

Survey on KWARC Practice

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1 Introduction

In November 2007, I ask the members of the KWARC group to fill out questionnaires to get a better intuition about the *social and scientific practice* of the *KWARC community*. The detailed results have not been published due to data privacy issues, but the general findings are provided below.

2 Findings of the Survey

The survey was not anonymous, which could have had an additional influence on the amount and quality of the answers. The questionnaire was divided into 3 main section with (1) question about the individuals research including the person's background, interest, focus, motivation, methods/techniques and expertise, (2) questions concerning the individuals related work, collaboration, information acquisition and exchange, and (3) questions about the KWARC community itself.

2.1 Question About the Individuals Research

Group Structure 11 members of the group took part in the survey. The majority has a background in natural science such as mathematics, physics, and computer science. 5 members of the group have been active in academia for 1-5 years, 2 for 5-10 years, and 4 for 10-15 years. However, most of them have been active in their current research fields (and have been a member of the KWARC group) below 5 years and aim at getting a Ph.D.

Individual Research Interests The mostly mentioned research interest of the group are *Semantic Markup and Technologies, Document Management/ Markup, Ontologies, Mathematical foundations of CS, Logic and Mathematical Representation, Semantic Web and Social Software*. The motivation of some of these interests was given by *the need of integrating existing MKM tools and that these interests have not yet been addressed sufficiently (in terms of usability, efficiency, costs, and the level of granularity) or have even been neglected so far*.

Individual Advantages The group members have been asked to point out, which abilities or circumstances define their individual advantages in contrast to other researchers. They named their *experience and background, the accessibility of empirical data research products of the KWARC group* as well as *the availability of highly motivated students at the Jacobs University*, and the *closeness to related researchers and developers*.

Individual Methods The mostly shared individual methods of the group are *discussion and weekly group meetings, reading groups, conference attendance, literature reviews, and reusing*

and extension of existing work. However, some of the test persons also referred to very specific techniques such as *development graphs, computational logic, LaTeX, Scala, XML processing, and web programming.*

2.2 Questions concerning the Related Fields, Individuals Collaboration, and Information Exchange

Related Fields The KWARC members relate their research to the field of *mathematical abstraction and representation, theory management, Mathematical Content Providers, Term Rewriting and Normalization, Logic, Semantic Markup Formats such as MATHML and OPENMATH, MKM.* Among others the mentioned the *LeActiveMath project, the DINI fellows, the WebSCM project, and CDET project.*

Acquisition Methods The KWARC members were ask to name the methods and media they use to keep informed about their research and named *conference and workshops, paper and bibtext crawling, conference proceedings and literature survey, mailing lists and emails, libraries, and the WWW.*

Collaboration The KWARC members were ask to describe, what they expect by collaborating from other researchers and enumerated *knowledge, new ideas, and input, a bigger network, getting others interested in their research, and criticism and feedback.* They mostly use *email, f2f-meetings, workshop and conferences, trac ticketing, skype, phone, blackboards, wikis, and chat and instant messaging* to communicate with their collaborators.

Information Exchange When being ask about the kind of information, some members named *implementations and implementation-oriented information, conceptual ideas, call for papers, draft of papers, and best practices.*

2.3 Questions About the KWARC Community

Why KWARC The questionnaire also addressed, why the members joined the group, which was answered by the *international environment of the Jacobs University, the attractive working contract, the interest in OMDOC, to do research, a desired research topic, as well as former collaboration with the head of the group.*

Relations and Personal Gain The relation to the group was described as *still new but very welcome, integrated, identifying with the group's central topic,* as well as *outsiders* (in terms of office positions or research topics). The personal gain from the group described by the *feedback and discussions, the Ph.D. degree, support in several techniques and implementations, acquiring a better work management, the motivation by the group and supervisor, the theoretical background of the group.*

The Community The KWARC community was described to be *open-minded, engaged, active, homogeneous, supportive, cozy and warm, very motivated and responsible, informal,* with a *document centric view and vision to develop software tools for services on structured documents* as well as *just a bunch of people doing research.*

Advantages and Techniques The *unfair advantage* of the group was describe by the groups *excellent infrastructure (Subversion, L^AT_EX Macros, . . .), the common focus on mathematical documents, the Jacobs University, the groups' head and OMDOC guru, excellent minds, and the ability to represent documents and knowledge in document specifications.* According to the questionnaires, techniques and methods of the group are *weekly KWARC meetings, team projects, face-to-face meetings, session at the Fritz café, brainstorming, frequent and relax discussions, and easy integration of students into research,* as well as *forests walks with the supervisor, but also mathematical logic, OMDOC, and s_EX.*

3 Conclusion

Please note that I do not claim this survey to be representative. It shall be used to gain a better idea about *practice* and *communities*. Some members of the group criticized the amount, level of abstractness, and understandability of the included questions. Consequently, they did not complete all questions of the questionnaire. Moreover, the level of detail for different answer varied.

4 Acknowledgement

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