

Disaster Relief **DREAMS**



Content

01

PROBLEM BRIEF

02

GOALS & STAKEHOLDERS

03

SOLUTION

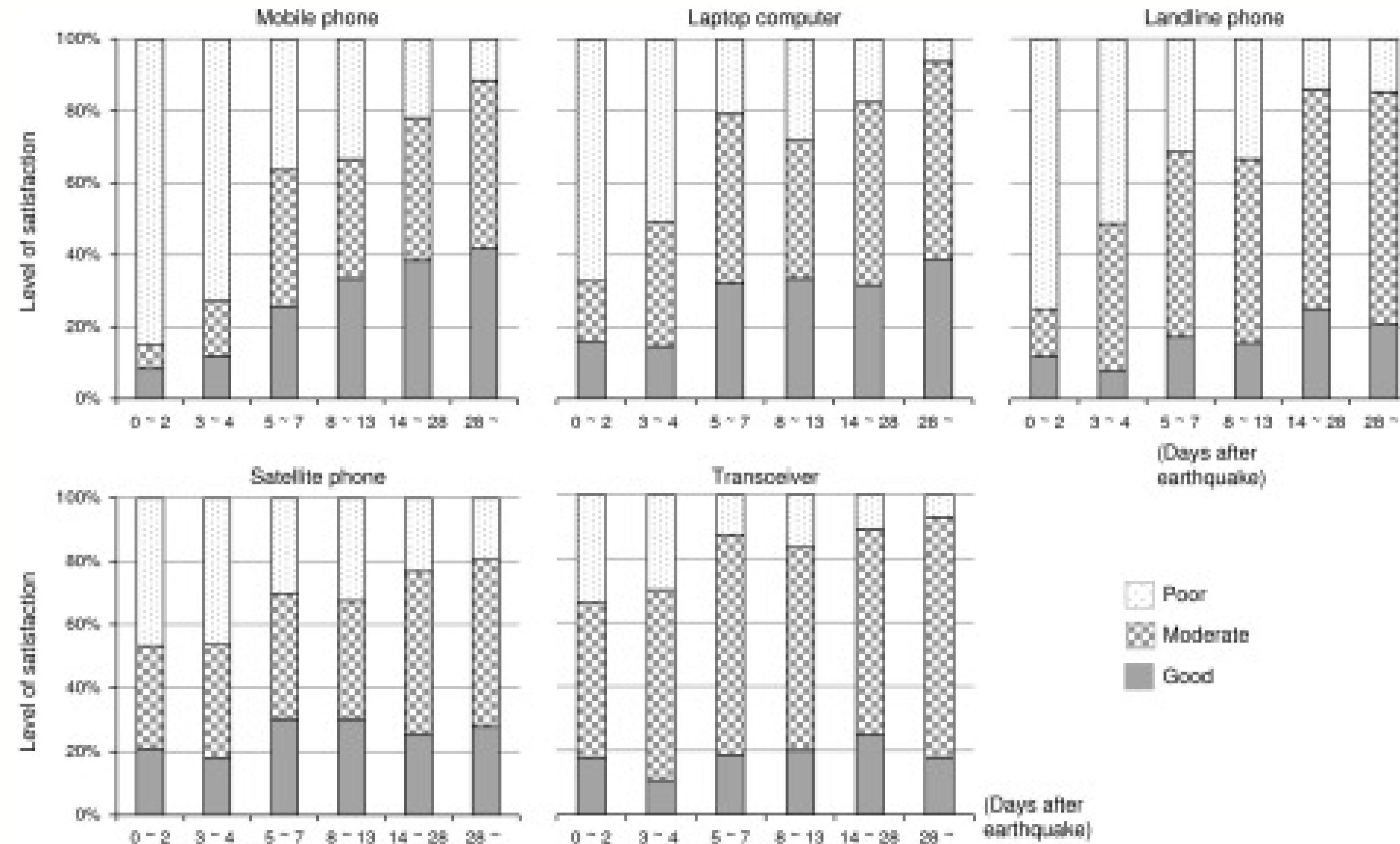
04

COST ANALYSIS

05

FUTURE WORK

First 4 days after an earthquake



Key takeaway

- Lack of common communication channels (inadequate education on radio channels)
- Power infrastructure down
- Poor reception
- Signal instability
- Miscommunication between rescue parties

Difficulties encountered by rescuers

Cooperation shortcomings as stated by the respondents	Number of respondents	Percentage (%)
I do not know	22	22.7
Poor communication	31	32
No shortcomings	15	15.5
VMFB is not considered to be equivalent to the RaFBC	9	9.3
No common training	5	5.2
Poor experience	5	5.2
Poor familiarization with the regional operation centre	4	4.1
Insufficient information from the regional operation centre	2	2.1
Insufficient amount of personnel and equipment during interventions	1	1
Poor communication on the scene of intervention	1	1
Differences in procedures carried out by the individual IRS units	1	1
No familiarization of the field of possible interventions	1	1

Key takeaway

- Lack of information which resulted in slower decision making
- Miscommunication between parties involved

Problem Brief

Recent crisis events and major emergencies have increased the need for more effective and accurate response procedures.

At an earthquake site, time is of the essence and victims have to be rescued within the shortest time to boost their chances of survival.

Several issues can also arise among the members of the rescue groups; these could be related to coordination, decision-making, awareness and team collaboration, among others.



Goals & Stakeholders

Rescuers

- Save survivors from rumble
- Safeguard their own safety

1. Increase efficiency
2. Raise awareness & safety

Ambulance

- Transport patients to the nearest hospital

Smooth & seamless transition

Doctors

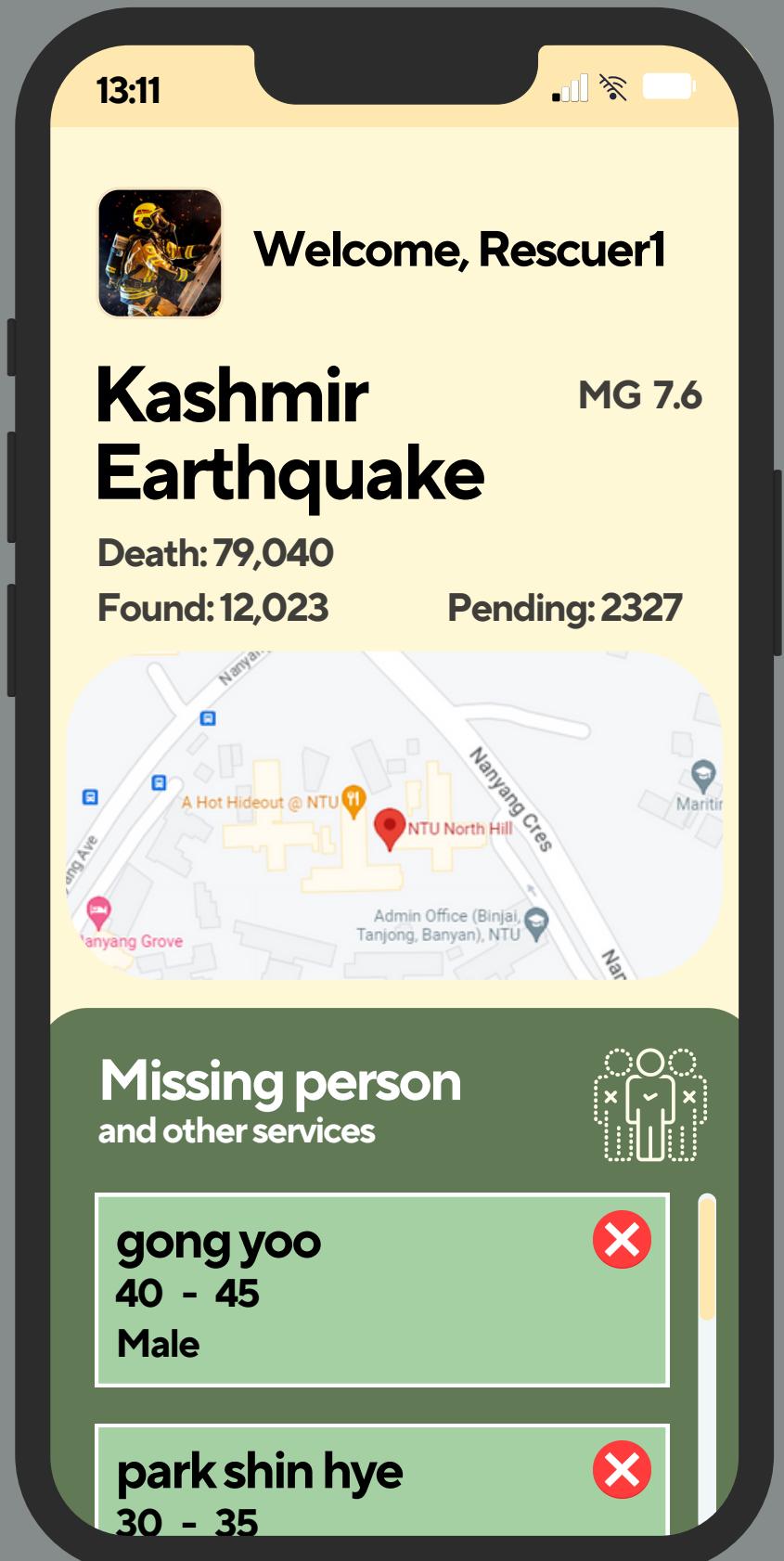
- Identify any casualty and administer medication
- Alerted of critical patients

1. Centralised interface
2. Notification

Command

- Able to have an overview look
- Aware of logistics and manpower allocation at any given time

Central system



Solution

A SYSTEM TO FACILITATE COMMUNICATION
BETWEEN THE RESPONDERS, DOCTORS, AND
TRANSPORT AT THE DISASTER SITE, IN ORDER TO
AID THE RESCUE PROCESS AND REDUCE CHAOS
AS WELL AS DEATHS AT THE DISASTER SITE.

Building of Temporary Infrastructure

System based on its own power and wireless network that can be installed in an ad hoc manner.



**INGCO PORTABLE GASOLINE
GENERATOR 800W RATED 650W
GE8002**

Small Portable Generator



Prolink PRT7011L Smart (portable wifi)



Google Nest Wifi Router

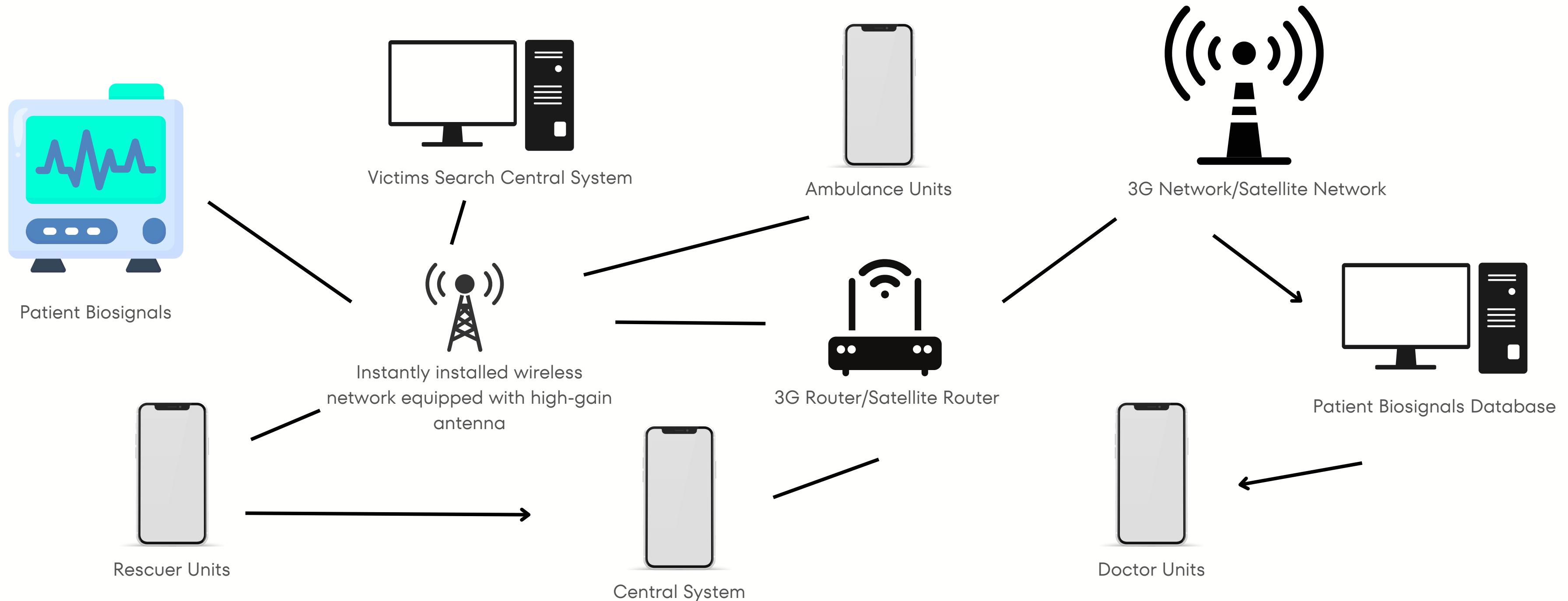
No of Antennas: 2 | No of LAN Ports: 2
No

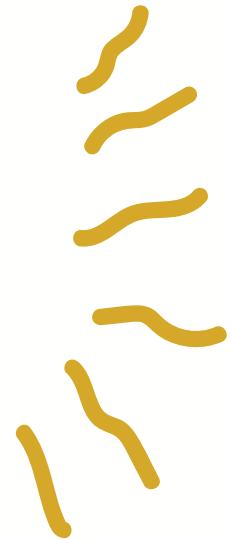
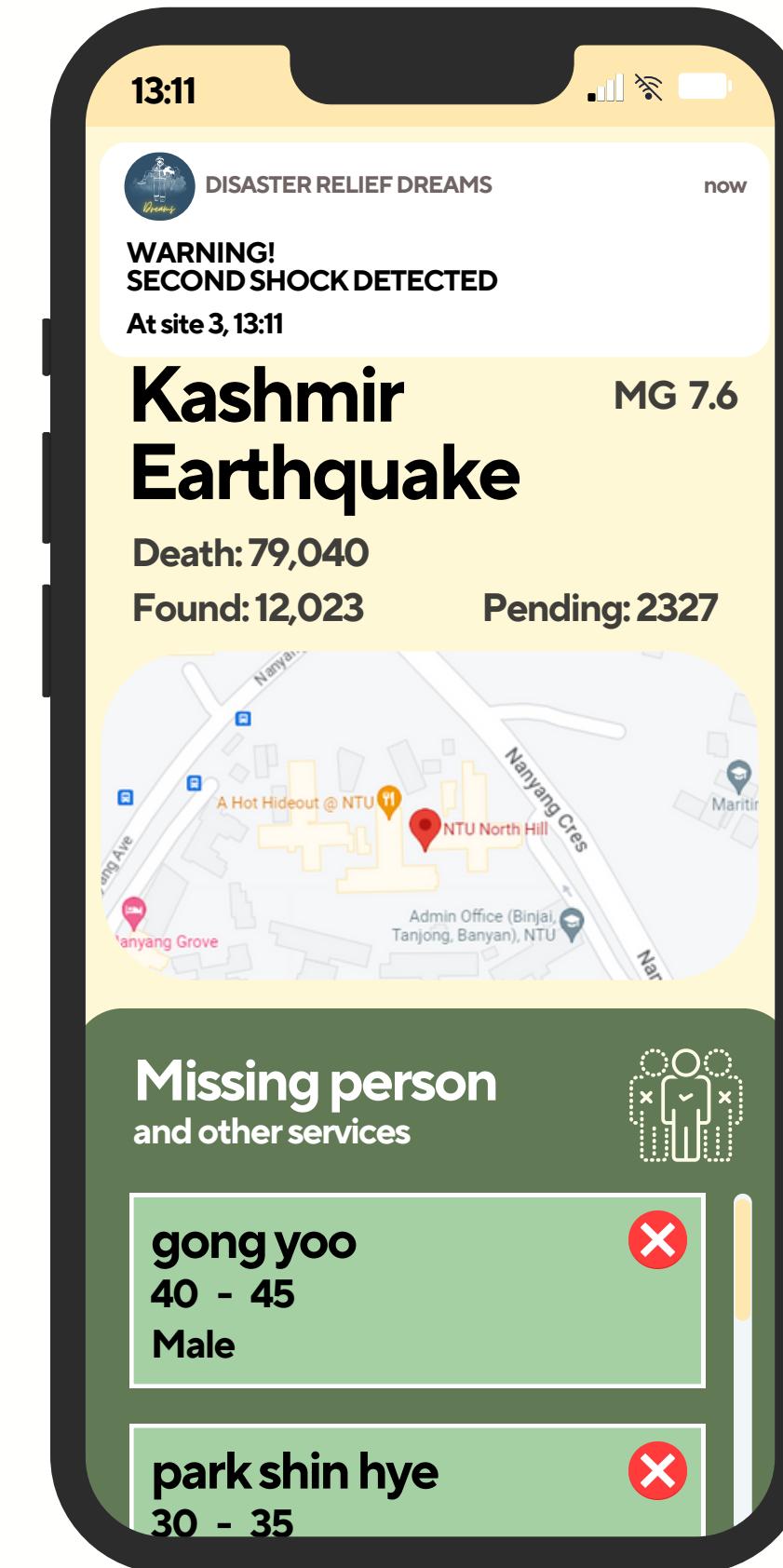
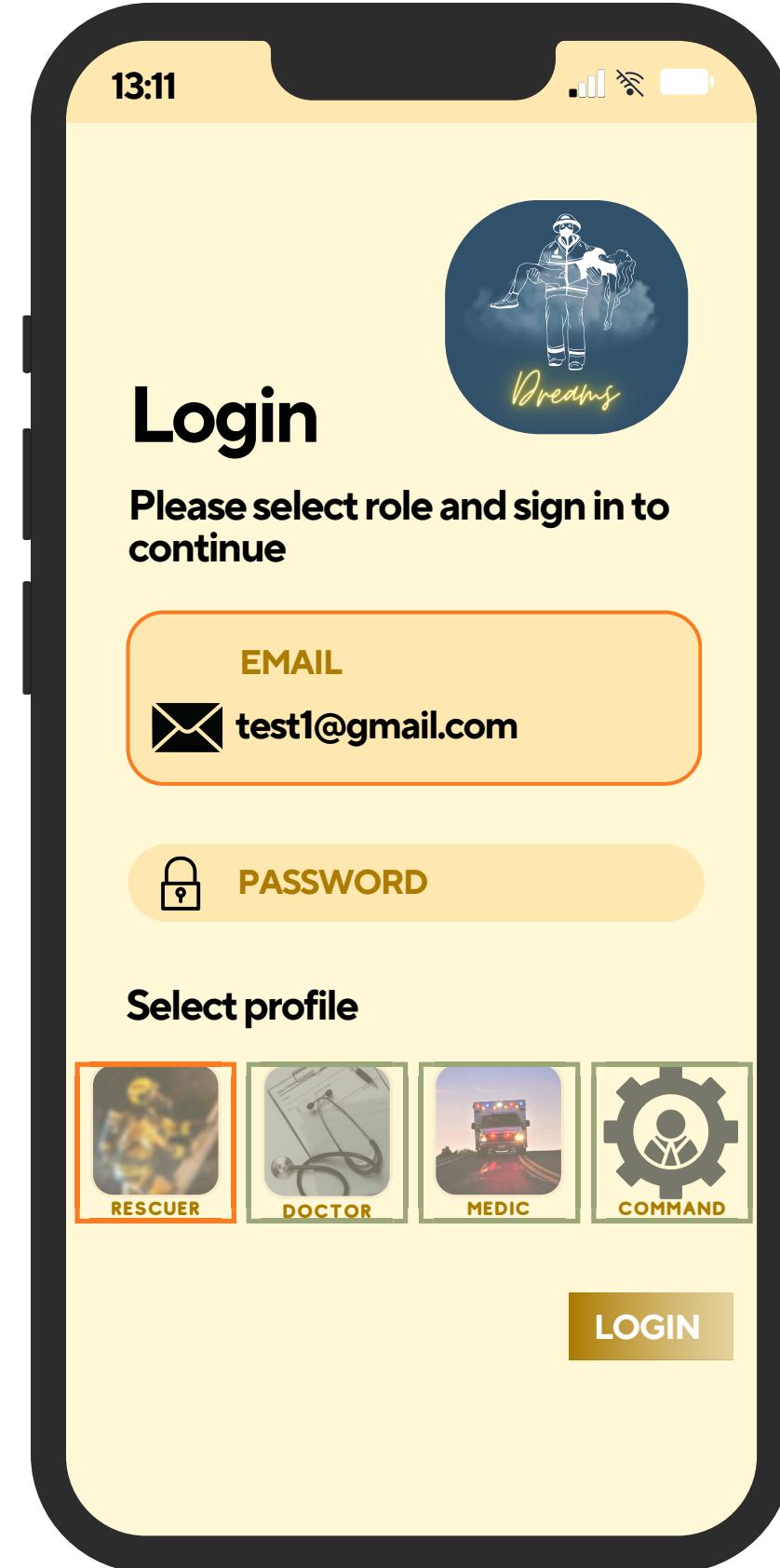
Wifi router (coverage)

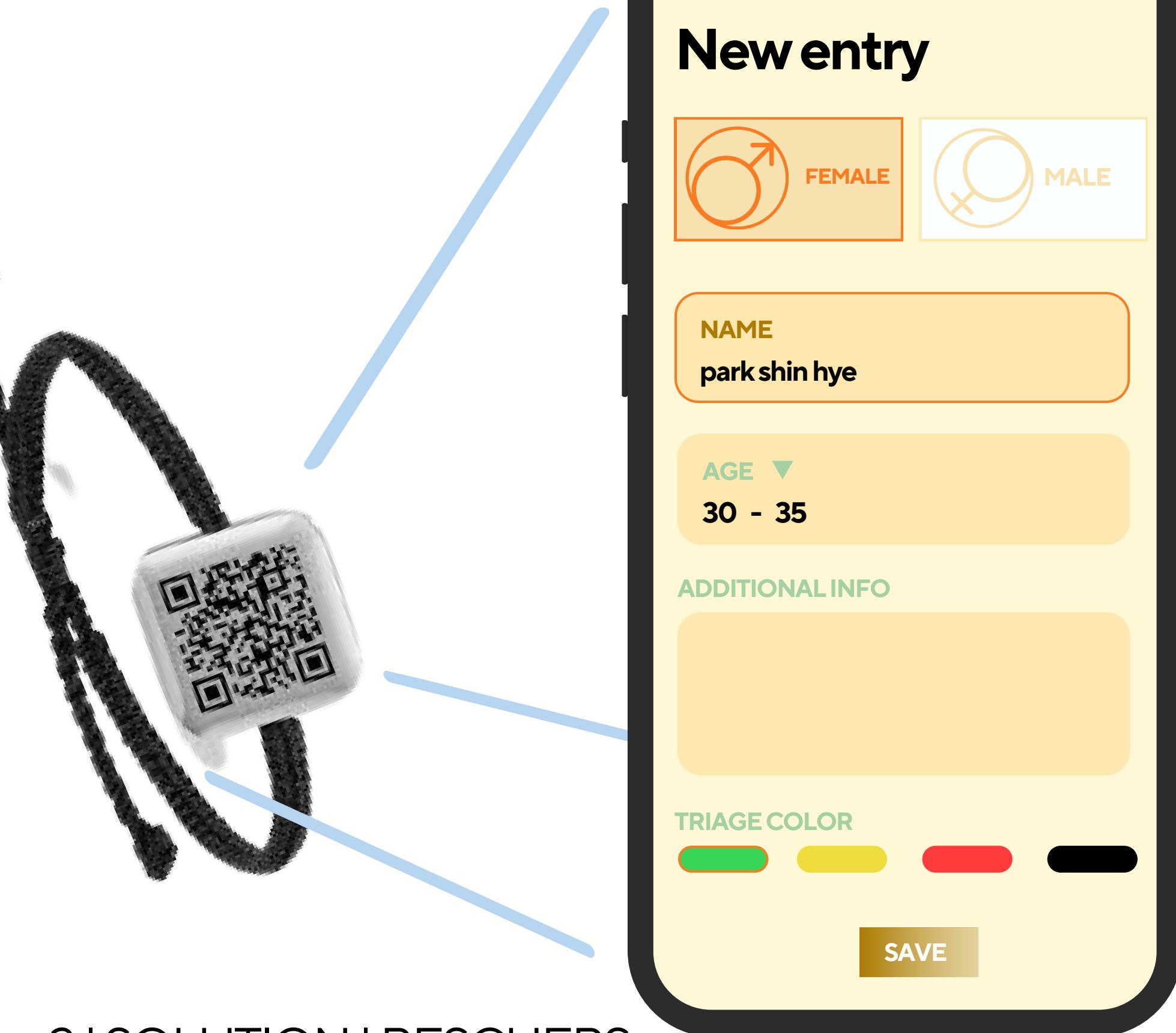
Network of System

The system consists of the part installed in the disaster area and the parts located at the central disaster control centre.

Central station unit is located next to the chief of operations -> collects information from the area (regarding first responders, victims, and ambulance vehicles in the area) -> decision making







Features

- Unique QR Code Scanning
- GPS Tracking of Rescuers
- Update System on New Survivor

Additional Details

Any additional notes rescuers needs the doctor to know, e.g. conscious level, allergies, injuries etc

Triage Colour System

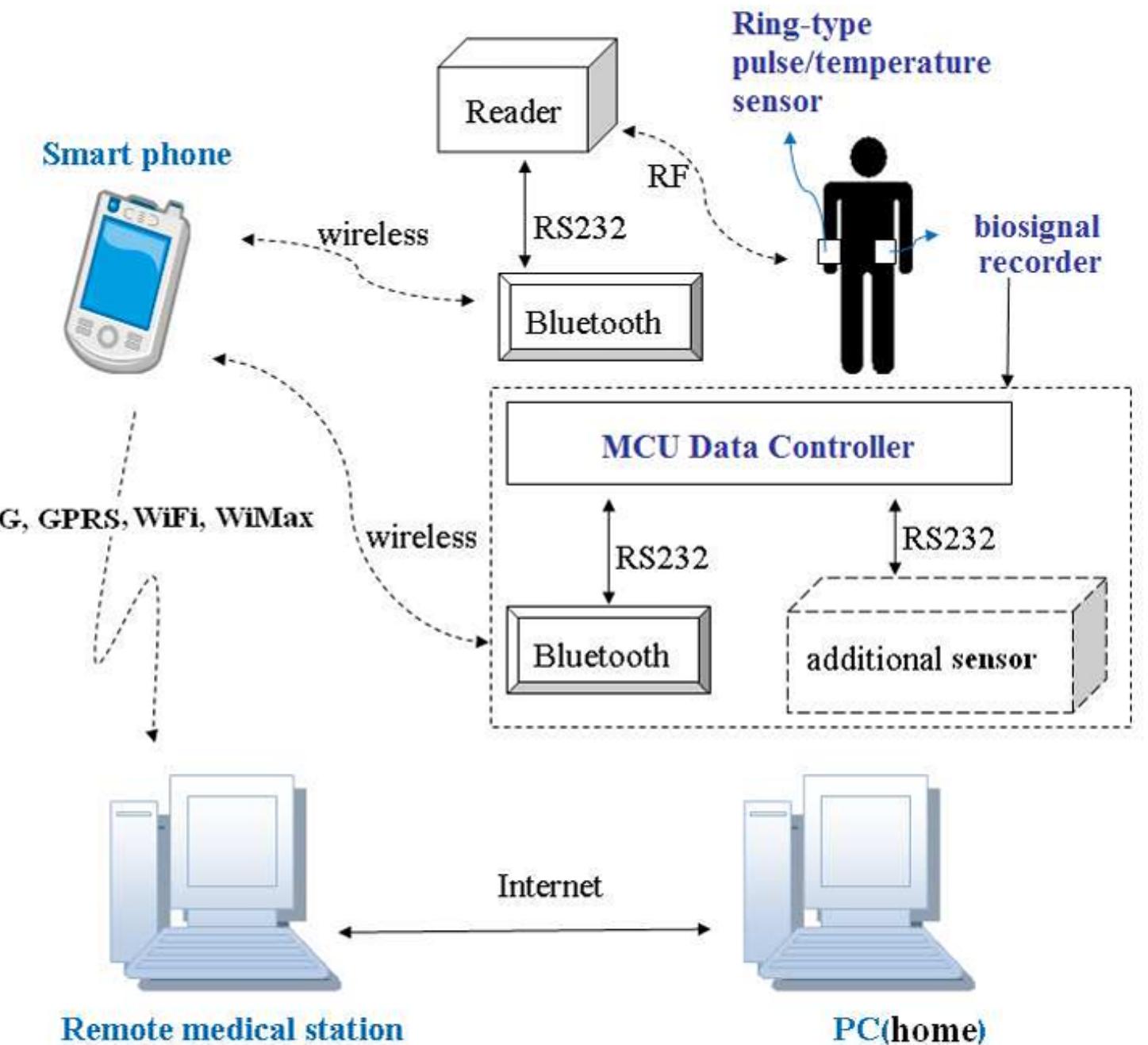
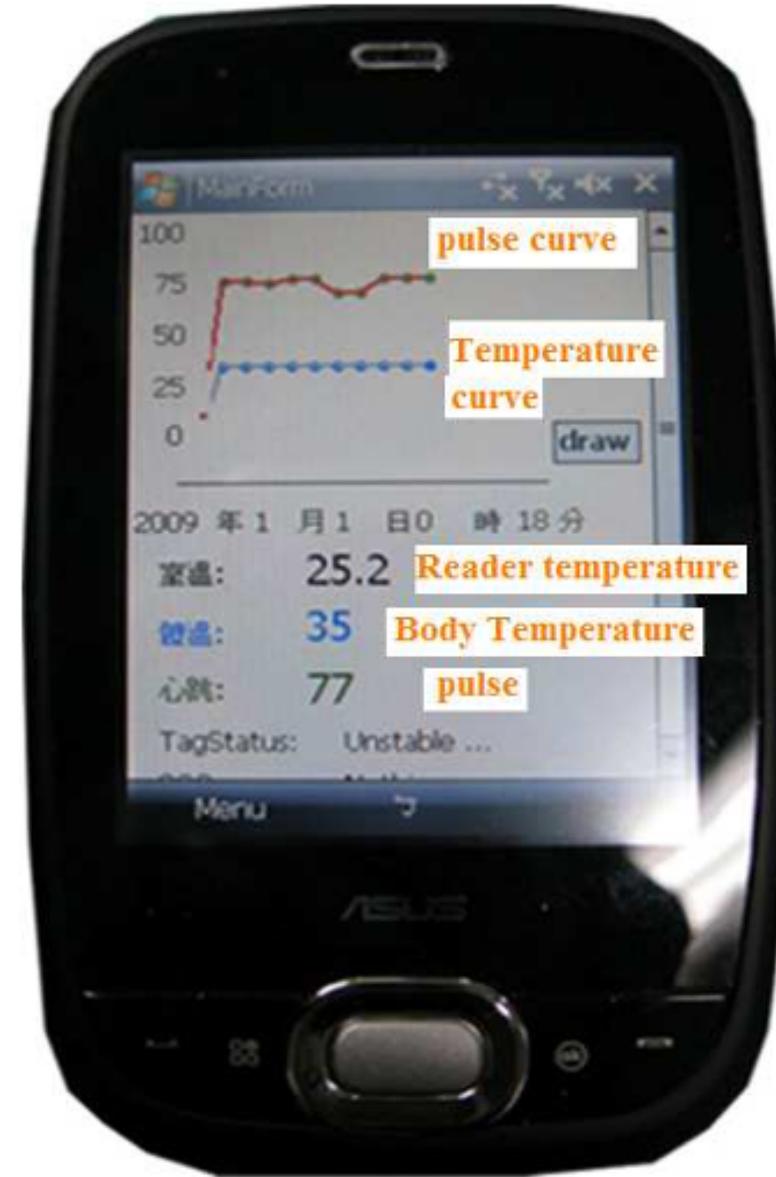
Allows rescuers to indicate the urgency of the patient's condition

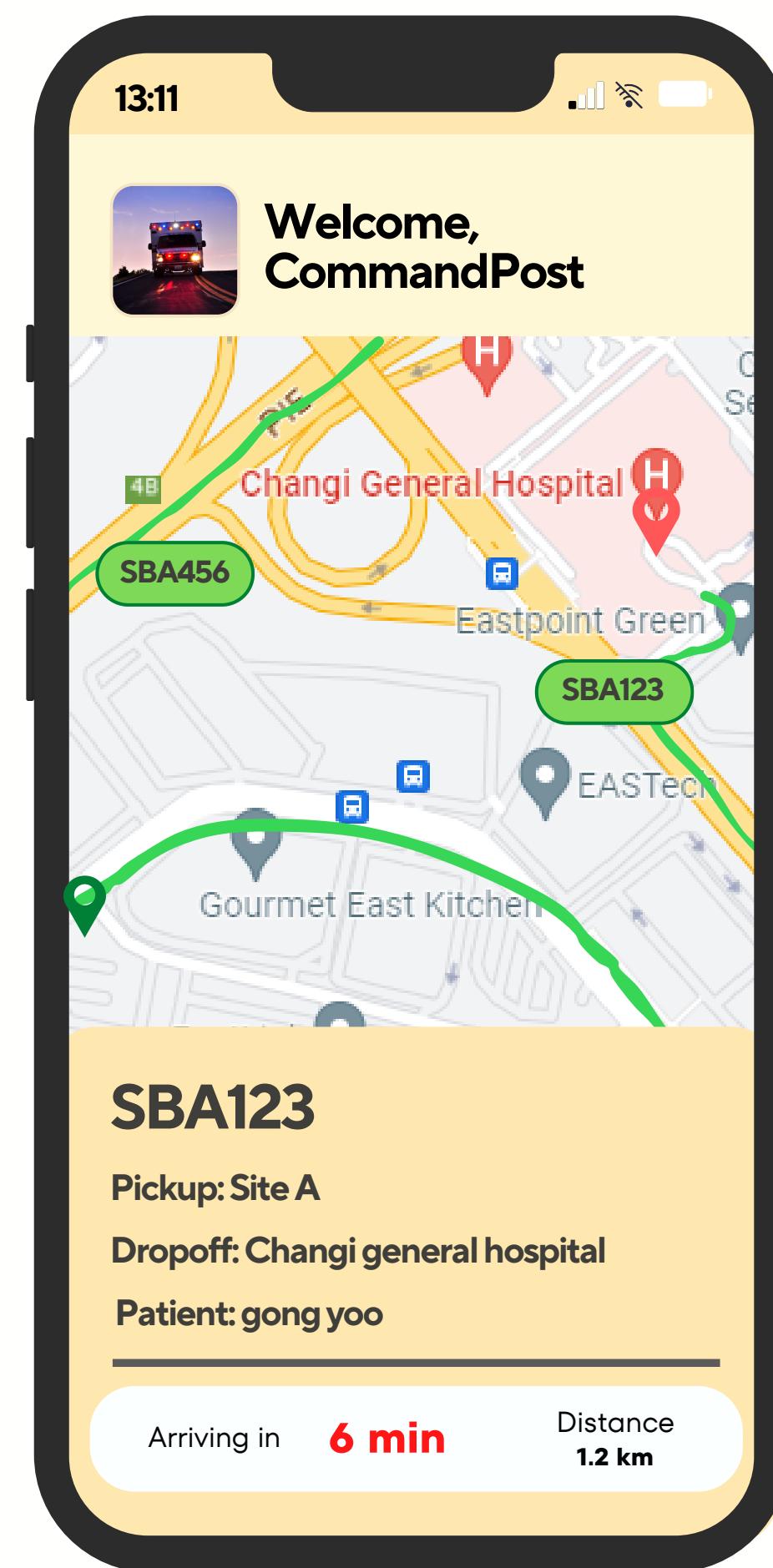
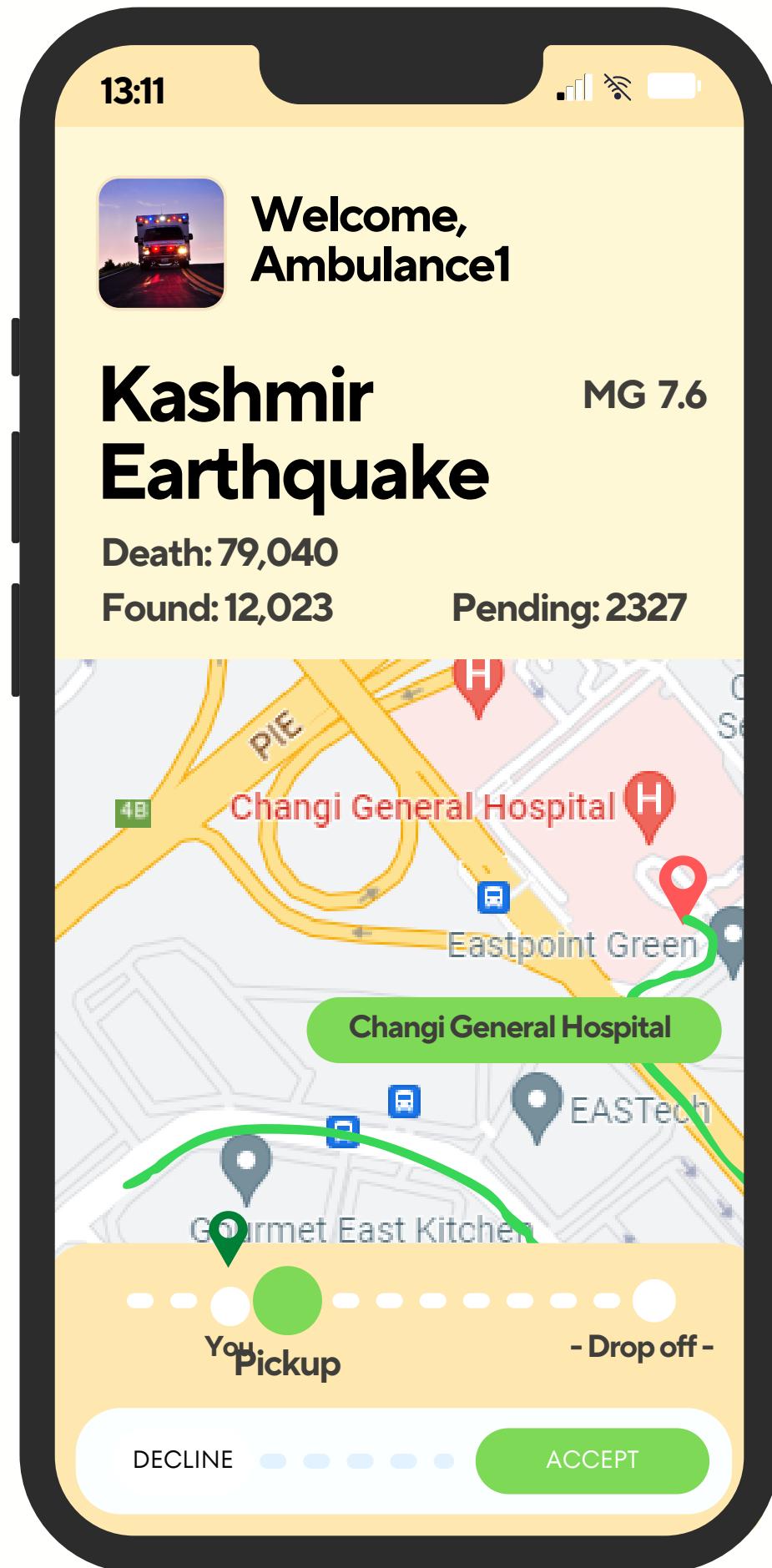


Vitals implementation



ASUS P552W smart phone





Cost Analysis

ITEM	QUANTITY	UNIT COST
NGCO Portable gasoline generator	X	\$232
Google Nest router	X	\$155
Prolink PRT7011L Smart (portable wifi)	1	\$79

Future work



Thank you