



**Step-up process by uniting
People, Business and Technology**

Agenda

Smart Marble Race Tracking System proposal

This proposal outlines the development of a Smart Marble Race System with sensor-based camera switching, OCR-based marble tracking, live streaming integration, and future betting logic support. It includes key features, timeline, milestones, and cost estimation.



Understanding Your Requirements



Proposed Solution Overview



Project Timeline & Milestones



Project Analysis

Smart Marble Race Tracking with Live Streaming

This project aims to build an automated marble race system that uses sensors and cameras to detect and follow the leading marble in real time. The system will switch cameras automatically based on sensor inputs and OCR color detection, ensuring smooth live streaming through OBS. It will also support lap counting and race logic using a hardware setup like Raspberry Pi.

The software will be integrated with an existing website and designed to support future betting features. This creates a scalable foundation for live, interactive races, allowing for real-time audience engagement and automated result handling.



1) Camera and Sensor Synchronization

- ◆ **Requirement:** Ensure precise synchronization between 8 USB cameras and sensors to continuously track the leading marble stone on a race track.
 - ◆ **Response:** Our solution will integrate IR or Lidar sensors with Python-based control software and Raspberry Pi/Arduino. Sensor input will trigger seamless camera transitions in OBS, ensuring uninterrupted tracking and broadcasting of the leading marble.
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2) OCR-Based Color Detection:

- ◆ **Requirement:** Implement OCR technology to detect marble colors accurately and determine the leading marble based on predefined color-based logic.
 - ◆ **Response:** We will use OpenCV and AI-based OCR algorithms to analyze color patterns in real-time. This method will differentiate marble stones, identify the leading one, and trigger business logic flows for tracking and validation.
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3) Live Streaming & OBS Integration

- ◆ **Requirement:** Stream the marble race live with automatic camera transitions for real-time viewer experience.
- ◆ **Response:** OBS Studio will be integrated with the system, using Python scripts to automate camera switching based on sensor input and OCR data. This will ensure low-latency, professional-grade live streaming suitable for public broadcasting.

4) Web Dashboard with Control Panel

- ◆ **Requirement:** Provide a web-based dashboard featuring a left-hand side panel to control system operations and visualize camera feeds.
 - ◆ **Response:** We will develop a responsive web interface using React.js or similar, featuring a left-side panel to monitor live camera streams, adjust settings, and manage system operations. Admins can control sensor logic, monitor hardware, and export race data.
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5) Business Logic Detection Engine:

- ◆ **Requirement:** Execute multiple race logic conditions like lap detection, marble overtaking, and status alerts.
 - ◆ **Response:** A modular rule-based engine will be developed in Python to evaluate sensor inputs and video data. It will trigger logic for lap counters, leaderboard changes, and alert mechanisms all displayed live on the dashboard and in the stream.
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6) Hardware & Code Configuration:

- ◆ **Requirement:** Configure the entire software system to operate on the client's selected hardware and server..
- ◆ **Response:** We will deploy all code on the client's Raspberry Pi devices and central server, ensuring compatibility with USB cameras and connected sensors. The system will be optimized for stable performance and remote access via the client's existing website.

7) Live Ranking Panel Integration:

- ◆ **Requirement:** Display a real-time ranking panel on the left side of the screen to show the current order of marbles during the race.
- ◆ **Response:** We will implement a dynamic left-hand ranking UI, auto-updated via sensor inputs and image processing. This panel will visually display the top marble positions in real time, integrated with the live video feed and web dashboard.

Technology Stack Requirement

Frontend: Next.js

- ◆ Next.js will be used to develop a high-performance, server-rendered React frontend. It provides seamless routing, SSR/SSG capabilities, and API route handling. The framework ensures responsive, fast-loading pages, ideal for live race tracking, real-time ranking panels, and OCR display integration.

Backend: Python

- ◆ Python will power the backend of the application, managing all core business logic, OCR processing, video stream control, and sensor input analysis. Its compatibility with libraries like OpenCV and integration flexibility makes it well-suited for building scalable and efficient race detection systems.

Database: PostgreSQL

- ◆ PostgreSQL will be implemented to manage structured data such as race logs, sensor inputs, marble tracking data, and configuration settings. Its reliability, support for complex queries, and transactional integrity make it ideal for real-time data management and historical analysis.

Server: AWS (Amazon Web Services)

- ◆ AWS will provide the cloud infrastructure needed to host the application securely and reliably. Services like EC2 (for server deployment), S3 (for storing logs or media files), and CloudFront (for fast content delivery) will be used to ensure scalability, uptime, and performance during live events.

Timeline & Milestone

Milestone 1: Frontend Interface & Live Ranking Panel

- ◆ Design and develop the frontend race interface using Next.js and JavaScript. This includes creating a responsive UI layout with a left-side ranking panel to display real-time marble rankings. The interface will also host the live stream viewer, race progress visualizations, and sensor/OCR-triggered highlights.

Milestone 2: Backend Logic & OCR Detection System

- ◆ Develop backend in Python to handle OCR-based color detection, lamp recognition, and business logic processing. Sync data from cameras/sensors with real-time race logic.

Milestone 3: Hardware Integration & Deployment

- ◆ Integrate the full system with the client-provided server (AWS) and configure hardware components including sensors and cameras. Perform end-to-end testing with live streams, ensure accuracy in OCR output, verify hardware responsiveness, and complete all configurations for production. Final delivery includes live deployment, bug fixes, future battling evaluation hooks, and NDA signing.



Cost

Billing Details:

- ◆ The total cost for this project is 8000 USD , and will be billed on miletsone basis.

Note:

- ◆ Server costs are not included in the proposed price and will be billed separately.
- ◆ Any expenses related to integrating third-party APIs, software, or additional tools will be charged separately.



Terms and Conditions Regarding Project CostL:

Confidentiality

- ◆ Softices Consultancy agrees to maintain the confidentiality of all proprietary information shared by the client for the purpose of this project.
- ◆ The client must ensure that all project-related information shared with Softices Consultancy is non-infringing on third-party rights.

Ownership of Work

- ◆ All deliverables developed as part of this project will remain the property of the client upon full payment of invoices.
- ◆ Softices Consultancy retains the right to use non-confidential project components for portfolio and marketing purposes.

Project Scope Changes

- ◆ Changes to the agreed project scope will require written approval from both parties.
- ◆ Any additional work outside the original scope will be estimated separately and billed accordingly.

Limitation of Liability

- ◆ Softices Consultancy will not be liable for delays or failures caused by external factors beyond its control, including but not limited to server outages, third-party service issues, or acts of nature.

Dispute Resolution

- ◆ Any disputes arising from this project will be subject to amicable resolution through mutual discussions.
- ◆ If unresolved, the dispute will be referred to arbitration under the jurisdiction agreed upon by both parties.

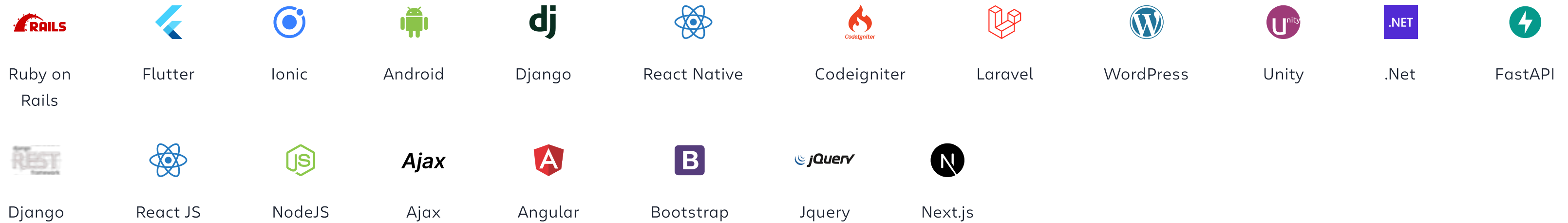
Technical Competence

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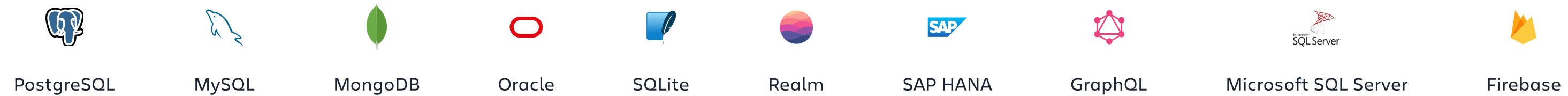
Front-end



Frameworks



Database



Server

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Tools



Languages



OS

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Windows



Linux



Mac Os



Ubuntu

Third Party Integration



Facebook



Google



Apple



Agora

Exotel

Exotel



Sendgrid & Twilio



Zendesk

Design Tools & Technology



Adobe XD



Figma



InVision



Zeplin



Photoshop



Illustrator



CorelDraw



After Effects



InDesign



Blender

Testing



Bugsnag



Datadog



Crashlytics



Sentry



Grafana



Rollbar

TestFlight

TestFlight

Diawi

Diawi



New Relic

appetize

Appetize



Burp Suite



Selenium

Payment Integration

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Stripe



Apple Pay



PayPal



Square



CCAvenue



Payu



Citrus Pay



Direcpay



Worldpay



Payza



PayTM



Amazon Pay



UPI's

Map



Google Map



Mapquest



Waze



Wikimapia



OpenStreetMap

API



Rest



SOAP

Attending to Client Needs, Is Our Life's Only Priority!

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Years of experience

We started our journey in 2015 and within short time, we have an excellent work record for the best customer satisfaction. We worked on 400+ global projects with 100% success records. Our clients are in many countries (USA, Norway, Australia, UK, Germany, Japan, Malaysia, India, Singapore, New Zealand and China.)



Our Mission

We are here to boost your business productivity and performance by offering ground breaking and economical solutions to up your industry game.



Our vision

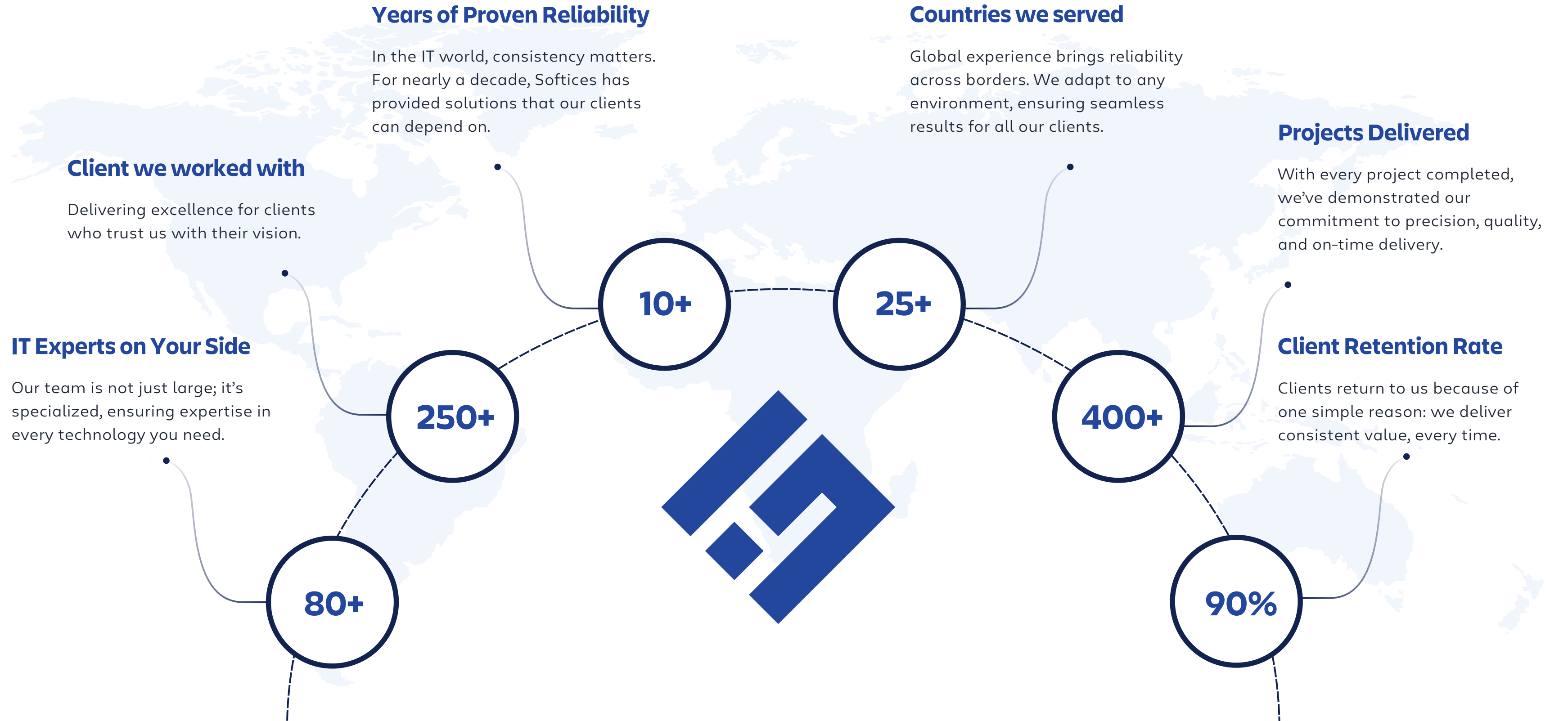
Our vision remains to be a trusted partner to our clients, while moving in the direction of digitally empowering them. We wish to earn a name as a pioneer in the areas of web & enterprise software solutions and infrastructure and data management services.



Industries We Serve

E-Commerce	Banking	Automotive	Healthcare	Retailer	Education
Advertisement & Publishing	Real Estate	Tours & Travels	Fleet Services	Energy & Utilities	Sports
Finance	FMCG	Hi-Tech	Logistics & Distribution	Media & Entertainment	Professional Services
Industrial & Manufacturing	Community	Fitness-Gym app	Tele-medicine	Journals	Trading / Stock Market
Food Ordering & Delivering	Tools	Social Media	OTT platform & Video playing app	Calendar / To-Do	Video Streaming
News	Gaming	Logistics	HRMS		

Overview of Our Progress and Tasks



Risk Management and Mitigation

Servers and Networking

In an age of ever-evolving cyber threats, our server and network security approach incorporates advanced methods like **Behavioral Threat Analytics** and **AI-Driven Anomaly Detection**. These methods allow us to anticipate breaches in real-time, neutralizing them before they manifest. We focus not only on protecting our clients' digital assets but also on staying several steps ahead of potential threats.



Storage

Modern enterprises rely on data, and we employ cutting-edge methodologies like **Distributed Redundancy Models** and **Geo-Redundant Storage Architecture** to ensure data availability and security. These strategies guarantee that even in catastrophic scenarios, our clients' data remains accessible and protected, offering the highest levels of storage security in the industry.



Coding and Testing Practices

Security is at the core of our development process. We use a **Zero-Trust Development Model** and ensure that every line of code passes through multiple layers of scrutiny. Our **Automated Vulnerability Discovery Framework** is embedded into our CI/CD pipelines, allowing for rapid identification and resolution of security gaps. We take pride in setting a high standard for secure coding in the industry.



Employee Access

Our **Adaptive Least Privilege Access Control** and **Behavioral Authentication Protocols** govern employee access. This ensures access is restricted and dynamically adjusts based on real-time behavior analytics. **Biometric Authentication** and **Contextual Access Controls** further reinforce our defenses, mitigating the risk of insider threats to near-zero.



Isolated Environment

We utilize **Virtualized Isolated Environments** and **Micro-Segmentation Techniques** to ensure that development, testing, and production systems are completely isolated. This prevents any security issues in one environment from affecting others, providing a controlled, risk-free space for new feature testing and security updates.



Service Levels and Backups

Our **Continuous Data Replication** and **Near-Zero Downtime Backup Architecture** redefine service levels. Data is replicated across multiple geographical regions, ensuring that our clients maintain operational continuity regardless of disruptions.



System Monitoring and Alerting

Our system monitoring leverages **Proactive Threat Detection Models** and **Machine Learning-Based Predictive Alerts** to identify potential security risks before they escalate. Our 24/7/365 **Security Operations Center (SOC)** ensures anomalies are addressed instantly, keeping our clients ahead of cyber threats.



Vulnerability Testing

Our vulnerability testing relies on **Real-World Scenario Simulation** and **Advanced Red Teaming Exercises** to actively seek out potential weaknesses. Through continuous testing and simulated attacks, we ensure our clients' data and infrastructure remain secure against the most advanced cyber threats.



Application Architecture

We employ a **Microservices-Based Security Model**, where each service operates independently and is protected with its own security measures. This modular structure allows us to rapidly enhance security without compromising overall integrity. Each application is robustly designed to resist even the most sophisticated cyberattacks.



Data Privacy & Security Encryption

Our **Dynamic Data Masking** methods ensure that our clients' sensitive data remains encrypted and secure as technology evolves. We are proactive in data protection, continuously adapting our encryption practices to meet and exceed industry standards.



Innovation & Continuous Improvement

Our focus on **Adaptive Security Frameworks** and **Blockchain-Based Security Measures** highlights our commitment to staying at the forefront of cybersecurity. We continually improve our offerings, leveraging AI for threat detection and blockchain technology for enhanced security.



Business Continuity & Disaster Recovery

Our vulnerability testing relies on **Real-World Scenario Simulation** and **Advanced Red Teaming Exercises** to actively seek out potential weaknesses. Through continuous testing and simulated attacks, we ensure our clients' data and infrastructure remain secure against the most advanced cyber threats.



Compliance & Certification

We adhere to methodologies such as the Continuous Compliance Assessment and Self-Auditing Protocols, ensuring alignment with major certifications like ISO/IEC 27001, SOC 2 Type II, and GDPR. These practices allow us to maintain compliance without the need for constant external audits, ensuring a smooth and efficient process.

Existing Certificate

◆ CMMI Level 3 Certificate

Softices is proud to be CMMI Level 3 compliant, showcasing our commitment to standardized and well-defined processes. This certification ensures consistent quality and efficiency in our project management and service delivery, reflecting our dedication to continuous improvement and client satisfaction.



◆ ISO 9001:2015

Softices is ISO 9001:2015 certified, underscoring our commitment to quality management and continuous improvement. This international standard demonstrates our ability to consistently provide products and services that meet customer and regulatory requirements. By adhering to ISO 9001:2015 principles, we ensure that our processes are efficient, customer-focused, and aligned with best practices, ultimately enhancing client satisfaction and trust in our services.



Applied For

◆ Certification of Information Security Management (ISO 27001)

Softices has applied for ISO 27001 certification to establish a strong framework for managing information security risks. This international standard reflects our commitment to protecting sensitive data through effective risk management, ensuring confidentiality, integrity, and availability.



◆ SOC type 2

We have applied for SOC Type 2 compliance, which assesses the effectiveness of our internal controls over security, availability, processing integrity, confidentiality, and privacy. This independent audit validates our commitment to safeguarding client data and reinforces our dedication to transparency and trust in our services. Achieving SOC Type 2 compliance ensures that client data is handled with the utmost care.



Strong Project Management and Execution

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Why We are the Best

How It Works

Tools We Use

Key Techniques



Agile Project Management

Agile allows us to handle dynamic, evolving projects with unmatched adaptability. Our team has mastered Agile principles, enabling us to rapidly iterate and respond to changing requirements without sacrificing quality.

We break projects into iterative cycles (sprints), fostering continuous feedback, faster delivery, and quick adaptation to any evolving needs.

Jira for Sprint Management, Confluence for Documentation.

Sprint Planning, Daily Stand-ups, Sprint Reviews, and Retrospectives.



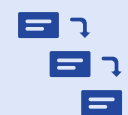
Scrum Framework

Our Scrum teams are highly skilled in managing complex projects that require close collaboration and constant delivery. We ensure every sprint cycle adds measurable value to the project.

Scrum facilitates efficient tracking through backlogs, sprint cycles, and incremental delivery, ensuring alignment with client needs and goals.

Scrum Boards via Jira, Backlog Tracking Tools.

Product Backlog Management, Sprint Cycles, Scrum Boards, Burn-down Charts.



Waterfall Model

For projects where requirements are well-defined upfront, we employ Waterfall to ensure precise, phase-based execution with minimal risk. Our structured approach ensures every phase is completed with exacting detail.

Each phase—design, development, testing, deployment—is completed before moving to the next, ensuring clarity and stability.

Microsoft Project for Gantt Charts and Milestone Tracking.

Microsoft Project for Gantt Charts and Milestone Tracking.

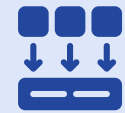
Why We are the Best

How It Works

Tools We Use

Key Techniques

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Hybrid Approach (Agile-Waterfall)

We recognize that not all projects fit neatly into Agile or Waterfall models. Our hybrid approach combines the flexibility of Agile with the structured delivery of Waterfall, ensuring maximum adaptability without losing sight of key milestones.

This method ensures short-term deliverables are adaptable, while long-term goals and milestones remain on track.

A combination of Jira and Microsoft Project for integrated tracking.

Dual Project Tracking (Agile + Waterfall), Customized Hybrid Model.



PRINCE2 (Projects in Controlled Environments)

For larger, regulated projects, PRINCE2 ensures meticulous control at every stage. Our certified PRINCE2 professionals guarantee projects are delivered with the highest standards of governance and accountability.

Projects are broken into manageable stages, with continuous evaluation to ensure alignment with the business case.

PRINCE2 methodology with Stage-Gate Tracking Tools.

Stage-Gate Approvals, Product-Based Planning, Risk Management.



DevOps (CI/CD for Continuous Integration and Delivery)

We've integrated DevOps deeply into our software development processes, ensuring that development and operations are seamlessly aligned. Our use of CI/CD pipelines ensures fast, efficient, and error-free deployment.

Through automated testing, integration, and delivery, we reduce downtime and ensure rapid feature releases.

Jenkins, GitLab CI, Docker, Kubernetes.

CI/CD Pipelines, Automated Testing, Continuous Monitoring.

Why We are the Best

How It Works

Tools We Use

Key Techniques

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Lean Project Management

We apply Lean principles to ensure every resource is utilized effectively, maximizing value while reducing waste. Our team consistently finds ways to optimize processes to improve productivity and cost-efficiency.

We focus on continuous improvement by evaluating and streamlining workflows, ensuring that every phase of a project is as efficient as possible.

Value Stream Mapping Tools, Kanban for Lean Workflow.

Value Stream Mapping, Root Cause Analysis, Continuous Improvement (Kaizen).



PMI's PMBOK (Project Management Body of Knowledge)

We follow PMI's PMBOK guidelines rigorously to ensure all projects are managed with global standards in mind. This guarantees a consistent, high-quality approach to project management across all phases.

We cover key areas such as scope management, time management, risk management, and cost control to ensure that projects remain on track and within budget.

Microsoft Project, Primavera P6.

Work Breakdown Structure (WBS), Critical Path Method, Earned Value Management (EVM).

Cultural and Operational Fit

At Softices, we understand that aligning with the culture and operational needs of our clients is critical to delivering seamless IT services. We have built our company culture and operations to meet the demands of multinational corporations (MNCs) and deliver excellence on a global scale.

24/7 Operational Efficiency

Round-the-Clock Availability

Operating in a 24/7 environment, we ensure that your projects move forward without delay, regardless of time zone. Our teams are positioned globally to provide ongoing support, ensuring continuity in project execution no matter when or where your team operates.

Real-Time Responsiveness

We prioritize responsiveness, ensuring that decisions are made quickly, project adjustments are implemented promptly, and all stakeholders remain informed at every stage. Our real-time response capabilities are ideal for fast-moving, dynamic projects, particularly those requiring global coordination.





Global Culture Alignment

Multinational Experience

Our team's diverse, international experience allows us to integrate smoothly with the operations of global organizations. We are adept at understanding different work cultures and thrive in collaborative environments that cross continents and industries.

Cultural Sensitivity and Adaptability

Softices takes pride in its ability to navigate and respect the cultural norms of different regions. Whether it's understanding communication styles, decision-making processes, or organizational structures, our team adapts quickly and works effectively with your global teams.

Operational Flexibility and Scalability

Agility to Adapt

Softices is designed to scale up or down depending on the needs of the project. We understand that MNCs often require flexible resources, and we have the capability to adjust rapidly, ensuring no disruptions to project timelines or deliverables.

Seamless Cross-Time zone Collaboration

We provide seamless integration into your operational workflows, managing distributed teams and ensuring that our processes align with your timelines and geographical requirements. Whether it's working in coordination across different time zones or aligning with your operational cadence, we ensure smooth, coordinated execution.



Exceptional Client Support



Comprehensive Onboarding Process

Our onboarding process is not just a formality—it's the foundation of a successful partnership. We take the time to deeply understand our clients' needs, challenges, and objectives, tailoring our services to deliver maximum value. From day one, our clients experience a level of attention and dedication that sets the tone for a long-term, successful relationship.



Dedicated Account Management

We don't just assign account managers; we create strategic partnerships. Each client is paired with a senior account manager who brings a wealth of industry expertise and a deep understanding of their business. This dedicated support ensures that our clients receive personalized service, strategic advice, and rapid resolution of any issues that arise.



Transparent Communication & Reporting

In a world where transparency is rare, we stand out by offering complete visibility into our operations. Our clients receive real-time updates, detailed reports, and regular meetings to discuss progress, challenges, and opportunities. We believe that informed clients are empowered clients, and we strive to provide the clarity and transparency that fosters trust and collaboration.



Post Delivery Support & Maintenance

Our commitment to our clients doesn't end with delivery—it's just the beginning. We offer comprehensive post-delivery support and maintenance, ensuring that our solutions continue to meet our clients' needs as they evolve. Our 24/7/365 support team is always available to address any issues, make updates, and ensure that our clients' operations run smoothly.



Commitment to Integrity & Ethical Practices

Integrity and ethics are the cornerstones of our business. We operate with complete transparency, honesty, and a commitment to doing what’s right for our clients, even when it’s not the easiest path. Our clients can trust that we will always act in their best interests, delivering solutions that are not only effective but also ethically sound.



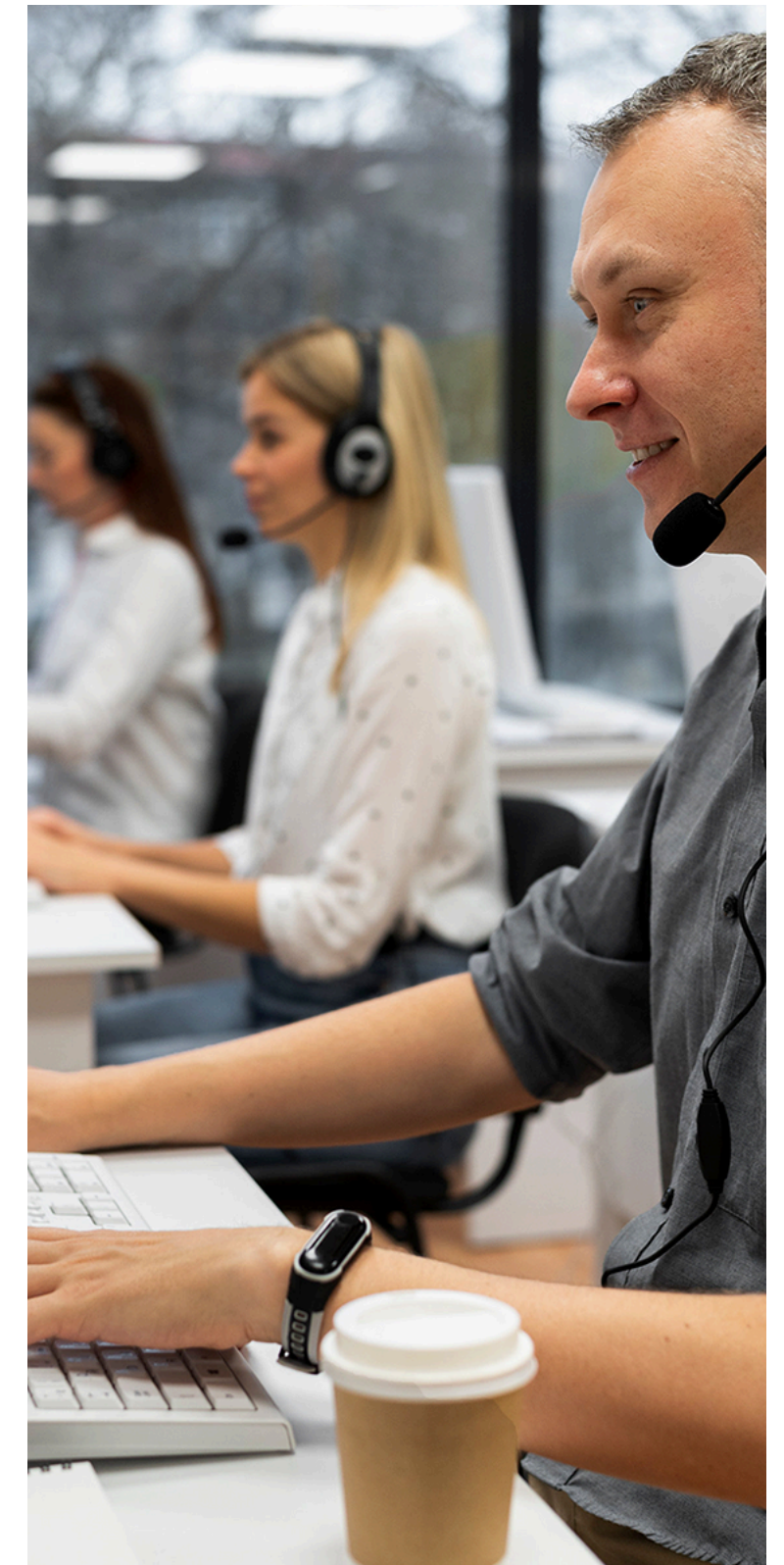
Proactive Monitoring & Immediate Response

In a world where time is critical, we take a proactive approach to monitoring and response. Our advanced monitoring systems detect potential issues before they impact our clients, allowing us to take immediate action. This proactive approach minimizes downtime, ensures business continuity, and keeps our clients’ operations running smoothly.



Continuous Support During Critical Events

We understand that critical events—such as product launches, system upgrades, and transitions—are make-or-break moments for our clients. That’s why we provide continuous, round-the-clock support during these times, ensuring that everything goes off without a hitch. Our team is on standby to handle any challenges, providing our clients with the confidence that comes from knowing they have the best support in the industry.



Innovation and Future Readiness

At Softices, innovation drives our services, ensuring that we meet the evolving needs of modern businesses. We focus on integrating advanced technologies such as Artificial Intelligence (AI), Machine Learning (ML), and Blockchain, enabling us to offer innovative and future-ready solutions.

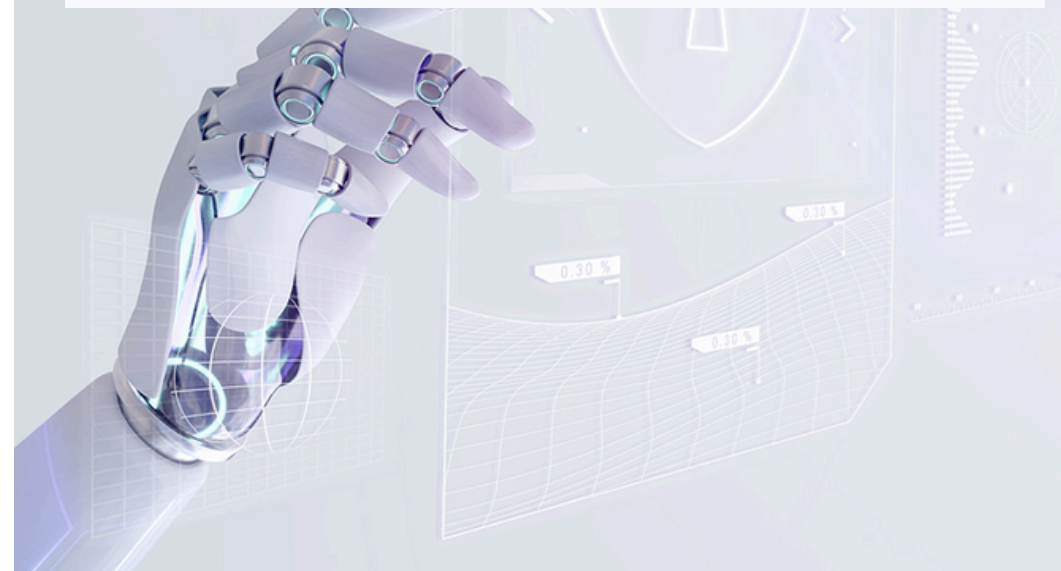


Artificial Intelligence (AI)

We are leveraging AI to automate processes, enhance user experiences, and optimize business operations. Through AI, we implement intelligent automation, natural language processing (NLP), and cognitive computing to help our clients reduce manual workloads and improve decision-making. Our AI solutions are designed to mimic human intelligence, allowing businesses to scale smarter and operate more efficiently.

Machine Learning (ML)

Our ML capabilities enable clients to uncover insights from data, predict trends, and improve outcomes. By developing advanced algorithms, we empower businesses with predictive analytics, personalized recommendations, and real-time data processing. Softices uses ML models that continuously learn and adapt to improve accuracy, allowing businesses to stay ahead of the curve in competitive environments.



Blockchain

Our blockchain services provide secure, decentralized solutions for industries where data transparency, traceability, and security are critical. From finance to supply chains, we help clients integrate blockchain technology to create more secure and trustworthy ecosystems.

Call to Action

Ready to revolutionize your tech game? Connect with us today, and let's turn your vision into reality!

[Schedule a Meeting](#)


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