

## IT-SOLUTIONS FOR BUSINESS

#### **ABOUT US**

#### **EQ4Tech - a team of experts,**

ex. - executives, CTOs, architects and developers, with expertise of leading engineering and consulting companies.

Our clients communicate directly to the experts, timely getting knowledge they need and key information for decision making.

Our focus - creation of digital products for our clients, ensuring engineering excellence and transparency of the development process..

We make the development as predictable as possible, even if you have not dealt with IT projects before.

#### **SERVICES**

Technical due diligence of companies and projects Custom web and mobile application development Solution and infrastructure support Transition to alternative and open source software Business process automation Data architecture, system and data migration Transition to cloud and hybrid solutions (or vice versa))



#### **EXPERTISE IN TECHNOLOGIES**

#### Machine learning, neural networks stack

Apache Spark/ML, TensorFlow, Keras.io, Python

#### Solutions based on blockchain

#### BI, DataMesh, ETL

Cassandra, Kafka, MS Power BI; QlikView/Sense; Tableau; LuxMS BI, Visiology

#### **Microsoft**

.NET Core, MS SharePoint, MS PowerPlatform/PowerApps; BizTalk

#### **Frontend**

Vue.js, React, ReactJS, Angular, TypeScript, Node.js

#### **JAVA**

Spring, Spring Boot, JAVA 16

#### PHP, Laravel

#### **EXPERTISE IN DOMAINS**

Medical, pharmaceutical, laboratories

- Automation of laboratory research in medicine and ecology
- Laboratory and medical information systems

Brokerage systems

Platforms for online learning and competitions

Integration solutions - Enterprise service bus

Business process automation, RPA

Service management and customer support systems for data centers

#### **OUR APPROACH AND PROCESSES**

As a standard approach for creating digital products, we use agile development format in small teams, which assumes that:

- Full system requirements (technical specification) do not necessarily have to be formed before the start of development, but are accumulated iteratively during the development process and interaction with the client.
- The client can make changes to the technical specification during the development process.
- The stages of gathering and describing requirements, design, development, and testing can be both sequential and simultaneous.
- · Each stage is completed with a release a test version of the service, system, or product.
- · The product is refined based on new requirements received from customer feedback.
- · Flexible stage-by-stage budgeting is applied.

#### How we work with clients



#### OUR PROCESS (STEP 1/3)

Project assessment = Pre-project survey (before contract signing off, free of charge) 1-2 weeks

Pre-project team: project manager, architect/lead

- Goal setting and introduction to the project
- Stakeholders; key system requirements and functions; expected results; assumptions/limitations
- High level architecture

Meeting (1-2) with the expert / stakeholders group from the client's side to form high-level requirements for the target system and subsequent assessment of the volume, dependencies, stages, solution architecture, licensing, infrastructure, team requirements and development cost

Preparation of resource plan and roadmap with implementation stages

**Result**: estimates of the volume and cost of work, stages, approach to architecture and technology stack, and team requirements for development.



#### Contract preparation and signing off - 1-2 weeks

Including: project description, phases, assumptions/limitations, team composition, costs.

**Result**: contract is signed off, readiness for development

#### OUR PROCESS (STEP 3/3)

#### Development (development timelines are determined during the pre-project phase)

- Staffing the project team (in parallel with the following activities)
- Working with the client to refine and agree on detailed requirements for the target system, forming priority functions for development
- Preparing a technical infrastructure
  - environment, system structure and components
  - model for providing infrastructure (internal, cloud, data center, hybrid)
  - allocating resources for the start of development
  - licensing components, tools
- Development of functions according to the prioroties
  - iterative-incremental process of creating system functions (requirements -> mock-up -> design -> development -> testing -> demonstration -> release of function)
  - regular demonstrations of development progress
  - piloting period (pre-industrial operation) of the product with a focus group
  - training and support



# EXAMPLES OF PROJECTS IN HEALTHCARE, PHARMACEUTICALS AND LABORATORIES

## HEALTHCARE AND PHARMACEUTICALS

An international pharmaceutical company set a goal to reduce the duration of the drug development cycle by reducing the time it takes to find new effective molecules - which can take months - by using machine learning approaches and tools to process accumulated research data.

**Task**: Reducing the duration of research and the extent of human involvement in the search for new effective molecules as part of the process of creating drugs.

**Solution**: A web system has been developed that uses machine learning tools and algorithms to predict the properties of the compounds being studied and filters out known ineffective ones, automating part of the drug discovery process and reducing research time.

#### System capabilities:

- training models on company data sets
- entering formulas of the molecules being studied through import or sketcher mechanisms
- selecting a model and prediction criteria
- predicting on computing power and displaying results on the web page
- comparing the results with the available experimental data
- implementing a feedback mechanism for experts to correct the model's predictions
- integration with existing company systems through the API.

#### Technologies and services used in the project:

JAVA, Angular, Apache Spark/Spark ML (Random Forest, XGBoost), Veeva, ChemDraw, Spotfire Flexible iterative development with constant interaction with the client team, regular demo sessions.

## HEALTHCARE AND PHARMACEUTICALS

Pharmaceutical company, together with EQ4Tech team, has created a unified platform for planning and executing commercialisation projects to bring drugs to new markets and commercialise them (Digital Marketing and Commercialisation platform).

**Scope**: create a platform providing unified approach for developing and implementing a strategy for bringing drugs to market in different countries, taking into account the profile of the local consumer

- Creating a consumer profile, developing strategy templates, creating child country strategies led by country teams, high-level planning, planning specific activities at the country level
- Integration with Veeva services
- Dashboards with reports
- · Creating spaces for organizing the work of company practitioner communities
  - Document storage and automation of work with them
  - Calendar of events
  - Block with a display of the team structure
  - News and announcements block
  - Access rights division for participants
  - Notifications of changes by email or in a messenger

#### Technologies and services used in the project:

Java, Angular, Apache Spark/Spark ML (Random Forest, XGBoost), Veeva, ChemDraw, Spotfire, Flexible iterative development, with continuous interaction with the client team, regular demo sessions.



## HEALTHCARE AND PHARMACEUTICALS

A pharmaceutical company together with the EQ4Tech team has created a platform for tracking and analysis of incidents on production sites

**Scope**: Create a tool for tracking, dispatching and analysing incidents on production sites. The system should be based on the structure of the company's production teams and a list of metrics that are registered, aggregated and formed into reports for subsequent analysis and decision-making.

- An administrator space for setting up the team structure and metrics
- A department tree (teams)
- · A space for entering metric values for each production team
- Charts and diagrams of metric changes
- · A dashboard with metrics for each team and summarised at the level of the entire production
- Dispatching of incident tasks across the team structure

#### LABORATORIES AND MANUFACTORY

A company which conducts comprehensive country-wide ecological monitoring requested development of informational system for mobile and in-house laboratories

#### Scope:

- Inventory management
- Sample tracking
- Integration with a broad spectrum of hardware
- Test method management
- Data analysis
- Environmental monitoring
- Report generation

Technologies: .NET Core, React, PostgreSQL,

#### **TEAM AND ROLES**

The development team of each digital product creation project includes all necessary roles to ensure quality at all stages of the process: research, design, development, testing, release, and support of digital solutions. The basic key roles are:

**CTO/Architect** - responsible for solution / data architecture, accessibility, fault tolerance, and scalability.

**Senior Engineer** - a key figure in the development project team, responsible for organising the development process..

**Business-Analyst** - the main person in the area of defining, formulating and coordinating requirements with the client.

**Tester** - manual and automating, ensuring the quality of system requirements execution and error checking.

**UX/UI designer** - responsible for designing interaction with the system and ease of use.

**HTML Coder** - creates the pixel-perfect look and feel of the system.

At EQ4Tech, each employee is responsible for product quality that we deliver to out clients and follows set of measures to ensure information security

#### CONTACTS

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