

Johns Hopkins

"Our insight is simple: patients with Alzheimer's disease and other forms of dementia do not just get progressively worse. There are moments of clarity or periods of higher cognition embedded in the slow, progressive decline. What drives these fluctuations? How frequent are they? From a therapeutic perspective, can we identify environmental or internal factors that drive them? These fluctuations have been nearly impossible to study in the clinic and are a perfect use case for mobile technologies in the home. We also hope that the data and insights gleaned will lead to the development of virtual reality programs that could actually improve patients' cognition."

-Kishore Kuchibhotla
Professor at John Hopkins University

Project

Lucidity, a mobile application and ecosystem being developed by a team led by [Kishore Kuchibhotla](#), an assistant professor of psychological and brain sciences at Johns Hopkins Krieger School of Arts and Sciences.

Industry

Health

Location

Baltimore, Maryland, US

Services

Development

Transformation

Technologies

Flutter

Node.js



At a glance

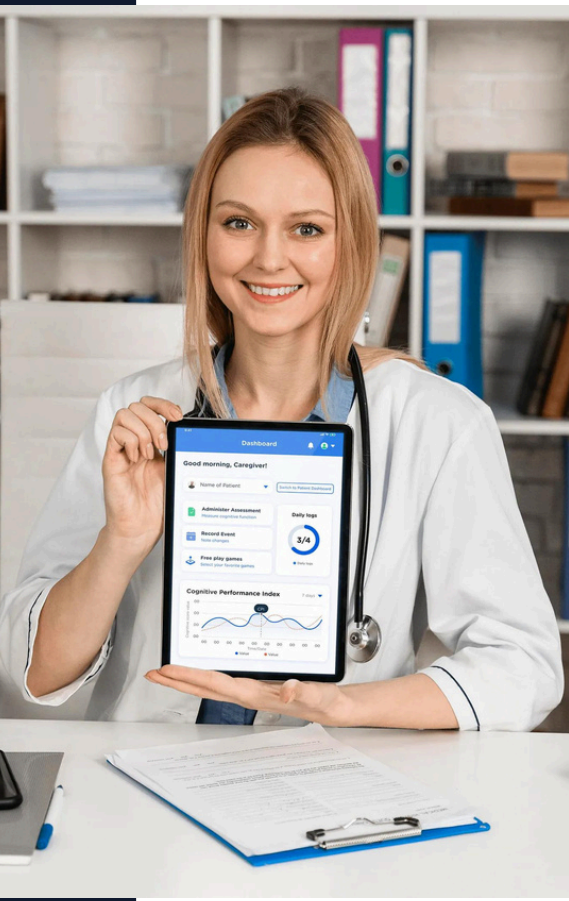
We partnered with Johns Hopkins University Medical school (Kuchibhotla Lab) to combat Alzheimer's disease. We helped doctors and scientists at JHU design an application that allows Alzheimer's patients to play "brain games" on a tablet or smartphone, all while bio-medical devices gather patients biometrics. The web service compares the data from the patients biometrics in real time with the brain games results – to ultimately produce new Alzheimer's data that is pivotal to finding a cure for this disease. Due to the application's success, Lucidity has received further funding from the University and has partnered with us to continuously add new features to the application over the next few years.

Solution

- Using the tablet-based application, caregivers help patients take a battery of simple cognitive tests and also use the tablet's microphone and camera to record patients multiple times per week, including when they are lucid. During these activities, the app's sensor module captures key health data. The goal is to then apply data mining and artificial intelligence to these individualized datasets to identify factors that drive patients' cognitive fluctuations and even predict triggers for lucid episodes.

Outcome

- Their applications are rolled out to caregivers across the US to feed data into the app.
- As of today, Valere is continuing its partnership with Johns Hopkins university to add new features to the application in the years to come, to continue its research in developing a cure for Alzheimer's.



Challenge

- The Valere team of UI/UX designers was first tasked with working with JHU Kuchibhotla Lab's team to design the application from scratch. This 6-week period included three meetings each week fleshing out detailed low-fidelity wireframes and flow diagrams, before making them into beautiful, intuitive, colorful mockups.

Actions

- Valere deployed their dedicated team of developers to create an interactive and easy-to-navigate application. The team developed the application in Flutter and NodeJS while also specially designing a friendly User Interface that is ideal for Alzheimer patients and a research team.
- This project was unique in that we initially had to understand the researchers' needs so that the data would continuously be relevant.

Results

- The application was met with great success and was seamlessly implemented into the Kuchibhotla Lab's research. The application allowed the research team to record important data that is able to propel their Alzheimer's research forward, even helping them receive further funding from Johns Hopkins University. As of today, Valere is continuing its partnership with Johns Hopkins University to add new features to the application in the years to come, to continue its research in developing a cure for Alzheimer's.

+200k

IN RESEARCH FUNDING

ROLLED OUT IN

All USA

"Valere has been instrumental in the design and development of software solutions for Johns Hopkins University since 2021, contributing expertise to a diverse array of projects spanning multiple domains. Valere played a pivotal role in the creation of an innovative application aimed at combating Alzheimer's disease, known as Lucidity."

-Kishore Kuchibhotla
Professor at Johns Hopkins University

Want to leverage AI to transform your health app, company, or project?

CONTACT US



Learn more about Lucidity:

- <https://jhu.technologypublisher.com/technology/45359>
- <https://hub.jhu.edu/2023/01/10/hopkins-aitc-awardees-pilot-research-grants/>
- <https://aitc.jhu.edu/cores/funded-projects/>