SMART FINTECH FRAMEWORK
Micro Lending

VIZRU®

World's first Zero-Code platform that delivers full-stack AI Applications at-scale.

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Smart FinTech Framework for Micro Lending

Smart FinTech Framework refers to a holistic approach to micro-lending process by incorporating real-time dashboards, omni-channel experience, bots for automating tasks, ML for predictive analytics, proactive fraud detection, and extensible processes flows. Monolithic systems like ERP are enormously expensive, rigid, takes years to implement, requires large workforce to maintain and yields poor ROI. Enterprises should decentralize innovation and empower individual organizations and business units to solve their own problems faster, cheaper, and better.

Future state of applications is about using AI to run a perpetual feedback loop to identify inefficiencies, replace sub-par processes and calibrate overall improvement to the entire process chain. Digital transformation is about "Build to Change" rather than "Build to Last". This means a flexible canvas where you can collaborate, build, try, fail, tear down, build again – all in just weeks.

ZEOS: Worlds first Zero-Code Platform

ZEOS is a Zero-code Digital Transformation Platform that allows enterprises to develop next-gen systems called Autonomous Applications that can think, act and complete processes all by themselves. Using ZEOS applications can be built, from thought to finish, in weeks and they can be infinitely extended by business users without any programming knowledge. ZEOS's Autonomous Applications are AI-embedded systems that employ network of stateful bots that can intelligently hand off tasks, collectively resolve complex problems, and evolve through continuous feedback loop. Equipped with cognitive CX layer and fluid integration hub, ZEOS apps are tailored to deliver intelligent process automation with superior customer experience suitable for the banking, financial and insurance industry.

ZEOS ARCHITECTURE
World's first Zero-Code platform that delivers full-stack AI Applications at-scale.

- ZEOS apps are built for disruption, not just for simple automation.
- ZEOS's platform comes with 100s of prebuilt business apps templates.
- Launch an MVP (Minimum Viable Product) in weeks, not months or years.
- ZEOS apps TCO is 75% less than traditional development models.
- Exclusive IP ownership of your solutions or services built on ZEOS.
- White-label rights for commercialization or to gain competitive advantage.

Building Applications on ZEOS Environment

Much like Lego blocks, ZEOS follows a standard set of technology components that are called assets. These interlocking assets can be pieced together to build complex structures. They can be moved, extended, and reused to build completely new set of structures that has not been imagined before. ZEOS's strength is in keeping the elementary blocks simple, and allowing endpoints, communication layer and bots do most of the heavy lifting. This simple mechanism allows even business teams to roll up their sleeves and get into development. Our ZEOS platform is designed and built for a collaborative environment across all teams be it on-site or remote.

Why ZEOS?

Organizations are looking to cut down development, support, and infrastructure costs by continuously offering self-service business services to end-customers without having to develop resource intensive proprietary IT solutions. ZEOS provides a highly advanced interface for IT teams and Line of Business to quickly assemble even the most complex processes and deliver them as Smart Apps in a matter of weeks.

Key Benefits
- Collaborative platform to compose real-time workflows.
- Wizard-based user interface to craft purpose-built apps.
- Secure, dynamic B2B exchange across business ecosystems.
- Highly scalable, actionable analytics engine for big data integration and management.
- Extremely adaptive security model for atomic policy control.
- Omni-channel session management for active monitoring and alerts.

ZEOS Smart App Studio

Allows you to quickly craft, evolve and share purpose-built apps and advanced actionable analytics in minutes. Smart App studio offers a wide range of highly intuitive interfaces that adapt to any business need including, spreadsheets, forms, dashboards, SMS/email/fax integrations and more.

ZEOS Workflow Studio

Transforms cloud or in-house resources such as file servers, applications, databases, or messaging services into reusable micro-services, later interconnected like Lego-blocks to enable real-time business orchestration across hybrid-cloud, public or private cloud.

ZEOS Policy Studio

ZEOS provides enterprise-grade encryption and multi-factor out-of-the-box authentication. This in conjunction with its unique Data DNA™ model allows ZEOS to centrally manage and enforce access at a granular level.

ZEOS for Advanced Actionable Analytics

Financial organizations across the globe now have access to a stream of customer data and usage patterns of services ranging from credit card transactions to mobile banking. They use these datasets to model, build and deliver next generation products and services. However, the task of aggregating the constant flow of unstructured and structured data, and applying it to everyday business processes is highly cumbersome. This requires powerful and intelligent, actionable analytics capabilities.

ZEOS offers advanced actionable analytics using real-time session management workflows that come with the capability to combine consumer information with dynamic data including

changing market conditions, weather patterns, Governmental regulations, and much more to build time-sensitive, context-aware data models. ZEOS's actionable analytics capabilities can now be extended to secure, private transactions, fraud detection, contextual marketing offers, and predictive intervention to retain unsatisfied customers.
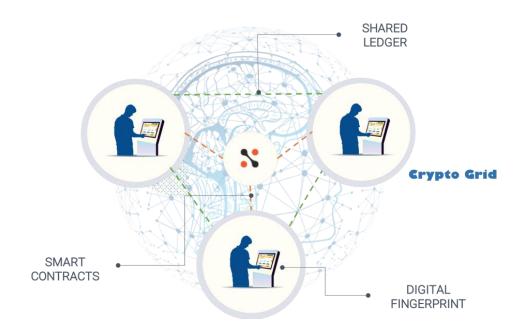
ZEOS Crypto Grid

ZEOS Crypto Grid is a Blockchain based Operating System for enabling frictionless transactions across Supply Chain Ecosystems. It is an economical, verifiable, and efficient platform to trade goods and services within secure networks.

Think of ZEOS Crypto Grid as a next generation Operating System for powering transactions. It enables secure, immutable, peer-to-peer transactions between parties over a trusted network. Crypto Grid uses Blockchain and digital hashing technology to enable trade, payment and transfer of goods and services.

ZEOS's cognitive UX designer allows businesses to develop new apps over Crypto Grid to enhance customer experiences and eliminate process frictions. ZEOS also comes equipped with Workflow Studio and Integration hub that enables them to effortlessly automate processes or adapt to newer currency systems such as Bitcoin or continue with traditional payment methods over the grid.

Key Benefits of Blockchain

- **Distributed:** The ledger is shared, immutable and synchronizes transactions between parties through peer-to-peer exchange.
- **Secure and Immutable:** Digital signature and Cryptography, otherwise known as hashing, maintains confidentiality of transactions and prevents unauthorized access to network.
- **Auditable:** Transactions are replicated between nodes, time-stamped, organized, making them verifiable in real-time.
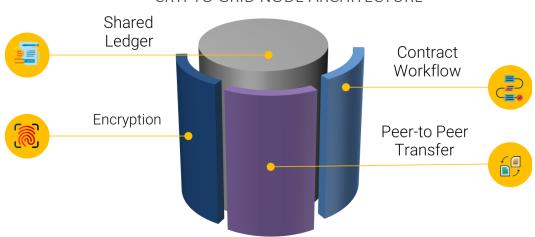
- **Adaptable:** Business rules and smart contracts are 100% workflow-based, making it easy to extend, customize and scale.

Benefits of ZEOS Crypto Grid Platform

- **Sovereignty:** The platform gives complete control to businesses to host their node(s) anywhere they like - public or private cloud, or on-premise.
- **App Studio:** It comes with complete zero-code development studio that enables customers to build new apps over Blockchain technology.
- **Effortless Integration:** It allows businesses to seamlessly integrate Blockchain based transactions with their finance, CRM and ERP systems.
- **Scale:** ZEOS comes inbuilt with Kubernetes compatibility to ensure it runs at hyper-scale from day 1.

Use Cases for Crypto Grid

- **Powering Micro Economy:** Perfectly suited for micro-commerce or micro-trading environments such as seed-to-sale or to propel small business through micro-lending.
- **Frictionless Supply Chain:** Blockchain can assist with virtual inventory assessment, aggregation, real-time procurement, negotiation of deals, capital, insurance and more – across the entire supply chain process.
- **Tele-Health:** A decentralized HIPPA-compliant healthcare network based on Blockchain can enable patient care, billing, insurance claims automation, preventive care and more.

CRYPTO GRID NODE ARCHITECTURE

An immutable record of all transactions on the network. A record that all network participants can access.

A smart contract is an agreement or set of rules that govern a business transaction; it is stored on the blockchain and is executed automatically as part of a transaction through ZEOS's inbuilt workflow engine.

Advanced encryption, along with permissions, ensures privacy on the network, preventing unauthorized access to transaction details, and deterring fraudulent activity.

ZEOS's Crypto Grid architecture gives participants the ability to share a ledger that's updated through peer-to-peer replication each time a transaction occurs. Peer-to-peer replication means that each participant (also called a node) in the network acts as both a publisher and a subscriber.

ZEOS Autonomous Applications for Financial Services

Omnichannel AI Workflows for Digital Transformation

Automation is the new normal for Banks today. Digital transformation is the only way to leapfrog the competition from new, nimble breed of banks built around innovative technology such as Blockchain and business models such as peer-to-peer payments and SMS-based transactions. Banks across the globe have invested hundreds of millions of dollars in their existing infrastructures over the last few decades. While it is not feasible to rip-and-replace these existing systems, it is necessary to transform and modernize existing systems. The emerging new economy demands banks to reassess their role where products and services need to be increasingly personalized and real time, measured by outcomes, and need to be delivered through a powerful digital ecosystem. There is a need to build a digital banking ecosystem that has a critical impact on the way banks, financial payment systems and customers interact.

Omni-channel Orchestration: ZEOS is the World's first workflow engine that coordinates activities across multiple channels in a single session. For example, if a credit card holder gets declined in a retail store, ZEOS's event-driven workflow kicks-in to authenticate the user on parallel channel such as SMS or browser, trouble shoot, resolve conflicts –finally allowing the user to swipe the card again from the retail store in minutes. This further provides a laser-focused marketing opportunity for the vendor to target its customers.

SMS Chatbot: ZEOS offers a seamless, bi-directional capability for end users to interact with ZEOS workflows/apps through conversational messages via SMS. This allows organizations in FinOps and Banking, to offer its customers a painless way to offer banking services via SMS and avoid cumbersome telephone or email support and cut down support cost by 30%.

Real-time, event-driven Analytics: Predictive analytics requires data scientists to apply unstructured/structured data against external data points that are in constant flux. ZEOS analytics engine in conjunction with workflows can re-sequence information in real-time by connecting to external systems which allows data scientist to build dynamic, predictive data models like never before.

ZEOS for Banks - four main components:

Rapid automation for Line of Business

- ZEOS Microservice designer offers a flexible model to interface in real-time with external systems including cloud and on-premise applications in order to enable real-time sync with back end systems. ZEOS introduces an adapter-less technology to integration which allows IT to point, click and configure new services within ZEOS, which eliminates huge amount of custom development.
- ZEOS's AI Workflows engine automates complex business processes without the need for huge development initiatives. The in-built distributed processing capability of ZEOS Workflows allow a highly self-scalable architecture suited for massive workloads and hyper-fast, real-time transactions.
- AI Decision Maker receives information from application networks in real-time at hyper-speed and dynamically proposes optimal next steps, much like the GPS navigation systems.
- Watchdog, a monitoring capability that continuously collects information on business events and activities across the AI workflow and provides a feedback loop for upstream decisions such as anomaly detection, upsell opportunities, customer retention and new derivatives packages.

ZEOS for Digital Transformation

The Background

Workflows-based Financial organizations are flexible, agile and responsive and, therefore, more successful. However legacy systems applications were not designed for this. With their unique and hard-coded interfaces written with rigid functionality in mind, legacy systems make integration difficult. Many legacy systems are a patchwork of band-aided applications built over decades that resulted in silos that prohibit the sharing of business information across departments and line of business.
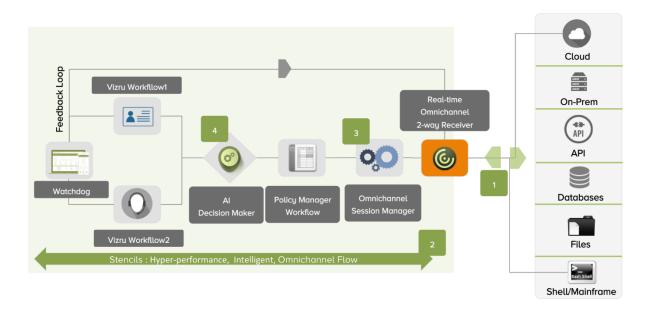
Customer Benefits

- Compete, innovate, and reimagine.
- Transform from siloed to a collaborative model.
- Save tens of millions of dollars by retaining and repurposing your existing legacy systems.

The Challenge

Rip and replace of legacy systems management is risky. Outright replacements are often siloed in nature and the LOB application replacements are not intended to solve problems in multiple departments. Replacement systems usually solve one or more.

The Solution ZEOS Banks allows you to transform your core systems without having to tamper with existing systems.

ZEOS provides a dynamic overlay that acts as a logical layer that allows you to abstract the existing Financial Services infrastructure. Overlay consists of components that act together as a dynamic environment to add new applications, business services or security framework without disrupting your existing structure:

1. Omnichannel Receiver seamlessly connects to existing hybrid infrastructure, transforming them into bi-directional web services.
2. These services can be used by ZEOS AI workflows allowing IT or Line of Business to design next gen applications to cope with competitors.
3. Workflows can orchestrate complex transactions across 100s of API and legacy services simultaneously due to ZEOS's advanced session manager.
4. ZEOS Stencils snaps-on workflows together effortlessly like Lego blocks allowing processes to be added or removed in a snap without disruption.
5. ZEOS Watchdog collects activities and provides feedback loop for self-learning.

ZEOS Payment Gateway for Emerging and Developing Economies

The Background

The current banking value chain is highly rigid, deeply siloed, and unforgivingly legacy, which poses huge challenges for merchants, vendors, partners and consumers to adopt emerging payment options such as peer-to-peer payment, micro financing, pay-as-you-go models which are perfectly suitable for developing economies. The current technology infrastructure needs to be upgraded to offer customers better value where the ecosystem of customers, agents and partners all have seamless connections and insights to make value decisions.

Customer Benefits
- Dynamically add new payment services.
- Onboard partners in minutes.
- Offer flexible payment options to your customer and partner ecosystems.
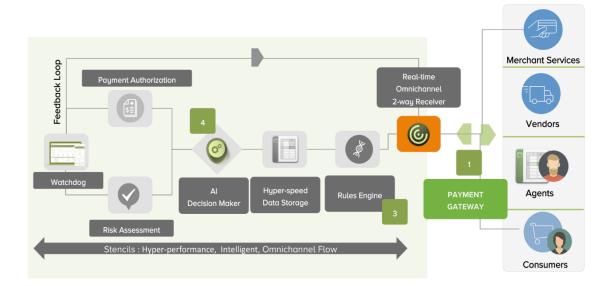
The Challenge

The current challenge is to build a powerful payment gateway system for banks to grow digital presence to leverage the power of Fintech solutions, partnerships across industry boundaries, to build a strong base of satisfied customers, and generate new ideas and innovations. Can data-driven insights be used to identify partners for co-delivery of value-added services to shared customers? How can data and information flow freely in real time between stakeholders and partners in the eco-system without violating security and compliance?

The Solution

ZEOS for Banks allows you to transform your core systems without having to tamper with existing systems.

ZEOS's Intelligent Payment Gateway for Banks allows line of business to quickly onboard emerging merchant services and payment solutions including Blockchain, P2P solutions and more – which in turn allow Banks to offer personal, flexible transactional options to their customers and partners across their ecosystem base on their need.

1. Omnichannel Receiver connects to new payment services, and partners.
2. These services can be used by ZEOS AI workflows allowing IT or Line of Business to design next gen applications to cope with competitors.
3. Workflows can orchestrate payment transactions across 100s of vendors and services in real-time through session management.
4. ZEOS Stencils snaps-on workflows together effortlessly like Lego allowing processes to be added or removed in a snap without.
5. ZEOS Watchdog collects activities and provides feedback loop for self-learning.

ZEOS: Other Use Cases for Financial Services

Omnichannel Experience for Mobile

SMS via Mobile is the one technology that has seen enormous adoption in developing countries. It's predicted that mobile phones could provide financial services to approximately 80% of the global population and considering the millions of businesses in emerging economies that don't currently have access to financial services, mobile technology is an invaluable Vizru partner.

ZEOS for Financial Services comes with session management capability, which is a very effective way to realize Omni-channel transactions. It allows end-users to pause an activity or a transaction that is initiated in a channel and complete the same transaction on a different channel via SMS. This leads to powerful, unbroken, and satisfied customer experiences that are proactively anticipated and designed using the feedback loop intelligence derived from the AI workflows.

Credit Histories & Financial Identity

With so many people never accessing traditional financial products and services, many users in developing worlds do not even have credit histories or financial identities, let alone understand how to support or bolster them. Thus, there is a large population that banks, with their strict regulations, are able only to offer the most basic of services. ZEOS provides the tools to gather data from a much wider range of sources, and through the employment of advanced analytics it is possible to better understand users, capture necessary details regarding identity, and provide relevant services.

Moving Money

Money transfers are widely used in developing countries, but these services are often expensive and not always easily accessible. New advances, however, are seeing popular supermarkets offer such services, and start-ups are providing services for moving money via mobile phones. ZEOS allows you to quickly incorporate these services within your bank infrastructure in a snap to offer a much broader reach, and at a fraction of the cost of the traditional providers.

Going Cashless

Cash can be risky anywhere, and so cashless fintech solutions are popular worldwide. Typically making use of mobile phone technology, cashless payment products offer secure and reliable methods for merchants and consumers to transact. For users in developing nations without access to traditional banking products, these solutions are becoming the norm. ZEOS's payment gateway can enable cashless payments options to your merchants and consumers alike.

Installment and Pay-As-You-Go Plans

Eliminating the need for upfront payment or large sums of cash, installment and pay-as-you-go plans aid the developing world by providing necessary commodities when they are needed, with flexible payment arrangements more easily managed. When offered by reputable merchants through practical technological platforms, such solutions ensure both the provider and the user benefit. ZEOS can interface with these platforms in real-time to offer pay-as-you-go service.

Consumer Security

Locations where financial literacy is low, consumer security is essential for the appropriate development of economies. Fintech helps reduce fraud in a range of financial services, from lending, to payments, to transfers, and when the right measures are taken to develop secure financial service networks, both individuals and their economies profit.

ZEOS Hosting Options

ZEOS's AI Workflows engine allows modules within the framework to intelligently communicate with each other, hand off tasks, resolve complex problems and evolve through a continuous feedback loop. They also enable external systems to interact with the framework through standard REST based synchronous or asynchronous API calls.

OPTION-1: ZEOS Enterprise Cloud – *Public Cloud*
Customers can subscribe to ZEOS Enterprise Cloud within minutes. They will have complete access to ZEOS Zero code development studio and start building apps within minutes. It is a secure, multi-tenant PAAS that strictly conforms to enterprise-grade security.

OPTION-2: ZEOS Private Cloud – VPC/On-Premise
ZEOS Private Cloud extensively uses Docker to provide complete autonomy to customers to choose where they want to host ZEOS and its applications. They can choose their existing datacenter(s) or VPC such as Microsoft Azure, Amazon AWS or Google Cloud. Once hardware is ready-to-go, the setup process is extremely simple, and the entire environment can be configured in less than an hour.

OPTION-3: ZEOS Hybrid Cloud – Across Multi-Cloud Environment
ZEOS Hybrid Cloud extensively uses Docker + Kubernetes (or Swarm) capabilities to provide complete autonomy to customers to host applications between public cloud and private cloud simultaneously. This gives greater freedom to customers to choose where an application needs to be hosted. You can further use public cloud option to build apps and deploy them to private cloud within minutes. This enables agile software development model and continuous development for business teams, developers, and IT alike.

FAQ - JUSTIFICATION

Monolithic systems like ERP are enormously expensive, rigid, takes years to implement, requires large workforce to maintain and yields poor ROI. The fundamental cause for why enterprises today are stuck with the legacy processes is because of these old monolithic systems that were implemented decades ago. Enterprises should move away from monolithic systems and decentralize innovation. This will allow individual organizations to solve problems faster, cheaper, and better.

Why can't I engage a system integration (SI) company and build this from scratch? Our needs are very specific that we are not sure off-the-shelf solutions would do the job. Why can't we just hire an SI to build it from scratch? This way we can control the code and tailor to our specific needs?

Employing system integrators to develop systems/processes from scratch is an archaic approach with exceptionally high failure rate. It often leads to poor results due to sub-standard programming, incessant development delays, poor understanding of the customer requirements and spiraling hidden costs. Furthermore. System Integrators and consulting companies are perpetually stuck in a catcth-22 with regards to completion. Hence, they leave the initiative at a perpetually incomplete mode. Once the system goes live, it's support, change management and coding controls is yet another nightmare for the enterprise due to hundreds of thousands of lines of code written within. Lastly, since SIs do not own the development stack, they lack control of the underlying technology framework that is critical for security, data privacy and scaling of the system.

Wouldn't it be better to select a low-code platform that requires coding but easy way to build modules? Although the end-product still have lots of code-behind, doesn't the UI based capabilities make this easier?

While the term low-code sounds reasonable, in reality, customers end up with worst of all the options with low-code environment. Low code environments innately have four fundamental flaws 1. Low-code still eventually converts all the objects into 10000s of lines of code-behind in Java or C#, they are just hidden from plain sight. Cost of maintaining each line roughly translates to 3X the cost it took to write. This becomes a quicksand for enterprises - more they try to free themselves from legacy code, deeper they get wedged in. 2. Low-code environments require proprietary knowledge of the software which comes at high cost. 3. They also need to have programming skills to

extend the original application. 4. Developers require strong database knowledge and strong understanding of overall software development stack. These four fundamental design flaws have forced enterprises to seek external SI firms at prohibitive cost or limit development to only IT teams. This will lead to development bottlenecks and decision paralysis.

Why can't I simply use screen scrapping technologies like RPA to automate my manual processes? If manual processes are the issue, why can't I remove clerical aspects of the process through tools like RPA?

RPA simply automates you bad processes, not fix them. Other than a tactical value of eliminating few full-time employees, RPA tools add no other additional value. It has no intrinsic capability to discover sub-par processes, identify poor user interfaces or quantify inefficiencies – in order to help mitigate them. Future state of applications is about using AI to run a perpetual feedback loop to identify inefficiencies, replace sub-par processes and calibrate overall improvement to the entire process chain.

FUTURE STATE OF DIGITAL TRANSFORMATION

Where do we go from here? What is the future state of digital transformation? How do I empower all my teams to participate in development of new digital solutions?

Future state of digital transformation is about "Build to Change" rather than "Build to Last". This means a flexible canvas where you can collaborate, build, try, fail, tear down, build again - in just weeks. The flexible canvas for Digital Transformation must follow 5 elementary principles.

1. Zero code development environment: Zero code means absolutely no coding at build time or runtime. Building application structures through programmatic blocks.
2. Democratize innovation: Transformation must be spearheaded by business owners, not just IT. Business teams should be able to build on their own and contribute, without relying on IT or external firms.
3. Recursive Optimization: The system should rely on AI to recursively analyze and self-optimize processes, cost and customer experiences.
4. Reuse everything: Everything must be reusable. Build your assets once, share across your organization and use it in a snap as function-as-a-service.
5. Use off-the-shelf endpoints: There are over 300,000 API enabled services in the market at any given time available at pennies to a dollar. If you can use them wisely, you can put your solution on steroids.

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