



Sports Injury and Illness Recording Application (SIRA)

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Agenda

- Introduction
- Literature Review
- Analysis and Design
- Summary



Motivation

- Injury and illness usually occur to many athletes and affect their training and competition.
- Information about injury and illness is very important
 - It can help medical staff to plan for treatment and give suggestion to how athletes need to take care of themselves.
 - It can help coaches to plan for training and competition.

Problem

- Currently, collecting information about injury and illness is paper-based and performed manually
 - Difficult to search for information and process it.
 - Tedious, labored, cumbersome, and time-consuming
- Although, Google Form has been applied in some situations, it is still
 - Difficult to integrate such information and analyze it.

Objective

- Develop a SIRA system capable of managing data on physical injuries, health illnesses, and mental illnesses
- Make athletes know their injury status in order to heal themselves with the correct methodology
- Enable coaches and the medical staff to utilize athlete data to be useful and provide coaching and treatment input to specific athletes

- Collect data from weekly questionnaires
- Developed and applied the Oslo Sports Trauma Research Center (OSTRC) systems
- Applied the injury record form refers to International Olympic Committee (IOC)
- Build an application successfully by concerning with interfaces design, simplicity of use, and least error

Scope

Target user



ATHLETE



STAFF
(MEDICAL TEAM AND COACH)

- **Athlete**

- Receiving a recommendation from the medical team for healing themselves
- Regularly receiving health checks from the professional medical team
- Filling out the health questionnaire forms simply with clear user interfaces

- **Staffs**

- Filling out the medical record form is simple with clear user interfaces
- Examining the cases of athletes clearly and easily

Expected benefits

- Developers
 - Practicing mobile programming both coding and framework
 - Evolving problem-solving, time management, prioritizing tasks, programming, database management, UX/UI, and presentation skill.

Expected benefits

Background Knowledge

The Oslo Sports Trauma Research Center was established in May 2000, as a joint venture between Oslo University Hospital and the Norwegian School of Sport Sciences

The logo for the Oslo Sports Trauma Research Center is displayed on a black rectangular background. The text is arranged in five lines: 'Oslo' (white), 'Sports' (white), 'Trauma' (white), 'Research' (yellow), and 'Center' (yellow).

Oslo
Sports
Trauma
Research
Center

Background Knowledge

OSTRC Questionnaire

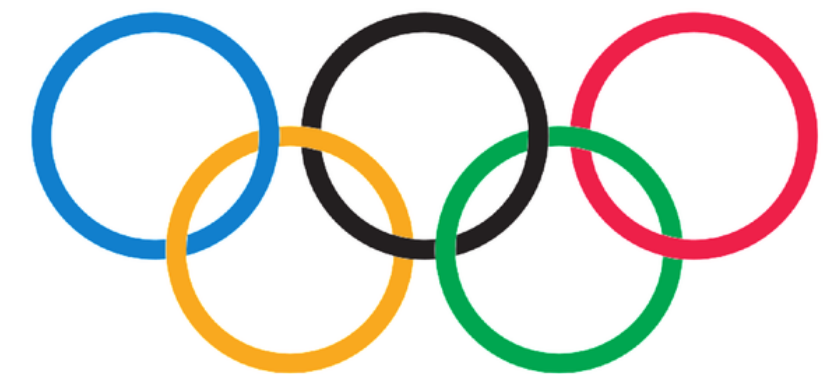
- Health Questionnaire
- Overuses Questionnaire
- Sport Psychology Questionnaire

Thai version	English version
<p>2. ใน 7 วันที่ผ่านมา ปัญหาการบาดเจ็บการเจ็บป่วย หรือปัญหาสุขภาพ ของท่านส่งผลกระทบต่อปริมาณการฝึกซ้อมหรือแข่งขันมากน้อยเท่าไร</p> <ul style="list-style-type: none"> • ไม่ลดลง • ลดลงเล็กน้อย • ลดลงปานกลาง • ลดลงอย่างมาก • ไม่สามารถเข้าร่วมได้เลย 	<p>To what extent have you reduced you training volume due to injury, illness, or other health problems during the past week?</p> <ul style="list-style-type: none"> • No reduction • To a minor extent • To a moderate extent • To a major extent • Cannot participate at all
<p>3. ใน 7 วันที่ผ่านมา ปัญหาการบาดเจ็บการเจ็บป่วย หรือปัญหาสุขภาพ ของท่านส่งผลกระทบต่อความสามารถ ในการเล่นกีฬามากน้อยเท่าไร</p> <ul style="list-style-type: none"> • ไม่ลดลง • ลดลงเล็กน้อย • ลดลงปานกลาง • ลดลงอย่างมาก • ไม่สามารถเข้าร่วมได้เลย 	<p>To what extent has injury, illness or other health problems affected your performance during the past week?</p> <ul style="list-style-type: none"> • No effect • To a minor extent • To a moderate extent • To a major extent • Cannot participate at all

Example of OSTRC Questionnaire

Background Knowledge


The International Olympic Committee have appointed nine research centers from across the world to become IOC Research Centers for Prevention of Injury and Protection of Athlete Health



INTERNATIONAL
OLYMPIC
COMMITTEE

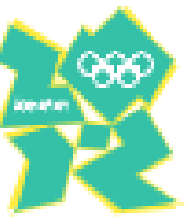
Background Knowledge

- Injury Record (IOC)



INTERNATIONAL
OLYMPIC
COMMITTEE

Daily Report on Injuries and Illnesses



NOC

Report by (name)

Date of report

/2012

Contact details (e-mail/tel.)

Please report: (1) All injuries (traumatic and overuse) and (2) all illnesses newly incurred in competition or training during the Olympic Games regardless of the consequences with respect to absence from competition or training. The information provided is for medical and research purposes and will be treated confidentially.

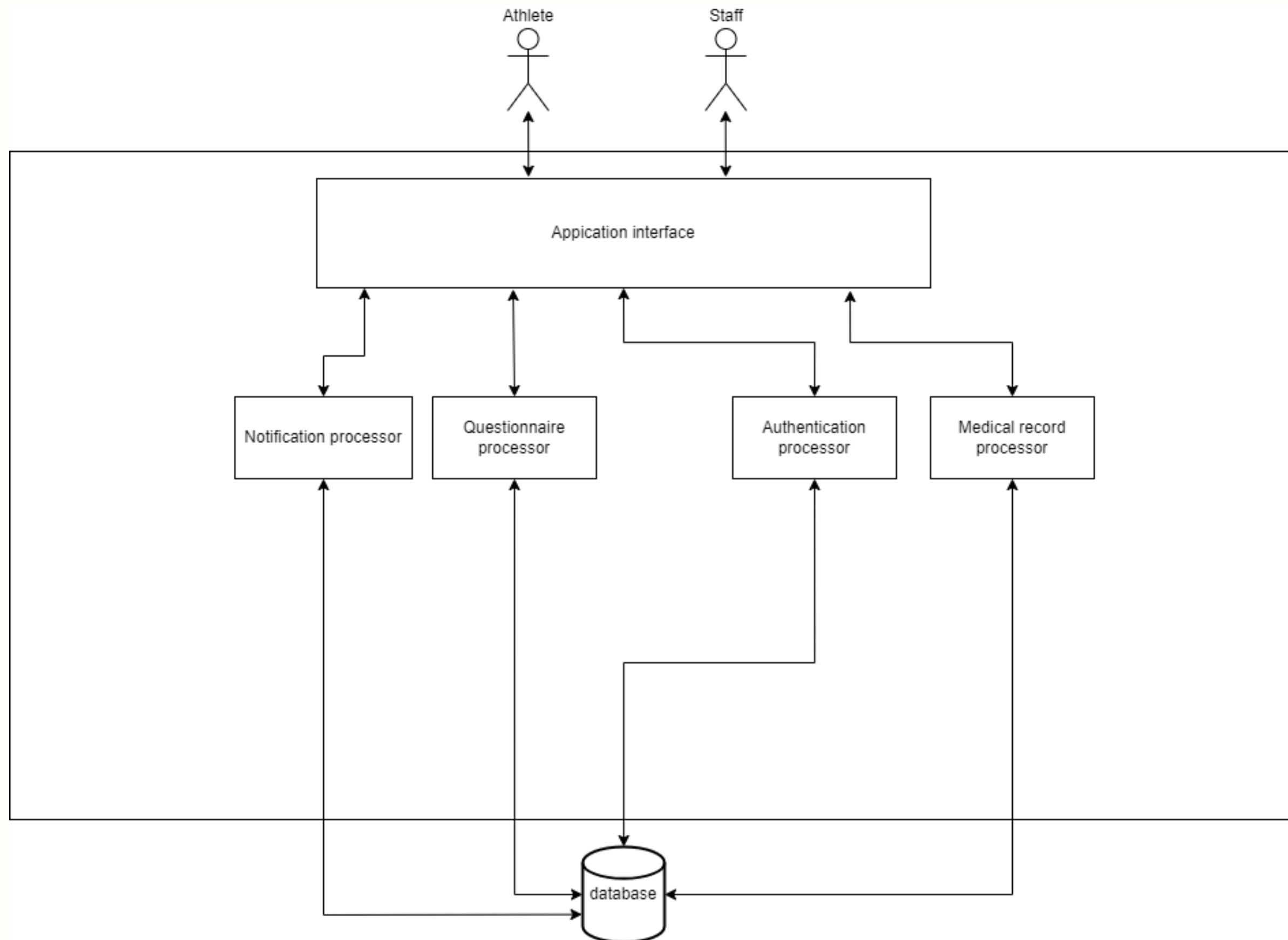
1. Injury – Example

Definitions and codes of ❶ to ❸ see reverse

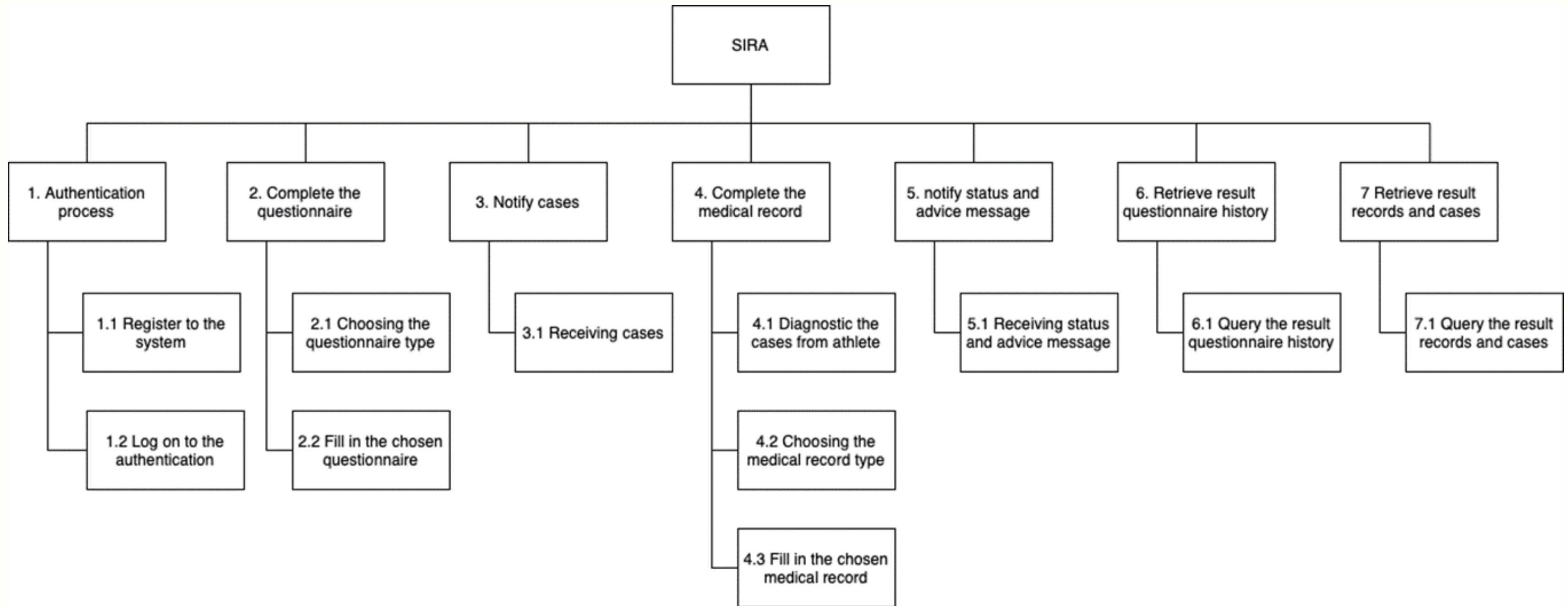
athlete's accreditation no. 123456789		sport and event athletics, 100m (women) ❷		round, heat or training quarter final / 1st heat ❸		date and time of injury 7.8.2012 - 14:35	
injured body part, side wrist, left ❹	code 15	type of injury sprain ❺	code 8	cause of injury slipped and fell ❻	code 21	absence in days 10 ❶	

EXAMPLE OF INJURY RECORD

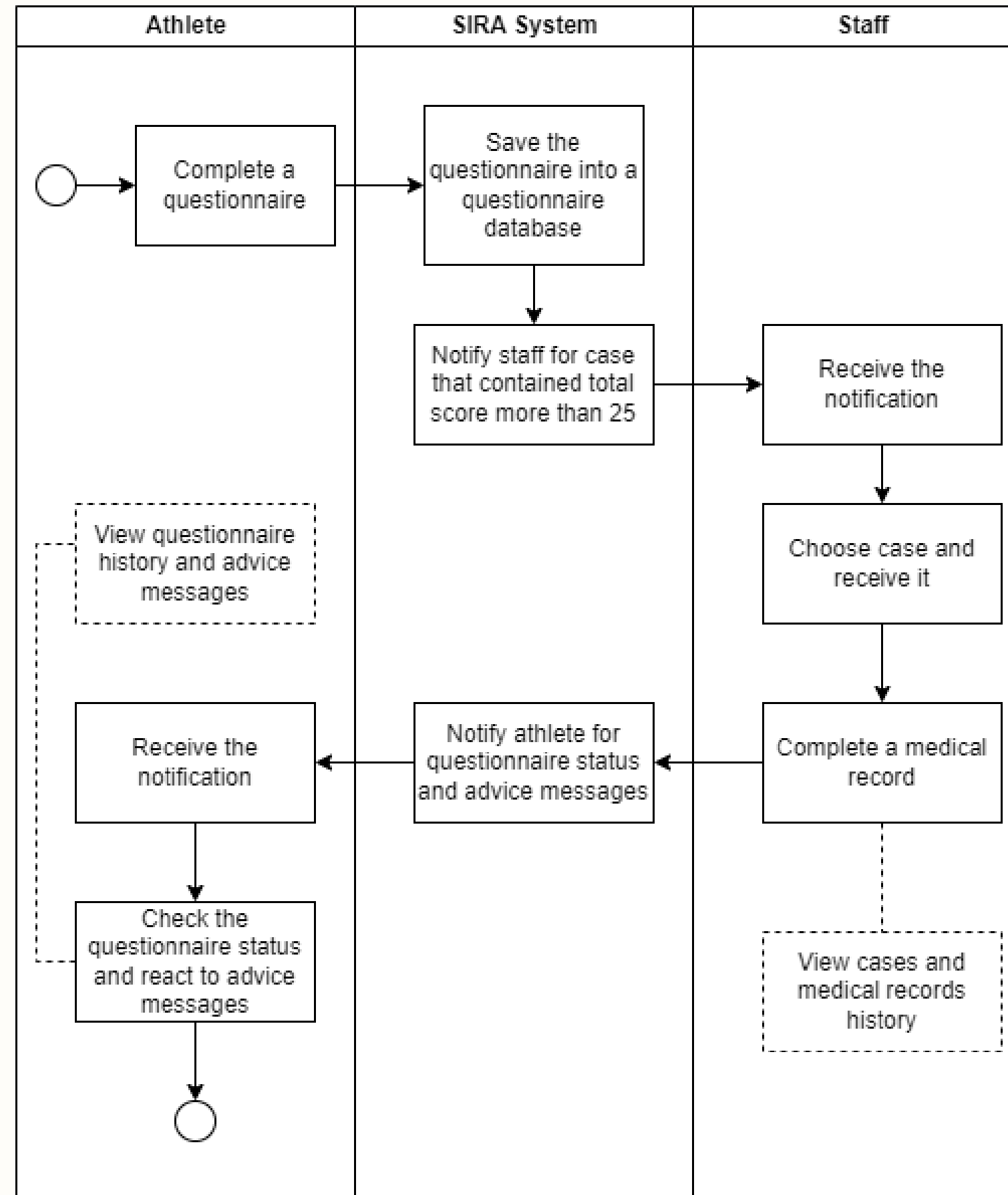
System Architecture Overview



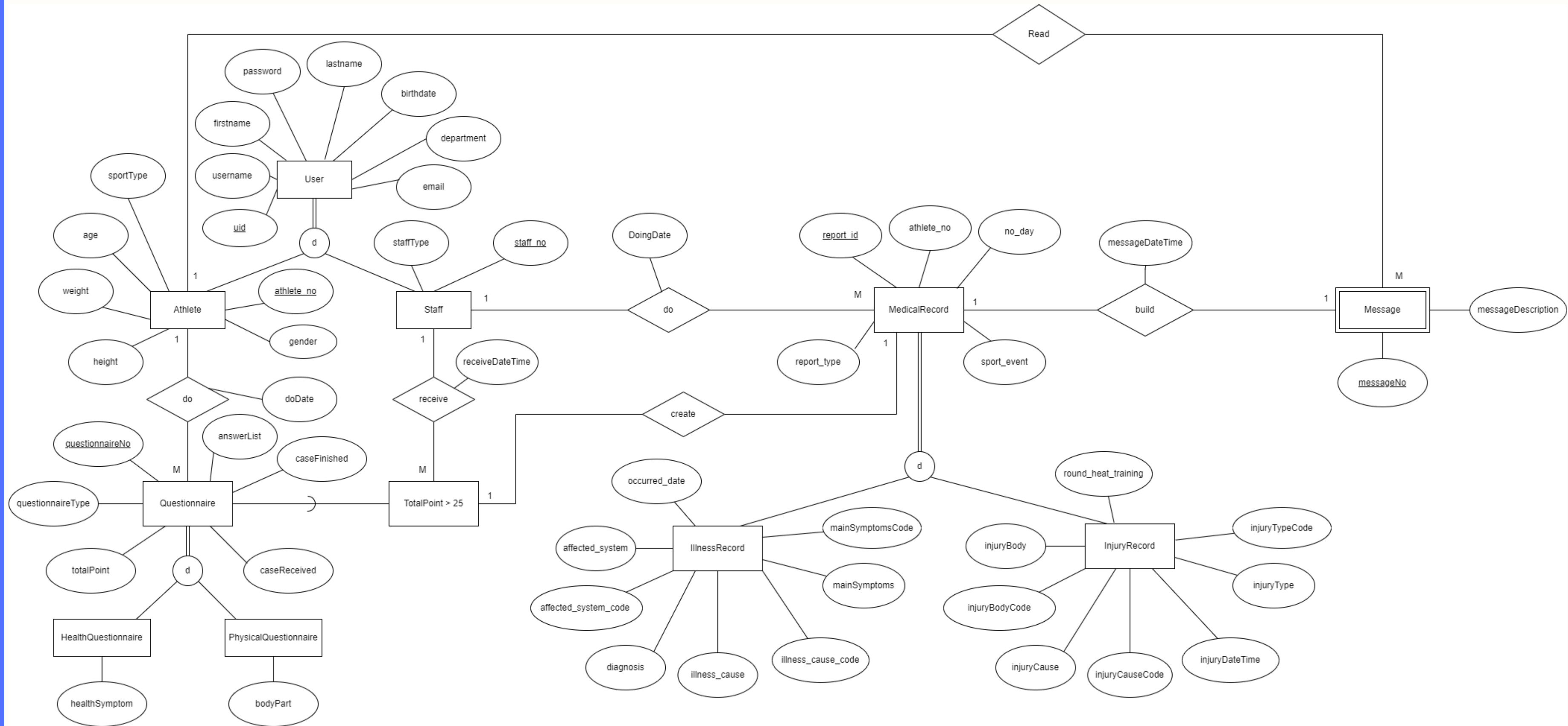
System Structure Chart



System Process



ER Diagram

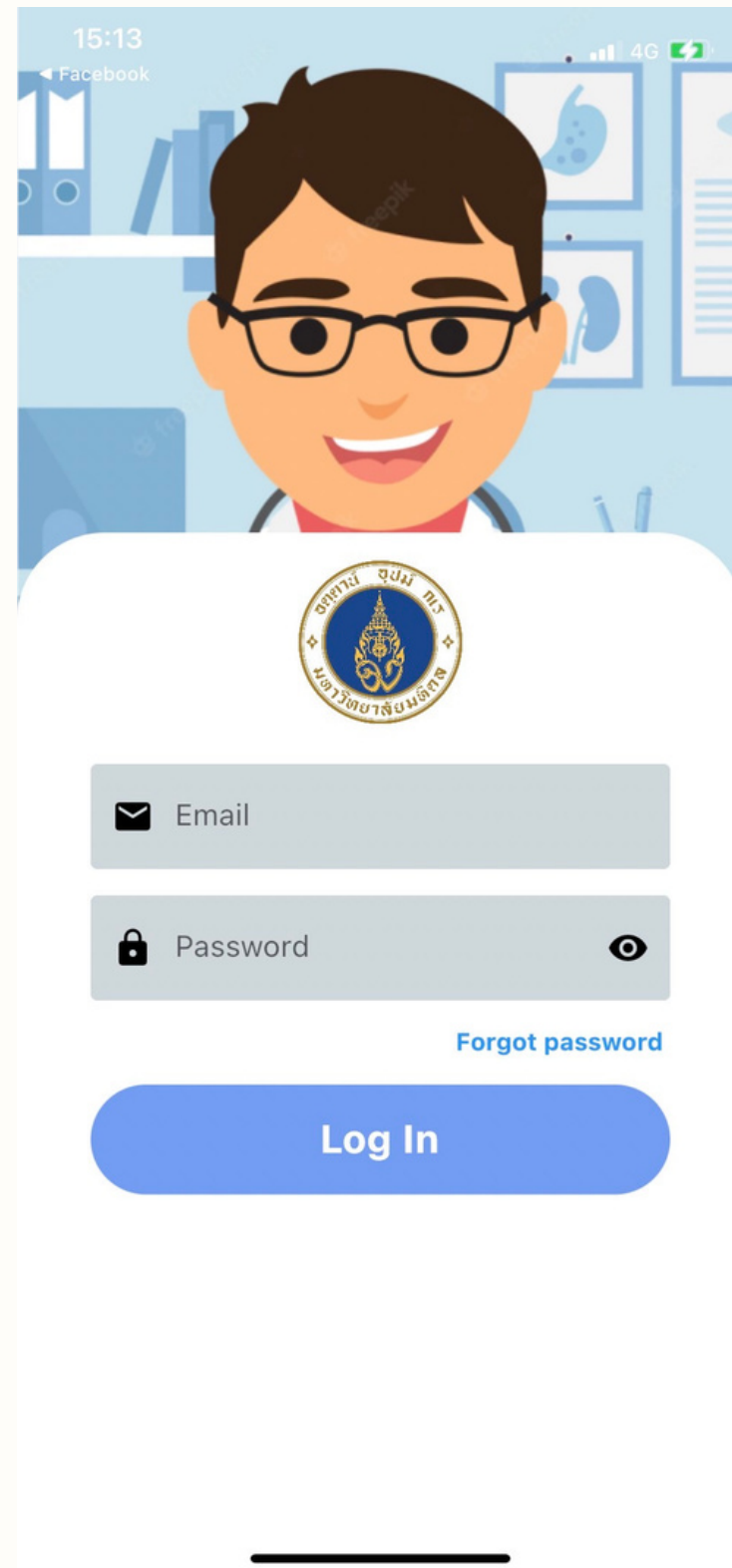


Interface Design

- Authentication Design
- Athlete Design
- Staff Design




Authentication Design




15:13
Facebook

Illustration of a doctor's face and a medical office background.



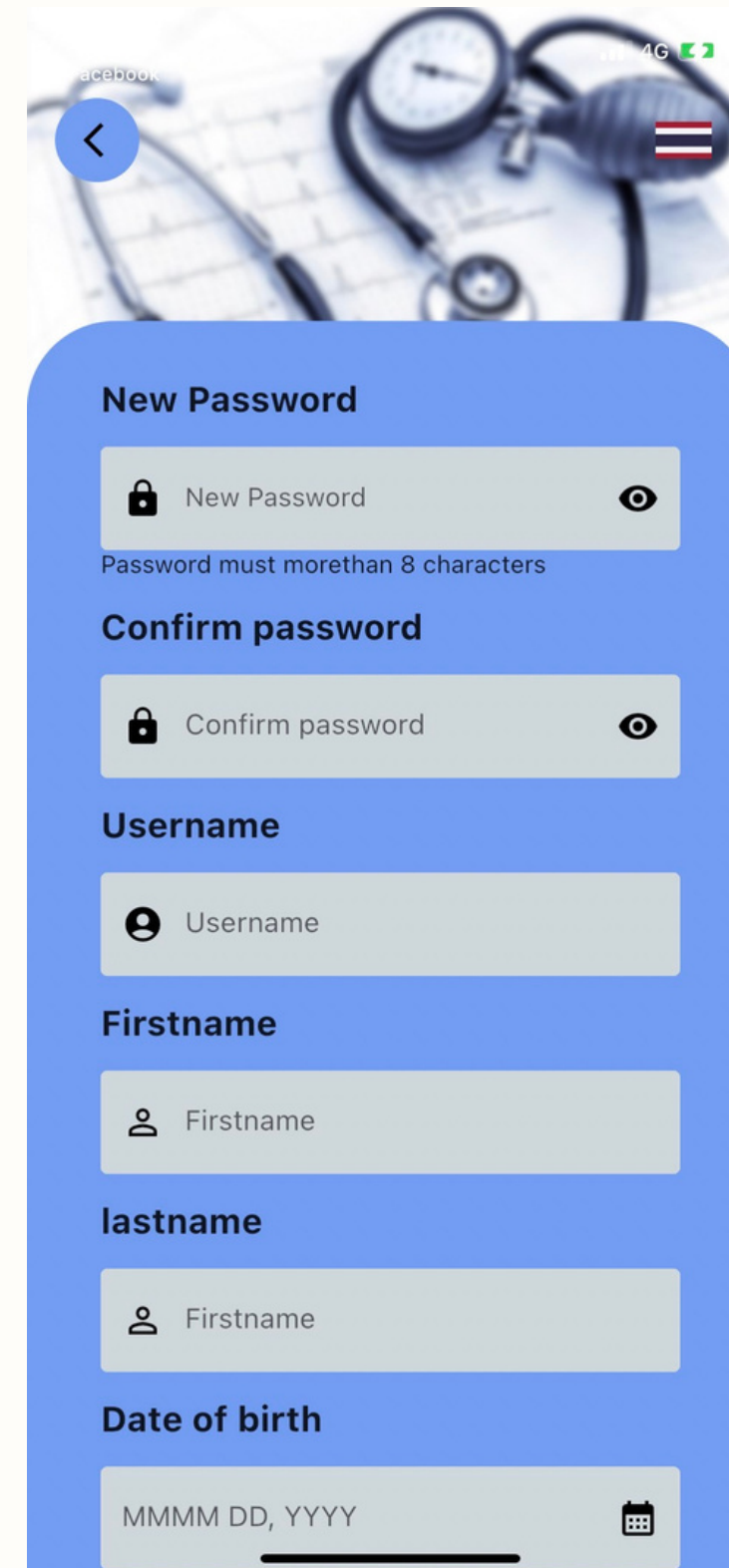
Email

Password 



[Forgot password](#)

Log In



Insert email, password



facebook



 

New Password


 New Password 

Password must morethan 8 characters


Confirm password

 Confirm password 


Username

 Username


Firstname

 Firstname

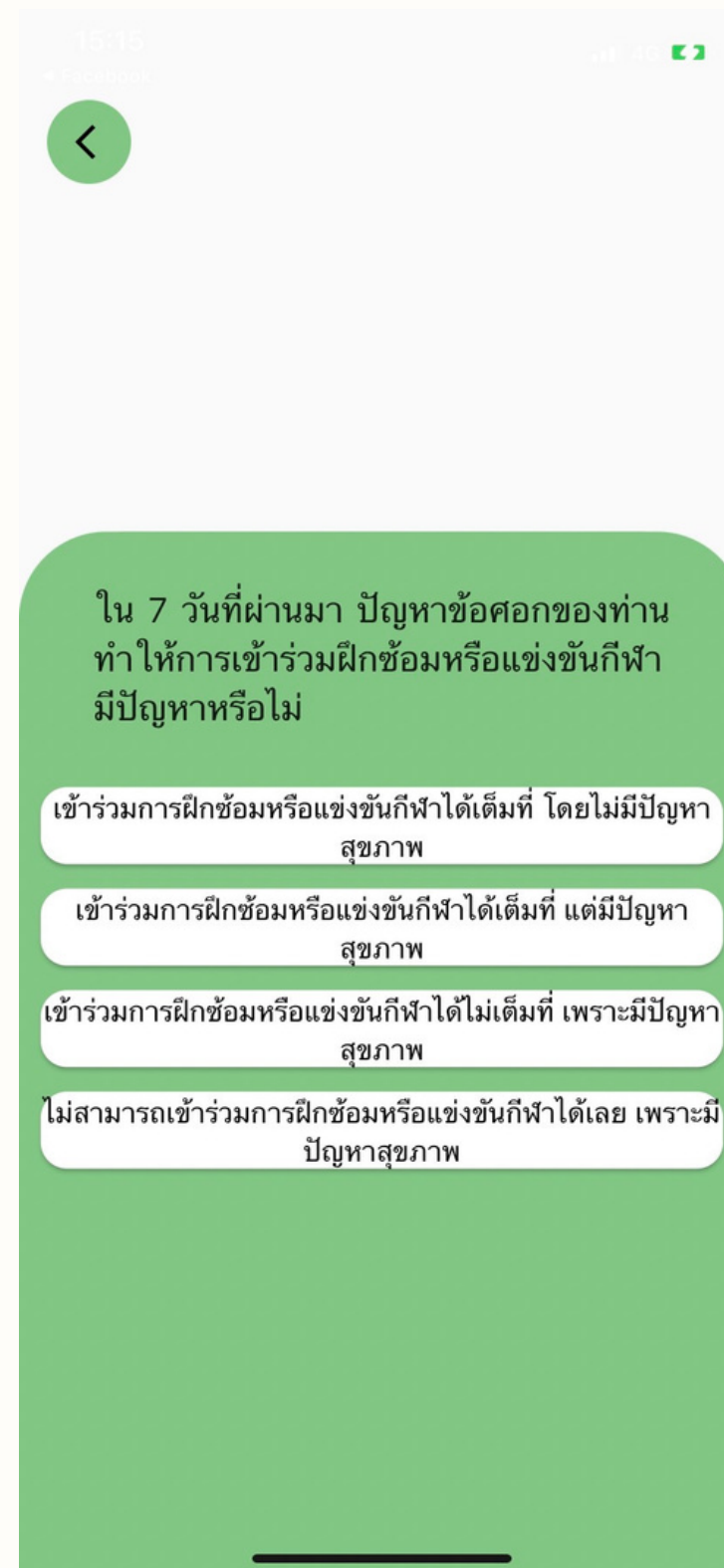
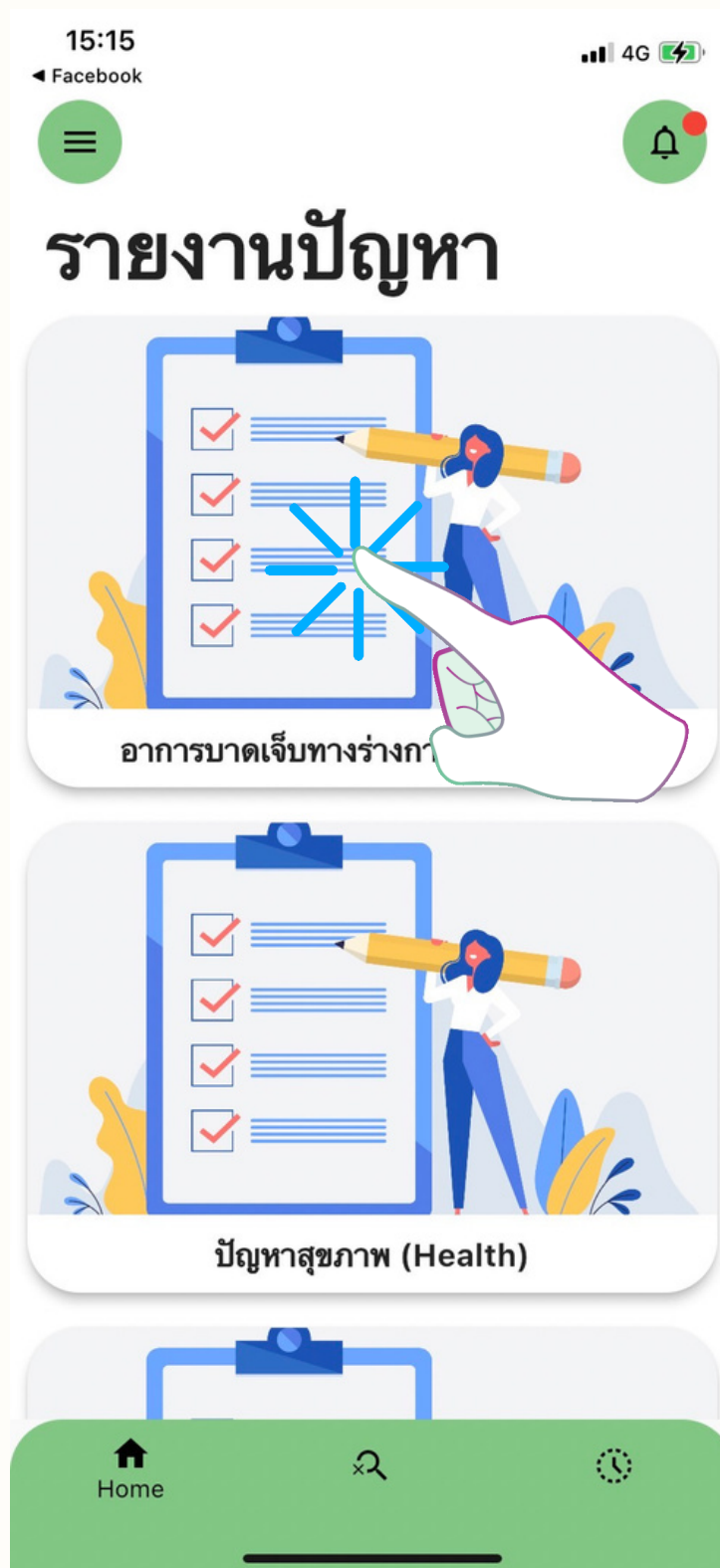
lastname

 Firstname

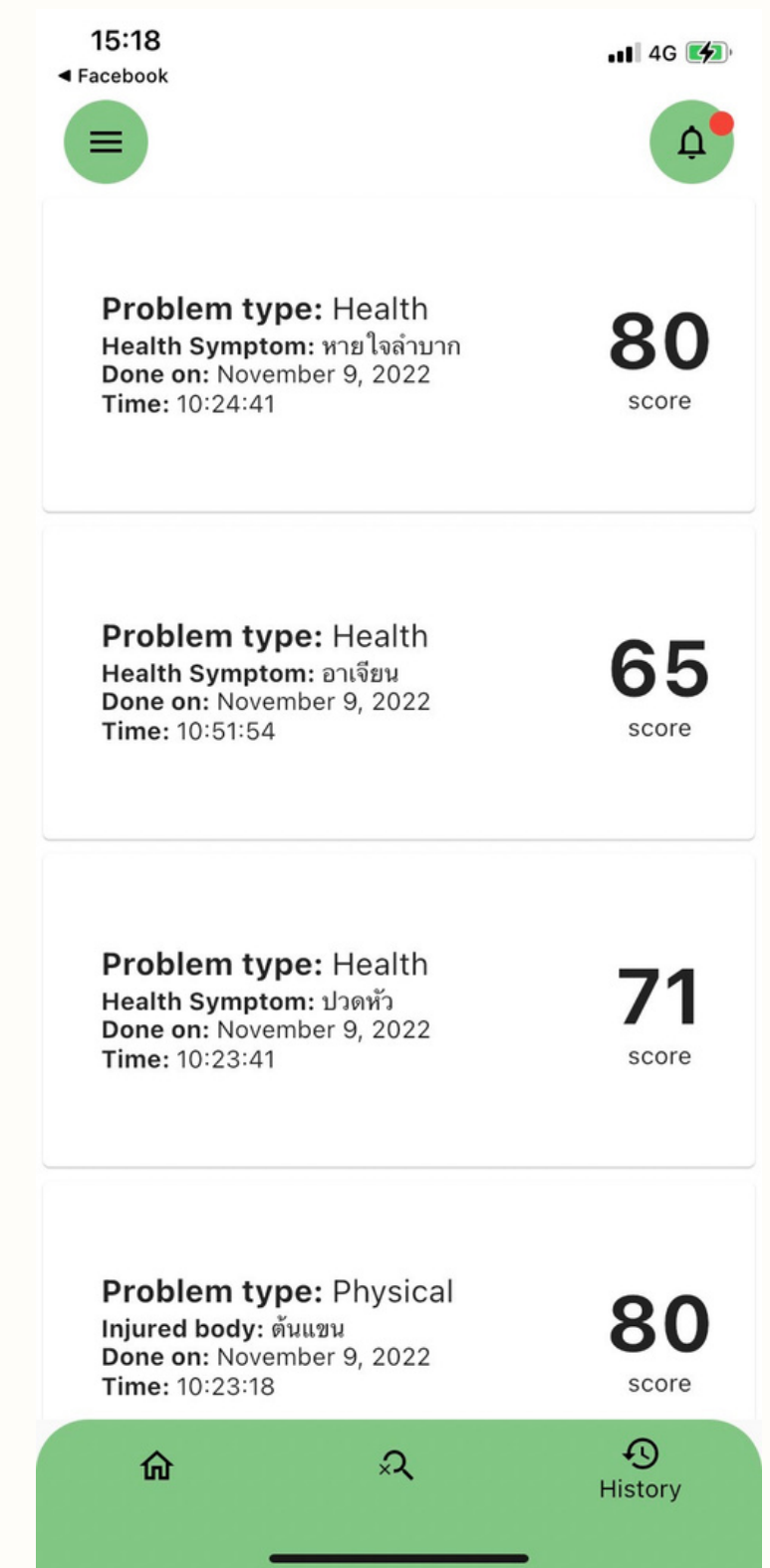
Date of birth

MMMM DD, YYYY 

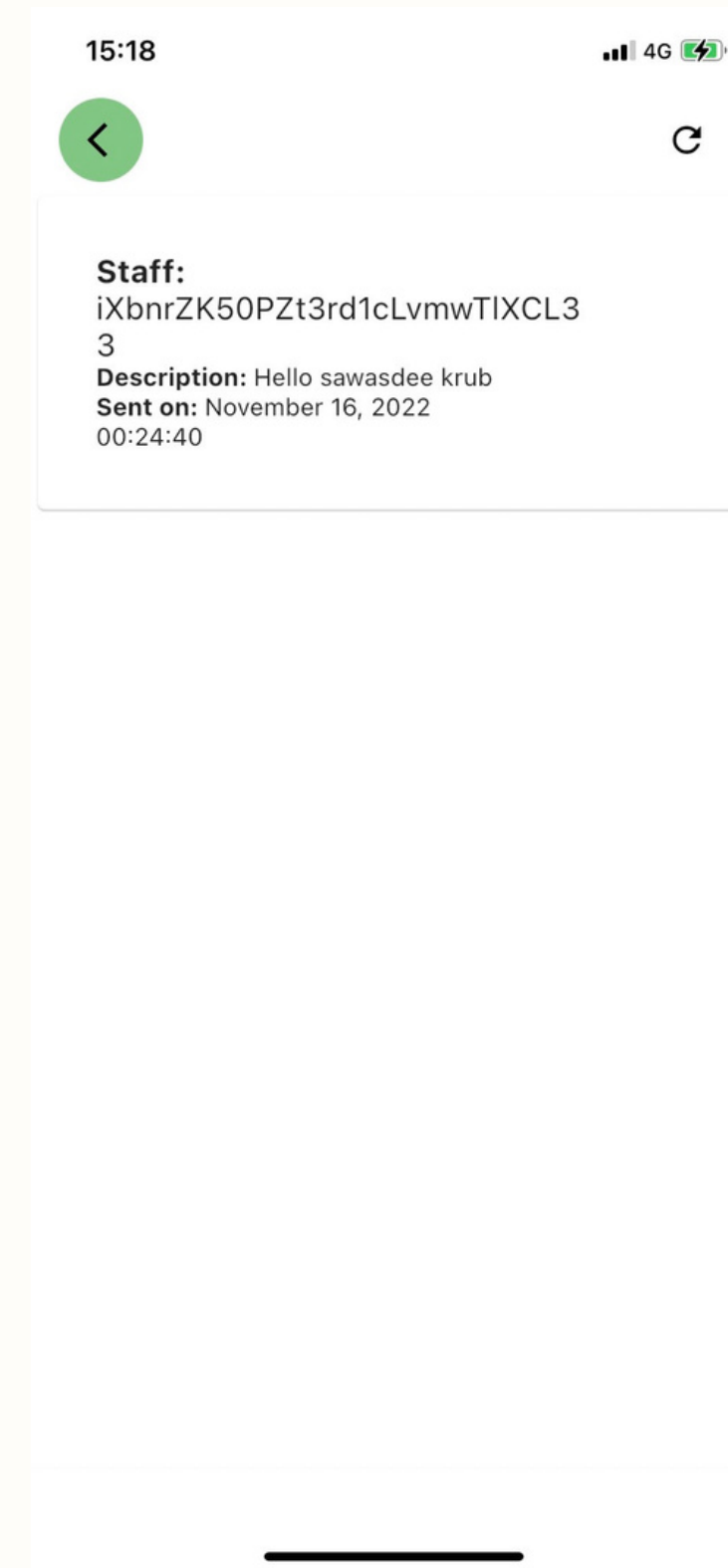
Athlete Design



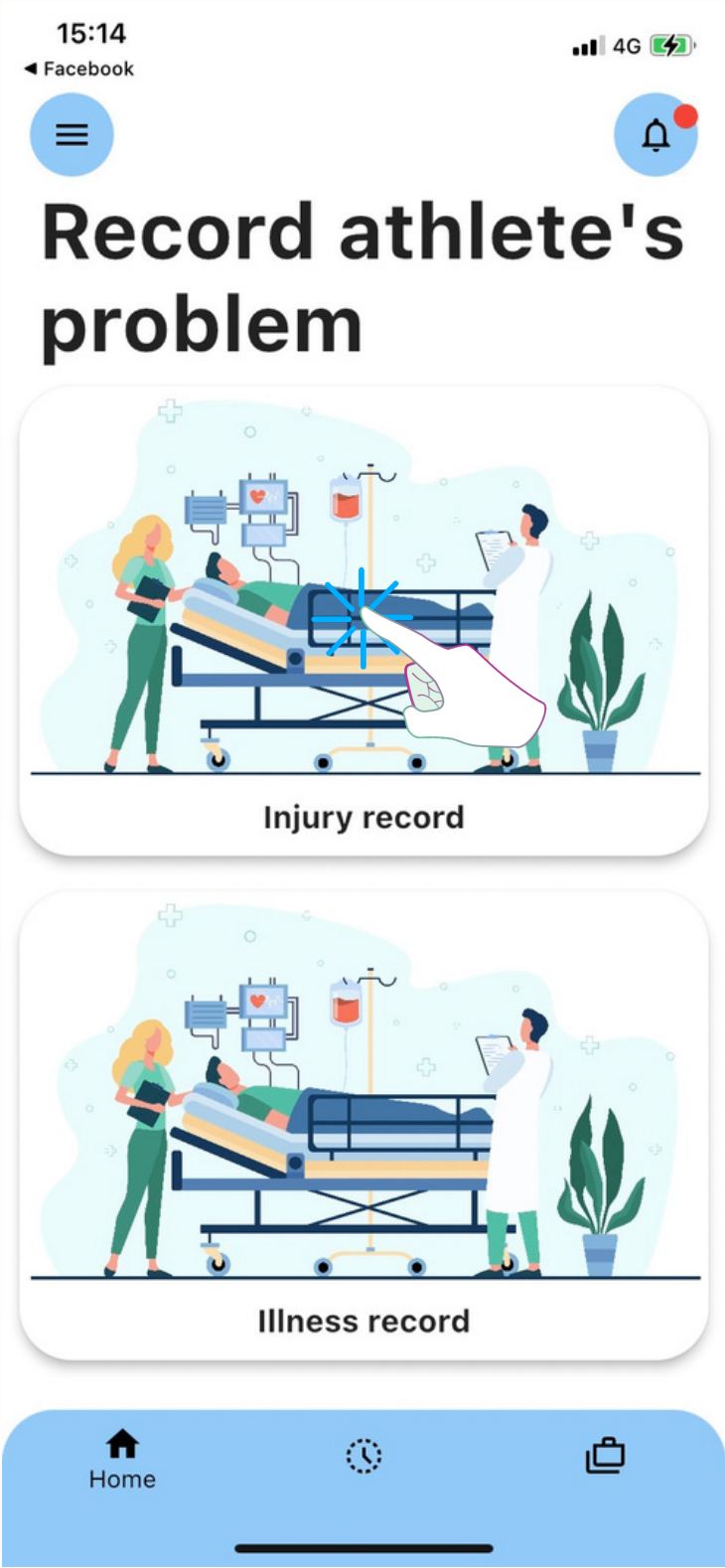
Save and see



Athlete Design



Staff Design



15:16
Facebook

Athlete No.

Sport and Event

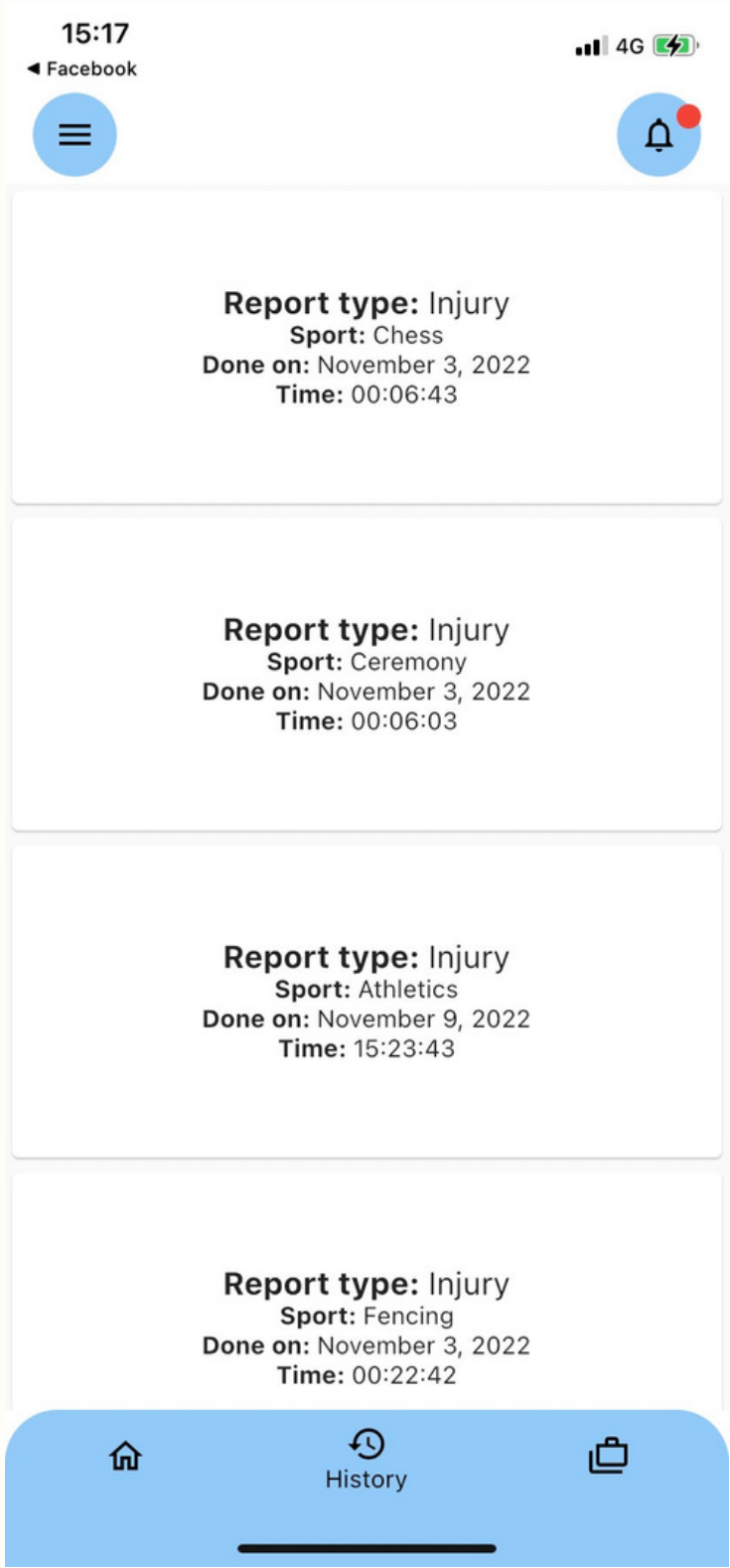
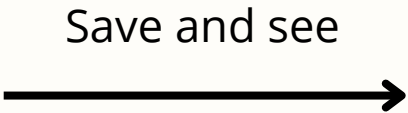
Round, Heat, or Training

Date & Time

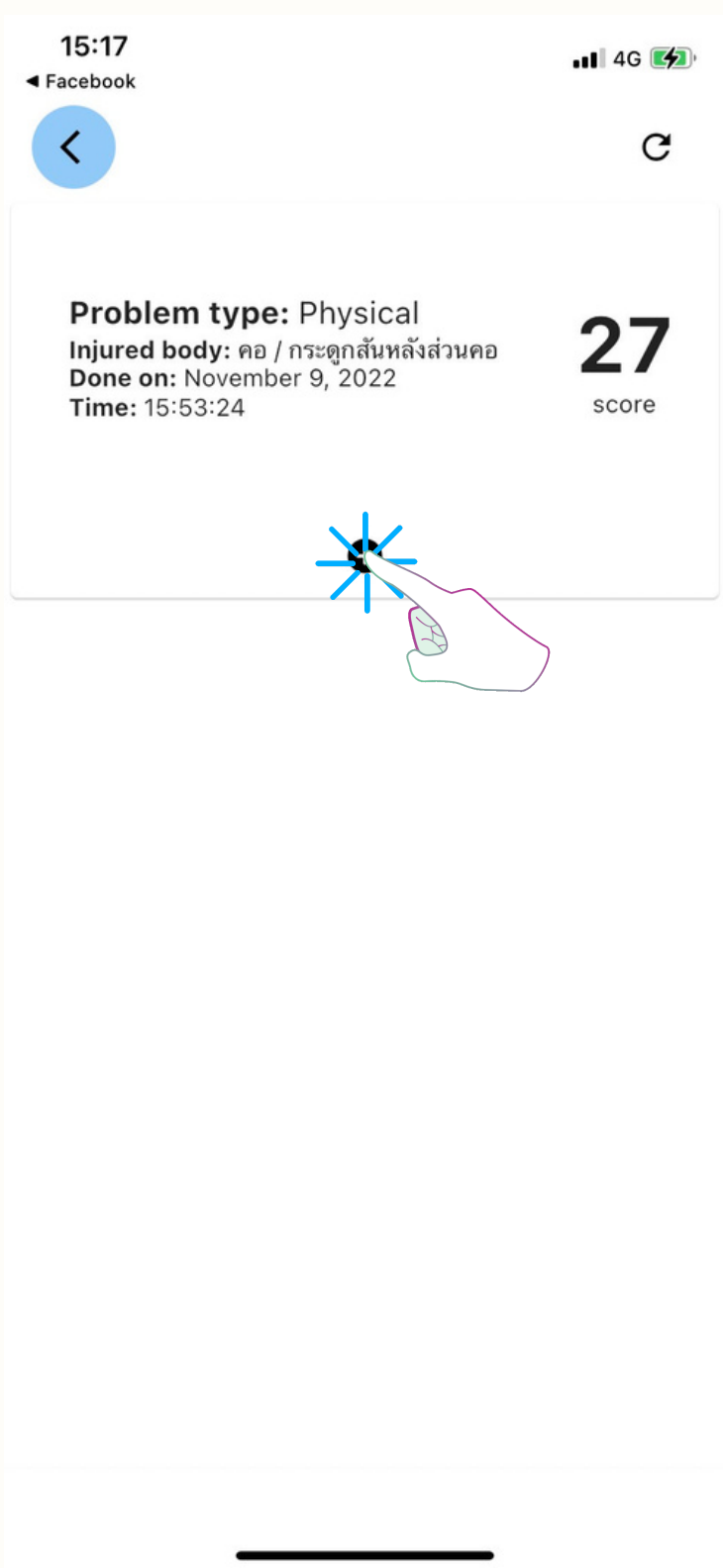
Injured body part

Save

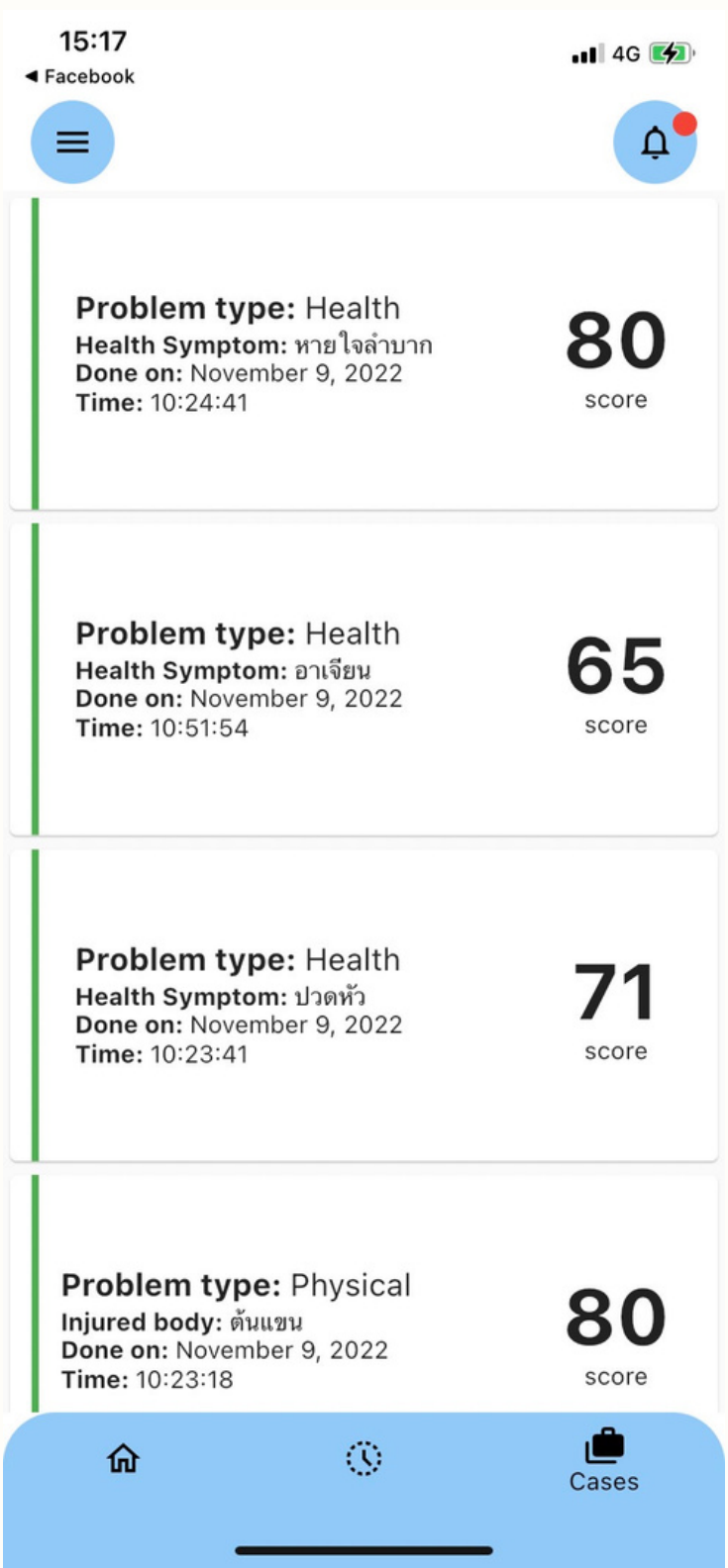
This is a mobile app form for recording an athlete's problem. It has a back arrow at the top left. The form contains five input fields: 'Athlete No.', 'Sport and Event' (a dropdown menu), 'Round, Heat, or Training', 'Date & Time', and 'Injured body part' (a dropdown menu). A blue 'Save' button is at the bottom.



Staff Design



See the recieved case



Summary

Introduction

Background
Knowledge



Systems
Analysis & Design

Preliminary
Usability Testing

Future Work

Implementation



Testing and
evaluation

Programming

Q&A



THANK YOU