



 **OSSYSTEM**  
P O R T F O L I O

We create  
for people

420550  
Written code lines

46  
Successfully  
Completed  
Projects

40+  
Employees

350900  
Working Hours

OSSystems facts



## ABOUT COMPANY

Meet Ukrainian Web and Mobile Developers with 10 years of collaboration with partners in the US, Australia, UK, Denmark, Germany, France, Italy, and Spain. We offer end-to-end implementation of your IT objectives with the guaranteed quality and timing.

We believe in our team and its talents. We can create and we create. We practice fresh approaches and invent our own. We always improve. We share knowledge. We build and value relations.

# OUR TEAM



## MOBILE DEVELOPMENT

Our Mobile Development flow might differ depending on your priorities – we can either focus on creating lightweight solutions fast or focus on gradually building a robust application able to withstand high loads. We start with Identifying app goals, publishing working alpha and improving the app to achieve Release.

## ENTERPRISE

We understand how important it is to blend external development effort into the existing company culture to create an efficient addition to already existing teams. Most often we conduct end-to-end development, Dev-Ops and release process automation, UX optimization, maintenance, and Quality Management.

## STARTUP

We frequently meet startups that want Web or Mobile app developed. Most of them are B2C and rely heavily on user growth with an app that takes into account new business specifics and aims to solve user pain. We achieve that through UX research to identify the Pain, address it through core value MVP and aim for product-market fit through product improvement.



## PROBLEM

Industrial manufacturers are facing extra maintenance, service and lost production costs when heavy machinery unexpectedly stops. Primary business concerns are related to reduced costs of operations through reduced maintenance costs as well as improved reliability of operations to allow for more robust supply chain.

## ALTERNATIVES

The regular alternatives for such pain include increasing maintenance frequency, outsourcing it or improving process quality to prevent equipment failure. The rapid development of Internet of Things allowed practicing Predictive maintenance that should identify abnormal machine behaviour prior to any incident. Our Customer was a startup that decided to implement such approach for specific B2B market that would allow comparing ongoing equipment performance to its standard performance to identify anomalies beforehand.





## SOLUTION

The solution was developed in close cooperation with Customer's Product Owner. In a nutshell, the solution presented a SmartSensor developed by external team that connected to industrial equipment and passed generated data metrics to the cloud. The data would continuously get evaluated and the Alert would be raised against any anomalies and sent to engineer's mobile phone or email to decide whether the anomaly is worth checking upon to prevent

equipment failure. Additionally, either an engineer or his supervisor can decide to receive scheduled or ad-hoc reports on single or batch equipment activity in order to include them in the overall maintenance or operations reports.

Apart from the Rules and Reports engine, we implemented a set of Canvas.js and Kibana Dashboards that allow monitoring raw data, equipment status, and derived metrics in the real time.



We chose Scrum for better transparency and accountability of the delivered product parts. We started with developing simple prototype in Adobe Illustrator for wireframing purposes. Having validated the prototype with end users, we moved to the implementation of basic HTML version of the app without any functionality behind it for further validation.

Based on the obtained feedback we sketched an MVP that included basic Dashboards, Rules, Notifications, and Reports – with the simple data flow from the Sensor to the AWS Cloud server.

Being a startup company, the Customer had to continuously pitch its product to prospects, that required OSS to adapt development priorities based on short-term business needs. Thanks to Scrum that was possible without disrupting the deployment pipeline. It was a long shot but we were making a bet on UX improvement to make the industrial B2B solution stand out against its formal-looking competitors.

After the MVP, we recognized the requirement for cost optimization and focused on the existing AWS architecture improvement. We automated the release process from Continuous Integration to the Continuous Deployment through setting up separate development environments for each new feature, achieving full unit and automated test coverage as well as making sure that the team had complete dedication to the output quality.



## TECHNOLOGY STACK

ReactJS, Redux, Node.js, AWS (IAM, Cognito, Lambda, API Gateway, CloudFormation, CloudWatch, AWS IoT, DynamoDB, Elasticsearch, Firehose, Kinesis, Greengrass, S3, EC2, SNS, SES), Kibana, Skedler, PhantomJS, Canvas.js, Serverless, Travis CI/CD, Zephyr, Allure, TestNG, Selenium, Java Core, Material Design, Adobe Illustrator, Sketch, InVision.



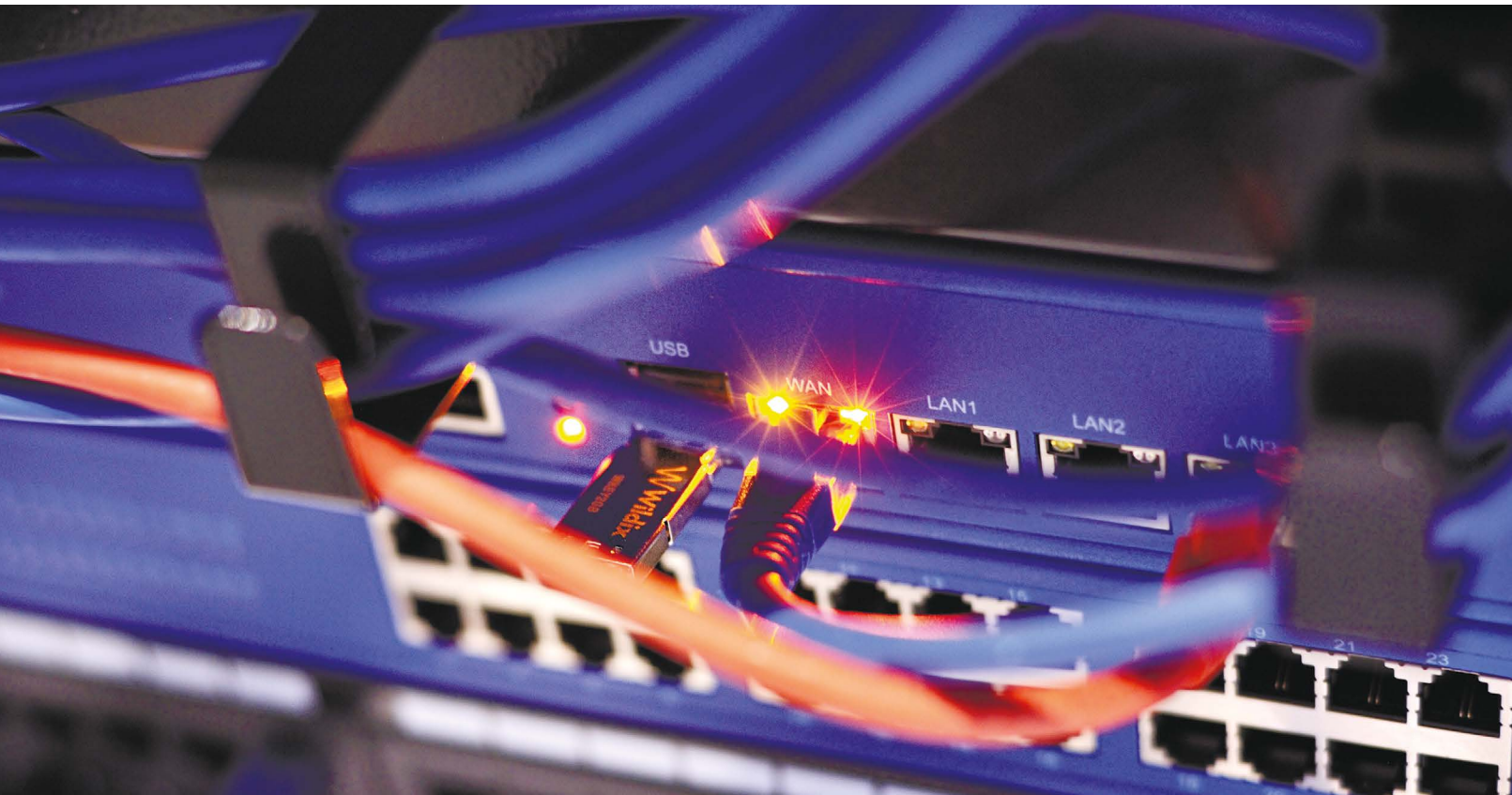
## PROBLEM

Wildix has always specialized in unified communications development and offered its partnership services through the corporate portal since 2009. In 2013 the need for more forecastable growth became apparent. In order to identify what should be the focus, we set a continuous improvement process with the customer.

## ALTERNATIVES

The alternatives included investing more into hardware to compete with Cisco grade companies, extending supported hardware compatibility or introducing additional B2C services. However, having run through problem identification process, we found out the the partners were looking for simplified experience with the platform as well as more intuitive interfaces they were used to in everyday life.





## TECHNOLOGY STACK

ExtJS, Zend Framework, MySQL, MSSQL, Memcached, SOAP, Sphinx, PowerDNS, OpenVPN, SAP B1 WS, SAP DI Service, AWS EC2, OTRS, Google APIs.

It became clear that all the alternatives were addressing partners' UX - so it became the top priority that promised increased platform traffic. Additionally, to reinforce the traffic, the Customer decided to expand its hardware compatibility to lower the entry barriers for partners. Finally, the list of top improvements included:

- SAP Business One integration
- Partner Contract templates for end users
- remote hardware management
- automated deployment of new client instances in the Cloud
- eCommerce cart with order tracking and related logistics
- flexible price list and invoice printing (xls, pdf)

These improvements secured stable business growth over two years and allowed OSSystem to expand the project team and initiate the second round of platform improvement.



# CITY COUNCIL PORTAL

## PROBLEM

City Council website was created in early 2000s and was used for governmental and social reporting needs. However, very poor UX resulted in very low traffic - both externally and from City Council Employees themselves. The need for the refreshed concept became apparent.

## ALTERNATIVES

As the project was initiated by government body, the resources and options were limited but included:

- publishing City Council updates within the Regional Council website
- reshaping existing website into the Transparent Government portal
- creating knowledge sharing system and integrating it with the document workflow system

Though much different in their scope, budget and value focus, all the options would solve customer pain. OSSystem submitted its proposals for evaluation through the Centralized Transparent Procurement System within January-March 2016.





## SOLUTION

Considering the overall trend for increased government transparency in Ukraine, OSSystem's proposal was accepted and modified to share not only City Council updates but also financial, legislative, cultural and social initiatives with the citizens and city

guests. Such platform should be integrated with the central government databases to track directives, law initiatives, citizen petitions and polls and should allow population to easily participate in the local governing.

Before jumping into the implementation, we have prototyped the core functionality of the completed service and outlined non-functional requirements for the system. Based on such requirements, we have drafted the initial architecture for Client web-application and picked the technology stack. As the requirements included high reliability and maintainability, we decided to stick to the stable and widely available PHP for the server-side and JS for client side. We also selected PHP Symfony for its large number of ready-to-use bundles and Sonata Project for building up the Admin interface.

We have started with design prototyping and laying down architecture at the same time as these processes were largely independent from each other. The designer worked in continuous contact with Product Owner to outline User Personas based on the analysis of current and potential visitors of such platform. Following that, we have identified User Values and sketched User Journeys for each Persona to create individual screen flows for each of them. Based on such flows, we drafted wireframes and final designs that were validated with sample user groups.



7°C

UA



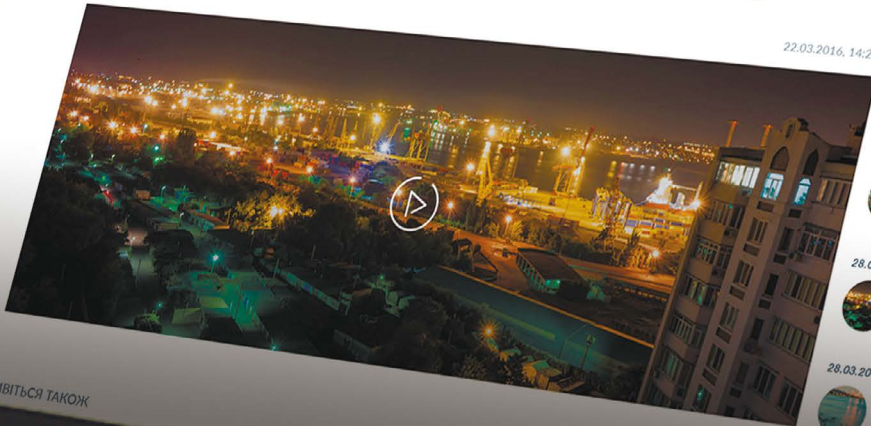
## НАГОРОДЖЕННЯ ПЕРЕМОЖНИЦЬ МІСЬКОГО КОНКУРСУ «ЖІНКА РОКУ 2016»



ДОДАТИ ФОТО

3 березня 2016 року в залі засідань виконкому відбулося урочисте нагородження переможниць міського конкурсу «Жінка року-2016». На нагородженні були присутні: міський голова – Хмельнюк В.Я., голова конкурсної комісії, секретар міськради Боровська О.Р., члени конкурсної комісії.  
У цьому році 16 жінок - представниць підприємств та організацій Чорноморська претендували на звання «Жінка року 2016».

### ОСТАННІ ЗАХОДИ



22.03.2016, 14:26



28.03.2016 ВЕЧІР ВІДПОЧИНКУ ПІД МУЗИЧНИЙ СУПРОВІД ОРКЕСТРУ «BLACK...



28.03.2016 ВЕЧІР ВІДПОЧИНКУ І ЗНАЙОМСТВ



28.03.2016 ПЕРСОНАЛЬНА ВИСТАВКА КАРТИН ДМИТРА КОСАРІКОВА ...



28.03.2016 ВЕЧІР ВІДПОЧИНКУ ПІД МУЗИЧНИЙ СУПРОВІД ОРКЕСТРУ «BLACK...



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28.03.2016 ПЕРСОНАЛЬНА ВИСТАВКА КАРТИН ДМИТРА КОСАРІКОВА

ДИВІТЬСЯ ТАКОЖ

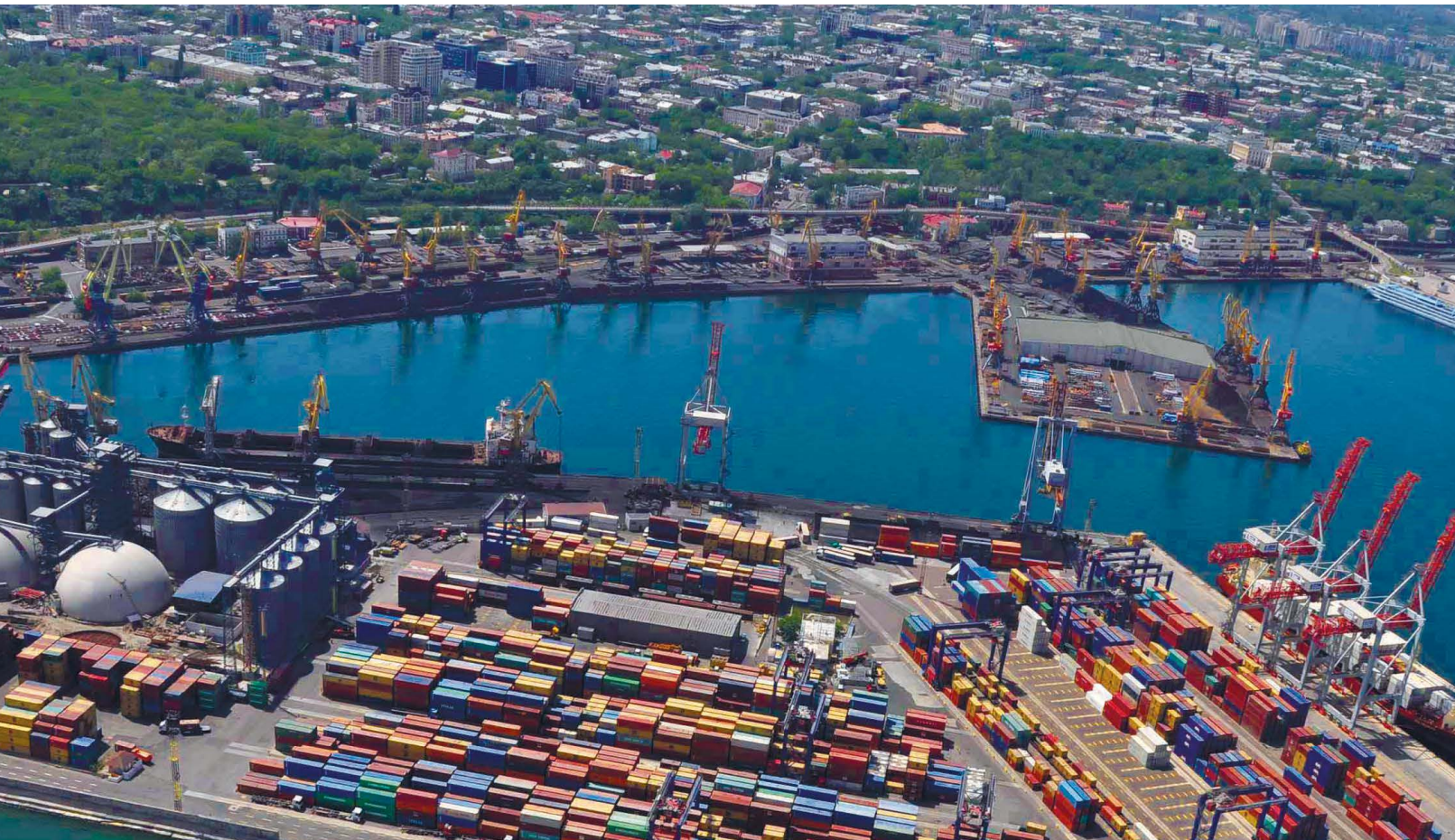
## TIDYING UP AND MOVING THE EXISTING DATABASE

Existing database structure and its integrity were not maintained due to the involvement of several rotating teams and absence of documentation. We had to manually identify common patterns for data structure, sort, filter and extract the most valuable data first, while making sure that nothing goes missing.

## STAKEHOLDER MANAGEMENT

The Head of City Council IT Department acted as a Product Owner. However, due to frequent shifting external priorities, she had to continuously reconcile short-term project objectives. Our goal as a partner was to fulfill short-term goals without compromising project objectives and schedule. It was up to the team to incorporate new requirements into the scope without compromising the deadline.





## TECHNOLOGY STACK

Symfony2: Sonata Project, Twig, Doctrine, Sphinx, NGINX, MySQL 5, jQuery.







## PROBLEM

Our Customer identified a major pain point among youngsters in organizing events with their friends: inviting friends, making sure everyone has access to the same level of information and keeping track of who is going to attend was a mess. The existing solutions included Facebook events, Google Calendar or custom apps for specific events.

## ALTERNATIVES

Having conducted market analysis and having estimated available resources, we came up with the list of top MVP:

- sharing, discussing and rating Facebook and Google events
- marketplace for nearby private and public events
- event sharing and management through users' Phonebooks

When evaluating the alternatives, we took into account the expected platform effect and their intensity, the precaution of users against over-intrusive apps as well as network and virality impacts that were required in each case for efficient user base growth.





9:41 AM  
Custom Event

What do you want to do?  
House party

Next

9:41 AM

100%

Are you up for this morning

Bran Stark  
Paris  
Event created: 7:24 AM

Are you up for Sushi tonight?

Daenerys Targaryen  
Paris  
Event created: 5:45 PM

43

You have no invitations yet :-(  
What's your plan ?

After a closer study, we decided to take a more risky approach and implement an application that won't be limited by Facebook or Google's APIs and would allow more flexible event management and tracking options.

The most important part of our decision was connecting event attendees with businesses that offer services for holding an event. We were convinced that we have enough leverage to pull that off as we knew who wanted to spend money on what and where. Hence, we could easily match existing demand with free capacity at local businesses.

Going a step further, we decided that users were not only looking to satisfy their obvious needs – such as having sushi or drinking at a bar – but more complex needs such as socializing, feeling cozy or adventurous. Thus, we decided to develop a neural network to map places' attributes to the users' explicit and implicit needs.

The app and its B2B platform side are still under development and the release is scheduled for early Spring 2018.

The Customer decided to develop an MVP and address both Android and iOS platforms at the same time. Considering limited budget and timeline, we used React Native for achieving faster outcome and easier code maintenance. Down the road we encountered a number of structural challenges as React Native community was still young and the libraries and tools selection was much limited. In order to overcome the challenge, we had to customize what was available and develop our own modules when applicable.

Additionally, we were majorly held back by the iOS Distribution and review process – that required implementing such important features as reporting abuse or spam, iPad compatibility and blocking non-desired users to prevent communication.

Another large challenge was building a flexible CI solution for Android and iOS and implementing Bitbucket and JIRA integration. It took us a lot of DevOps and coffees to set up a flow that would allow us assembling builds through XCode and Android SDK, composing changelog, marking them with correct versions and submitting to the Stores. Such system allowed saving up to 70% of time previously required to swap configs and build for various environments.

Special effort was dedicated to setting up and fine-tuning Firebase Cloud Messaging and SMS services to make sure the virality loop is enclosed and allows new users to easily bring their friends to the platform.





## TECHNOLOGY STACK

React Native, Node.js, npm, webpackm, FCM, Android SDK, Node.js, AWS, MongoDB, XCode.

FOR NOTES

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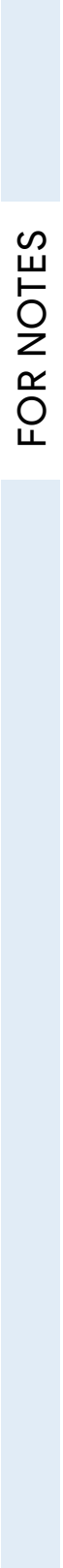
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FOR NOTES

ENJOY THE DAY!