

Vision Statement

Interfacing Consumer Health Peripherals

Company: Teladoc

Mentor: Ole Eichhorn, Dan Blimline, Luke Whitesides

Team Name: #stub

- Dylan Kupsh, dkupsh@ucsb.edu
- Ben Lee, benjamin_lee@ucsb.edu
- Rohan Aren, raren@ucsb.edu
- Paul Kuang, kuang@ucsb.edu
- Jonathan Xu, jonathanxu@ucsb.edu

Team Lead: Ben Lee

Scribe: Jonathan Xu

Project Summary:

- **Problems:**
 - Doctors have incomplete information regarding patient health.
 - With the rise of tele-doctoral services, doctors don't have easy access to several key pieces of information regarding patient health.
 - Consumer peripheral information are not readily available to doctors
- **Why are these problems important?**
 - Solo mobile apps for patients are increasingly available and important. A doctor having more complete patient information allows for a better understanding of the patient's situation. This leads to more accurate diagnoses and treatment plans.
 - Provides simple, reliable, and powerful telehealth and workflow applications.
- **How is this problem solved today?**
 - Patients manually relay information from peripherals to doctors
 - Validic has a proprietary service standardizing peripheral data for easy use among healthcare providers

Outcome:

- The creation of an interface between consumer health peripherals and Solo, which retrieves vitals data and displays them for the physician in Solo web.
- The creation of an app that automatically stores data taken from consumer peripherals
- Bring the experience of a virtual health meeting closer to a physical one by allowing doctors to take vitals in a remote setting.
- A scalable distributed application that can handle large volume of data
- Enable ongoing monitoring of vitals following a patient-physician interaction to determine treatment effectiveness
- Provide analysis of patient data and possible symptoms before scheduling a meeting, allowing more efficient use of physician time
- Give doctors access to historical data to observe trends

Solution (Implementation Details):

- Solo web application with JS/React; deployed to AWS with Docker + Kubernetes
- Solo mobile app with Obj C + Swift & Java deployed via Apple and Google app stores
- Database of consumer health peripheral data
- Apple Health Kit
- Github
- Trello
- Slack
- Google Drive
- AWS
- Docker
- Kubernetes

Milestones and How to Achieve Them:

- Retrieve and store consumer peripheral data in database
- Create mobile application to allow users to interface with peripheral data
- Display data to physicians by interfacing with Solo
- If time, correct potential biases in peripheral data systems. Add measures of reliability.
- If time, analyze consumer peripheral data before a patient-physician interaction and display results
- If time, track peripheral data following a treatment plan to determine effectiveness
- If time, have our application scale with load, support multiple instances
- If time, create systems for real-time data analysis