HEALTHYSMYL: ANALYSIS AND RECOMMENDATIONS BASED LIFESTYLE ENHANCING APPLICATION FOR HIV PATIENTS

Selshia Sagayaratnam

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ABSTRACT

The Human Immunodeficiency Virus (HIV) is a lethal, highly communicable virus that causes Acquired Immuno Deficiency Syndrome (AIDS), a stage in which the immune system of one's body fails. It continues to prevail as a major global health concern with thousands of patients succumbing to the illness annually. Sri Lanka is ranked fourth in the Asia-Pacific region to eliminate vertical transmission of HIV. However, the number of patients has more than doubled within the first nine months of 2022 when compared to the previous year, marking its way as an upcoming threat to the country.

Maintaining a healthy lifestyle that incorporates a regular routine, nutritional food patterns, positive thinking, and continuous motivation assists in better infection management. Achieving it immediately after being diagnosed with HIV/AIDS is very challenging for any individual. The emotional strain of daily dosing, inconvenient scheduling, and lifestyle changes brought on by treatment can be troublesome for those diagnosed with the disease.

This calls for a solution that can assist the patients in enhancing their lifestyle post-diagnosis. "**HealthySmyl**" aims at easing the process of adoption to the recommended lifestyle for newly diagnosed patients, while also assisting those already under medications. The requirements gathered through questionnaires, interviews, and focus group discussions were used as a foundation to design and develop the solution consisting of a nutrition analyzer using image classification, a meal recommendation system, an exercise recommendation system, a medication tracker, and other supportive features.

The system has been evaluated by expert and Non-expert stakeholders with positive feedback. Moreover, this thesis will be concluding with future works and recommendations for the proposed solution.

Keywords: HIV/AIDS, Image Classification, Exercise Recommendation, Meal Recommendation, Medication Tracking