



# CARES

Crisis Assistance Responder Executive  
SCDF

---

Team BE

Institute of Technical Education



# Summary

SCDF works closely with Community First Responders (CFRs) to provide timely relief and response to emergency situations.

By use of analytics, alerts to the onset of incidents which require emergency response (e.g. cardiac arrests, falls, unattended cooking fires etc.) can be sent out to CFRs for effective early intervention to the vulnerable population especially those with no next of kin.

## Our Proposal

- Wearable technology like smart watches that monitors and notifies community first responders to possible incidents that requires immediate aid.
- Upon receiving abnormal health alerts based on data collected from our wearable over time, social workers can be dispatched to check in with them and if necessary, alert the relevant health authorities for action.

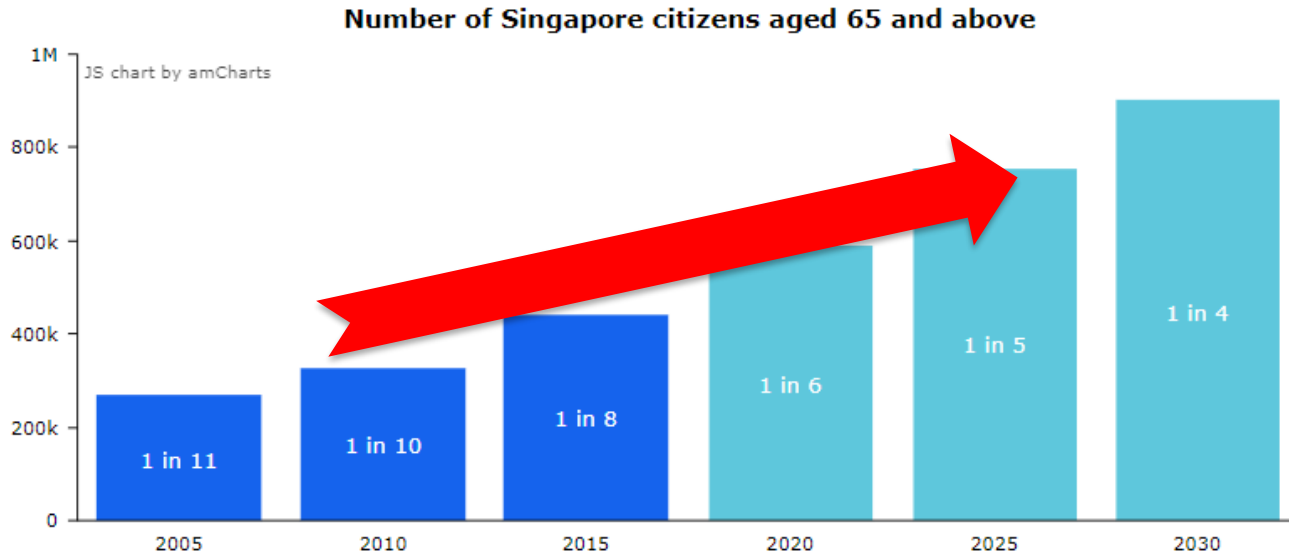
# Situational Analysis

## Targeting the Pain Point

- **Increasing number of seniors (single) by end of 2030**
- **Increasing number of high-risk health issue such as cardiac arrest, trip and falls.**
- **The love of steps- tracking from seniors**

# Key Issues

## Key Issue 1 – Increasing number of elderly by Year 2030 (Data)



Source: Department of Statistics. Projections assume TFR of 1.2 and current immigration rates.

- By 2030, the number of Singaporeans aged 65 and above is projected to double to 900,000. That means 1 in 4 Singaporeans will be in that age group

# Key Issues

## Key Issue 2 – Common health issues of Elderly

- **Cardiovascular Disease**

*leading to stroke / death*

	2016	2017	2018
Total No. of Deaths	20,017	20,905	21,282
Ischaemic Heart Diseases	17.0%	18.5%	18.1%
Cerebrovascular Diseases (including stroke)	6.6%	6.3%	6.0%
Hypertensive Diseases (including hypertensive heart disease)	4.0%	3.4%	3.0%
Other Heart Diseases	1.9%	1.9%	2.1%
Total % of Deaths from Cardiovascular Disease	29.5%	30.1%	29.2%
Total No. of Deaths from Cardiovascular Disease	5,905	6,292	6,214

# Key Issues 3

## Key Issue 3 – Elderly simply love steps tracking



Source: Interviews with HPB; Congren Lin

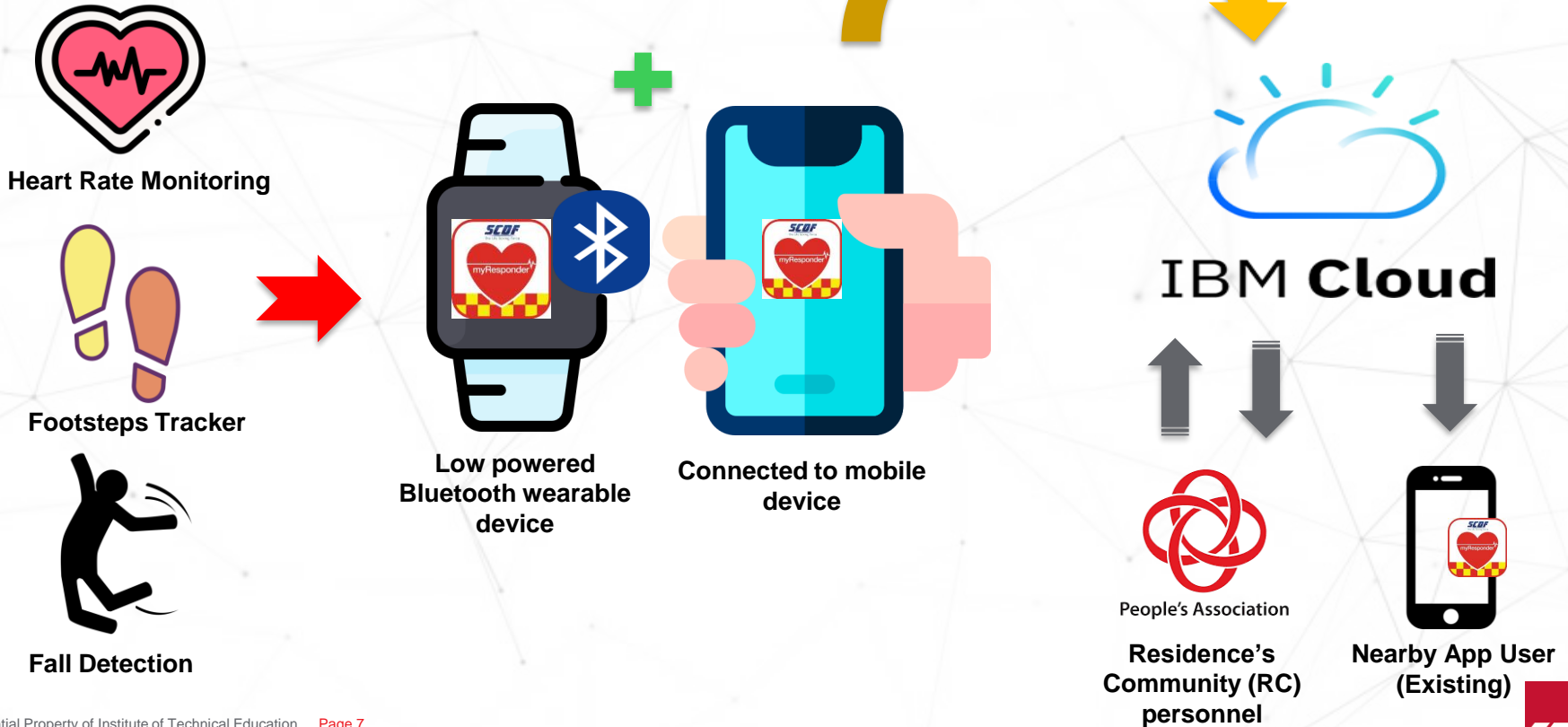
40%  
Seniors

4  
Years



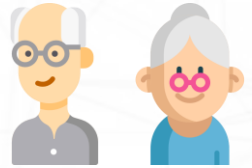
# Solution

## System Overview



# Implementation

## Scenario 1: Inconsistent Heart Rate



Inconsistent Heart Rate



Transfer patient's data



IBM Cloud

2nd Level:  
Alert RC  
personnel



People's Association

Residence's  
Community (RC)  
personnel



Call /  
House Visit  
to check

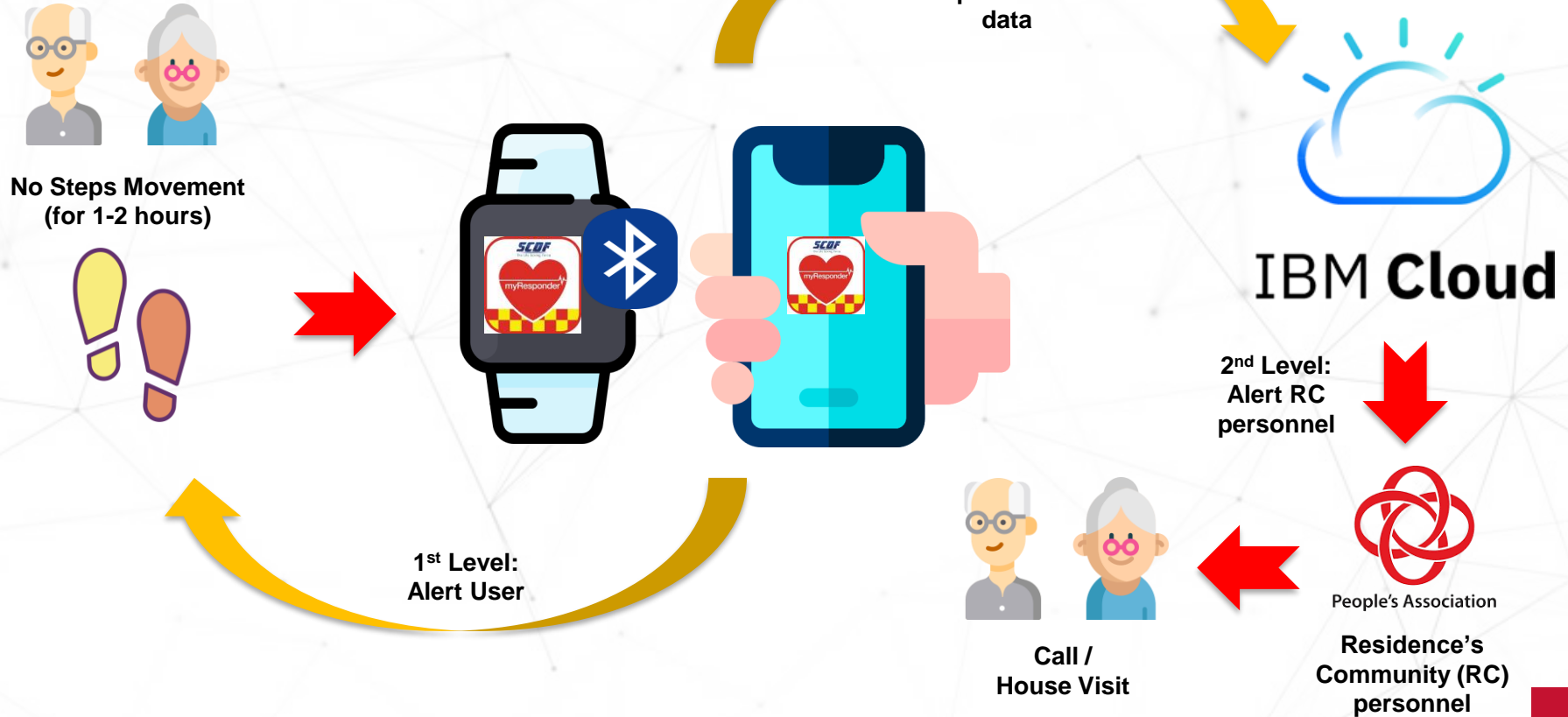


1st Level:  
Check User



# Implementation

## Scenario 2: Inactive (No Step Movement)



# Implementation

## Scenario 3: Trip and Fall



Sudden trip and fall



Transfer patient's data



IBM Cloud

2nd Level:  
Alert RC  
personnel



People's Association

Residence's  
Community (RC)  
personnel



Call /  
House Visit  
to check



1st Level:  
Alert User

# Implementation

## Personalized Health Assistant - CARES



Enquiry  
Health Information



Transfer  
User's  
Query



IBM Watson

Answer to  
User's  
Query



# Implementation

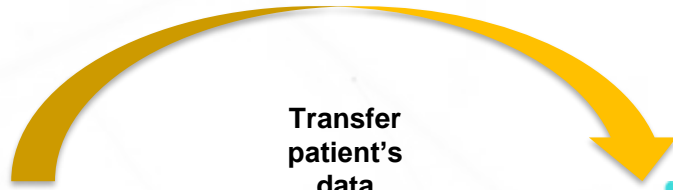
Working with Relevant Government Agencies



Health Information



Transfer  
patient's  
data



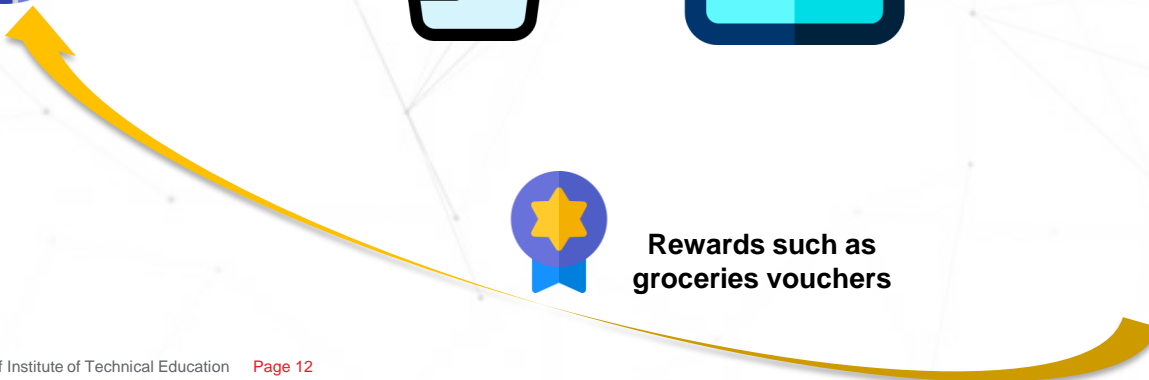
**IBM Cloud**



Live Healthy SG  
in collaboration with



Rewards such as  
groceries vouchers



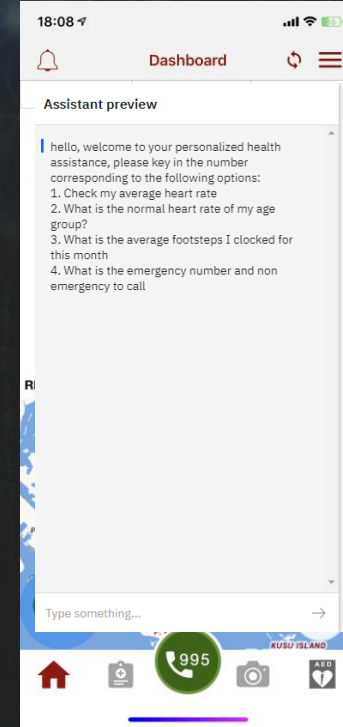
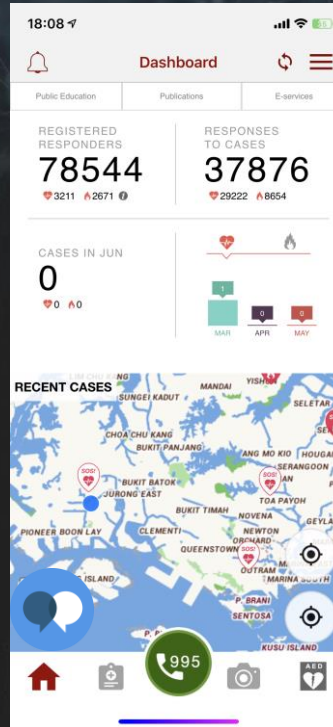
# Personal Health Assistant integrated with myResponder App

A dedicated wristwatch and personalized health assistant for seniors



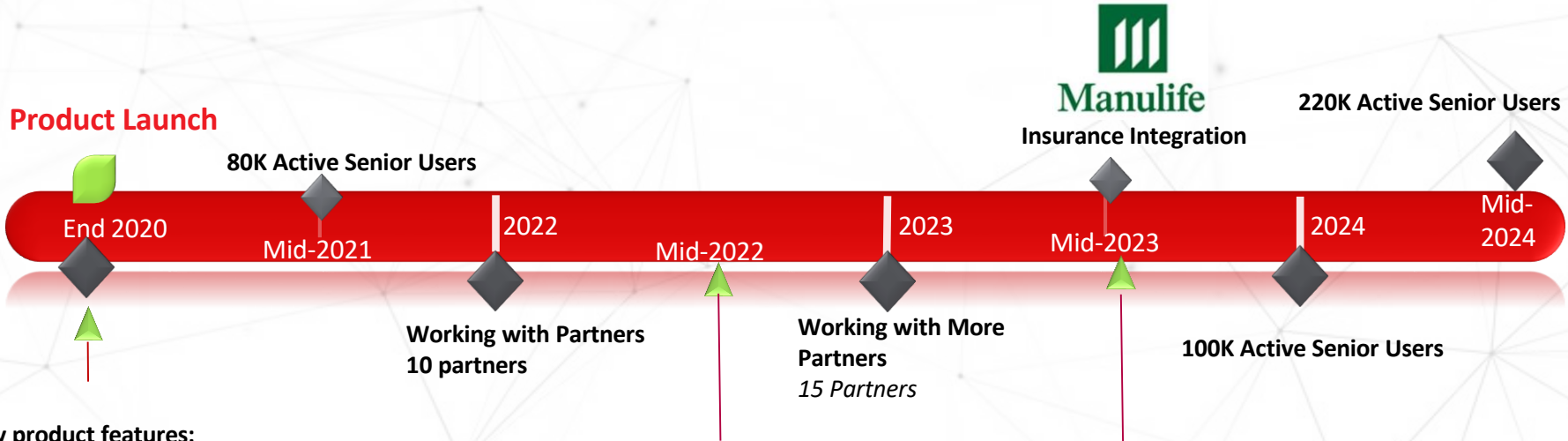
An all in one SCDF wristwatch

- Heart Rate Monitoring
- Step Tracking
- Trip and Fall detection



IBM Watson Integrated into SCDF  
myResponder mobile app giving a more  
personalized health assistance.

# Product Development Stages



## Key product features:

- Develop a low-cost /low powered wrist watch
- Integrates main features such as heart rate monitoring, step tracking and fall detection

## New product features

- Integration chat bot to retrieve personalized health reports

## New product features

- Additional security feature via AI
- Tele-conferencing with doctors



# The Team



**Muhammad Shahrul**  
Business Lead



**Lim Yong Xiang**  
Technology Lead



**Muhammad Myckyle Dio**  
Innovation & Marketing Lead



**Muhammed Saifuddin**  
Operations Lead

# Thank You

**Team BE:**  
**Lim Yong Xiang (Team Lead)**  
**Muhammad Shahrul**  
**Muhammad Myckyle Dio**  
**Muhammed Saifuddin**