sification of secult is very important Arteaga J.M., C 2006 Proceedings of the Third LASTED International Conference on Communication. Network, and Information Security, CNIS 2006 Y	Development process, p Security patterns	Action Concrete security patterns dealt with: Haruhi Concrete misuse/threat Authentication, authorization, RBAC	eat/attack patterns dealt with: Atsuo Relationships N/A N/A	Co	characteristics (E.g. Confidentiality, integrity and availability): Hideyuki Confidentiality (other security aspects, such as integrity, reliability and a	a N/A	N/A	SPEM for process, Java/Aspe			rements/analySecurity spe	ecialist, software designer F	ooling/automation: Hiro P Prototype tool for automatic F	
Inparative study of Software security Alvi A.K., Zulke 2012 Proceedings - 2012 7th International Conference on Availability. Reliability and Security. ARES 2012 Y Inprehensive patte Incorporating security systepp. 112–137; U 2014 Proceedings of the Australian Software Engineering Conference, ASWEC Y Inprehensive patte collaborative systepp. 112–137; U 2015 Inf Softw Technol Y	Classification of securit Security patterns secure software engined Security patterns, threa security methodology er development process p	N/A N/A eat pa Authentication, Secure two-part Identity spoofing patter Security Requirement Determina N/A	ng, Session state poisoning, M(Yes Yes	Co Ur N/	condentiality, integrity, availability, and accountability for classification Inclear I/A	Threat modeling Unclear N/A	Classification quality metrics N/A N/A	N/A UML-like pattern language	N/A N/A methodology engineering	N/A Any Example Requ None All	Software des rements analy Security spe developers, a		1/A 11 1/A 12 1/A 12	I/A I/A I/A
ion support mai In software engine Bouaziz R., Kar 2015 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Boinformatice) 9158 Y ework for securi Security has becor Guan H., Wang 2014 CAC 2014 - Proceedings of the 20th International Conference on Automation and Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Boinformatice) 403 LIC Y	Knowledge base design Security Architectural, Knowledge based of Design	, Des Authentication, Password auther None Not specified (general pattern re None	Yes No		confidentiality, Accountability lot Specified	None CVSS	None None	Ontology OWL	None MDD	None All None Reen	Developer gineering, Evolı Redeveloper	- C	Ontology query language M MDA, Protégé OWL API I	lot specified .egacy systems
edge frameworThe data collectionLiu S., Cheung2006Proceedings of 4th Australian Information Security Management ConferenceYod for web sectCurrently, only a srSingpant P., Pr2015Lecture Notes in Electrical Engineering339Yodology for inteSecurity in generalAbramov J., Ar2012Computers and Security313Y	Map of Security Patterns for decision guidance Extracting security patterns provides a complete fra security pattern	RBAC (as an example) N/A	Νο	Ur	Inclear (confidentiality, integrity)		N/A	UML + OCL	MDD	simple case studydesig	n and implementation		clipse FW, Dresden OCL, AT	
odology for min Although many aid Ryoo J., Laplar 2010 Proceedings of the Annual Hawaii International Conference on System Sciences Y odology to deve We are developing Fernandez E.B. 2006 Integrating Security and Software Engineering: Advances and Future Visions Y Hing and formal Non-functional req Hamid B., Perc 2014 Lecture Notes in Computer Science (Including subseries Lecture Notes in Article Intelligence and Lecture Notes in Bioinformatic) Integration Y	Mining security tactics f Tactictics, architecture Methodology using secu Security patterns		Yes Yes	Re Co	Confidenticality	N/A N/A	N/A N/A N/A	N/A UML Original Protocol Specification	N/A Secure Software Lifecycle, Model D	Example archit	ecture design Architect rements, Anal Security spe	Ν	1 A\I a A\I	I/A eneral
dimensional cla This paper present VanHilst M., Fe 2009 Journal of Research and Practice in Information Technology 41 2 Y dimensional cla This paper present VanHilst M., Fe 2008 Security in Mernation Species Proceeding of the ED Startage of the ED Startage of the ED Startage of Startage of Species in Startage of St	Specification of Security Security patterns Classification of security Security patterns Classification of security patterns	XACML Access Control EvaluateN/A	No		I/A	N/A N/A	N/A N/A	Original(Six dimentions classifie	N/A		ain analysis, re Developer	N		
I classification Software security Alvi A.K., Zulke 2011 Proceedings - IEEE 9th International Conference on Dependable. Autonomic and Secure Computing. DASC 2011 Y e security pat Security engineerir Robinson P. 2007 Proceedings - International Workshop on Database and Expert Systems Applications. DEXA Y approach for t In this paper, we ad Mourad A., Otr 2000 House - Secure State and Content Content and Secure Computing. Secure State and Expert Systems Applications. DEXA Y	Classification of security Security patterns, attac 7 Security Patterns aspect-orientedprogram security patterns	N/A N/A User Authentication Pattern, Sein/a	no no	N/ av	EIA + accontability I/A vailability	Yes threat modeling with anti-statements Yes	N/A N/A n/a	Template, structured documen formal modeling UML, natural langage	N/A N/A Aspect-oriented Programming	no In the desig	rements, desigDeveloper • future, code system's cor n, requirement developer, se	ecurity specialist n	I/A I o r o r	0 0 0
n based appro Security in general Abramov J., St 2011 Lecture Notes in Business Information Processing ^{13 UBP} Y n-based gener Security and doma Benameur A., F 2009 ^{2009 11th IEEE International Conference on High Performance Computing and Communications, HPCC 2009 Y n-driven securi Service-oriented A Schnjakin M., M 2009 Proceedings of the ACM Conference on Computer and Communications Security Y}	Secure software engine Security patterns Security framework Security patterns Service-Oriented Archit Security patterns	Authorization, RBAC N/A Web Presence, Business-to N/A SecurePipe, MessageConfidentiality	No No Yes	Cc N/	Confidentiality /A CIA + Authorisation	Unauthorized access and use repudiation N/A	N/A N/A N/A	UML with CCL N/A N/A	N/A SI*, Secure Tropos N/A	NoneAllN/AAnaly	n, Implements Database de Developer sis, Design Security poli	icy advisor N	ext template engine [to gene] I/A I/A	I/A SERENITY Veb Services
rn-driven secur SOA enables the d Delessy N.A., F 2008 Proceedings of the ACM Symposium on Applied Computing Y rn-driven secur SOA enables the d Delessy N.A., F 2008 ARES 2008 - 3rd International Conference on Availability, Security, and Reliability, Proceedings Y ss model desig Information assets Ratchakom M., 2011 Proceedings of the 2011 8th International Joint Conference on Computer Science and Software Engineering, JCSSE 2011 Y	Service-Oriented Archit Security patterns Development of process Security pattens for ac	Reference Monitor, Circle of Trust, Identity Feder	eration Yes Yes		lot specified Confidentiality	N/A N/A (Supposed to be Vulnerabilities and threat	N/A N/A	UML-like UML Activitiy diagram fo Proc	Model driven, MDA		sis, Design, Im Software des process of IA Developer	signer, Software developer N	I/A \ es, but unclear I	Veb application based on SOA (but methodology itself can be ab
tative analysis Coftware security, Halkidis S.T., C 2006 Computers and Security 25 5 Y tative evaluation Software Security Halkidis S.T., C 2004 Lecture Notes in Computer Science (including subseries Lecture Notes in Addiced Intelligence and Lecture Notes in Addiced Intelligence and Lecture Notes in Boinformatice) 3269 Y rity engineering The creation of sec Ruiz J.F., Rudo 2014 8th Annual IEEE International Systems Conference, SysCon 2014 – Proceedings Y		Checkpointed System, Standby, Comparator-Che security solution for systems of systems	hecked Fault Tolerant System No		Inclear		N/A		Unclear	Example Analy	sis Security spe	ecialist, software designer N	ool for extracting security pr	
rity pattern-drivRisk management Varela-Vaca A 2013 Advances in Intelligent Systems and Computing 18845 Y rity Reference Security is a funda Fernandez E.B. 2014 ACM International Conference Proceeding Series Y	Business Process Mana Security pattern Security reference arch Security patterns, misu	NeutralizationSQLInjection, NeutN/A use p Authenticaor, authorizer, securit Resource Usage	ge Monitoring Inference, Malici Yes	Ur	ntegrity, confidentiality (on the example) Inclear	Yes in ontology but a little Misuse patterns and in metamodel	Yes (attribute and forces) N/A	Proposed template UML (class diagram, sequence	OPBUS framework Unclear Secure Tropos, model driven design	Example Requ	ess process mBuisiness an rements/analyCloud provid	alyst, security analyst C ler, cloud consumer N	DPBUS framework exetnsion I I/A EAGENT Plan Editor (a kind I	Inclear Doud
ntic based cert In this paper, we provide the last two duration of the		patte Authorization, RBAC, Multilevel, N/A eat pa Authorization, Controlled Message secrecy	N/A N/A ecy violation, Data inference, UN/A	Au Se	onfidentiality, integrity, authentication, nonrepudiation authentication, Authorization, Integrity, Confidentiality, Attackers detect secrecy, Integrity, Availability, Accountability	Threat patterns (nineteen patterns: event eave	N/A Security degree (L: Low M: Me N/A		N/A N/A	N/A Any N/A Desig	n Software dev	veloper (not security expert) N veloper N	I/A [] I/A	I/A Distributed publish/subscribe systems
my for assess The idea of busines Ahmed N., Mat 2013 Proceedings - International Conference on Research Challenges in Information Science m managing ev Management of red Bergmann G., N 2012 Lecture Notes in Business Information Processing rate m managing ev Requirements evol Bergmann G., N 2011 CEUR Workshop Proceedings 734 Y*	Taxonomy of business p Security risk-oriented p Management of requiren Situation (a graph-like 55		N/A N/A		condentiality, integrity, availability htegrity (unclear but may be CIA)	Some possible attacks are considered. Abuse the situation	N/A N/A	BPMN The declarative model query la	N/A SeCMER, SI*, Problem Frames		ess process mBusiness and rements engin Requirement		I/A I ool for automatic detection (I/A I/A
ased method We have previously Fernandez E.B. 2005 Proceedings of the 3rd International Workshop on Security in Information Systems, WOSIS 2005, In Conjunction with ICEIS 2005 Y security patter We introduce the c Fernandez E.B. 2008 PLoP08 - 15th Conference on Pattern Languages of Programs, Proceedings Y security patter During the requiren Fernandez E.B. 2014 CIBSE 2014: Proceedings of the 17th Ibero-American Conference Software Engineering Y	Methodology to build se Security patterns Hierarchy of security paSecurity patterns, abst Hierarchy of security paSecurity patterns, abst			N/ hierarchy, usage relationship hierarchy, usage relationship hierarchy, usage relationship		Relate attacks to use cases. (Threat) Threat (and regulation)	N/A N/A N/A	N/A UML class diagram for relation UML class diagram for pattern		N/A Any N/A Any N/A Regu	Software dev Software dev rements engin Software dev	veloper N	1 A\I 1 A\I 1 A\I 1 A\I	I/A I/A I/A
socio-techni In this paper we dis Busnel P., El-K 2008 Proceedings of the 2008 2nd International Conference on Future Generation Communication and Networking, EGCN 2008 2 m s of the seci Architectural and d Heyman T., Ys 2007 Proceedings - ICSE 2007 Workshope: Third International Workshop on Software Engineering for Secure Systems, SESSO7 Y ch for securi Since applications Bouaziz R., Kal 2014 Lecture Notes in Computer Science (Including subseries Lecture Notes in Astficial Intelligence and Lecture Notes in Boinformatice) State PART 5 Y	Smart Home, Socio-Ted Security & Dependabilit Survey of security patte Security patterns Security Patterns Applic Security patterns	ity (S XACML, its three variations N/A Asset valuation, Roles, RBAC, R N/A RBAC N/A		n of patterns Co co	Confidentiality (and integrity, availability) onfidentiality, identification and data integrity I/A	N/A N/A N/A	N/A Quality of pattern documentat N/A	N/A	N/A N/A Model driven, component-based (as	Case study (Illust Desig	n, deployment Software dev Software dev	veloper (not security expert) N veloper N	I/A 5 I/A 1 Papyrus suite tool, ATL 1	Smart home I/A I/A
ch to model A good way to obte Fernandez E.B. 2011 Proceedings of the 2011 6th International Conference on Availability. Reliability and Security. ARES 2011 Y	Model-based secure an Security patterns, misu Architecture for Secure Security & Dependabilit	ity (SN/A N/A	N/A N/A N/A		Confidentiality, integrity, availability, availability	Threats, misuses	The number of threats handle N/A	N/A	MDA, model driven Model driven	N/A Any N/A Deve	opment-time, Software dev enance, evolut Software dev	veloper N veloper A	I/A An infrastructure for the deve	I/A Imbient Intelligence Environments
inclure - centri Today, software se Bunke M., Sohr 2011 Lecture Notes in Computer Science (including subseries Lecture Notes in Asticid Intelligence and Lecture Notes in Bioinformatics) 6142 V - oriented ap Security is a very Mouheb D., Tal 2009 Proceedings of Sth. International Conference on New Trends in Software Methodologies. Tools and Techniques. SoMe T.09 Y - oriented ap Security is a very Mouheb D., Tal 2009 Frontiers in Artificial Intelligence and Applications 199 1 Y*	detect security patterns Aspect-Oriented Appro Security (hardening) pa 70	atterr Secure Connection N/A	N/A N/A	N/ N/	//A //A	N/A N/A	N/A N/A	Resource Flow Graph (RFG) UML, OCL		Case study, expe Desig	n, implementat Software des	signer, developer S	reverse engineering tool-sul Security Hardening UML Profit	
-oriented ap In this paper, we produce A., Lav 2008 Computers and Security 27 42433 Y -oriented ap Affecting multiple Alebrahim A., T 2012 CEUR Workshop Proceedings 855 Y scenario bas This paper present He K., Feng Z., 2008 Proceedings - International Symposium on Computer Science and Computational Technology, ISCSCT 2008 1 Y	aspect-oriented approa Security (hardening) pa Security pattern applica Security patterns (espe Security Testing Security patterns, attac		N/A No N/A Password, Dictionary Attack, <mark>EYes Security</mark>	Co	uthentication, authorization, confidentiality, availability, non-repudiation confidentiality -> Unclear? confidentiality	N/A STRIDE categories for threats, attack sequece	N/A N/A N/A	AspectC++ (and Hardening Pla Problem Frame Extended Activity Diagram (EA	Model driven, Problem Frame, Aspe	c Case study (Illust Requ Case study (Illust Desig	n Software dev	ts engineer N veloper N	AspectC++ I/A I/A	I/A I/A I/A
ering process Security engineerir Bouaziz R., Kal 2013 Proceedings of the Workshop on Enabling Technologies: Infrastructure for Collaborative Enterprises. WE TICE y ence report d Nowadays enterpri Alaküla ML., 1 2015 Lecture Notes in Business Information Processing 235 y atory compar The software archi Noël R., Pedraz 2014 CIBSE 2014: Proceedings of the 17th Ibero-American Conference Software Engineering y	engineering process, corsecurity patternn business process complinisk-oriented patterns architectural tactics security architectural p	RBAC N/A Securing data fromunauthorized N/A patte Digital sign etc (digital sign, auth DoS etc. (DoS,)	N/A N/A	N/ N/ N/	//A //A //A	N/A N/A N/A	N/A N/A N/A	UML UML N/A	SCRIP BPM architectural tactics	Example Design Case Study ? experiment & hyp N/A	n, implemental security com BPMer? architect	nponent specialist, designer A N N	NTL I/A I/A	I/A BPM I/A
ical interfac In the software dev El Khoury P., M 2008 Proceedings - International Workshop on Database and Expert Systems Applications, DEXA y y-based app Usually, the securit Guan H., Yang 2016 International Journal of Automation and Computing 13 2 y onal model aAn operational mod Hwang GH., Q 2004 Computers and Security 23 6 y	81とほぼ同じ、ただし著 security pattern オントロジーベースのセ security pattern operational model security pattern	Input validation and representati N/A Audit interceptor, Authenticator N/A N/A N/A	N/A N/A		I/A access Control, Authentication, Confidentiality, Integrity, Availability, Ac Confidentiality	SQL injection, XSS, buffer overflow STRIDE information disclosure	N/A N/A N/A	OWL OWL security description language	N/A N/A	N/A desig N/A Archi	n Designer tecture, desigr <mark>Designer, sot</mark> tion	ftware developer s	I/A ecurity pattern search engin	
f application Both new technolo Ortiz R., Garzá 2011 Lecture Notes in Business Information Processing BURP y and enforcin [Context and motiv Li T., Horkoff J 2015 Lecture Notes in Computer Science (including underline Lecture Notes in Articul Intelligence and Lecture Notes in Boinformatice) 9013 y vy of security Information Security Notes in Articul Intelligence and Lecture Notes in Boinformatice) 9013 y	survey of security patters security mechanism on security pattern	N/A N/A N/A N/A VPN N/A secure pipes and filters etc. N/A	N/A N/A N/A		//A //A	N/A	N/A	N/A	N/A	N/A N/A	researcher			
y of security Information Securit Ortiz R., Moral 2010 Secure Notes in Computer Science (including subseries Lecture Notes in Addical Instigance and Lecture Notes in Derivative Computer Science 1 y courity patte Today's systems re Bouaziz R., Col 2012 Secure Science Computer Science Computer Science y y couries and the analysis of the Institute Computer Science of the Institute Computer Science of the Institute Computer Science 1 y	applicability of security security psattern セキュリティパターンからsecurity pattern UML profileを利用したセsecurity pattern	secure pipes and filters etc. N/A reference monitor N/A active replication N/A	N/A N/A N/A	N/ N/ N/	//A //A	N/A N/A	N/A N/A	UML use case description UML profile	N/A N/A	Example Desig Case study Desig		N N		
Iral risk analy The importance of Halkidis S.T., T 2008 IEEE Transactions on Dependable and Secure Computing 5 3 y mprehensive Incorporating securi Uzunov A.V., F 2015 Computer Standards and Interfaces 41 y face reducti During the design d Steinegger R., S 2014 SECURWARE 2014- 8th International Conference on Emerging Security Information, Systems and Technologies Y	Security patternを用い security pattern pattern drivenの方法 security pattern Attack Surface Reducti authorization patterns		N/A N/A No	N N N	I/A lot Specified	N/A 多数 Is not mentioned clearly in paper. None	y(risk assessment) N/A Num. of Attack surfaces	UML UML	None	risk assessment Test? N/A example analy Case Study Desig	sis and design designer n Developer		I/A construction of the second	I/A listributed systems Veb apps
d security se Today, there is a h Warschofsky R 2011 Proceedings - 2011 IEEE 9th International Conference on Web Services, ICWS 2011 Y d verification Software security I Dong J., Peng 2010 Information and Software Technology 52 3 Y singletons t Secure systems ar Gunawan L.A., 2012 Lecture Notes in Computer Science (Including subseries Lecture Notes in Articial Intelligence and Lecture Notes in Bioinformatice) 1772 Loca Y	Security Service OrchesDesign Security patterns comp Design	Identification and authentication None Secure Pipe pattern, Authentica None	Comparing so No	several identity management No No	lot Specified lot Specified	None	None	Form (UML use case + system CCS (a process algebra)	SOA	Example Desig Case Studies Desig	n Developer		lone S CWB-NC model checker N	lot specified
tice patterns This paper present Tatsubori M., Ir 2004 Proceedings – IEEE International Conference on Web Services Y security refe Reference archited Fernandez E.B. 2016 Requirements Engineering 21 2 Y gh assurance Building high assura Rimba P. 2013 Proceedings – International Conference on Software Engineering Y	Developing a meta-mod Design Integrating patterns of dDesign	Secure VMI Repository, Secure Malicious virtual Secure Logger None	al machine migration process Yes, misuse No	e to security No	lot Specified	Elements in misuse and security patterns None	None	UML Not Specified	None	argumentation Desig None Desig	n Developer n and Impleme Developer	N	Ione (SAM modeling tool, SPIN N	Dloud lot specified
ecure system We present an app Fernandez E.B. 2011 Proceedings International Conference of the Chilean Computer Science Society, SCCC Y ecure web sy Software patterns Fernandez E.B. 2015 Lecture Notes in Computer Science (Including subseries Lecture Notes in Addicid Intelligence and Lecture Notes in Boinformatics) 9418 Y es for a forma To arrive at such a Bayley I. 2014 Cyberpatterns: Unifying Design Patterns with Security and Attack Patterns Y	Exploring security pattern Comparison of several t design, attack, security	Authorization, Reference Monito None	yes Vec		lot Specified	None	None	UML Formals such as Z notation	None	None All (D	omain Analysi Developer	N		lot specified
izations and Very often in the s Slavin R., Shen 2012 2012 2012 2012 Let International Workshop on Requirements Patterns, RePa 2012 - Proceedings Y	Formatting security req. Requirements Classifying patterns for Analysis, Design	Perimeter security: the Maginot None Identification and Authentication None	No Yes	No No	lot Specified lot Specified	None None	None None	Form UML	None None None	None Desig	rements Developer n Developer		lone I	lot specified lot specified
Ince checking Security design pat Alzahrani A.A.F 2015 2015 Vorde Congress on Information Technology and Computer Applications, WCITCA 2015 Y Ing security re Existing approache Schmidt H., Jüi 2011 Lecture Notes in Computer Science (Including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in A	Composing patterns and Design, Security patter Formal notation for patt Security patterns (Desi pattern-oriented approa security requirements a	rn Authentication enforcer, Bucket None sign p Single Access point pattern (SA None analy SymmetricEncryptorDecryptor pattern	Nо Nо у	No No CI	lot Specified lot Specified SI	None	None No	Serscis Access Modeller (SAM Codecharts, LePUS3, first orde UML		Example Desig	n, Test Developer n, Implementa Developer sis and archite software eng	gineer	Assurance case, Binary Decist TP Toolkit verifier	lava Authentication and Authorization Service (JAAS)
Collaborativ Collaboration is the Bouaziz R., Krie 2015 International Journal of Information Technology and Web Engineering 10 1 Y a security rescurity has been Li T., Horkoff J 2014 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatica) 444 LICE y curity archi Recently, there has Rosado D.G., G 2007 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatica) 478 LICE PART 3 y	proposes a three-layer security pattern propose a viewpoint acdSecurity Architecture F	cryptographic control, access co Patte N/A	no no	CI N	BIA I/A	No N/A	no N/A	goal modeling N/A	Goal oriented N/A	case study (smar analy N/A analy	sis analyst sis and archite Designer	0 N	riginal prototype tool	I/A I/A
wpoints for For decades, the s Rosado D.G., C 2006 SECRYPT 2006 - International Conference on Security and Cryptography. Proceedings y ecure SCAL Critical infrastruct Fernandez E.B. 2010 Proceedings of the Annual Hawaii International Conference on System Sciences y a security Application develor Gymnopoulos L 2006 5th European Conference on Information Warfare and Security 2006, ECIW 2006 y	propose a viewpoint acd Security Architecture F proposes a method to c security pattern construction of security security pattern	Patte N/A N/A RBAC, authenticator, logger, aut physical, wrong of authentication, encryption usage, self-protected a		N/ all (d	I/A II depending on the patterns)Confidentiality, Privacy, Accountability, Acce	no None el(depending on the patterns)[]]hreats] Flawed ag	no no N/A	Architecture Pattern Template UML template, structured	no original N/A		n Architect sis and design N/A n and implemendeveloper	n n n	lone I o S o I	I/A SCADA System I/A
nt of applica Current approache Serrano D., Ru 2009 Proceedings - 2009 2nd International Conference on Dependability, DEPEND 2009 Y patterns reSecurity patterns a Yskout K., Scar 2015 Proceedings - International Conference on Software Engineering 1 y zing securit Security patterns of Yskout K., Scar 2012 Proceedings - International Conference on Software Engineering Y	セキュアなAP開発のた security pattern	unclear	no	? de ノョンの有効性を実験により明ら	epending on the patterns かにした研究。パターンそのものを対象としていないため、Noと判定。	? CIAA (confidentiality, integrity, availability and a	no No. covered misuse cases		N/A	case study (proteimple yes desig		veloper e	a clipse-based Papyrus UML د	mbient intelligence I/A
ty patterns Security engineerir Gandhi R.A., R 2012 2012 2nd IEEE International Workshop on Requirements Patterns, RePa 2012 - Proceedings Y curity impa Unlike functional in Okubo T., Kaiy 2011 Proceedings of the 2011 @th International Conference on Availability. Reliability and Security. ARES 2011 y	propsed a security impa security requirement parts	Datter anti CSRF pattern	no yes	va ar	alidation using visualization	N/A	N/A no	formal modelimg misuse case, threat tree, mal a	N/A N/A	not yet desig case study(iTrustrequin	n N/A rement analysi software dev		Nlloy Nlloy	I/A I/A
f application Cloud services can Mathew G. 2012 2012 IEEE Conference on Open Systems, ICOS 2012 Y curity requir In previous work w Braz F.A., Fern 2008 Proceedings - International Workshop on Database and Expert Systems Applications, DEXA Y security pa Incorporating secul Solinas M., Feri 2009 Proceedings - International Workshop on Database and Expert Systems Applications, DEXA Y	Security patterns in clou Security patterns, misu Security analysis with m Security patterns, three Methodology using secu Security patterns	use p front-gate pattern, unified functi improperly config eat, as examples, RBAC, event loggir illegal money tra Authorization pattern N/A	ransferring Yes no		onfidentiality onfidentiality,integrity, availability, and accountability onfidentiality,integrity, availability, and accountability	N/A Some example threats are shown. N/A	N/A N/A N/A	UML UML	N/A methodology N/A		rements, Anal Security spe	ecialist, software designer N ecialist, software engineer ecialist, software engineer N	I/A I I/A I	I/A I/A I/A
a security paPatterns are usefu Yu Y., Kaiya H. 2008 Proceedings of the ACM Conference on Computer and Communications Security Y security in st Providing context- Khoury P.E., Bu 2009 International Journal of Smart Home 3 2 Y model drive Security requireme Katt B., Gande 2013 Lecture Notes in Computer Science (Including subseries Lecture Notes in Addicid Intelligence and Lecture Notes in Boinformatice) Y y	security requirements pSecurity patternsSmart home securitySecurity patternsSecurity MDD usingsecurity pattern	RBAC (as an example) N/A(only attack Authrization N/A non-repudiation N/A	ck scinario) no no no		Confidentiality Confidentiality Confidentiality, inon-repudation	N/A? social level vulnerability based on na atta N/A N/A	N/A N/A N/A	i* UML UML	i* base method N/A MDD		rement designer, and n and Impleme Developer n designer	alyst i* N y	* + manual 1/A 2/ I/A 2/ res 1/	I/A (ACML(Web service) Veb services
e assets secu One of the highest Supaporn K., P 2007 Proceedings - Asia-Pacific Software Engineering Conference, APSEC y e security pat To secure their inf Moral-García \$ 2014 Computer Standards and Interfaces 36 4 Y e security pat In recent years, m Moral-García S., Mora Security and Communication Networks 7 11 Y	enterprise security patt security apttern enterprise security patt security pattern enterprise security patt security pattern	Security pattern全般 N/A secure SaaS N/A SECURE EXTERNAL N/A	no yes no	C.	Condentiality, integrity, availability Confidentiality Confidentiality, integrity and availability	N/A Yes	N/A N/A N/A	N/A digagram digagram	N/A MDD MDD		rement analyst opment designer, ana opment designer, ana		I/A I I/A (I/A F	I/A Cloud
g the implicat Security patterns a Faily S., Parkin 2014 Cyberpatterns: Unifying Design Patterns with Security and Attack Patterns y y nof the Patte Context: Security i Abramov J., St 2012 Information and Software Technology 54 9 y	security pattern and att Security patterns, attac pattern based devepopn security pattern	ack pa <mark>test footprinting(<- attack patte</mark> Test Footprinting RBAC N/A	ing attack pattern yes no	C.	Confidentiality, Accountability Confidentiality	yes	N/A N/A N/A	diagra, KAOS UML+OCL	CAIRIS original method, Application-based	N/A Example (we Desig y (case study, co Desig	n designer n DB Designer	C	CAIRIS tool	I/A DBMS
n of web appl The application of Dalai A.K., Jen 2011 ACM International Conference Proceeding Series Yく教育って入 of the MTA aAs the Internet ma Hafiz M., Johns 2008 Software – Practice and Experience 38 15 y?(MTA中のs information s Joining up service Van Veenstra 2011 Leture Notes in Computer Science Victualing subsets Leture Notes in Addict Intelligence and Leture No	りま <mark>clastification of security</mark> Security patterns<+ vu ecul <mark>patterns in MTA<patter< mark=""> security pattern case study of security psecurity pattern</patter<></mark>	Compartmentalization, Distribute N/A E-RBAC,Single Access Point/Cr N/A	no no no	Co	Confidentiality, Integrity, availability Confidentiality <availabilityのみ検索でひっかかる> Confidentiality</availabilityのみ検索でひっかかる>	yes N/A N/A	N/A N/A N/A	N/A N/A UML	n/A no N/A	N/A imple N/A desig	n, analysis<設計designer mentation <arc developer(de<br="">n, analysis designer</arc>	esignerでは…?) N	I/A I I/A M I/A	I/A I/A I/A
software arc One of the major a Savić D., Simić 2010 Informatica 21 2 γ g the use of Trusted platform m Gürgens S., Ru 2007 Proceedings - International Workshop on Database and Expert Systems Applications, DEXA Y g the use of Trusted platform m Muñoz A., Mañ 2011 Lecture Notes in Computer Science (including subseries Lecture Notes in Addicid Inteligence and Lecture Notes in Boinformatice) V ⁴⁴	3層アーキテクチャにsed security pattern security patterns in Tru security Patterns, depe Same as that of 175	Single Access Point pattern, RB N/A endat N/A N/A	no no	Co	Confidentiality I/A	N/A no	N/A N/A	UML Original modeling notation like	N/A development using TPM	y (case study) desig no devel	n designer opment and at PC, LAPTOF	P, PDA, cellphone n	I/A	ava PM
Security bugs if We propose a spec Near J.P., Jack 2016 Proceedings - International Conference on Software Engineering m A for informati Establishing an info Ruamjinda P., F 2013 Proceedings of the IEEE International Conference on Software Engineering and Service Sciences, IOSESS Y urity patterns Security Patterns Horvath V., Dö 2008 Proceedings - International Conference on Software Engineering sessions Y	security bugs in soruce Security Patterns Security document retri security Patterns Security Patterns Mode Security Patterns	access pattern(ownership, public as pattern violat No(cite patterns of book "integraN/A Information Secrecy, Secure CoN/A	ations no Yes	N/ N/	//A //A	as pattern violations no	N/A N/A N/A	formal modeling for alloy structured	N/A N/A model driven dev.	Yes ?	check developer security polic n—implimenta developer		PACE(Security Pattern Che F Yes	Ruby ? nulti-agent system
pattern lang Researchers and p Hafiz M., Adam 2012 ^{DRUMY 2012 - Proceedings of the XOM International Depending on Nixe laws, Nixe Parageness of Reference on Pergenning and Software Y}	Pattern language for security patterns implementation of security patterns using spring	ACCOUNT LOCKOUT, ANONYM no	Yes no	N/	I/A => eavesdrop I/A I/A	N/A no	N/A no	Hierarchical Scheme UML, XML	N/A spring security	no N/A	Pattern User n, implimentati developer	r n Y	o ľ	I/A pring framework
and impleme Today's software s Patu V., Yamar 2013 Proceedings - 10th IEEE International Conference on Computational Science and Engineering. CSE 2013 V tion of patt SQL Injection is a Patel N., Shekc 2015 Procedia Computer Science 45 C m tion suppor Security patterns a Yoshizawa M., 2016 Information (Switzerland) 7 2 Y	security assuarance, clasecurity patterns detect SQL-Injection prattack pattern developmemt and test usecurity patterns	Password Design and Use patter no	yes (type) [tautology,logically incolno no	N/	onfidentiality, integrity, availability, authentication, authorization, accou I/A I/A	ryes yes no	no no no	D-Case diagram N/A UML, OCL	no using sql model-based testing, test-driven de	ev Yes requr	ement, design developer esign sql designer eiment, design developer	n Y Y	0 r Yes r Yes r	0 0 0
ecurity des Following the succe Edge C., Mitrop 2012 Proceedings of the Annual Southeast Conference Y ne classifice There are a large r Washizaki H., F 2009 Proceedings - International Workshop on Database and Expert Systems Applications. DEXA Y Security pa The increasing aut Netter M., Perr 2009 Proceedings - International Workshop on Database and Expert Systems Applications, DEXA Y	implementation of secur security patterns classificaiton of security security patterns electronic invoice, secur security pattern	authentication enforcer, authorizno authorization, RBAC, session-bano Authorative Source Of Data, Clieno	no Yes Yes	N/ N/ cc	I/A I/A onfidentiality, integrity, availability, authenticity, non-repudiation, accou	no no urno	modularity no no	UML UML security pattern classification	aspect oriented no n/a	Yes example analy	n, implementat developer sis, design Pattern user rement developer	n r n n	0 r 0 r 0 r	0 0 0
ecurity par Security patterns Li T., Horkoff J 2014 Lecture Notes in Business Information Processing 197 Y ne level of It is possible to rea Fernandez E.B. 2010 ARES 2010 - 5th International Conference on Availability. Reliability. and Security Y sing securit Security patterns Dong J., Peng 2007 Proceedings - International Conference on Quality Software Y	security patterns, integr security patterns security measurement, security pattern	68 security patterns, ex. Intrusio application integration attacks to an OS file, a DBMS remisuse patten, the second seco			ntegrity, confidentiallity I/A	no	no Yes	Contextual Goal Modeling Lang UML	n/a no	no => example requir no desig	rement developer	Y n	es, the tool "MUSER" is user o	0 0
n security The spread of oper Shiroma Y., Wa 2010 ARES 2010 - 5th International Conference on Availability, Reliability, and Security Y n security Model-Driven Secu Nguyen P.H., K 2014 ACM International Conference Proceeding Series Y	model driven developme security pattern security design patterns security pattern	Authenticator Pattern, Authoriza no no no	no no	cc n/	onfidentiality /a	no no	no no	UML UML	n/a n/a	yes desig no desig	n, <mark>implementat</mark> developer n developer	<u>л</u> п	r <mark>TL r</mark>	o o
d applying Security patterns Li T., Mylopoul 2014 CEUR Workshop Proceedings 1157 Y d performa The problem of effe Dai L., Cooper 2006 Science of Computer Programming 61 1 Y sign patter Design Patterns cd Asnar Y., Paja 2011 beijing Daxue Xuebeo (Ziran Kexue Ban)/Acta Scientiarum Naturalium Universitatis Pekinensis Y	security pattern, Contexsecurity pattern <u>A security attribute</u> , security patterns Formalize design pattern EU SERENITY Security	Authenticator no data origin authentication (examino y and SP1. Proof of Fulfillment for	no no no		/a ntegrity, confidentiality (< authentication pattern) on-repudiation	no no no	no no no	UML, FDAF (Formal Design An Tropos SI*, OWL-DL, SWRL, S		yes desig yes desig		nalysts A	ro r AspectJ, ArgoUML, FDAF toor Protege r	0 0 0
suse patter Security patterns Fernandez E.B. 2009 Proceedings - International Conference on Availability. Reliability and Security. ARES 2009 Y cure syster In this paper we de Mouratidis H., V 2006 International Journal of Software Engineering and Knowledge Engineering 3 Y d perform The problem of efficience K., Dai 2005 Proceedings of the 2005 International Conference on Software Engineering Research and Practice, SERP'05 2 Y	Introduction of misuse pattack patterns, securit Uses the Tropos methorsecurity patterns same as 224	ity pano Yes. misuse patt Agency Guard, Agent Authenticano	tterns(DoS, Theft of Service) Yes yes	av int	vailability Itegrity, availability, privacy	yes no	no no	Misuse Pattern Templates Tropos	no agent-oriented software engineering	no Durin g yes requir	g design and a designers, ev rements analys developers	valuators n n	o r o r	0 0
ecurity patt While many theore Weiss M. 2006 Integrating Security and Software Engineering: Advances and Future Visions Y n requireme Since the emergen Halkidis S.T., C 2009 Lecture Notes in Computer Science (Including subseries Lecture Notes in Addicid Intelligence and Lecture Notes in Bioinformatice) 1971 Ltc PART 2 Y ach Targeti In this paper, we a Mourad A., Otr 2011 Information Security Journal 20 42465 Y	Examine a case study tesecurity patterns Propose a new approact security patterns	Secure Proxy, Intercepting Valid no (but several r User Authentication, Service Ac no	I misuse ″cases″ are shown) no	cc	onfidentiality, integrity o	yes no	no	no natural language. SHL (with no	no AOP (Aspect-Oriented Programmin	no desig glexperiment desig	n designers n, development security expo	erts. developers A	o r AspectJ r	0 0
secure SC/Critical infrastructi Fernandez E.B.2009ACM International Conference Proceeding SeriesYcription of s Security patterns (Bunke M.2014ACM International Conference Proceeding SeriesYsecurity pat Every empire, after Hafiz M., Adam2007IEEE Software244	Use security patterns a security patterns Analyze description sec security patterns Propose a proper patter security patterns	Authorization, RBAC, Multilevel , no no no Authenticator, Authorization, Ch spoofing, tamper	no no ering information disclosure dves	nc nc	o o onfidentiality, integrity, availability	yes no spoofing, tampering, information disclosure, den	no no al of service, elevation of privil	UML (usually class diagrams an natural language	no no	no desig no N/A	n designers pattern user	n	o r o r	0 0
alifications a Current system se Dove R. 2010 Proceedings - International Carnahan Conference on Security Technology Y sed security The increasing rate Rrenja A., Matu 2015 Lecture Notes in Business Information Processing 235 Y	Reports on a cross-disd security patterns Propose an application security risks-oriented	Horizontal Meme Transfer, Bow no	no no		o o onfidentiality, integrity, availability	no yes	no no	natural language, SysML <natur Secure Tropos, RAST (Securit</natur 	no agent-oriented information and ente		N/A <system security requir system analy</system 	ns engineers, security engineer <mark>n</mark>	o r o r	0 0 0
nd pattern d'Access control is a Fernandez E.B. 2008 Leture Notes in Computer Science Oncluding auderies Lecture Notes in Addid Interference and Lecture Notes in Bohomatical Interference and Inter	Use pattern diagrams, wsecurity patterns クラウドベースのエコシンSecurity Pattern セキュリティパターンにすsecurity patterns	Access Control Patterns:Basic Ano Access control => cloud access N/A securiy pattern テーブルにて分き	yes no => partial う類 no	ally yes cc	o onfidentiality <mark>and integrity</mark> onfidentiality, availability, integrity	no yes	N/A N/A	UML N/A	MDD (Model-Driven Development) N/A N/A	no desig ? No Desig no devel	n designers n Service prov opment and at programmer	N	I/A N	o I/A => cloud-based ecosystem I/A
licy patterr The paper attempt Thomsen D. ### CODASPY'11 - Proceedings of the 1st ACM Conferenc y evaluation The importance of Hazeyama A., \$ ### Studies in Computational Intelligence ## Y and unifying This is a long abstr Fernandez E.B. ### Proceedings of IEEE International Symposium d2016-May	セキュリティポリシーを強NIST RBAC ソフトウェアセキュリティN/A Cyberphysical systemのSecurity pattern	access control N/A N/A N/A Thread model threat	no no no	N/ N/ N/	/A I/A lot specified	N/A None	N/A N/A N/A	N/A N/A N/A	N/A N/A N/A	no desig no N/A no N/A	N/A N/A N/A		1/A 1 1/A 1 1/A 1/A	I/A I/A I/A
terns for or A proper security a Romanosky S., ### PLoP 2006 - PLoP Pattern Languages of Programs 200 y iented secu Security is one ess Alebrahim A., H ### ACM International Conference Proceeding Seri 09-13-Jy e evaluation The importance of Halkidis S.T., C ### Lecture Notes in Computer Science (including 4277 LN y	ウェブサービスにおける privacy pattern 課題解決型のモデル作 Security pattern Using Fuzzy modelto security pattern	registration, input personal inforr N/A N/A problem pattern Intercepting Validator, Guard of attack pattern (S	no no (STRIDE) no		onfidentiality, availability, integrity lot specified onfidentiality, availability, integrity lot specified Confidentiality, Integrity, NonRepudiation onfidentiality, availability, integrity, authenticity, non-repudiation, accou	N/A no no	N/A N/A Fuzzy methodology	N/A UML N/A	N/A	no N/A no Desig STRIDE ,examina N/A	N/A n N/A N/A		I/A I/A I/A	I/A I/A I/A
pattern-balmost every completer M., Brei ### Lecture Notes in Computer Science (including 3/13 LNy pattern-balmost every completter M., Ferr ### ARES 2010 - 5th International Conference on Availability rmal model Formal modelling te Heyman T., Sci ### Proceedings of the 2012 Joint Working Conference on Sy	ウェフサービスにおける security pattern 企業における電子請求 security pattern modeling and verifying o security pattern	Web services Unclear no e-invoice system <secure< td=""> Comm misuse Audit Interceptor, Authentication no</secure<>	no no		lot specified Confidentiality, Integrity, NonRepudiation onfidentiality, availability, integrity, authenticity, non-repudiation, accou ccountability	no ur no?	N/A N/A N/A	UML, fomal modeling, Web Ser UML formal modeling	N/A Model driven architecture N/A N/A	no Analy	sis Enterprise IS sis<+designer> service prov	Der N S Division N ider? <designer> N</designer>	I/A F I/A N	I/A, Web Service I/A I/A
chitectura Architectural tacti Fernandez E.B. ### Lecture Notes in Computer Science (including ## Y 2: A securit Security issues are Bouaziz R., Kar ### 2016 International Conference on Information Technolog Y	セキュリティ施策を分類 security pattern セキュリティパターンか security pattern		letect, stop or mitigate, react, no no	N/	I/A I/A	no	N/A no	N/A UML	N/A N/A		n N/A n, coding programmer		I/A IIA	I/A I/A
tool to gait This paper present Bergmann G., N 2011 Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bohnomatica) 1994 LACS Y ponent bas Security patterns a Bouaziz R., Col 2012 Intervention and context and	MDE process to develop security patterns	Authorization pattern, RBAC N/A	N/A	In	ntegrity, and confidentiality	N/A	N/A	UML	MDD + CBSE	N/A => case stud		N	I/A I	
alysis patte One of the latest w Fernandez E.B. 2007 Proceedings of the Annual Southeast Conference 2007 y tributed sy Driven by expandin Uzunov A.V., F 2012 Computers and Security 31 5	A way to use security p security patterns Survey of the state-of-security pattern	Anaysis Pattern, Authentication No Credential pattern, Credential De	No	In	ategrity	N/A N/A	N/A Y?	UML Not specified	Not specified Not specified	N/A Doma No Not s	in analysis, Re Developers pecified security patt	tern community		I/A lot specified
b applicati Some of the most Sohn JW., Ry 2015 Proceedings - 10th International Conference on Availability. Reliability and Security. ARES 2015 y d dependab Ambient Intelligenc Armenteros A., 2009 ICEIS 2009 - 11th International Conference on Enterprise Information Systems. Proceedings ISAS Y	This paper examines the security patterns	intercepting validator input validation-	n-related attacks such as N/A	av	valability	improper input validation (such as SQL injectio		text	N/A		n, implementat developer	N	I/AF	PHP
ign pattern Security design pat Laverdière M 2007 Canadian Conference on Electrical and Computer Engineering y deling for s Security is one of tMemon M., Mer 2014 Software and Systems Modeling 13 2 y tern evalu Current Security PDuncan I., Muiji 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering, SOSE 2014 y	To evaluate the current security patterns Applying SECTET frame security patterns Proposal of a dynamic t security patterns	Single Access Point, Protected \$N/A RBAC, Context-aware Access c None N/A	Yes yes		ntegrity Confidentiality, integrity and availability Confidentiality	N/A no N/A	Yes(This study measured qalit no N/A	ty UML UML Not specified	N/A Requirement analysis, design Proposal of a dynamic testbed syst	Yes N/A yes(case study) desig		munity, developer N y	I/A I es (UML based tools for cod V I/A	I/A Veb Services I/A
tern Lattic Except for some w Sarmah A., Haz 2008 Proceedings - International Workshop on Database and Expert Systems Applications, DEXA y tern mining Organizations have Moral-García \$ 2011 Proceedings of the 8th International Workshop on Security in Information Systems, WOSS 2011, In Conjunction with ICEIS 2011 y?	Proposal of a formal mo security patterns Survey of "security pat security patterns	AUTHENTICATOR (LOGGER), AN/A N/A N/A N/A	Yes N/A	int	ntegrity, confidentiality ntegrity <confidentiality, avairabilityが並列に扱われているよう<="" integrity,="" td=""><td>N/A 7N/A</td><td>N/A N/A</td><td>Text, formula N/A</td><td>Not specified SPL N/A</td><td>N/A N/A Yes (Systematic archit</td><td>ecture design Pattern com</td><td>munity, (developer?) N munity, developer N</td><td>I/A 1/A</td><td>I/A I/A</td></confidentiality,>	N/A 7N/A	N/A N/A	Text, formula N/A	Not specified SPL N/A	N/A N/A Yes (Systematic archit	ecture design Pattern com	munity, (developer?) N munity, developer N	I/A 1/A	I/A I/A
tterns and Patterns encapsula Fernandez E.B. 2009 Advances in Information Security 45 y tterns and Purpose - The pur Rosado D.G., G 2006 Internet Research 16 5 Y	Building a catalog of security patterns Linking security requirer security pattern Secure se 207	くスペルミス>For applications: N/A Audit interceptor, Secure logger, denial-of-service	ice Yes	all	onfidentiality, integrity, and availability Il	N/A not specified	N/A no	• •	Not specified <methodologyの項目は Not specified</methodologyの項目は 	No Doma yes(case study) desig	n developer h developer(de	esigner?) n	one r	0
tterns and Analysis and design Fernandez E.B. 2007 Leture Notes in Computer Science (including subseries Lecture Notes in Articial Intelligence and Lecture Notes in Boinformatice) 1*** Loc Y tterns and Analysis and design Fernandez E.B. 2007 Proceedings of the Annual Southeast Conference 2007 Y** tterns mee Agent Oriented So Mouratidis H., V 2005 Leture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Boinformatice) 1** Y	Same as 307 Same as 306													
atterns mod Pattern-based dev Hamid B., Gürg 2016 Innovations in Systems and Software Engineering 12 2 y? atterns: A m As the Internet, int Yoshioka N., Ho 2004 Proceedings - IEEE International Enterprise Distributed Object Computing Workshop, EDOC Y atterns: Com Addressing the cha Nhlabatsi A., B 2010 Software Engineering for Secure Systems: Industrial and Research Perspectives Y	Security patterns mode Security pattern	N/A => Secure Communication IN/A	N/A	N/	I/A => data authenticity	N/A	N/A	Formula	N/A => MDE (Model Driven Enginee	r Discussion => exaAlgor	thm => design Security sys	tem developer N	I/A [I/A
lution frame The design of an a Uzunov A.V., F 2015 Computers and Security 55 Yaccy, and Security, privacy a Busnel P., Giro 2010 Leture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatica) 113 LIX Y	Selection of accurity actions													
Image: Secur Over the last few y Hasheminejad 2009 Proceedings - 2009 International Conference on Computational Intelligence and Software Engineering. CISE 2009 Y Image: Security patt Over the last few y Weiss M., Mour 2008 Proceedings of the 16th IEEE International Requirements Engineering Conference, RE'08 Y*	Selection of security patterns Same as 322 Designing by using security and dependabi	ility (N/A N/A	N/A	N	I/A	N/A	N/A	N/A	model-driven	N/A Desig	n, implementat Developer	S	ERENITY Run-time Framew	I/A
Aware Syst Traditionally, secur Serrano D., Ma 2009 Advances in Information Security 45 y							N/A		model-driven	Casa study Imple	mention Requirement	t analyst S	ERENITY Run-time Framew	
Y Aware Syst Traditionally, secur Serrano D., Ma 2009 Advances in Information Security 45 y Y pattern-bas Most of current me Sanchez-Cid F 2008 Proceedings - International Workshop on Database and Expert Systems Applications, DEXA Y engineering t The realization of t Sánchez-Cid F 2006 Secure building Antipapplication inclusion of the Solinas M., Ant 2013 IEEE Latin America Transactions 11 1 Y sing business In the light of recent Tryfonas T., Ke 2008 Computer Standards and Interfaces 30 4 Y	present a conceptual mescurity and dependabi	audit pattern (account, password config., session,	N/A	N	I/A Confidentiality, integrity, availability (especially integrity)								udit automation	

No. No. No. No. No.
Bit
10 10 10 10 10 10
32 10 1000000000000000000000000000000000000
32.1 Dir staturs of odder (1) Dir staturs of odder SchWart status (1) Dir staturs of odder SchWart status (1) Dir sta
340 The sace blackback This page range of Usge 2 Arice 3 0.00% 0.0% 0.0% occurs with instance descert N.A UMA N.A UMA N.A UMA N.A 0.0% 0.0% occurs with instance descert N.A 0.0%
341 Dis accord blackback Dis Accord Statution N/A UMA Solvant designed N/A N/A UMA Solvant designed N/A UMA Solvant designed N/A UMA Solvant designed N/A UMA Solvant designed N/A Solvant designed Solvant designed N/A S
347 Instruction VA Under SchDA system VA Under SchDA system VA Under SchDA system 348 Instruction VA Under SchDA system VA Under SchDA system VA Under SchDA system 348 Instruction VA Under SchDA system VA VA <th< td=""></th<>
31b Security Tom Pape The Geddax K from Hyman, Tr, Ya 201 Index manufacture approximation of the Company and the Company approximation of the Company approximatino the Company appro
32 32 matrix 4 0 Data Saurty, Oxybacy Saurty saterni, seley/ M/A V/A Unclear N/A N/A Unclear Criticate Criticate Criticate
Add Threat and counterme Recently load complexity is a destinant P, You is a counting sequence relation C, Wat is a contract relation
Sp1 Treat assessment in Cloud computing HAmand P. Roy 2016 Sp1 Treat assessment in Cloud computing HAmand P. Roy 2016 Sp1 Treat assessment in Cloud computing HAmand P. Roy 2016 Sp1 Treat assessment in Cloud computing HAmand P. Roy 2016 Sp1 Treat assessment in Cloud computing HAmand P. Roy 2016 N/A N/A N/A Comport HAmand P. Roy 2016 N/A N/A<
38] Towards a basefine integSacurity has beeofBoursity. R, Ha 2011 window
300 Towards a conceptual We introduce secut Blackwell C. 201 dowards we shound Result with y throduce we shound Result with y throduce we shound Result with y throduce secut Blackwell C. 201 dowards we shound Result with y throduce secut Blackwell C. 201 dowards we shound Result with y throduce secut Blackwell C. 101 dowards we shound Result with y throduce secut Blackwell C. N/A Unclear N/A
300 Towards a conceptual We introduce secut Blackwell C. 201 dowards we shound Result with y throduce we shound Result with y throduce we shound Result with y throduce secut Blackwell C. 201 dowards we shound Result with y throduce secut Blackwell C. 201 dowards we shound Result with y throduce secut Blackwell C. 101 dowards we shound Result with y throduce secut Blackwell C. N/A Unclear N/A
300 Towards a conceptual We introduce secut Blackwell C. 201 dowards we thowards framework f Scurity pattern N/A N/A N/A N/A Unclear N/A
362 Towards a generic provincer dependencies Funds Unclear
363 Towards a MOF/QVT_The SECTET_fram[Hafner M, Ala 2006 words a metamode V MOF/QVT_Domain Arc[Security pattern RBA N/A V MOR_OUP_QVT_Domain Arc[Security pattern RBA V/A Voide Monume Voide Monume Voide Monume Voide Monume Monu Monume Monu<
364 Towards a pattern-bas Methodologies of Ortiz R., Moral 201 Methodologies of Ortiz R., Moral Metho
364 Towards a pattern-bas Methodologies of Ortiz R., Moral 201 Methodologies of Ortiz R., Moral
366 Towards continuous in Requirement engin Kozlovs D., Cja 2016 CEUR Workshop Proceedings 1564 V SREBP, information sec Security and availability N/A Unclear 367 Towards developing se Security as one es Alebrahim A., H 2014 Cum Problem frame, UML N/A
366 Towards continuous in Requirement engin Kozlovs D., Cja 2016 CEUR Workshop Proceedings 1564 V SREBP, information sec Security and availability N/A Unclear 367 Towards developing se Security as one es Alebrahim A., H 2014 Cum Problem frame, UML N/A
367 Towards developing sel Security as one es Alebrahim A., H 2014 Confidentiality and integrity 369 Towards developing sel Security as one es Alebrahim A., H 2014 Confidentiality and integrity N/A Unclear 369 Towards secure Inter- The research com Example N/A Unclear
371 Two patterns for web setterns are widely Fernandez F.B. 2004 Proceedings of the International Conference on Internet Computing, IC04 2 Vsweb service set Distributed systems and Security pattern and the system and
374 Understanding security Increasingly, securi Blyth A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 A. 2014 Proceedings - IEEE 8th International Symposium on Service Oriented System Engineering. Sostem Engineering System
375 Usability and security Some authors argu Ferreira A., Ru 2009 Proceedings of the 2nd International Computer Human Interactions, ACHI 2009 Proceedings of the 2nd International Computer Human Interactions, ACHI 2009 N/A N/A N/A 375 Usability and security Some authors argu Ferreira A., Ru 2009 Proceedings of the 2nd International Computer Human Interactions, ACHI 2009 N/A <
$\frac{377}{\text{Using patterns to unde Web services are b Fernandez E.B. 2006}} $
378 Using proven Reference The most effective Heckman M.R., 2016 Information (Switzerland) 7 2 Y Security evaluation of r Reference Monitor pattern TCB subset security pattern None
379 Using security patterns We extend previous Aziz B., Blackw 2014 Proceedings - EEE 8th International Symposium on Service Oriented System Engineering. SOSE 2014 Yes Grid Operating System Virtual Organization Cloud Virtual Organization Grid Operating System
380 Using security patterns Measuring security Heyman T., Sc 2008 ARES 2008 - 3rd International Conference on Availability, Proceedings Authentication Enforcer, Deals with hostility of the environment Yes Atterns Authentication Enforcer, Deals with hostility of the environment Yes Atterns Atte
381 Using security patterns This chapter descr Fernandez E.B. 2010 Software Engineering for Secure Systems: Industrial and Research Perspectives Yes 381 Using security patterns Threats to a particular resource Dimension Graph UML Metamodeling Misuse patterns Misuse patterns SQL based systems
382 Using security patterns Secure software de Wagner R., Fon 2011 SKE 2011 - Proceedings of the 23rd International Conference on Software Engineering and Knowledge Engineer
383 Using UML and securit Our introductory of Fernandez E.B. 2005 ASEE Annual Conference and Exposition, Conference Proceedings One C++く例示であって固定 Confidentiality, integrity, attacks to availability, non-repudiation attern Authorization pattern and post-graduate studen UML and pattern and post-graduate studen UML and pattern and post-graduate studen and post-graduate s
385 Validating security des Software develope Kobashi T., Yos 2013 Proceedings - 2013 International Conference on Availability. Reliability and Security passes Security design patterns Security design patterns None
386 Verifying implementational flhough security grant and security and security and security and security design patterns None Yes None None None None None None None None None None None
387 Vulnerability-based se A Security Pattern Anand P., Ryoq 2014 Proceedings - 9th International Conference on Availability, Reliability, Reliabil
38/ Vulnerability-based se / Security Pattern Anad P., Ryo 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal of a concerne on Availability addicuruty, RES 2014 Proceeding = 9b. Internal on Availability addicuruty, RES 2014 Proceeding = 9b. Internal on Availa concerne on Availa concerne on Availability

ed todifferent architectures)