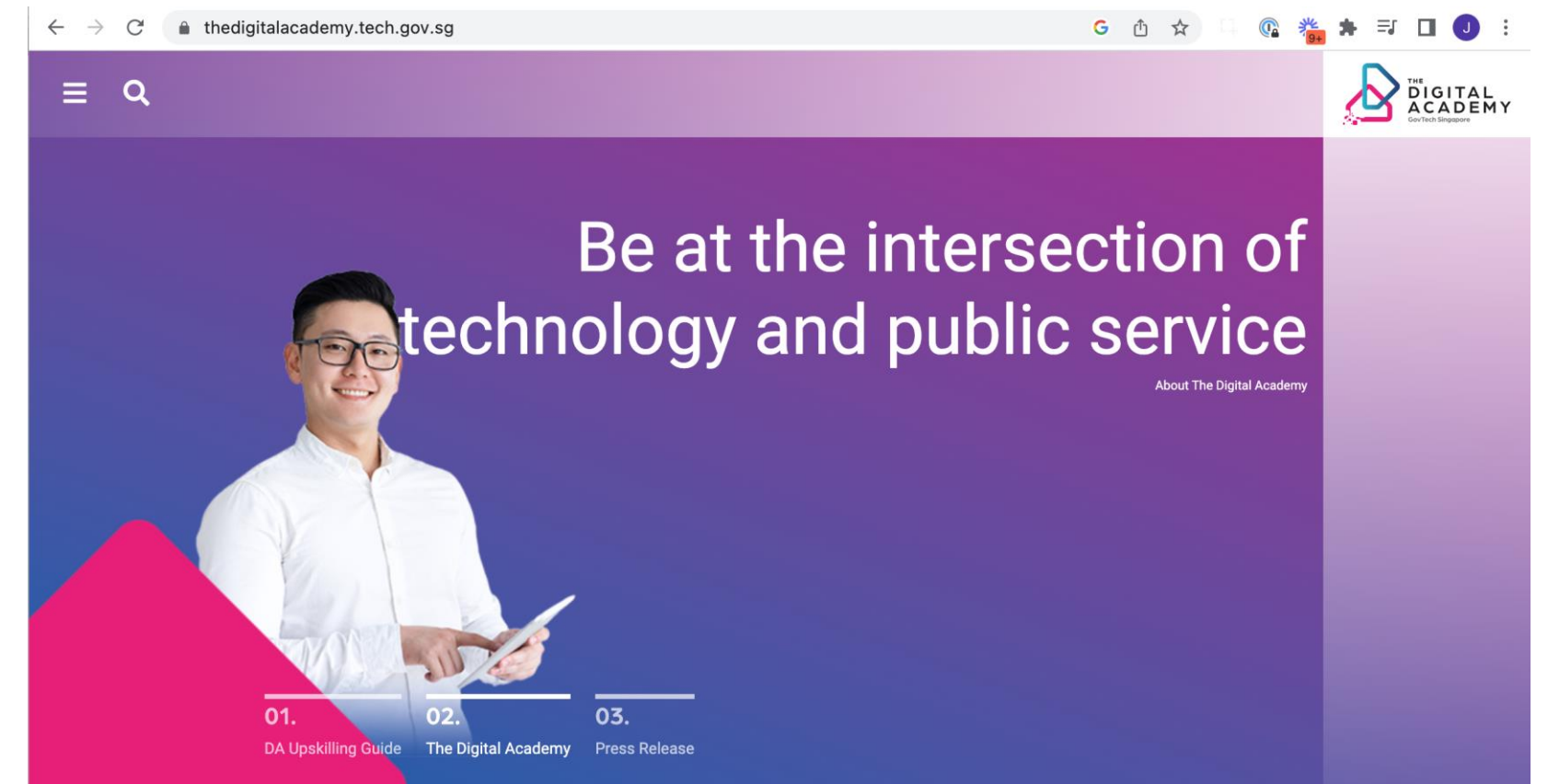
# Strengthen collaboration between cities and companies



The screenshot shows the 18F website homepage. The browser address bar displays "18f.gsa.gov". The navigation menu includes "What we deliver", "How we work", "Guides", "Blog", and "Contact". The main content area features a dark blue background with the text: "18F is a technology and design consultancy for the U.S. Government, inside the government." Below this, it states: "18F partners with agencies to improve the user experience of government services by helping them build and buy technology." A "Get in touch" button is visible. The page is decorated with various icons representing technology, government, and user experience.

"We engaged with 18F, and it was a game-changer for us. They came in and helped the IT team and business owners get involved in the agile development process. It changed our whole methodology."

 — **Alec Palmer**  
FEC's Chief Information Officer



The screenshot shows the Digital Academy website homepage. The browser address bar displays "thedigitalacademy.tech.gov.sg". The navigation menu includes a search icon and a menu icon. The main content area features a purple background with the text: "Be at the intersection of technology and public service". Below this, it states: "About The Digital Academy". A man in a white shirt is shown holding a tablet. The page is decorated with various icons representing technology and public service.

**The first 'Practitioner for Practitioner' academy with ICT programmes contextualised for the public service.**

Established by GovTech for the Whole Of Government.





# Focus on communication (beyond, but including, language)

<https://www.media.mit.edu/projects/overview> 

## [Overview < Language Simplification - MIT Media Lab](#)

The **Language Simplification** project is developing automatic methods to **simplify** ... These capabilities can be wrapped into a reading assistance **tool** for end ...

<https://aclanthology.org/...>  

## [A Tool for Automatic Simplification of Swedish Texts](#)

by E Rennes · 2015 · Cited by 25 — erful **tools** for natural **language** processing needed for more advanced text **simplification**. The group of people that might benefit from a.

4 pages

<https://lirias.kuleuven.be/retrieve>  

## [Automating lexical simplification in Dutch - Lirias](#)

by B Bulté · 2018 · Cited by 12 — reason it is useful to dispose of automated **tools** to **simplify language**. Such **language simplification** systems have been developed with different target ...

### Voice and Tone

Content creators for the City of Oakland should write in a way that is friendly and informative but also conveys authority and **builds trust**. Use a conversational tone when you're writing and don't use City-specific language or jargon. Imagine that you are having a friendly conversation with your reader and that you are in a position to provide them helpful information. You understand the topic at hand and are there to help. Never assume readers have a deep understanding of a subject, and when you are describing a complicated issue, explain the point in clear language and, when necessary, provide context for the topic.

#### Address the user as "you" when possible.

- "You can contact the Oaklanders Assistance Center by phone or email."

#### Make direct appeals to users to get involved or take action.

- "Pay your parking ticket."


#### Use positive language

- Yes: "Please pay by personal check or cash."
- No: "No credit cards accepted."

#### Be polite and clear.

- Yes: "Please look for signs, curb colors and stickers on meters."
- No: "Be sure to obey parking restrictions indicated by posted signs."

#### Use an active Voice.

Please take, borrow, and share.   
Please remember to attribute the City of Oakland.  
We <3 Our City. :)



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The Language Simplification capabilities can be wrapped

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# It's digital, but it's still human

In front of every app or digital service is...

Your 70 year old neighbour

Your 12 year old niece

Your friend

You!

Let's continue to build the competences and practices to ensure that poor utility and usability isn't what holds back the adoption of digital mobility solutions.





# Thank you for your attention!

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