



Guide



Using technology to make public
transportation accessible

Group 3

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UN Problem: No Poverty

Importance

Economic growth must be inclusive to provide sustainable jobs and promote equality.

Why?

Septa and the Septa Mobile Application is currently not accessible to all users.



Am I at the right stop?
Will the conductor announce the station?
Will I be able to safely get to and from work?"



38%

of people with visual impairments* have turned down a job because of public transportation concerns

16%

of Philadelphia citizens have a (dis)ability

* Encompasses individuals who may have lost their vision or may have difficulty with viewing

► Making Public Transportation Accessible



Provides Philadelphians with visual impairments the opportunity to commute to work via subway safely

- Passage to labor, which can combat poverty

Promotes equitable access to public transportation

- Encourages reliability to employment
 - Combats barrier to employment

Prototype

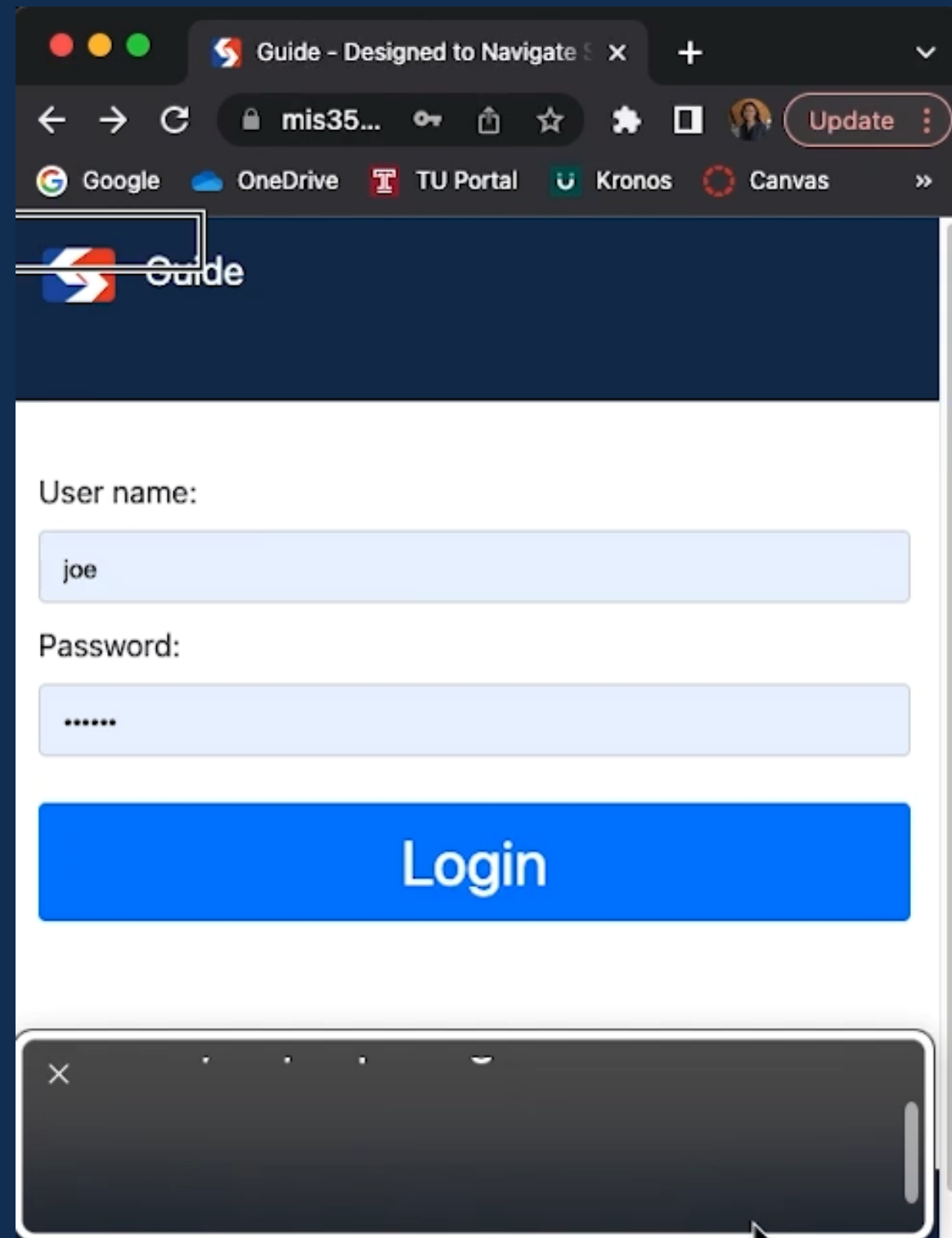
<https://mis3502-luong.com/septa/>



*Try it on the
Chrome browser
with (and without)
a screen reader.*



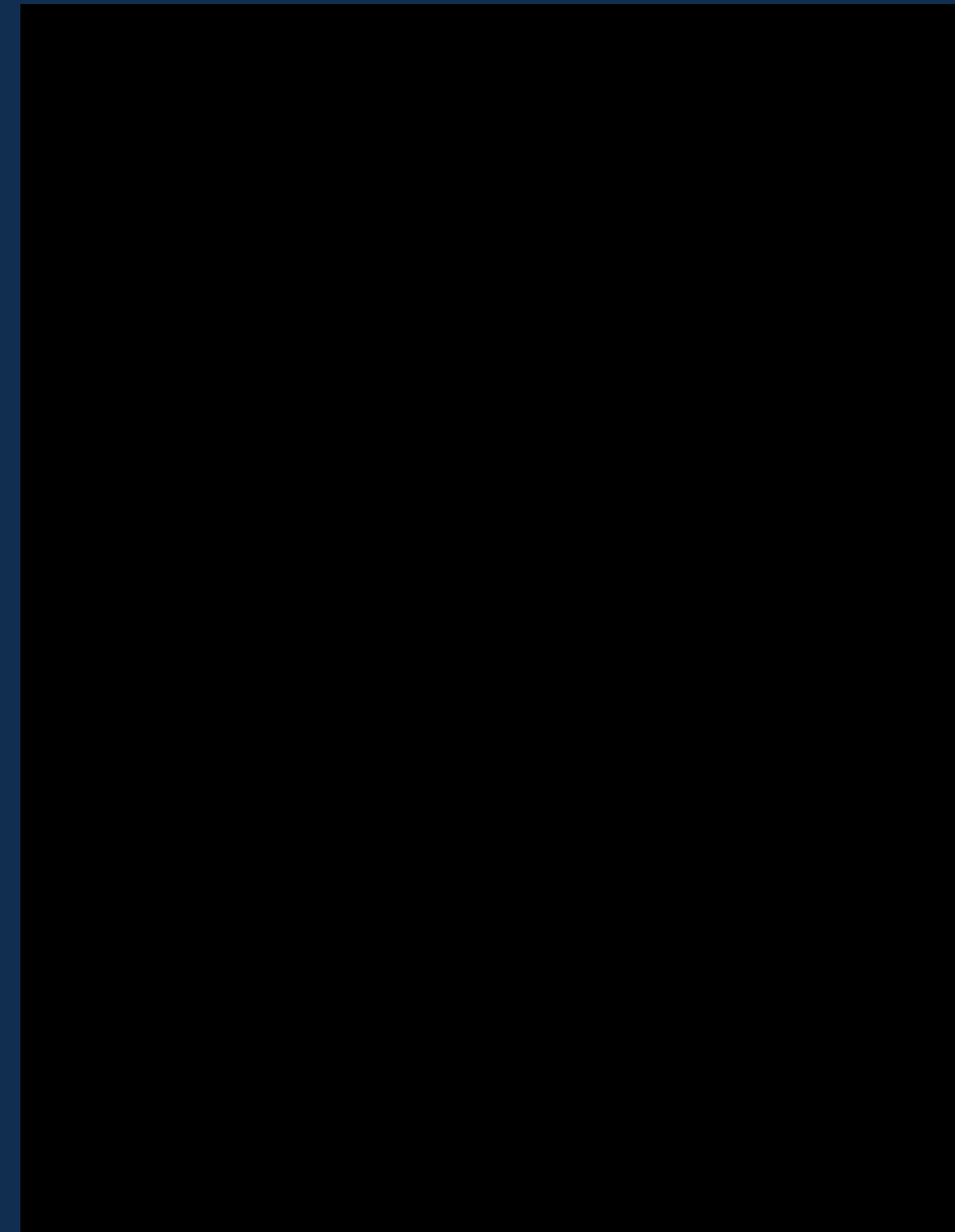
► Demo with Screen Reader



The screenshot shows a web browser window with the title 'Guide - Designed to Navigate'. The address bar shows a URL starting with 'mis35...'. The browser's bookmark bar includes links to Google, OneDrive, TU Portal, Kronos, and Canvas. The page content features a dark blue header with the 'Guide' logo. Below the header, there is a login form with the following elements:

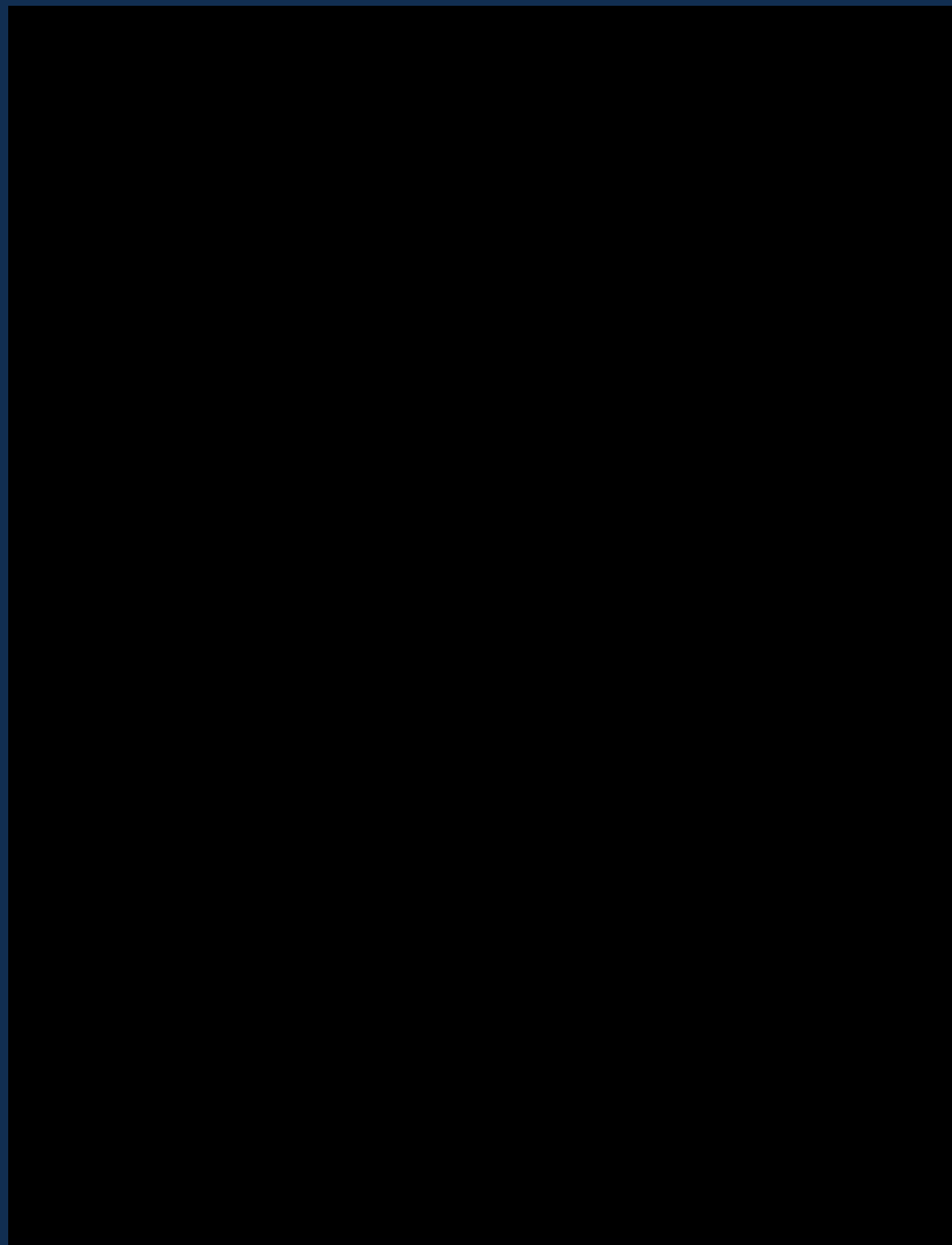
- A label 'User name:' followed by a text input field containing the text 'joe'.
- A label 'Password:' followed by a password input field containing six dots '.....'.
- A large blue button labeled 'Login'.
- A dark grey sidebar at the bottom of the page with a close button (X) and several small, indistinct icons.

Login page



Main page

► Demo with Screen Reader



*Navigation
bar and
history*



*Create a trip
and edit trip.
Includes
direction,
geolocation,
geofence, ring,
and alert.*

Next Steps

Improve the look and feel to fit Septa

- Perform user testing with groups of visually impaired individuals and non-visually impaired individuals
- Store favorite trips

Implement more third-party APIs

- Alerts
- Septa

Improve screen reader compatibility

- Mobile development
- Add pages beyond index.html

Improve geolocation

- Refine geofence for accuracy
- Expand to Market-Frankford Line
- Limit number of alerts and rings

Innovation

Feature does not exist... yet

- SEPTA app does not have this feature
- Rings and informs the user when within the station's geofence
 - Not a map

User Experience (UX)

- Follows Web Content Accessibility Guidelines (WCAG) 2.1
- Pairs with screen readers
- Skip to main

Geolocation

- Leverages geofencing
- Informs the user on station location
- Updates in real time

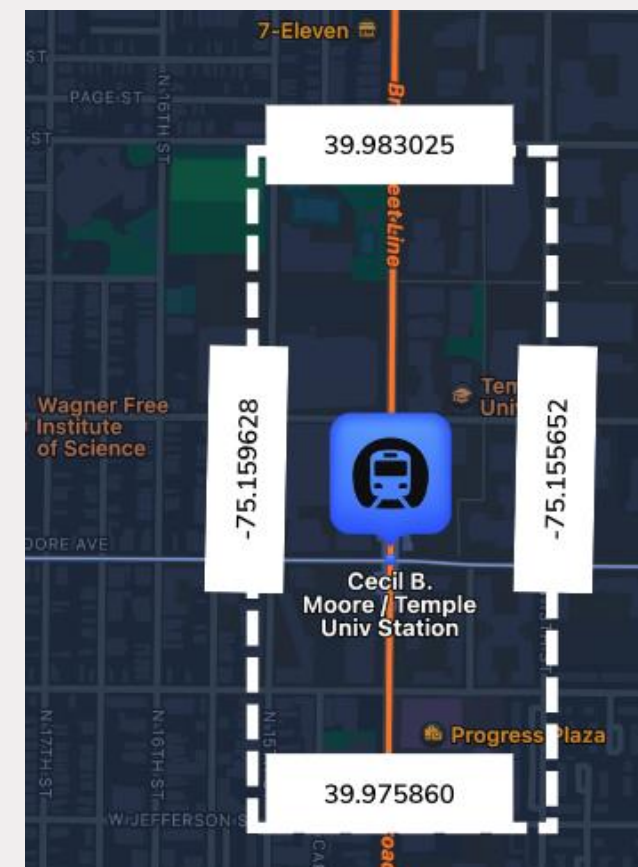


Figure 1: Geofence of Cecil B. Moore Station.

The application grabs the user's geolocation (with permission). The user's current geolocation is compared to the station's geofence. If it is within range, the user will be informed.

Business Considerations

- ▶ Enhance diversity and inclusion
- ▶ Minimize legal risk
- ▶ Drive innovation



Thank You for
Letting Us **Guide** You

Questions & Comments

