**Story**

A patient who suffers from cardiac problem needs to detect a possible heart attack that might happen in the future with the help of smart devices and wearables. He needs to reach the hospital with the least possible human intervention and minimum time to save his life in an emergency.

He has been advised by doctors to take regular readings, follow-ups and use smart devices to detect any abnormalities on a real-time. He has a set of devices like the Scale that records the weight and records, a BP monitor, a heart-rate sensor, a wearable ECG kit, smart band. He has synced his profile and medical details in the app. In this scenario, the smart device that he uses, detects an Atrial fibrillation (an irregular, often rapid heart rate that can cause poor blood flow) and alerts him. Meanwhile the current readings, location, previous reports and findings from IBM Watson trained for diagnosis are compiled and simultaneously sent by generating a secure token to his personal doctor, a nearby friend (Facebook - Nearby Feature), a nearby hospital (located from his location) and to his family. The emergency department on receiving the reports calls for the ambulance to bring him to the hospital in an emergency. The logs from the start of the alert to the discharge are recorded in the diagnosis tab and the moved to the patient history.

The real-time monitoring helps in early detection, faster response time to overcome fatal situations. This also helps to maintain an organized patient history and reduce frequent follow-up during busy schedules taking advantage of the real-time monitoring.
Persona

**JACK**
Project Manager

“I like to be proactive when it comes to my health as I don’t want to take a risk with my life.”

**About**

- 44, married.
- Project Manager with the software Industry.
- Heart Patient
- Suffered a heart-attack in the past and had luckily survived it.

**Responsibilities**

- Schedule Regular Check-up with the doctor.
- Track and maintain all the documents and reports on the diagnosis
- Shell out time for medical tests

**Main Goals**

- Reduce frequent health check-up.
- Detect variations that causes a cardiac arrest
- Reduce time taken to initiate measures during emergency

**Needs**

- Reduce the visits to the doctor
- Organized patient history
- Real-time alerts on health conditions

**Pain Points**

- Excessive time taken during an emergency
- Real-time monitoring.
- Lack of intelligent support for diagnosis
Point of View

As a cardiac patient,

I need a way to detect a possible heart attack that might happen in the future and maintain an organized patient history

so that the appropriate measures are taken to address the emergency to avoid fatal situation.
## User Experience Journey

<table>
<thead>
<tr>
<th>ACTIONS</th>
<th>MINDSET</th>
<th>FEELING</th>
<th>TOUCH POINTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>The patient wants to detect a possible heart attack.</td>
<td>Am I prone to a heart-attack?</td>
<td>🙄</td>
<td>Monitoring of health.</td>
</tr>
<tr>
<td>The patient requires a regular check-up with a doctor.</td>
<td>A health check-up is required for a diagnosis.</td>
<td>🙄</td>
<td>Schedule Regular check-up.</td>
</tr>
<tr>
<td>The doctor examines and verifies that there might be a chance and refers to the hospital.</td>
<td>Needs to go to hospital for tests and further diagnosis.</td>
<td></td>
<td>Appointment with the doctor.</td>
</tr>
<tr>
<td>Thorough medical checkup and tests are done at the hospital.</td>
<td>Needs detailed diagnosis.</td>
<td></td>
<td>Appointment at the hospital.</td>
</tr>
<tr>
<td>Treatment is endorsed to the patient.</td>
<td>Requires appropriate treatment.</td>
<td></td>
<td>Diagnosis and treatments.</td>
</tr>
<tr>
<td>The patient’s life is saved.</td>
<td>The time taken could have been fatal in the worst case.</td>
<td></td>
<td>• Life saved</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Organized Patient History</td>
</tr>
</tbody>
</table>
Dashboard – Home Screen
This is the home screen

Heart Beat Monitoring - SAP SMART Band
This screen is obtained on clicking health on dashboard. It displays the heartbeat collected at various times in a day.

BP Monitoring from SAP BP Monitor
This screen is obtained on clicking health on dashboard and sliding. It displays the BP measured at various times in a day.

ECG Monitoring from SAP ECG Monitor
This screen is obtained on clicking health on dashboard and sliding to get the current values.

Report
This screen is obtained on clicking health on dashboard and sliding. It displays analysis for a preconfigured period.

Devices
This screen is obtained on clicking devices on dashboard. It displays the devices connected with their status.
Profile

This screen is obtained on clicking profile on dashboard. This screen displays the personal profile of the user with details such as DOB, Blood Group, email, family, friend, their details to contact in an emergency, details of doctor, hospital nos., social media like Facebook integration to find a friend nearby etc.

Settings

This screen is obtained on clicking settings on dashboard. This screen displays the permissions, pairing of devices, cloud sync, report generation etc.

Alert – Abnormality Detected

This screen is an alert issue that triggers a diagnosis when atrial fibrillation is detected during the monitoring.

Diagnosis

This screen is obtained on clicking diagnosis on dashboard, displays current diagnosis (else to history) or redirected to this screen on encountering an alert described above. It provides log of activities post the detection – like reports from doctor, AI – IBM Watson, Hospital, Initiation of Ambulance, Notification to family, friends nearby etc. necessary to save his life.
This screen is obtained on clicking history on dashboard. It takes to the devices tab on patient records and displays the data that was transmitted from the devices for the diagnosis.

**History - Devices Tab**

- **Ridgewood Hospital**
  - John Loo
  - 23-06-2016 – 25-06-2016
  - critical

**SAP Heartbeat** (synched on 23-06-2016)

- **Personal Check-up**
  - John A
  - 03.00 PM
  - 75

- **Patient Check-up**
  - John A
  - 12.00 PM
  - 66

- **Personal Check-up**
  - John A
  - 10.00 AM
  - 122

- **Personal Check-up**
  - John A
  - 09.00 AM
  - 120

- **Personal Check-up**
  - John A
  - 06.00 AM
  - 73

**SAP ECG** (synched on 23-06-2016)

**SAP Smart Band** (synched on 23-06-2016)

**SAP SCALE** (synched on 23-06-2016)

**History - Diagnosis**

This screen is obtained on clicking history on dashboard and selecting diagnosis tab. It displays the medicines administered, scans/reports from hospital, doctor’s notes, discharge summary etc.

**History - Logs**

This screen is obtained on clicking history on dashboard and selecting logs tab. It displays the logs that were recorded from the diagnosis tab for a later reference and this log is available only for critical situations.