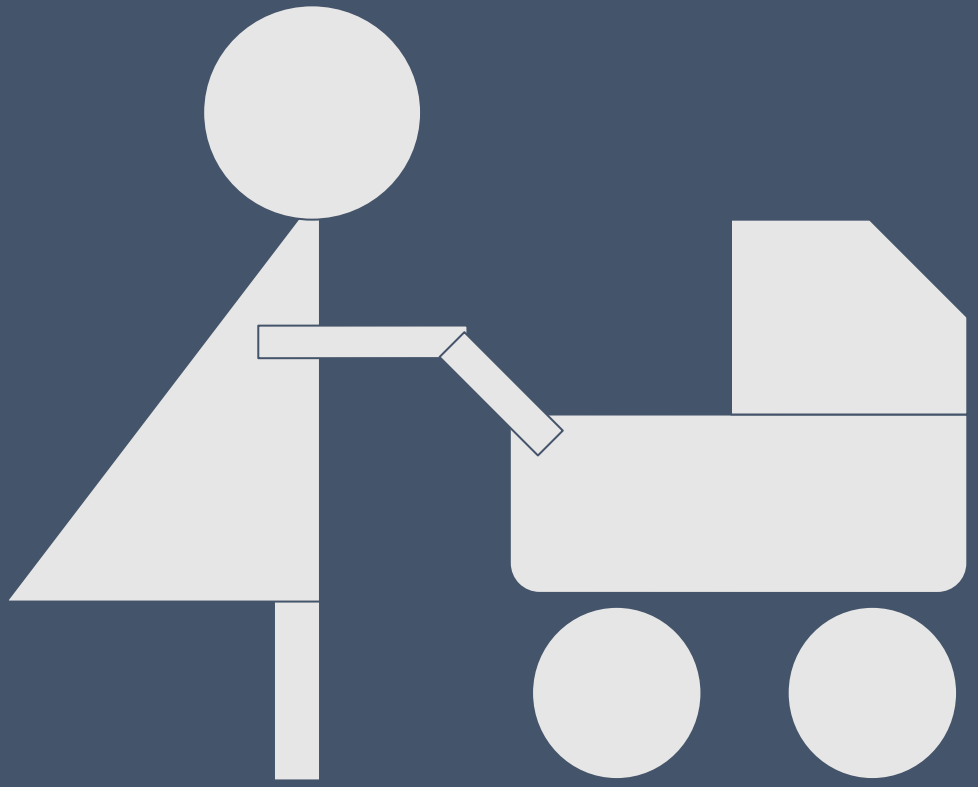
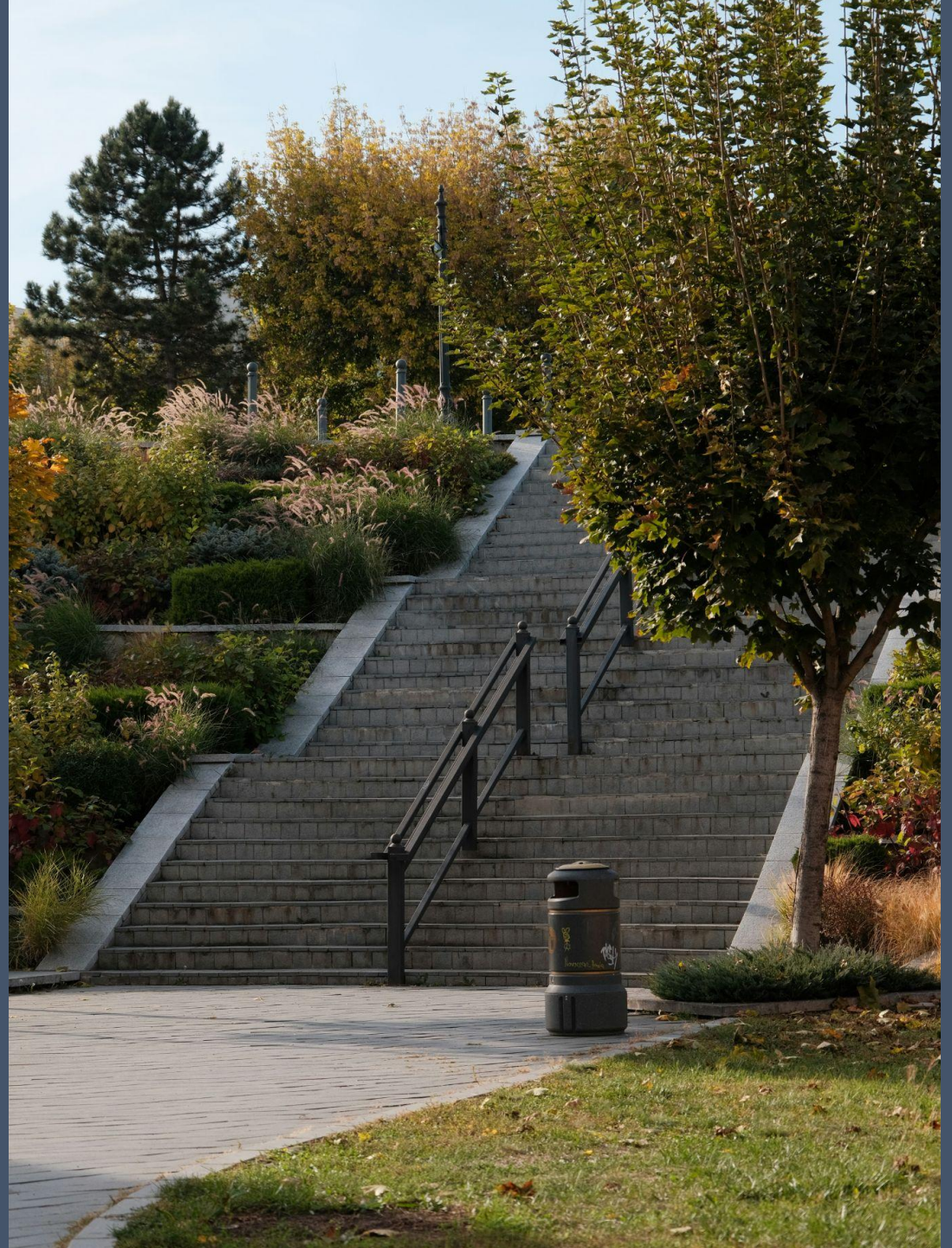
Accessibility Overview

Nicole Meng-Schneider

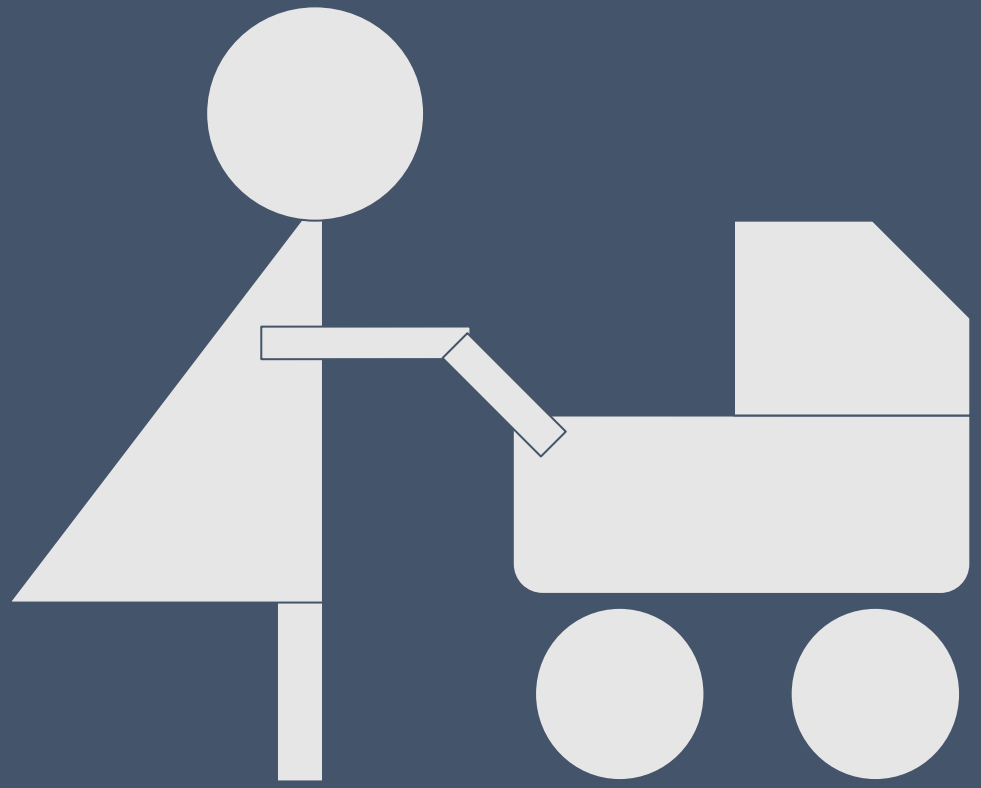
Slidedeck inspired by Dr Kami Vaniea

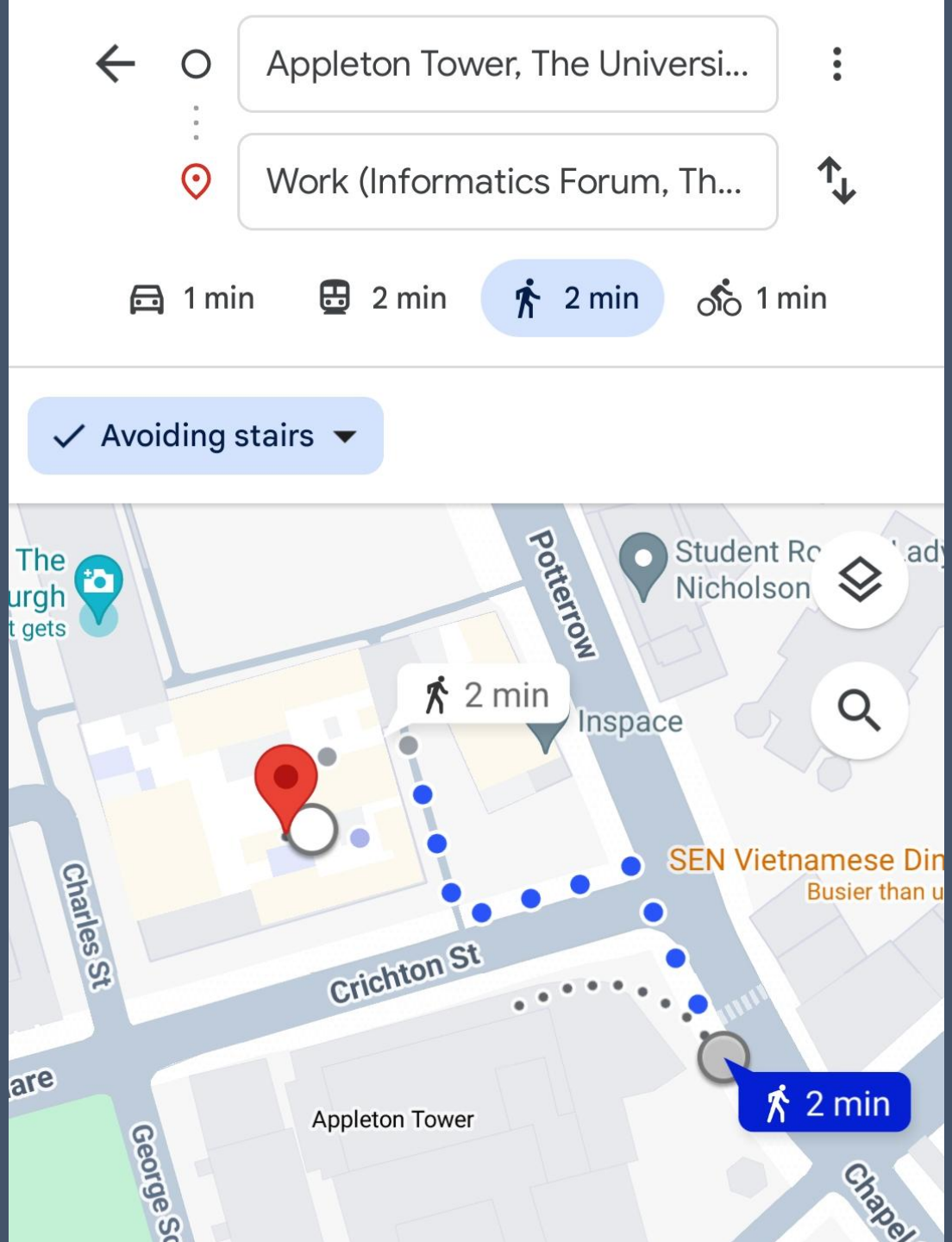
Spot the problem:



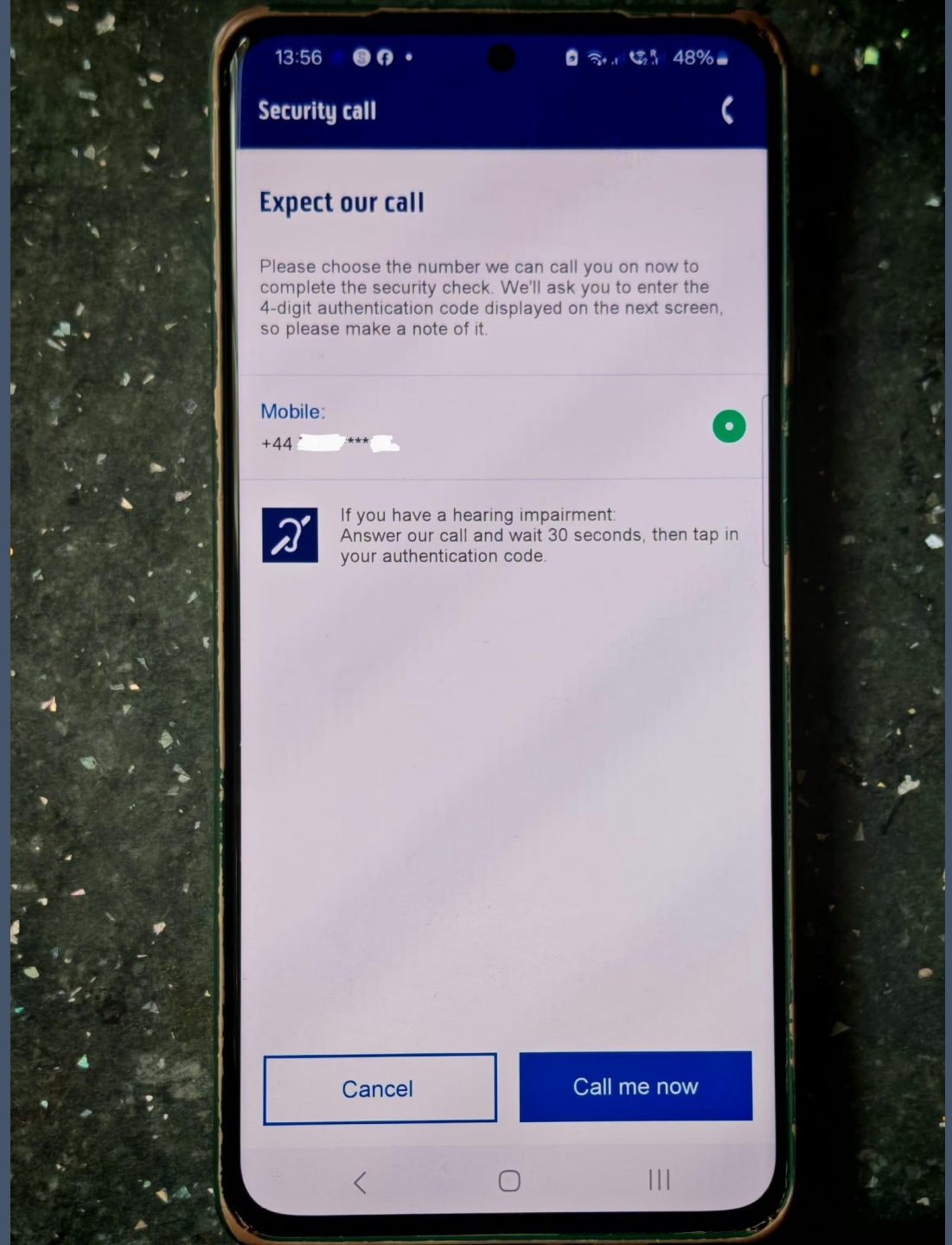


Spot the problem:





Spot the problem 2.0:



Defining Accessibility

Accessibility refers to all people (with or without a disability):

"Access by everyone regardless of disability is an essential aspect."

- Tim Berners-Lee, W3C Director and inventor of the World Wide Web*

* https://www.w3.org/mission/accessibility/#examples

Accessibility Models

Medical Model

People are disabled by the **impairments** that they have

- Think injury, wheelchair, visual impairments

Social Model

People are disabled by society and their surroundings

- Think gender restrictions, noise levels, etiquette

Models of Disability: Types and Definitions by Ian Langtree, Published: 2010/09/10, Updated: 2024/05/16, https://www.disabled-world.com/definitions/disability-models.php

Impairment Types

- **Permanent**

e.g. Paralysis, visual impairments

- **Temporary**

e.g. injury, eye infection

- **Situational**

e.g. Language barriers, sun glare

Accessibility Factors*

- **User Impairments –**
  issues in body function or alteration in body structure.
- **Activity Limitations –**
  difficulties in executing activities.
- **Participation Restrictions –**
  problems exist in taking part in activities due to issues such as discrimination.
- **Environmental Factors –**
  facilitators or barriers in the environment impact on the user.
- **Personal Factors –**
  aspects such as motivation and self-esteem can influence an individual's participation.

*Crabb, M., Heron, M., Jones, R., Armstrong, M., Reid, H., & Wilson, A. (2019, April). Developing Accessible Services: Understanding Current Knowledge and Areas for Future Support. In Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems (p. 216). ACM.

Accessible systems help everyone, not just people with disabilities

- Filters allow anyone to adjust for their preferences
- Flexibility in inputs improves accessibility and makes it easier for everyone else (e.g. in a cold environment an individual's typing performance may decrease)
- Well structured text is easier to read and easier for computers to parse
- Accounting for inaccurate user movements can help anyone (e.g. spasm (a sudden, involuntary contraction of a muscle) can cause unwanted diversions or mouse clicks during pointing movements)

Methods to assist

- raising awareness of accessible policies and guidelines
  https://www.w3.org/TR/WCAG21/
  https://www.ideasforears.org.uk/hearing-access-protocol/

- developing tools to assist in accessible design
  https://www.semanticscholar.org/paper/Using-Automated-Tools-to-Improve-Web-Site-Usage-by-Ivory-Mankoff/7bb9856bb44e56fb117efa9625ae728986adf1ba

  - **Cognitive systems** - through advances in machine learning, cognitive systems are rapidly improving their ability to see, to hear, and to interact with humans using natural language and gesture.

- coordinating with the (disabled) community
  https://dl.acm.org/doi/10.1145/2661334.2661361

- conducting accessibility self assessment
  https://g3ict.org/publication/g3ict-ict-accessibility-self-assessment-framework

Accessibility in large companies

- BBC:
  http://www.bbc.co.uk/guidelines/futuremedia/accessibility/
- Google:
  https://www.google.co.uk/accessibility/
- Microsoft:
  https://www.microsoft.com/en-us/accessibility
- IBM:
  https://www.ibm.com/able/
- Oracle
  https://www.oracle.com/corporate/accessibility
- Skyscanner
  https://www.accessibility.skyscanner.net/our-accessibility-journey

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