Universiti Teknologi MARA

iDonate: Mobile App Blood Donation Management System

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ABSTRACT

iDonate is a mobile application that is designed to improve the process of blood donation in Malaysia through the replacement of the conventional paper-based system with a more modern and convenient electronic-based system. Donors continue to use written forms and a small red booklet called the "Buku Merah" for recording the history of donation in the current system. Such paper records are easily lost, damaged, or misplaced, and therefore it is not viable for the donors and even the medical professionals to accurately keep the blood donations in check. iDonate bridges this gap with a simple-to-use application where the donors can register themselves, fill out pre-donation questionnaires, view their past donations, and be automatically reminded to donate again when the time has come. The application can also be used by medical professionals to verify donors' information, approve or reject forms, notify, and keep records more effectively. The application saves all the data securely in Firebase database for data security and shared. The only limitation of the app is that it cannot show a realtime blood stock levels because doctors are not authorized to access the national blood database. The methodology used in doing this project is Dynamic System Development Method (DSDM) .It Is one of the agile methodology models that can be used to build and maintain a system that need to build in a limited time like iDonate app .Nevertheless, iDonate has useful features that enhance blood donation in terms of safety, speed, and efficiency. In the future, the app can be improved with realtime update, GPS for finding nearby donating centres. In summary, iDonate may result in more regular donation of blood and save more lives with a faster, digitalized process.

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CHAPTER ONE : INTRODUCTION

The main topics of the first chapter are discussed about the background study problem statement, research questions, research objectives, project scope and project significance. It gives an overview of this mobile app for blood donation management system, which is helping in managing the blood donation activity smoothly.

1.1. Background of Study

Blood donation is such a thoughtful and compassionate act that saves lives. There are simply so many people who are hospitalized every day and need blood since they are ill, have had an accident, or need an operation. Blood in Malaysia is donated via a blood donation session, which is largely organized by hospitals, clinics, or charitable organizations. Those donors who are healthy and willing to assist others can go ahead and donate blood to save other individuals' lives.

Currently, blood donation is still carried out in the traditional way. To donate blood, one needs to fill out paper forms. Once they have donated, they receive a small red book, or a "Buku Merah," where they note the information on their donation. The date and information are noted manually by medical staff each time they donate. Despite the fact that the system has been used for centuries, today it is causing most of the problems.

One of the main problems is that the red book is lost in transit, burned, or misplaced. (Yusri et al., 2023). Since the book is made of paper, it is torn to shreds, soaked, or just left behind at home. If the donor loses their red book, they will not remember when they last donated and how frequently they donated. Even the hospital will not be able to keep a copy of the information, so verifying the donor record will not be possible. This is a very bad experience for the donor and even for the medical personnel.

The second point is that the medical personnel still use paper to record and keep all of the information. This is just a wastage of time and energy. They have to read every form, check the answers, and keep all papers in large folders. It can take them some time to find the right paper when they need it. Easy mistakes can be made. For example, the wrong name can be noted or