

DOCTORS STRUGGLE TO PREPARE FOR PATIENTS BEING EMERGENTLY TRANSPORTED

- Our purpose is to develop an app to standardize ambulance-hospital communications and improve patient outcomes.
- The goal of this project is to provide an easy-to-use user interface that will allow providers to see, at a glance, the vital signs of a patient being transported over an entire ambulance ride.
- Hospital and ambulance staff are already under a significant amount of pressure at their jobs; we wanted to create an app that will remove the need for person-person communication of vital signs, allowing both sides to focus more on treating the patient.
- Currently, vital signs are communicated when the patient is five minutes out from the hospital. This is not enough when the patient is unstable. Unstable vital signs can also be complex to communicate, and it can be difficult to judge exactly what treatments need to be prepared at the hospital. The five-minute timeline does not provide sufficient time for hospital staff to prepare some treatments. These minutes can be the difference between life and death for a patient in critical condition.

VITAL SIGNS ROUTE UPDATES

Aiding doctors in saving the lives of patients, one innovation at a time. Where technology enhances healthcare for the benefit of all.

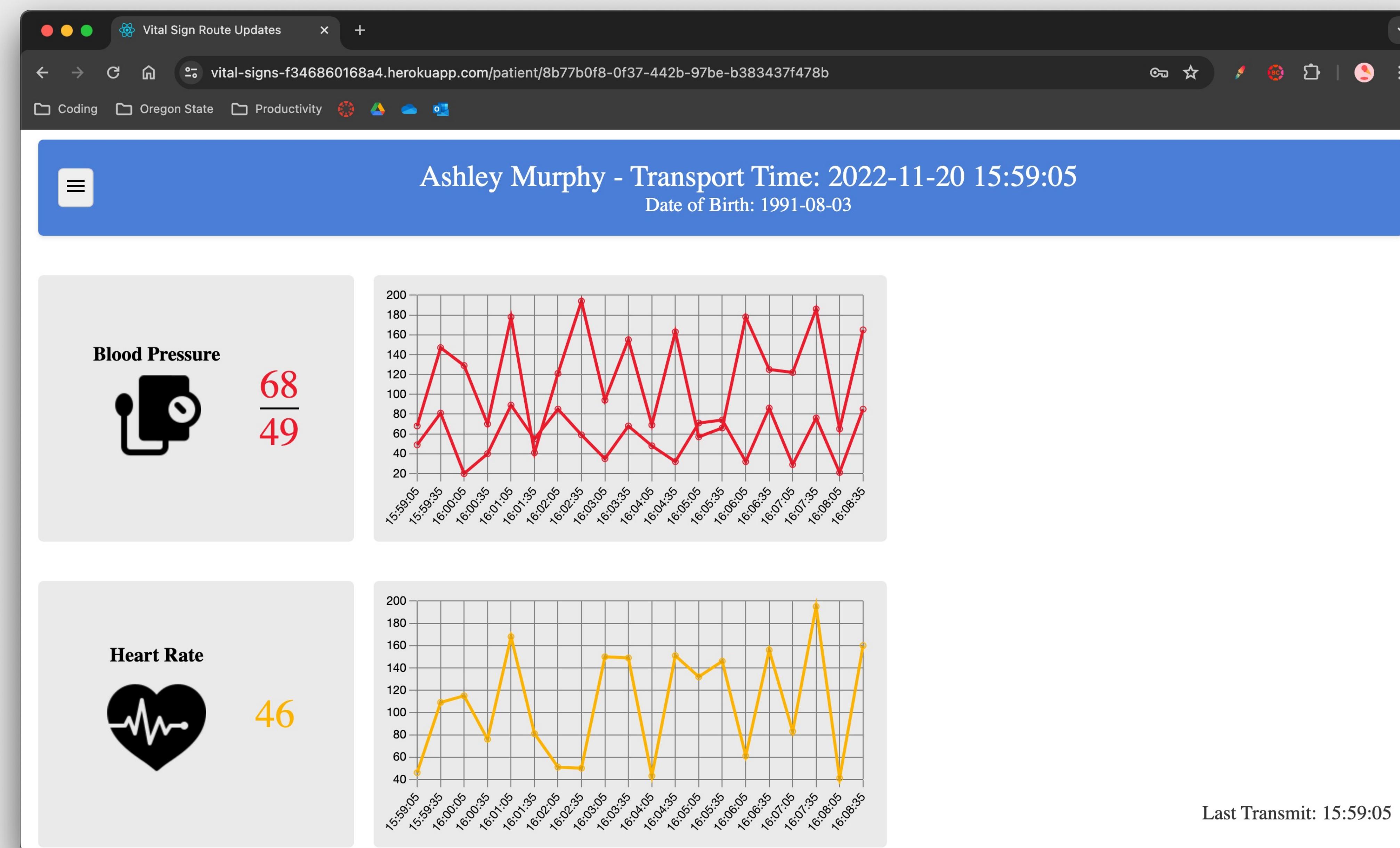


Figure 1: The presentation of vital signs in the web app

AUTOMATE VITAL SIGN COMMUNICATION ENHANCE PATIENT SURVIVAL RATE

Our software system reads in patients' current vital signs through a medical device and stores it to a database. Based on the vital signs communicated, our app generates graphical representations of the heart and respiration rate, body temperature, and blood pressure to illustrate the patients' current vital status.

Our software seamlessly relays the vital signs of the patient in transit via the ambulance to the hospital, enabling EMTs to focus more on patient care. It also enables healthcare providers to efficiently prepare for the arrival of the incoming patient, ultimately enhancing the likelihood of higher patient survival.

FUNCTIONALITIES

- Data is collected and updated every 30 seconds, reflecting changes in vital signs and updating corresponding graphs. The color of the data and graphs dynamically adjusts based on the current data range, providing visual cues for quick interpretation.
- Medical staff must authenticate themselves through a login process before gaining access to patients' vital data.
- To further enhance the system, we have considered incorporating features that facilitate seamless communication between hospital and ambulance staff. These could include bidirectional communication options, and live streaming of patient data for improved coordination and efficiency.

ACKNOWLEDGMENTS

- Team members: Sarah Carricaburu, Rylie Chen, Lauren Twist, Kierra Young
- Project partners: Mike Kolesnikov, Jerry Young
- Mike Kolesnikov is currently getting his PhD in OHSU's Biomedical Informatics program looking for ways to optimize trauma patient care and this project was in part inspired by his work on the dissertation
- Jerry Young currently serves as the Chief Operating Officer of Strategic Business Solutions, Inc., where he oversees all day-to-day operations and provides hands-on support for strategic efforts, recruiting, and account management..
- All the team members are fourth years in Applied Computer Science and are graduating this Spring 2024 term.
- Sarah Carricaburu is in the Accelerated Masters Program, focusing on User Interface Design and Psychology.
- Rylie Chen is graduating with a focus in Artificial Intelligence.
- Lauren Twist is graduating with a focus in Web and Mobile Application Development.
- Kierra Young is graduating with a focus in Human Computer Interaction with a minor in Psychology.



Team Photo (left to right): Rylie Chen, Kierra Young, Sarah Carricaburu, Lauren Twist