Software Requirements Developer Best Practices

The First Scandinavian Conference on Information Systems (SCIS 2010) took place during August 20–22, 2010 in Rebild, Denmark. The conference was held in conjunction with the traditional IRIS seminar for information systems research in Scandinavia. The IRIS seminar has a long-standing recognition for furthering information systems research. The objective of SCIS 2010 was to extend and formalize a part of the seminar to a full conference. The purpose of the conference was to exchange and publish high-quality research with a particular view on the Scandinavian research community. The theme of the conference was “Engaged Scandinavian Information Systems Research.” Scandinavian information systems research has for several decades been concerned with its relevance for practitioners of the field, for users, for industry, and for society at large. This concern for the usefulness outside the realms of research has shaped the Scandinavian researchers’ awareness, attention, research conduct, and most importantly a focus on who we interact with on which issues, why we do this, and for whom we do it.

Get prepared for the AWS Certified Security Specialty certification with this excellent resource By earning the AWS Certified Security Specialty certification, IT professionals can gain valuable recognition as cloud security experts. The AWS Certified Security Study Guide: Specialty (SCS-C01) Exam helps cloud security practitioners prepare for success on the certification exam. It’s also an excellent reference for professionals, covering security best practices and the implementation of security features for clients or employers. Architects and engineers with knowledge of cloud computing architectures will find significant value in this book, which offers guidance on primary security threats and defense principles. Amazon Web Services security controls and tools are explained through real-world scenarios. These examples demonstrate how professionals can design, build, and operate secure cloud environments that run modern applications. The study guide serves as a primary source for those who are ready to apply their skills and seek certification. It addresses how cybersecurity can be improved using the AWS cloud and its native security services. Readers will benefit from detailed coverage of AWS Certified Security Specialty Exam topics. Covers all AWS Certified Security Specialty exam topics Explains AWS cybersecurity techniques and incident response Covers logging and monitoring using the Amazon cloud Examines infrastructure security Describes access management and data protection With a single study resource, you can learn how to enhance security through the automation, troubleshooting, and development integration capabilities available with cloud computing. You will also discover services and tools to develop security plans that work in sync with cloud adoption.

JCKBSE aims to provide a forum for researchers and practitioners to discuss the latest developments in the areas of knowledge engineering and software engineering. Particular emphasis is placed upon applying knowledge-based methods to software engineering problems. This volume is a collection of contributions of authors from eight different countries. The book covers a wide range of topics related to knowledge-based or automated software engineering. The papers address the major open research issues of the field, such as architecture of knowledge; software and information systems; requirement engineering; domain analysis and modeling; formal and

semiformal specifications; knowledge engineering for domain modeling; data mining and knowledge discovery; automating software design and synthesis; object-oriented and other programming paradigms; knowledge-based methods and tools for software engineering, including testing, verification and validation; process management, maintenance and evolution, applied semiotics for knowledge-based software engineering; knowledge systems methodology; development tools and environments; practical applications and experience of software and knowledge engineering; information technology in control, design, production, logistics and management; enterprise modelling and workflow.

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InfoWorld is targeted to Senior IT professionals. Content is segmented into Channels and Topic Centers. InfoWorld also celebrates people, companies, and projects.

The fastest way to get certified for the exams CX-310-252A and CX-310-027. This volume contains tips, tricks, and hints on all the content included in these tests.

This book constitutes the refereed proceedings of the 7th International Semantic Web Conference, ISWC 2008, held in Karlsruhe, Germany, during October 26-30, 2008. The volume contains 43 revised full research papers selected from a total of 261 submissions, of which an additional 3 papers were referred to the semantic Web in-use track; 11 papers out of 26 submissions to the semantic Web in-use track, and 7 papers and 12 posters accepted out of 39 submissions to the doctorial consortium. The topics covered in the research track are ontology engineering; data management; software and service engineering; non-standard reasoning with ontologies; semantic retrieval; OWL; ontology alignment; description logics; user interfaces; Web data and knowledge; semantic Web services; semantic social networks; and rules and relatedness. The semantic Web in-use track covers knowledge management; business applications; applications from home to space; and services and infrastructure.

The digital age has presented an exponential growth in the amount of data available to individuals looking to draw conclusions based on given or collected information across industries. Challenges associated with the analysis, security, sharing, storage, and visualization of large and complex data sets continue to plague data scientists and analysts alike as traditional data processing applications struggle to adequately manage big data. The Handbook of Research on Big Data Storage and Visualization Techniques is a critical scholarly resource that explores big data analytics and technologies and their role in developing a broad understanding of issues pertaining to the use of big data in multidisciplinary fields. Featuring coverage on a broad range of topics, such as architecture patterns, programing systems, and computational energy, this publication is geared towards professionals, researchers, and students seeking current research and application topics on the subject.

Almost every software project begins with the utterances, “What will this cost?” and “When will this project be done?” Once those words are spoken, project stakeholders begin to wrestle with how to produce an estimate. Accurately estimating the cost or time to complete a software project is a serious problem for many software engineers, developers and project managers who struggle with costs running double original estimates, putting their careers at risk. It is reported

that nearly 50% of all software projects are shelved and that one of the major causes is poor estimation practices. If developing software for internal use, poor estimates can represent a significant drain on corporate profits. Worldwide growth in the number of companies specializing in the development of software for use by other companies is staggering. India alone has nearly 20,000 such companies. Intense competition has led to an increased demand for fixed-bid pricing in client/vendor relationships, and has made effective cost estimation even more important and, in many cases, critical to a firm's survival. There are many methods of estimation. Each method has its strengths and weaknesses, proponents and opponents. Knowing how and which one to use on a given project is key to developing acceptable estimates for either internal or external projects.Software Estimation Best Practices, Tools, & Techniques covers all facets of software estimation. It provides a detailed explanation of the various methods for estimating software size, development effort, cost, and schedule, including a comprehensive explanation of Test Effort Estimation. Emphasizing that software estimation should be based on a well-defined process, it presents software estimation best practices and shows how to avoid common pitfalls. This guide offers direction on which methods are most appropriate for each of the different project types commonly executed in the software development space and criteria for selecting software estimation tools. This comprehensive desk reference explains software estimation from scratch to help the beginner and features advanced techniques for more experienced estimators. It details project scheduling, including resource leveling and the concept of productivity, as applicable to software estimators, demonstrating the many benefits of moving from the current macro-productivity approach to a micro-productivity approach in software estimation. Software Estimation Best Practices, Tools, & Techniques: A Complete Guide for Software Project Estimators caters to the needs of all software project stakeholders, from novice to expert. It provides the valuable guidance needed to estimate the cost and time required to complete software projects within a reasonable margin of error for effective software development. “We need better approaches to understanding and managing software requirements, and Dean provides them in this book. He draws ideas from three very useful intellectual pools: classical management practices, Agile methods, and lean product development. By combining the strengths of these three approaches, he has produced something that works better than any one in isolation.” –From the Foreword by Don Reinertsen, President of Reinertsen & Associates; author of Managing the Design Factory; and leading expert on rapid product development Effective requirements discovery and analysis is a critical best practice for serious application development. Until now, however, requirements and Agile methods have rarely coexisted peacefully. For many enterprises considering Agile approaches, the absence of effective and scalable Agile requirements processes has been a showstopper for Agile adoption. In Agile Software Requirements, Dean Leffingwell shows exactly how to create

effective requirements in Agile environments. Part I presents the “big picture” of Agile requirements in the enterprise, and describes an overall process model for Agile requirements at the project team, program, and portfolio levels Part II describes a simple and lightweight, yet comprehensive model that Agile project teams can use to manage requirements Part III shows how to develop Agile requirements for complex systems that require the cooperation of multiple teams Part IV guides enterprises in developing Agile requirements for ever-larger “systems of systems,” application suites, and product portfolios This book will help you leverage the benefits of Agile without sacrificing the value of effective requirements discovery and analysis. You’ll find proven solutions you can apply right now–whether you’re a software developer or tester, executive, project/program manager, architect, or team leader.

Provides solutions to a variety of problems associated with the software development process.

Apply best practices for capturing, analyzing, and implementing software requirements through visual models—and deliver better results for your business. The authors—experts in eliciting and visualizing requirements—walk you through a simple but comprehensive language of visual models that has been used on hundreds of real-world, large-scale projects. Build your fluency with core concepts—and gain essential, scenario-based context and implementation advice—as you progress through each chapter. Transcend the limitations of text-based requirements data using visual models that more rigorously identify, capture, and validate requirements Get real-world guidance on best ways to use visual models—how and when, and ways to combine them for best project outcomes Practice the book’s concepts as you work through chapters Change your focus from writing a good requirement to ensuring a complete system

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"This book provides an overview of useful techniques in artificial intelligence for future software development along with critical assessment for further advancement"--Provided by publisher.

This book describes an approach to software management based on establishing an infrastructure that serves as the foundation for the project. This infrastructure defines people roles, necessary technology, and interactions between people and technology. This infrastructure automates repetitive tasks, organizes project activities, tracks project status, and seamlessly collects project data to provide measures necessary for decision making. Most importantly, this infrastructure sustains and facilitates the improvement of human-defined processes. The methodology described in the book, which is called Automated Defect Prevention (ADP) stands out from the current software landscape as a result of two unique features: its comprehensive approach to defect prevention, and its far-reaching emphasis on automation. ADP is a practical and thorough guide to implementing and managing software projects and processes. It is a set of best practices for software management through process improvement, which is achieved by the gradual automation of repetitive tasks supported and sustained by this flexible

and adaptable infrastructure, an infrastructure that essentially forms a software production line. In defining the technology infrastructure, ADP describes necessary features rather than specific tools, thus remaining vendor neutral. Only a basic subset of features that are essential for building an effective infrastructure has been selected. Many existing commercial and non-commercial tools support these, as well as more advanced features. Appendix E contains such a list.

This book provides a coherent methodology for Model-Driven Requirements Engineering which stresses the systematic treatment of requirements within the realm of modelling and model transformations. The underlying basic assumption is that detailed requirements models are used as first-class artefacts playing a direct role in constructing software. To this end, the book presents the Requirements Specification Language (RSL) that allows precision and formality, which eventually permits automation of the process of turning requirements into a working system by applying model transformations and code generation to RSL. The book is structured in eight chapters. The first two chapters present the main concepts and give an introduction to requirements modelling in RSL. The next two chapters concentrate on presenting RSL in a formal way, suitable for automated processing. Subsequently, chapters 5 and 6 concentrate on model transformations with the emphasis on those involving RSL and UML. Finally, chapters 7 and 8 provide a summary in the form of a systematic methodology with a comprehensive case study. Presenting technical details of requirements modelling and model transformations for requirements, this book is of interest to researchers, graduate students and advanced practitioners from industry. While researchers will benefit from the latest results and possible research directions in MDRE, students and practitioners can exploit the presented information and practical techniques in several areas, including requirements engineering, architectural design, software language construction and model transformation. Together with a tool suite available online, the book supplies the reader with what it promises: the means to get from requirements to code “in a snap”.

Software Engineering discusses the major issues associated with different phases of software development life cycle. Starting from the basics, the book discusses several advanced topics. Topics like software project management, software process models, developing methodologies, software specification, software testing and quality, software implementation, software security, software maintenance and software reuse are discussed. This book also gives an introduction to the new emerging technologies, trends and practices in software engineering field. New topics such as MIMO technology, AJAX, etc. are included in the book. The topics like .NET framework, J2EE, etc. are also dealt with. Case Studies, discussions on real-life situations of dealing with IT related problems and finding their solutions in an easy manner, are given in each chapter. Elegant and simple style of presentation makes the reading of this book a pleasant experience. Students of Computer Science and Engineering, Information Technology and Computer Applications should find this book highly useful. It would also be useful for IT technology professionals who are interested to get acquainted with the latest and the newest technologies.

Design quality SAS software and evaluate SAS software quality SAS Data Analytic Development is the developer’s compendium for writing better-performing software and the manager’s guide to building comprehensive software performance requirements.

The text introduces and parallels the International Organization for Standardization (ISO) software product quality model, demonstrating 15 performance requirements that represent dimensions of software quality, including: reliability, recoverability, robustness, execution efficiency (i.e., speed), efficiency, scalability, portability, security, automation, maintainability, modularity, readability, testability, stability, and reusability. The text is intended to be read cover-to-cover or used as a reference tool to instruct, inspire, deliver, and evaluate software quality. A common fault in many software development environments is a focus on functional requirements—the what and how—to the detriment of performance requirements, which specify instead how well software should function (assessed through software execution) or how easily software should be maintained (assessed through code inspection). Without the definition and communication of performance requirements, developers risk either building software that lacks intended quality or wasting time delivering software that exceeds performance objectives—thus, either underperforming or gold-plating, both of which are undesirable. Managers, customers, and other decision makers should also understand the dimensions of software quality both to define performance requirements at project outset as well as to evaluate whether those objectives were met at software completion. As data analytic software, SAS transforms data into information and ultimately knowledge and data-driven decisions. Not surprisingly, data quality is a central focus and theme of SAS literature; however, code quality is far less commonly described and too often references only the speed or efficiency with which software should execute, omitting other critical dimensions of software quality. SAS® software project definitions and technical requirements often fall victim to this paradox, in which rigorous quality requirements exist for data and data products yet not for the software that undergirds them. By demonstrating the cost and benefits of software quality inclusion and the risk of software quality exclusion, stakeholders learn to value, prioritize, implement, and evaluate dimensions of software quality within risk management and project management frameworks of the software development life cycle (SDLC). Thus, SAS Data Analytic Development recalibrates business value, placing code quality on par with data quality, and performance requirements on par with functional requirements. Annotation "Design Methodologies for Space Transportation Systems is a sequel to the author's earlier text, "Space Transportation: A Systems Approach to Analysis and Design. Both texts represent the most comprehensive exposition of the existing knowledge and practice in the design and project management of space transportation systems, and they reflect a wealth of experience by the author with the design and management of space systems. The text discusses new conceptual changes in the design philosophy away from multistage expendable vehicles to winged, reusable launch vehicles and presents an overview of the systems engineering and vehicle design process as well as systems trades and analysis. Individual chapters are devoted to specific disciplines such as aerodynamics, aerothermal analysis, structures, materials, propulsion, flight mechanics and trajectories, avionics and computers, and control systems. The final chapters deal with human factors, payload, launch and mission operations, safety, and mission assurance. The two texts by the author provide a valuable source of information for the space transportation community of designers, operators, and managers. A companion CD-ROM succinctly packages some oversized figures and tables, resources for systems engineering and launch ranges, and a

compendium of software programs. The computer programs include the USAF AIRPLANE AND MISSILE DATCOM CODES (with extensive documentation); COSTMODL for software costing; OPGUID launch vehicle trajectory generator; SUPERFLO-a series of 11 programs intended for solving compressible flow problems in ducts and pipes found in industrial facilities; and a wealth of Microsoft Excel spreadsheet programs covering thedisciplines of statistics, vehicle trajectories, propulsion performance, math utilities,

"... an engaging book that will empower readers in both large and small software development and engineering organizations to build security into their products. ... Readers are armed with firm solutions for the fight against cyber threats." —Dr. Dena Haritos Tsamitis. Carnegie Mellon University "... a must read for security specialists, software developers and software engineers. ... should be part of every security professional's library." —Dr. Larry Ponemon, Ponemon Institute "... the definitive how-to guide for software security professionals. Dr. Ransome, Anmol Misra, and Brook Schoenfield deftly outline the procedures and policies needed to integrate real security into the software development process. ...A must-have for anyone on the front lines of the Cyber War ..." —Cedric Leighton, Colonel, USAF (Ret.), Cedric Leighton Associates "Dr. Ransome, Anmol Misra, and Brook Schoenfield give you a magic formula in this book - the methodology and process to build security into the entire software development life cycle so that the software is secured at the source! " —Eric S. Yuan, Zoom Video Communications There is much publicity regarding network security, but the real cyber Achilles' heel is insecure software. Millions of software vulnerabilities create a cyber house of cards, in which we conduct our digital lives. In response, security people build ever more elaborate cyber fortresses to protect this vulnerable software. Despite their efforts, cyber fortifications consistently fail to protect our digital treasures. Why? The security industry has failed to engage fully with the creative, innovative people who write software. Core Software Security expounds developer-centric software security, a holistic process to engage creativity for security. As long as software is developed by humans, it requires the human element to fix it. Developer-centric security is not only feasible but also cost effective and operationally relevant. The methodology builds security into software development, which lies at the heart of our cyber infrastructure. Whatever development method is employed, software must be secured at the source. Book Highlights: Supplies a practitioner's view of the SDL Considers Agile as a security enabler Covers the privacy elements in an SDL Outlines a holistic business-savvy SDL framework that includes people, process, and technology Highlights the key success factors, deliverables, and metrics for each phase of the SDL Examines cost efficiencies, optimized performance, and organizational structure of a developer-centric software security program and PSIRT Includes a chapter by noted security architect Brook Schoenfield who shares his insights and experiences in applying the book's SDL framework View the authors' website at http://www.androidinsecurity.com/

Get to the next level of your software development career, learning the tools you need to successfully manage the complexity of modern software systems. Whether you are developer at a small software company or a large enterprise, your success is directly related to the ability of your development team to rapidly respond to change. What makes this task challenging is that the tech challenges we strive to overcome are

becoming increasingly more complex: requirements, solution, hosting, support, pace of change, etc. A good developer manages every aspect of the program and understands that when details and decisions are left to chance, outcomes can be negatively impacted and result in increased errors due to substandard quality. It is the difference between being a professional software engineer and a programmer. You will know how look at the entire spectrum of the software development process and learn valuable concepts and apply these principles through meaningful examples, exercises, case studies, and source code. What You Will Learn Know what it means to be a professional software engineer Spend more time doing software development and minimize the pain of dealing with inefficient processes Integrate Lean and Agile practices to reduce errors in judgment and provide predictable outcomes, while still maintaining agility and responsiveness Ensure a shared understanding in the group of stakeholders Validate user experience early and often to minimize costly re-work Develop software designs and architectures that age well and enable long-term business agility Implement patterns and processes that result in developers “falling into the pit of success” instead of into the “pit of failure” Adopt the necessary processes and patterns that will result in “institutionalized” quality that is pervasive Redefine the important role of technical leadership to ensure team maturity and growth Who This Book Is For Software developers and team leaders who have struggled to implement design and development best practices due to lack of in-depth knowledge or experience, and want a book designed to provide the confidence and foundational skills needed to achieve success

Best practices and invaluable advice from world-renowned data warehouse experts In this book, leading data warehouse experts from the Kimball Group share best practices for using the upcoming “Business Intelligence release” of SQL Server, referred to as SQL Server 2008 R2. In this new edition, the authors explain how SQL Server 2008 R2 provides a collection of powerful new tools that extend the power of its BI toolset to Excel and SharePoint users and they show how to use SQL Server to build a successful data warehouse that supports the business intelligence requirements that are common to most organizations. Covering the complete suite of data warehousing and BI tools that are part of SQL Server 2008 R2, as well as Microsoft Office, the authors walk you through a full project lifecycle, including design, development, deployment and maintenance. Features more than 50 percent new and revised material that covers the rich new feature set of the SQL Server 2008 R2 release, as well as the Office 2010 release Includes brand new content that focuses on PowerPivot for Excel and SharePoint, Master Data Services, and discusses updated capabilities of SQL Server Analysis, Integration, and Reporting Services Shares detailed case examples that clearly illustrate how to best apply the techniques described in the book The accompanying Web site contains all code samples as well as the sample database used throughout the case studies The Microsoft Data Warehouse Toolkit, Second Edition provides you with the knowledge of how and when to use BI tools such as Analysis Services and Integration Services to accomplish your most essential data warehousing tasks.

"The objective of this book is to examine issues and promote research initiatives in the area of effectiveness in e-government by suggesting integrated e-business models for government solutions, through citizen-centric service oriented methodologies and

processes"--Provided by publisher.
Now in its third edition, this classic guide to software requirements engineering has been fully updated with new topics, examples, and guidance. Two leaders in the requirements community have teamed up to deliver a contemporary set of practices covering the full range of requirements development and management activities on software projects. Describes practical, effective, field-tested techniques for managing the requirements engineering process from end to end. Provides examples demonstrating how requirements "good practices" can lead to fewer change requests, higher customer satisfaction, and lower development costs. Fully updated with contemporary examples and many new practices and techniques. Describes how to apply effective requirements practices to agile projects and numerous other special project situations. Targeted to business analysts, developers, project managers, and other software project stakeholders who have a general understanding of the software development process. Shares the insights gleaned from the authors' extensive experience delivering hundreds of software-requirements training courses, presentations, and webinars. New chapters are included on specifying data requirements, writing high-quality functional requirements, and requirements reuse. Considerable depth has been added on business requirements, elicitation techniques, and nonfunctional requirements. In addition, new chapters recommend effective requirements practices for various special project situations, including enhancement and replacement, packaged solutions, outsourced, business process automation, analytics and reporting, and embedded and other real-time systems projects.
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Learn proven, real-world techniques for specifying software requirements with this practical reference. It details 30 requirement “patterns” offering realistic examples for situation-specific guidance for building effective software requirements. Each pattern explains what a requirement needs to convey, offers potential questions to ask, points out potential pitfalls, suggests extra requirements, and other advice. This book also provides guidance on how to write other kinds of information that belong in a requirements specification, such as assumptions, a glossary, and document history and references, and how to structure a requirements specification. A disturbing proportion of computer systems are judged to be inadequate; many are not even delivered; more are late or over budget. Studies consistently show one of the single biggest causes is poorly defined requirements: not properly defining what a system is for and what it’s supposed to do. Even a modest contribution to improving requirements offers the prospect of saving businesses part of a large sum of wasted investment. This guide emphasizes this important requirement need—determining what a software system needs to do before spending time on development. Expertly written, this book details

solutions that have worked in the past, with guidance for modifying patterns to fit individual needs—giving developers the valuable advice they need for building effective software requirements

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This book constitutes the refereed proceedings of the 20th International Conference on Product-Focused Software Process Improvement, PROFES 2019, held in Barcelona, Spain, in November 2019. The 24 revised full papers 4 industry papers, and 11 short papers presented were carefully reviewed and selected from 104 submissions. The papers cover a broad range of topics related to professional software development and process improvement driven by product and service quality needs. They are organized in topical sections on testing, software development, technical debt, estimations, continuous delivery, agile, project management, microservices, and continuous experimentation. This book also includes papers from the co-located events: 10 project papers, 8 workshop papers, and 4 tutorial summaries.

This is the digital version of the printed book (Copyright © 2004). Testing is not a phase. Software developers should not simply throw software over the wall to test engineers when the developers have finished coding. A coordinated program of peer reviews and testing not only supplements a good software development process, it supports it. A good testing life cycle begins during the requirements elucidation phase of software development, and concludes when the product is ready to install or ship following a successful system test. Nevertheless, there is no one true way to test software; the best one can hope for is to possess a formal testing process that fits the needs of the testers as well as those of the organization and its customers. A formal test plan is more than an early step in the software testing process—it's a vital part of your software development life cycle. This book presents a series of tasks to help you develop a formal testing process model, as well as the inputs and outputs associated with each task. These tasks include: review of program plans development of the formal test plan creation of test documentation (test design, test cases, test software, and test procedures) acquisition of automated testing tools test execution updating the test documentation tailoring the model for projects of all sizes Whether you are an experienced test engineer looking for ways to improve your testing process, a new test engineer hoping to learn how to perform a good testing process, a newly assigned test manager or team leader who needs to learn more about testing, or a process improvement leader, this book will help you maximize your effectiveness.

Professional publication of the RD & A community.

No matter how much instruction you’ve had on managing software requirements, there’s no substitute for experience. Too often, lessons about requirements engineering processes lack the no-nonsense guidance that supports real-world solutions. Complementing the best practices presented in his book, Software Requirements, Second Edition, requirements engineering authority Karl Wiegers tackles even more of the real issues head-on in this book. With straightforward,

professional advice and practical solutions based on actual project experiences, this book answers many of the tough questions raised by industry professionals. From strategies for estimating and working with customers to the nuts and bolts of documenting requirements, this essential companion gives developers, analysts, and managers the cosmic truths that apply to virtually every software development project. Discover how to: • Make the business case for investing in better requirements practices • Generate estimates using three specific techniques • Conduct inquiries to elicit meaningful business and user requirements • Clearly document project scope • Implement use cases, scenarios, and user stories effectively • Improve inspections and peer reviews • Write requirements that avoid ambiguity
????:Richard Helm,Ralph Johnson,John Vlissides ????:???,??,???