

# Madhuka De Silva

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Human-Centered Computing Researcher | Accessibility |  
User Experience Design



## Education

Ph.D. in Information Technology | 2022 - 2025  
Monash University, Australia

B.Sc (Hons) in Information Systems | 2019  
University of Colombo School of Computing | First Class

## Research Experience

**Accessible Representations for Body Movement Education of People who are Blind or have Low Vision**  
Human-Centred Computing | Monash University, Australia | 2022 - 2025  
Under the supervision of Assoc. Prof. Matthew Butler and Dr. Sarah Goodwin

- Conducted surveys, interviews and focus group discussions.
- Conducted ideation workshops.
- Performed a thematic analysis.
- Publication in ASSETS 2023 (A - quality) conference.

**Graphiti Project | Accessible Moving Graphics for People who are Blind or have Low Vision**  
Contributed to conducting user studies and thematic analysis for the project by Inclusive Tech Group,  
Human-Centred Computing, Monash University | 2022

**Designing an IT-based Voting Solution for People who are Blind or have Low Vision**  
University of Colombo Sri Lanka | 2018

Voters with vision impairment in Sri Lanka do not have an accessible voting mechanism. The research was set out to design a voting system to enhance their right to vote. Two usable and accessible ballot interfaces were designed that provided mean System Usability Scores (SUS) of 88.25 and 84.44.

- Interviewed stakeholders including users as a part of user research.
- Performed a thematic analysis for interview scripts.
- Conducted a co-design workshop.
- Prototyped the designed solution iteratively by gaining user feedback.
- Published two research papers at international conferences.
- **Best research** award.

## Publications

- **Madhuka De Silva**, Sarah Goodwin, Leona Holloway, Matthew Butler. 2023. **Understanding Challenges and Opportunities in Body Movement Education of People who are Blind or have Low Vision.** ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '23). <https://dl.acm.org/doi/10.1145/3597638.3608409>
- Leona Holloway, Swamy Ananthanarayan, Matthew Butler, **Madhuka De Silva**, Kirsten Ellis, Cagatay Goncu, Kate Stephens, and Kim Marriott. 2022. **Animations at Your Fingertips: Using a Refreshable Tactile Display to Convey Motion Graphics for People who are Blind or have Low Vision.** In Proceedings of the 24th International ACM SIGACCESS Conference on Computers and Accessibility

(ASSETS '22). ACM, NY, USA, 1–16. <https://doi.org/10.1145/3517428.3544797>

- **Madhuka De Silva**, Thushani Weerasinghe, Kapila Dias. (2019). **Information Technology Based Usable Ballot Interface Design for Persons with Vision Impairment in Sri Lanka**. In: Antona, M., Stephanidis, C. (eds) Universal Access in Human-Computer Interaction. Theory, Methods and Tools. HCII '19. Lecture Notes in Computer Science, vol 11572. Springer, Cham. [https://doi.org/10.1007/978-3-030-23560-4\\_16](https://doi.org/10.1007/978-3-030-23560-4_16)
- **Madhuka De Silva**, Thushani Weerasinghe, Kapila Dias. (2019). **Designing an Information Technology Based Voting Solution for Persons with Vision Impairment in Sri Lanka**. The Twelfth International Conference on Advances in Computer-Human Interactions, ACHI '19.

## Teaching and Work Experience

### Assistance Lecturer 2024 and Teaching Associate | Usability | 2023

Providing guidance to undergraduates on designing technology-driven usable and accessible user interfaces.

### Teaching Associate | Maker lab | 2022

Provided a design perspective for undergraduates to gain the skills needed to create solutions to problems using technologies.

### Software Business Analyst | Cambio Software Engineering (Swedish Healthcare) | 2019 - 2022

- Requirement analysis and elicitation.
- Conducting and participating in design sprints.
- Preparation of wireframes and mockups.
- Role as a scrum master.
- Mentoring new Business Analysts, team members with product knowledge, skills and techniques.

## Volunteering and Other Activities

- **FIT Research day** volunteer
- ASSETS ACM Conference Online Student Volunteer | 2022
- **3 Minute Thesis Finalist** and representative of the Faculty of IT | Monash University | 2023
- Monash Faculty of IT Graduate Research Student Retreat Organizing Volunteer | 2022
- Conducted 'Design Thinking' workshops for undergraduates in Sri Lanka | 2021
- Member of Interaction Design Foundation and obtained Google UX Foundations Certificate
- User Experience & Research inspired blogging [madhukadesigns.medium.com](https://madhukadesigns.medium.com)

## References

Assoc. Prof. **Matthew Butler** | Associate Professor | Supervisor| Inclusive Tech Group  
[Matthew.Butler@monash.edu](mailto:Matthew.Butler@monash.edu)

Dr. **Sarah Goodwin** | Senior Lecturer | Supervisor| Embodied Visualisation Group  
[Sarah.Goodwin@monash.edu](mailto:Sarah.Goodwin@monash.edu)

Dr. **Swamy Ananthanarayan** | Lecturer of Usability and Makerlab | Inclusive Tech Group  
[Swamy.Ananthanarayan@monash.edu](mailto:Swamy.Ananthanarayan@monash.edu)