



BLG113 GROUP PROJECT

NanoCheck by

Group 3



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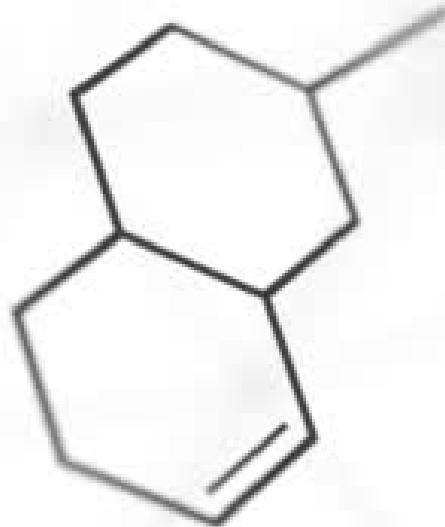
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The background of the slide is a close-up, high-magnification image of a large number of red blood cells. They are spherical with a slightly凹 (concave) center. The color is a deep, saturated red. The cells are packed closely together, filling the entire frame.

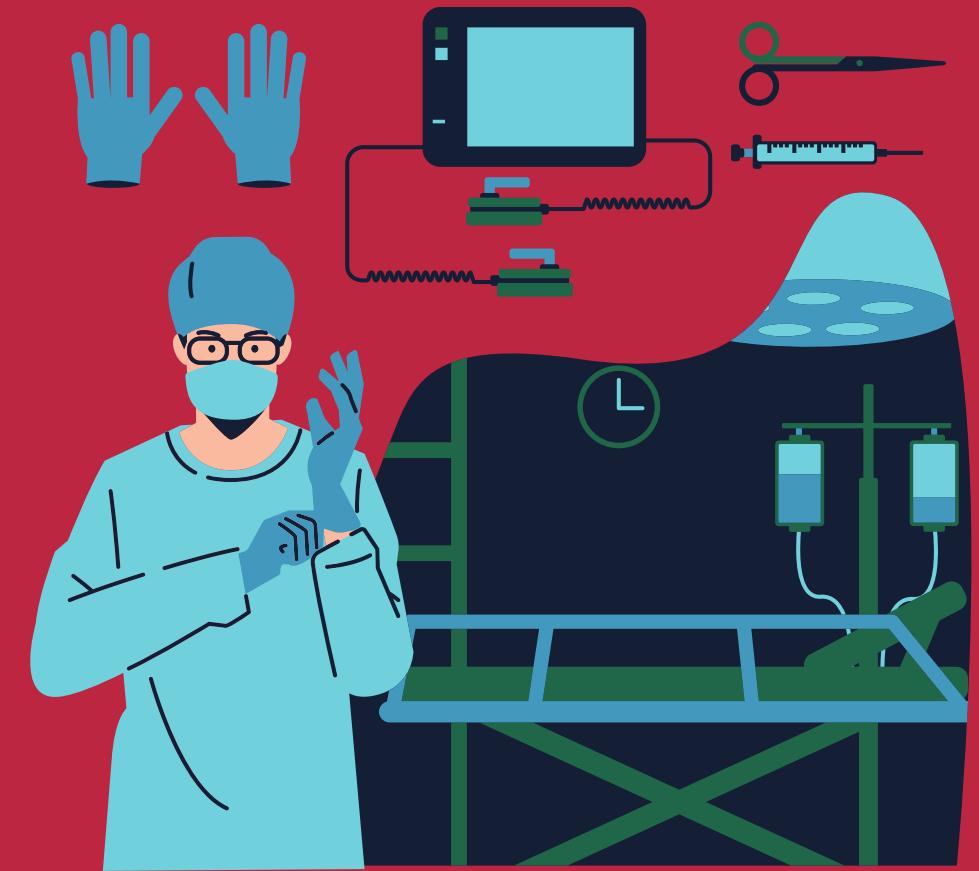
What is NanoCheck ?

INSULIN



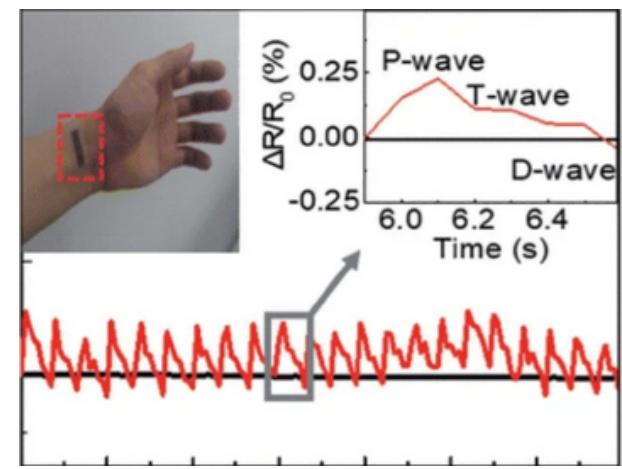
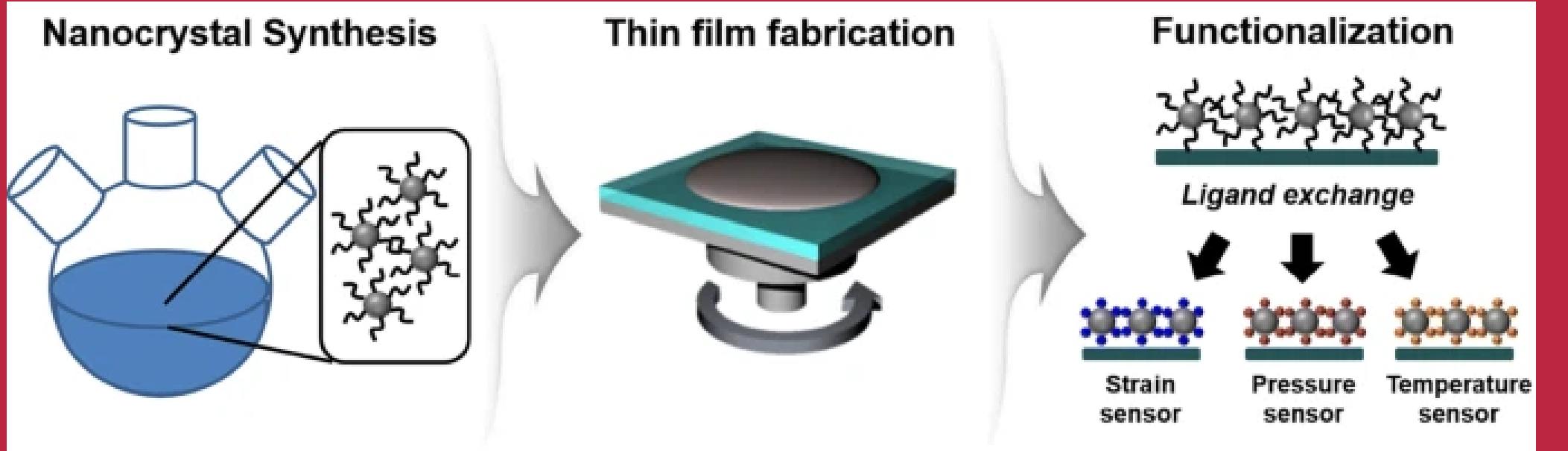
AIM OF NANOCHECK

To create a new way of treatment, that is accessible, compatible and easier to use in order to get the best results

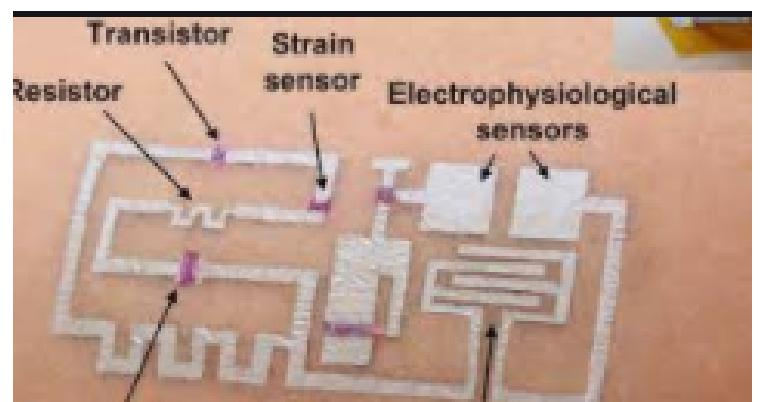




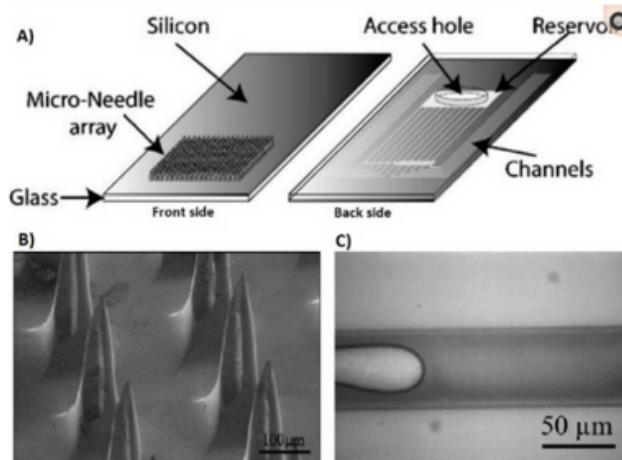
Nano-enabled sensors



Pulse monitoring



Drawn-on-skin electronics



Microneedle technology

REAL-TIME MEASUREMENT

METABOLITES

Glucose, lactate

BIOLOGICAL MARKERS

Ph level, cholesterol, respiration, cytokinin, IL

ELECTROLYTES

electrolytes, Na^+ , K^+ , etc

PHYSIOLOGICAL PARAMETERS

Blood pressure, hearth rate, body temparature

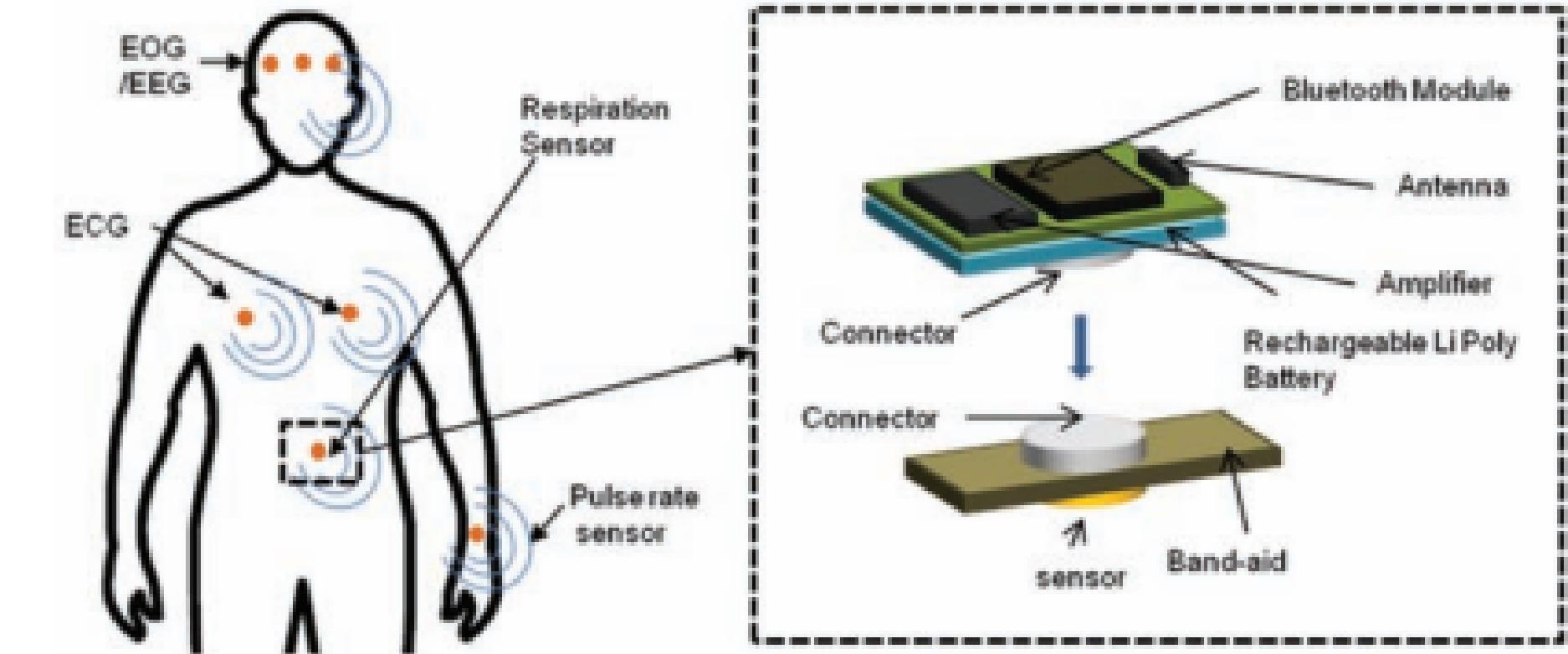
External Biosensors

Personalized Monitoring

MONITORING SPECIFIC DISEASES

OPTIONAL

COMPATIBLE WITH NANOCHECK APP



- Alzheimer's Disease (AD) Monitoring
- Cancer Patient Monitoring
- Medical Adherence
- Stress Monitoring
- Cardiac Monitoring
- Sleep Monitoring

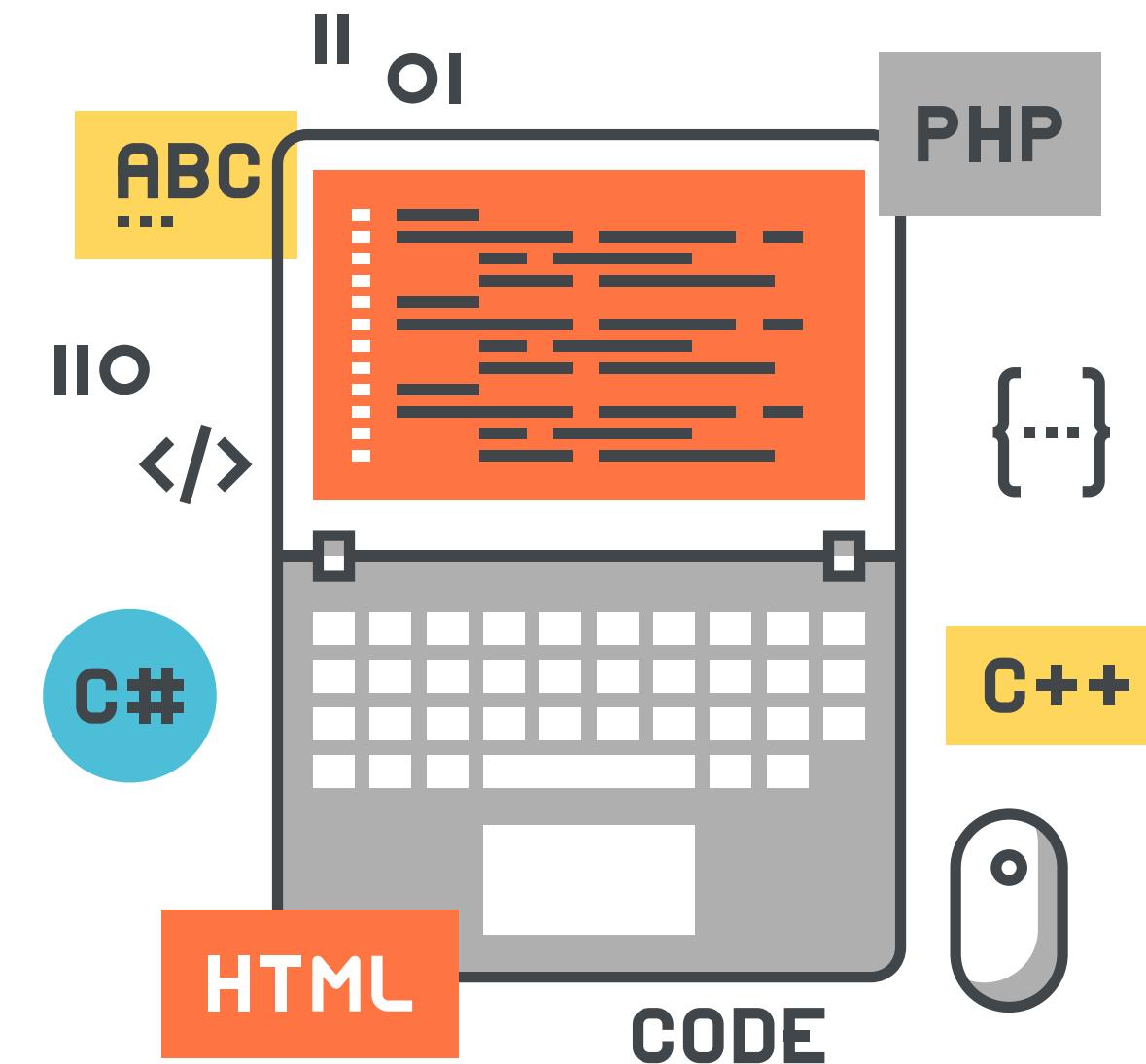
Operating System

- Android based wearable device



Building Application

Frontend & Backend



Frontend Development

design and create User Interface

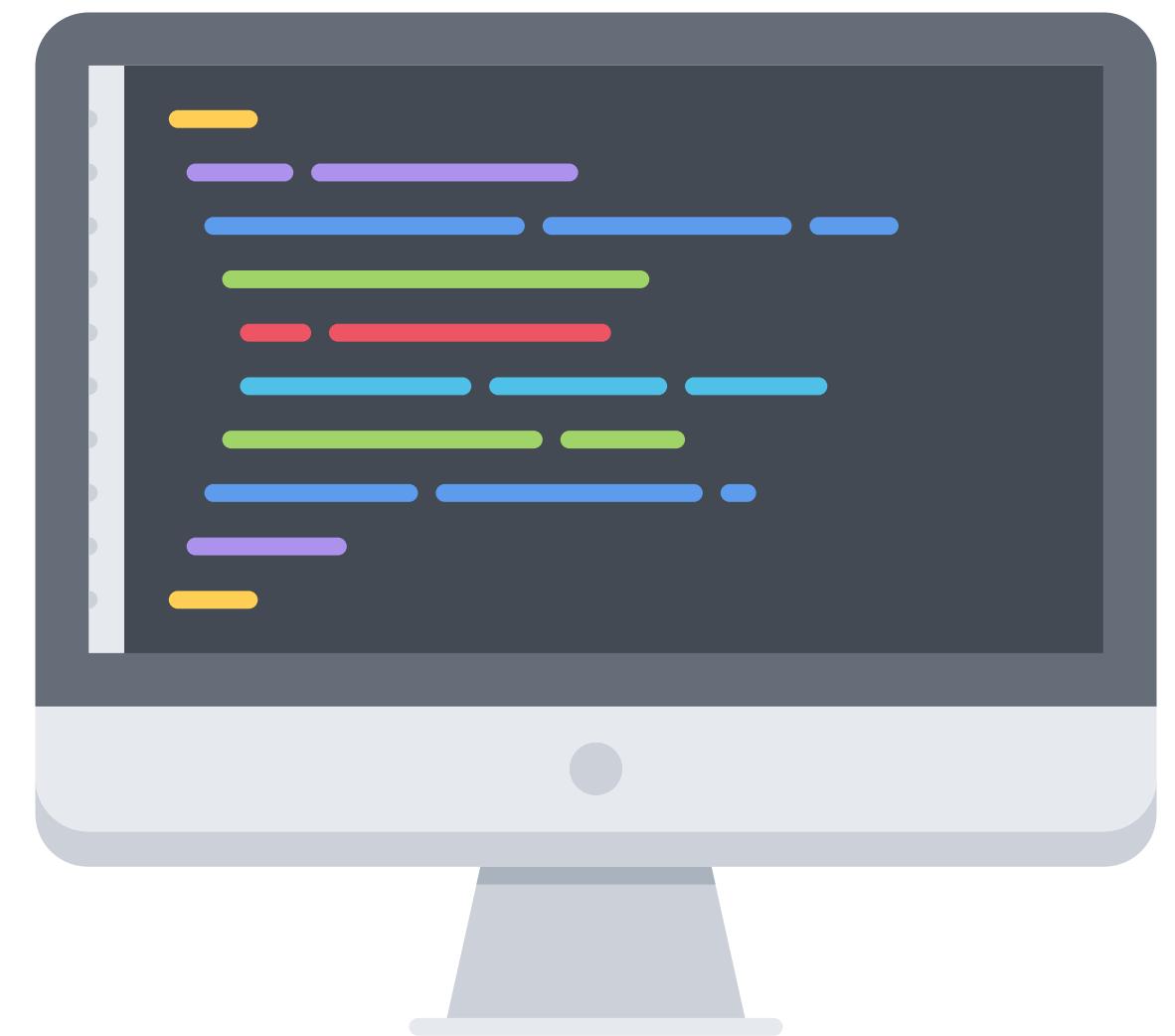


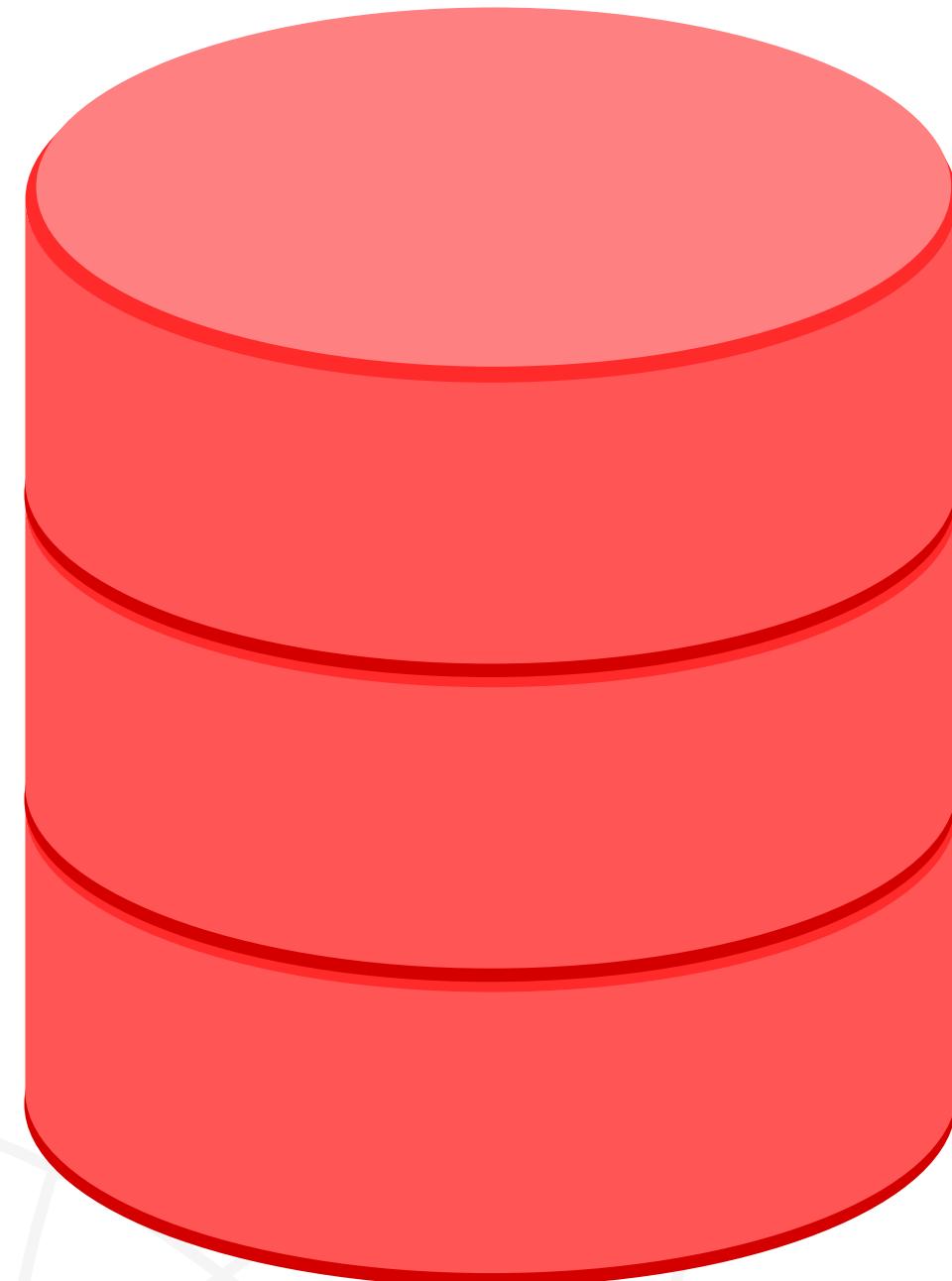
- We selected **Flutter**.
- Flutter is supported and used by Google
- Trusted by well-known brands around the world, and maintained by a community of global developers.

Backend Development

- we use Dart Language
- define watch functions
- `readFromSensors();`

`writeToDatabase();`





Cloud Database

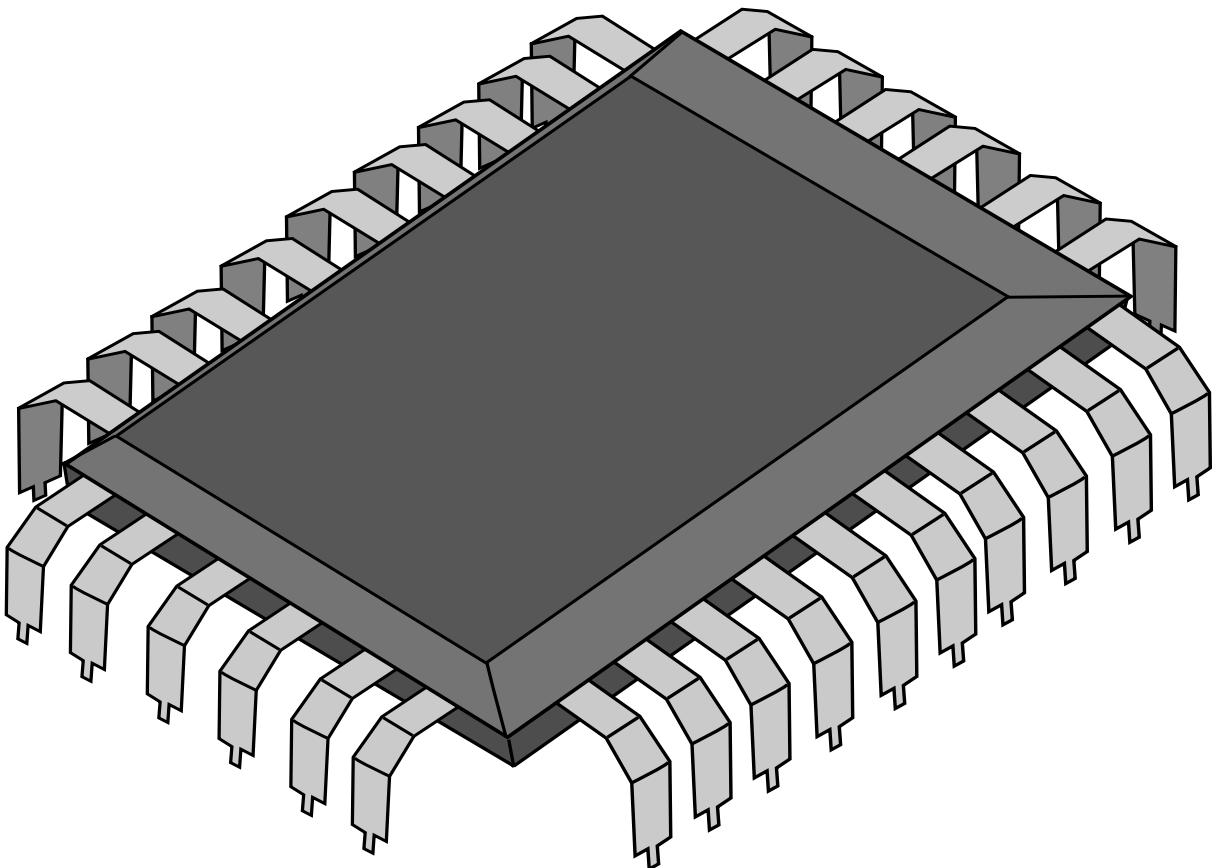
AN EASY WAY TO ACCESS DATA

Everyone's data would be stored in a cloud database

Network Connection

**NANOCHECK WILL PERIODICALLY
SEND DATA AND SYNC UP**

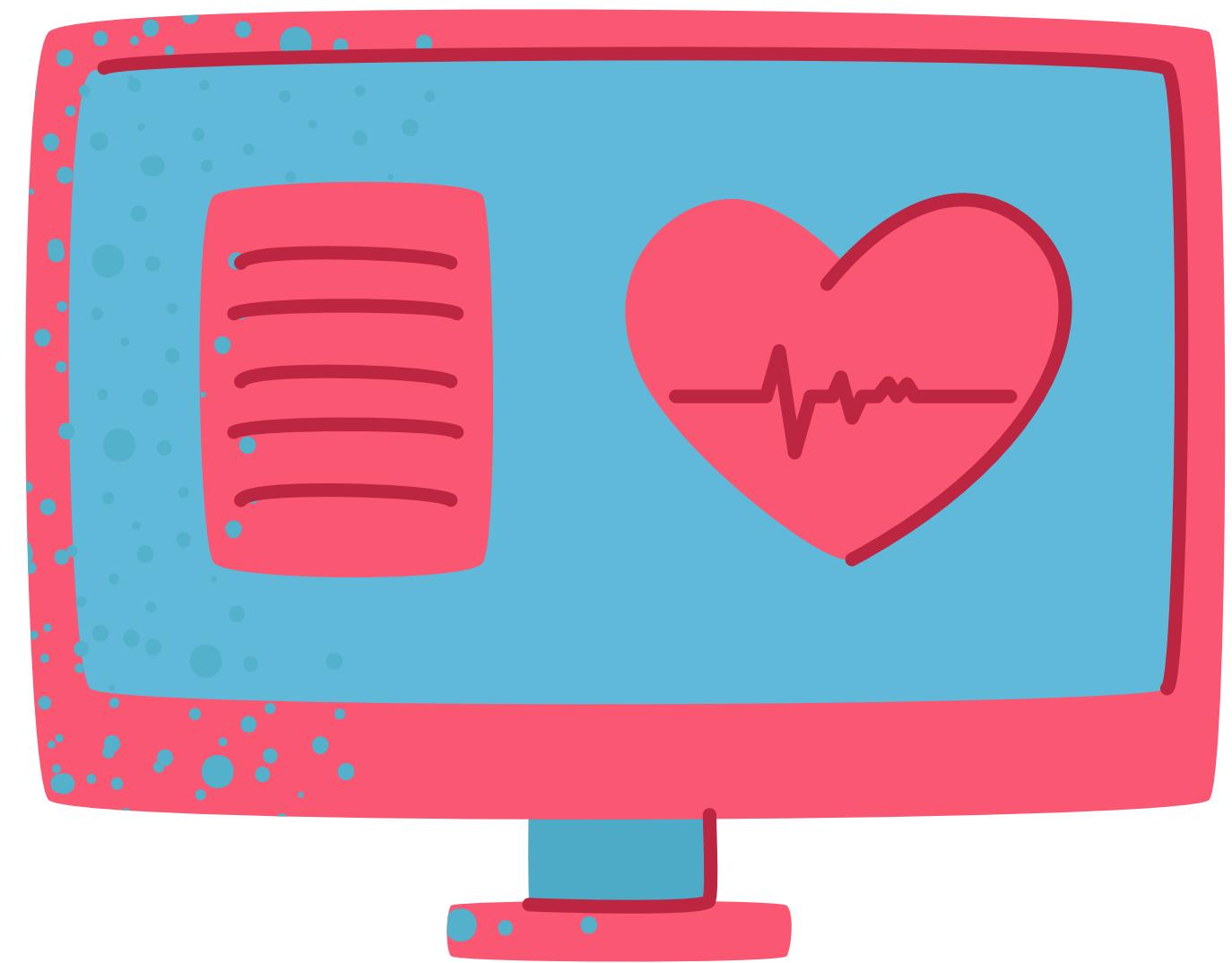
To accomplish this, NanoCheck will contain a
networking chip



Analysing the Data

**DOCTORS WOULD BE ABLE TO
TRACK THEIR PATIENTS'
STATUS VERY EASILY**

Dangerous situations will be identified immediately





Helping the Patients

People can contact their doctors more easily

Our device will notify healthcare providers for the patients

Doctors can help their patients better

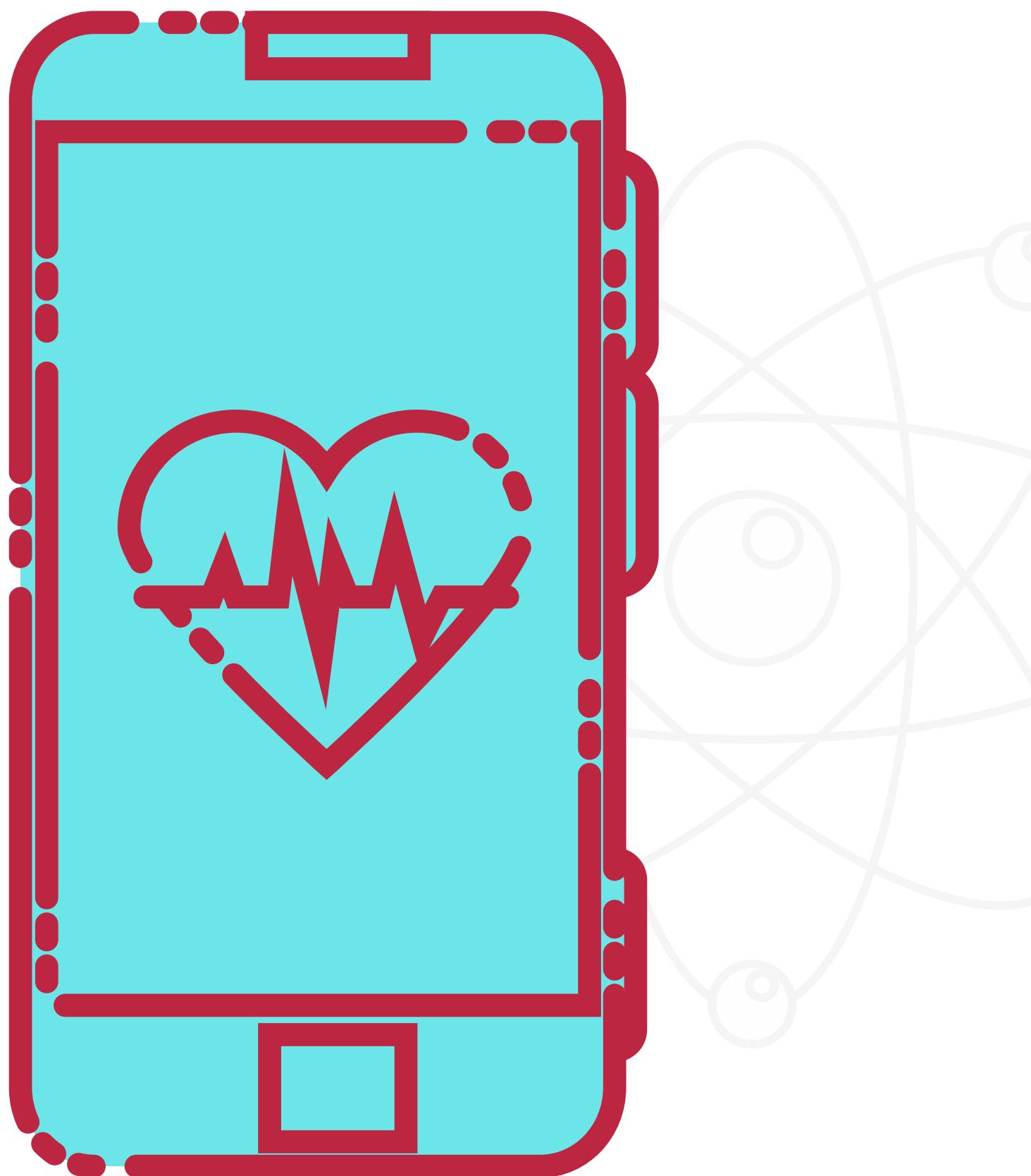
They can use access the data they need any time

Accessible to Users

Mobile App

Users will also be able to access their own data and track their history

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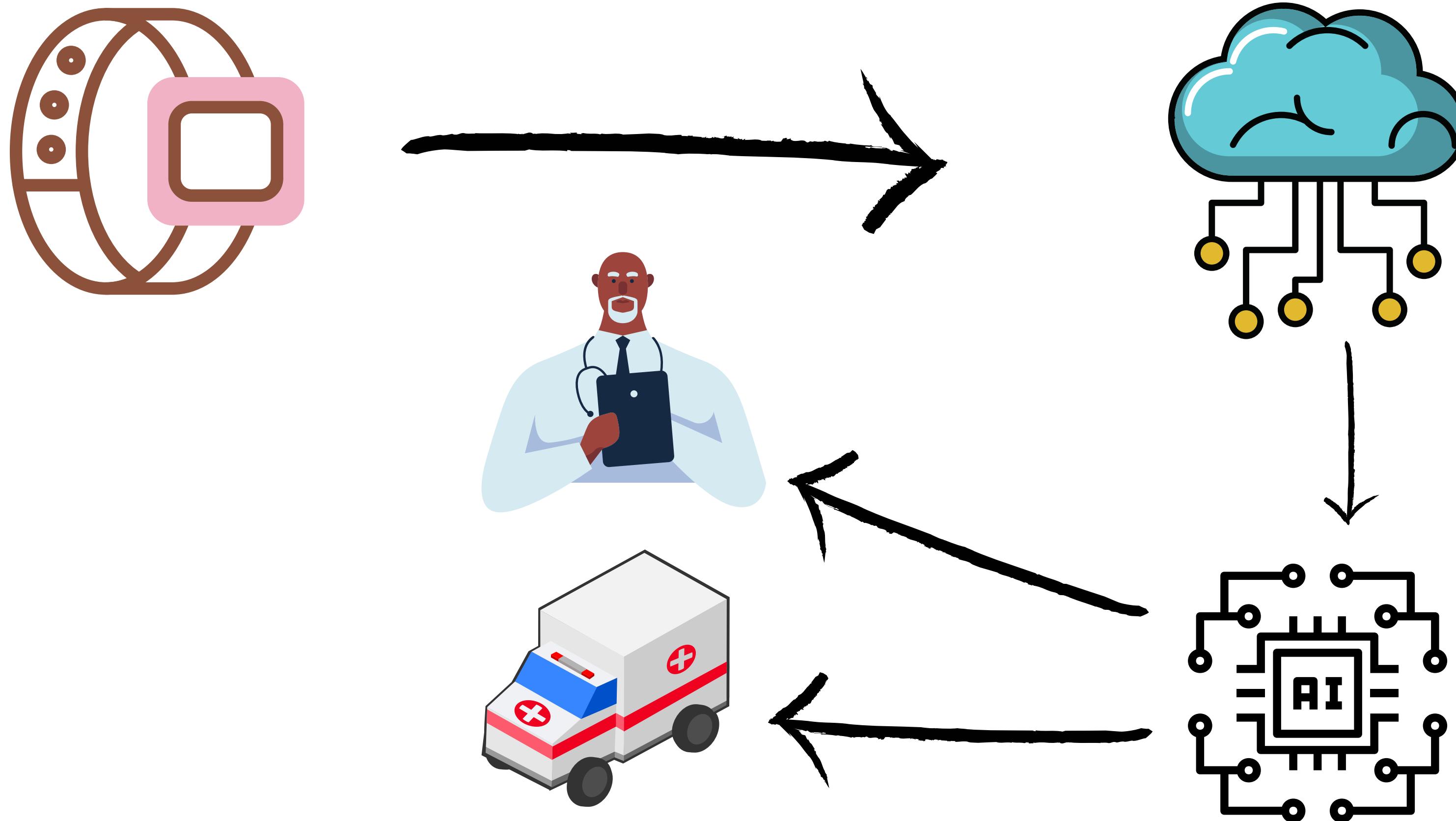


Mobile App

- Detects patterns on the data for symptoms
- AI based mobile app
- User-friendly interface
- Elderly & disabled
- Compatible with different devices



Artificial Intelligence



Privacy and Security



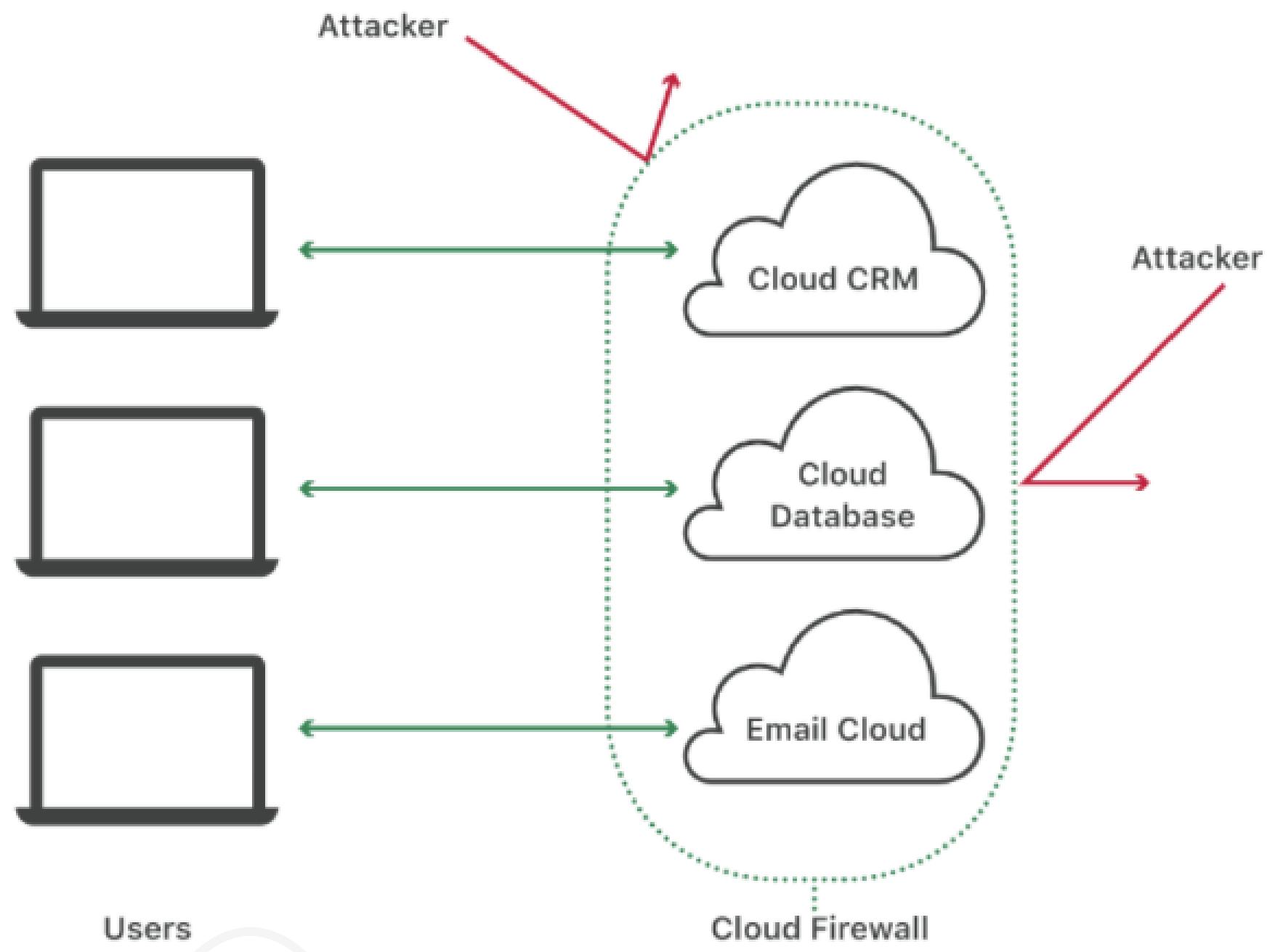
CLOUD FIREWALLS



ENCRYPTION



**IDENTITY AND ACCESS
MANAGEMENT**



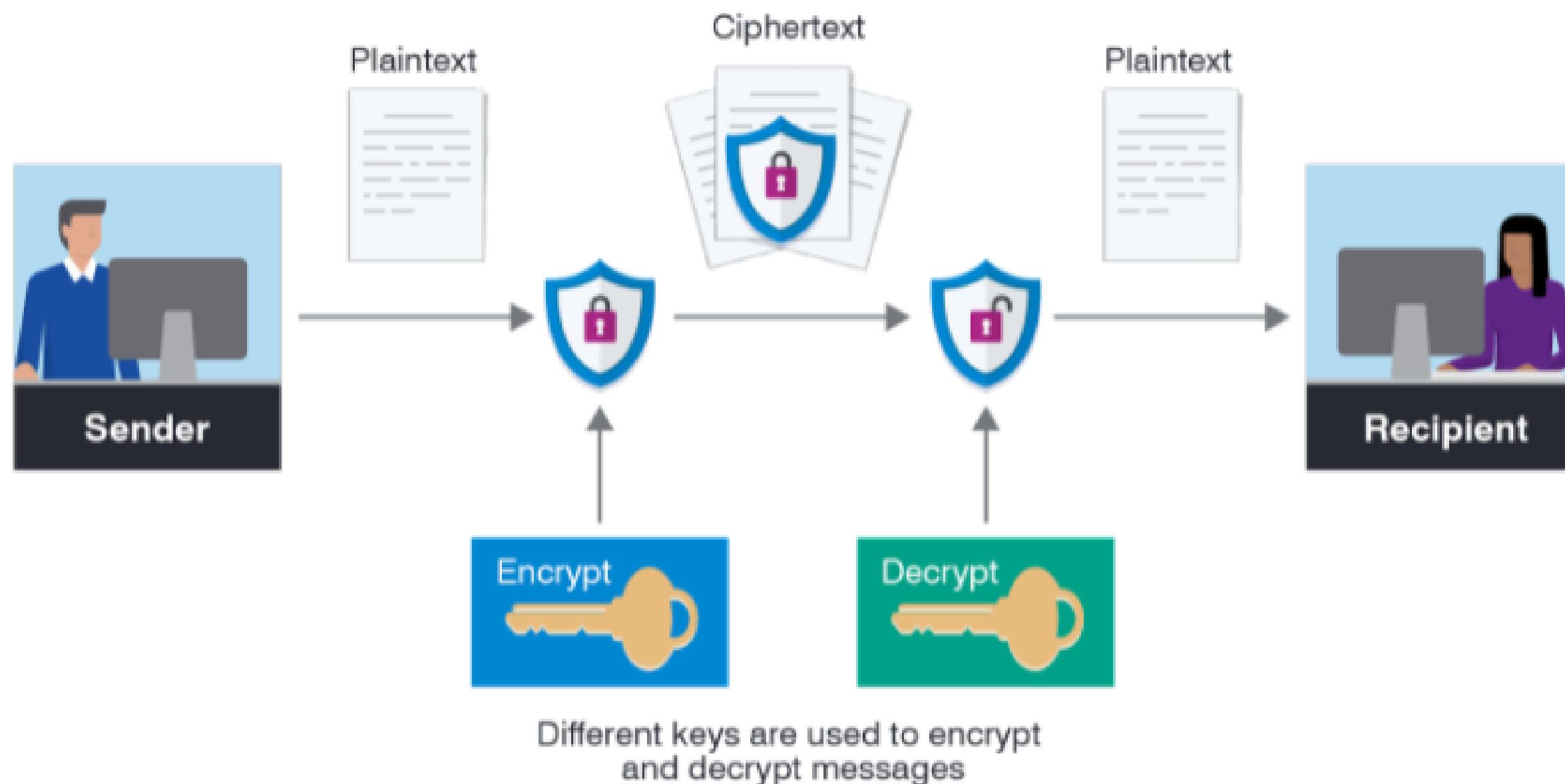
**Users are safe
from**

DDOS ATTACKS

MALWARES

VULNERABILITY EXPLOITS

Only authorized users can access data thanks to encryption



Identity and Access Management



-  Eliminating weak passwords
-  Mitigating insider threats
-  Multi-factor authentication

Further Improvements

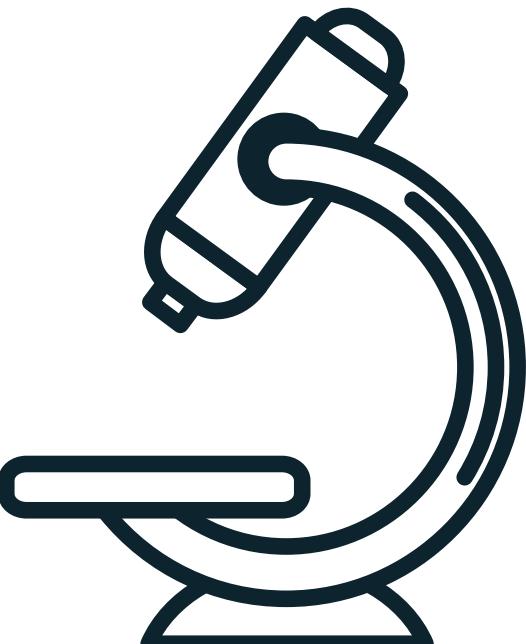
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What will we do in the future?

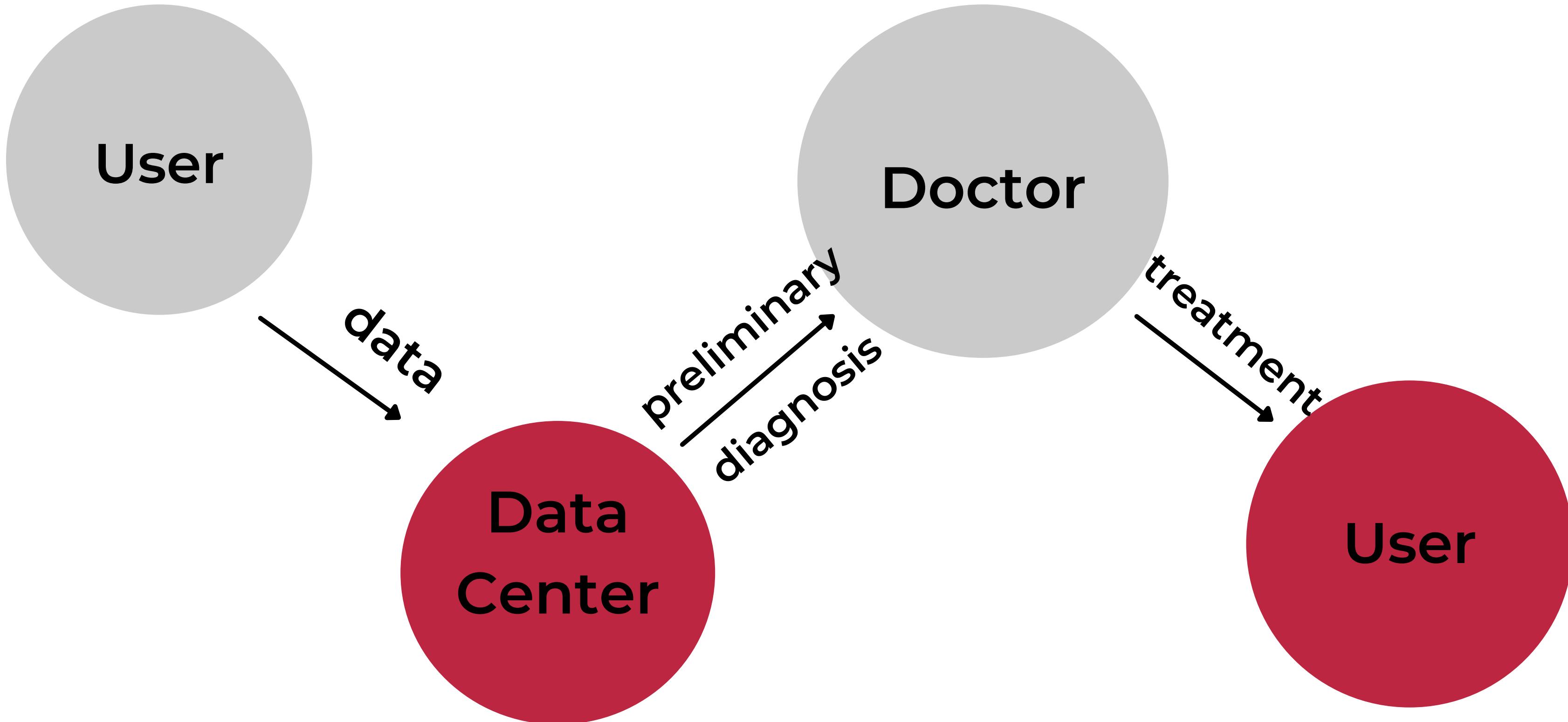


Data Center

- Fast Treatment
- Disease
- Symptom



Sequence of Events



Why NanoCheck?

A NEW WAY OF HEALTHCARE



Accessible
Healthcare



Friendly User
Interface



Early
Diagnosis



Easier Medical
Treatment &
Follow up by
Doctors



Instant
CheckUps

*“It is health that is the real wealth
and not pieces of gold and silver.”*

- Mahatma Gandhi

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