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MAKERERE UNIVERSITY BUSINESS SCHOOL



Development of a Voice-Based Platform (VBP) for Mental Health Support in Uganda

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Makerere University

November 2025

DECLARATION

I, the undersigned, declare that to the best of my knowledge, this proposal is my original work and has never been submitted or published for any award in any other University or Institution of Higher Learning.

Signature: _____

Date: _____

APPROVAL

This project proposal has been submitted with my approval as the supervisor and my signature is appended below.

Signed: _____

Date: _____

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SECTION ONE

1. INTRODUCTION

1.1 Project Background

Mental health challenges are increasingly recognized as a major public health concern worldwide. In Uganda, issues such as depression, anxiety, trauma, and substance abuse continue to rise, particularly among youth and young adults. According to the World Health Organization (WHO, 2022), approximately one in four Ugandans will possibly experience a mental health disorder in their lifetime, yet less than 10% receive adequate care. Barriers such as stigma, lack of trained professionals, and limited access to mental health services hinder effective support and recovery.

With the growth of digital technologies, social media platforms have emerged as spaces where people express emotions, seek validation, and find community support. However, traditional social media networks often emphasize popularity metrics likes, shares, and followers rather than genuine emotional connection. Such environments can worsen anxiety, low self-esteem, and social comparison. This highlights the need for a digital space that prioritizes empathy, anonymity, and authentic emotional support.

VBP is conceptualized as an innovative response to this gap. It is an anonymous, voice-based empathy network designed to promote mental well-being through authentic human connection. Unlike text-based or visually-driven platforms, VBP allows users to share voice stories or questions anonymously, and receive audio-based responses from others who relate or wish to comfort. The absence of likes, follows, or public identities shifts the focus from performance to presence encouraging listening, understanding, and empathy.

This project explores the development of VBP as a digital platform for mental health support in Uganda. It seeks to understand how anonymity, voice interaction, and empathetic design can reduce stigma, promote openness, and create a safe digital space for emotional expression.

1.2 Statement of the Problem

Digital mental health platforms provide accessible and affordable therapy options that promote mental well-being. However, despite growing awareness about mental health, Ugandans continue to face challenges in seeking help due to stigma, fear of exposure, and limited access to counseling services. Many individuals, especially youth, feel isolated and struggle in silence because they lack trusted spaces to share their experiences.

Existing online platforms such as Facebook, X (formerly Twitter), and TikTok offer outlets for expression but expose users to judgment, trolling, or misunderstanding. Moreover, most mental health apps focus on self-tracking or guided therapy, leaving little room for peer-to-peer emotional connection.

VBP proposes a new solution an anonymous, voice-based empathy network to help Ugandans access emotional support safely and authentically.

1.3 Project Goal and Objectives

The goal of this project is to design and develop VBP, an anonymous voice-based empathy platform to enhance mental health support and emotional connection among users in Uganda.

Specific Objectives:

1. To analyze existing digital platforms for mental health support and identify gaps in empathy and anonymity.
2. To design a user-centered system architecture for VBP that enables anonymous voice sharing and responses.
3. To develop and prototype the VBP platform using appropriate technologies.
4. To evaluate user perceptions of VBP's effectiveness, usability, and emotional impact.

1.4 Anticipated Significance of the Project

This project is expected to contribute significantly to mental health advocacy, technological innovation, and social well-being. It will normalize open discussions about

mental health without fear of stigma, introduce a novel, voice-only anonymous platform that leverages empathy as a design principle, and provide a safe space for emotional sharing. The platform's design insights will also benefit policymakers, NGOs, and practitioners seeking to integrate digital empathy into mental health programs.

1.5 Project Assumptions

Assumption 1: The required software tools and technologies for system development will be accessible and functional for the duration of the project.

Assumption 2: The project's scope and objectives will remain consistent, and no major changes will occur after approval.

Assumption 3: Participants and stakeholders will provide honest feedback during the system testing and evaluation process.

SECTION TWO

REVIEW OF LITERATURE

This section reviews literature related to mental health support, empathy networks, and the role of voice-based technologies in emotional expression. It explores theories and empirical findings relevant to the VBP platform.

2.1 Theoretical Framework

This study is guided by three theories: The Theory of Planned Behavior (Ajzen, 1991), Social Support Theory (Cohen & Wills, 1985), and Human-Computer Interaction (HCI) Theory. These theories explain user attitudes toward technology adoption, the value of social connections for well-being, and the importance of empathetic digital interfaces.

a) Theory of Planned Behavior (TPB)

Ajzen's (1991) Theory of Planned Behavior states that behavioural intention is influenced by attitude, subjective norms, and perceived behavioural control. Research shows that for mental health help-seeking, stigma, confidentiality concerns, and fear of judgment reduce behavioural intention (Corrigan, 2004; Kaggwa et al., 2022). VBP applies this theory by enhancing anonymity and empathy, factors that increase willingness to share emotionally sensitive content.

b) Social Support Theory

According to Cohen and Wills (1985), emotional, informational, and instrumental support buffer individuals from stress. Studies consistently show that strong social support reduces depression, anxiety, and loneliness (Harandi et al., 2017). VBP operationalizes this theory by enabling anonymous voice-based peer support, promoting validation and emotional connection.

c) Human-Computer Interaction (HCI) Theory

HCI emphasizes that digital systems should be designed to meet human cognitive and

emotional needs. Affective computing and empathetic interface design strengthen user trust and emotional comfort (Norman, 2013; Picard, 2010). Mental health platforms must therefore prioritise safety, simplicity, and emotional sensitivity (Bakker et al., 2016). VBP removes competitive metrics such as likes and follows, aligning with HCI's empathetic design principles.

2.2 Related Studies

Studies indicate that Uganda faces increasing rates of depression and anxiety among youth due to unemployment, trauma, and social isolation. Despite awareness campaigns, limited access to mental health services persists (Kaggwa et al., 2021; WHO, 2022). Digital mental health platforms such as BetterHelp and Wysa have succeeded elsewhere but remain culturally misaligned and expensive for African users.

Digital mental health platforms such as BetterHelp, Wysa, and Talkspace have shown positive outcomes in counselling and emotional self-management (Fleming et al., 2019). However, research shows that many global platforms lack cultural alignment with African contexts and are often unaffordable (Mutiso et al., 2018; Pretorius, 2021).

Social Media and Emotional Expression

Although social media provides spaces for emotional expression, studies show that it increases social comparison, cyberbullying, and anxiety (Tandoc et al., 2020; Appel et al., 2020). Anonymous platforms like Whisper and Reddit reveal that individuals disclose sensitive emotions more freely when identity is hidden (Birnholtz et al., 2017), though such platforms may lack structured empathy.

Voice-Based Communication and Empathy

Voice carries emotional cues—tone, rhythm, pitch—that enhance understanding (Kraus, 2017). Research shows that individuals feel more supported and emotionally connected when receiving voice responses rather than text (Schroeder & Epley, 2020). Voice-based digital mental health tools such as Sonde Health further demonstrate the potential for vocal

biomarkers to identify stress and emotional distress.

Anonymity and Mental Health Expression

Anonymity increases authenticity and self-disclosure, especially for sensitive topics such as trauma and mental illness (Barak & Gluck-Ofri, 2007). Long-standing anonymous helplines such as Lifeline and The Samaritans demonstrate the effectiveness of confidential emotional outlets. VBP builds on this evidence by combining anonymity with empathetic voice-based peer support.

2.3 Summary

The literature highlights a significant gap in culturally relevant, anonymous, and empathy-driven digital mental health platforms in Uganda. While digital therapy applications exist globally, they do not adequately address Uganda's cultural context, stigma-related barriers, or disparities in digital literacy. Combining anonymity, voice-based emotional expression, and empathetic digital design provides a promising solution to encourage help-seeking and emotional openness. Thus, VBP's theoretical foundation—rooted in behavioural, social, and HCI science—positions it as a transformative tool for mental health support among Ugandan youth.

SECTION THREE

RESEARCH METHODS

3.1 Research Design/Approach

This study adopts a Design Science Research (DSR) approach, focusing on the creation and evaluation of a digital artifact to address a practical problem. The process involves problem identification, system design, prototype development, and user evaluation. The approach aligns with the study's goal to design a solution for mental health support through digital empathy.

3.2 Project Organization

The VBP project targets Ugandan youth aged 18–35, who are highly active online and face increasing mental health challenges. The platform will be developed as a web-based prototype accessible via desktop and mobile devices.

3.3 Sources of Project Data

The project will collect both primary and secondary data. Primary data will be obtained from focus group discussions, interviews, and prototype usability testing. Secondary data will include journals, reports, and online publications related to digital empathy and mental health.

3.4 System Analysis and Design Approaches

An object-oriented design approach will be used to model system components and interactions. The development will follow the Agile methodology, allowing iterative testing and user feedback. Tools such as React.js, Node.js, and Firebase will be used for implementation.

3.5 Anticipated Project Constraints

- i. Limited access to high-quality voice processing technologies may affect prototype refinement.
- ii. Limited participant availability could reduce feedback diversity.
- iii. Time and resource constraints may limit system scalability.

3.6 Project Development Process

The project will follow iterative stages: problem identification, requirements analysis, design and development, testing, and evaluation. Each iteration will focus on improving user experience and functionality based on feedback.

3.7 Ethical Considerations

Ethical approval will be sought prior to user testing. Participants will remain anonymous, and no personal data will be collected. All voice submissions will be stored securely and deleted after evaluation.

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