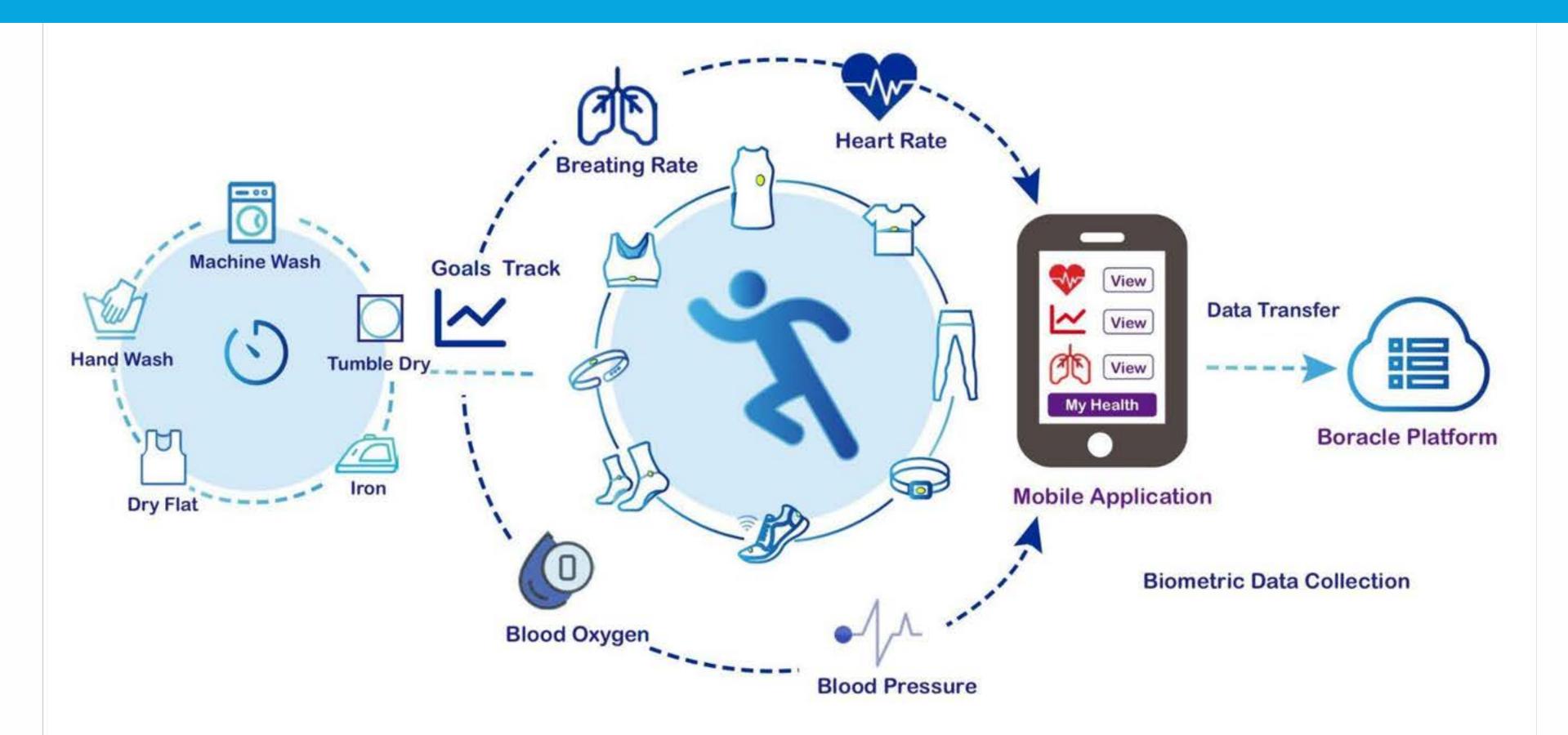


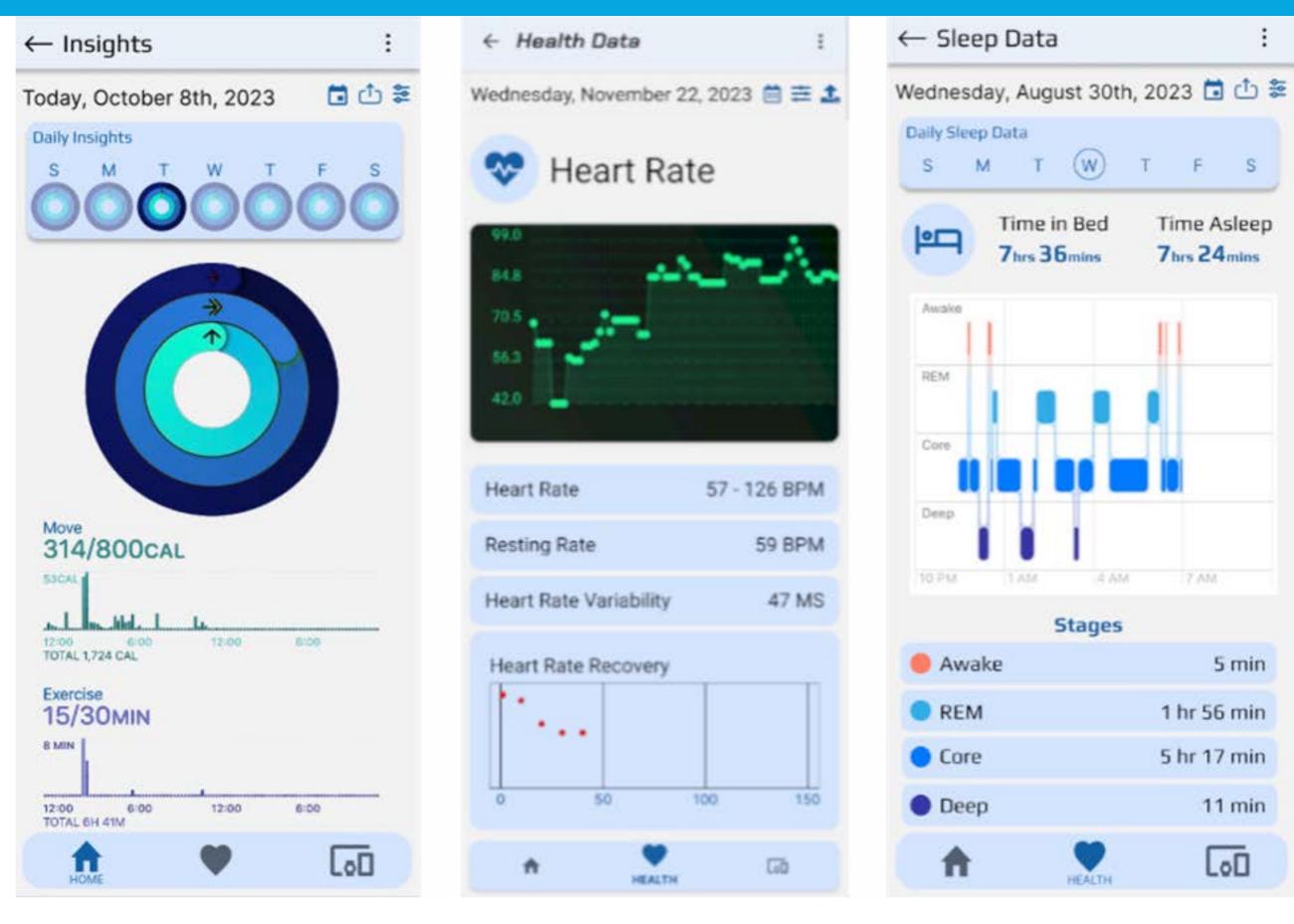
# Smart Textiles

#### **Improving Social Medicine** with Autonomy



Synopsis	Res
<ul> <li>Smart Textiles are blind to consumers without sufficient knowledge in</li> </ul>	•
wearable technology. They may not understand and analyze the real-	•
time vital signs.	
<ul> <li>Consumers/athletes face challenges in:</li> </ul>	•
<ul> <li>Selecting, accessing, and sharing data from the products</li> </ul>	
<ul> <li>Understanding the collected data from devices</li> </ul>	Res
<ul> <li>Lack of knowledge in using real-time biometric data</li> </ul>	The
	retrie
Research Objective	•
Develop and evaluate a framework for selecting and evaluating smart textiles and	•
for conducting consumer research with the deployment of a large-scale	
application.	•
<ul> <li>Study user-oriented technology that reflects CSUN student-athletes' latent</li> </ul>	•
smart textile needs.	
• Develop an application to extract vital data from body sensors embedded in	Con
the smart textile, then process the data for analysis and data visualization.	• /
Help users understand and maintain a healthy lifestyle.	S
<ul> <li>Analyze athletic students' performance and help athletic staff members on</li> </ul>	• •

training decision-making, injury prevention and management.



# search Approach

- Wear tests evaluate functionality, usability, wearability, durability, maintainability and affordability in smart textiles.
- Use an agile approach for mobile application development through close involvement of stakeholders.
- Create an online survey using questions built from field observations, focus group discussions and in-person interviews.

### search Results and Products

team has developed a prototype cross-platform mobile application to rieve data from smart watches and present the visualized data.

- Account Management
- Biometric data: Activity, Heart Rate, and Sleeping Data
- Performance Insights through data visualization
- Apple HealthKit and Google Health Connect integration

### mmercialization and/or Societal Impact Opportunities

- Application: Mobile application for smart wearable devices and web app for sport team coaches.
- Key Values: Easily access and share data collected by wearable tech.
- **Potential users:** Anyone with a smart wearable device.

# **Team Names & Collaborators**

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Faculty: Dr. Wei Cao, Family and Consumer Sciences; Dr. Xunfei Jiang, Computer Science; Dr. Nhut Ho, Mechanical Engineering; Dr. Yi Cai, Family and Consumer Sciences

**Collaborators: CSUN** Athletics Department, Mr. Jim Gorman (CSUN Athletic Advocate)

#### Citations

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