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This book includes the presentations of the 15th International Workshop on Software Measurement at the September 2005 in Montreal, Canada. It is a collection of theoretical investigations on the field of software measurement and essential practical papers on applying software metrics from Canadian, Belgian, Bulgarian, Finland, German, Italian, Netherlands, Spain, UK and USA companies and universities.

Software process evaluation and improvement require quantified methods and technologies. Issues such as the applicability of measures to software, the efficiency of measurement programs in industry and the theoretical foundations of software engineering have been researched in order to evaluate and improve modern software development approaches.

In this book new software measurement applications and paradigms are described for knowledge-based techniques, maintenance service evaluation, statistical analysis discussion, and functional size applications. Especially, paper to object-oriented metrics or functional size measurement and effort estimation, and the quality and productivity improvement of software systems are involved. Web-based software measurement is presented to help to improve the lack on this field of measurement supports.