

SAVE A LIFE!

**CENTRALIZED SOLUTION TO OPTIMIZE BLOOD
DONATION AND STORAGE PROCESS IN SRI LANKA.**

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Abstract

Blood is an essential component of every human being's life in globally as well as in Sri Lanka. Therefore, to save the lives of the humans who need blood during an emergency, blood donations, and blood transfusions are very essential.

In Sri Lanka, National Blood Transfusion Service is the sole supplier of blood and blood products to all the government and most of the private hospitals, as it is the main blood bank and the authorized organization that is responsible for collecting, testing, storing, and distributing whole blood and blood products in a method to make sure all blood requirements are met and secured.

The identified problem for this project is the difficulties faced by the patients/doctors to find blood during an emergency and to keep a track of the blood stock levels available in hospitals and blood bank in Sri Lanka. As a solution to this problem a mobile application was designed, developed and evaluated to assist the blood bank/ hospitals to gather donors during an emergency enabling patients to receive blood at the earliest possible when required and to track stock levels in order to minimize the wastage and shortages of blood bags.

A thorough research was conducted to identify the requirements that would best suit the solution and obtain a deeper understanding about the problem. Thereafter considering the requirements identified and the research gap of the existing solution, Save A Life! was designed and developed with the integration of the QR code to view donor details faster, locate donors closest to the hospital/blood bank overcoming delay in collecting blood in an emergency and also viewing and notifying any shortage or expiry of blood bags.

The solution was tested as planned and evaluated by the industry experts and non-experts who provided feedback regarding the improvement and usefulness of the implemented solution that was taken into consideration and incorporated in future enhancements.

Keywords: Blood, Blood donations, Blood transfusions, Blood stocks, Blood donors, Blood bank, Blood donor management system, Blood Bank management system, Donor retaining system, Blood inventory management systems