



- Who We Are
- Our Core Team
- Our Services
- Engagement Models
- Selected Case Studies
- Experts we offer
- Portfolio:
 - Patient-Provider Apps We Created
 - Healthcare Analytics Dashboards We Created
 - GCP Cloud Accelerator



2017

SPsoft Start Date

72

Inhouse Tech Employees

26

Contractors

25+

Successful Projects

15

Ongoing Clients

100%

Customer Satisfaction





Michael Lazor

Founder & CEO at Spsoft

Sold my 120 software engineers company to EPAM Systems in 2007 and as an office Director grew their operations from my original 120 to 1000 engineers in about 9 years.

20+ years of experience in starting, running and growing multiple technology service and product companies. Ex hardcore software engineer, was driving my ventures as a Founder, CEO, Office Director, Delivery/Account/ Product/People manager. Was composing and running software engineering teams ranging from 1 up to 150 people for world-known brands such as Adidas, Barclays Capital, Google and many more.





Volodymyr Head of Backend

14+ years of experience. One of the top Ukrainian engineering community drivers and speakers. Backend senior architect and engineer, Ruby evangelist.



Mykola Head of Frontend

23 years of broad experience in Software Development and Architecture. PhD in Computer Sciences.



Alex Head of Cybersecurity

10+ years of experience. Certified Information Systems Auditor® (CISA); ITIL Expert.



Rostyslav Head of UX/UI Design

Proficient designer with 8+ years of experience in Web & Mobile design, User Experience Design, User Flows, User Scenarios, and more.



Romaniya Head of Product Management

Experienced product manager and team leader for key SPsoft clients. Ex-technical support team lead for Adidas.



Volodymyr Head of Python

10+ years of experience. Architect and Technical Lead, mentor. PhD in Information Technology.

HEALTHCARE PRODUCT MANAGEMENT, DEVELOPMENT & INTEGRATIONS SERVICES —



Product Design & Product Management

- Patient/Provider user experience design
- Help with roadmap and product management

Digital Healthcare Applications & Platforms Development

- Telemedicine/Virtual Care platforms and SAAS
- Patient-facing mobile apps

Integrations

- Integration with RPM devices
- HL7/FHIR Integrations (Epic, Cerner, AllScripts, etc.)
- Integrations with laboratories

Other

- DICOM processing and management
- Medical Devices hardware and embedded software design and development
- CDSS design and development
- Early decease and pathologies detection, computer vision, Al

CLOUD, DATA AND COMPLIANCE SERVICES —



Data and Data Analytics

- Data cleaning, Data labeling, Data ETL, Data Warehousing
- Healthcare Data Analytics and Visualization: patient outcomes, engagement and progress, B2B reports and interactive dashboards
- Advanced Analytics, Predictive Analytics, Machine Learning

Cloud Migration and CloudOps

- Migration to GCP/AWS/Azure HIPAA/SOC2-compliant cloud
- Cloud Architecture, Design, Setup, cost optimization, maintenance
- CI/CD and ETL Pipelines

Compliance and Cyber Security

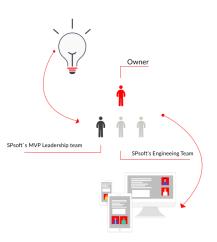
- SOC2 & HIPAA Backend/Cloud audit and implementation
- Help developing and obtaining Software as a Medical Device (<u>FDA SaMD</u>)
- Pen testing (partners)
- Cloud infrastructure security incidents monitoring and response (partners)
- HITRUST compliance

ENGAGEMENT MODELS —

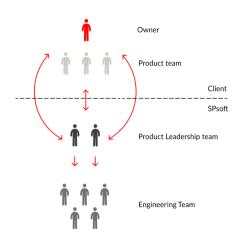


We offer custom-tailored solutions for every idea or product you might already have or need extending with our help. Below you can choose an engagement model that fits you best.

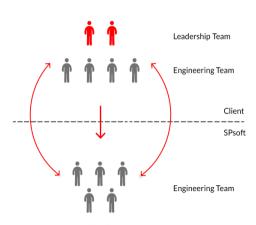
From idea to MVP



Managed solution development



Team extension





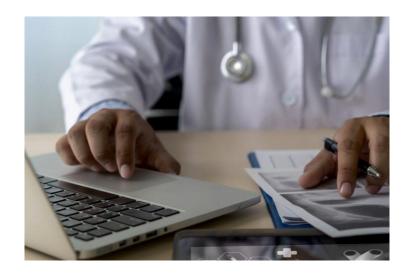
Selected Case Studies



CASE STUDY — DIABETES PATIENT CARE PLATFORM



Taking Personalized Diabetes Patient Care Platform to the Next Level



#Product Management #Mobile Applications#Data Architecture #Data Analytics#Managed Product Development

CLIENT:

<u>Ciba Health</u>, a virtual care platform for diabetes patients

VALUE DELIVERED:

- Defined vision, roadmap and scope for platform development in 2023;
- Designed and developing of the brand new Patient Mobile Experience for iOS & Android using Flutter;
- Designed and implementing a tailor-made CDSS for the clinical team;
- Designed and implemented: Data Strategy, Big Data Architecture, RPM integrations, B2B Data Analytics, Data ETL Pipelines;
- Defined strategy and roadmap of scaling providers and improving their operational efficiency;
- Helped on the tech side (backend and cloud) to obtain HIPAA and SOC2 compliance;
- Localized and rolled out platform in China and UAE;
- Provided help on the technology side to raise Series A;

TECHNOLOGY STACK:

Python, Flutter, React, Air Flow, AWS, Docker, Kubernetes, OpenSearch

CASE STUDY — DIGITAL ONCOLOGY PLATFORM



TeleHealth Solution for Cancer Patients



#Mobile Applications #Data Analytics
#Cloud Architecture #GCP #FHIR

CLIENT:

A telehealth service provider supporting people living with cancer, raised \$26M up to date.

VALUE DELIVERED:

- Designed and developed mobile patient experience running on iOS and Android with Apple Health Kit and Google Fit integrations in less than 4 months, and kept extending it;
- Implemented Data Analytics Dashboards for internal customer success team's use as well as for B2B partners;
- Migrated client's infrastructure to Google cloud, enabling: readiness for FHIR integration, scalability, high security, DDoS protection, zero downtime and more;
- Provided QA team leadership that created the foundation of QA processes for the client's further platform development;
- FHIR integrations: migrated Customer data to the GCP FHIR storage, enabling interservice data sharing and importing new data from external sources;
- The above progress contributed to our client raising series A 20M in early 2022;
- Developed and launched community portal (web & mobile) for extra patient engagements and socialization in early 2023;

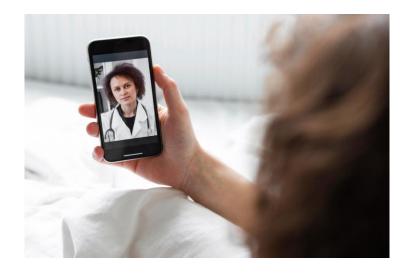
TECHNOLOGY STACK:

Flutter, Dart, Mockito, GraphQL, Google Maps

CASE STUDY — MENTAL HEALTH PLATFORM

Q

Mental Health Virtual Care Platform



#Product Management #UI/UX Design #Product Development #HIPAA/SOC2 #MVP #Telemedicine

CLIENT:

A mental health virtual care platform Series A, 10M raised so far. 1k providers, 10k patients

VALUE DELIVERED:

- Rolled out MVP to the market in 4 months, including the design phase;
- Co-Product managed product priorities and scope with the customer's Product Owner:
- Covered all aspects of Product creation and development, including: UX/UI, Front-end, Back-end, DevOps, QA and release management;
- Kicked off the design process with just bits and pieces of information handed over by the client;
- Platform backend, data storage and cloud infrastructure are fully HIPAA/SOC2 compliant;

TECHNOLOGY STACK:

Typescript, React, MaterialUI, Hasura, PostgreSQL, urql, FastAPI, Flask, gqless, MobX (legacy)

CASE STUDY — LEADING US ROBOTIC SURGERY MANUFACTURER



Boosting Surgical Rooms Performance With A Neoteric Data Solution



#Product Management #UI/UX Design #Product Development #MVP

CLIENT:

A public company, a leading American robotic-assisted surgery pioneer

VALUE DELIVERED:

- Designed, architected and developed a web-based surgical rooms analytics MVP in less than 3 months;
- The analytics tool we have built helps to justify the purchase of surgical equipment by highlighting ROI through efficiency improvement of surgical rooms operations;
- The infrastructure was designed to allow for a swift merger enabling a "few mouse clicks" database infrastructure setup routine;
- During phase 2, we designed and implemented brandnew analytical services to build advanced charts;
- Phase 3 has been planned to extend the platform's functionality and establish an omnichannel experience for anyone using it;

TECHNOLOGY STACK:

Ruby on Rails, React, GraphQL, PostgreSQL, Terraform, Python



Improving and Extending Patient Scheduling and Onboarding Platform



#Product Development #UI/UX Design #A/B Testing #EHR integrations

CLIENT:

Our client runs a chain of physical medical centers with a curated selection of independent wellness providers, physicians and healthcare brands.

VALUE DELIVERED

- Set up analytics tracking and A/B testing to design the most effective user flows and boost user engagement;
- Redesigned scheduling and onboarding patient experience integrated with various EHR systems;
- Covered end-to-end software design and development lifecycle, including: Product Management, Design, Front-end, Back-end, DevOps, QA, A/B testing and release management;

TECHNOLOGY STACK:

React, Webflow, Netlify, Google Optimizer, Segment, Square, AWS

CASE STUDY — CARE PLATFORM FOR PEOPLE WITH ALS & PLS



Reinventing The ALS, PLS and Parkinson Patients Treatment Experience



CLIENT:

A personalized care platform for patients living with ALS, PLS, and Parkinson's Disease.

VALUE DELIVERED

- Implemented and rolled out MVP with patient onboarding, patient scheduling and caregiver flows in 4 months and continued extending it further on;
- Covered end-to-end software design and development lifecycle, including: Product management, UX/UI Design, Front-end, Back-end, DevOps, QA and release management;

TECHNOLOGY STACK:

Node.js, React, Typescript, Hasura, PostgreSQL, AWS

CASE STUDY — DIGITAL HEALTH PASSPORT



Digital Health Passport Platform for Traveling in Post-COVID World



#Product Development #UI/UX Design #OCR #Laboratories Integration

CLIENT:

Our client is a Digital Health Passport solution provider for the travel industry and enterprise clients.

VALUE DELIVERED:

Designed, Architected and Created a platform with 10+ implementations for enterprise clients that:

- Allows complex OCR-based automatic processing of 1 mln+ passenger PCR test/COVID Vaccination statuses per month, used by major airline operators and enterprise clients such as **Delta, United, Virgin Atlantic, Visa,** etc.
- Allows end users (passengers) to find the nearby lab, schedule PCR test and obtain PCR test results or COVID vaccination status automatically in the platform to board the plane or enter the facility;
- Implemented integrations with laboratories providing PCR testing throughout of US, for ex.: CVS, LabCorp, Albertsons, Quest Diagnostics and more;
- SPsoft team became an essential key technology arm of the client;

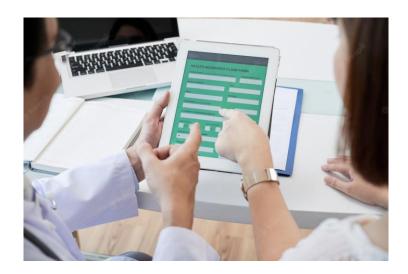
TECHNOLOGY STACK:

.NET core, Blazor, React, MSSQL, Azure

CASE STUDY — HOSPITAL PATIENT QUESTIONNAIRES SAAS PROVIDER



Implementation of a new integration platform based on microservices



#Product Development #Integrations #HL7 #DICOM #EHR integrations

CLIENT:

A real-time mobile patient intake and contactless check-in platform that provides a seamless engaging way for patients to fill out any survey, sign any consent form, or make any payment when and where it's most convenient for them.

VALUE DELIVERED

- Design and implementation of various components:
 - appointment and admission integration via HL7
 - doctor, clinic and patient information integration via HL7 and REST
 - PDF integration (HL7 & FTP endpoint) for consent forms
 - REST API integration
- Implementation of enterprise event logging platform
- Design and implementation of integration QA strategy and coverage
- Implementation of DICOM interfaces
- Integrations with EHR such as Epic, Cerner, AllScripts
- System monitoring architecture

TECHNOLOGY STACK:

Apache CXF, Apache Camel, Active MQ, JAX-RS, JAX-WS, REST and Atom service design, Docker containers, HAPI, HL7, Groovy, Mule ESB, DCM4CHE, Idea

CASE STUDY — BLOOD PRESSURE MEDICAL DEVICE STARTUP



Medical Device Hardware Design and Mobile App Development



#Hardware Design #Embedded software #Software as a Medical Device #UI/UX Design #Mobile app development

CLIENT:

Our client is a US-based startup, on a mission to transform patient care through better cardiovascular monitoring, producing a small wearable device that monitors blood pressure continuously without the need of cutting the skin

VALUE DELIVERED

SPsoft team is involved in both device hardware design and software development parts, including:

- Hardware design of a smaller version of the BPM device;
- Development of Embedded software for BPM device;
- Development of IP to enhance the signal and subtract common noise artifacts;
- Development of algorithms that incorporate multiple continuous biomedical signals into relevant insights;
- Mobile/Tablet app development using Flutter (Software as a Medical Device);
- Secure and HIPAA compliant Data platform operating in the cloud;

TECHNOLOGY STACK:

Flutter, Python, GCP



Experts We Offer



EXPERTS WE OFFER —



R	O	le

Product/Project Manager

Mobile Engineer (Flutter/React Native)

Frontend Engineer (React, Angular, Vue, etc.)

Backend Engineer (Ruby, Node, Python, etc.)

Data & Analytics Engineer (ETL, Dashboards, etc.)

Data Science Engineer (ML, Customer 360, OCR, etc.)

UX/UI Designer

QA Lead/Test Automation Engineer

QA Engineer (Auto + Manual)

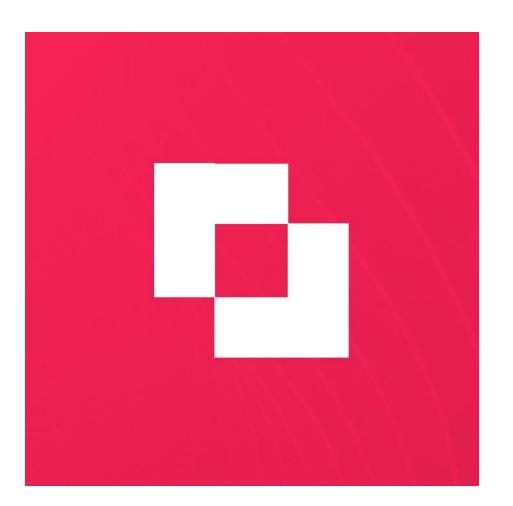
Cloud DevOps (GCP/Azure/AWS)

Data/Cloud/Software Architect

^{*} If you don't see the experts you need in this list - just let us know, 99.9% chance we'll get them for you



Portfolio:
Patient-Provider Apps
We Created



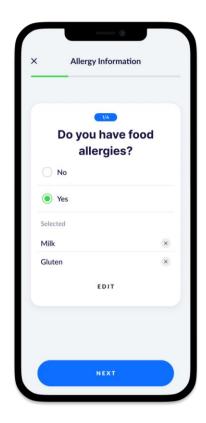
DIABETES PATIENT CARE PLATFORM —

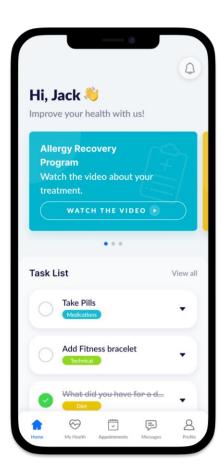


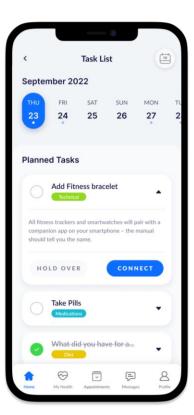


CHRONIC CARE MANAGEMENT APP —



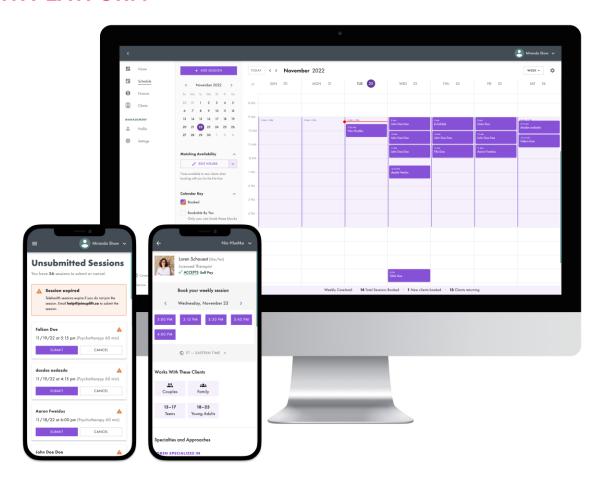






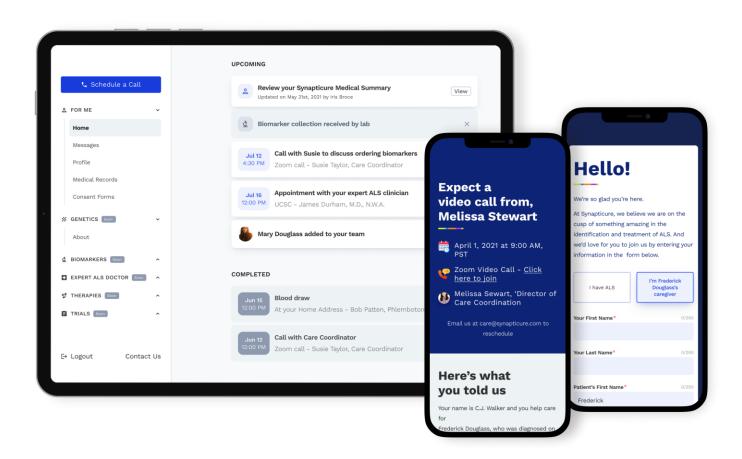
MENTAL HEALTH PLATFORM —





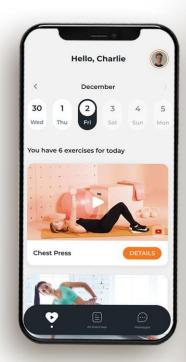
CARE PLATFORM FOR PEOPLE WITH ALS & PLS —

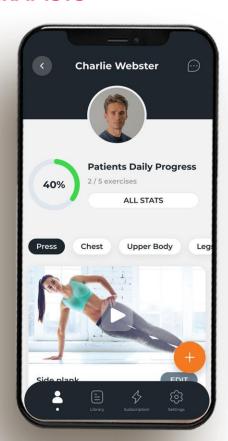


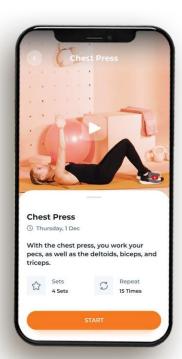


MOBILE APP FOR PHYSICAL THERAPISTS —



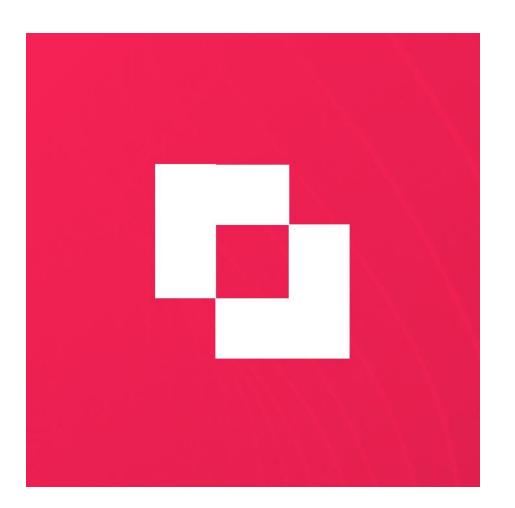








Portfolio:
Healthcare Analytics
Dashboards We Created



HEALTHCARE DATA REPORTING AND ANALYTICS —



Revenue Cycle Analytics

- Accounts Receivable Analytics
- Collections and Net Revenue Analytics
- Cost Efficiency and Outcome Analytics
- DNFB and DNFC Analytics
- Payer Insights Analytics

Denials Management Analytics

- Clean Claims and Denied Claims Analytics
- · Denials Breakdown
- Denial Root Causes Analytics
- Denials Overturn and Opportunities
- Payer Insights Analytics

Self-Pay & Bad Debt Analytics

- Self-Pay & Bad Debt AR Analytics
- Patient Collections Analytics
- Payer Insights Analytics

Vendor Analytics

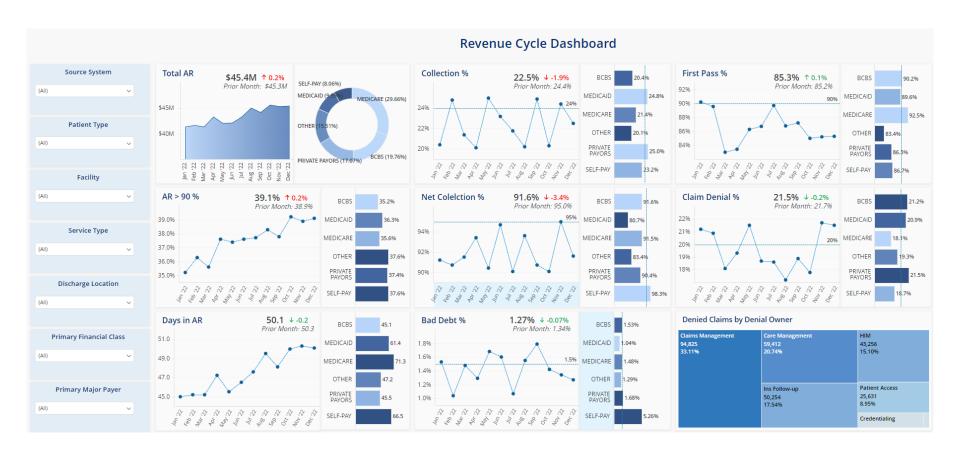
- Vendor Portfolio
- Vendors Benchmarking and Performance Analytics

Hospital Performance Analytics

- Operational Analytics and Patient Experience
- Volume and Revenue Analytics
- Readmission Analytics and Risk Evaluation
- Provider & Physician Portfolio
- Provider & Physician Benchmark and Opportunities

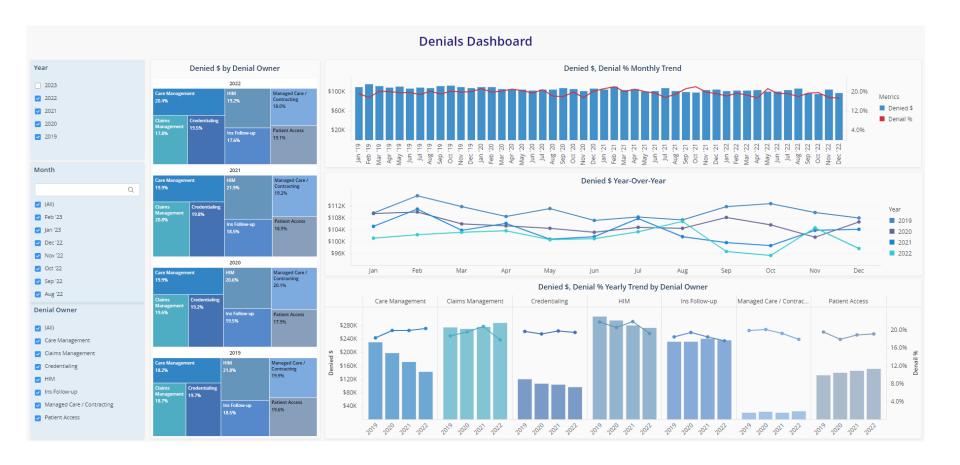
Ad-Hoc and custom reports can be built for any reporting group from the above, including different levels of summary and detailed views. Any kind of reporting can be combined in one dashboard/report thus all key information from different sources be presented in one place.





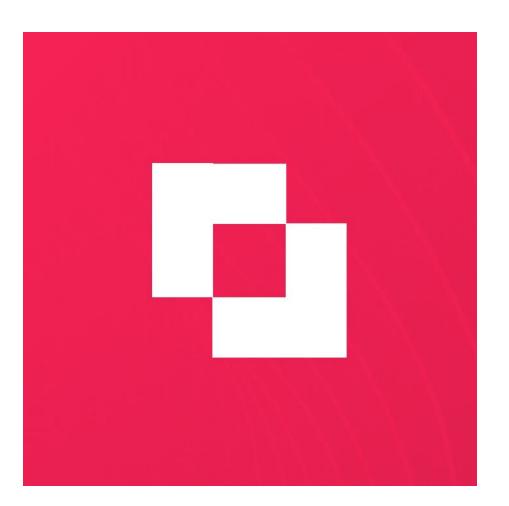
SAMPLE DASHBOARD — DENIALS





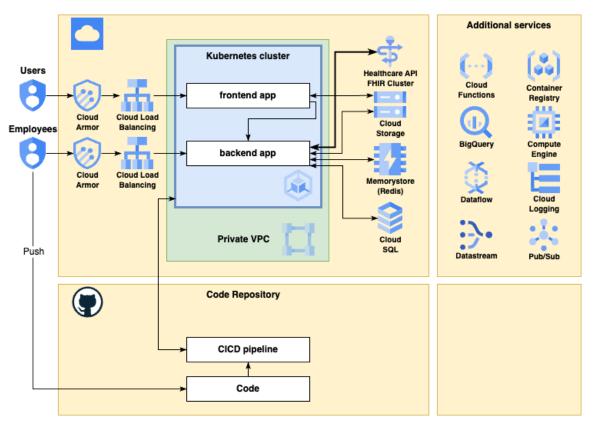


Portfolio: GCP Cloud Accelerator



HEALTHCARE GCP ARCHITECTURE WITH K8S, FHIR AND CI/CD PIPELINES —





- This is a ready-to-go prebuilt GCP setup for your cloud needs
- Built on proven and market-leading technology stack
- HIPAA/SOC2 compliant
- Ready for FHIR integration
- Zero downtime
- Vertical and horizontal scalability, with no limit with additional applications
- CI/CD pipelines, auto deployment
- Maximum usage of managed cloud services
- High security, SSL for all connections
- Cloud Armor on front web application firewall, DDoS protection
- Kubernetes AutoPilot cluster, where you pay for requested resources. No Nodes maintenance
- 1-week to roll out empty infrastructure setup + extra time to tune it for your specific needs



Let's do it!