



CASE STUDIES

Software Development
Artificial Intelligence Transformation

24

Redefining Software
Development and **AI**
Transformation.




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Executive Letter

The time
is
Now

GUY PISTONE

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READY TO MEET OUR CASES?

Keep reading and find some of the most impressive projects we've completed.





Johns Hopkins

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.



Location

Baltimore, Maryland, US

Industry

Health

Services

Development

Transformation

Technologies

Flutter

Node.js

At a glance

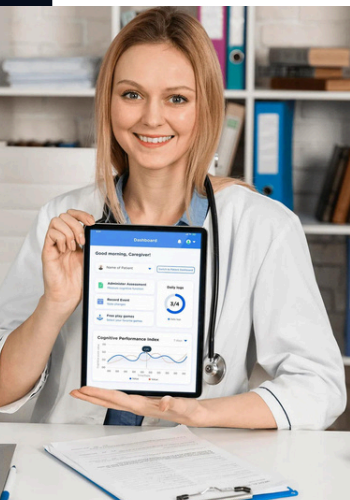
We partnered with Johns Hopkins University Medical school (Kuchibhotla Lab) to combat Alzheimer's disease. We helped doctors and scientists at JHU to design an application that allows Alzheimer's patients to play "brain games" on a tablet or smartphone, all while bio-medical devices gather patients' 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

- Valere's team of UI/UX designers was first tasked with working with JHU's Kuchibhotla Lab 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 Node.js 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 remain relevant over time.

Results

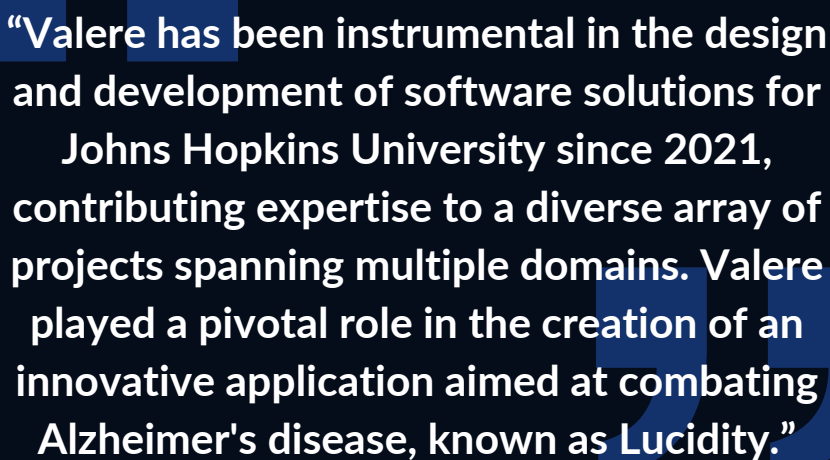
- The application was met with great success and was able to be seamlessly implemented into the Kuchibhotla Lab's research. The application allowed the research team to record important data that is able to propel their Alzheimer's research forward, even helping them receive further funding from Johns 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



Security IoT

Company

The goal of this project was to create a consumer security solution that integrates various devices within a network to ensure safety and security. Our team was tasked with building the infrastructure to support device connectivity, asset management, and video streaming capabilities using a scalable microservices architecture and machine learning. The aim was to deliver a robust, secure, and user-friendly system that could adapt and expand as needed for consumers.



Location

United States

Industry

Warranty Provider

Services

Machine Learning

IoT

Security

At a glance

With the increasing demand for integrated security solutions, the need for a system capable of efficiently managing diverse devices and large volumes of data became apparent. The envisioned solution addresses this need by incorporating various security components all controlled through a mobile application. The primary goal was to create a comprehensive infrastructure that ensures security, while providing a seamless and intuitive user experience.



Solution

- We built a security system with real-time alerts, video streaming, and scalable device integration using microservices architecture and AWS for secure data management.

Outcome

- This innovative and reliable solution is designed for high user adoption and satisfaction, setting a new standard in the security industry.
- By focusing on device connectivity, efficient handling of critical security events, asset management using AWS, video streaming capabilities, and a scalable event-driven microservices architecture, Valere delivered a leading-edge security solution.

Challenge

Developing this security solution presented several technical challenges:

- **Device Integration:** Integrating a wide range of devices into a cohesive system required ensuring reliable and secure communication between components.
- **Asset Management:** Effective asset management necessitated the use of AWS for data storage and stringent security measures to protect data integrity and confidentiality.
- **Scalable Architecture:** Designing a scalable architecture using microservices was essential to allow for the easy addition of new devices and functionalities as the system evolved.
- **Security Protocols:** Implementing robust security protocols to safeguard the system from potential breaches while ensuring user data privacy and confidentiality was critical.
- **Real-Time Video Streaming:** Providing real-time video streaming capabilities and efficiently handling critical security events were vital to meet user expectations for a comprehensive security solution using Machine Learning and development operations.

Actions

- Our approach involved developing a scalable and reliable infrastructure using microservices to enable seamless integration and communication between various security devices and the central hub. Leveraging AWS, we ensured efficient data management and stringent security measures to protect data integrity and confidentiality.

10,000

DEV. HOURS

+2M

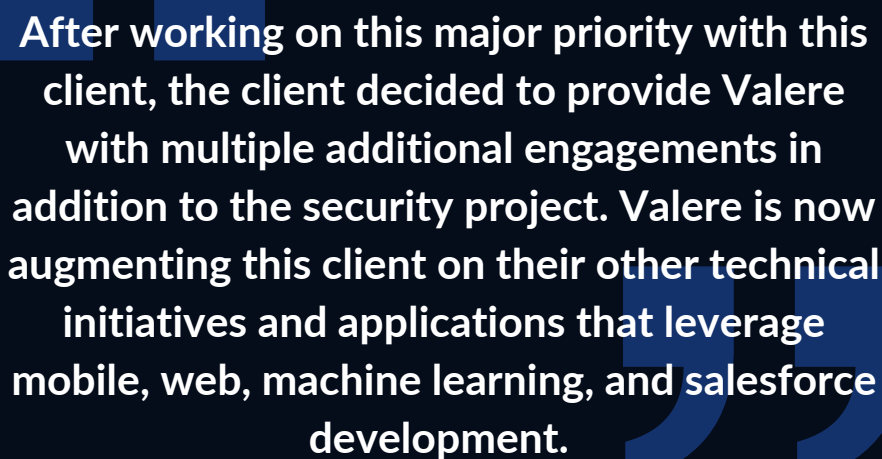
CUSTOMERS

+200M

COMPANY ANNUAL
REVENUE

Results

- **Real-Time Alerts and Updates:** Functionality to provide consumers with real-time alerts, live video feeds, and system status updates.
- **Scalable Design:** The system's scalable design, driven by an event-based microservices architecture, facilitates the easy integration of additional devices and functionalities, allowing it to adapt to evolving consumer needs and technological advancements.
- **User Experience:** By focusing on device connectivity, efficient handling of critical security events, and an intuitive user interface, we aimed to create a solution that increased the sense of security and peace of mind among users.



After working on this major priority with this client, the client decided to provide Valere with multiple additional engagements in addition to the security project. Valere is now augmenting this client on their other technical initiatives and applications that leverage mobile, web, machine learning, and salesforce development.

-Guy Pistone
CEO Valere

RAG

Company

We partnered with Caylent, a cloud native services company that helps organizations bring the best out of their people and technology using AWS. Valere created over a dozen RAG solutions for various enterprises.



Location

Irvine, California, US.

Industry

Cloud

Technology

Services

ML

AI Transformation

Technologies

AWS Bedrock

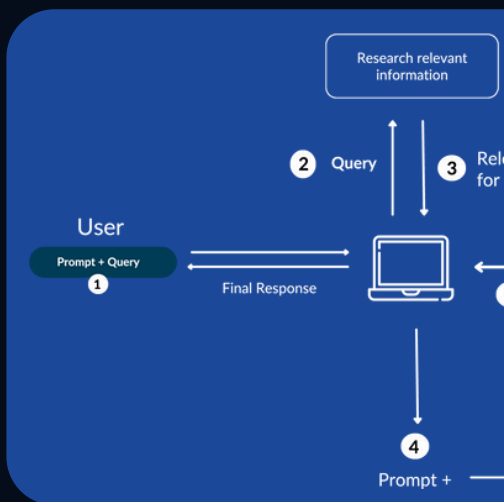
AWS Kendra

LLMs

AWS

At a glance

We worked with Caylent, a distinguished partner within Amazon's cloud native services ecosystem, dedicated to enabling organizations to maximize the potential of both their human resources and technology infrastructure through AWS. Recognizing the paramount importance of scalability and swift project delivery, Caylent routinely collaborates with Valere to augment their capabilities.



Solution

Funded by Amazon, Valere designed and developed over 10 custom Generative AI platforms, leveraging Retrieval-augmented generation techniques, internal datasets, and Bedrock supported LLM to help organizations accelerate the launch and Implementation of new technologies that deliver tangible value.

Outcome

Valere delivered over a dozen RAG solutions, each built within 2-6 weeks. These solutions were deployed to the respective organizations and implemented into their workflows.

Challenge

Valere had the challenge to create over a dozen solutions for enterprises at various stages, from Series Seed to Series E, giving them all a unique leg up on their competition. These RAG applications go beyond simple chat functions. as they act as a business's compass and knowledge base for strategic planning, streamlining process, and automation. Prepared to provide responses to queries that range from generating profit and loss statements, to crafting job postings, and analyzing cost drivers like Customer Acquisition Costs (CAC).

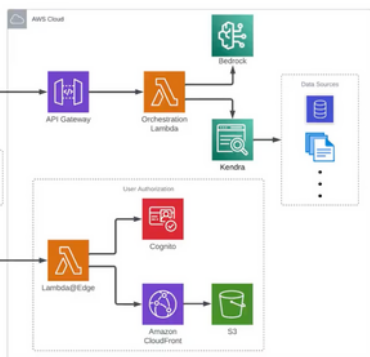
Actions

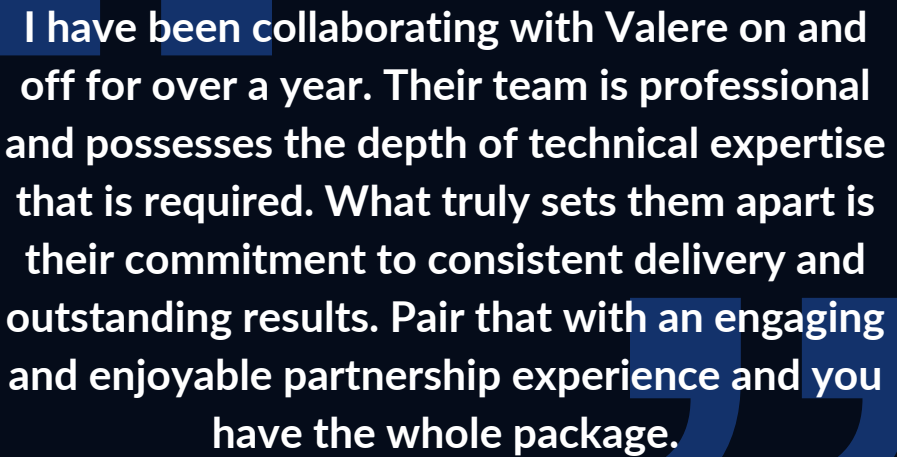
- Engineered a multi-modal AI-powered chatbot, leveraging AWS for reliable, scalable cloud infrastructure.
- Customized the chatbot with brand identity and organization's own data, with a focus on meeting compliance and security requirements.
- Rapidly deployed the solution within a three-week timeframe, employing efficient infrastructure management.
- Seamlessly integrated existing data ecosystem to ensure accurate and relevant responses to customer queries.
- Deliver documentation, code and recommendations for the future.

+10
Solutions

Results

- Valere helped Caylent increase the speed to launch.
- Creating a competitive advantage from competitors who are not leveraging RAG within their organizations.





I have been collaborating with Valere on and off for over a year. Their team is professional and possesses the depth of technical expertise that is required. What truly sets them apart is their commitment to consistent delivery and outstanding results. Pair that with an engaging and enjoyable partnership experience and you have the whole package.

-Clayton Davis
Director at Caylent

Fortuna.ai

Company

Fortuna AI is dedicated to empowering financial services and technology companies with advanced AI-driven solutions. By focusing on leveraging data and artificial intelligence, Fortuna AI helps businesses achieve significant growth and efficiency in their operations.

Location

Livonia, MI, US.

Industry

Fintech

Operations

Services

Development

AI Transformation

Technologies

PostgreSQL

Nest.js

React

AWS

At a glance

Valere formed a strategic alliance with a prominent accounting firm to develop an advanced tax optimization platform. This platform intelligently analyzes a company's financial data and tax information, aligning it with existing tax-saving strategies, incentives, and programs to craft a customized tax efficiency plan aimed at financial savings and optimal tax structuring.



Solution

- The application is designed for tax professionals, who are the primary users. Through the application, users can calculate tax obligations or refunds for their clients, and create tax plans that reduce tax obligations or increase refunds for their clients. AI has been implemented to assist in creating tax plans. The AI serves several purposes within the system:
- Recommending tax strategies applicable to clients based on their data in the system.
- A chatbot capable of searching the Web to answer general questions.
- Providing general information on tax strategies, including descriptions of the strategies, the benefits of implementing them, and the potential risks involved.

Outcome

- The platform leverages the power of AI to revolutionize tax planning by automating tasks, analyzing vast data sets, and generating customized strategies tailored to each business's unique circumstances. Businesses using Fortuna AI gain a competitive edge by minimizing tax liabilities, maximizing savings, and allocating resources more efficiently.



Challenge

The main challenge in developing the application was implementing tax calculations for both federal and state levels in the United States. This involved accounting for various tax rates, income levels, and filing statuses, as well as deductions such as those for dependents and itemized expenses. We had to collect and store all relevant data in a database, including tax brackets, values of deductions, and specific limitations at both federal and state levels.

Actions

We have delivered an application that, based on client income data, calculates tax obligations or refunds and enables the creation of tax plans that reduce tax obligations or increase refunds with or without the assistance of AI. The delivered application semantically consists of two parts:

- The User Interface
- The Admin Application

It is deployed on AWS, using the following technologies:

- The client-side of the application was developed using the React framework.
- The server-side was developed as an API using the Nest.js framework, and it employs the PostgreSQL relational database.

Results

- After launch they got major customers to sign on and got to \$50,000 ARR within less than a month.
- The application integrates with Xero and QuickBooks, facilitating the seamless input of clients' business income data.

50k

ARR CUSTOMERS

Pre-seed

Funding Round



As of today, we have +10 active/paying clients in the staging environment and we expect to have many more in the next month or two. The application will go live, transitioning to production, after the implementation of a few additional features.

**-Patrick Besedić
Project Manager**



V1 Sports

Company

V1 Sports transforms golf improvement through cutting-edge video analysis and working with pro coaches. Users can diagnose their swings from setup to follow-through, helping them swing smarter, chip closer, and putt less. V1 Sports has secured investment from Black Cat Ventures, a golf technology fund owned by Michael Jordan.



Location

Novi, Michigan, United States

Industry

Fitness

Health

Services

Backend Development

Flutter Development

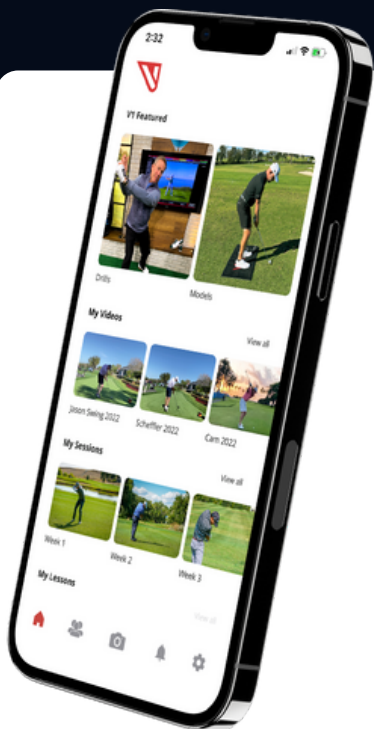


At a glance

V1 stands as the preeminent golf app in the app store, consistently ranking among the top 100 in the Sports category and boasting over 100,000 monthly active users. Valere played an integral role in collaborating with V1 Sports to develop their sophisticated video analyzer feature. This feature empowers coaches to optimize their clients' golf performance by offering a comprehensive set of tools, including telestration on videos, side-by-side video comparisons, and instructional voiceovers, among others.

Solution

- Valere developed the core feature of the App: advanced video analyzer feature. This feature provides coaches with a robust set of tools to enhance their clients' golf performance, including telestration on videos, side-by-side video comparisons, instructional voiceovers, and more.



1M+

DOWNLOADS ON
APP STORE

100k

MONTHLY ACTIVE USERS

Outcome

- Following the successful completion of this ambitious project, V1 Sports recognized the exceptional value of Valere's contributions and extended their collaboration.
- V1 Sports enlisted a dedicated team of Valere developers to enhance their own engineering capabilities, augmenting their team for years to come.

Challenge

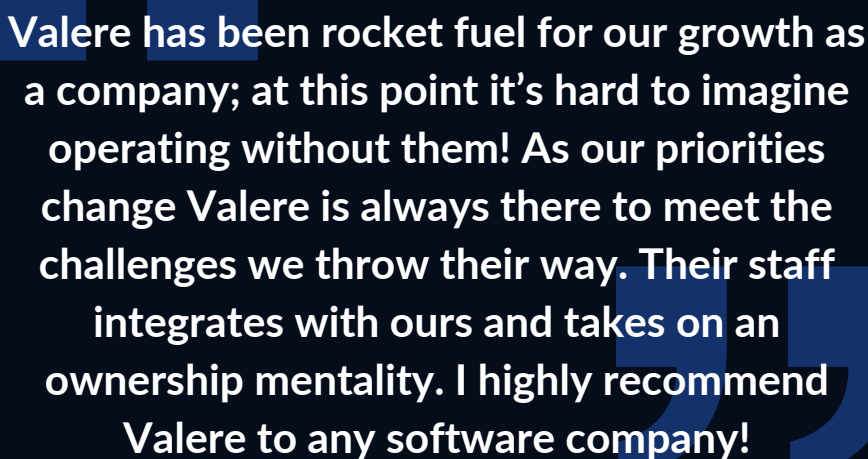
- Enhancing V1 Sports' training capabilities through advanced video analysis while modernizing their legacy applications. The goal was to engineer a feature-rich video analyzer that allowed precise annotations on athlete videos, offering detailed visual feedback.

Actions

- We engineered an advanced video analyzer feature, significantly enhancing the training capabilities of coaches. This innovative tool allows for precise annotations directly on athlete videos, providing detailed visual feedback. Coaches benefit from functionalities such as side-by-side video comparisons, instructional voiceovers, and slow-motion playback, among others.
- Beyond this feature, Valere has also transformed V1 Sports' legacy applications by transitioning them to the Flutter framework, improving both performance and maintainability.

Results

- 1M+ downloads
- 4.78k reviews
- 4.6 ★ on Google Play Store
- 481k+ Athletes
- 10k+ Coaches
- Top Golf Analyzer App by Golf Digest two years in a row-Recognized by AmateurGolf.com



Valere has been rocket fuel for our growth as a company; at this point it's hard to imagine operating without them! As our priorities change Valere is always there to meet the challenges we throw their way. Their staff integrates with ours and takes on an ownership mentality. I highly recommend Valere to any software company!

-Alex Prasad
CEO, V1 Sports

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