

Technical Software Product Management

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PROD C03

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Technical Product Management (Recap)

- Key processes
 - Detailed product planning
 - Detailed release planning
 - Feature validation
- Example practices
 - Feature specification
 - Feature prioritization
 - PRD maintenance

Key artifacts

- Product Requirements Document (PRD)

Strategic

STRATEGY

| | | Business Plan |
|--------------------------|-----------------------|-----------------------|
| Market Problems | Market Definition | Pricing |
| Win/Loss Analysis | Distribution Strategy | Buy, Build or Partner |
| Distinctive Competencies | Product Portfolio | Product Profitability |
| MARKET | FOCUS | BUSINESS |
| Competitive Landscape | Product Roadmap | Innovation |
| Asset Assessment | | |



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Positioning

Marketing Plan

Buying Process

Customer Acquisition

Buyer Personas

Customer Retention

User Personas

Program Effectiveness

PLANNING

PROGRAMS

READINESS

SUPPORT

Requirements

Launch Plan

Sales Process

Presentations & Demos

Use Scenarios

Thought Leadership

Collateral

"Special" Calls

Stakeholder Communications

Lead Generation

Sales Tools

Event Support

Referrals & References

Channel Training

Channel Support

Pragmatic Marketing Framework™

The market-driven model for managing and marketing technology products

Technical

EXECUTION

- **Functional Specification**
- **Technical Specification**
- **Whole Product Package**

Functional Specification (PRD 1 / 3)

- Types of requirements
- Structure of document
- Individual requirements
 - Feature definition
 - Feature prioritization
 - User experience design



How the customer explained it



How the Project Leader understood it



How the Analyst designed it



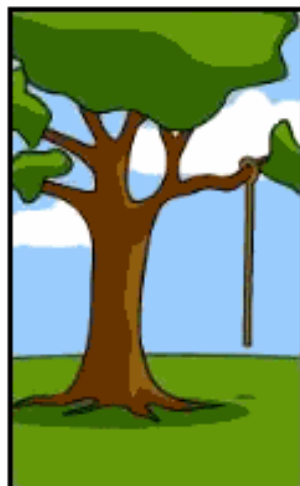
How the Programmer wrote it



How the Business Consultant described it



How the project was documented



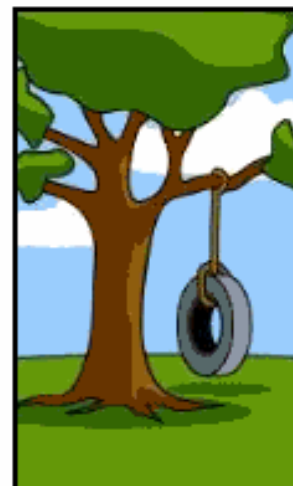
What operations installed



How the customer was billed



How it was supported

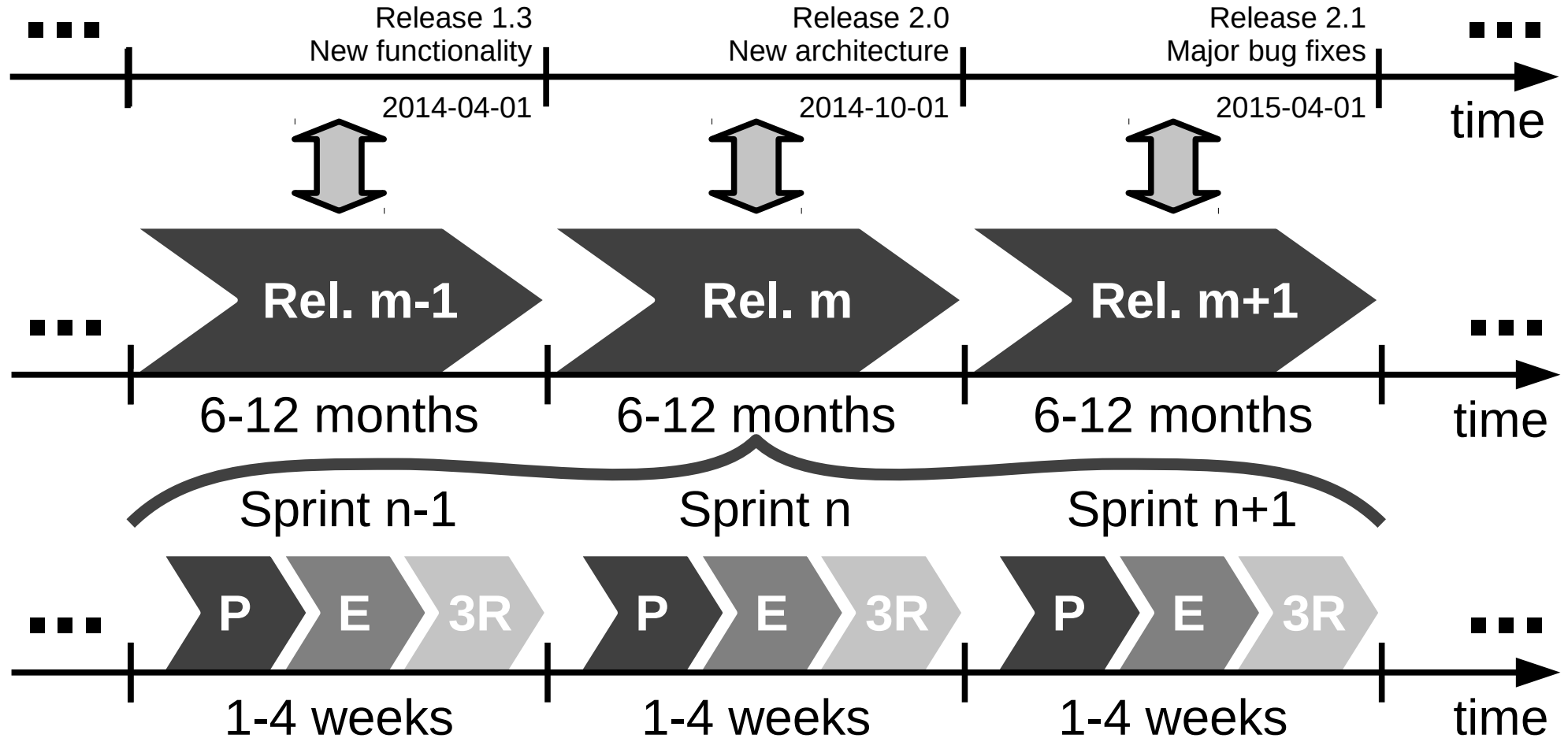


What the customer really needed

Cartoon Lessons

- Understanding project requirements is hard
 - **Understanding market requirements is even harder!**
- Innovative products cannot be predicted easily
 - Certainly customers don't always know what they want
- Product management orchestrates many stakeholders

Agile / Scrum Product Planning



Release Plan

- Functional specification of a release
 - Consists of all features considered part of that release
- Agile / Scrum release plan
 - Structures the release into sprints by theme and purpose
 - Is a planning and communication tool, not a strict plan
 - Evolving: Is adapted in reaction to changes in team and environment

Example Release Plan

| | | | | | | | |
|----------------|-----------------------------|---------------------|-------------------|------------------------|------------------|-----------------------|-------------------|
| Release | Mid-term | | | | | | |
| No Sprints | 6 | | | | | | |
| Due Date | 12.04.11 | | | | | | |
| | | | | | | | |
| Sprint | Sprint Theme | User Stories | Pred. Size | Pred. Burn-Down | Real Size | Real Burn-Down | Dev. Speed |
| 0 | | | | 136 | | 134 | |
| 1 | Basic Visitor Self-Admin | 1, 2, 3, 4 | 21 | 115 | 21 | 113 | 21 |
| 2 | Basic User Self-Admin | 5, 6, 7, 8 | 21 | 94 | 23 | 90 | 22 |
| 3 | Basic Photo Management | 9, 10, 11, 12 | 25 | 69 | 21 | 69 | 22 |
| 4 | Basic Visitor Photo Rating | 13, 14, 15 | 24 | 45 | 24 | 45 | 22 |
| 5 | Basic System Administration | 16, 17, 18, 19 | 21 | 24 | | | 18 |
| 6 | Basic Complaint System | 20, 21, 22, 23 | 24 | 0 | | | 15 |
| Total | | | 136 | | 89 | | |
| | | | | | | | |
| Release | Final | | | | | | |
| No Sprints | 6 | | | | | | |
| Due Date | 24.05.11 | | | | | | |
| | | | | | | | |
| Sprint | Sprint Theme | User Stories | Pred. Size | Pred. Burn-Down | Real Size | Real Burn-Down | Dev. Speed |
| 6 | | | | 155 | | | |
| 7 | Viral Marketing Features | 24, 25, 26, 27 | 25 | 130 | | | |
| 8 | Advanced Photo Management | 28, 29, 30, 31, 32 | 25 | 105 | | | |
| 9 | Basic Community Forums | 33, 34, 35, 36 | 23 | 82 | | | |
| 10 | Advanced System Management | 37, 38, 39 | 27 | 55 | | | |
| 11 | Advanced Photo Tagging | 40, 41, 42, 43 | 28 | 27 | | | |
| 12 | Search Engine Optimization | 44, 45, 46 | 27 | 0 | | | |
| Total | | | 155 | | 0 | | |
| | | | | | | | |

Agile / Scrum Product Backlog (Functional Specification)

- Product backlog
 - Is a prioritized list of features for upcoming release
 - Scrum's PRD and the product owner's primary work artifact
 - Does not contain any task descriptions or assignments
 - Is a living document (rather than static) and keeps evolving

Example Product Backlog

| | A | B | C | D | E | F |
|--|----|--------------------------|------------------------------|--|--|------|
| 1 | ID | Theme | Short Name | Item Description | Acceptance Criteria | Size |
| 2 | 13 | Photo Showing and Rating | Show Next Photo | As a visitor, I am presented with a random photo when I go to the website | Repeated visits to the site provide different photos | 8 |
| 3 | 14 | Photo Showing and Rating | Rate Photo and Proceed | As a visitor, I can rate a photo with a numerical value 1-10; after rating another photo is shown | The rating is stored and an average value is computed | 8 |
| 4 | 15 | Photo Showing and Rating | Show or Hide Photo Caption | As a visitor, I am presented with a photo caption, which I can expand to full photo data | A first click shows me the photo data, a second click hides it again; repeat | 8 |
| 5 | 16 | System Administration | Create Default Admin | As a sysadmin, I can create a default application administrator from the command line | After running the command, a default "admin" account with default password "dingdong" exists and can be used | 5 |
| 6 | 17 | System Administration | Startup and Shutdown Scripts | As a sysadmin, I can startup and shutdown the service from the command line | Three consecutive startup and shutdown command line invocations leave the system in a consistent state | 3 |
| 7 | 18 | System Administration | Reboot and Shutdown UI | As a administrator, I can reboot or shutdown the service using a graphical UI | The command is only available to the administrator role and shuts down the system to a clean restartable state | 5 |
| 8 | 19 | System Administration | Cold Backup and Restore | As a sysadmin, I can backup all data to files and reload it fresh while the system is down, using the command line | Running restore after backup recreates the same identical system | 8 |
| | 20 | User Feedback | Flag Photo | As a user, I can flag a photo as | The flagged photo cannot be | 8 |
| <div><div><div><div></div><div></div></div><div>Chart</div><div>Development Speed</div><div>Product Backlog</div><div>Sprint Backlog</div><div>Feature Archive</div></div><div><div></div><div></div></div><div><div>Explore</div></div></div> | | | | | | |

Domain Glossary

- Domain glossary
 - A list of concepts and their definition from the product being developed
 - The missing link between the vision and the product backlog
 - Is a “poor man’s approach” to a domain model
- Glossary term
 - Have a clear fully-defined name for glossary entry
 - Have a crisp “is a” definition, followed by secondary properties
 - Definitions are short; rarely longer than a paragraph
 - Glossary entries are human readable, not machine-processable
- More entries
 - Synonyms are listed as their own entries
 - Shorthands point to the full name (not the other way around)

Example Domain Glossary

| Term | Definition |
|-------------------------|---|
| Individual Photo Rating | A photo rating by a single user of a particular photo at a given point in time. |
| Overall Photo Rating | A photo rating that represents the community's ranking of the photo in question. Over time, a photo accumulates a large number of individual ratings ... |
| Photo | A photo is a flower photo that has been uploaded (and is owned) by a system user. A photo has a status that determines its accessibility. |
| Photo Rating | A numerical value 1..10 that rates a given photo. |
| Photo Sharing Policy | Flowers has a photo sharing policy. The policy determines what an acceptable photo is. Photos are unacceptable if they are unrelated to the Flower's purpose (e.g. ...) |

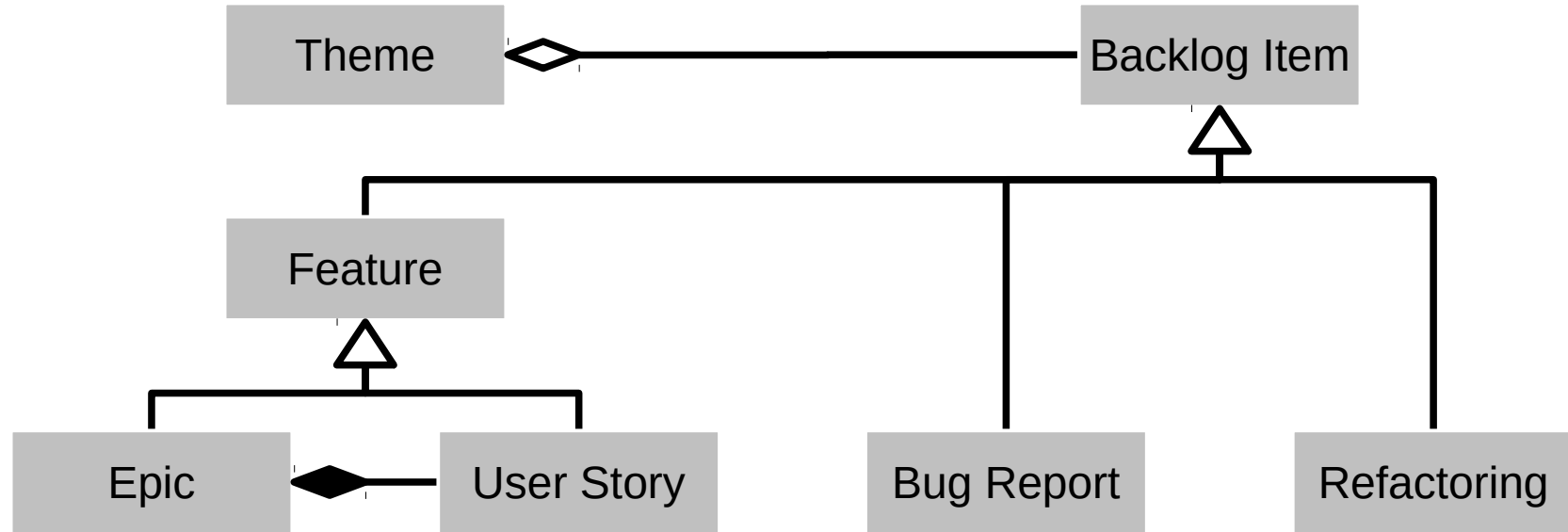
Connecting Product Vision with Backlog Through Glossary



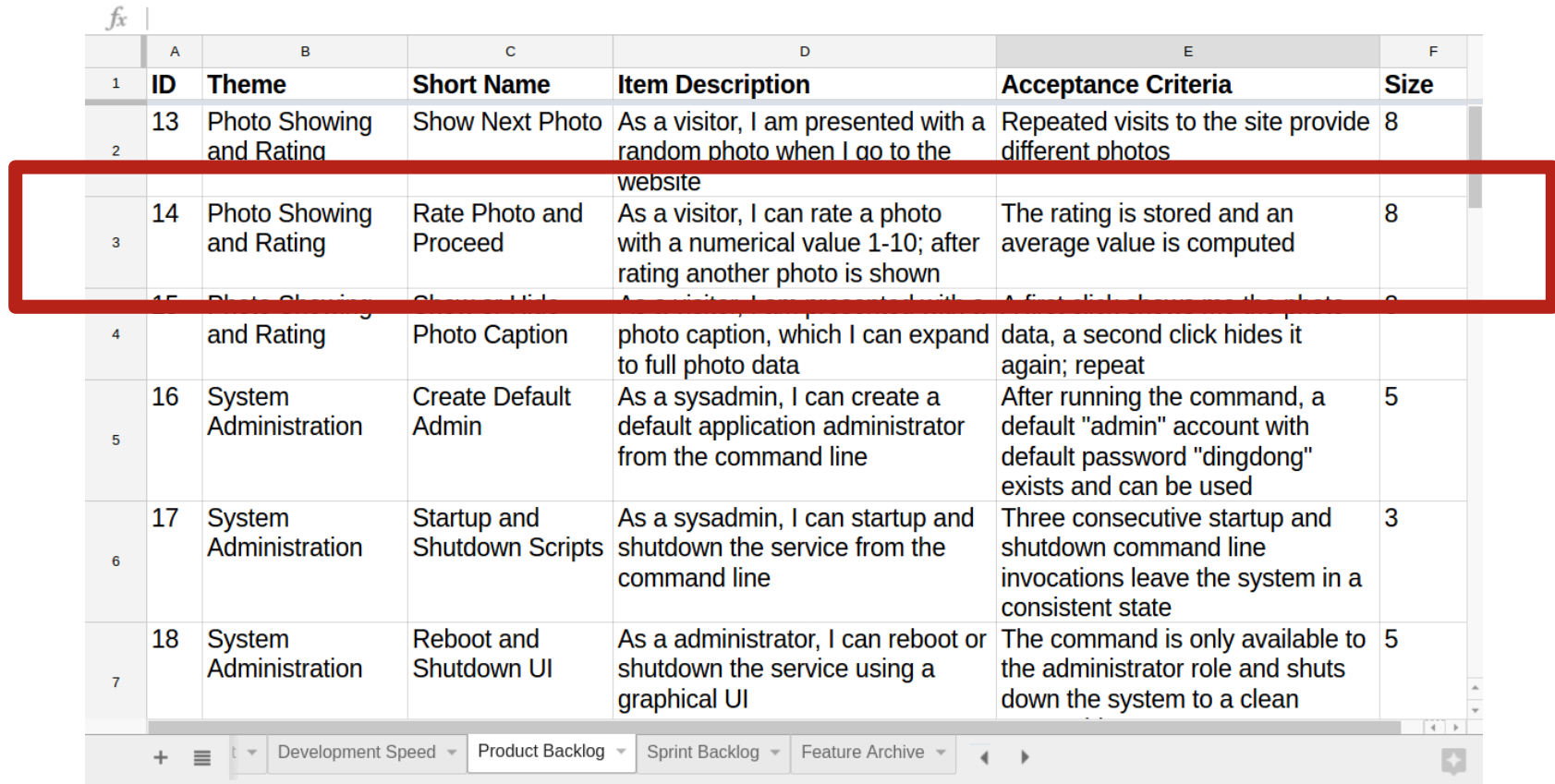
Types of Product Backlog Entries

- Feature
 - A feature is a distinguishing characteristic of a software item (for example, performance, portability, or functionality) [IEEE 829]
- Epic
 - An epic is a large feature awaiting break-down into smaller features; in a product backlog, it acts as a placeholder for these smaller features
- (User) story
 - A user story is a feature presented using a the user-story-pattern that is small enough to be implemented in a sprint
- Refactoring
- Bug report

Model of Product Backlog Items



Example Product Backlog Item



The screenshot shows a Jira Product Backlog interface. A table with 7 columns (ID, Theme, Short Name, Item Description, Acceptance Criteria, Size) and 7 rows of items is displayed. Item 14, 'Photo Showing and Rating', is highlighted with a red rectangular box. The interface includes a top navigation bar with tabs for 'Development Speed', 'Product Backlog', 'Sprint Backlog', and 'Feature Archive'. The bottom of the screen shows a status bar with a plus icon, a menu icon, and a search icon.


| | A | B | C | D | E | F |
|---|----|--------------------------|------------------------------|---|--|------|
| | ID | Theme | Short Name | Item Description | Acceptance Criteria | Size |
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Flowers / Tell-a-Friend Implemented



[[show](#) | [tell](#)] — [[signup](#) | [login](#) | [configure](#)]

Tell a friend!

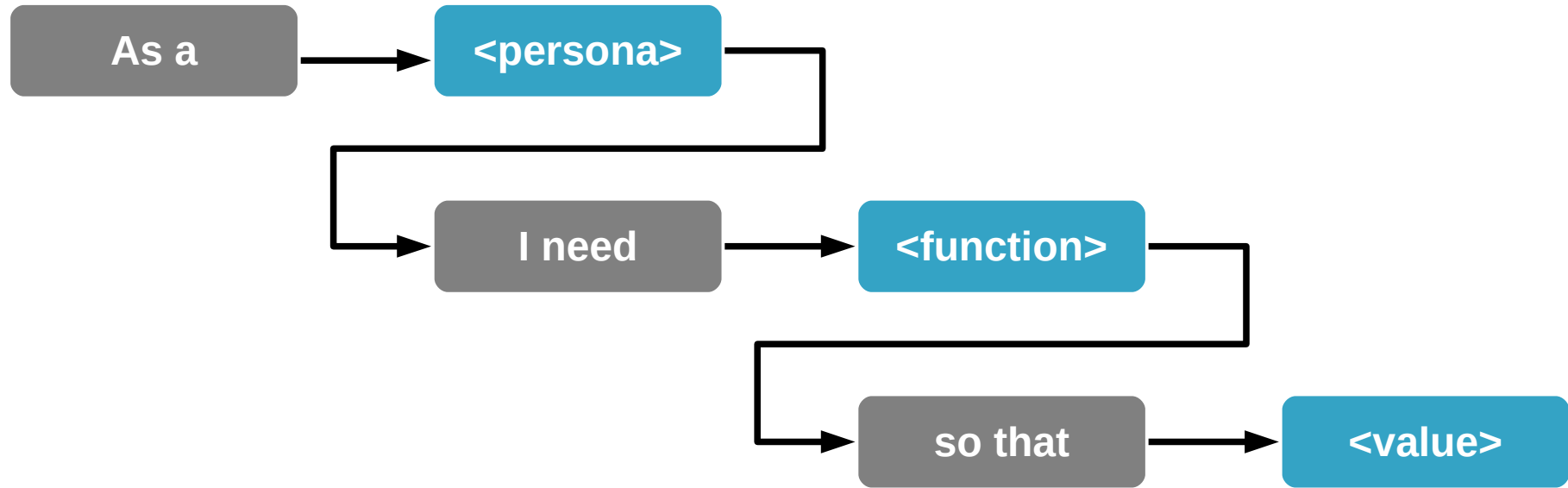
| | | |
|---|---------------------|---|
|  | From Email Address: | <input type="text" value="dirk@riehle.org"/> |
| | To Email Address: | <input type="text"/> |
| | Email Subject: | <input type="text"/> |
| | Message: | <div><div>http://localhost:8585/ http://localhost:8585/x1ac5.html</div><div>Tell!</div></div> |

This website is to show the best in photos!

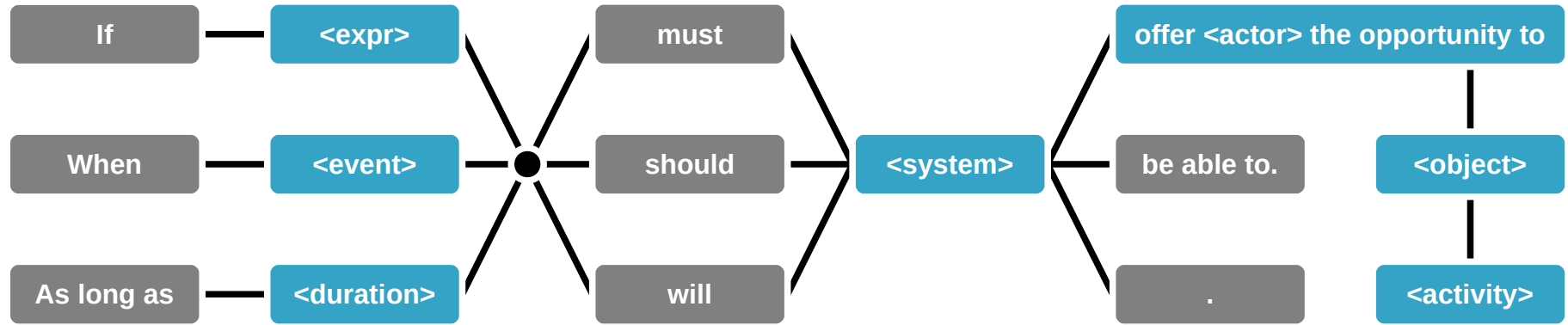
[[blog](#)] — [[about](#) | [contact](#) / [imprint](#) | [terms](#)] — [language: en | [de](#)] — [photo size: [XS](#) | [S](#) | M | [L](#) | [XL](#)] — [debug: [reset](#)]

[processing time: 0.012 seconds]

Agile Sentence Template (User Story)



Classic Requirements Specification Sentence Template

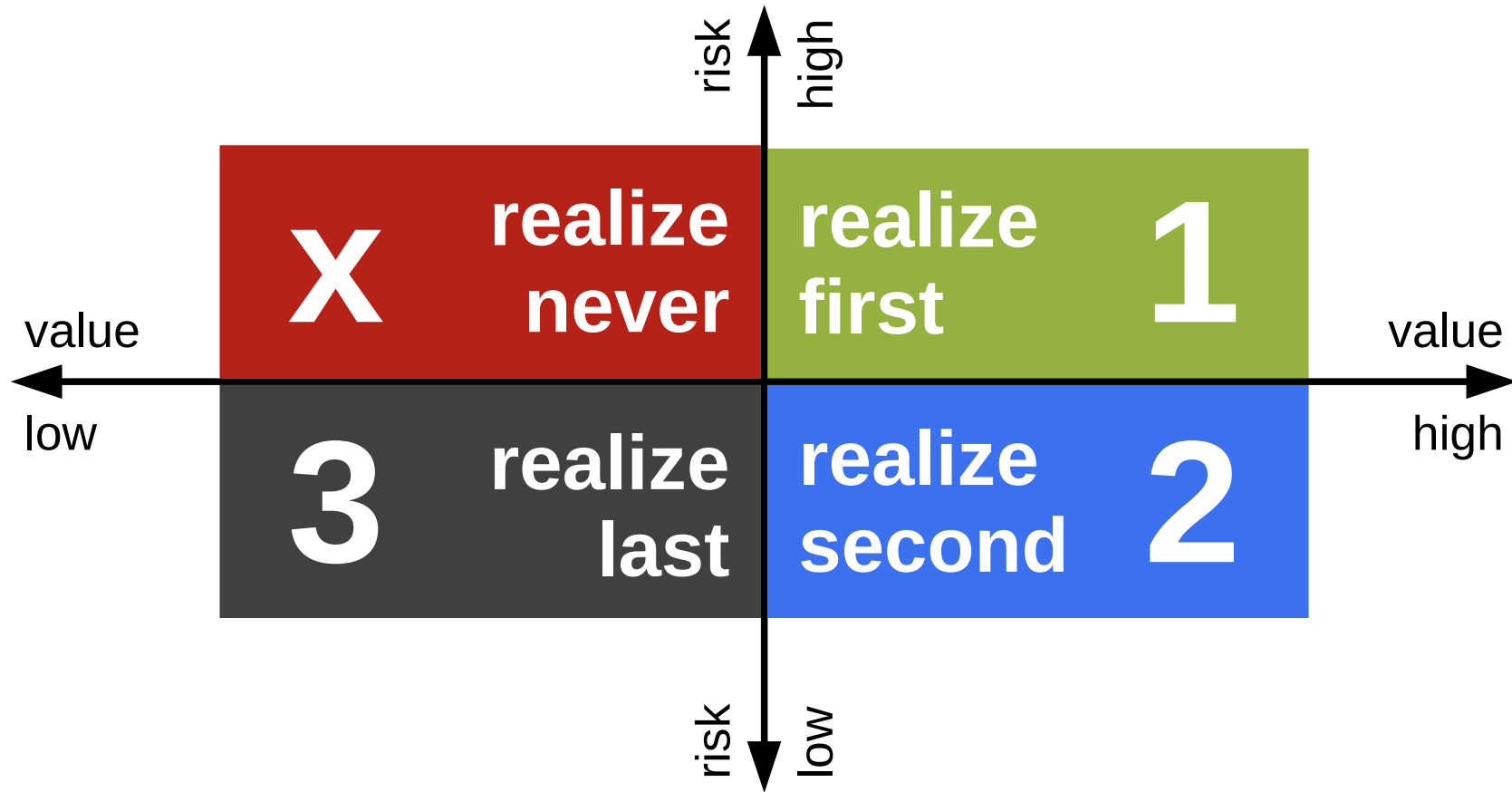


Acceptance Criterion

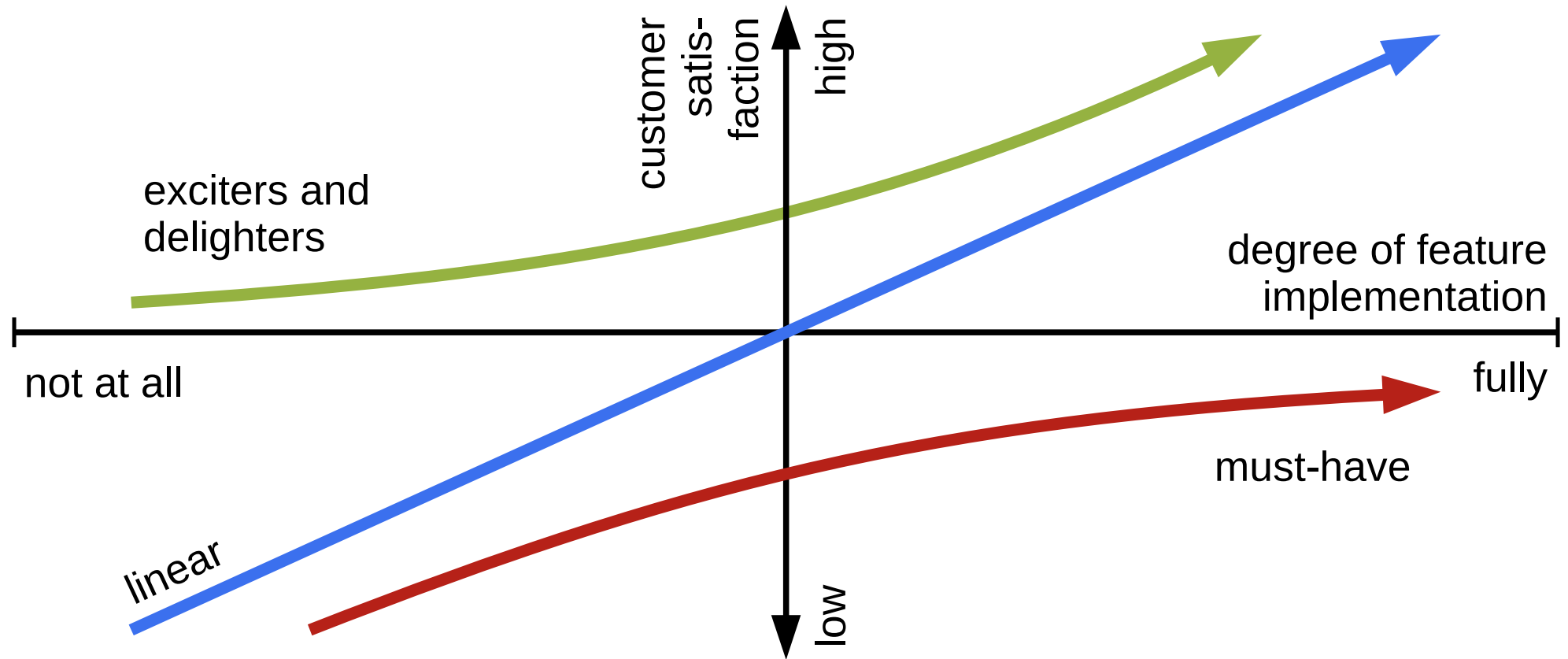
- An **acceptance criterion** for a **backlog entry**
 - Is a **proposition** that must be true
 - Before the entry can be accepted (signed-off on)
- Acceptance criteria
 - A set of criteria that need to be fulfilled

- 1. Essential / High**
- 2. Conditional / Medium**
- 3. Optional / Low**

Prioritizing Features by Value and Risk



Classifying Features by Kano Model



Technical Specification (PRD 2 / 3)

- Definition of platform, language, tools
- Required services and capabilities

Definition of Done

- Definition of Done (DoD)
 - An auditable check-list of results
 - Built from value-adding activities
 - That everyone previously agreed to
 - It is about the non-functional aspects of work

Example DoD for Product Release

1. Project builds, deploys, and tests successfully
2. Component test coverage is 70% or higher
3. Database upgrade in test environment succeeded
4. Software documentation passes external review
5. User manual passes external review

Example DoD for Single Feature

1. Unit tests for feature have been written and are passing
2. Code review has been completed
3. Feature branch has been tagged and merged
4. Project builds, deploys, and tests successfully
5. Feature was demoed and accepted by product owner

Definition of Done vs. Acceptance Criteria

- **DoD (Feature)**
 - Specific to a particular type of artifact
 - The same for all instances of that type
- **Acceptance Criteria**
 - Specific to a particular artifact

The Whole Package (PRD 3 / 3)

- Product package and collateral
- Ancillary services

Review / Summary of Session

- The Product Requirements Document (PRD)
 - Functional Specification
 - Technical Specification
 - Whole Product Package

Thank you! Questions?

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