



Support to e-Governance initiatives based on FOSS Project

Development of FOSS applications Municipal Workflow management system Terms of Reference

1. Background

The main objective of the Project “Support to e-Governance initiatives based on Free/Open Source Software the local level in Macedonia” - FOSS Project, is to provide assistance to the local governments in their efforts to introduce e-governance in their regular operations in order to operate more effectively, provide the information quickly and easily and to interact with the citizens in a more efficient manner. The Project envisions full exploitation of the new opportunities provided by information and communication technologies, especially by combining the existing hardware and digital networks with the application of the Free/Open Source Software. FOSS can be considered as an easily accessible knowledge that can be transferred to and adapted for use at almost no cost, without huge disbursements of finances, and by linking to a global community that can provide support and transfer basic skills. Major asset of FOSS is that it can be easily and cost-effectively replicated, which is especially important at local level.

The Project is planning implementation of the following applications in 3 pilot municipalities:

- Struga: Municipal/Citizens e-services; Redesign of the municipal Web site and upgrade with e-democracy content
- Karposh: e-Intermunicipal Cooperation (e-Municipal Official Gazzete, Best Practices and Projects); e- Municipal Council
- Prilep: Workflow Management System (Document/File Management System; Municipal/Citizens e-services; Redesign of the municipal Web site and upgrade with e-democracy content

An analysis of the needs related to the implementation of selected applications and services has been performed. The aim of this analysis is to describe the necessary functionalities of the applications that will be implemented in the pilot municipalities of Karposh, Prilep and Struga. The applications shall be licensed as free and open source software in order to be available for further use and upgrade from all municipalities.

It is very important that the selected FOSS e-services and applications on a local level are designed with appropriate user-friendly interface and with implementation of proper security measures that will guaranty privacy and security of personal data and implement secure access to the information.

For each application an tentative implementation Plan has been given. It takes into consideration development phases and training activities of the municipal employees on how to use the applications as well as training of the municipal IT support staff on maintenance

and administration of the applications.

2. Terminology

- Procurer – United Nations Development Program – Support to e-Governance initiatives based on Free/Open Source - Software at the local level in Macedonia
- Contractor – entity chosen to develop the application
- User (direct user) – Municipalities Karposh, Prilep and Struga
- License – permit granting permission to engage in an activity that would otherwise be illegal
- Free and Open Source Software - software which the user can use for any purpose, study the source code of, adapt to their needs, and redistribute - modified or unmodified.

3. General requirements

The applications developed upon this document shall be licensed under GNU General Public License¹ (GPL), Berkeley Software Distribution License² (BSD), LGPL³ or any other license listed under Open Source Initiative Certified Open Source Software Licenses⁴ list.

Together with the developed product (application) the Contractor is obliged completely and without any restraints to give for free use out of the chosen license the complete source code of the application to any interested entity and to publish it at publicly available website. Complete source code shall be open, clearly readable and well documented⁵.

Additionally, complete documentation for installation, administration and usage of the system shall be publicly available to any interested entity and shall be published at publicly available website.

Complete software infrastructure (apart from the operating system) shall be composed of software that is free or free of cost for the particular use.

Contractor in communication with the Procurer and users of the application will provide complete interoperability of the procured application with the applications which are currently in use.

4. Technical standards

The system shall enable full text search and case-insensitive search of the resources and documents contained. The system shall support documents in local languages (with standard operating system). Where applicable, UTF-8 Unicode shall be used as a technical document standard. Brief overview of the workflow management is visually given in Annex 1.

Application shall be developed according to XHTML 1.0 Transitional, CSS 2.0, UTF-8 Unicode with integrated tools for better search engine rating (keywords, dynamic generation of page description, search engine optimization). The application shall meet the W3C standards (w3c.org)

5. Functional description

The workflow management system will incorporate the following components:

¹ <http://www.opensource.org/licenses/gpl-license.php>

² <http://www.opensource.org/licenses/bsd-license.php>

³ <http://www.opensource.org/licenses/lgpl-license.php>

⁴ <http://www.opensource.org/licenses/>

⁵ Depending on the environment, such as VBDox, Javadoc, RubyDoc, phpDocumentator...

- Document management system (DMS) with appropriate levels of rights according to policies set by the administration, or appropriate interface with the existing DMS.
- Complete document archiving function including all legal standards for document archive
- Workflow management based on the WS-BPEL 2.0⁶ standard including graphical process modeler.
- Archive scanner interface
- Archive printer interface
- Offering scalability and backup strategies.
- Document flow pipelines designed upon diagrams of business processes supplied by the end user (the municipality) and consultants. The diagram will describe the paths of the documents from the front-office to the end-results, as well as the internal flow of documents and messages.
- Distributed office functionality (via LAN/VPN) including:
 - Municipality administration
 - GIS office
 - Economical Development office
 - Revenue office
- Interface for the existing computer applications (revenue software, GIS)
- Integrated messaging system (mail / IM exchange)
- Front-office interface incorporating forms and back-office flow including integration with the web site, e-council (if existent) including two-way e-service transactions.
- System supported input (via web, email, media) of electronically signed documents according to the national regulations
- Every user (employee) should be able to sign the documents electronically⁷
- System supported output of electronically signed documents
- The workflow management application (including the DMS and archiving components) should support the following text document formats:
 - Microsoft Office (read-write)
 - OpenOffice.org – Open Document Format⁸ (read-write)
 - Adobe Acrobat (.pdf) (read/export)
- The workflow management system should support equal functionality for all mentioned formats
- The application should support conversion to and from mentioned formats
- In cooperation with the end-user (the municipality) the Contractor shall prepare all necessary forms, workflows and software necessary for complete electronic flow of documents and work-processes in the municipality
- The application should offer front-office and web front-office interface including possibility for two-way e-services back-office support.

Website administration functionalities

- Interactive control panel
- 3 levels of administration (content publishing, editing and technical administration)

⁶ International standard for technical design of work flow processes. http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wsbpel

⁷ Conducting an implementation study is recommended

⁸ http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=office

- WYSIWIG (What you see is what you get) editor – interactive and rich text formatting
- JIT (Just in time) editing of texts - no need of login in the control panel
- Intervention in website appearance, adding banners, functional modules, menu items

6. Use case

Four types of users will interact with the website and its content.

- End-users: municipality employees, government, ministries, citizens, business, media, NGOs. The end users will access the front page interface of the website for obtaining information, enjoying right to free access to information. The end users will use the inbuilt modules of the website for these needs.
- Content providers: appointed municipality employees. The content providers will access the backend interface of the website to prepare and submit information in the website database for further editing and publishing.
- Editors/administrators: technical personnel. The editors/administrators will access the backend interface of the website to review and publish the content submitted by the content providers. Editors/administrators will have access to the complete infrastructure of the website and will be in charge of technical maintenance of the website, user management, back up .

Please see Workflow management process sample, given in Annex to this document.

7. Implementation Plan

Activity	End before
1. Application design	15.12.2006
2. First draft presentation	01.03.2007
3. Final version presentation	01.04.2007
4. Training manuals and trainings delivered before	01.05.2007

8. Developer's capacity and qualifications

Software Development companies with strong background and references in FOSS applications are encouraged to supply their offers.

The successful contracted Developer is expected to possess the following capacities and qualifications:

- Minimum 2 permanent employed developers.
- At list two members/employees of the Development Time should have university education in computer sciences or related.
- At list two members /employees of the Development Time should have minimum 3 years of experience in Development WEB/Database applications.
- FOSS projects references will be considered as an asset.
- International experience will be considered as an asset.

CVs of all developers should be attached to the application.

9. Deliverables, documentation and language

The Developer should prepare a standardized technical documentation for maintenance/administration of the applications and user manuals.

The application software and documentation shall be delivered in 2 copies on DVD media.

The training materials have to be produced in English and in Macedonian language. Other documentation has to be produced in English.

10. Payment

At the end of the works or if partial payment is required, after finishing of each phase of the Implementation Plan, an Acceptance Report shall be prepared by the developer and signed by both parties.

Final payment shall be done in 5 days after signing Final Report and performed Presentation of the functionalities of the developed application.

Annex - Workflow management

