www.UniText.fr
Information System Concept for
Documentation/Project Management

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Abstract. The UniText tool is a concept in development that takes into account the distributed nature of documentation, which consists of multiple documents linked to several parts of the system described at different levels of abstraction, and produced by different people with different authority levels. UniText can manage the traceability of all the documentation units according to several criteria (author, date, context, tasks, sub-projects, delegation of projects), as well as suggestions and discussions about the documentation, in order to help building and maintaining a consistent documentation from all these pieces of information. The UniText venture is designed to structure the work of managers who are responsible for documentation in R&D projects, in order to improve clarity, motivation, efficiency, capabilities and to absorb and respect all contributions of all stakeholders.
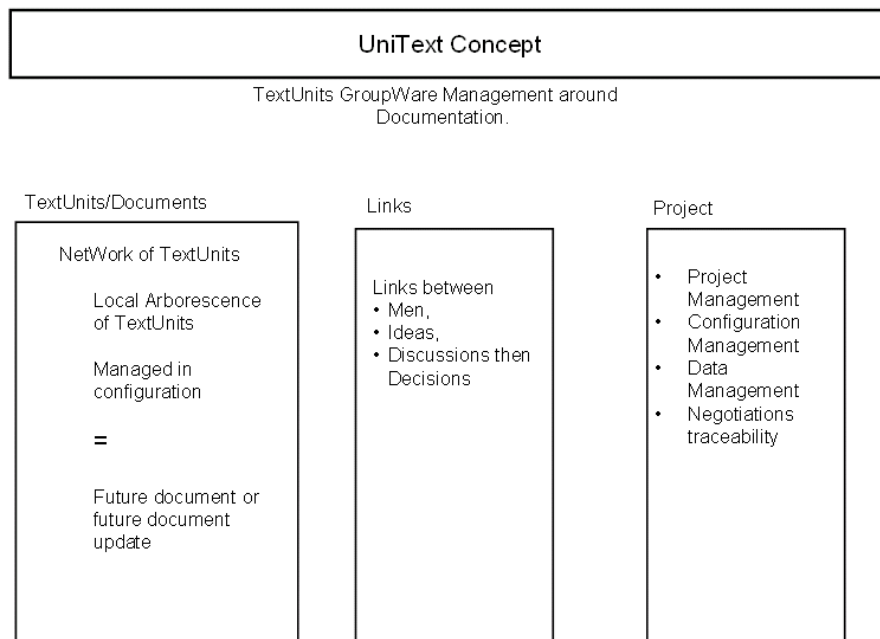
1 Introduction

Documentation is a key issue in complex projects and it is often a very time-consuming activity which has a low perceived value, when the same units of text must be repeated over and over in multiple documents, correlated differently, with several levels of synthesis and/or analysis and aimed at many stakeholders points-of-view. Out-of-date, misdelivered and/or uncorrelated documents lead to unnecessary mistakes and configuration issues with the consequence, among several, being extra costs and delays due to partial re-working.

Documentation management is "local" and "asynchronous" -- when the reference documents are part of costly contracts within an "extended enterprise" -- and is also subject to "change management" -- thus creating added requirements for updating peripheral documents needed for contractual changes, negotiations, decisions, new iterations for handling an ever-evolving flow of data, etc. In response to the need for documentation management stream-lining, **UniText** has been developed as an integrated documentation management system, based on small units of text, linked in a

network of contexts, locally organized in hierarchy, and automatically managed in configuration by date.

This software will link colleagues, their authority, the propagation of access rights, including delegation of projects, sub-projects and incidental tasks. Ideas will be managed in a network of context and date, and will have discussion attributes at different levels including offers of anonymous suggestions (whose contribution will carry no weight of commitment), straightforward decision-making (carrying the weight of commitment of a set of signers) and descriptions of work (carrying the weight of commitment of a set of signers who can describe the existing system).

UniText is a complement to the management/evolution of documents, due to tremendous reduction in the number of updates and iterations made to individual documents removed from a particular project's stream of documentation management. Within **UniText** , ideas are managed in configuration with virtual contents that can be manipulated by several users. A dynamic project management workflow system enables vibrant discussion, clear and shared decision-making. In this way, **UniText** will create a virtual think-tank environment to consolidate the set of applicable documents.

Fig. 1. UniText Concept Overview.

2 Existing tools and methodologies

The UniText concept proposes a compact intranet/internet-based environment wherein "text units" are managed in configuration with a project's global set of data in order to produce inter-related documents. Text units are units of text, as in short sentences, for example, chosen for their applicability within requirement management which are published and shared amongst a project's stakeholders.

Emails, for example, are text units which are not currently capitalized upon in order to produce final documents with any configuration management structure. The usage of text units is common on the web, but this capability has not been exploited yet to produce complex documentation in systems design. Management of "document-like" pages is also common in Wiki pages. Project management standards are also well described, as stated in the *Reference* section of this paper, and the UniText goal is to implement software solutions to comply with these environments and standards. The originality of UniText is to create a new usage of distributed text units, from a synthesis effect, now possible thanks to mature means available through intranets and the internet.

The UniText concept is not a revolution in tools or methodologies. Let's look at the common process to negotiate documents in systems R&D :
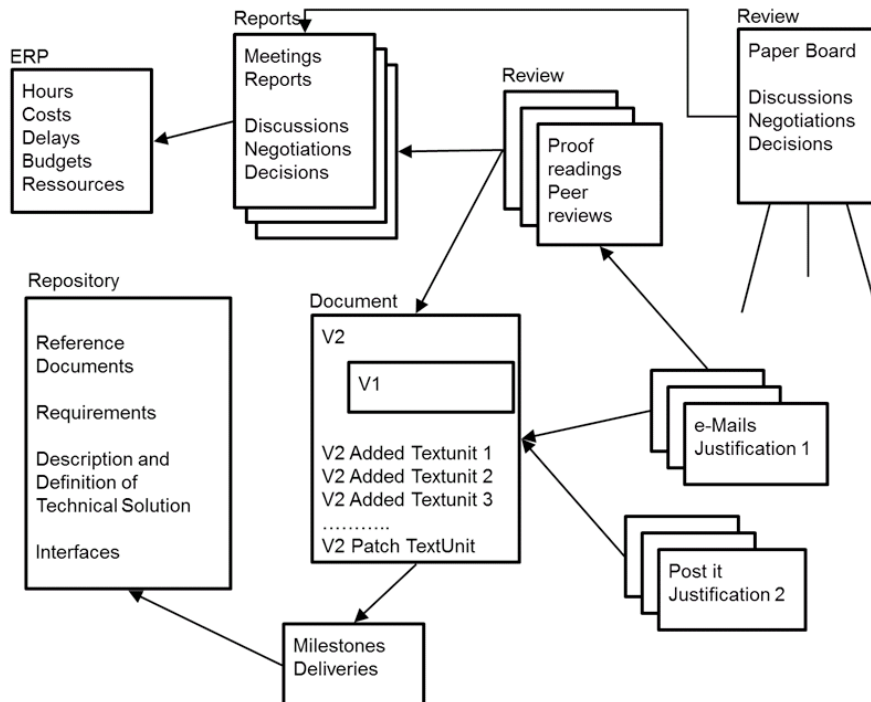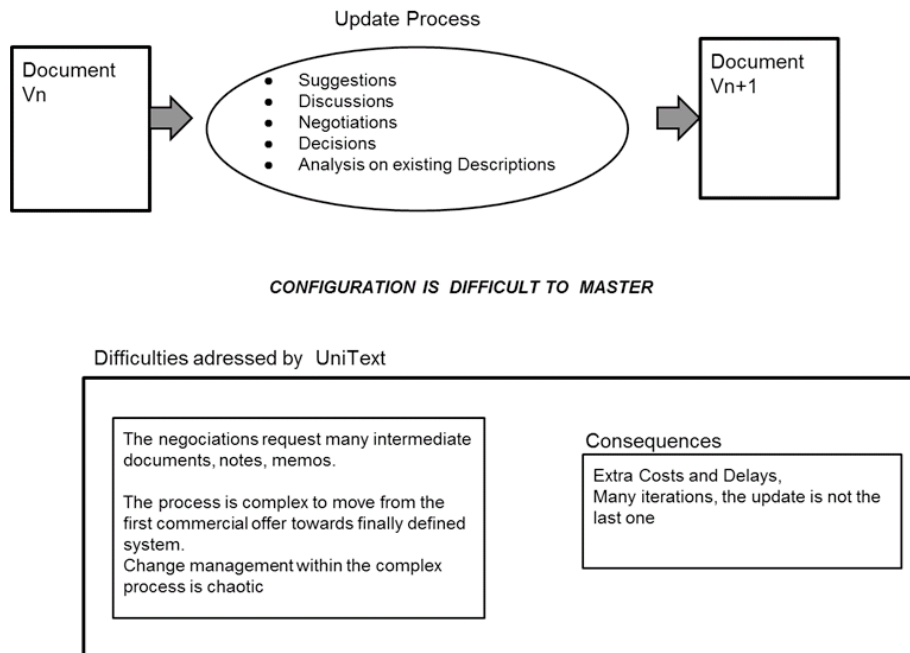

Fig. 2. Usual process to elaborate and discuss documents.

3 Issues addressed in documentation update

As we can see in Figure 3 below, many documents have to be updated from version n or Vn to the next version, $n+1$ or $Vn+1$.

In large and complex projects, a lot of subtle information, complexity and quantity of communication are lost. As shown above in Figure 2 it is not possible to communicate well outside of a "core team", or a reduced set of people responsible for a part of the project/product/service with limited and manageable interface with the outside world.

Update Process

Document Vn

- Suggestions
- Discussions
- Negotiations
- Decisions
- Analysis on existing Descriptions

Document Vn+1

CONFIGURATION IS DIFFICULT TO MASTER

Difficulties adressed by UniText

The negociations request many intermediate documents, notes, memos.

The process is complex to move from the first commercial offer towards finally defined system.
Change management within the complex process is chaotic

Consequences

Extra Costs and Delays,
Many iterations, the update is not the last one

Fig. 3. Issues addressed

The main issue considering cost and delays is the difficulty to predict how many iterations will be needed to obtain a final set of documentation satisfactory to all stakeholders. We generally know the goal, which final documentation is needed, but how to go there requires iterations.
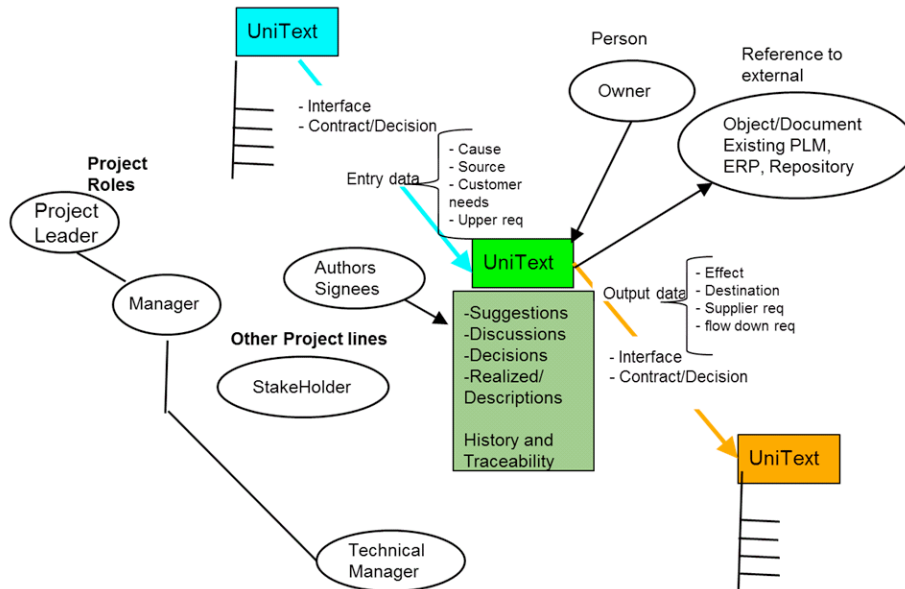
4 Organization of the UniText concept.

Fig. 4. Organization of the UniText concept

The UniText concept is centered around the person, and around a network of ideas, globally in the network, and locally in a hierarchy. The existing intranet/extranet technology enables the different interactions required for forging the efficient links between men, decisions and ideas. UniText's internal database is meant to be local and asynchronous, centered on the person. As a person, do I need to know the global OBS of the project, the global organization of my customers, of my company, of my suppliers? UniText's local philosophy negotiates the inter-dependency between people at the individual level, the one, two or three stakeholders who will back me up as a project leader or a hierarchic. The local data model of UniText describes links between people, with propagation rules: What delegation do I receive? What delegation can I propagate? This relationship between stakeholders and data propagates access rights, ordering what access rights to which project they receive and what access rights they can propagate. In complex projects, the repository of files and documents generally requires a system administrator to permit access to different shared hard disk directories.

The ambition of UniText is to declare a bottom-up logic, and to enable access rights to stakeholders as naturally as one can give a document to a colleague from hand-to-hand. The goal is to extend a lot of freedom to contribute to the compilation of documentation to all stakeholders. All ideas and suggestions would find or create a

correct context to be written in. The result would be the motivation and respect of stakeholders who will have access to an easy way to communicate their concerns in a transverse way to the right people, at the right time.

5 Conclusion

The UniText project is a free software concept to be used within extended enterprises, from clients in-charge of CSDM to final detailed-parts suppliers, managing documentation, related to projects. This software is an attempt to organize locally, at the individual stakeholder level, the best management practices in high-tech industries like aeronautics, where complex documentation is required and has to be maintained for financial, contractual, reliability, long-term maintainability, traceability and safety reasons. The goal of the association *Les Amis de UniText* is to develop an initial software model within DRUPAL. DRUPAL will enable security and web compatibility. The initial software data model will contain nine tables and a total of around ninety fields.

Your input and contributions of ideas, programming, testing and financial donation are welcome.

References

1. Philippe Jarrin – Blog – www.UniText.fr 2013-2014
2. Luc Beaupère - www. LesAmisDeUniText.fr
3. FD ISO 10005 - September 2005 : Guidelines for quality plans
4. FD ISO 10006 - December 2003 : Guidelines for quality management in projects
5. NF X50-151, NF EN 16271 - Février/February 2013 – Value Management (Industry)
6. Project Management Body of Knowledge (PMBOK® Guide) —Fourth Edition
7. ISO 10007 Second edition - 2003-06-15 : Configuration Management