Preface of the Special Issue of Web Engineering

Web engineering has provided several important research and practical results especially during the last decade. However, very few of them have transferred to real-life projects. Engineers are unable to study all these results, since it is a time consuming task, difficult to be accomplished in the strict timeline of a project. As more research results come up every year, they constitute a very complex information space that itself need to be engineered, in order to be provided to developers in a meaningful and comprehensive way. The World Wide Web and its associated technologies have become a major implementation and delivery platform for a large variety of applications, ranging from simple institutional information websites to sophisticated supply-chain management systems, financial applications, e-government, distance learning, and entertainment, among others. Such applications, in addition to their intrinsic functionality, also exhibit the more complex behavior of distributed applications.

Recently, there have been some advances towards re-framing the development - both design and implementation - of Web applications as a disciplined and systematic endeavor. However, the vast majority of existing applications have been developed in an ad-hoc way, leading to problems of maintainability, quality and reliability. Web applications are software artifacts, and as such can benefit by making use of established practices stemming from several related disciplines such as Software Engineering, Hypermedia, Information Systems and HCI, enabling creation, management and reuse of structures of the information space as well as enhancing the end user experience. In addition, it has its own characteristics which must be addressed, such as a varied user population, very short development turnaround times, diverse runtime environments, accessibility through multiple devices, etc.

Web Engineering addresses these issues and focuses on systematic, disciplined and quantifiable approaches towards the cost-effective development and evolution of high-quality, ubiquitously usable Web-based systems and applications.

The Special Issue of Engineering Letters on **Web Engineering** covers processes, methodologies, system design, architectures, lifecycle and management of large Web-based systems, as well as education and research issues. The topics include, but not limited to:

- Web application development processes and methodologies
- Collaborative Web application development
- Design models and methods
- Hypertext models and their application on the Web
- OO technology and component-based Web engineering
- Federated and cross-organizational Web applications
- Service-oriented Web application approaches
- Web application frameworks and architectures
- Peer-to-Peer approaches for Web application architectures
- Reuse and integration
- Systematic reuse of Web services
- Use and integration of meta-data in Web applications
- Web design patterns and pattern mining
- Managing Web application design, evolution and maintenance
- Web personalization
- Adaptive Web applications
- Web metrics, quality measures and evaluation
- Web application usability
- Testing automation, methods and tools for Web applications
- Web application deployment
- Performance modeling, monitoring and evaluation
- Development teams and Web project management

- Legal obligations
- Case studies

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