Fostering Investigation, Collaboration, and Evaluation: the *i** Wiki Experience

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Abstract. The *i** framework is becoming a widespread modeling technique that can be used in a wide variety of contexts. As a result, there is a large worldwide community of users. In order to allow better communication and dissemination of the work between different research groups, we have established a collaborative *i** wiki. This wiki allows *i** researchers, students and practitioners to obtain and publish information concerning related publications, *i** guidelines, existing *i** tools, case studies, and more. This paper presents our experiences setting up and managing the *i** wiki as well as its current and potential future offerings.

1 Introduction

In April 2005 at the 2nd *i** workshop, several research groups working with *i** met in London in order to share their work and experiences. As a result of the interchange of ideas we realized that it would be useful to have a place to share our *i** experiences in terms of publications, *i** tools, and the construction of a body of knowledge on the use of the *i** constructs. In order to facilitate this work we, the authors, have constructed a wiki and have begun to gather content.

The *i** wiki [1] is currently hosted at the chair of computer science 5 at RWTH Aachen University, Germany. It uses the TikiWiki platform [2], an open-source, MySQL- and PHP-based environment with a huge number of features. The main features that are currently activated are *wiki pages* and *articles* (some kind of news) together with *comment, forum,* and *FAQ* features as well as *image* and *file galleries*. More technically, the *category* feature allows classifying an object (wiki page, article, file etc.) and the *structure* feature allows providing an ordering on Wiki pages alleviating navigation within the wiki. A sophisticated *rights and permission* module

allows for the provision of different kind of accesses, e.g. readability for non-registered users (except for some sections that are protected), editing capabilities for registered users, and further managing features for administrators.

The first content was published in September 2005, when the first users begin to register. Initially, the wiki contained sections for 'Events' (i.e., the *i** workshops), 'Publications' (initially obtained from Eric Yu's publication pages [1]), '*i** tools', a 'Who is who' relation of researchers and affiliations, and case studies. In September 2006, the first version of the tool comparison table was added by Gemma Grau. Some months later the *i** Quick Guide was added with a description of the main *i** constructs (again Gemma Grau together with Jennifer Horkoff and Eric Yu). Lately, the guide has been extended by Samer Abdulhadi to include the *i** guidelines.

Currently, the wiki has 70 registered users, with the wiki homepage having received 6681 visits. In the following, we will summarize the current as well as potential future content to show how the *i** wiki can be of use to *i** researchers, students, and practitioners, including how to contribute.

2 Current Offerings

2.1 Publications

Building upon Eric Yu's personal homepage [3], the publication section is intended to present current and past work relating to *i** that has been published in journals, at conferences or workshops. Currently, 16 categories have been created: requirements engineering; process analysis and design, reengineering; evaluation, verification, and validation; agent-oriented systems development; trust in multi-agent systems; security requirements engineering; software engineering processes and organizations; data management processes; knowledge management; systems and organizational architecture; enterprise architecture; business modeling; intellectual property management; variability and personalization; *i** modeling techniques; and metamodels. The number of publications in each category ranges from 1 to 37, resulting in a total number of 144 publications (not including the *i** roadmap section). Initiatives are underway to make use of a database in the backend in order to provide more sophisticated access and search features.

2.2. An Overview and a Comparison of *i** Tools

Aiming at a comparison of *i** modeling tools, we have created a questionnaire to evaluate and compare the existing *i** modeling tools. The questionnaire has been designed by first creating a quality model of the functional and non-functional characteristics that an *i** modeling tool should have, and then transforming this quality model into a questionnaire. The following categories are included: general information about the tool; *i** modeling suitability provided by the tool; usability facilities provided; maturity of the tool; and, extensibility and operability with other tools, which includes the facilities for importing/exporting files and the development

of new functionalities. Currently, there are 12 tool evaluations in the *i** wiki, submitted by developers of each tool. In order to allow a better comparison of the introduced tools, there is also a comparison table which summarizes the main features using the criteria of the questionnaire.

2.3 The *i** Quick Guide and *i** Usage Guidelines

The *i** community has recently grown and successfully applied the *i** graphical modeling notation in numerous applications and settings. Review of published literature, however, indicates that some modelers have deviated in various degrees from the original *i** notation, causing inconsistencies among *i** users, a situation that calls for finding ways to settle on a common practice. Consequently, the *i** Quick Guide provides a glossary of the *i** constructs and how they should be combined according to their semantics. In conjunction with the *i** Quick Guide, the *i** usage guidelines provide assistance for the modeling purpose. The benefits of the *i** quick guide and the guidelines include enhancing the overall consistency and effectiveness of the *i** modeling processes, reducing variation in practice among users of the *i** modeling framework, and reduced errors for new *i** users.

The *i** usage guidelines are integrated into the glossary of the *i** Quick Guide to help the reader relate between the presented glossary and the associated guidelines. Each guideline deals with a common modeling concept and, in addition to its explanation, provides examples and discussion components, making them more understandable and usable by less experienced *i** users. Each guideline is annotated with initial attributes that indicate the type of guideline (Concept, Naming, Notation, Layout, Methodology, or Evaluation) and the level of guideline difficulty (Beginner, Intermediate, or Advanced). Currently, most of the guidelines are attributed as Beginner. Current attributes, however, could evolve as new and more elaborate guidelines are discovered and added to the *i** Guide.

The *i** Usage Guidelines, are intended to be both an introduction to *i** for new users and a reference guide for experienced users. The guidelines are intended to be flexible recommendations, serving as a catalyst for reflective feedback and future development. To facilitate these objectives, individual wiki pages for all the guidelines are made accessible to all registered *i** wiki users to comment and provide suggestions on individual guidelines. This collaboration aspect fosters an open environment for *i** users and researchers to contribute to charting new and creative ways of presenting, employing, and developing the guidelines.

2.4 Who is Who and Events

The who is who lists all researchers, students, and practitioners that have registered to the *i** wiki, or are otherwise known to be working with *i*,* together with their affiliation. It currently contains 87 people from 12 countries. The event section is accessible for registered users only and is partly used to document meetings such as the *i** workshops, including presentations, photos, and research discussions. As with any other wiki page, contributions are welcome.

4 Future Work and Conclusions

In addition to the currently available content, we have considered adding sections to collect case study information and example models. This would create a repository of *i** models, a helpful resource for students learning the notation and researchers looking for subject models. Such a repository would allow various groups to share concrete work not includable in publications. However, issues such as confidentiality must be resolved.

In order to allow sharing the created *i** models between the different users and their tools, the iStarML [4] is being defined as the specific XML format for the *i** framework. A new section will soon be added to the *i** wiki, publishing the iStarML format, and allowing a collaborative discussion about the language. We believe that, the existence of iStarML will allow, not only to make all the *i** tools interoperable, but also to share the different examples and case studies between the researchers.

The *i** wiki has the potential to become a valuable reference and collaboration tool for *i** users. However, the success of the tool depends on having active members. Although many of the pages can be viewed without registration, any researcher, practitioner or student can become a contributing member of the *i** wiki. Simply send an email request to "istarwiki@i5.informatik.rwth-aachen.de" with your name, affiliation, email address and how you have learned about the site. So, if you want to add your publications, your tools, or participate in any of the sections, just register. Contributions are always welcome.

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