TECH

DIVO

BLOCKCHAIN & BEAUTY

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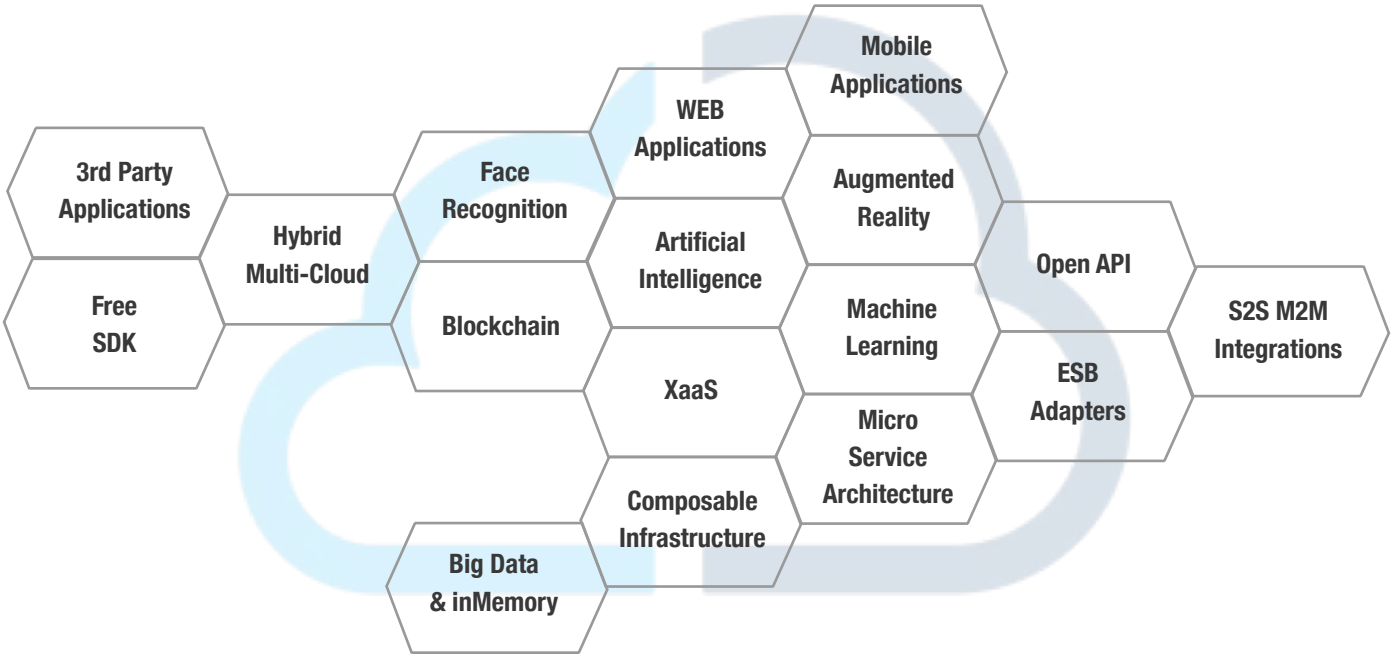
Architecture & technical map of DIVO Smart Platform



Work with DIVO to determine the best route to unlock yourself as Intelligent Customer or Intelligent Enterprise

SMART TECHNOLOGIES OF DIVO PLATFORM

01

The architects of DIVO Platform bet on innovations and disruptive technologies that introduce a new production cycle and radically change the market, shifting the balance of business values and forming new standards of business competition.

02

According to State of Fashion 2019 McKinley report «fashion is already seeing a constant stream of innovations, with technology creating new experience to customers»

(source: State of Fashion 2019, McKinley)

03

Artificial intelligence (DIVO AI), face recognition (DIVO Face Recognition), augmented reality (DIVO AR), DIVO Reinforcement Learning, DIVO 360-degree Cams, DIVO Big Data Hub, predictive analytics and other disruptive technologies implemented on DIVO platform will lead to a revolutionary shift in the paradigm of digital interaction within fashion, beauty and lifestyle industry.

Face Recognition Technology

04

Search engine

Making the right decisions, searching for compliance, timely optimization and high-quality service for business community of DIVO require the possession of accurate and relevant information about the behavior of customers and users. Timely acquisition and low-cost processing of data, feedback and ongoing its monitoring become available with the help of new tools such as Face Recognition.

05

This is an intelligent module for face identificationn and detection. The technology provides highly efficient and accurate face recognition on images and photos as well as in a video stream for instant achievement of the desired result. The technology is also used to recreate a realistic 3D model of a face and to transfer it in virtual space. DIVO Face Recognition provides a secure logging in a mobile application with benchmark verification and is supported by all mobile devices.

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Extremely precise algorithms for analyzing and recognizing faces make it possible to obtain highly inaccessible data and information about users, providing tools for optimizing internal processes and improving the quality of provided services.

The technology empowers to create authentic avatars for interaction in VR and AR spaces and to use modeling capabilities for work, parties or official events.

08

For modeling agencies or advertisers the technology allows to make a search in accordance with the specified parameters of the image of a desired personality. By loading 5-6 unfiltered photos into a mobile application own profile, the model receives the status “Face Recognized” and can be identified by model agencies using this technology.

Basic scenarios for the use of Face Recognition technology:

Matching signatures

Continuous identification, restoration of access, control of access to confidential information

Personal service and customer identification

Determination of information (a gender, age, etc.) for selecting advertising content, counting unique viewers.

Augmented Reality (AR) - an environment including direct or indirect augments of the physical world with the digital data in real time with the help of tablets, smartphones and innovative gadgets like Google Glass, as well as software.

POWERED BY

Vision Labs

A World Leader in the development of computer vision and machine learning technologies, as well as augmented and virtual reality.

*Source: https://visionlabs.ai

BLOCKCHAIN IS A FRAMEWORK OF DIVO SMART PLATFORM

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Digital hyper convergent smart platform DIVO is based on blockchain technology which is the foundation of a single digital human reputation and represents a line of decentralized online services and decentralized applications that simplify business processes and raise omni-channel interactions of equal participants to a radically new level.

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The DIVO Platform uses the flexible infrastructure of Hyper Ledger Fabric — a blockchain framework for building next generation distributed business networks, supporting smart contracts and components for development of applications with a modular architecture to be plug-and-play.

The three key components of success

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Business Process Orientation

DIVO does not consider blockchain as just another technology. First of all, we are interested in effective scenarios of using blockchain and its advantages for the business community of the fashion industry and its influence on the inside processes. At the same time, the quality and integrity of data is guaranteed initially.

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Networking

Combining the digital core of a fashion company with an active business network is the key to the success of the blockchain. DIVO knows everything about business networks and is ready to help any company from the world of fashion with fast and secure integration.

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DIVO Blockchain as a Service (BaaS)

Is a layer of abstraction that supports open standards, provides full integration with applications, microservices and DIVO engagement systems and isolates the work of partners from technological change.

A cryptographically secure, transactional, single-element platform with a general state of HyperLedger can be defined as a decentralized system for the efficient and secure exchange of business assets and business activities in the world of fashion, which guarantees the immutability of transaction records between network participants and registers the current status of these assets in the global trust eco-system.

BLOCKCHAIN IS A BASIS TO MAKE GREAT THINGS

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From a technological point of view, the use of HyperLedger is dictated by a productive modular architecture that provides security, data integrity, scalability and enterprise-class performance.

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Technical leaders, architects and developers of DIVO Smart Platform focus on security, a modular approach and use of open source products to minimize the potential risks associated with the loss or deformation of business data.

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We simplify complex multicomponent processes and strengthen trust between market players with blockchain and distributed ledger.

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We reduce risks and a level of fraud by applying standard, well-tested and widely accepted software components.

Hyperledger is an open source code that is designed to promote cross-industry blockchain technologies. This is a global collaboration organized by a trendsetter the Linux Foundation, including leaders from the world of finance, banking, LoT, global suppliers.

HYPERLEDGER

DIVO smart contracts

The rapid spread of smart devices makes transactions digital and the range of their sources is expanding. Traditional transaction processing systems do not compete.

The future is blockchain registries. The future is for DIVO.

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Technical implememtation of smart contracts

DIVO does not consider blockchain as just another technology. First of all, we are interested in effective scenarios of using blockchain and its advantages for the business community of the fashion industry and its influence on the inside processes. At the same time, the quality and integrity of data is guaranteed initially.

The basis of the template solutions is an open library from the repository of the HyperLedger project software platform, which contains a set of secure contracts and thoroughly tested by the library community that have already proven their usefulness and security over time.

The high level of security and reliable digital identification, as well as effective work in various administrative domains is ensured by the use of HyperLedger Indy libraries supporting the mechanisms of decentralized identifiers.

The ultimate refining procedures for improvements in the paradigm of continious improvement and deployment are performed using simplifying tools and HyperLedger Explorer plug-in, a bridge that allows to use the distributed network of tomorrow in browsers today

The development team also uses Clojure's Fabric Chaintool framework, which provides easy management of migrations, compilation, packaging, and dependency management, and enables comprehensive, end-to-end automated testing.

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Validation and features of architecture

Unlike public cryptocurrency platforms, there are two special roles of the DIVO Smart Platform:

DIVO Endorser

DIVO Endorser - validator - a node that verifies and executes a transaction, and then returns it back to the client with the results and its signature

DIVO Ordener

DIVO Orderer - organizer - a node that establishes a sequence of transactions and sends them to other nodes of the DLT network

To reach consensus when verifying transactions, a validation policy (endorsement policy) is used - this is a set of rules that determine which of the nodes can be a validator and how many validator signatures are sufficient for the transaction to be considered confirmed. In this case, the validation policy is set separately for each smart contract created in the blockchain network. For example, it can be stated in a policy that a transaction will be valid if it is confirmed by two of the three specified nodes.

A smart contract is an open source program that can be tested by anyone with coding skills. If the smart contract is made without errors, then the investor or the user of the DIVO platform can be absolutely sure about security and fulfillment of obligations.

DIVO APPLICATIONS, SERVICES, AND INVOLVEMENT SYSTEMS

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A client part of the platform

Hyper-converged smart platform DIVO exclusively uses web and mobile decentralized DIVO Services and DIVO App's client applications, without using traditional software clients.

On the WEB client side, HTML5.x, XHTML markup language is used to implement the GUI. CSS3.x cascading style sheets are used.

JavaScript is used to generate queries, create an interactive and browser-independent interface and as a scripting language for web pages.

Front-end, being the interface between the user and the platform, uses almost the entire spectrum of latest front-end software and tools.

Interfaces to the blockchain platform and interfaces to the server logic are implemented on event-oriented Node.JS 4.x, which ensures reliable and convenient interaction between the application and the network based on the API library. The web server components development team uses the Nide integrated development environment.

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Mobile application

The range of mobile clients covers all leading mobile platforms. DIVO functions equally well on iOS, Android, and Windows Phone. The use of iOS SDK, Swift / ObjectiveC, ReactiveCocoa for iOS applications and the use of Android SDK, Clean Architect and RoboSpice for Android applications provide excellent compatibility and performance not only today, but also excellent performance tomorrow.

BECOME A "SMART USER" AND MAKE IMPOSSIBLE EVERY DAY

DIVO combines next generation technologies with industry experience, ensuring companies quickly turn into a "smart enterprise", and for individuals to become "smart users". Our scalable approach to digital transformation allows everyone to start where he is now and to come where he would like to be.

DIVO INTEGRATION & OPEN API

Software interfaces of the DIVO Open API provide opportunities to be used in external software products and for organizing tight integration with effective exchange of data flows.

Since DIVO Platform is a web development product, it uses the API in the form of a structured set of HTTP requests, as well as a specific structure of HTTP responses, which are expressed using XML and JSON formats.

Development of DIVO Smart platform in Web 2.0 trends makes extensive use of reliable types of communication DIVO REST.

Smart platform

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Data, Big Data and digital revolution!

Data changes our lifestyle and approaches of doing business. DIVO helps to use and transform data through machine learning, the Internet of things, advanced analytics and other new technologies, promoting business innovations.

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DIVO integration BUS and adapters

We provided the technological opportunity for the seamless integration of DIVO Smart Platform with leading application information landscapes through a set of developed DIVO Adapters for a number of leading ESB integration buses and brokers.

The ease of integration is provided through own cluster software DIVO Enterprise Service Bus, which fully unlock the potential of the service-oriented architecture of the DIVO Smart Platform.

DIVO PLATFORM AS A SERVISE (PaaS)

Anything-as-a-Service, or XaaS is an excellent thing that allows to consume the best services that players of the world of fashion actually need, in needed volume, at any time and in any place.

Anything-as-a-Service, or XaaS is an excellent thing that allows to consume the best services that players of the world of fashion actually need, in needed volume, at any time and in any place.

DIVO Platform as a Service (DIVO PaaS) is an open environment for developing additional web and mobile business applications and deploying them in a cloud including tools that allow to provide any kind of applications, even advanced corporate solutions. DIVO subscribers acquire the necessary resources from DIVO as a cloud service provider, pay as they are used and connect to them via secure Internet connections.

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DIVO PaaS includes all the necessary secure hybrid IT multi-cloud infrastructure - DIVO Composable Infrastructure (servers, data storage, network equipment), as well as middle layer development tools, business intelligence (BI), database management services and much more. DIVO PaaS service is designed to support the full life cycle of a web application: development, testing, deployment, management and updating.

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Customers using the PaaS model are able to install and develop their own applications on the provided platform using components such as operating systems, database management systems, middleware, development tools and testing tools. DIVO PaaS simplifies workflows and minimizes the timing for the output of fashion applications in production, provides the necessary development ecosystem without the capital cost of acquiring and creating own infrastructure.

PAAS

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DIVO PaaS allow to avoid extra costs and difficulties associated with acquiring and managing software licenses, basic application infrastructure, middleware, development tools and other resources. DIVO PaaS subscribers control the applications and services they develop, and the DIVO as a provider manages everything else.

DIVO SOFTWARE DEVELOPMENT KIT

(DIVO SDK)

DIVO SDK is a set of development tools that allows software specialists to create and use DIVO modules, DIVO microservices, DIVO applications and engagement systems for the DIVO Smart Platform.

Predictable behavior - using the same tested DIVO libraries leads systems to a certain standard, which greatly facilitates the search and elimination of errors and vulnerabilities.

DIVO SDK provides architects and developers with a full-featured set of basic development tools, a set of templates and extensively documented DIVO libraries and implementation tools. The DIVO team as a direct developer of the core technology and the system as a whole provides DIVO SDK for all interested parties free of charge, distributing the development package via the Internet and encourages professional developers and enthusiasts to try and test the broad capabilities of the DIVO Smart Platform. Anyone can utilize a power of disruptive technologies for their own services designed for for the world fashion, beauty and lifestyle.

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Free SDK

High integration rate allows a new client to reduce the amount of code changes that a developer needs to make. Most of the functions of the SDK can be enabled without changing the behavior of the application. In order to improve interaction with end users and administrators, you can use the DIVO Open API to customize the behavior of the application for those functions that require assistance from the application.

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Code Quality

Qualitatively test all the DIVO SDK modules and then use them — this is a way to increase the test coverage percentage, which reduces the number of errors.

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Documentation

The re-use of DIVO SDK modules increases the percent of documentation coverage, which reduces the barriers for new developments.

SDK

The potential income provided by the DIVO SDK gives IT professionals and developers a significant advantage and unlimited opportunities to implement their own ideas on DIVO Smart Platform. Just try it with us!

DIVO MICROSERVICES

(DIVO MSA)

DIVO Microservice Architecture (MSA) is a service oriented architecture (SOA) version of software focused on the interaction of small and easily changeable modules – microservices

If, in a traditional service-oriented architecture, modules can be quite complex software systems themselves, and the interaction between them often relies on standardized heavyweight protocols, in the DIVO microservice architecture, systems are built from components that perform relatively basic functions and interact with cost-effective network communication protocols (in REST style using, for example, JSON). By increasing the granularity of the modules, the DIVO architecture is aimed at reducing the degree of hooking and increasing connectivity, which makes it easier to add and modify the functions of the Smart Platform DIVO at any time.

Properties characteristic of the DIVO microservice architecture:

DIVO modules can be easily replaced at any time: independence of deployment and updating of each of microservices

modules are organized around functions: microservice DIVO, if possible, performs only one fairly elementary function

DIVO architecture is symmetric, not hierarchical: the dependencies between microservices are peer to peer

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The philosophy of DIVO microservices actually matches the Unix philosophy, according to which each program must “do one thing and do it well” and interact with other programs by simple means: microservices are minimal and are intended for a single function. The main changes in this regards are imposed on the organizational culture, which should include the automation of development and testing, as well as the design culture, which requires the exclusion of the inherited code to avoid past errors.

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DIVO microservice architecture brings IT and business community into harmony. As DIVO microservices are formed around the business needs of specific users, customers and partners, the DIVO platform architecture begins to effectively repeat the structure and channels of social and business communications of participants in the fashion, beauty and lifestyle business, allowing them to achieve impressive results.

DIVO HYBRID MULTI-CLOUD & DIVO COMPOSABLE INFRASTRUCTURE

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DIVO Hybrid Multi-Cloud

The fashion business is a global business. Having a solution like DIVO Hybrid Multi-Cloud enables fashion companies to manage their data in fast and easy way, without ever suffering in the performance of the system.

DIVO provides a flexible, reliable and cost-effective global IT infrastructure using the state –of-the-art virtualization and cloud computing technologies. DIVO Hybrid Multi-Cloud is an efficient business XaaS partner, providing targeted IT services and comprehensive support to fashion companies.

We create a fully functional XaaS smart cloud platform for fashion business. DIVO XaaS will enable the transition from conventional technologies for working with standardized web applications to the digital workplace of the model and fashion market, exceeding the expectations of participants and customers.

Smart Platform includes a set of products for recording, storing, processing and delivering large amounts of data, allows for data analysis using the BI system and Data Mining tools, provides a convenient workplace - a cloud location center for fashion customers.

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DIVO administration and productive ecosystem

The DIVO platform is hosted on secure hybrid IT multi-cloud infrastructures of high availability and high scalability of DIVO Composable Infrastructure with end-to-end management and interaction of all infrastructure elements that provide instant provision of DIVO applications, services and involvement systems, as well as high level of service to the platform users.

XaaS services

DIVO XaaS services consist of an advanced technology platform (core) and its own or guest/third-party applications developed on the top of it, using the full potential of DIVO's digital innovations. This system architecture provides absolute openness of application solutions, high functionality and flexibility, wide scalability to geographically distributed global solutions, from very small to very large business participants and business structures of the fashion industry.

DIVO administration & productive environment

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Testing and quality management

Testing, quality assurance (QA) and quality control (QC) procedures are present at all stages of the development of the DIVO platform. Independent control of the production platform using Jira, TestLink, Cucumber and nUnit ensures the delivery of quality results with a minimum of functional flaws and software errors.

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Lifecircle mangement (ALM) and versioning

The DIVO digital platform is designed, created, tested and developed in strict compliance with the best practices of ALM, DevOps and Continuous Integration (CI). Using Jenkins, JMeter, SonarQube and other CI tools that significantly improve the efficiency of building a DIVO platform and assembling solutions.

The development of all components of DIVO Smart Platform is carried out with strict control of versions, logging and accurate documentation of all changes made using the GIT and SVN tools.

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User-oriented approach

We implement a creative, user-centric approach to digital transformation using a 4-step DIVO development process based on the needs of actual end users.

Explore

investigate business challenges

identify opportunities for innovation

determine how DIVO can help define a path forward

Discover

gain an in-depth understanding of your business challenges

uncovers valuable insights that will inform the solution design

Design and Prototype

use a cloud-based rapid prototyping tool and the latest technologies to draft a working solution

collect user feedback to continuously refine the prototype until we've achieved ideal outcome

Deliver

the result will be a working, validated prototype running on DIVO Hybrid Cloud, as well as an IT transformation strategy and deployment road map. Or if you prefer, we can take care of implementation.

DIVO artificial intelligence (AI) and machine learning

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Programs & applications of AI & machine learning

Build a “smart company” or become a “smart user” with DIVO artificial intelligence (AI) solutions and machine learning, connecting human experience with computer analytics.

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DIVO machine learning foundation

Build, run, use and support self-learning applications using algorithms that do not require skills in data processing. DIVO Machine Learning Foundation connects developers, partners, and customers to machine learning technology on DIVO Cloud Platform.

Cloud deployment

Ready-to-use services

The possibility of learning ready-made algorithms on your data

Integration with Google TensorFlow models

Complete decision making processes. Implement new business models. Do what seemed impossible and quickly introduce new opportunities with DIVO and intelligent technologies such as machine learning and blockchain.

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Artificial Intelligence for virtual communication from DIVO

We offer a leading platform to create bots for smart enterprises. The DIVO Conversational AI platform will be equipped with the world's best natural language processing (NLP) technology that allows you to create bots that truly understand people — quickly and easily. In addition, it supports ready-made bots for customer support services in the fields of fashion, beauty and lifestyle.

Cloud deployment

Development, training and monitoring of intelligent bots

The world's best natural language processing technology (NLP)

Connect to popular messaging channels — like Twitter

DIVO

BLOCKCHAIN & BEAUTY

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