

**FITLIVER – A SOLUTION WHICH SUPPORTS TO
MANAGE AND TREAT NON-ALCOHOLIC FATTY
LIVER DISEASE (NAFLD) WITH LIFESTYLE
MODIFICATION**

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Abstract

The liver is the largest internal organ in the human body, and it is one of the most important functional units which is responsible for carrying out more than five hundred distinct roles. This complex organ experiences a range of problems and is prone to a variety of diseases. Non-Alcoholic Fatty Liver Disease (NAFLD) is one of the most prominent liver diseases in the world. It is caused by excess fat accumulation in the liver cells. This causes inflammation in the liver tissues that is gradually progressed into many serious complications and may gradually lead to scarring that will affect the functions of the liver. NAFLD is caused by numerous risk factors; Diabetes, obesity, being overweight, metabolic syndrome, cholesterol, and insulin resistance being the most prominent. No approved drug therapy treats non-alcoholic fatty liver. The recommended method of treatment is lifestyle modification. It has been proven that following a healthy diet and workout routine in day-to-day life supports minimizing fat levels in the liver and improve NAFLD. It also requires constant medical assistance and proper inspection of the condition.

This project aims to address the problems faced by NAFLD patients in Sri Lanka in treating and managing their condition. By identifying the prevailing gaps in the current system and understanding the difficulties faced by the patients and medical professionals, the FitLiver solution was designed and implemented. This will assist to improve non-alcoholic fatty liver conditions in the patients by lifestyle modification techniques and will assist to maintain constant communication with the medical professionals that affect to improve the overall productivity of the treatment process.

The implemented solution was evaluated by many industry experts and non-experts to determine the overall success of the project in addressing the problems identified and the feedback received concluded the usefulness and effectiveness of this solution towards managing NAFLD in Sri Lanka.

Keywords: Non-alcoholic fatty liver, Liver Disease, Lifestyle Modification, Personalized diet plan, Workout plan, online consultation, Natural Language Processing, Deep Learning, Mobile Application