NeoSOFT®

Capabilities

Driving Digital Outcomes Through Our IoT Capabilities

About Us

Overview

4000+
Employees

10
Global Offices

9
Development Centers

1,00,000+ Sq.ft.
Office Space

Clientele

1500+
Clients

50+
Countries

85%
Clients Retention

22+
Industry Verticals

Achievements

2000+
Products Engineered

1500+
Applications Developed

12+
Awards

20+
Million Development Hours

Partners

aws

SAP

Microsoft

Google Cloud

Magento

Great Place To Work® Certified INDIA

25+
YEARS OF EXCELLENCE

CMMIDEV/5

Certified To Deliver Quality

KPMG

This is to affirm that

NeoSOFT Private Limited

Organizational Unit: Software Development Unit

has been appraised at

Maturity Level 5

of the Capability Maturity Model Integration for Development,

Version 3.0

CMMIDEV/5℠

CMMI ® V 3.0 / Exp. 2027-08-17 / Appraisal #72520

ISO
9001:2015
Quality Management

ISO
27001:2013
Information Security

ISO
20000-1:2011
IT Management

ISO
22301:2012
Business Continuity Management

What We Do

Team Augmentation

A team of 4000+ Battle Tested engineers across 100+ Different Stacks.

We are your Digital Factory, dedicated teams to supercharge your development throughput.

0 Operational Overheads.

Agile & On Demand.

Fixed Scope

We offer meticulously crafted project specifications and timelines for cutting-edge development, seamless integrations and feature-rich solutions.

The NeoSOFT approach ensures your projects are delivered with precision and excellence.

Managed Services

Our IMS services helps enterprises to run Business as usual.

With strong SLA driven services, 24x7 Support, Governance and Technology expertise, we help to optimize processes and costs.

Our Expertise

We help businesses wherever they are in their digital journey. From consulting for a **digital transformation** to carving out a **technology roadmap**. Our expertise helps you to **drive ROI** from your digital initiatives.

Digital Transformation

- UX/UI Consulting
- Web & Mobility Solutions
- Enterprise API Management
- RPA
- Legacy Modernization

Digital Product Engineering

- Custom Software Engineering
- QA Services
- Maintenance
- Managed Services

Infrastructure & IT Operations

- Cloud Consulting
- DevSecOps
- Cloud Migration
- Cloud Management

Data Management & Analytics

- Data Engineering
- Governance
- B.I. & Analytics

Artificial Intelligence

- M.L. Models
- Model Generation
- M.L. Ops
- Data Science

Internet of Things

- IoT Consulting
- Software Defined Features
- IoT Applications

Innovation Lab

- MVP & POCs
- Rapid Prototyping
- Emerging Tech

Team Augmentation

- Solution Architects
- B.A.
- Developers
- Data Scientists

Our Capabilities

IoT Consulting & Strategy

IoT Sensor Node Development

IoT Gateway Development

IoT Cloud & Data Analytics

Software Defined Features

IoT Application Development

IoT Product Sustenance

Edge Computing

Artificial Intelligence & Machine Learning

Security & Compliance

Our Engagement Cycle

Presales

Our Capabilities
Client Requirement
Question and Answer
Opportunity
Assessment.

IoT Strategy &
Thought Leadership

Discuss your
organization needs,
IoT solutions and vision
for the solution.

Architectural Design
Sessions

Discuss your
organization needs,
IoT solutions and
vision for the solution.

Implement a
Scoped POC

Execute one of the
functions of the vision
to measure feasibility
and value.

Extend POC to
Production

Use the POC as a
framework and extend
your solution to
Production.

1   2   3   4   5

Selected Clientele

Case Studies

Globally Renowned Chain Of Hypermarkets

IoT powered smart retail solution that leverages image processing technology through sensor-driven cameras.

Image Processing Sensors CX Data Analytics

Outcomes

Technology Inclusion

- Excludes fiat currency as a payment choice, sensor cameras, customer tracking, product recognition, real-time inventory tracking, and automation across critical functions.

10X Boosted CX

- Hassle-free check-ins and check-outs, convenience in shopping, zero queue-time, and digital payments led to a delightful shopping experience.

70% Boosted Sales

- Automated operations, demand/inventory forecasting, data analytics, and elevated shopping experience boosted sales across all the outlets.

Solutioning

Challenges

- Scarcity of skilled workforce to guide customers; retaining and training workforce was an additional overhead.

- Shoppers required to carry heavy baskets and wait in queue while billing and check-out.

- Managing fraud and shrinkage.
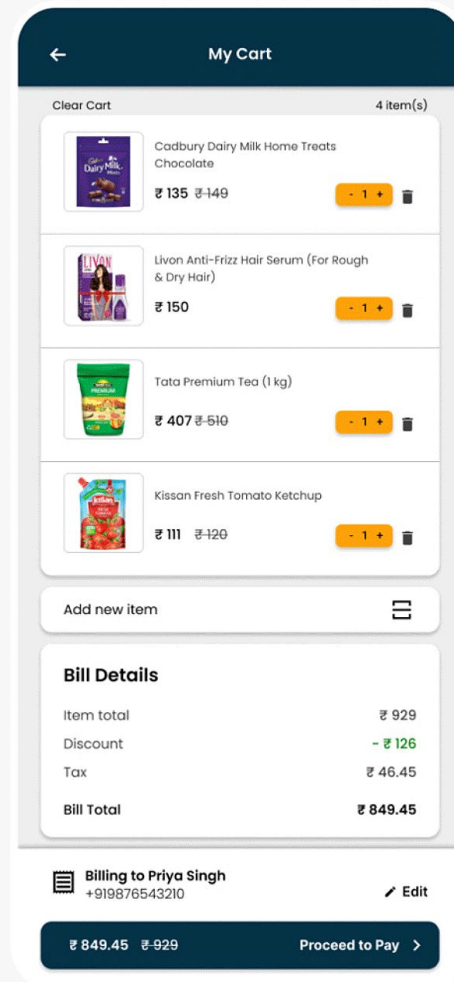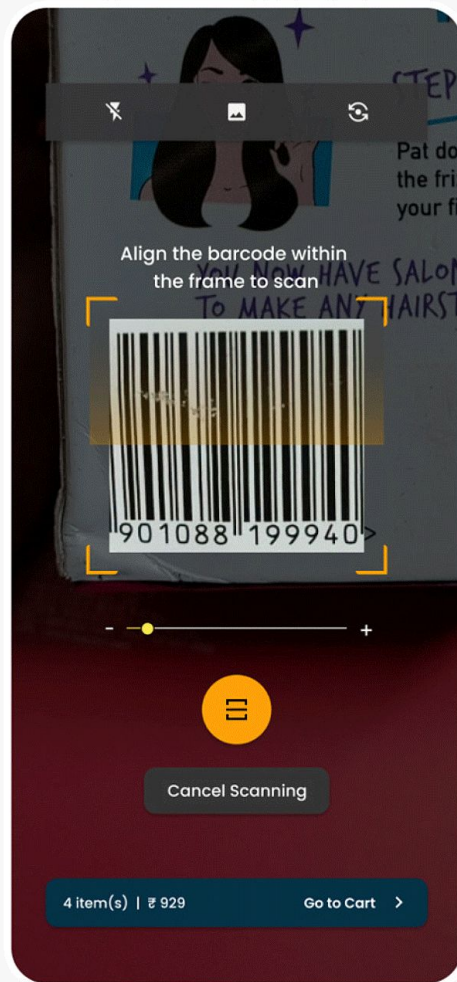
Technical Spotlight

- Use of high-definition and multi-functional camera system and sensors for product identification, track user movement, and identify patterns.

- Leveraged computer vision for user recognition and tagging.

- Prescriptive and predictive data analysis via recommendation engine.

Solution Highlights

- Excludes fiat currency as a payment choice for potential customers.

- Digital interface that generates a QR code to access entry at the retail outlet and sensors further track the buyers motion.

- Virtual cart validation and just walk-out technology tracks the customer and the interaction with the store items.

Tech Stack python mongoDB MySQL django TensorFlow

Align the barcode within
the frame to scan

901088 199940

Cancel Scanning

4 item(s) | ₹ 929   Go to Cart

My Cart

Clear Cart   4 item(s)

Cadbury Dairy Milk Home Treats Chocolate
₹ 135 ₹ 149   − 1 +

Livon Anti-Frizz Hair Serum (For Rough & Dry Hair)
₹ 150   − 1 +

Tata Premium Tea (1 kg)
₹ 407 ₹ 510   − 1 +

Kissan Fresh Tomato Ketchup
₹ 111 ₹ 120   − 1 +

Add new item

Bill Details

Item total   ₹ 929
Discount   − ₹ 126
Tax   ₹ 46.45
Bill Total   ₹ 849.45

Billing to Priya Singh
+919876543210   Edit

₹ 849.45 ₹ 929   Proceed to Pay

A Swedish Company Specializing in Fully-integrated Smart Sportswear

Established an ecommerce website for showcasing products and an app for monitoring smartwear performance.

Smart Wearable   UI/UX   E-Commerce   IoT

Outcomes

35% Increased Customer Acquisition

- Smart technology coupled with intuitive features and user-friendliness drove a higher user-adoption ratio.

20% Increased Revenue

- Real-time tracking of equipments enabled the client to identify bottlenecks and ensure 99.99% uptime of the manufacturing process.

10x Increased Traffic

- The data captured on a real-time basis is integrated with ERP which delivers insights on the operation efficiencies and manufacturing productivity.

Solutioning

Challenges

- Lack of a robust and secured infrastructure for facilitating online payments.

- Need of introducing competitive modules in the wearable that could give them an edge over others.

- Absence of the admin panel for onboarding vendors and monitoring sales, delivery, inventory etc.

Technical Spotlight

- Integrated a Stripe payment gateway to facilitate quick and easy payments across different countries and currencies.

- Used Material-UI Framework for designing various dashboards and panels featured on the website and mobile apps.

- Leveraged SQLite and JSON web tokens for enabling seamless login, logout and maintaining of user information.

Solution Highlights

- Ecommerce portal enables customers to buy products from different countries.

- Payment portal integration enabled payments to be accepted from multiple countries.

- Integration of sales report panel with different filter operations as well as a separate module for affiliate and referral program functionality.

Tech Stack Swift Kotlin SQLite JSON
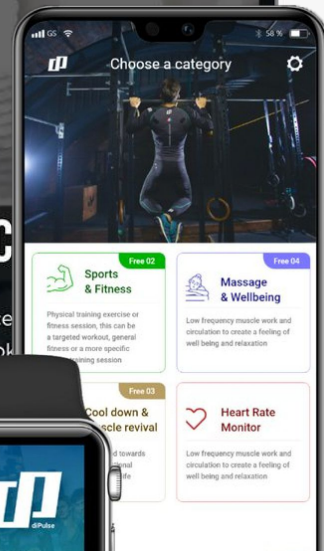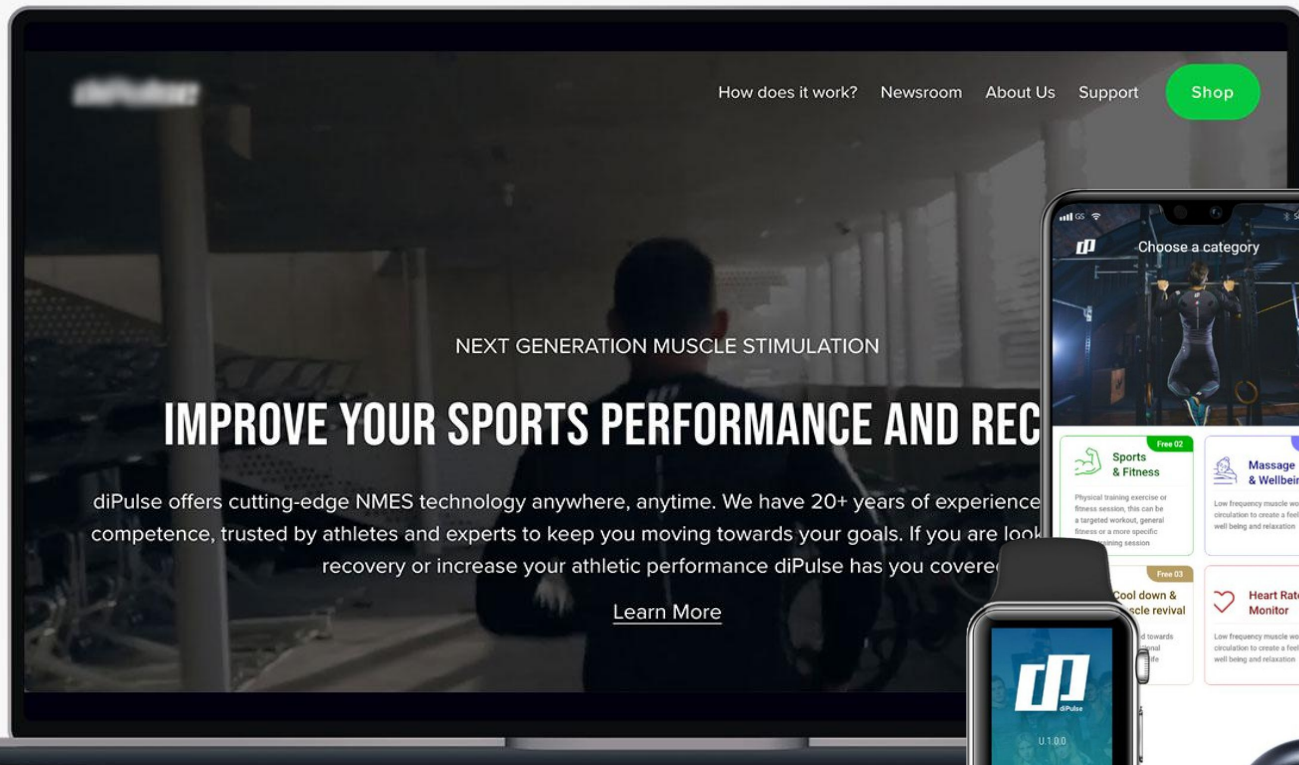
Established Clinical Practice In Rectal Cancer Diagnostics

Developed an AI-driven diagnostics system to revolutionize medical imaging methods.

Product Engineering
IoT
Data 3D Visualization
AI/ML

Outcomes

10x Accurate Diagnosis

- Real-time 3D image using a game engine improved the accuracy of diagnosis and in calculating the exact dimensions of the tumor.

50% Decreased Diagnosis Time

- Instant and non-invasive 3D imaging decreased diagnosis time significantly when compared to previous methods.

30% Increased Customer Handling

- Instant assessment and results enabled medical professionals to run patients than what was possible in traditional methods.

Solutioning

Challenges

- Lack of accurate diagnostic methods for preoperative evaluation.

- Absence of reliable method to know if cancer has spread to the lymph nodes.

- No method of collating data to create accurate 3D renders of the cancerous growth.

Technical Spotlight

- Combined the ultrasonic instrumentation device by us4us with a data acquisition model built in Python.

- Rendered in the data in realistic 3D patterns using a Unreal game engine.

- Increased the quality of output for visualization using Computer Vision Algorithms.

Solution Highlights

- 3D scan of the inner body parts which reveals infections, tumors, and abnormalities with utmost precision.

- An efficient 3-tier multi-tasking architecture was established with a machine algorithm for seamless communication between data and devices.

- Accelerated the systems efficiency by reducing the latency and increasing the image processing capabilities.

Tech Stack UNREAL ENGINE   python™   JSON

World's Leading AI/ML Sports Application

Created AI-based approach to draw analytics in padel tennis for gameplay improvements.

Data 3D Visualization — IoT — AI/ML — Product Engineering

Outcomes

Real-time AI scorekeeping

- Automatic scorekeeping in real time based on international padel rules; line calling, bad balls, correct serving, etc.

Game analysis with highlights & lowlights

- Highlights (best actions) and lowlights (best fails) of matches will be recorded and supplemented with overlays of stats such as type of strike, ball speed, ball angle, and score.

Suggestions on strategy & tactics

- The match will be analyzed to identify key points where gameplay, strategies, and tactics could be improved.

Solutioning

Challenges

- Absence of user-based mobile camera setup which makes calibration tasks very difficult.

- No method of achieving excellent frames per second for real-time video production after rendering several large models.

- Different lighting condition makes ball detection and tracking also very difficult.

Technical Spotlight

- Created a UI using C++ that is both visually appealing and effectively.

- MongoDB helps store the data and derive analytics on essential metrics.

- Increased the quality of output for visualization using Computer Vision Algorithms.

Solution Highlights

- Camera calibration, leveraging computer vision for combining all the input videos into a single coordinate system.

- Person detection and pose estimation for shot classification. Reinforcement-based approach for gameplay improvement.

- Ball tracking and trajectory prediction for Scorekeeping.

Tech Stack
python   C++   mongoDB   OpenCV   React Native   aws
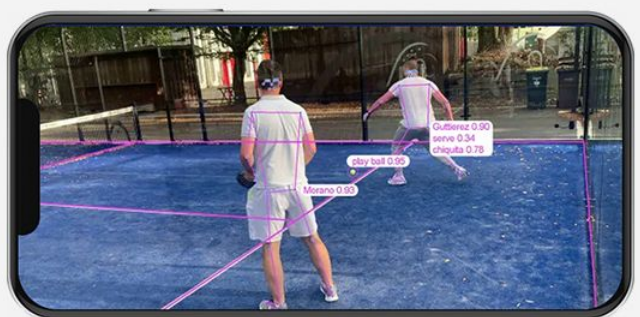
Engineering For A Leading Technology Software Product Vendor

Built a mobile application to track the temperature of frozen foods.

| API | IoT | Geolocation | Cloud Enablement |

Outcomes

Geolocation

- Wireless GPS receivers transmit GPS position information from the GPS receiver, to track geolocation.

IoT temperature sensors

- Integrated IoT temperature sensor to monitor temperature of food and share data with server.
- Rider are able to view temperature of the food in real-time.

User Experience

- Instituting a dynamic and intuitive design improved user experience and satisfaction.

Solutioning

Challenges

- Absence of IoT temperature sensor to keep track of the temperature in real time.

- No method for the admin and rider to interact and notify each other of changes.

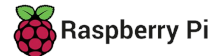- Admin is unable to track the rider's live location on an active ride.

Technical Spotlight

- Power BI - an interactive data visualization software - was employed to generate reports.

- Accomplished smart and secure database capabilities with MySQL Server and attained resolute memory support.

- Integrated API for temperature sensor backed by the AWS RDS - an open-source cloud database service - to ensure seamless and hassle-free operations.

Solution Highlights

- Integrated DS18B20 Waterproof temperature sensor probe to detect any physical change to that temperature producing either an analogue or digital output.

- The rider and admin receive a warning signal with an alarm, alerting them to take essential steps for maintaining food temperature.

- Created an admin web interface with many capabilities such as editing/adding/deleting users, generating data on active rides, and receiving temperature maintenance reports.

Tech Stack — JS — MySQL — aws — Power BI — Raspberry Pi

A Leading Monitoring Hardware Provider

Developed a deep learning-based model capable of detecting objects in real-time.

Computer Vision   IoT   Object Detection   Machine Learning

Outcomes

Accurate Object Detection Algorithm

- A deep learning based approach to detect objects within a defined sensitive area.

Real-time Camera Feed

- Each camera captures a continuous video stream that is processed in real-time by the YOLOv5 algorithm running on a powerful computer.

User Adoption

- High-performing and intuitive model to detect presence of objects around the area rendered it most preferred by users.

Solutioning

Challenges

- Difficulty curating a deep learning model for the client's physical environment.

- Collecting bespoke datasets to train the YOLOv5 model proved tough.

- Difficulty to reduce the model's false positives (false alarms) and confine it to unidentified objects within the area.

Technical Spotlight

- Leveraged the YOLOv5 object detection algorithm, which is an open-source deep learning-based model capable of detecting objects in real-time with high accuracy.

- By using WebSockets, the system can transfer video data to the cloud computing platform or on-premise machine in real-time, reducing processing time and increasing system responsiveness.

- Leveraged AWS Cloud - an on-demand cloud computing platform - to easily store and manage the database ecosystem.

Solution Highlights

- System can be configured to scan at scheduled time. Once an object is detected, the system generates an alert indicating the location, type, and time of the detection.

- Alerts are sent to a monitoring center where trained personnel can take appropriate action.

- Alerts can also be sent to mobile devices, allowing security personnel to respond quickly to potential security threats.

Tech Stack   python   aws   PyTorch   YOLOv5

Well-Established Multinational Chain of Private Hospitals

Engineered an IoT-based automation system to control and monitor hospital surroundings.

Automation   IoT   Sensors   AI/ML

Outcomes

Voice & Gesture Recognition

- Patients and staff utilize intelligent voice assistants or gesture recognition to activate or deactivate area lightings, adjusting thermostats, and locking doors.

Reduced Operational Overheads

- Ability to reduce operational overheads while eliminating the human workforce redundancy, letting staff focus on improved care for patients and ultimately making decisions that demand thought and innovation.

Intelligent Monitoring Of Patients

- Easily scale operations and maintain track of patients and their activities while controlling anything from room temperature to monitoring patient movements.

Solutioning

Challenges

- Compatibility Some appliances may not be compatible with the system, making it difficult to integrate that into the system.

- Network failure In case of internet failure, the system has to work without its vital cloud instances.

- Self-diagnostic The system should inform the user about the particular broken-down sensor.

Technical Spotlight

- Leveraged computer vision for user recognition and tagging.

- Use of high-definition and multi-functional camera system and sensors for product identification, track user movement, and identify patterns.

- Leveraged AWS Cloud - an on-demand cloud computing platform - to easily store and manage the database ecosystem.

Solution Highlights

- Human Detection - A cluster of different sensors is used to detect human presence and current state.

- Automated climate control - AI/ML is used to analyze the sensor data to maintain the optimal environment.

- Handle network failure - In case of internet failure, the system can store data locally to perform its operation, until the connection reestablished.

- User Friendly UI - The system has a very user-friendly UI to control the appliances remotely.

Tech Stack   python   aws   mongoDB   C++   S3 Bucket
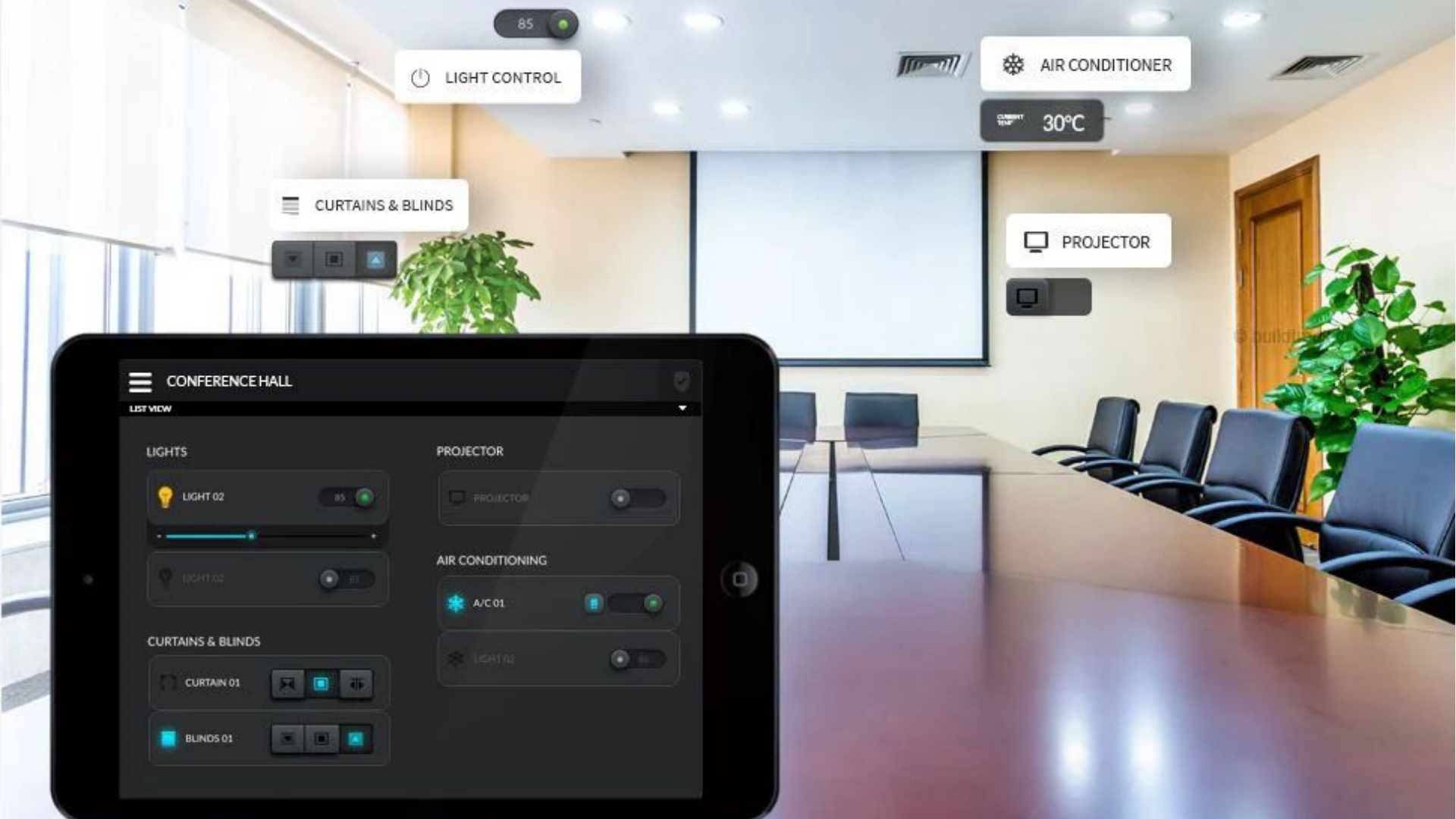
Largest Healthcare Provider In India

Developed an IoT–based hospital management system to track various inventory.

Product Engineering   IoT   Data Analytics   AI/ML

Outcomes

Real-Time Tracking

- With an IoT-based inventory management system, hospitals can track their inventory in real-time, which allows for better management of stock levels and ensures that essential items are always in stock.

Improved Patient Care

- An IoT-based inventory management system ensures that essential supplies are always available, leading to improved patient care and better patient outcomes.

Streamlined Operations

- By automating the inventory management process, hospitals can streamline their operations and focus on delivering high-quality care to patients.

Solutioning

Challenges

- IoT devices can generate a vast amount of data, and it is essential to ensure that this data is accurate and reliable.

- Use of IoT devices in hospital inventory management can raise issues about data privacy and security, thus it is critical to put in place strong security measures to safeguard the data's safety and confidentiality.

- Connecting an IoT hospital inventory management system with current hospital systems like electronic health records, billing systems, and supply chain management systems can be difficult.

Technical Spotlight

- Leveraged AWS Kinesis to securely broadcast video to AWS from camera-equipped devices in hospitals. These video feeds may then be used for video playback, security monitoring, face identification, machine learning, and other analytics.

- Amazon Greengrass enables your devices to gather and analyze data closer to where it is created, respond autonomously to local events, and securely connect with other devices on the local network.

- Cloud enablement helps store the data and derive analytics on essential metrics.

Solution Highlights

- To maintain the best security we use the JWT security layer so that the exchange of data becomes secure and the system becomes secure.

- For inventory management systems we used passive RFID tags, and AI powered surveillance system.

- Several machine learning models with different sensors are used to Integrate the new system with existing systems so that all pre-existing equipment can be used with the new system.

Tech Stack python aws C++ AWS IoT AWS Greengrass amazon Kinesis

Analytics Overview

Northwestern Memorial Hospital

251 E Huron St, Chicago, IL 60611,
United States

Total Doctors
3.8k

Number of Cities
21

Northwestern Mem-
Hospital

Hospital Stats

289.2k
Corona Cases

96.3k
Active Cases

23.6k
Deaths

2.8k
Beds Available

98.7k
Recovered

5%

321.4k
Testing Done

-5%

Dashboard

Dr. Profiles

Organization

Department

Settings

A Comprehensive AI and IoT-based Remote Telehealth Platform

Created a patient-centric mobile application to streamline the process of perioperative care.

AI/ML   Cloud Computing   Database Management   UI/UX Engineering

Outcomes

Improved Patient Outcomes

- A one-of-a-kind integrated health ecosystem digitally supplies patients with medical competence, allowing patients all over the world to get medical treatment regardless of geography or financial position.

IoT-Powered Diagnostic Tools

- Helped track the administration of drugs and the response to the treatment and reduce medical errors.

Increased Efficiency

- Used advanced next-gen technology like MongoDB - a popular NoSQL database that is designed to handle large volumes of unstructured or semi-structured data, enhancing overall operational efficiency.

Solutioning

Challenges

- Difficulty to create the teleconsultation feature utilizing Twilio, which featured capabilities such as managing recording of teleconsulting sessions and integrating pharmacy and lab test modules.

- Absence of Sokcet.io to develop a smart built-in chat application.

Technical Spotlight

- Leveraged Node.js as a back-end framework along with Angular as a front-end framework to develop dynamic web pages.

- Leveraged MongoDB to manage the database ecosystem.

- Utilized Twilio - a third party component as a customer engagement platform to build unique, personalized experience for users.

Solution Highlights

- Language Localization entails creating web pages in several languages in order to gauge user interest regionally.

- Excellent intuitive, dynamic website design for a satisfied user experience.

- Created a built-in AI-enabled chat application to provide users with quick replies.

Tech Stack

ANGULAR node JS mongoDB. Microsoft Azure socket.io Swagger Supported by SMARTBEAR twilio

An India-based Multinational Healthcare Enterprise

Built an IoT app to collect, process, and store health data, triggering notifications for anomalies.

IoT

Data Processing

Anomaly Detection and Reporting

Notifications

Outcomes

Comprehensive Health Data Collection

- Successful use of AWS IoT Core captured diverse health parameters (SPO2, HeartRate, Temperature) for comprehensive patient data.

Proactive Anomaly Detection

- Implementing anomaly detection enhanced the app's ability to identify and store anomalies in DynamoDB, improving early intervention and patient care.

Timely Notifications

- The notification system sent timely alerts for anomalies, enabling swift healthcare responses and enhancing patient safety.

Solutioning

Challenges

- Scaling the IoT cloud application to handle varying data loads.
- Ensuring seamless integration and interoperability with diverse IoT devices collecting health parameters.
- Guaranteeing the reliable delivery of notifications via email or SMS.

Technical Spotlight

- AWS Cloud provided a scalable and reliable cloud infrastructure.
- Python's readability and ease of integration facilitated the creation of robust IoT applications.
- MQTT enabled fast and reliable communication between notification system components.

Solution Highlights

- Utilize AWS auto-scaling features to dynamically adjust resources based on demand.
- Followed IoT protocols, offered clear integration guidelines, and conducted thorough compatibility tests for seamless data flow with diverse devices.
- Used redundant notification channels, implemented delivery confirmation, and integrated with reliable third-party communication services.

Tech Stack   aws   MQTT   macOS
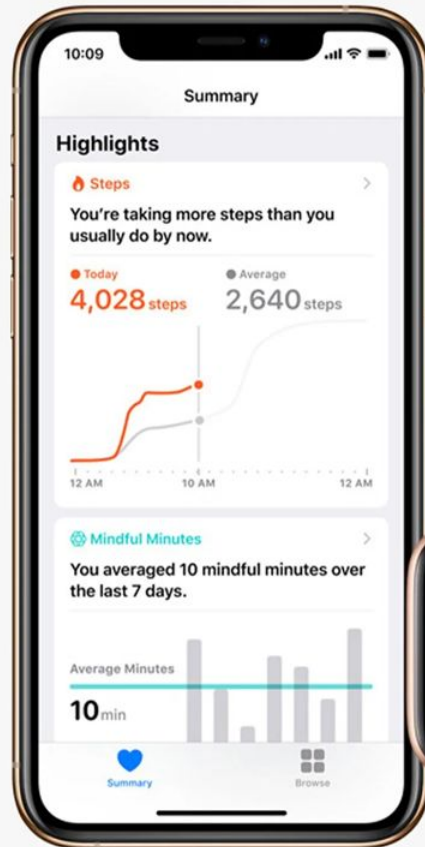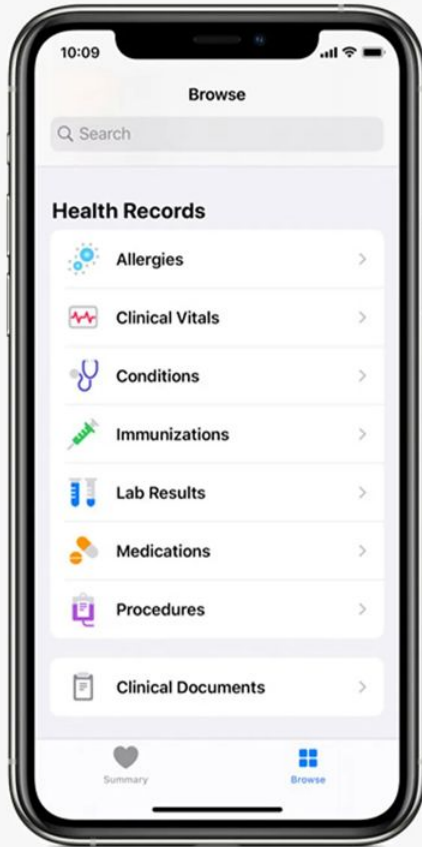
A Medical Technology Company Specializing in Medical-grade IoT Sensors

Used sockets for live device monitoring, patient profiles, disease analysis, and user-captured media.

| User Engagement | IoT | Disease Analysis | Patient Monitoring |

Outcomes

Real-time Device Monitoring

- Utilized IoT devices through sockets for real-time monitoring of live device movements, fostering improved patient care and health tracking.

Data-Driven Disease Insights

- Visualized disease charts and data-driven analysis enhanced medical condition understanding.

Interactive User Engagement

- Empowered users in health management by capturing live device images and videos for a more engaged healthcare experience.

Solutioning

Challenges

- Ensuring compatibility with a variety of IoT devices for consistent and reliable operation.
- Ensuring seamless and real-time capturing of live device images and video recording.
- Scaling the application to handle a growing user base and ensuring optimal performance.

Technical Spotlight

- JavaScript ensured cross-platform compatibility and seamless integration with diverse IoT devices.
- MobX provided efficient state management, ensuring smooth real-time updates during live image capture and video recording.
- MongoDB, a flexible NoSQL database, enabled seamless scaling and efficient handling of growing data volumes.

Solution Highlights

- Conducted device compatibility tests, offer clear user guidelines, and provide regular updates for new market devices.
- Optimized image/video algorithms, used efficient compression, and prioritized device compatibility for a smooth user experience.
- Used scalable cloud infrastructure, applied load balancing, and continuously optimized app performance.

Tech Stack
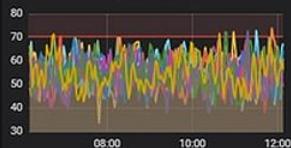
A Multifaceted Conglomerate Spanning Various Industries

Created a deep learning and IoT-based solution for quality analysis in tractor production lines.

IoT   API Integration   Automation   Scalability

Outcomes

53% Enhanced Scalability

- Provided robust infrastructure support, enabling the platform to efficiently handle increased user traffic and data volume without compromising performance.

75% Improved User Experience

- Enhanced user interface responsiveness and interactivity, resulting in a more seamless and engaging user experience.

4x Enhanced Data Visualization

- Designed visually appealing dashboards and reports, facilitating better data interpretation and decision-making.

Solutioning

Challenges

- Optimizing platform performance to minimize loading times and ensure smooth user interactions.

- Handling real-time data updates and interactions efficiently to provide timely and accurate information to users.

- Safeguarding sensitive user and organizational data from potential security breaches and vulnerabilities.

Technical Spotlight

- Utilized Python and Flask frameworks to optimize code performance and identify and eliminate bottlenecks.

- Leveraged AJAX technology to enable asynchronous data processing and real-time updates.

- MySQL 5.0's security features and Google API's authentication mechanisms were utilized.

Solution Highlights

- Improved platform performance and reduced loading times, enhancing overall user satisfaction.

- Provided users with timely information, improving the overall user experience.

- Ensured robust protection of sensitive user and organizational data, mitigating security risks and vulnerabilities.

Tech Stack

TRACTORS ⌄   IMPLEMENTS ⌄

Get Price   Service   Find Dealer   Search

HOME > Digisense

Track your Tractor

Stay connected with our Next Generation AI-driven app.

Overview

Digisense 4G is the Next Gen AI (Artificial Intelligence) driven open Architecture connected solution. Digisense 4G improves upon the successful Mahindra Digisense platform. This data driven app helps farmers track their tractors and control their farming activities remotely. It aims to empower farmers with data on their farming operations, which in turn will enable them to make more profitable decisions. This solution is compatible with 4G and a multitude of devices from smartphones to standard laptops. Now, nothing will escape the farmer's eye. He now holds his very own third-eye, in the palm of his hand.

Need Help?

A Family-Run Company Specializing in Weighing Technology

Built an IoT-powered application to automate the materials weighing process.

Cloud Connectivity · IoT Integration · Automation · Remote Monitoring

Outcomes

70% Streamlined Operations

- Reduced manual intervention, streamlining operations and increasing overall efficiency.

6x Improved Safety Measures

- Contributed to a safer work environment by preventing overloading and reducing potential hazards.

47% Increased Productivity

- Increased productivity by empowering users to optimize loading operations effectively.

Solutioning

Challenges

- Integrating various components such as IoT devices, cloud servers, and local databases.

- Ensuring seamless synchronization between local SQLite databases and cloud servers.

- Ensuring the platform can handle increased loads and scale effectively as the user base grows.

Technical Spotlight

- Android (Java)'s modular development allowed for gradual integration of components.

- Utilized Retrofit library for RESTful API communication, enabling seamless synchronization.

- Employed Windows Server for cloud hosting and scalability.

Solution Highlights

- Simplified integration with Java's modular development, enabling a smoother development process.

- Seamless synchronization between local databases and cloud servers.

- Ensured scalability, enabling the platform to handle increased loads and accommodate growth.

Tech Stack   Java   SQLite   Retrofit   Windows Server
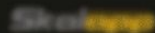
ČESKY ENGLISH

WEIGHING
WITHOUT LIMITS!

Increase the speed and efficiency of your wheeled loader, mobile crusher/screener or stationary conveyor belt operations with automatic, real-time Skalapp and Skalapp DV weighing systems. Both systems utilize today's most advanced technology for ensuring highly accurate weight measurements across a wide range of the most demanding environments.

LEARN MORE →

Skalapp

⛃ Dispatch ⌄

CLOSE BUCKET   ⬆ LIFT

∑ 33,65t   L90H ◆ 7

🚚 12,15t   21,50t

Material: **Sand 15**
Customer: **DSP s.r.o.**
Vehicle: **3R6 3434**
Order: **Project RS1**

⏻   FINISH WEIGHING »

Checkweigher | Max 10.00t | Min 0.50t | e - d - 0.05t

Global Leader in Precision Fastening and Assembly Solutions

Built a smart automation tool to streamline the gas-pipes welding process.

Product Engineering

Automation

CMS

Sensors

Outcomes

5x Improved Visibility

- Simple yet intuitive UI that provides real-time status on the automated and remotely monitored welding activity and helps identifying abnormalities.

99% Quality Outcomes

- Automation of welding gas pipes using advanced technologies yielded precision and superior outcomes.

8x Improved Productivity

- Elimination of the traditional manual welding process boosted productivity and overcame the risk of human casualties.

Solutioning

Challenges

- Achieving high-levels of productivity was crucial as the client operates in the oil and gas sector, where factors such as time, yield, and budgets were necessary to be kept as minimal.

- Leveraging IoT Technology in the industrial framework required coupled efforts ensuring that the communication between the hardware devices and the software was thoroughly built.

Technical Spotlight

- Node. js supports the MQTT protocol, commonly used by IoT apps, making it easy to connect to independent and third-party services and prepare it for integration through multiple environments.

- IoT in welding offered delivering insights on system performance that led to identifying communications between systems and deriving performance data.

Solution Highlights

- The application developed for the oil and gas industry automates the welding process for pipes of diameter ranging from 6-8 inches. The process involves welding from inside as well as outside with well precision and accuracy.

- The project is based on the IoT platform and establishes server to server communication and server to client communication.

- Integration of various cameras and sensors to perform precise welding and rotation and movement modules to move the torch in various positions.

Tech Stack

node JS mongoDB express ANGULAR socket.io

Import Part | Identify Welds | Import Welds | Plan | Weld Settings | Project Settings | Generate Program | Fit All | Robot | Cell | Parts

Plan | Settings | View

Welds

Filter | 100 welds

Name	Length	Tags	Info	
FirePit...	250mm		Position	
FirePit...	250mm		Position	
FirePit...	250mm		Position	
FirePit...	250mm		Position	
FirePit...	100mm		Position	
FirePit...	100mm		Position	
FirePit...	250mm		Position	
FirePit: Fir...	250mm			

Workspace | Welds | Program

Detail

Name | FirePit: FirePit1 - FirePit11 (#7)
Tags |
Enabled | ✓
Settings | New Settings
Calibration | ✓ Use touch sensing?
| ☐ Use laser sensing?
| ☐ Require all 3 directions?
Length | 250mm
Targets | View and edit targets...
Path | Troubleshoot weld path...
Status | Planned
Errors | none
Warnings | none
Info | Positioner range [35, -270] to [35, -270]; |33|

Robot

Joints

All

T	2310.61mm	
S	119.42°	
L	-57.05°	
U	12.81°	
R	-119.42°	
B	-22.21°	
T	135.36°	
P1	35.65°	
P2	90.00°	

Tool

Tool Centre Point (TCP)

| X2226.44mm | Y-180.51mm | Z668.17mm |
| R4.18° | P157.18° | Y83.65° |

Configuration

3: 119.42°, -57.05°, 12.81°, -119.42°, -22.21°, 135.3

Status

✓ Valid? | ☐ Colliding?

100% | speed