Introduction To Software Process Improvement Undergraduate Topics In Computer Science

CMMI DistilledProduct-Focused Software Process ImprovementSoftware Process Improvement for Small and Medium Enterprises: Techniques and Case StudiesSystems, Software and Services Process ImprovementSoftware Process ImprovementProduct-Focused Software Process ImprovementSoftware Process ImprovementIntroduction to the Personal Software Process(sm)ROI of Software Process ImprovementSoftware Process Improvement: Metrics, Measurement, and Process ModellingProduct-Focused Software Process ImprovementIntroduction to Software Process ImprovementSoftware Processes and Life Cycle ModelsPSP(sm)Systems, Software and Services Process ImprovementSoftware Process ImprovementProduct-Focused Software Process ImprovementSoftware Process ModelingProduct-Focused Software Process ImprovementCMMI DistilledAdvances in Software EngineeringReducing Risk with Software Process ImprovementProduct-Focused Software Process ImprovementSoftware Process ImprovementProduct-Focused Software Process ImprovementIntroduction to the Personal Software ProcessSPICEIntroduction to the Personal Software Process(sm)The Human Being as Key Element for Software Process ImprovementProduct Focused Software Process ImprovementSoftware Process Definition and ManagementSoftware Process Improvement and Capability

DeterminationSystems, Software and Services Process ImprovementIntroduction to the Team Software Process(sm)Software Process Improvement and ManagementProcess Improvement EssentialsIntroduction to Software EngineeringSoftware Process Improvement and Capability DeterminationProduct-Focused Software Process ImprovementSoftware Process Improvement

CMMI Distilled

This book constitutes the refereed proceedings of the 4th International Conference on Product Fucused Software Process Improvement, PROFES 2002, held in Rovaniemi, Finland in December 2002. The 48 revised papers presented together with 2 keynote contributions were carefully reviewed and selected from 70 submissions. The papers are organized in topical sections on improvement management, process modeling, software quality, Agile software development, process improvement approaches, methods and techniques, embedded software process improvement, process improvement case studies, effective use of measurements, wireless services, use cases, knowledge management, embedded systems methods, COTS quality techniques, frameworks, mobile solutions, and methods and techniques.

Product-Focused Software Process Improvement

C. Amting Directorate General Information Society, European Commission, Brussels Under the 4th Framework of European Research, the European Systems and Soft ware Initiative (ESSI) was part of the ESPRIT Programme. This initiative funded more than 470 projects in the area' of software and system process improvements. The majority of these projects were process improvement experiments carrying out and taking up new development processes, methods and technology within the software development process of a company. In addition, nodes (centres of exper tise), European networks (organisations managing local activities), training and dissemination actions complemented the process improvement experiments. ESSI aimed at improving the software development capabilities of European enterprises. It focused on best practice and helped European companies to develop world class skills and associated technologies to build the increasingly complex and varied systems needed to compete in the marketplace. The dissemination activities were designed to build a forum, at European level, to exchange information and knowledge gained within process improvement ex periments. Their major objective was to spread the message and the results of experiments to a wider audience, through a variety of different channels. The European Experience Exchange ~UR~X) project has been one of these dis semination activities within the European Systems and Software Initiative.~UR~X has collected the results of practitioner reports from numerous workshops in Europe and presents, in this series of books, the results of Best Practice achieve ments in European Companies

over the last few years.

Software Process Improvement for Small and Medium Enterprises: Techniques and Case Studies

"This book offers the latest research and case studies on software engineering and development to assist organizations and software engineers in adding a measure of predictability to the software process"--Provided by publisher.

Systems, Software and Services Process Improvement

This book will help you to manage and control the quality of your organization's software products. Continually dealing with the problems caused by software defects can be both time-consuming and demanding but Sami Zahran's pragmatic approach will take you from reactive fire-fighting to a preventative culture of disciplined and continuous process improvement. This book will help you: establish a process-focused software development organizatio design and implement procedures for developing quality software in time and within budge benchmark your organization against the industry standards for the software process, including the Capability Maturity Model (CMM), ISO 9001, the new standard ISO/IEC 15504 (originally known as SPICE) and Bootstrap.

Software Process Improvement

This textbook is intended for SPI (software process improvement) managers and - searchers, quality managers, and experienced project and research managers. The papers constitute the research proceedings of the 16th EuroSPI (European Software Process Improvement, www.eurospi.net) conference held in Alcala (Madrid region), September 2–4, 2009, Spain. Conferences have been held since 1994 in Dublin, 1995 in Vienna (Austria), 1997 in Budapest (Hungary), 1998 in Gothenburg (Sweden), 1999 in Pori (Finland), 2000 in Copenhagen (Denmark), 2001 in Limerick (Ireland), 2002 in Nuremberg (G- many), 2003 in Graz (Austria), 2004 in Trondheim (Norway), 2005 in Budapest (Hungary), 2006 in Joensuu (Finland), 2007 in Potsdam (Germany), 2008 in Dublin (Ireland), and 2009 in Alcala (Spain). EuroSPI established an experience library (library.eurospi.net) which will be conti- ously extended over the next few years and will be made available to all attendees. EuroSPI also created an umbrella initiative for establishing a European Qualification Network in which different SPINs and national initiatives join mutually beneficial collaborations (ECQA – European Certification and Qualification Association, www.ecqa.org). With a general assembly during October 15–16, 2007 through Euro-SPI partners and networks, in collaboration with the European Union (supported by the EU L- nardo da Vinci Programme) a European certification association has been created (www.eu-certificates.org, www.ecqa.org) for the IT and services sector to offer SPI knowledge and certificates to industry, establishing

close knowledge transfer links between research and industry.

Product-Focused Software Process Improvement

This volume constitutes the refereed proceedings of the 18th EuroSPI conference, held in Roskilde, Denmark, in June 2011. The 18 revised full papers presented together with 9 key notes were carefully reviewed and selected. They are organized in topical sections on SPI and assessments; SPI and implementation; SPI and improvement methods; SPI organization; SPI people/ teams; SPI and reuse; selected key notes for SPI implementation.

Software Process Improvement

This edition is especially appropriate for executives and managers who need to understand why process improvement is valuable, why CMMI is a tool of choice, and how to maximize the return on their efforts and investments.

Introduction to the Personal Software Process(sm)

This book constitutes the refereed proceedings of the 11th International Conference on Software Process Improvement and Capability Determination, SPICE

2011, held in Dublin, Ireland, in May/June 2011. The 15 revised full papers presented and 15 short papers were carefully reviewed and selected from numerous submissions. The papers are organized in topical sections on process modelling and assessment, safety and security, medi SPICE, high maturity, implementation and improvement.

ROI of Software Process Improvement

As future generation information technology (FGIT) becomes specialized and fr- mented, it is easy to lose sight that many topics in FGIT have common threads and, because of this, advances in one discipline may be transmitted to others. Presentation of recent results obtained in different disciplines encourages this interchange for the advancement of FGIT as a whole. Of particular interest are hybrid solutions that c- bine ideas taken from multiple disciplines in order to achieve something more signi- cant than the sum of the individual parts. Through such hybrid philosophy, a new principle can be discovered, which has the propensity to propagate throughout mul- faceted disciplines. FGIT 2009 was the first mega-conference that attempted to follow the above idea of hybridization in FGIT in a form of multiple events related to particular disciplines of IT, conducted by separate scientific committees, but coordinated in order to expose the most important contributions. It included the following international conferences: Advanced Software Engineering and Its Applications (ASEA), Bio-Science and Bio-

Technology (BSBT), Control and Automation (CA), Database Theory and Appli- tion (DTA), Disaster Recovery and Business Continuity (DRBC; published indepe- ently), Future Generation Communication and Networking (FGCN) that was c- bined with Advanced Communication and Networking (ACN), Grid and Distributed Computing (GDC), Multimedia, Computer Graphics and Broadcasting (MulGraB), Security Technology (SecTech), Signal Processing, Image Processing and Pattern Recognition (SIP), and u- and e-Service, Science and Technology (UNESST).

Software Process Improvement: Metrics, Measurement, and Process Modelling

This book constitutes the refereed proceedings of the 8th International Conference on Product Focused Software Process Improvement, PROFES 2007, held in Riga, Latvia in July 2007. The 29 revised full papers presented together with 4 reports on workshops and tutorials and 4 keynote addresses were carefully reviewed and selected from 55 submissions. The papers constitute a balanced mix of academic and industrial aspects; they are organized in topical sections on global software development, software process improvement, software process modeling and evolution, industrial experiences, agile software development, software measurement, simulation and decision support, processes and methods.

Product-Focused Software Process Improvement

Today, technology has become too much a part of overall corporate success for its effectiveness to be left to chance. The stakes are too high. Fortunately, the idea of 'quality management' is being reinvigorated. In the last decade process programs have become more and more prevalent. And, out of all the available options, three have moved to the top of the chain. These three are: The 9001:2000 Quality Management Standard from the International Standards Organization; The Capability Maturity Model Integration from the Software Engineering Institute; and Six Sigma, a methodology for improvement shaped by companies such as Motorola, Honeywell, and General Electric. These recognized and proven quality programs are rising in popularity as more technology managers are looking for ways to help remove degrees of risk and uncertainty from their business equations, and to introduce methods of predictability that better ensure success. Process Improvement Essentials combines the foundation needed to understand process improvement theory with the best practices to help individuals implement process improvement initiatives in their organization. The three leading programs: ISO 9001:2000, CMMI, and Six Sigma--amidst the buzz and hype--tend to get lumped together under a common label. This book delivers a combined guide to all three programs, compares their applicability, and then sets the foundation for further exploration. It's a one-stop-shop designed to give you a working orientation to what the field is all about.

Introduction to Software Process Improvement

This book constitutes the refereed proceedings of the 9th International Conference on Product Focused Software Process Improvement, PROFES 2008, held in Monte Porzio Catone, Italy, in June 2008. The 31 revised full papers presented together with 4 reports on workshops and tutorials and 3 keynote addresses were carefully reviewed and selected from 61 submissions. The papers address different development modes, roles in the value chain, stakeholders' viewpoints, collaborative development, as well as economic and quality aspects. The papers are organized in topical sections on quality and measurement, cost estimation, capability and maturity models, systems and software quality, software process improvement, lessons learned and best practices, and agile software development.

Software Processes and Life Cycle Models

This book constitutes the refereed proceedings of the 13 International Conference on Product-Focused Software Process Improvement, PROFES 2012, held in Madrid, Spain, in June 2012. The 21 revised full papers presented together with 3 short papers and 4 workshop and tutorial papers were carefully reviewed and selected from 49 submissions. The papers are organized in topical sections on process focused software process improvement, open-source agile and lean practices,

product and process measurements and estimation, distributed and global software development, quality assessment, and empirical studies.

PSP(sm)

For over a decade, software process improvement (SPI) has been promoted as an approach to improve systematically the way software is developed and managed. Mostly this research and the relevant experience reports have focused on large software companies. This book collects the main results from four Norwegian industrial research and development projects on SPI carried out between 1996 and 2005. It concentrates on small and medium-sized companies, typically characterized by fast-changing environments.

Systems, Software and Services Process Improvement

Most software-development groups have embarrassing records: By some accounts, more than half of all software projects are significantly late and over budget, and nearly a quarter of them are cancelled without ever being completed. Although developers recognize that unrealistic schedules, inadequate resources, and unstable requirements are often to blame for such failures, few know how to solve these problems. Fortunately, the Personal Software Process (PSP) provides a clear

and proven solution. Comprising precise methods developed over many years by Watts S. Humphrey and the Software Engineering Institute (SEI), the PSP has successfully transformed work practices in a wide range of organizations and has already produced some striking results. This book describes the PSP and is the definitive guide and reference for its latest iteration. PSP training focuses on the skills required by individual software engineers to improve their personal performance. Once learned and effectively applied, PSP-trained engineers are qualified to participate on a team using the Team Software Process (TSP), the methods for which are described in the final chapter of the book. The goal for both PSP and TSP is to give developers exactly what they need to deliver quality products on predictable schedules. PSPSM: A Self-Improvement Process for Software Engineers presents a disciplined process for software engineers and anyone else involved in software development. This process includes defect management, comprehensive planning, and precise project tracking and reporting. The book first scales down industrial software practices to fit the needs of the module-sized program development, then walks readers through a progressive sequence of practices that provide a sound foundation for large-scale software development. By doing the exercises in the book, and using the PSP methods described here to plan, evaluate, manage, and control the quality of your own work, you will be well prepared to apply those methods on ever larger and more critical projects. Drawing on the author's extensive experience helping organizations to achieve their development goals, and with the PSP benefits well

illustrated, the book presents the process in carefully crafted steps. The first chapter describes overall principles and strategies. The next two explain how to follow a defined process, as well as how to gather and use the data required to manage a programming job. Several chapters then cover estimating and planning, followed by quality management and design. The last two chapters show how to put the PSP to work, and how to use it on a team project. A variety of support materials for the book, as described in the Preface, are available on the Web. If you or your organization are looking for a way to improve your project success rate, the PSP could well be your answer.

Software Process Improvement

This book constitutes the refereed proceedings of the 19th International Conference on Product-Focused Software Process Improvement, PROFES 2018, held in Wolfsburg, Germany, in November 2018. The 16 revised full papers and 8 short papers presented together with 10 workshop papers and 2 industry talks were carefully reviewed and selected from 65 submissions. The papers are organized in the following topical sections: processes and methods; empirical studies in industry; testing; measuremene and monitoring; and global software engineering and scaling. Further relevant topics were added by the events co-located with PROFES 2018, the Second International Workshop on Managing Quality in Agile and Rapid Software Development Processes (QUASD) and the Third

Workshop on Hybrid Software and System Development Approaches (HELENA).

Product-Focused Software Process Improvement

An easily-digestible and fully updated view of CMMI for practitioners as well as executives, managers and the simply curious.

Software Process Modeling

A typical characterization of EuroSPI is reflected in a statement made by a c- pany: ". . . the biggest value of EuroSPI lies in its function as a European knowledge and experience exchange mechanism for SPI and innovation. " Since its beginning in 1994 in Dublin, the EuroSPI initiative has outlined that there is not a single silver bullet to solve SPI issues, but that you need to understand a c- bination of different SPI methods and approaches to achieve concrete benefits. The- fore each proceedings volume covers a variety of different topics, and at the conf- ence we discuss potential synergies and the combined use of such methods and - proaches. These proceedings contain selected research papers for five topics: Section I: SPI Tools Section II: SPI Methods Section III: SPI in SMEs Section IV: Economic Aspects of SPI Section V: The Future of SPI Section I presents studies on SPI tools. The authors provide an insight into new tools which can be used for SPI. Willem

Bekkers et al. present a new assessment method and tool for software product management. Ismael Edrei-Espinosa-Curiel et al. illustrate a graphical approach to support the teaching of SPI. Paul Clarke and coworkers deal with an analysis and a tool to help real adoption of standards like ISO 12207 and they focus on SPI implementation and practices. Esparanca Amengual et al. present a new team-based assessment method and tool.

Product-Focused Software Process Improvement

An indispensable addition to any project manager, software engineering or computer science bookshelf, this book presents the only broad-ranging economic analysis of major international SPI methods and the first large-scale economic analysis of mandatory U.S. government standards.

CMMI Distilled

This textbook is intended for use by SPI (Software Process Improvement) managers and researchers, quality managers, and experienced project and research managers. The papers constitute the research proceedings of the 15th EuroSPI (European So- ware Process Improvement, www.eurospi.net) conference in Dublin, Ireland, 3–5 September 2008. Since the first conference, held in Dublin in 1994,

EuroSPI conferences have been held in 1995 in Vienna (Austria), in 1997 in Budapest (Hungary), in 1998 in Goth- burg (Sweden), in 1999 in Pori (Finland), in 2000 in Copenhagen (Denmark), in 2001 in Limerick (Ireland), in 2002 in Nuremberg (Germany), in 2003 in Graz (Austria), in 2004 in Trondheim (Norway), in 2005 in Budapest (Hungary), in 2006 in Joensuu (Finland), and in 2007 in Potsdam (Germany). EuroSPI has established an experience library (library.eurospi.net), which will be c- tinuously extended over the next few years and was made available to all attendees. EuroSPI has also started an umbrella initiative for establishing a European Quali- cation Network in which different SPINs and national ventures can join mutually beneficial collaborations (EQN - EU Leonardo da Vinci network project). With a general assembly on 15.-16.10.2007 through EuroSPI partners and n- works, in collaboration with the European Union (supported by the EU Leonardo da Vinci Programme), a European certification association has been created (www.- certificates.org) for the IT and services sector to offer SPI knowledge and certificates to industry, establishing close knowledge transfer links between research and industry.

Advances in Software Engineering

Scientific Essay from the year 2012 in the subject Computer Science - General, , language: English, abstract: This paper aims to explain a new approach of software process improvements (SPI). The approach will not replace the existing methods,

but will support them for SPI from an additional view. The additional view consists the SPI as a networked system of the activities for SPI. The approach is an extract of a comprehensive PhD paper about SPI and defect prevention from the author. In the PhD paper the author is using over 100 important influence elements. The title of the PhD paper is: „Ganzheitlich vernetzte Fehlerprävention im Software-Entwicklungsprozess." (Unmüßig 2012) Today there are various actions and constructive methods in software process improvements used. As there are a lot of different elements and subjects in the process of improvements involved - it is a complex process. The most involved elements and subjects are e.g. the human being (management, members of staff, customer, work psychology), methods, organisations, culture etc. The author's own experience and studies confirm that the human being is one of the most important elements in the process. The human being is much more involved in the process than considered in the daily work today. His work performance e.g. software process improvements depends on a lot of interlinked factors. This paper will use an excerpt of 12 important elements of the above mentioned PhD paper. The elements will be interlinked. A software tool is used to interlink, present and simulate the interrelationship to the other elements. The approach and results can be used in all software process improvements (SPI) / software development processes to support the existing SPI approaches and measures. The support is based on the position (strengths) and relationship of the elements in the result matrix.

Reducing Risk with Software Process Improvement

On behalf of the PROFES Organizing Committee we are proud to present the proce-th ings of the 10 International Conference on Product Focused Software Process - provement (PROFES 2009), held in Oulu, Finland. Since the first conference in 1999, the conference has established its place in the software engineering community as a respected conference that brings together participants from academia and industry. The roots of PROFES are in professional software process improvement motivated by product and service quality needs. The conference addresses both the solutions found in practice as well as relevant research results from academia. To ensure that PROFES retains its high quality and focus on the most relevant research issues, the conference has actively maintained close collaboration with industry and sub- quently widened its scope to the research areas of collaborative and agile software development. A special focus for 2009 was placed on software business to bridge research and practice in the economics of software engineering. This enabled us to cover software development in a more comprehensive manner and tackle one of the most important current challenges identified by the software industry and software research community – namely, the shift of focus from "products" to "services. " The current global economic downturn emphasizes the need for new methods and so- tions for fast and business-oriented development of products and services in a gl- ally distributed environment.

Product-Focused Software Process Improvement

This volume is intended for SPI (software process improvement) managers and researchers, quality managers, and experienced project and research managers. The papers constitute the research proceedings of the 12th EuroSPI (European Software Process Improvement, www.eurospi.net) conference held in Budapest, 9–11 November 2005, Hungary. Conferences have been held in 1994 in Dublin, 1995 in Vienna (Austria), 1997 in Budapest (Hungary), 1998 in Gothenburg (Sweden), 1999 in Pori(Finland), 2000 in Copenhagen(Denmark), 2001 in L- erick (Ireland), 2002 in Nuremberg (Germany), 2003 in Graz (Austria), and 2004 in Trondheim (Norway). EuroSPI established an experience library (- brary.eurospi.net) which will be continuously extended over the next years and will be made available to all attendees. EuroSPI also created an umbrella init- tive for establishing a European Quali?cation Network in which di?erent SPINs and national initiatives join mutually bene?cial collaborations. From 2005, through EuroSPI partners and networks, in collaboration with the European Union (supported by the EU Leonardo da Vinci Programme), a certi?cation body will be created for the IT and services sector so as to o?er SPI knowledge and certi?cates to industry, establishing close knowledge transfer links between research and industry. The biggest value of EuroSPI lies in its function as a European knowledgeand experience exchangemechanism between SPI research institutions and industry.

Software Process Improvement

The concept of processes is at the heart of software and systems engineering. Software process models integrate software engineering methods and techniques and are the basis for managing large-scale software and IT projects. High product quality routinely results from high process quality. Software process management deals with getting and maintaining control over processes and their evolution. Becoming acquainted with existing software process models is not enough, though. It is important to understand how to select, define, manage, deploy, evaluate, and systematically evolve software process models so that they suitably address the problems, applications, and environments to which they are applied. Providing basic knowledge for these important tasks is the main goal of this textbook. Münch and his co-authors aim at providing knowledge that enables readers to develop useful process models that are suitable for their own purposes. They start with the basic concepts. Subsequently, existing representative process models are introduced, followed by a description of how to create individual models and the necessary means for doing so (i.e., notations and tools). Lastly, different possible usage scenarios for process management are highlighted (e.g. process improvement and software process simulation). Their book is aimed at students and researchers working on software project management, software quality assurance, and software measurement; and at practitioners who are interested in process definition and management for developing, maintaining, and operating

software-intensive systems and services.

Product-Focused Software Process Improvement

Practical Guidance on the Efficient Development of High-Quality Software Introduction to Software Engineering, Second Edition equips students with the fundamentals to prepare them for satisfying careers as software engineers regardless of future changes in the field, even if the changes are unpredictable or disruptive in nature. Retaining the same organization as its predecessor, this second edition adds considerable material on open source and agile development models. The text helps students understand software development techniques and processes at a reasonably sophisticated level. Students acquire practical experience through team software projects. Throughout much of the book, a relatively large project is used to teach about the requirements, design, and coding of software. In addition, a continuing case study of an agile software development project offers a complete picture of how a successful agile project can work. The book covers each major phase of the software development life cycle, from developing software requirements to software maintenance. It also discusses project management and explains how to read software engineering literature. Three appendices describe software patents, command-line arguments, and flowcharts.

Introduction to the Personal Software Process

This newest book from Watts Humphrey is a hands-on introduction to basic disciplines of software engineering. Designed as a workbook companion to any introductory programming or software-engineering text, Humphrey provides here the practical means to integrate his highly regarded Personal Software Process (PSP) into college and university curricula. The book may also be adapted for use in industrial training or for self-improvement by practicing software engineers. Applying the book's exercises to their course assignments, students learn both to manage their time effectively and to monitor the quality of their work, good practices they will need to be successful in their future careers. The book is supported by its own electronic supplement, which includes spreadsheets for data entry and analysis. A complete instructor's package is also available. By mastering PSP techniques early in their studies, students can avoid--or overcome--the popular "hacker" ethic that leads to so many bad habits. Employers will appreciate new hires prepared to do competent professional work without, as now is common, expensive retraining and years of experience.

SPICE

Software engineering is of major importance to all enterprises; however, the key

areas of software quality and software process improvement standards and models are currently geared toward large organizations, where most software organizations are small and medium enterprises. Software Process Improvement for Small and Medium Enterprises: Techniques and Case Studies offers practical and useful guidelines, models, and techniques for improving software processes and products for small and medium enterprises, utilizing the authoritative, demonstrative tools of case studies and lessons learned to provide academics, scholars, and practitioners with an invaluable research source.

Introduction to the Personal Software Process(sm)

This book provides a comprehensive overview of the field of software processes, covering in particular the following essential topics: software process modelling, software process and lifecycle models, software process management, deployment and governance, and software process improvement (including assessment and measurement). It does not propose any new processes or methods; rather, it introduces students and software engineers to software processes and life cycle models, covering the different types ranging from "classical", plan-driven via hybrid to agile approaches. The book is structured as follows: In chapter 1, the fundamentals of the topic are introduced: the basic concepts, a historical overview, and the terminology used. Next, chapter 2 covers the various approaches to modelling software processes and lifecycle models, before chapter 3 discusses the

contents of these models, addressing plan-driven, agile and hybrid approaches. The following three chapters address various aspects of using software processes and lifecycle models within organisations, and consider the management of these processes, their assessment and improvement, and the measurement of both software and software processes. Working with software processes normally involves various tools, which are the focus of chapter 7, before a look at current trends in software processes in chapter 8 rounds out the book. This book is mainly intended for graduate students and practicing professionals. It can be used as a textbook for courses and lectures, for self-study, and as a reference guide. When used as a textbook, it may support courses and lectures on software processes, or be used as complementary literature for more basic courses, such as introductory courses on software engineering or project management. To this end, it includes a wealth of examples and case studies, and each chapter is complemented by exercises that help readers gain a better command of the concepts discussed.

The Human Being as Key Element for Software Process Improvement

TSPi overview; The logic of the team software process; The TSPi process; The team roles; Using the TSPi; Teamwork.

Product Focused Software Process Improvement

This book constitutes the refereed proceedings of the 14th International Conference on Product-Focused Software Process Improvement, PROFES 2013, held in Paphos, Cyprus, in June 2013. The 22 revised full papers presented together with 10 short papers and 2 tutorial papers were carefully reviewed and selected from 41 submissions. The papers are organized in topical sections on empirical software engineering, software process improvement, managing software processes, software measurement, decision support in software engineering, safety-critical software engineering, and software maintenance.

Software Process Definition and Management

This volume constitutes the refereed proceedings of the 21st EuroSPI conference, held in Luxembourg, in June 2014. The 18 revised papers presented together with 11 invited papers in this volume were carefully reviewed and selected. They are organized in topical sections on SPI and very small entities; process improvement frameworks; testing and improvement issues; SPI and people issues; SPI and quality issues; software processes in various contexts. The volume also contains selected keynote papers from EuroSPI workshops and invited papers covering the topic of creating environments supporting innovation and improvement.

Software Process Improvement and Capability Determination

The SPICE (Software Process Improvement and Capability dEtermination) Project is a joint effort by the ISO and IEC to create an international standard for software process assessment. This book covers both the theory of SPICE and its practical applications, including the lessons learned from the SPICE trials. It includes a valuable automated tool on CD-ROM to help you apply the concepts presented in the book. The text shows the evolution of the most recent developments in the SPICE project. It documents the major products and the empirical evaluations that have been conducted thus far. The book is jointly written by the key experts involved in the SPICE project. The theory chapters describe the rationale behind the architecture and the contents of the V1.0 and V2.0 document set and how to interpret them. The remaining chapters describe the applications and how that make use of the theory behind them.

Systems, Software and Services Process Improvement

This book brings together experts to discuss relevant results in software process modeling, and expresses their personal view of this field. It is designed for a professional audience of researchers and practitioners in industry, and graduate-level students.

Introduction to the Team Software Process(sm)

The 7th International Conference on Product Focused Software Process Improvement (PROFES 2006) brought together researchers and industrial practitioners for reporting new research results and exchanging experiences and findings in the area of process and product improvement. The focus of the conference was on understanding, evaluating, controlling, and improving the relationship between process improvement activities (such as the deployment of innovative defect detection processes) and their effects on products (such as improved product reliability and safety). Consequently, major topics of the conference included the evaluation of existing software process improvement (SPI) approaches in different contexts, the presentation of new or modified SPI approaches, and the relation between SPI and new development techniques or emerging application domains. The need for SPI is being widely recognized. Current trends in software intensive systems such as increased distribution of software development and growing dependability on software-intensive systems in everyday life emphasize this need. This implies the establishment of advanced process improvement capabilities and an adequate understanding of the impact of the processes on the generated products, services, and business value in different situations. Recent trends enforce the establishment of such capabilities: more and more products are being developed in distributed, global environments with many customer-supplier relations in the development chain. Outsourcing, off-shoring,

near-shoring, and in-sourcing aggravate this trend. In addition, systems are being built from multiple disciplines (such as electronics, mechanics, and software). Supporting such distributed and multi-disciplinary development requires well-understood and accurately implemented development process interfaces, process synchronization, and process evolution.

Software Process Improvement and Management

The software engineer's job; The management; Tracking time; Period and product planning; Product planning; Product size; Managing your time; Managing commitments; Managing schedules; The project plan; The software development process; Defects; Finding defects; The code review checklist; Projecting defects; The economics of defect removal; Desgin defects; Product quality; Process quality; A personal commitment quality; Index.

Process Improvement Essentials

This book constitutes the refereed proceedings of the 12th International Conference on Software Process Improvement and Capability Determination, SPICE 2012, held in Palma de Mallorca, Spain, in May 2012. The 21 revised full papers presented and 14 short papers were carefully reviewed and selected from

numerous submissions. The papers are organized in topical sections on organizational process improvement; SPI in small and very small enterprises; process models; SPI in automotive software and security; SPI in medical and safety critical systems; short papers.

Introduction to Software Engineering

This newest book from Watts Humphrey is a hands-on introduction to basic disciplines of software engineering. Designed as a workbook companion to any introductory programming or software-engineering text, Humphrey provides here the practical means to integrate his highly regarded Personal Software Process (PSP) into college and university curricula. The book may also be adapted for use in industrial training or for self-improvement by practicing software engineers. Applying the book's exercises to their course assignments, students learn both to manage their time effectively and to monitor the quality of their work, good practices they will need to be successful in their future careers. The book is supported by its own electronic supplement, which includes spreadsheets for data entry and analysis. A complete instructor's package is also available. By mastering PSP techniques early in their studies, students can avoid--or overcome--the popular "hacker" ethic that leads to so many bad habits. Employers will appreciate new hires prepared to do competent professional work without, as now is common, expensive retraining and years of experience.

Software Process Improvement and Capability Determination

Reducing Risk with Software Process Improvement recommends the critical practices that aid in the successful delivery of software products and services. The author describes the observations that he made over a period of ten years in IT projects and organizations. He focuses on the areas of software development and maintenance, highlighting the most frequently encountered problems that occur due to poor processes. The author derives recommendations from 40 comprehensive assessments of IT organizations. This book details the potential or real problems each organization experienced, and offers anecdotes on how these problems resulted from deficient practices, what their impacts were, and how improving specific practices benefitted the organizations. This volume provides valuable advice for project and application managers looking to minimize the number of crises they have to deal with, and for IT practitioners seeking the practical solutions that lead to career advancement. It benefits customers who need to know what to look for before purchasing IT products or services, and helps investors analyze the efficiency of IT companies before making investment decisions.

Product-Focused Software Process Improvement

This textbook is a systematic guide to the steps in setting up a Capability Maturity Model Integration (CMMI) improvement initiative. Readers will learn the project management practices necessary to deliver high-quality software solutions to the customer on time and on budget. The text also highlights how software process improvement can achieve specific business goals to provide a tangible return on investment. Topics and features: supplies review questions, summaries and key topics for each chapter, as well as a glossary of acronyms; describes the CMMI model thoroughly, detailing the five maturity levels; provides a broad overview of software engineering; reviews the activities and teams required to set up a CMMI improvement initiative; examines in detail the implementation of CMMI in a typical organization at each of the maturity levels; investigates the various tools that support organizations in improving their software engineering maturity; discusses the SCAMPI appraisal methodology.

Software Process Improvement

This book constitutes the refereed proceedings of the 12 International Conference on Product-Focused Software Process Improvement, PROFES 2011, held in Torre Canne, Italy, in June 2011. The 24 revised full papers presented together with the abstracts of 2 keynote addresses were carefully reviewed and selected from 54 submissions. The papers are organized in topical sections on agile and lean practices, cross-model quality improvement, global and competitive software

development, managing diversity, product and process measurements, product-focused software process improvement, requirement process improvement, and software process improvement.

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