I. Introduction

Mental health has become one of the most pressing issues worldwide, with the World Health Organization listing mental health issues as the leading cause of global disease burden. Whether it is depression, anxiety or other mood disorders, these issues have a profound impact on individuals' daily lives, work productivity and interpersonal relationships. As people's awareness of the importance of mental health continues to increase, more and more technological solutions are being used to help individuals better manage and monitor their emotional health. According to the Global Mental Health Market Study, the demand for digital mental health solutions is expected to grow rapidly in the next few years, driving further development of mental health interventions around the world.

The combination of technology and mental health interventions provides individuals and clinicians with unprecedented opportunities to obtain real-time, personalized feedback and use data-driven approaches to improve treatment outcomes. However, there is still a lack of research on how personality affects treatment response. Although some studies have shown that patients' personality or temperament may affect their response to treatment, more specific evidence is needed to support this claim. Therefore, our team is committed to further verifying this hypothesis through this project - taking patients' personality traits into account can help develop more targeted treatment plans, thereby improving treatment effectiveness.

We aim to enhance the user experience by further developing and integrating two existing applications. The first is a web survey based on Qualtrics that generates personalized psychological assessment feedback for users. The second is a mobile application that allows users to self-monitor emotional events. Our goal is to optimize these apps so that they not only provide clear and timely feedback, but also improve the contextual recommendation capabilities of self-monitoring apps through more sophisticated algorithms. Ultimately, our team aims to integrate these two systems into a more comprehensive mental health support platform that helps users better manage their emotions and behaviors while providing clinicians with deeper insights.

### **IV. Client and Stakeholder Identification and Preferences**

Our primary customer is the Washington State University (WSU) Psychology Clinic, where the project will be used to help clinicians better understand their patients' personality traits and provide personalized treatment recommendations. Our mentors, Dr. Scott and Belinda Lin, are the primary contacts for the project and will provide guidance on how to optimize the personality assessment feedback and self-monitoring applications. The project will ultimately be used by clinical graduate students and clients at the WSU Psychology Clinic as a tool to assess the relationship between patient personality and treatment response. In addition to WSU, we have established potential partnerships with the Portland Psychology Clinic, where clinicians are also interested in using this system to help their patients.

Potential customers include the Portland Psychology Clinic and other psychotherapy institutions. To attract the interest of these institutions, our software project needs to ensure easy integration and use processes. The interface of the personality assessment report and self-monitoring application must be clear and easy to use, report generation and data processing must be efficient, and the feedback content can directly support clinical decision-making. To further promote application, the project should have cross-platform compatibility so that these institutions can easily deploy the system into their existing technical infrastructure.

Finally, all stakeholders in the project will benefit from a system with a clear structure, concise code, and easy extensibility. This will help clinicians better integrate these tools into their daily work and provide a solid foundation for future system improvements. Our development team will prioritize the needs of Dr. Scott's team, but throughout the design and development process, we will also pay attention to how to meet the needs of other potential customers and institutions to ensure the broad applicability and sustainability of the project.