

## BG BG Open Data Portal of Bulgaria

Overview of significant KPI,

Requirements & Implementation Specifics

April 2019





## What is Open Data?

- Web-based information system, facilitating the management and exchange of data in open formats
- Regulated by European Directive 2013/37/EU on the re-use of public sector information
- The project has wide impact and is of significant public interest
- The project is funded by the Bulgarian Council of Ministers, co-funded through the operational program "Good Governance"





#### Requirements

- Create the New Open Data Portal from scratch, including a Tool for automated data synchronization
- Migrate over 8000 data sets, more than half of these not in open format
- Use only open source tools and libraries
- No RDBMS allowed for data storage and search
- Implement using SOA





#### Requirements

- Highly scalable and extensible solution
- Robust architecture that allows updates and maintenance on the go without downtime
- Modern user guide to allow the transparent adoption of the new portal with the ability to embed video tutorials
- Extensive documentation covering both user and technical sides, including API, administration guide, installation & maintenance guide, as well as end-user guide
- Central log management and monitoring tools





#### Requirements

- Data automation tool to run on all operating systems, must have a webbased user interface, be accessible over the network and automate data upload from different sources, incl. MySQL, Oracle, Postgre, Informix and others.
- Project phases to cover Requirements Elicitation & Analysis, Design, Implementation, Testing, Deployment and Training for 80 people
- Everything must be ready within 5 months from the beginning





## <sup>®</sup> 8000 Data Sets with more than half of them *not* in open format

- Train end users to upload data directly in open format through a flexible CMS for on-line help
- Allow for video tutorials to be embedded
- Support the transition using a data conversion libraries to allow direct conversion from Word, Excel, PDF and even scanned documents using OCR
- Build a number of tools for data migration, allowing for the simultaneous migration and conversion of data from the previous portal



# No RDBMS allowed for data storage and search



- Store the JSON document and index all fields so searches can be performed
- Cluster the database in multiple nodes to improve performance and uptime



**Finite** 

Software

Systems





## Implement using SOA

- Build an API with more than 130 methods
- Document the API with examples in about 230 pages
- The whole front-end uses the API and nothing more
- The API is available for integration, data conversion and extensions of all kinds





#### Highly scalable and extensible solution







## Tool for automatic upload of data

- Built on top of Docker
- Can be installed on all major operating systems
- Written in PHP, exposes a web-based user interface
- Installed in local environments
- Provides access to local resources, e.g. different databases, local files, etc.
- Automatically monitors changes and can upload new data in real-time





#### Central log management and monitoring tools

- Uses Graylog together with Fluent for centralized log management
- Collect log data from the web site operation, as well as the individual installations of the tool
- Show performance measurements and allow for real-time alerts
- Record information about data migration





## Training for 80 people

- 4 consecutive full-day trainings
- Specially designated venue
- Demonstration of the live portal operation
- Q&A sections and hands-on experience







## How did we do this?

- We have more than 12 years of experience building web and mobile applications
- We mobilized 20 highly skilled team members, among who we have certified PMP, ISTQB, PBA and SCRUM professionals
- We built on top of our experience and established international standards like ISO 9001, ISO 27001 and ISO 20000-1
- Constant communication with the Administration of the Council of Ministers
- Visit our web site for more information at <u>https://finite-soft.com/</u>





## Man-hours

Month	Other	Development	Testing	РМ	Comm	Server Adm	Adm	Design	Support	Total
April	24:00									24:00
Мау	126:30									126:30
June	416:53	60:05	16:30	38:01	26:37	16:01	7:55	16:58		542:04
July	360:15	761:05	46:50	32:16	21:57	15:50	7:21			1208:44
August	440:38	898:44	73:03	38:45	42:03	1:01	7:12			1441:04
September	262:06	1018:37	120:07	14:43	66:24	43:27	9:56			1470:25
October	353:11	896:38	51:34	3:41	14:30	10:24	49:50		2:00	1331:15
November	46:25	132:25	18:39		2:20	0:55	1:30		0:58	189:17
Total to date	2029:58	3767:34	326:43	127:26	173:51	87:38	83:44	16:58	2:58	6333:19





#### Facts from work&log











E Feature Bugs Change Requests Requirements Risk





#### git Facts: 207 876 Lines of Code







## State e-Government Agency Facts

- 9 Virtual Machines
- 26 CPU cores, 52 GHz
- 104 GB RAM
- 1,7 TB disk space







#### Documentation: 1271 Pages

- Design: 150
- Development: 482
- Reports: 88
- User Guides: 551
- Letters & many more: ???

