Preface

This book presents recent investigations and enhancements in the field of web engineering, with specific emphasis on quality assurance and development of web applications. Today, web is a major information resource and is becoming an obvious automated tool in various applications. Due to increased growth and popularity of WWW, one needs to be very cautious in designing the website as per standard and norms. Poor and careless web design will lead to hardship to public utility and does not serve the purpose. If the website does not adhere to the design guide lines and norms, the user may face difficulties in using the website. Despite of many recommendations, ideas and guidelines, designing a quality website is still a burning problem. The majority of web sites have usability and accessibility problems, which result in confusion to users. Some web pages are so clustered that users can easily miss the link or the feature that they are looking for. An estimated 90% of websites from projected growth of 196 million websites severely suffered with usability and accessibility issues. Web Engineering must be explored in a systematic, disciplined way for development, operation and maintenance of web based applications using certain guidelines. In the last few years a set of web site metrics were defined and specified based on the web based data. There are hundred and fifty automated web metrics catalogued till date. Among these metrics for Link and Page Faults, metrics for Navigation, metrics for Information, metrics for Media, metrics for Size and Performance and metrics for Accessibility are important categories for evaluation of quality of web site.

The book comprises of the ideas of various researchers and website quality design experts to evaluate the optimum website design and to offer design solutions for overall website quality process. These design solutions include design solutions for website quality, web usability, website effectiveness and role of web analytics in quality assurance of web engineering. The quality assurance techniques for web applications generally focus on the prevention of web failure or the reduction of chances for such failures.

The book is organized in four sections that cover the main concepts and studies for improving website quality and effectiveness. The Section 1 provides the design solutions for improving the quality of website on various areas that include web metrics, Quality Functional Development model for website, enhancing the quality of website through learning strategies and quality assurance aspects of web design.

The Section 2 deals with web usage using bio clustering techniques, web usability metrics, web content management and web link structure optimization. The Section 3 covers details about web analytics that are used as design solutions for website quality improvement, Assessment of website quality and for the future developments of web usage. The section 4 provides research insights of various authors about security aspects of web environment, web based privacy threats and control, reliability and scalability of service oriented architecture on web services and about web 2.0 application in quality evaluation process.
The present book is an attempt to investigate various solutions for improving website quality for developer. In this book, all areas of website quality are thoroughly discussed for finding desired solutions for enhancing quality of website development process. The book is a step forward towards presenting recent studies for designing website with Quality and serves the purpose for the present trend in web engineering. Hence the book focuses important aspects of web designing process to improve website quality and effectiveness.