



# ENHANCEMENT OF USABILITY AND ACCESSIBILITY OF DIGITAL APPLICATIONS

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## At a glance



### Goal

Investigate procedures that help developers improve the usability and accessibility of digital applications.



### Strategies

Target two common platforms for usability improvement:

- web applications, with an emphasis on Q&A sites. We use deep learning techniques such as transformer to automatically improve the post content.
- mobile applications, specifically Android apps. We specially the dark mode in Android apps.

## Key outcomes



### Tools for readability and understanding

Latexify Math: Mathematical Formula Markup Revision to Assist Collaborative Editing in Math Q&A Sites: This work introduced a novel method for improving the readability and understandability of math content in web applications.



### Android dark mode study and taxonomy

- Analysed and tagged Stack Overflow discussions on Android dark mode
- Developed a taxonomy of aspects
- Analysed dark mode features in Android apps
- Investigated consistency issues across 4 development support tools.

# More information about the tools



## Latexify Math

A method for improving the quality of math content in web apps, setting a new benchmark in collaborative editing. The ability to latexify formulas, revise LaTeX and convert blurry math formula screenshots into clear LaTeX sequences transforms the user experience on math Q&A sites.



## Dark mode analysis

A world first, this tool offers an empirical exploration into the provision of dark mode in Android apps. Analysing data from Stack Overflow and Android apps, we provided a comprehensive review of current practices and key improvements.

## Learn more

To discover more about this project, contact [HumaniSE Lab](#) or scan the QR code.



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