



Medtronic

Medtronic Intern Hackathon

Arteria

Team FlowState, Cardiovascular

July 2026

Megan Tran, Maya Maynard, Kevin Wong, Nevaeh Clark

Medtronic

Engineering the extraordinary

Only 12% of U.S. adults have proficient health literacy, meaning the vast majority struggle to interpret and apply health information correctly.





Challenge:

Current monitoring platforms (such as MyCareLink) provide patients with access to cardiac data, but they primarily present raw measurements without meaningful interpretation.

Patient Impact: Putting Patients First

Patients struggle to understand if trends are normal or concerning.

Women frequently experience atypical cardiac symptoms that are harder to identify and report

Early warning signs of cardiac events may go unnoticed.

Solution

Arteria is a heart health platform that:

1. Provides personalized **tips and insight** to users based on cardiac trends
2. Makes heart data easy to track and share with healthcare providers.
3. Extends patients' lives.



Technology Stack

Overall, this is a rapid-iteration, demo-friendly full-stack JavaScript architecture: fast to build, easy to modify, and transparent for clinical-style rule tuning.

- **JavaScript** is used end-to-end, which sped up iteration for UI and API changes in one pass.
- **React and VITE** frontend: patient dashboards, symptom logging, health trends, and physician communication workflow
- **Node.js** backend: processing and managing cardiac device and patient-reported data
- **Multer** handles data uploads (CSV) which then gets parsed for display.

AI Compliance

- The app predicts risk using a rule-based risk engine, not AI/ML model
- Not replacing physicians– empowering patients and supporting more informed conversations with their care teams
- Testing: validate the risk engine with unit tests or manual test cases
- Security: keep patient data secure and controlled
- Compliance: use a human-in-the-loop model where patients review and approve consult drafts before sending, and clearly label the output as a suggestion rather than a clinical decision

Live Demo

