

Certified Professional for Requirements Engineering

Requirements Engineering Glossary Deutsche Übersetzung

> Original English version by Martin Glinz



Department of Informatics

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Requirements Engineering Research Group



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About the Author

Martin Glinz is a full professor emeritus at the University of Zurich (UZH). From 1993 until 2017, he was a professor of Informatics at UZH's Department of Informatics. From 2007–2016, he was the department head. His interests include requirements and software engineering — in particular modeling, validation, quality, and evolution.

He received a diploma degree in Mathematics in 1977 and a Dr. rer. nat. in Computer Science in 1983, both from RWTH Aachen University. Before joining the University of Zurich, he worked in industry for ten years, where he was active in software engineering research, development, training, and consulting. He retired in summer 2017, but he is still active in Requirements Engineering research, education, and service.

Martin Glinz has over 35 years of experience in Requirements Engineering, both academic and industrial. He is on editorial boards and program committees of major journals and conferences in software and requirements engineering and served as general chair, program chair, steering committee chair and organizer for the top international conferences in his field. He is a full member of the International Requirements Engineering Board (IREB), where he chairs the IREB Council. He received the ACM SIGSOFT Distinguished Service Award and the IEEE International Requirements Engineering Conference Lifetime Service Award in 2016 and the IEEE International Requirements Engineering Conference Most Influential Paper Award in 2017.



Preface

In the preface to the first edition of this glossary, published in May 2011, I wrote:

When looking for definitions of terms in Requirements Engineering, one can find definitions for almost any term by searching the web. However, such searching requires effort and the quality of the results is unpredictable. Frequently, definitions found in different sources are inconsistent with each other. Existing glossaries in Requirements Engineering textbooks mostly focus on the topics covered in these books. Systematic translations of terminology into major languages other than English are missing completely.

This glossary aims at collecting the existing knowledge on Requirements Engineering terminology and defining the core terminology carefully and consistently. In cases where more than one definition is in use or where terms are defined differently when viewed from different perspectives, multiple definitions or perspectives are included. For terms having both a general meaning and a specific meaning in a Requirements Engineering context, both meanings are defined. Important terms are annotated with hints and additional information.

This glossary has closed the gap identified above. The principle of not just compiling existing definitions but defining the core Requirements Engineering terminology carefully and consistently, has also stood the test of time. Nevertheless, after almost ten years since its initial publication, it was time for a major revision.

A good glossary should be a stable work product: users need to rely on a common terminology — which is not possible when that terminology is constantly changing. On the other hand, it would be foolish to believe that terminology does not evolve over time. In particular, the major revision of the IREB CPRE Foundation Level syllabus required adaptations and extensions of the terminology. Doing a major revision was also an occasion to include important terms from the IREB CPRE Advanced Level syllabi (which did not yet exist when the glossary was initially published). Finally, IREB and ISTQB, the International Software Testing Qualification Board, had agreed in 2019 to harmonize the quality and testing terminology in their respective glossaries.

From the 128 terms defined in the first edition of the glossary, 42 (i.e., about one third) remained unchanged. 67 definitions underwent minor or merely syntactic changes. We rewrote 17 definitions, deleted two ones, and added 85 new definitions. Major additions concern terminology about agile, modeling, prototyping, and product lines. We also added several basic terms such as activity, method, process, or technique.

Many major changes were due to the harmonization of terminology with ISTQB. However, we also modernized fundamental terms: for example, we simplified the definitions of requirement and Requirements Engineering and made major changes to the notes in the definition of system. The major revision of the glossary was also an occasion to mark explanatory notes clearly in all definitions, separating them from the main definition phrase.



The translations of the terminology into other languages, which were an integral part of the previous versions of this glossary, are now published as separate dictionaries of terminology. I gratefully acknowledge the work performed by all the translators.

Karol Frühauf owes my deepest thanks for carefully reviewing all my definition drafts and for fruitful discussions that led to major improvements of this glossary. I also thank Xavier Franch and Stan Bühne for many helpful comments. Most of all, I thank my wife Angelika. Without her love, patience and understanding, most of my professional work, including this one, would not have been possible.

Martin Glinz

Zurich, October 2020

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The alignment of terminology between the glossaries of IREB and ISTQB was achieved in intense discussions between Karol Frühauf and me for IREB and Matthias Hamburg and Armin Born for ISTQB.

Xavier Franch was the IREB Council shepherd for this glossary. He carefully reviewed the final draft and provided feedback that improved the final document in many places.

Many people contributed to the translations of the terminology into languages other than English. Only the translation into German was done by myself.

Translation

The translation of the glossary terms into German from the English glossary was provided by Sibylle Becker, Ruth Rossi, and Stefan Sturm. The English terms and definitions were taken 1:1 from the English glossary with the kind permission of the author.

CPRE Online Glossary

The CPRE Glossary is available online in all supported languages: <u>https://www.ireb.org/en/cpre/glossary/</u>



Version History

Version	Date	Change
1.1.0	Mai 2011	Erste Version
2.0.0 Oktober 2020		Umfassende Überarbeitung und Erweiterung der in diesem Glossar behandelten Terminologie, einschließlich wichtiger Begriffe aus CPRE Advanced Leveln.
		Angleichung an die im CPRE Foundation Level 3.0 verwendete Terminologie. Implementierung der Angleichung zwischen den Glossaren des IREB und des ISTQB.
		Unabhängige Wörterbücher der RE-Terminologie für andere Sprachen als Englisch erstellt.
2.0.1	Oktober 2020	Kleinere sprachliche Korrekturen
2.0.1	Juli 2022	Schlüsselbegriffe nicht mit *, sondern fett
2.0.2	Januar 2024	Aktualisiert auf das neue Corporate Design
2.1.0	Januar 2024	Korrektur der vertauschten Definitionen für die Begriffe <i>Redundancy</i> und <i>Refactoring</i> sowie für Statechart and State- Transition diagram
2.1.1	April 2024	Fehlenden Schlüsselbegriff Arbeitsprodukt wieder eingefügt.



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1 Definitions of Terms

Terms formatted in **bold** are key terms that have to be known on the IREB CPRE Foundation Level.

Term (Deutsch)	Term (English)	Definition
Abnahme	Acceptance	The process of assessing whether a $ m 1$ system satisfies all its $ m 1$ requirements.
Abnahmekriterien	Acceptance criteria	In agile: Criteria that the implementation of a <u>^</u> user story must satisfy in order to be accepted by the <u>^</u> stakeholders. Note: Acceptance criteria may also be written for <u>^</u> backlog items other than user stories.
Abnahmetest	Acceptance test	A test that assesses whether a <u>↑</u> system satisfies its <u>↑</u> requirements. Note: Typically used by <u>↑</u> customers to determine whether or not to accept a system.
Abstimmen	Negotiation	\rightarrow Requirements negotiation
Abstimmung von Anforderungen	Requirements negotiation	A $\underline{\uparrow}$ process where $\underline{\uparrow}$ stakeholders are working toward reaching an agreement to resolve $\underline{\uparrow}$ requirements conflicts.
Adäquatheit (einer Anforderung)	Adequacy (of a requirement)	The degree to which a <u>r</u> equirement expresses the <u>stakeholders</u> true and agreed desires and needs (i.e., those they had actually in mind when stating the requirement).



Term (Deutsch)	Term (English)	Definition
Agilität, agil	Agile	 In general: Able to move quickly and easily. Quick, smart, and clever. In software development: A development approach which builds a product <u>1</u> incrementally by dividing work into <u>1</u> iterations of fixed duration (<u>1</u> timeboxes). Note: In the development of the feature of the
		Agile development is characterized by focusing on delivering a working product in each iteration, collaboration with \uparrow stakeholders with frequent feedback and adaptation of plans after each iteration based on feedback and changed \uparrow requirements.
Akteur	Actor	A person in some $\underline{\uparrow}$ role, a $\underline{\uparrow}$ system or a technical device in the context of a subject under consideration that interacts with that subject. Note:
		In RE, the subject under consideration typically is a $\underline{\uparrow}$ system. In testing, it may be a test $\underline{\uparrow}$ object.
Aktivität	Activity	An action or a set of actions that a person or group performs to accomplish a $\underline{\uparrow}$ task.
Aktivitätsdiagramm	Activity diagram	A diagram type in Υ UML which models the flow of actions in some part of a Υ system, including Υ data flows and areas of responsibility where necessary.
Aktivitätsmodell	Activity model	A $\underline{\uparrow}$ model of the flow of actions in some part of a $\underline{\uparrow}$ system.



Term (Deutsch)	Term (English)	Definition
Änderbarkeit	Changeability	<u>→</u> Modifiability
Änderbarkeit	Modifiability	The degree to which a $\underline{\uparrow}$ work product or $\underline{\uparrow}$ system can be modified without degrading its $\underline{\uparrow}$ quality.
Änderungsantrag	Change request	In RE: A well–argued request for changing one or more $\underline{\uparrow}$ baselined $\underline{\uparrow}$ requirements.
Änderungsausschuss, Change Control Board	Change control board	A committee of $\underline{\uparrow}$ customer and $\underline{\uparrow}$ supplier representatives that decides on $\underline{\uparrow}$ change requests.
		Abbreviation: CCB
		Note:
		The Change control board should not be confused with a <i>change advisory board</i> , which is a committee that evaluates change requests for a $\underline{\uparrow}$ system in operation and typically has no decision power.
Änderungsmanagement	Change management	A controlled way to effect or deny a requested change of a $\underline{\uparrow}$ work product.
Anforderung	Requirement	 A need perceived by a <u>stakeholder</u>. A capability or property that a <u>system shall have</u>. A documented representation of a need, capability or property.
Anforderungsanalyse	Requirements analysis	 Analysis of elicited <u>1</u>requirements in order to understand and document them. Synonym for <u>1</u>Requirements Engineering.

Term (Deutsch)	Term (English)	Definition
Anforderungsanalytiker, Anforderungsingenieur, Requirements Engineer	Requirements Engineer	A person who – in collaboration with $\underline{\uparrow}$ stakeholders – elicits, documents, validates, and manages $\underline{\uparrow}$ requirements. Note: In most cases, requirements engineer is a $\underline{\uparrow}$ role and not a job title.
Anforderungsart	Kind of requirement	 A classification of requirements according to their kind into <u>system</u> requirements (consisting of <u>functional</u> requirements, <u>quality</u> requirements and <u>constraints</u>), project requirements, and process requirements. Note: RE is primarily concerned with system requirements. Quality requirements and constraints are also called <u>non-functional</u> requirements.
Anforderungsbasislinie	Requirements baseline	A $\underline{\uparrow}$ baseline for a set of $\underline{\uparrow}$ requirements.
Anforderungsdokument	Requirements document	A document consisting of a <u>↑</u> requirements specification. Note: Requirements document is frequently used as a synonym for requirements specification.
Anforderungsermittlung	Requirements discovery	\rightarrow Requirements elicitation
Anforderungsermittlung	Requirements elicitation	The process of seeking, capturing and consolidating $\underline{\uparrow}$ requirements from available $\underline{\uparrow}$ sources, potentially including the re-construction or creation of requirements.

Term (Deutsch)	Term (English)	Definition
Anforderungsermittlung (von Anforderungen)	Elicitation (of requirements)	\rightarrow Requirements elicitation
Anforderungskonfiguration	Requirements configuration	\rightarrow Configuration
Anforderungskonflikt	Requirements conflict	 A situation where two or more <u>requirements</u> cannot be satisfied together. A situation where two or more <u>r</u>stakeholders disagree about certain <u>requirements</u>. Note: Requirements conflicts have to be solved by <u>requirements</u> negotiation.
Anforderungsmanagement	Requirements management	The process of managing existing $\underline{\uparrow}$ requirements and requirements- related $\underline{\uparrow}$ work products, including the storing, changing and tracing of requirements ($\underline{\uparrow}$ traceability).
Anforderungsmodell	Requirements model	A $\underline{\uparrow}$ model that has been created with the purpose of specifying $\underline{\uparrow}$ requirements.
Anforderungsquelle	Requirements source	The source from which a <u>requirement has been derived</u> . Note: Typical sources are <u>stakeholders</u> , documents, existing <u>systems</u> and observations.



Term (Deutsch)	Term (English)	Definition
Anforderungsschablone, Anforderungsvorlage	Requirements template	A template for specifying <u>requirements</u> . Note: In RE, several forms of templates are used. <u>Phrase templates</u> are used for specifying individual <u>requirements</u> or <u>ruser stories</u> . <u>Form templates</u> can be used to specify <u>ruse</u> cases or <u>r</u> quality requirements. <u>Document</u> <i>templates</i> provide a predefined structure for <u>requirements</u> documents.
Anforderungsspezifikation	Requirements specification	 A systematically represented collection of <u>↑</u>requirements, typically for a <u>↑</u>system, that satisfies given criteria. Note: In some situations we distinguish between a <u>↑</u>customer requirements specification (typically written by the <u>↑</u>customer) and a <u>↑</u>system requirements specification or <u>↑</u>software requirements specification (written by the supplier). Requirements specification may also denote the <u>↑</u>process of specifying (<u>↑</u>eliciting, documenting and <u>↑</u>validating) requirements.
Anforderungsverzweigung	Requirements branching	→ Branch
Anwendungsbereich	Application domain	Those parts of the real world that are relevant for determining the $\underline{\uparrow}$ context of a $\underline{\uparrow}$ system.
Arbeitsprodukt, Arbeitsergebnis	Work product	A recorded, intermediate or final result generated in a work <u>1</u> process. Synonym: <u>1</u> Artifact
Artefakt	Artifact	Synonym for <u>↑</u> work product.

Term (Deutsch)	Term (English)	Definition
Assoziation	Association	In UML: A relationship between two $\underline{\uparrow}$ classes in a $\underline{\uparrow}$ UML $\underline{\uparrow}$ class model.
Attribut	Attribute	A characteristic property of an $\underline{\uparrow}$ entity or an $\underline{\uparrow}$ object.
Aufgabe	Task	A coherent chunk of work to be done.
Auftragsbestand, Backlog	Backlog	\rightarrow Product backlog, \rightarrow sprint backlog
Basislinie, Baseline	Baseline	A stable, change–controlled <u>↑</u> configuration of <u>↑</u> work products. Note: Baselines serve for <u>↑</u> release planning and release definition as well as for project management purposes such as effort estimation.
Benutzbarkeit	Usability	The degree to which a <u>↑</u> system can be used by specified <u>↑</u> users to achieve specified <u>↑</u> goals in a specified context of use. Note: Usability particularly includes the capability of a <u>↑</u> system to be understood, learned, used, and liked by its intended <u>↑</u> users.
Benutzer	User	A person who uses the ∱functionality provided by a ∱system. Note: Users (also called end users) always are ∱stakeholders of a ∱system.

Term (Deutsch)	Term (English)	Definition
Benutzeranforderung	User requirement	A <u>↑</u> requirement expressing a <u>↑</u> user need. Note: User requirements are typically about what a system should do for certain users and how they can interact with the system. User requirements are a subset of <u>↑</u> stakeholder requirements.
Bug	Bug	<u>→</u> Defect
Datenfluss	Data flow	A sequence of data items flowing from a producer to a consumer.
Datenflussdiagramm	Data flow diagram	A diagrammatic representation of a $\underline{\uparrow}$ data flow model. Abbreviation: DFD
Datenflussmodell	Data flow model	A model that describes the ↑functionality of a ↑system by ↑activities, data stores and ↑data flows. Note: Incoming data flows trigger activities which then consume the received data, transform them, read/write persistent data held in data stores and then produce new data flows which may be intermediate results that trigger other activities or final results that leave the system.
Defekt	Defect	An imperfection or deficiency in a <u>*</u> work product that impairs its intended use. Synonyms: bug, fault

Term (Deutsch)	Term (English)	Definition
Defekt	Fault	<u>→</u> Defect
Design, Gestaltung	Design	 A plan or drawing produced to show how something will look, function or be structured before it is made. The activity of creating a design. A decorative pattern [This meaning does not apply in the software engineering <u>1</u> domain]. Note: In software product development, we distinguish between <i>creative design</i> which shapes the look and feel of the product, i.e., its perceivable form, function and quality, and <i>technical design</i> (also called software design) which determines the inner structure of the product, in particular the software architecture. The creative design of products is also called <i>product design</i>.
Dienst, Service	Service	The provision of some functionality to a human or a fsystem by a provider (a system, organization, group or individual) that delivers value to the receiver. Note: In systems engineering, software engineering and Requirements Engineering, services are typically provided by a fsystem for a fuser or another system.

Term (Deutsch)	Term (English)	Definition
Dokumentvorlage	Document template	A template providing a predefined skeleton structure for a document. (→ requirements template) Note: In RE, document templates can be used to structure <u>↑</u> requirements documents.
Domäne	Domain	A range of relevant things (for some given matter); for example, an <u>^</u> application domain.
Domänenanforderung	Domain requirement	A $\underline{\uparrow}$ domain property in the $\underline{\uparrow}$ context of a $\underline{\uparrow}$ system that is required to hold.
Domänenmodell	Domain model	 A ↑model describing phenomena in an ↑application domain. Note: In RE, domain models are created with the intention to understand the ↑application domain in which a planned ↑system will be situated. Static domain models specify (business) objects and their relationships in a ↑domain of interest. Domain story models specify visual stories about how actors interact with devices, artifacts, and other items in a ↑domain.
Drahtmodell (Im RE-Kontext sinngemäß oft besser: Papier- und-Bleistift Modell), Wireframe	Wireframe	 A low-fidelity <u>↑</u>prototype built with simple materials that primarily serves for discussing and validating requirements, design ideas or user interface concepts. Note: When prototyping digital systems, wireframes are typically built with paper. Such prototypes are also called <i>paper prototypes</i>.

Term (Deutsch)	Term (English)	Definition
Effektivität	Effectiveness	The degree to which an <u>_</u> item produces the intended results. Note: In RE, effectiveness frequently is the degree to which a <u>_</u> system enables its <u>_</u> users to achieve their <u>_</u> goals.
Effizienz	Efficiency	The degree to which resources are expended in relation to results achieved.
Eindeutigkeit (von Anforderungen)	Unambiguity (of requirements)	The degree to which a <u>requirement is expressed such that it cannot be</u> understood differently by different people.
Einhaltung, Erfüllung	Compliance	The adherence of a $\underline{\uparrow}$ work product to $\underline{\uparrow}$ standards, conventions, regulations, laws, or similar prescriptions.
Element (je nach Kontext auch: Objekt)	Item	Anything which is perceivable or conceivable. Synonyms: entity, object
Endbenutzer	End user	<u>→</u> User
Entität, Element, Etwas, Gegenstand	Entity	 In general: Anything which is perceivable or conceivable (→ item). In entity-relationship-modeling: an individual <u>↑</u>item which has an identity and does not depend on another item (→ object).
Entity-Relationship Diagramm	Entity-relationship diagram	A diagrammatic representation of an <u>↑</u> entity-relationship model. Abbreviation: ERD

Term (Deutsch)	Term (English)	Definition
Entity-Relationship Modell	Entity-relationship model	A <u>model</u> of data that are relevant for a <u>system</u> or of the data of an <u>application</u> domain, consisting of a set of entity types that are each characterized by <u>tattributes</u> and linked by relationships. Abbreviation: ER Model
Entscheidungstabelle	Decision table	A tabular representation of a complex decision, specifying which actions to perform for the possible combinations of condition values.
Erarbeitung (von Anforderungen)	Elaboration (of requirements)	An umbrella term for requirements $\underline{\uparrow}$ elicitation, $\underline{\uparrow}$ negotiation and $\underline{\uparrow}$ validation.
Erkundung, Spike	Spike	In agile development: A task aimed at gaining insight or gathering information, rather than at producing a $\underline{\uparrow}$ product $\underline{\uparrow}$ increment.
Erledigungsdiagramm, Burndown Chart	Burndown chart	A diagram plotting the work items that remain to accomplish on a time scale.
Erzählung, Epic	Epic	In agile development: An abstract description of a $\underline{\uparrow}$ stakeholder need which is larger than what can be implemented in a single $\underline{\uparrow}$ iteration.
Evolutionärer Prototyp	Evolutionary prototype	A pilot system forming the core of a $\underline{\uparrow}$ system to be developed.
Explorativer Prototyp	Exploratory prototype	A throwaway <u>1</u> prototype used to create shared understanding, clarify <u>1</u> requirements or validate requirements.

Term (Deutsch)	Term (English)	Definition
Feature	Feature	A distinguishing characteristic of a $$ system that provides value for $$ stakeholders. Note: A feature typically comprises several $$ requirements and is used for communicating with $$ stakeholders on a higher level of abstraction and for expressing variable or optional characteristics.
Fehler	Error	 A human action that produces an incorrect result. A discrepancy between an observed <u>↑</u>behavior or result and the specified behavior or result. Note: In practice, both meanings are used. Where needed, the meaning of error can be disambiguated by using human error and observed error or observed fault, respectively.
Fehlertoleranz	Fault tolerance	The capability of a <u>↑</u> system to operate as intended despite the presence of (hardware or software) <u>↑</u> faults. Note: Fault tolerance may be stated as a <u>↑</u> quality requirement.
Formularschablone, Formularvorlage	Form template	A template providing a form with predefined fields to be filled-in. (→ requirements template) Note: In RE, form templates can be used to specify <u>^</u> use cases or <u>^</u> quality requirements.

Term (Deutsch)	Term (English)	Definition
Funktionale Anforderung	Functional requirement	A $\underline{\uparrow}$ requirement concerning a result or $\underline{\uparrow}$ behavior that shall be provided by a function of a $\underline{\uparrow}$ system.
Funktionalität	Functionality	The capabilities of a $\underline{\uparrow}$ system as stated by its $\underline{\uparrow}$ functional requirements.
Gemeinsamkeiten (Plural)	Commonality	The parts of a $\underline{\uparrow}$ product line that are shared by all its members.
Geschäftsanforderung	Business requirement	A <u>1</u> requirement stating a business <u>1</u> goal, objective or need of an organization. Note:
		Business requirements typically state those business goals, objectives and needs that shall be achieved by employing a $\underline{\uparrow}$ system or a collection of systems.
Gesichtspunkt, Standpunkt	Viewpoint	A certain perspective on the <u>requirements</u> of a <u>system</u> . Note: Typical viewpoints are perspectives that a <u>stakeholder</u> or stakeholder group has (for example, an end user's perspective or an operator's perspective). However, there can also be topical viewpoints such as a security viewpoint.
Glossar	Glossary	A collection of definitions of terms that are relevant in some ∱domain. Note: Frequently, a glossary also contains cross-references, ∱synonyms, ∱homonyms, acronyms, and abbreviations.

Term (Deutsch)	Term (English)	Definition
Homonym	Homonym	A term looking identical to another term but having a different meaning. Note: For example, bill as a bank note and bill as a list (of materials) are homonyms.
Inkrement (in der Softwareentwicklung)	Increment (in software development)	An addition to a \uparrow system under development that extends, enhances or refactors (\uparrow refactoring) the existing parts of the system. Note: In \uparrow agile development, every \uparrow iteration produces an increment.
Inspektion	Inspection	A formal $\underline{\uparrow}$ review of a $\underline{\uparrow}$ work product by a group of experts according to given criteria, following a defined procedure.
Interesseneigner, Stakeholder	Stakeholder	A person or organization who influences a <u>↑</u> system's <u>↑</u> requirements or who is impacted by that system. Note: Influence can also be indirect. For example, some stakeholders may have to follow instructions issued by their managers or organizations.
Interesseneigneranforderung, Stakeholderanforderung	Stakeholder requirement	A <u>requirement expressing a </u> stakeholder desire or need. Note: Stakeholder requirements are typically written by stakeholders and express their desires and needs from their perspective.

Term (Deutsch)	Term (English)	Definition
Iteration	Iteration	 In general: The repetition of something, for example, a procedure, a process or a piece of program code. In agile development: A <u>1</u> timeboxed unit of work in which a development team implements an <u>1</u> increment to the <u>1</u> system under development. Note: In agile development, iteration and <u>1</u> sprint are frequently used as synonyms.
Kardinalität	Cardinality	 In modeling: The minimum and maximum number of 1 objects in a relationship. In mathematics: The number of elements in a set. Note: In 1 UML, the term multiplicity is used for cardinality.
Klasse	Class	A representation of a set of $\underline{\uparrow}$ objects of the same kind by describing the structure of the objects, the ways they can be manipulated and how they behave.
Klassendiagramm	Class diagram	A diagrammatic representation of a $\underline{\uparrow}$ class model.
Klassenmodell	Class model	A model consisting of a set of $\underline{\uparrow}$ classes and relationships between them.



Term (Deutsch)	Term (English)	Definition
Komponente	Component	 In general: A delimitable part of a <u>system</u>. In software architecture: An encapsulated set of coherent <u>objects</u> or <u>classes</u> that jointly achieve some purpose. In testing: A part of a <u>system</u> that can be tested in isolation. Note: When viewed in isolation, a component is a <u>system</u> by itself.
Komposition (in einem technischen Kontext)	Composition (in a technical context)	 An <u>1</u>item that is composed of a set of items; forming a whole-part relationship. The act of composing a whole from a set of parts.
Konfiguration	Configuration	A consistent set of logically coherent $\underline{\uparrow}$ items. The items are individually identifiable $\underline{\uparrow}$ work products or parts of work products in at most one $\underline{\uparrow}$ version per item.
Konflikt (bezüglich Anforderungen)	Conflict (about requirements)	<u>→</u> Requirements conflict
Konformität	Conformity	The degree to which a $\underline{\uparrow}$ work product conforms to regulations given in some $\underline{\uparrow}$ standard.
Konsistenz (von Anforderungen)	Consistency (of requirements)	The degree to which a set of $\underline{\uparrow}$ requirements is free of contradicting statements.



Term (Deutsch)	Term (English)	Definition
Kontext	Context	 In general: The network of thoughts and meanings needed for understanding phenomena or utterances. Especially in RE: The part of a ↑system's environment being relevant for understanding the system and its ↑requirements. Note: Context in the second meaning is also called the ↑system context.
Kontextdiagramm	Context diagram	 A diagrammatic representation of a <u>↑</u>context model. In <u>↑</u>Structured Analysis, the context diagram is the root of the <u>↑</u>dataflow diagram hierarchy.
Kontextgrenze	Context boundary	The boundary between the \uparrow context of a \uparrow system and those parts of the \uparrow application domain that are irrelevant for the \uparrow system and its \uparrow requirements.
		Note:
		The context boundary separates the relevant part of the environment of a system to be developed from the irrelevant part, i.e., the part that does not influence the system to be developed and, thus, does not have to be considered during Requirements Engineering.
Kontextmodell	Context model	A $\underline{\uparrow}$ model describing a $\underline{\uparrow}$ system in its $\underline{\uparrow}$ context.



Term (Deutsch)	Term (English)	Definition
Korrektheit	Correctness	The degree to which the information contained in a <u>^</u> work product is provably true. Note: In RE, correctness is sometimes used as a synonym for <u>^</u> adequacy, particularly when validating a <u>^</u> requirement rigorously against formally stated properties in the <u>^</u> context of a <u>^</u> system.
Kunde	Customer	A person or organization who receives a <u>↑</u> system, a <u>↑</u> product or a <u>↑</u> service. Also see <u>↑</u> stakeholder.
Lastenheft	Customer requirements specification	A coarse description of the required capabilities of a <u>system</u> from the <u>customer's perspective</u> . Note: A customer requirements specification is usually supplied by the <u>customer</u> .
Leistungsanforderung	Performance requirement	 A <u>↑</u>requirement describing a performance characteristic (timing, speed, volume, capacity, throughput,). Note: In this glossary, performance requirements are regarded as a sub-category of <u>↑</u>quality requirements. However, they can also be considered as a <u>↑</u>kind of requirements of its own.
Lenkungsausschuss	Steering committee	A committee that supervises a project.



Term (Deutsch)	Term (English)	Definition
Lieferant	Supplier	A person or organization who delivers a $\underline{\uparrow}$ product or $\underline{\uparrow}$ service to a $\underline{\uparrow}$ customer.
Machbarkeit (einer Anforderung)	Feasibility (of a requirement)	The degree to which a \uparrow requirement for a \uparrow system can be implemented under existing \uparrow constraints.
Mehrdeutigkeit	Ambiguity	The contrary of \rightarrow unambiguity
Merkmalsdiagramm, Featurediagramm	Feature diagram	A diagrammatic representation of a $\underline{\uparrow}$ feature model.
Merkmalsmodell, Featuremodell	Feature model	A $\underline{\uparrow}$ model describing the variable features of a $\underline{\uparrow}$ product line, including their relationships and dependencies.
Methode	Method	The systematic application of a $\underline{\uparrow}$ technique (or a set of techniques) to achieve an objective or create a $\underline{\uparrow}$ work product.
Methodologie	Methodology	 The systematic study of <u>methods</u> in a particular field, in particular, how to select, apply or evaluate methods systematically in a given situation. A set of <u>methods</u> being applied in some combination.
Mock–up (eines digitalen Systems)	Mock–up (of a digital system)	A medium-fidelity <u>_</u> prototype that demonstrates characteristics of a user interface without implementing any real <u>_</u> functionality. Note: In RE, a mock-up primarily serves for specifying and validating user
		interfaces.

Term (Deutsch)	Term (English)	Definition
Modell	Model	An abstract representation of an existing part of reality or a part of reality to be created.
		Note:
		 The notion of reality includes any conceivable set of elements, phenomena, or concepts, including other models. Models are always built for <i>specific purposes</i> in a <i>specific context</i>. With respect to a model, the modeled part of reality is called the <i>original</i>. In RE, <u>↑</u>requirements can be specified with models.
Modellierungssprache	Modeling language	A 1 language for expressing 1 models of a certain kind. May be textual, graphic, symbolic or some combination thereof.
Multiplizität	Multiplicity	<u>→</u> Cardinality
Nativer Prototyp, Prototyp im engeren Sinn	Native prototype	A high-fidelity \uparrow prototype that implements critical parts of a \uparrow system to an extent that \uparrow stakeholders can use the prototype to see whether the prototyped part of the system will work and behave as expected.
Natürliche Sprache	Natural language	A $\underline{\uparrow}$ language that people use for speaking and writing in everyday life.
		Note:
		This is in contrast to <i>artificial languages</i> that people have deliberately created for specific purposes such as programming or specifying.

Term (Deutsch)	Term (English)	Definition
Nicht-funktionale Anforderung	Non-functional requirement	A _quality requirement or a _constraint. Note: Performance requirements may be regarded as another category of non- functional requirements. In this glossary, performance requirements are considered to be a sub-category of _quality requirements.
Norm	Standard	A formal, possibly mandatory set of regulations for how to interpret, develop, manufacture, or execute something. Note: In RE, there are RE-relevant standards issued by ISO/IEC and IEEE.
Notwendigkeit (einer Anforderung)	Necessity (of a requirement)	The degree to which an individual \uparrow requirement is a necessary part of the \uparrow requirements specification of a \uparrow system.
Objekt	Object	 In general: Anything which is perceivable or conceivable (→ item). In software engineering: an individual <u>↑</u>item which has an identity, is characterized by the values of its <u>↑</u>attributes and does not depend on another item (→ entity).
Objektdiagramm	Object diagram	A diagrammatic representation of an $\underline{1}$ object model.
Objektmodell	Object model	A $\underline{\uparrow}$ model describing a set of $\underline{\uparrow}$ objects and relationships between them.
Persona	Persona	A fictitious character representing a group of $\underline{\uparrow}$ users with similar needs, values and habits who are expected to use a $\underline{\uparrow}$ system in a similar way.

Term (Deutsch)	Term (English)	Definition
Portabilität	Portability	The ease with which a $\underline{\uparrow}$ system can be transferred to another platform while preserving its characteristics.
Praktik	Practice	A proven way of how to carry out certain types of $\underline{\uparrow}$ tasks or $\underline{\uparrow}$ activities.
Priorisierung	Prioritization	The process of assigning priorities to a set of $\underline{\uparrow}$ items.
Priorität	Priority	The level of importance assigned to an $\underline{\uparrow}$ item, e.g., a $\underline{\uparrow}$ requirement or a $\underline{\uparrow}$ defect, according to certain criteria.
Problem	Problem	A difficulty, open question or undesirable condition that needs investigation, consideration, or solution.
Produkt (im Kontext von Software)	Product (in the context of software)	A software-based \uparrow system or a \uparrow service provided by a system which is developed and marketed by a \uparrow supplier and used by \uparrow customers.
Produkt-Auftragsbestand (Produkt-Backlog)	Product backlog	An ordered, typically prioritized collection of work items that a development team has to work on when developing or evolving a $\underline{\uparrow}$ system.
		Note:
		Items include $\underline{\uparrow}$ requirements, $\underline{\uparrow}$ defects to be fixed, or $\underline{\uparrow}$ refactorings to be done.



Term (Deutsch)	Term (English)	Definition
Produkteigner, Product Owner	Product owner	A person responsible for a $\underline{\uparrow}$ product in terms of $\underline{\uparrow}$ functionality, value and $\underline{\uparrow}$ risk.
		Note:
		The product owner maintains and prioritizes the $\underline{\uparrow}$ product backlog, makes sure that the $\underline{\uparrow}$ stakeholders' $\underline{\uparrow}$ requirements as well as market needs are elicited and adequately documented in the $\underline{\uparrow}$ product backlog and represents the stakeholders when communicating with the development team.
Produktlinie, Produktfamilie	Product line	A jointly managed set of systems (provided as products or services) that share a common core and have a configurable set of Υ variants for satisfying needs of particular Υ customers or market segments.
		Note:
		The points in a product line where there is more than one $\underline{\uparrow}$ variant to select from are called $\underline{\uparrow}$ variation points.
		Synonym: Product family

Term (Deutsch)	Term (English)	Definition
Prototyp	Prototype	 In manufacturing: A piece which is built prior to the start of mass production. In software and systems engineering: A preliminary, partial realization of certain characteristics of a fsystem. In design: A preliminary, partial instance of a design solution. Note: In RE, prototypes are used as a means for requirements fielicitation (see fspecification by example) and fvalidation. Prototypes in RE can be classified with respect to their degree of fidelity into finative prototypes, fmock-ups and fiveframes; with respect to their purpose into fielity prototypes and fiveframes;
Prototypisieren, Prototyping	Prototyping	A $\underline{\uparrow}$ process that involves the creation and evaluation of $\underline{\uparrow}$ prototypes.
Prozess	Process	A set of interrelated <u></u> activities performed in a given order to process information or materials. Note:
		The notion of process includes <i>business processes</i> (e.g., how to commission and send ordered goods to <u>1</u> customers), <i>information processes</i> (e.g., how to deliver records from a database that match a given query), and <i>technical</i> <i>processes</i> (e.g., cruise control in a car).
Prozessmodell	Process model	A $\underline{\uparrow}$ model describing a $\underline{\uparrow}$ process or a set of related processes.



Term (Deutsch)	Term (English)	Definition
Prozessmuster	Process pattern	An abstract, reusable \uparrow model of a \uparrow process which can be used to configure and instantiate a concrete process for a given situation and \uparrow context.
Qualität	Quality	 In general: The degree to which a set of inherent characteristics of an item fulfills <u>requirements</u>. In systems and software engineering: The degree to which a <u>system satisfies stated and implied needs of its <u>stakeholders</u>.</u> Note: Quality in this definition means fitness for intended use, as stated in the <u>requirements</u>. This is in contrast to the colloquial notion of quality which is typically connoted with goodness or excellence.
Qualitätsanforderung	Quality requirement	A $\underline{\uparrow}$ requirement that pertains to a quality concern that is not covered by $\underline{\uparrow}$ functional requirements.
Quelle (einer Anforderung)	Source (of a requirement)	\rightarrow Requirements source
Randbedingung (im RE)	Constraint (in RE)	A $\underline{\uparrow}$ requirement that limits the solution space beyond what is necessary for meeting the given $\underline{\uparrow}$ functional requirements and $\underline{\uparrow}$ quality requirements.
Redundanz	Redundancy	Multiple occurrence of the same information or resource.
Refaktorierung	Refactoring	The improvement of the internal 1 quality of source code, particularly the structure of the code, without changing its observable behavior.

Term (Deutsch)	Term (English)	Definition
Release, Freigabe	Release	A $\underline{\uparrow}$ configuration that has been released for installation and use by $\underline{\uparrow}$ customers.
Requirements Engineering	Requirements Engineering	The systematic and disciplined approach to the $_$ specification and management of $_$ requirements with the goal of understanding the $_$ stakeholders' desires and needs and minimizing the risk of delivering a $_$ system that does not meet these desires and needs. Abbreviation: RE
Review, Durchsicht	Review	An evaluation of a <u>*</u> work product by an individual or a group in order to find problems or suggest improvements. Note: Evaluation may be performed with respect to both contents and conformance.
Risiko	Risk	A possible event that threatens the success of an endeavor. Note: A risk is typically assessed in terms of its probability and potential damage.
Rolle	Role	 In general: A part played by a person in a given context. In <u>^</u>UML <u>^</u>class models: The parts played by the linked <u>^</u>objects in an <u>^</u>association.

• The parts played by the linked \uparrow objects in an \uparrow association.

Term (Deutsch)	Term (English)	Definition
Satzschablone	Phrase template	A template for the syntactic structure of a phrase that expresses an individual \uparrow requirement or a \uparrow user story in \uparrow natural language. (\rightarrow requirements template)
Scrum	Scrum	A popular $\underline{\uparrow}$ process framework for $\underline{\uparrow}$ agile development of a $\underline{\uparrow}$ system.
Semantik	Semantics	The meaning of a sign or a set of signs in a $\underline{\uparrow}$ language.
Sequenzdiagramm	Sequence diagram	A diagram type in Υ UML which models the interactions between a selected set of Υ objects and/or Υ actors in the sequential order in which those interactions occur.
Sicherheit (im Sinn von Informationssicherheit)	Security	The degree to which a 1 system protects its data and resources against unauthorized access or use and secures unobstructed access and use for its legitimate 1 users. Note: Security requirements may be stated as 1 quality requirements or in terms
		of $\underline{\uparrow}$ functional requirements.
Sicherheit (im Sinn von Nutzungssicherheit)	Safety	The capability of a <u>system</u> to achieve an acceptable level of probability that the system, under defined conditions, will not reach a state in which human life, health, property, or the environment is endangered.
		Note:
		Safety $\underline{\uparrow}$ requirements may be stated as $\underline{\uparrow}$ quality requirements or in terms of $\underline{\uparrow}$ functional requirements.

Term (Deutsch)	Term (English)	Definition
Sicht	View	An excerpt from a <u>^</u> work product, containing only those parts one is currently interested in. Note: A view can abstract or aggregate parts of the work product.
Software- Anforderungsspezifikation, Pflichtenheft	Software requirements specification	A $\underline{\uparrow}$ requirements specification pertaining to a software $\underline{\uparrow}$ system. Abbreviation: SRS
Spezifikation	Specification	 As a work product: A systematically represented description of the properties of an <u>1</u>item (a <u>1</u>system, a device, etc.) that satisfies given criteria. As a process: the process of specifying (<u>1</u>eliciting, documenting and <u>1</u>validating) the properties of an <u>1</u>item. Note: A specification may be about required properties (<u>1</u>requirements specification) or implemented properties (e.g., a technical product specification).
Spezifikation durch Beispiele	Specification by example	A $\underline{\uparrow}$ technique that specifies test cases and $\underline{\uparrow}$ requirements for a $\underline{\uparrow}$ system by providing examples of how the system should behave.
Spezifikationssprache	Specification language	An artificial $\underline{\uparrow}$ language that has been created for expressing $\underline{\uparrow}$ specifications.



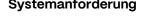
Term (Deutsch)	Term (English)	Definition
Sprache	Language	A structured set of signs for expressing and communicating information. Note: Signs are any elements that are used for communication: spoken or written words or expressions, symbols, gestures, sounds, etc.
Sprint	Sprint	An $\underline{\uparrow}$ iteration in $\underline{\uparrow}$ agile development, particularly when using $\underline{\uparrow}$ Scrum.
Sprint-Auftragsbestand, Sprint-Backlog	Sprint backlog	A set of $\underline{\uparrow}$ product backlog items that have been selected to be implemented in the current $\underline{\uparrow}$ sprint.
Statechart	Statechart	A ∱state machine having states that are hierarchically and/or orthogonally decomposed.
Steuerfluss, Kontrollfluss	Control flow	The order in which a set of actions is executed.
Story (in einem RE-Kontext)	Story (in an RE context)	<u>→</u> User story
Story Map, Story-Landschaft	Story map	A two-dimensional arrangement of <u>^</u> user stories. Note: A story map helps understand the <u>^</u> functionality of a <u>^</u> system, identify gaps and plan releases.
Storyboard	Storyboard	A series of sketches or pictures that visualize the execution of a $\underline{\uparrow}$ scenario.



Term (Deutsch)	Term (English)	Definition
Strukturierte Analyse	Structured Analysis	An approach for specifying the $\underline{\uparrow}$ functionality of a system based on a hierarchy of $\underline{\uparrow}$ data flow diagrams. Data flows as well as persistent data are defined in a data dictionary. A $\underline{\uparrow}$ context diagram models the sources of incoming and the destinations of outgoing $\underline{\uparrow}$ data flows.
Synonym	Synonym	A word having the same meaning as another word.
Syntax	Syntax	The rules for constructing structured signs in a $\underline{\uparrow}$ language.



Term (Deutsch)	Term (English)	Definition
System	System	 In general: A principle for ordering and structuring. In engineering: A coherent, delimitable set of elements that - by coordinated action - achieve some purpose. Note: A system may comprise other systems or ↑components as subsystems. The purposes achieved by a system may be delivered by deploying the system at the place(s) where it is used, selling/providing the system as a ↑product to its ↑users, having providers who offer the system's capabilities as ↑services to users. Systems containing both software and physical ↑components are called <i>cyber-physical systems</i>. Systems spanning software, hardware, people and organizational aspects are called <i>socio-technical systems</i>. Important: In all definitions referring to system in this glossary, system is an umbrella term which includes <i>↑Products</i> provided to ↑customers,
		 \$\sum Services\$ made available to \$\sum customers\$, Other work products such as <i>devices</i>, <i>procedures</i> or <i>tools</i> that help people or organizations achieve some goal, System \$\sum components\$ or \$\sum compositions\$ of systems.
Systemanforderung	System requirement	A \uparrow requirement pertaining to a \uparrow system.



System requirement

A $\underline{\uparrow}$ requirement pertaining to a $\underline{\uparrow}$ system.

Term (Deutsch)	Term (English)	Definition
System- Anforderungsspezifikation, Pflichtenheft	System requirements specification	 A <u>↑</u>requirements specification pertaining to a <u>↑</u>system. Note: A system requirements specification is frequently considered to be a synonym for <u>↑</u>requirements specification. Abbreviation: SyRS
Systemgrenze	System boundary	 The boundary between a ∱system and its surrounding ∱context. Note: The system boundary delimits the system as it shall be after its implementation and deployment. At the system boundary, the external interfaces between the ∱system and its ∱context have to be defined. The system boundary frequently coincides with the ∱scope of a ∱system (which denotes the range of things that can be shaped and designed). However, this is not always the case: there may be components within the system boundary that have to be re-used as they are (i.e., cannot be shaped nor designed), while in the system context there may be things that can be re-designed when the system is developed (which means that they are in scope).
Systemkontext	System context	The part of a $\underline{\uparrow}$ system's environment that is relevant for the definition as well as the understanding of the $\underline{\uparrow}$ requirements of a $\underline{\uparrow}$ system to be developed.



Term (Deutsch)	Term (English)	Definition
Szenario	Scenario	 In general: A description of a potential sequence of events that lead to a desired (or unwanted) result. In RE: An ordered sequence of interactions between partners, in particular between a ↑system and external ↑actors. May be a concrete sequence (instance scenario) or a set of potential sequences (type scenario, ↑use case).
Technik	Technique	A documented set of coherent actions for accomplishing a $\underline{\uparrow}$ task or achieving an objective.
Teilformal	Semi-formal	Something which is formal to some extent, but not completely. Note: A <u>^</u> work product is called semi-formal if it contains formal parts, but isn't formalized totally. Typically, a semi-formal work product has a defined <u>^</u> syntax, while the <u>^</u> semantics is partially defined only.
Thematische Sammlung	Theme	In agile development: A collection of related $\underline{\uparrow}$ user stories.
Überprüfbarkeit (von Anforderungen)	Verifiability (of requirements)	The degree to which the fulfillment of a <u>↑</u> requirement by an implemented <u>↑</u> system can be verified. Note: Such <u>↑</u> verification can be performed, for example, by defining <u>↑</u> acceptance test cases, measurements or <u>↑</u> inspection procedures.
Umfang (einer Systementwicklung)	Scope (of a system development)	The range of things that can be shaped and designed when developing a $\underline{\uparrow}$ system.

Term (Deutsch)	Term (English)	Definition
UML	UML	Abbreviation for Unified Modeling Language, a standardized language for modeling problems or solutions.
Use Case	Use case	A set of possible interactions between external $\underline{\uparrow}$ actors and a $\underline{\uparrow}$ system that provide a benefit for the actor(s) involved. Note:
		Use cases specify a system from a user's (or other external actor's) perspective: every use case describes some functionality that the system must provide for the actors involved in the use case.
Use Case Diagramm	Use case diagram	A diagram type in $\underline{\uparrow}$ UML that models the $\underline{\uparrow}$ actors and the $\underline{\uparrow}$ use cases of a $\underline{\uparrow}$ system.
		Note:
		The boundary between the actors and the use cases constitutes the $\underline{\uparrow}$ system boundary.
Use Case Modell, Anwendungsfallmodell	Use case model	A $\underline{\uparrow}$ model consisting of a set of $\underline{\uparrow}$ use cases, typically together with a $\underline{\uparrow}$ use case diagram.



Term (Deutsch)	Term (English)	Definition
User Story	User story	A description of a need from a $\underline{\uparrow}$ user's perspective together with the expected benefit when this need is satisfied.
		Note:
		 User stories are typically written in <u>natural language using a <u>phrase</u> template and are accompanied by <u>nacceptance criteria</u>.</u> In <u>nagile development</u>, user stories are the main means for communicating needs between a <u>product</u> owner and the development team.
Validierung	Validation	The $\underline{\uparrow}$ process of confirming that an $\underline{\uparrow}$ item (a $\underline{\uparrow}$ system, a $\underline{\uparrow}$ work product or a part thereof) matches its $\underline{\uparrow}$ stakeholders' needs.
		Note:
		In RE, validation is the process of confirming that the documented
Variabilität	Variability	 The degree to which a ↑system can be changed or customized. In product lines: The ↑features that can differ among the members of the ↑product line.
Variante	Variant	One of the possible forms that an $\underline{\uparrow}$ item (e.g., a $\underline{\uparrow}$ requirement) may have.
Variationspunkt	Variation point	A point in a \uparrow product line where an element of the product line (typically a variable or a \uparrow feature) can be chosen from a set of \uparrow variants.

Term (Deutsch)	Term (English)	Definition
Verfolgbarkeit	Traceability	 In general: The ability to establish explicit relationships between related work products or fitems within work products. In RE: The ability to trace a frequirement back to its origins, forward to its implementation in design and code and its associated tests, to requirements it depends on (and vice-versa).
Verhalten	Behavior	The way in which a ∱system reacts to stimuli, changes its state and produces observable results. Note: Stimuli may be events or changes of conditions. Their origin may be external or system-internal.
Verhaltensmodell	Behavior model	A $\underline{\uparrow}$ model describing the $\underline{\uparrow}$ behavior of a $\underline{\uparrow}$ system, e.g., by a $\underline{\uparrow}$ state machine.
Verifikation	Verification	The process of confirming that an $\underline{\uparrow}$ item (a system, a work product, or a part thereof) fulfills its $\underline{\uparrow}$ specification. Note:
		Requirements verification is the process of confirming that the ↑ requirements have been documented properly and satisfy the ↑ quality criteria for requirements; in other words, whether the requirements have been specified right.

Term (Deutsch)	Term (English)	Definition
Version	Version	An occurrence of an ↑ item which exists in multiple, time-ordered occurrences where each occurrence has been created by modifying one of its previous occurrences.
Verstehbarkeit	Understandability	The degree to which an $\underline{\uparrow}$ item is comprehensible to its intended users. Note: Typical items are: a $\underline{\uparrow}$ system, a $\underline{\uparrow}$ work product, or a part thereof.
Vision (für ein System oder Produkt)	Vision (for a system or product)	A conceptual imagination of a future $\underline{\uparrow}$ system or $\underline{\uparrow}$ product, describing its key characteristics and how it will create value for its $\underline{\uparrow}$ users.
Vollständigkeit (von Anforderungen)	Completeness (of requirements)	 For a single <u>↑</u>requirement: The degree to which the specification of a requirement is self-contained. For a <u>↑</u>work product covering multiple requirements: The degree to which the work product contains all known requirements that are relevant in the scope of this work product.
Walkthrough	Walkthrough	A $\underline{\uparrow}$ review in which the author of a $\underline{\uparrow}$ work product leads the reviewers systematically through the work product and the reviewers ask questions and make comments about possible issues.
Wartbarkeit, Pflegbarkeit	Maintainability	The ease with which a <u>↑</u> system can be modified by the intended maintainers. Note:
		Maintainability may be stated as a \uparrow quality requirement.

Term (Deutsch)	Term (English)	Definition
Werkzeug (im Software Engineering)	Tool (in software engineering)	 A (software) ↑system that helps develop, operate and maintain systems. Note: In RE, tools support ↑requirements management as well as modeling, documenting, and validating ↑requirements.
Zeitrahmen (mit fester Länge), Timebox	Timebox	A fixed, non-extendable amount of time for completing a set of $\underline{\uparrow}$ tasks.
Ziel	Goal	A desired state of affairs (that a <u>↑</u> stakeholder wants to achieve). Note: Goals describe intentions of stakeholders. They may conflict with one another.
Zielmodell	Goal model	A <u>↑</u> model representing a set <u>↑</u> goals, sub-goals and the relationships between them. Note: Goal models may also include tasks and resources needed to achieve a goal, actors who want to achieve a goal, and obstacles that impede the achievement of a goal.
Zustandsdiagramm	State machine diagram	A diagrammatic representation of a $\underline{\uparrow}$ state machine.
Zustandsdiagramm	State-transition diagram	\rightarrow State machine diagram.

Term (Deutsch)	Term (English)	Definition
Zustandsmaschine	State machine	A $\underline{\uparrow}$ model describing the behavior of a $\underline{\uparrow}$ system by a finite set of <i>states</i> and state <i>transitions</i> . State transitions are triggered by <i>events</i> and can in turn trigger <i>actions</i> and new events.
Zuverlässigkeit	Reliability	The degree to which a 1 system performs specified functions under specified conditions for a specified period of time. Note: Reliability may be stated as a 1 quality requirement.
Zweig	Branch	A line of $configurations$ or $dwork product dversions that forks away fromthe main line (or from another branch) at some point in time.Note:A branch is created by making a copy of some configuration or workproduct version and making this copy the root of the branch. A branch maybe merged with the main line or with another branch at some later point intime.$



2 Englisch - Deutsch Dictionary

Term (English)	Term (Deutsch)
Acceptance	Abnahme
Acceptance criteria	Abnahmekriterien
Acceptance test	Abnahmetest
Activity	Aktivität
Activity diagram	Aktivitätsdiagramm
Activity model	Aktivitätsmodell
Actor	Akteur
Adequacy (of a requirement)	Adäquatheit (einer Anforderung)
Agile	Agilität, agil
Ambiguity	Mehrdeutigkeit
Application domain	Anwendungsbereich
Artifact	Artefakt
Association	Assoziation
Attribute	Attribut



Term (English)	Term (Deutsch)
Backlog	Auftragsbestand, Backlog
Baseline	Basislinie, Baseline
Behavior	Verhalten
Behavior model	Verhaltensmodell
Branch	Zweig
Bug	Bug
Burndown chart	Erledigungsdiagramm, Burndown Chart
Business requirement	Geschäftsanforderung
Business requirement Cardinality	Geschäftsanforderung Kardinalität
Cardinality	Kardinalität
Cardinality Change control board	Kardinalität Änderungsausschuss, Change Control Board
Cardinality Change control board Change management	Kardinalität Änderungsausschuss, Change Control Board Änderungsmanagement
Cardinality Change control board Change management Change request	Kardinalität Änderungsausschuss, Change Control Board Änderungsmanagement Änderungsantrag

Term (English)	Term (Deutsch)
Class model	Klassenmodell
Commonality	Gemeinsamkeiten (Plural)
Completeness (of requirements)	Vollständigkeit (von Anforderungen)
Compliance	Einhaltung, Erfüllung
Component	Komponente
Composition (in a technical context)	Komposition (in einem technischen Kontext)
Configuration	Konfiguration
Conflict (about requirements)	Konflikt (bezüglich Anforderungen)
Conformity	Konformität
Consistency (of requirements)	Konsistenz (von Anforderungen)
Constraint (in RE)	Randbedingung (im RE)
Context	Kontext
Context boundary	Kontextgrenze
Context diagram	Kontextdiagramm
Context model	Kontextmodell

Term (English)	Term (Deutsch)
Control flow	Steuerfluss, Kontrollfluss
Correctness	Korrektheit
Customer	Kunde
Customer requirements specification	Lastenheft
Data flow	Datenfluss
Data flow diagram	Datenflussdiagramm
Data flow model	Datenflussmodell
Decision table	Entscheidungstabelle
Defect	Defekt
Design	Design, Gestaltung
Document template	Dokumentvorlage
Domain	Domäne
Domain model	Domänenmodell
Domain requirement	Domänenanforderung
Effectiveness	Effektivität



Term (English)	Term (Deutsch)
Efficiency	Effizienz
Elaboration (of requirements)	Erarbeitung (von Anforderungen)
Elicitation (of requirements)	Anforderungsermittlung (von Anforderungen)
End user	Endbenutzer
Entity	Entität, Element, Etwas, Gegenstand
Entity-relationship diagram	Entity-Relationship Diagramm
Entity-relationship model	Entity-Relationship Modell
Epic	Erzählung, Epic
Error	Fehler
Evolutionary prototype	Evolutionärer Prototyp
Exploratory prototype	Explorativer Prototyp
Fault	Defekt
Fault tolerance	Fehlertoleranz
Feasibility (of a requirement)	Machbarkeit (einer Anforderung)
Feature	Feature



Term (English)	Term (Deutsch)
Feature diagram	Merkmalsdiagramm, Featurediagramm
Feature model	Merkmalsmodell, Featuremodell
Form template	Formularschablone, Formularvorlage
Functional requirement	Funktionale Anforderung
Functionality	Funktionalität
Glossary	Glossar
Goal	Ziel
Goal model	Zielmodell
Homonym	Homonym
Increment (in software development)	Inkrement (in der Softwareentwicklung)
Inspection	Inspektion
Item	Element (je nach Kontext auch: Objekt)
Iteration	Iteration
Kind of requirement	Anforderungsart
Language	Sprache



Term (English)	Term (Deutsch)
Maintainability	Wartbarkeit, Pflegbarkeit
Method	Methode
Methodology	Methodologie
Mock-up (of a digital system)	Mock-up (eines digitalen Systems)
Model	Modell
Modeling language	Modellierungssprache
Modifiability	Änderbarkeit
Multiplicity	Multiplizität
Native prototype	Nativer Prototyp, Prototyp im engeren Sinn
Natural language	Natürliche Sprache
Necessity (of a requirement)	Notwendigkeit (einer Anforderung)
Negotiation	Abstimmen
Non-functional requirement	Nicht-funktionale Anforderung
Object	Objekt
Object diagram	Objektdiagramm

Term (English)	Term (Deutsch)
Object model	Objektmodell
Performance requirement	Leistungsanforderung
Persona	Persona
Phrase template	Satzschablone
Portability	Portabilität
Practice	Praktik
Prioritization	Priorisierung
Priority	Priorität
Problem	Problem
Process	
	Prozess
Process model	Prozess Prozessmodell
Process pattern	
	Prozessmodell
Process pattern	Prozessmodell Prozessmuster



Term (English)	Term (Deutsch)
Product owner	Produkteigner, Product Owner
Prototype	Prototyp
Prototyping	Prototypisieren, Prototyping
Quality	Qualität
Quality requirement	Qualitätsanforderung
Redundancy	Redundanz
Refactoring	Refaktorierung
Release	Release, Freigabe
Reliability	Zuverlässigkeit
Requirement	Anforderung
Requirements analysis	Anforderungsanalyse
Requirements baseline	Anforderungsbasislinie
Requirements branching	Anforderungsverzweigung
Requirements configuration	Anforderungskonfiguration
Requirements conflict	Anforderungskonflikt

Term (English)	Term (Deutsch)
Requirements discovery	Anforderungsermittlung
Requirements document	Anforderungsdokument
Requirements elicitation	Anforderungsermittlung
Requirements Engineer	Anforderungsanalytiker, Anforderungsingenieur, Requirements Engineer
Requirements Engineering	Requirements Engineering
Requirements management	Anforderungsmanagement
Requirements model	Anforderungsmodell
Requirements negotiation	Abstimmung von Anforderungen
Requirements source	Anforderungsquelle
Requirements specification	Anforderungsspezifikation
Requirements template	Anforderungsschablone, Anforderungsvorlage
Review	Review, Durchsicht
Risk	Risiko
Role	Rolle
Safety	Sicherheit (im Sinn von Nutzungssicherheit)

Term (English)	Term (Deutsch)
Scenario	Szenario
Scope (of a system development)	Umfang (einer Systementwicklung)
Scrum	Scrum
Security	Sicherheit (im Sinn von Informationssicherheit)
Semantics	Semantik
Semi-formal	Teilformal
Sequence diagram	Sequenzdiagramm
Service	Dienst, Service
Software requirements specification	Software-Anforderungsspezifikation, Pflichtenheft
Source (of a requirement)	Quelle (einer Anforderung)
Specification	Spezifikation
Specification by example	Spezifikation durch Beispiele
Specification language	Spezifikationssprache
Spike	Erkundung, Spike
Sprint	Sprint

Term (English)	Term (Deutsch)
Sprint backlog	Sprint-Auftragsbestand, Sprint-Backlog
Stakeholder	Interesseneigner, Stakeholder
Stakeholder requirement	Interesseneigneranforderung, Stakeholderanforderung
Standard	Norm
State machine	Zustandsmaschine
State machine diagram	Zustandsdiagramm
Statechart	Statechart
State-transition diagram	Zustandsdiagramm
Steering committee	Lenkungsausschuss
Story (in an RE context)	Story (in einem RE-Kontext)
Story map	Story Map, Story–Landschaft
Storyboard	Storyboard
Structured Analysis	Strukturierte Analyse
Supplier	Lieferant
Synonym	Synonym

Term (English)	Term (Deutsch)
Syntax	Syntax
System	System
System boundary	Systemgrenze
System context	Systemkontext
System requirement	Systemanforderung
System requirements specification	System-Anforderungsspezifikation, Pflichtenheft
Task	Aufgabe
Technique	Technik
Theme	Thematische Sammlung
Timebox	Zeitrahmen (mit fester Länge), Timebox
Tool (in software engineering)	Werkzeug (im Software Engineering)
Traceability	Verfolgbarkeit
UML	UML
Unambiguity (of requirements)	Eindeutigkeit (von Anforderungen)
Understandability	Verstehbarkeit

Term (English)	Term (Deutsch)
Usability	Benutzbarkeit
Use case	Use Case
Use case diagram	Use Case Diagramm
Use case model	Use Case Modell, Anwendungsfallmodell
User	Benutzer
User requirement	Benutzeranforderung
User story	User Story
Validation	Validierung
Variability	Variabilität
Variant	Variante
Variation point	Variationspunkt
Verifiability (of requirements)	Überprüfbarkeit (von Anforderungen)
Verification	
venication	Verifikation
Version	Verifikation

Term (English)	Term (Deutsch)
Viewpoint	Gesichtspunkt, Standpunkt
Vision (for a system or product)	Vision (für ein System oder Produkt)
Walkthrough	Walkthrough
Wireframe	Drahtmodell (Im RE-Kontext sinngemäß oft besser: Papier-und- Bleistift Modell), Wireframe
Work product	Arbeitsprodukt, Arbeitsergebnis



3 Sources

I don't cite sources for individual definitions because I deliberately decided not to compile definitions from various existing sources just by copy-paste, but to carefully re-formulate all definitions consistently and according to today's use.

Several definitions are based on my own work [GI07], [GIWi07], [GI19]. Most definitions from the agile domain have been taken from or adapted from the IREB RE@Agile Glossary, which was joint work of the RE@Agile working group and me. The revision of the IREB CPRE Foundation Level syllabus [IREB20] also informed several new or changed definitions.

I consulted numerous international standards when writing the definitions [IEEE610], [IEEE730], [IEEE830], [IEEE1012], [IEEE1028], [ISO9000], [ISO12207], [ISO19770], [ISO20246], [ISO24765], [ISO25000], [ISO25010], [ISO26550], [ISO29148], [ISO42010]. However, as the terminology defined or used in these standards is frequently inconsistent or inadequate for a Requirements Engineering glossary, I did not copy any definitions verbatim from these standards.

Other sources that influenced some definitions are [GaWe89], [My06], [Po10], [St73], and [ZoCo05].

For cross-checking, I also consulted the Merriam-Webster online dictionary (https://www.merriam-webster.com) and Wikipedia (https://en.wikipedia.org).

Below I want to give credit for some definitions that I have taken more or less verbatim from a source or that are joint work with others. The copyright for cited definitions lies with the authors of the cited work. The copyright for joint work lies jointly with the author of this glossary and the persons mentioned.

Term	Reference
Context boundary	Joint work with Klaus Pohl, Chris Rupp, and Thorsten Weyer, based on [Po10], [PoRu11] and [We10]
Functional requirement	Joint work with Klaus Pohl, Chris Rupp, and Thorsten Weyer
Model	Joint work with Klaus Pohl and Chris Rupp, based on [PoRu11]
Quality requirement	Joint work with Klaus Pohl, Chris Rupp, and Thorsten Weyer, based on definitions in my course notes on Requirements Engineering I
Requirements Engineering	Definition is a simplification of a definition that was joint work with Klaus Pohl, Chris Rupp, and Thorsten Weyer
Requirements specification	Adapted from Pohl and Rupp [PoRu11]



Term	Reference
System boundary	Joint work with Klaus Pohl, Chris Rupp, and Thorsten Weyer based on [Po10], [PoRu11]
System context	Joint work with Klaus Pohl, Chris Rupp, and Thorsten Weyer based on [Po10], [PoRu11], [We10]

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[IEEE730]	IEEE Standard for Software Quality Assurance Processes. IEEE Std 730-2014.
[IEEE830]	IEEE Recommended Practice for Software Requirements Specifications. IEEE Std 830–1998.
[IEEE1012]	IEEE Standard for System, Software, and Hardware Verification and Validation. IEEE Std 1012–2016.
[IEEE1028]	IEEE Standard for Software Reviews and Audits. IEEE Std 1028-2008.
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[ISO12207]	Systems and Software Engineering — Software Life Cycle Processes. ISO/IEC/IEEE Standard 12207:2017.
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[ISO25010]	Systems and Software Engineering — Systems and Software Quality Requirements and Evaluation (SQuaRE) — System and Software Quality Models. ISO/IEC Standard 25010:2011.
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[PoRu11]	Klaus Pohl, Chris Rupp (2011). Requirements Engineering Fundamentals. Santa Barbara, Ca.: RockyNook.
[St73]	Herbert Stachowiak (1973). Allgemeine Modelltheorie. (in German) Wien: Springer.
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