

Development of a mobile application which communicates with individuals, measure stress levels, gives advice and contact healthcare professionals.

Luqman FH¹, Dewmini MK¹, Shyanika DGA¹, Perera JNR¹, Geewindi AJ¹, Gayan HHS², Peiris WANN³

¹*Medical student, Faculty of Medicine, University of Moratuwa (UoM)*

²*Senior lecturer, Department of Electronic and Telecommunication Engineering, Faculty of Engineering, UoM*

³*Senior lecturer, Department of Medical Education, Faculty of Medicine, UoM*

Background - Mental health disorders, including depression, anxiety and stress, are becoming more common among young adults, especially university students. These conditions significantly affect academic performance and overall well-being. However, traditional interventions remain constrained by high costs, limited accessibility and social stigma. This study aims to develop a mobile application capable of assessing users' mental health using the Depression Anxiety and Stress Scale (DASS-21), delivering personalized coping strategies, and enabling communication with healthcare professionals, offering an accessible and cost-effective solution for mental health support.

Objectives - This project aims to develop a user-friendly mobile application that measures depression, anxiety, and stress using the DASS scale, offers personalized mental health advice, and connects users with healthcare professionals when needed. It ensures high user engagement, ethical data handling, and continuous improvement through testing and feedback.

Method - The methodology involved comprehensive literature review and user needs assessment through DASS-21-based screening surveys to identify best practices and user expectations. The app was designed and developed using user-centered principles, with iterative prototyping and feedback to ensure accessibility, usability, and engagement. The interface provides a calm welcome, secure login, and intuitive navigation for optimal user experience.

Conclusions - This study developed a user-centered mobile application designed to assess and manage depression, anxiety, and stress through the DASS framework, providing personalized interventions and professional support access. The project addressed barriers to traditional mental healthcare by offering an accessible, private, and evidence-based digital solution. Emphasizing ethical standards and data security, it demonstrated the potential of mHealth technologies to enhance early intervention, promote self-regulation, and bridge the gap between self-help and professional care.

Keywords - Mental Health, Mobile Application, DASS-21, mHealth.