

End-User Programming with Application Wikis: A Panel with Ludovic Dubost, Stewart Nickolas, and Peter Thoeny

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ABSTRACT

Wikis empower users to collaborate with each other using prose. Users imprint data structures and processes onto wiki pages using social and technical conventions. Application wikis enhance wiki engines with lightweight programming features that aid in making data structures and processes explicit. Using these features, end-users can program a wiki to better support them in their collaborative processes and integrate their work into the overall IT infrastructure. Application wikis make database access and business process integration easy from within the wiki while maintaining the wiki-style of collaborative work. The panelists of this panel, together with the audience and the moderator, will review existing work and explore future research directions in application wikis.

Categories and Subject Descriptors

D.1.7 Visual Programming; D.2.6 Programming Environments: Integrated Environments, Interactive Environments; D.2.m Miscellaneous: Rapid Prototyping; D.3.2 Language Classifications: Specialized Application Languages; H.4.1 Office Automation: Groupware, Workflow Management; H.5.1 Multimedia Information Systems: Hypertext Navigation and Maps; H.5.2 User Interfaces: User-Centered Design; H.5.3: Group and Organization Interfaces: Collaborative Computing, Computer-Supported Cooperative Work, Web-Based Interaction; H.5.4: Hypertext/Hypermedia: Architectures, Navigation, Theory, User Issues.

General Terms

Design, Human Factors, Languages.

Keywords

Wikis, application wikis, wiki applications, wiki application platform, domain-specific languages, end-user programming, mashups, mashup platform, application platform, situational applications, rich Internet applications, collaborative applications, open collaboration.

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1. INTRODUCTION

Application wikis (a.k.a. structured wikis) are wiki engines that allow users to create lightweight applications as part of a regular wiki. More than prose, application wikis are programmable using wiki markup, visual programming, and scripting languages. Application wikis typically support built-in and external databases and integrate well with the underlying infrastructure. Application wikis can be viewed as a variant of today's mashup platforms. This panel assesses the state of the art and discusses future directions for application wiki research and practice.

2. APPLICATION WIKIS

Application wikis are a natural outgrowth of more traditional wiki engines. Programming features were added when users demanded not only to work with prose but also with business information like customer or product data. Many wiki engines today support access to structured data from relational databases and provide end-user programming to present and work with the data in the context of a wiki. Wiki engines that provide such features are TWiki [9], SnipSnap [4] [5], XWiki [3], and QEDWiki [7].

Application wikis can be viewed as yet another application programming platform, competing with Java and C# application servers. However, application wikis are different in that they follow the principles of wikis, as laid out by Cunningham, whereas traditional application servers typically do not. Wikis are: Open, incremental, organic, mundane, universal, overt, unified, precise, tolerant, observable, and convergent [2].

Anslow and Riehle pick up on these fundamental properties of wikis and review them with respect to end-user programming [1]. They argue that the difference to traditional application platforms is found in the incremental and incomplete yet robust approach that wikis afford users: At no time does a wiki page “crash”. Rather, it delivers partial results. At any time are the page's inner workings available for inspection and adaptation by the user. Anslow and Riehle compare application wikis with spreadsheets and conclude that they share many of the same properties, but that wikis are more general than a row and column paradigm.

An important step towards end-user programming with wikis will be the definition and broad provision of a markup standard with programming features. Today's only markup standard, Wiki Creole [8], provides no such features but may be a good starting point. Current best practice as demonstrated by SnipSnap [5] and XWiki [3] is to use an off-the-shelf scripting language, make it available within a wiki page, and combine it with an object model that exposes the services of the underlying infrastructure.

Kraus provides a use-case and business scenario for application wikis [6]. Application wikis address the “the long tail of software”; they provide the simple but powerful applications that small businesses or power-users need in their daily work, but which vary from small business to small business and cannot be served cost-effectively by the large business software vendors of the world. Kraus envisions a cottage industry of small consultants and power users who program support for one-off business processes using application wikis to meet their clients or their own needs. Following Kraus, Thoeny points out that most application wiki programming today is done by a wiki champion rather than an end-user [10]. This suggests that further research into end-user programming with wikis is needed.

3. PANELISTS

The panel will be moderated by the author of this summary. It hosts the following three panelists and will engage with the audience. The panelists provided the following biographies.

3.1 Ludovic Dubost (Panelist)

After graduating from the French Polytechnic School (X90) and Telecom Paris, Ludovic Dubost started his career as a software architect at Netscape Communications Europe, moving on to a position as CTO of one of the first French startups to launch an IPO on the Paris stock-exchange, NetValue. After NetValue was purchased by Nielsen//NetRatings, Ludovic moved on to launch XWiki in November of 2003. XWiki pioneered the application wiki space by being the first wiki to provide a scripting language right in the wiki pages, allowing to build complex applications using the wiki concept.

3.2 Stewart Nickolas (Panelist)

Stewart Nickolas is a Distinguished Engineer in the Emerging Internet Technologies Group within IBM. Stew’s recent responsibilities include chairing the OpenAjax Gadget Taskforce, leading the QEDWiki project within IBM, defining and shaping IBM’s Web 2.0 and Situational Application strategies. The Gadgets Taskforce is focused on defining a shared set of metadata that provides seamless integration among the gadgets providers and consumers. Stew has also spearheaded IBM’s technical strategy and implementation in the emerging area of Web 2.0 Enterprise Mashup Makers. Additionally Stew works with customers to validate new technologies and with IBM product teams to develop the appropriate products. Stew has been recognized by IBM with Outstanding Technical Achievement Awards in the area of Situational Applications and Rich Internet Applications.

3.3 Peter Thoeny (Panelist)

Peter Thoeny is the founder of TWiki and has managed the open-sourced TWiki.org project for the last ten years. Peter invented the concept of structured wikis—where free form wiki content

can be structured with tailored wiki applications. He is the CTO of TWIKI.NET, a company offering enterprise Web 2.0 solutions that help revolutionize collaboration and enhance productivity at the workplace. Peter is a recognized thought-leader in wikis and social software, featured in numerous articles and technology conferences including Linux World, BusinessWeek, The Wall Street Journal and more. A software developer with over 20 years experience, Peter specializes in software architecture, user interface design and web technology.

3.4 Dirk Riehle (Moderator)

Dirk Riehle leads the Open Source Research Group at SAP Labs in Palo Alto, California (Silicon Valley). Before this, he was the co-founder of an on-demand business software startup in Berlin, Germany, which used agile methods and strategically employed open source software. A fan of wikis since their inception, Dirk started the Wiki Symposium, a conference dedicated to wiki research and practice. He holds a Ph.D. in computer science from ETH Zurich and an M.B.A. from Stanford Business School. He welcomes email at dirk@riehle.org and blogs at www.riehle.org.

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