



“Surasi Smart Service” Innovations to Access to Medical History

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The project received the 2024 Invention Innovation Award of “The Military Medical Association of Thailand under the Royal Patronage of His Majesty the King”.

Abstract:

Background: Information plays the crucial role in real life. Access to medical history is essential for medical treatments for both patients and medical personnel. Missing an appointment and intermittent treatment leads to worse consequence.

Objective: To ensure that all personnel and service recipients have access to their own health information. To use the same set of health data history. Support the diagnosis and treatment of diseases. To remind patient to come back to see a doctor and reduce waiting time and density in hospital.

Method: Surasi smart service is an innovative invention using Line OA program. After confirming the information, you will be able to view the health check-up results, appointment history, and medication history that you have received. As a result of this innovation, people can view their history even in areas close to hospitals.

Results: The percentage of patients missing appointments decreased from 10.24 % to 2.3%. The percentage of personnel satisfaction with Surasi Smart Service was 93.7%.

Conclusion: The program “Surasi Smart Service” is a program that can increase access to medical services and reduce the rate of missing appointments with eventually increase customer satisfaction.

Keywords: Application, Medical history, Continuity of care

Introduction

Fort Surasi Hospital is the secondary care unit serving mainly for military personnel and families as well as people around Lardya District area. In the present, personnel affiliated with the army, especially in the 9th Infantry Division, perform continuous missions throughout the year, mostly in remote area and take long period of time. An average of 30 percent of military personnel and their families having chronic disease such as diabetes, hypertension, and dyslipidemia, requires regular medication.

Fort Surasi hospital has the most concern on this issue and initially has developed “Surasi Smart Service” application to lessen the problem. All personnel and health care recipients can easily access to their own health information. Physicians and medical staffs can use the same information of health records to support diagnosis and treatment. The continuous treatment can be easily managed. As well as a real-time service queue notification system to reduce congestion and waiting time in the hospital.

Objective

The project aimed to ensure that all personnel and service recipients can access to their own health information, to use the same data base of health history for supporting medical services in both the diagnosis and treatment of diseases, to remind patients to see a doctor by appointments and to reduce waiting time and density in hospital.

Methods and workflows

Surasi Smart Service is a Web application in the form of Web Service API, bringing the

system to be used in the form of Line OA, making it convenient to send messages and various notifications to system users. All personnel and service recipients can access to their own health information. The process starts with scanning the QR code, then filling the ID card number and verifying yourself by entering the last four digits of the hospital. You can find your medical history, including allergy, health appointment, past medication, and also blood test results. There is a recall system for appointments. In case of the results of blood test are abnormal, there is a system to notify the service queue in real time. The special of this program is that users can access to this application either via internet or line OA program. The outstanding feature of this program from those of existing others is a Web application in the form of Web Service API used in the form of Line liff. That benefits to send messages or notifications to users conveniently. All personnel and service recipients can easily access to their own health information including the allergy, previous appointments, medication, vaccination also annual results of physical examination. When the results of the annual physical examination are exceptional, the notification feature shows service queue in real time. The application is user-friendly, it can be accessed anywhere anytime throughout the years via smart phone.

Materials and equipment used in the invention

Hardware aspect: one host computer and one desktop computer

Software aspect: React js, Node js, Line OA and Line Developer Account

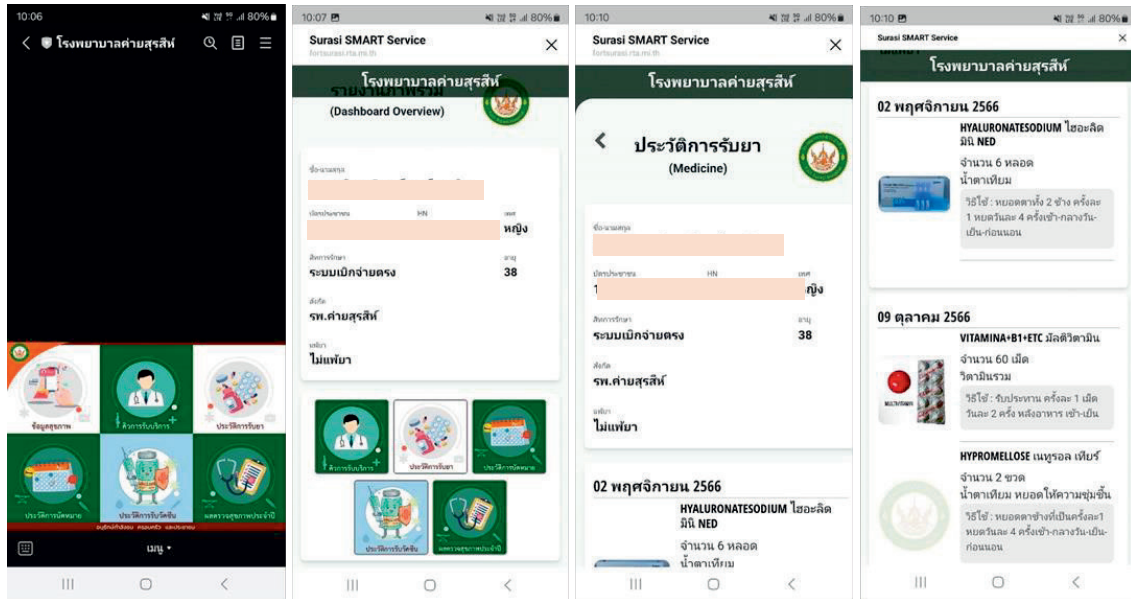


Figure 1 The application can report basic medical history, including allergy, past medication

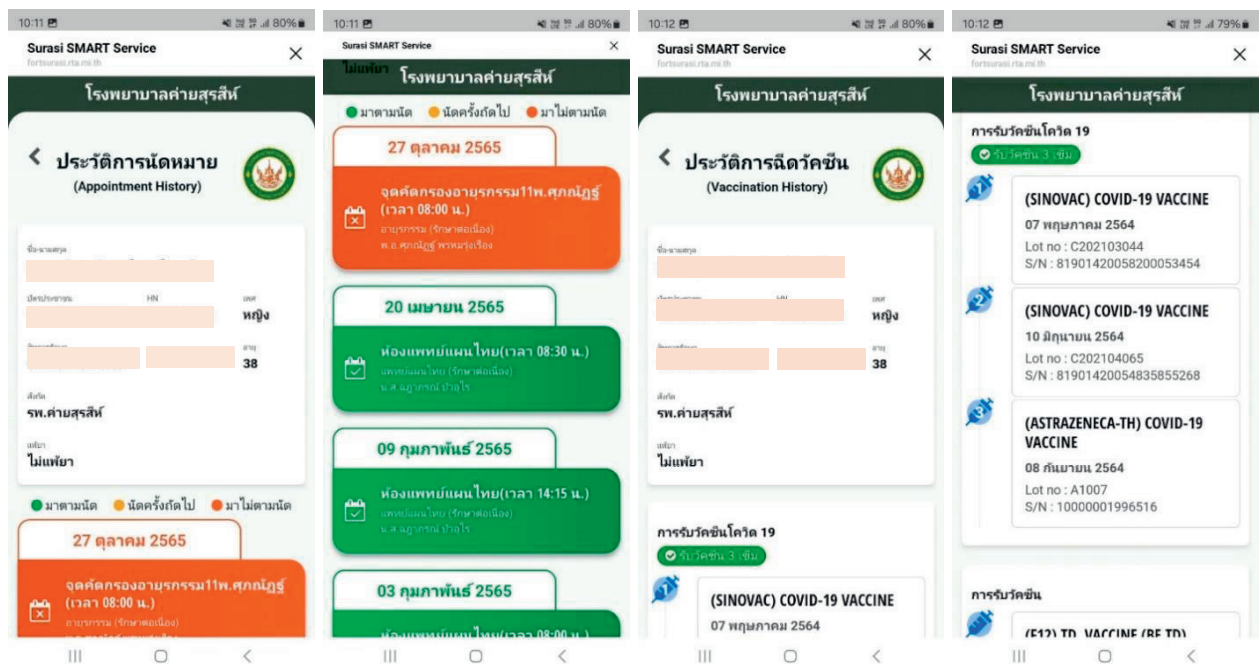


Figure 2 The application can report health appointment, vaccination history

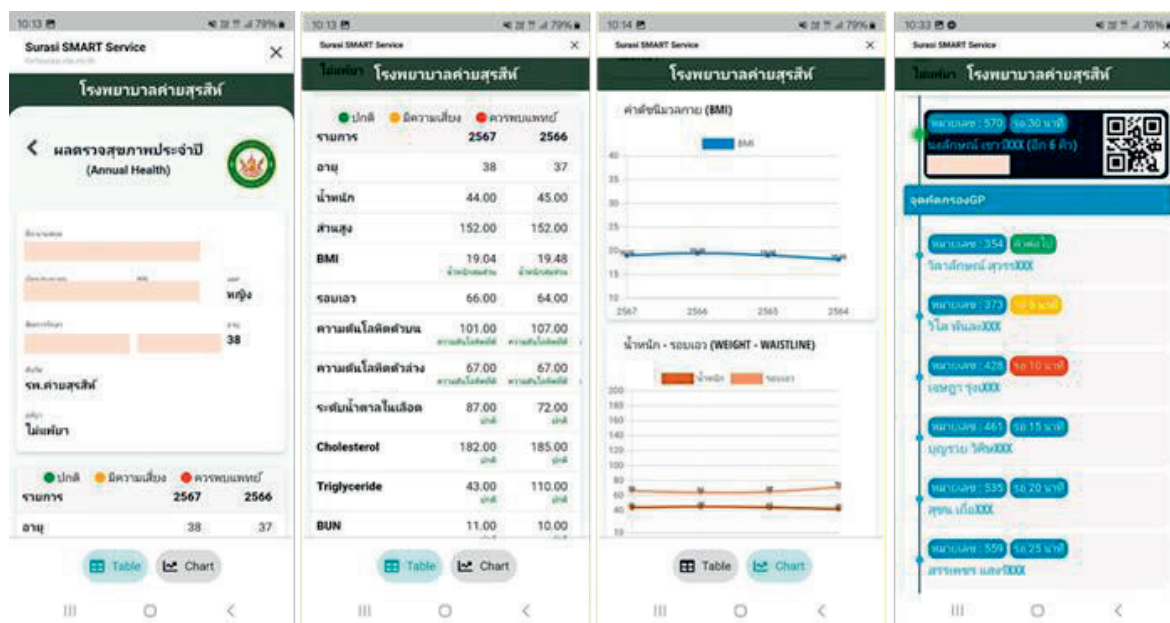


Figure 3 This application can report check-up laboratory and previous laboratory

Result and discussion

Currently, digital technology form Smart phones plays an important role in daily life. People at all levels have access to smart phones and is widely used, whether it is used Smart Phone to communicate through applications.¹ To create a social network (Social Network) or for electronic banking (Internet Banking) etc. through various activities of daily life in our present is almost entirely related to smart phone. All and is not limited to just teenagers or working people. It also includes the elderly. Therefore, these things are reflected the changing way of life in using mobile phone. This is not just a tool for talking or only communication with each other.²

As the result of launching Surasi Smart Service Application, all personnel and service recipients approximately 4,682 people have accessed to their own health examination history. The percentage of patients missing the appointments decreased from 10.24% to 2.3%. The percentage of personnel satisfaction with Surasi Smart Service was highly at 93.7%. The Percentage of patient satisfaction with Surasi Smart Service was even higher at 96.1%.

This application won the 2024 Invention Innovation Award of “The Military Medical Association of Thailand under the Royal Patronage of His Majesty the King”. It is confirmed that “Surasi Smart Service” is a program that helps to increase the access to medical services and reduce the rate of missing appointments and also increase the customer satisfaction as well.

Acknowledgement

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