Customer

A US based opto-electronic global product company with fully owned world class manufacturing facilities. The company is vertically integrated from active and passive components to value added modular versions and is proficient in subsystems integration.

Problem Statement/Requirements

The customer has been successfully delivering numerous residential and commercial infrastructure projects including elderly care and modern residential living units.

As part of their 'Aging in Place and Assisted Living Solution' for their elderly care units, the customer sought to rollout a sleep monitoring solution that analyses the sleeping pattern of residents in these care units (considering age, gender, health conditions, geographical position etc.) and evaluates the sleeping habit and suggests improvements.
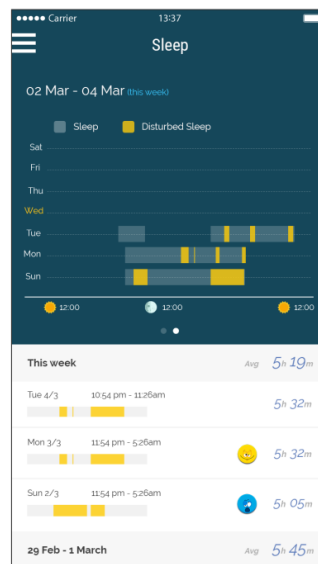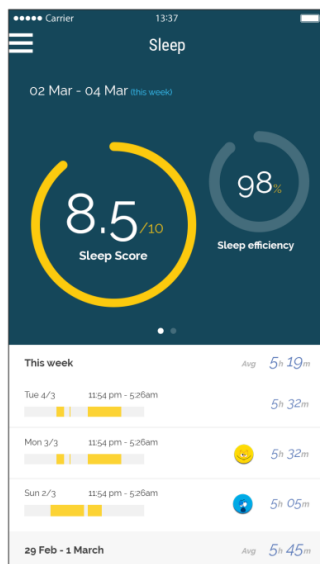
Solution Methodology

Smart Living and Elderly Care

With our successful Smart Living Solutions, SFO has implemented an ecosystem of gateway, connected devices, applications and predictive analytics in customer's living infrastructure.
Our Aging in Place Solution helps property owners to provide intuitive supportive services that are customized to the needs of elderly, allowing them to remain at affordable, senior friendly home and community environments.

Sleep Pattern Analytics

Sleep pattern monitoring is made possible by FSR sensors which are embedded in the bed and are capable of transmitting huge chunk of data to servers. By real-time analysis and processing, this data is converted into meaningful health insights. These insights are represented in intuitive mobile applications and made available anywhere anytime.

Brief description of product:

Solution Components

A. Technologies

- ❖ SAX + RLE for edge data compression from bed sensors
- ❖ Kafka for stream processing integrated with Spark R
- ❖ Sleep score metrics
- ❖ Android + iOS mobile apps

Impact

- Factors like sleep score and sleep efficiency will be displayed along with details of daily sleep hours. By analyzing the sleep chart, users can easily understand how exactly you are sleeping.
- The solution can be extended further to recognize the different stages of sleep and to detect sleeping disorders like sleep apnea, movement disorders etc.

About SFO

SFO Technologies Pvt Ltd, the flagship arm of the diversified conglomerate, the NeST Group provides end-to-end design-engineering-software-manufacturing solutions to clients across geographies such as the USA, Canada, Europe, Middle East, South East Asia, Japan, Australia, and India. SFO has invested in building competence, scale and standards compliant process framework, in PCBA, fibre optics, Cable & wire Harness, Magnetics, High Level Assembly, VLSI design, embedded software development, etc. SFO's capabilities transcend the plain vanilla "Build-to-Spec or Build-to-Print" EMS and our ODM+ solutions are rapidly re-defining standards for the OEMs across Aerospace & Defence, Communications, Transportation, Healthcare and Energy & Industrial domains. .

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