C.S. FIELD SESSION
Advanced Software Engineering

SomnoHealth Incorporated, a Golden-based consumer health startup, wants *your* help with an interesting "big data" project!

Start here:

www.GetEverSleep.com
https://www.youtube.com/watch?v=rMwPv2g1YFs

EverSleep brings advanced sleep technologies and customized coaching directly to the consumer - to monitor and improve sleep.

Sleep measurement happens in our new sleep wearable, and that data is BTLE transmitted to our mobile phone app. Inside the app we perform complicated analyses and deliver customized sleep improvement coaching directly to the user.

We need you to convert our mobile app mathematics analysis to a Java based server!

Java Translation of Sleep App Analysis

We have a good app, but our new, SECRET second generation device (SHHHHHH!!!) is going to transport data over the internet and run directly on a server...

We need you to "reverse engineer" our ReactNative-based mobile app, convert the parsing and math to Java, and make it run on a server.

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USE CASE:

Our current device requires a new-ish phone, downloading an app, setting some complicated bluetooth and location permissions, etc. It's a lot to do for an elderly user.

Our new device will NOT require BTLE, and will store all the sleep data in internal memory.

So... a user gets the device, sleeps with it for a few nights, and then their healthcare provider uploads the data via a PC to our server.   Then a nice nightly summary report is generated.

Of course, this means all the complicated analysis that we previously did in the app, we now must do on the server! That's where you come in!

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Tasks:

• Reverse engineer our React Native App
• Replicate all of our app math and physiologic analytics in Java
• Spin-up a Java server with a simple interface.
• We'll need to upload CSVs, and parse all of the sleep data
• Output results, again in a very simple interface.

Schedule:

Sprint 1: Intro, definitions, access to tools, pick a Project Manager
Sprint 2: Specific requirements, begin work
Sprint 3: Implementation, Check-in
Sprint 4: Implementation, Check-in, Course Correct
Sprint 5: Implementation, Check-in, Final Update
Sprint 6: Final Tweaks, Presentation

Technologies:

- React Native
- Java
- AWS servers
- GitLab Repository
- Lots of physiologic data - especially determining "Wake/Sleep" states via accelerometry.

Specifics:

- ***One or two meetings on site in North Golden, all others by Zoom***
- We have a simple "work for hire" agreement to give us ownership to your code. (See CPW)
- No required "work hours". We will have a single 1-hour meeting every week.
- Guidance from senior engineers
- Potential Internship after the project is over
- No Dress Code! T-shirt and Flip-Flops are OK
- Team Size 3-6
- *p.s. We're the Fun Team!*

Contact:

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NOTE - WE CAN ONLY HAVE US CITIZENS ON THE TEAM DUE TO SOME OTHER WORK THAT HAPPENS IN THE BUILDING

What's Different About EverSleep?

EverSleep uses advanced **sleep-lab technology** to provide the data and coaching you need at home.

Respiratory Function

Blood Oxygen

Snore Analysis

Heart Rate

Movement

Micro USB Charging

Finger Sensor

Processor

Wrist Strap

Cable Sensors