



ADAPTIVE USER INTERFACES FOR VISION IMPAIRED USERS

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At a glance



Background

Most research into adaptable and adaptive user interfaces has focused on facilitating consistent experiences across devices rather than ensuring universal web access for users.



Goal

Contribute to universal web access for diverse end users by creating adaptable user interface components for the vision-impaired.



Strategies

Develop a framework that supports run-time adaptation of web components for vision-impaired users.

Create and evaluate a prototype with extended Flutter components.

Outcomes



Run-time adaptation support suggestions

We identified run-time adaptation support needed to improve web accessibility for vision-impaired users.



Framework and proof-of-concept set

Based on Google's Flutter framework, we developed a framework and proof-of-concept 'Adaptive Flutter' widget set that are reusable and adaptable.



Positive user evaluations and insights

Adaptive Flutter-based web apps were shown to offer major benefits in many W3C accessibility areas.

More information



Created a framework and 'Adaptive Flutter' toolkit, and used these to reimplement web apps.



W3C accessibility areas that benefited from the adaptive flutter-based web apps included 'contrast', 'text size' and 'colour/differentiate without colour'



Future research is planned with more adaptive features, project applications and platforms such as React and React Native.

Access the prototype toolkit



Learn more

To learn more about this project or frameworks to build more accessible websites and apps, contact [Professor John Grundy](#) or scan the QR code.



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