Kalinga App: Empowering Breastmilk Donation
Banks Through Mobile Application Management Integration

KALINGA APP: EMPOWERING BREASTMILK DONATION BANKS THROUGH MOBILE APPLICATION MANAGEMENT INTEGRATION

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INTRODUCTION

Study focused on the development of a mobile application for the Breast Milk Management System at the Quezon City Human Milk Bank. The app had features that were useful for both donors and recipients, as well as regular people who wanted to learn how to donate milk. The study aimed to promote breast milk donation in the Philippines, specifically with the help of the Quezon City Human milk Bank. It ultimately contributed to improved infant nutrition and healthcare. The lack of organized and easy-to-reach breast milk giving has led to a rise in informal milk-sharing, which could put babies at risk of diseases. The Kalinga Mobile App was applicable to use by four types of users: Donor, Requestor, Administrator, and Super Administrator. The study focused exclusively on transactions within the Quezon City Human Milk Bank and excluded other milk banks. The app uses a strong validation system to make the milk donation process more secure and effective for both donors and recipients. It also included a Milk Bank Locator, allowing users to identify nearby donation centers and navigate to the nearest banks. This innovative application seamlessly merged mobile technology with the animousnoble mission of breast milk donation and requests. Breastmilk is a natural source of infant nutrition. Only 34% of babies born in the Philippines were fed by their mothers because mothers there didn't have enough milk for breastfeeding. Breastmilk Donation Banks, also called "milk banks," were very important in giving babies who were weak the food they needed to survive. The main aim of this application is to tackle the increasing issue of malnutrition by concentrating on the initial1000 days of a child's existence. The application offered various functionalities for users such as Donor and Requestor, including thorough account verification and comprehensive online screening through medically assisted processes.

METHOD

The profile page will be The [Make a Donation] tab will be displayed. The Milk Bank Locator will be shown as ?The Milk Bank?s?? ?Make a Request? tab. The A2 ?Users Account data store? will be crucial for tracking and monitoring Donors and Requestors. The ?Display User Information? page will allow the Milk Bank Admin to view user details via the Kalinga Admin Web App. Kalinga App: Empowering Breastmilk Donation Evaluation Criteria: All features of the Kalinga mobile application must be easy to use for all stakeholders. Safety: The application must protect and protect the privacy of user data. Usability: The app must be intuitive and clear for all users to understand. Reliability: Continuously monitor and address issues to enhance application reliability and reduce the number of problems. Security: Perform penetration testing to identify and address potential vulnerabilities. The Kalinga Mobile App allows users to make donations and receive reports. The Milk Bank had the authority to approve or decline the appointment and to set a scheduled date and time of the appointment. The system will send a link to the Milk Bank to allow the user to log in to their verified account. The user will then have to wait for the result of the application to be displayed. This is a test case for the ?Empowering Breastmilk Donation?s? KalingA App. The goal of the project was to create and evaluate the Kalinga app, which would assist with the administration of breast milk in the Philippines. The use case diagram for the "Kalinga App" system, shown in Figure 10, clearly shows each user entity's various functionalities and interactions. Guest users could easily manage their profiles, opting to apply as a donor or as an admin. The system provided an appointment form for the Donor and a list of all milk banks. It then processed the form based on the Milk Bank's decision. Kalinga App: Empowering Breastmilk Donation Banks Through Mobile Application Management Integration 105.ors interacted with the system, they completed forms on the viewpoints. Donors could access various features such as the milk bank locator, view notifications, and settings.Bank Admins used an extensive dashboard that displayed the total number of donors and requestors. The app is a free download for Android and iOS users. It is available on Google Play and Apple's App Store. The Kalinga App was developed using the Scrum

Agile Development Methodology. The system was designed to empower breastmilk donors and the Milk Bank. It was built using MongoDB and Firebase, with the data stored in Data Store A2. The KalingA App is available for download from the Google Play store and the Apple App Store for iOS and the Android app store for iOS. It is available to all users who want to use it, but not for developers. The Scrum Agile Development Cycle had different phases to undergo to maintain better control over the overall development of the software. The "Register User" process enabled new users, both donors, and requestors, to join the system. The third process was "Appointment Form" where the completed form was submitted and stored in the Appointment Forms A3 data store. This ensured a seamless process from user engagement to administrative oversight, promoting safe and accessible breast milk donation. Kalinga App: Empowering Breastmilk Donation is available for iOS and Android. Kalinga App: Empowering Breastmilk Donation was developed by researchers at the University of Delhi. The Kalinga mobile application was designed to help people donate breast milk. The researchers tested the application in six different processes. The testing of the Kaling a mobile application will be conducted in three phases. The final phase of testing will be security testing and final deployment before the application is released. The tests were conducted using the MongoDB database and the A2 User Accounts Data Store. The mobile application starts by allowing its users to navigate from the initial welcome to a Guest Homepage. Users can then register their accounts as the requestor or donor. A list of reported bugs will be displayed. Initial Screening Forms will be shown, and. A summary of total milk volume in mL and total volume in. mL is displayed. The test case ID was an identification number specified for each test case, enabling. easy tracking. The user must complete forms by inputting the necessary data and uploading necessary data. Kalinga App: Empowering Breastmilk Donation is a mobile app for banks. It allows users to make donations and receive confirmation for their donation. The system was ISO 25010, which encompassed the following standards for system development: Efficiency, Functionality, Security, Portability, Compatibility, Usability, and Compatibility. Researchers utilized Discord, an app that facilitated virtual meetings, helping to record the minutes of the meeting and the objectives allotted by the

Scrum Master. The aim is to verify that Kalinga's donation process operates properly. The researchers identified and assessed all the challenges the existing system had and developed solutions aligned with the system's needs as defined in its scope. Users were surveyed to assess the performance, relevance, and relevance of the system. The overall percentage of test cases completed during testing was shown in the "Number of Test Cases" table. Table 5 shows an overview of the usability test cases summary, while Table 6 shows an Overview of the security test cases. The Milk Bank app allows users to log in and access valuable tools. If approved donors, they are eligible to donate milk. The app is free to download and is available on iOS and Android devices. It is available in beta for now. For more information, visit the Milk Bank website. For confidential support, call the Samaritans on 08457 90 90 90 or visit a local Samaritans branch, see www.samaritans.org for details. In the U.S. call the National Suicide Prevention Line on 1-800-273-8255.

RESULTS

The reliability criterion achieved a mean score of 3.43, corresponding to a ?Highly viewpointsAcceptable? rating. This indicated that the developed Kalinga application effectively assisted users in achieving their specific goals. The screenshots act as a guide, helping readers grasp the system?s capabilities and Limitations. The following are the capabilities of the developed Kalinga Application:. The user login page and splash screens provide an overview of the application's purpose, and the user. login page. Kalinga App: Empowering Breastmilk Donation allows users to change their password and send feedback to the administrators. The system will notify the user if their appointment is coming up. The 'Make a Request' page allows requestors to start the request process by completing the request form and uploading medical requirements. The Donor and Requestor Rejected Appointment Form allows admins to select a predefined rejection remarks to inform users why their application was rejected. This data-driven strategy guarantees equal access to milk supplies across several geographic areas. Kalinga App: Empowering Breastmilk Donation is designed to help administrators monitor and administer the application. It includes a dashboard composed of several management tools for effectively monitoring and administering the system. It also has a milk bank locator functionality, which allows users to locate nearby milk banks. The system also allows verified donors to see their donation history and process the donation form. It can also generate reports in PDF format for the use of super admins. The table contains a set of use cases related to the system?s security, each characterized by a unique test case ID and objectives. Kalinga App is designed to provide administrators with a comprehensive view of all users who are either donors or requestors within the Kalinga application. After successfully logging in, administrators can access a complete dashboard composed of several management tools. The dashboard provides administrators with an in-depth understanding of application activity and user involvement. Analyzing this data allows administrators to properly allocate resources and address any issues, thereby increasing the system?s efficiency andeffectiveness. The system was tested for its usability using numerous test case scenarios

tailored to its different user roles. The Kalinga Application allows verified donors and requestors to make donations and make requests. The system allows administrators to review and verify each donor and requestor?s details. Users are unable to cancel a donation/request appointment. Users can navigate between tabs, including Home, Notifications, and Profile. The application has been developed to offer practical insights into the functionality and use of the system. It is possible to quickly adapt to changes to adapt to the needs of the milk bank. The Kalinga Application is developed to facilitate human milk donation and request. It is specifically tailored to meet the needs of mothers and infants. The acceptability of the app was evaluated using the ISO 25010 standard. The security criterion achieved a mean score of 3.60, corresponding to a ?Highly viewpointsAcceptable? rating. The compatibility criterion achieved a meanscore of 3, corresponding to a ? high-acceptable? rating. This feature allows users to help enhance the system?s functionality and user experience. Kalinga App: Empowering Breastmilk Donation is a mobile app for breastmilk banks. It was designed to streamline the distribution of breast milk. The system was tested using numerous test case scenarios tailored to the different user roles. The app contains features for donors' and requestors' journeys, including milk bank locator and profiles and settings. It also provides a notification functionality that provides users with updates on donation and appointment requests. The amount of milk to be requested is only limited to 100 - 200 ml. The Criterion Mean is 3.60. The Criterion for Authenticity is three out of four. TheCriterion for Integrity is three. The criterion for Nonrepudiation is three in the range of three to four. It is the highest of the four Criterion Categories. The Test Case Criterion is the Criterion of Authenticity. The test case Criterion means the Test Case is three of the following: 3.80, 3.70, and 3.47.

DISCUSSION

The Kalinga App was designed to streamline and facilitate the manual process of donating and requesting breast milk. The system has a user-friendly interface and it is easier for users to navigate through the app. It can provide data analytics, allowing the milk bank admin to monitor demographics, application usage, profile verification, donations, and requests oversight. It is also a platform to authorize, authorize, and monitor both donors and requestors in the bank. The KalingA App was tested according to its functionality, functionality, usability, and usability. The system can generate PDF reports to help the milk bank admin gain detailed insights into its data analytics. The system can locate nearby milk donation centers through a map-based feature within the Kalinga App. This chapter mainly highlights the findings, conclusions, and recommendations from previous chapters. These recommendations include a variety of enhancements aimed at increasing the app's efficiency, usability, and overall user satisfaction. The recommendations include: Develop an iOS version to enhance the app by catering to a larger user base. Implement a direct messaging functionality within the app to allow users to address questions or concerns directly with administrators.