

Planning and Tracking

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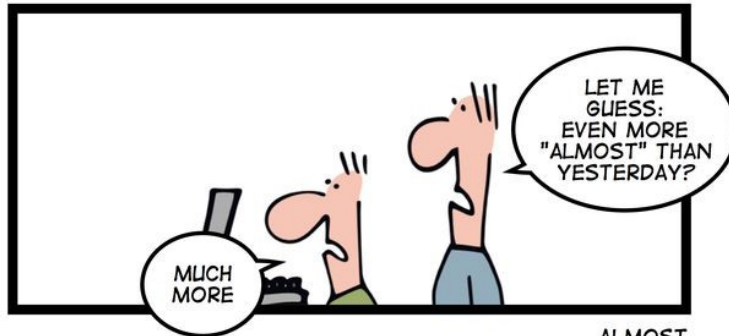
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Agenda

1. Planning horizons
2. Definition of done
3. Types of sprints
4. Sprint planning
5. Release planning
6. Roadmapping



ALMOST

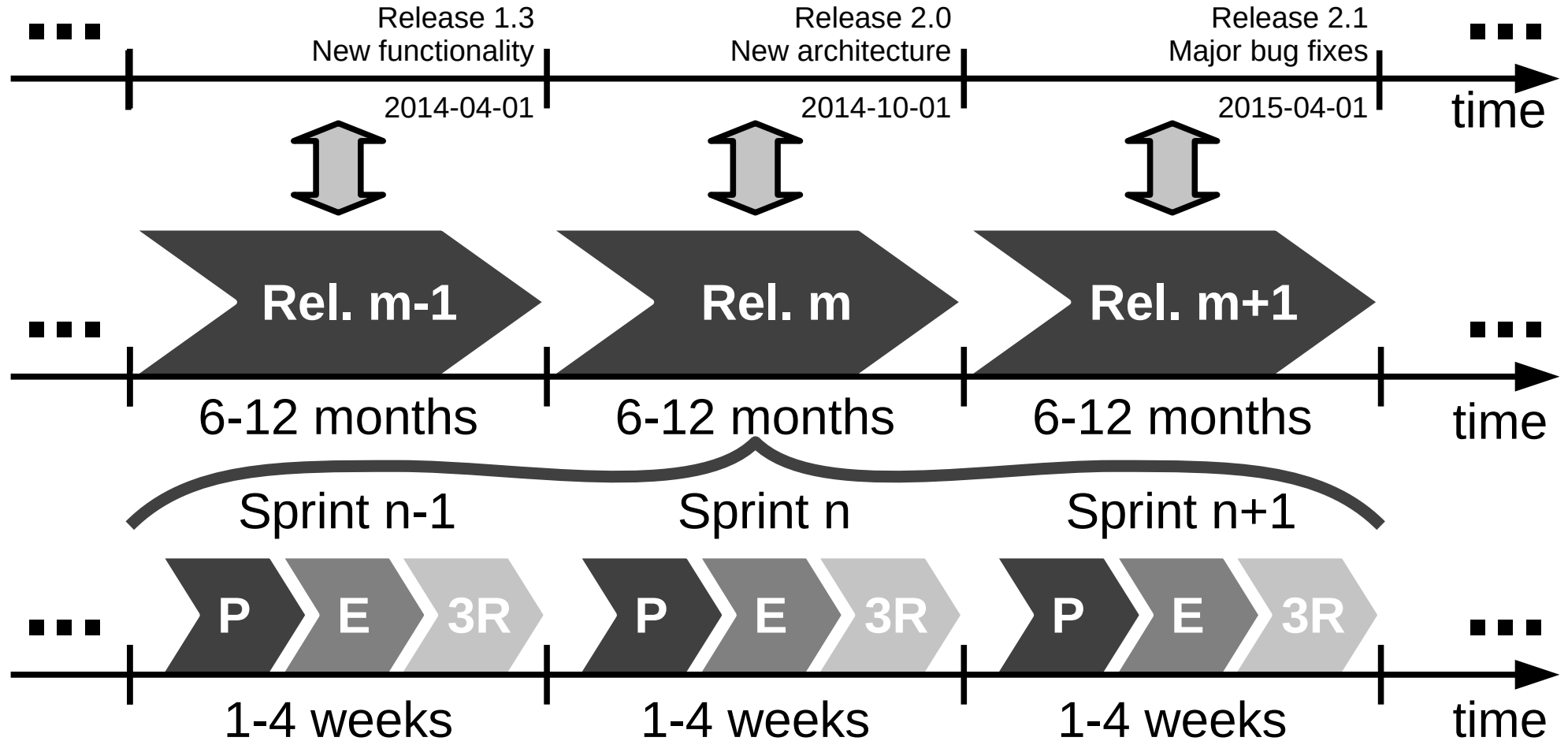
Cartoon Lesson

- Software developers are optimists
- Reliable prediction is difficult
- You are always 80% there

1. Planning Horizons

1. Roadmapping
 2. Release planning
 3. Sprint planning
-
4. Feature planning

Planning Horizons



Relationship between Planning Horizons

- A roadmap is a sequence of releases
 - A roadmap can stretch over multiple years
- A product release is a sequence of sprints
 - A product release can take anything from 3-12 months or more
- A sprint is a (short) time-box / iteration
 - A sprint can be anything from 1-4 weeks

2. Definition of Done

Definition of Done (Artifact)

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

Definition of Done (Practices)

- Agree on Definition of Done
 - Responsible: Product owner, developers
 - Artifacts: Definition of Done
 - Collaborators: Same
- Apply Definition of Done
 - Responsible: Product owner, developers
 - Artifacts: Definition of Done
 - Collaborators: Same

- **Product Release**
- **Sprint Release**
- **Single Feature**

Example DoD for Single Feature

- Single feature DoD
 - Unit tests for feature have been written and are passing
 - Code review has been completed
 - Feature branch has been tagged and merged
- Always expected
 - Project builds, deploys, and tests successfully
 - Feature was demoed and accepted by product owner

Definition of Done vs. Acceptance Criteria

- **DoD (Feature)**
 - The same for every entry
- **Acceptance Criteria**
 - Specific to a backlog entry

3. Types of Sprints

- 1. Regular sprint**
- 2. Exploratory sprint**
- 3. Cleanup sprint**
- 4. Release sprint**

Start and Duration of Regular Sprints

- **Monthly Sprints**
 - Is original recommendation
 - Is too long for some domains
 - Should start 1st Monday
- **Two Week Sprints**
 - Are realistic even for beginners
 - Align with half-month rhythm
 - Should start on Wed or Thu
- **One Week Sprints**
 - Requires well-working team
 - Are needed in some domains
 - Should start on Wed or Thu

Irregular Sprints



Quiz: Working with Time 1 / 2

1. Your startup is selling designer clothes to consumers on the web. What sprint duration should you choose?
 - a) 1 week sprints
 - b) 4 week sprints

2. Your startup is selling cryptography software to enterprise customers. What sprint duration should you choose?
 - a) 1 week sprints
 - b) 4 week sprints

Quiz: Working with Time 2 / 2

3. Your consulting firm is hired to enhance a bank's email software with a cryptography plug-in. Should you suggest a
 - a) Defined scope but no deadline
 - b) Project deadline (fixed release date)

4. You are coordinating the development of an open source multi-component JEE platform implementation. Should you release
 - a) When a defined scope is reached
 - b) When a defined date is reached

4. Sprint Planning

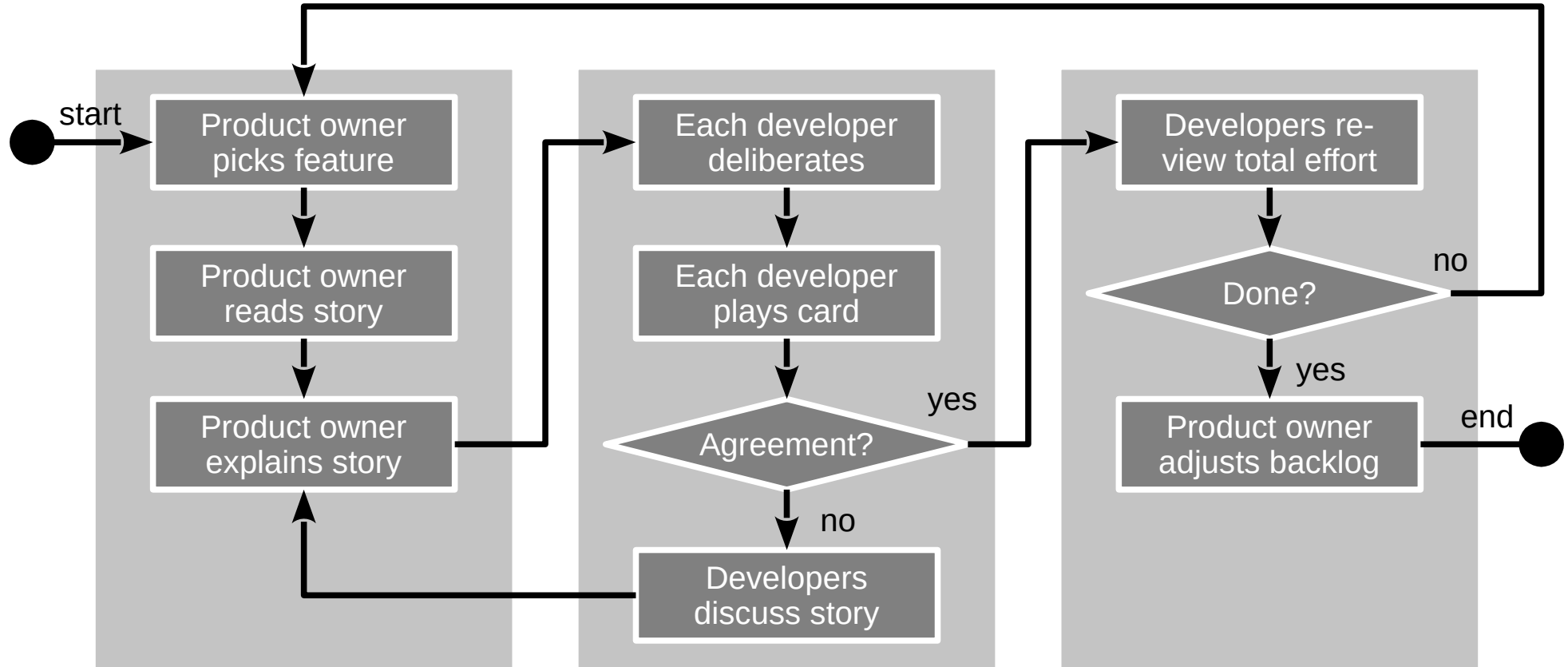
Sprint Planning 1 / 3 (Practices)

- Prepare Sprint Planning Meeting
 - Responsible: Product owner
 - Artifacts: Features, product backlog
 - Collaborators: Developers

Sprint Planning 2 / 3 (Practices)

- Lead Sprint Planning Meeting
 - Responsible: Product owner / Scrum master
 - Artifact: Product and sprint backlog
 - Collaborators: Developers
- Explain Feature
 - Responsible: Product owner
 - Artifact: Feature
 - Collaborators: Developers
- Estimate Feature Size (a.k.a. Play Planning Poker)
 - Responsible: Developers
 - Artifact: Feature
 - Collaborators: Product owner

Playing Planning Poker (Practice)



Sprint Planning 3 / 3 (Practices)

- Manage Sprint Backlog
 - Responsible: Product owner
 - Artifacts: Features, product and sprint backlog
 - Collaborators: Developers

Sprint Backlog (Artifact)

| | A | B | C | D | E | F |
|----|----|------------------|------------------------|--|---|------|
| 1 | ID | Theme | Short Name | Item Description | Acceptance Criteria | Size |
| 2 | 9 | Photo Management | Browse Photo Portfolio | As a user, I can browse my collection of uploaded photos, i.e. my photo portfolio, complemented by basic information | I am provided with a browseable list of all my photos to select one from | 8 |
| 3 | 10 | Photo Management | Select Photo | As a user, I can select any one of my photos and have it shown to me, including any added information | After selecting one of my photos I'm presented with a screen that shows the photo and its information | 5 |
| 4 | 11 | Photo Management | Change Photo Data | As a user, I can select any of my photos and change the information available for it | After changing the photo's information, the change becomes effective immediately | 3 |
| 5 | 12 | Photo Management | Delete Photo | As a user, I can select any photo from my portfolio and have it deleted | After deleting the photo, it will not be shown any longer to any user | 5 |
| 6 | | | | | | |
| 7 | | | | | | |
| 8 | | | | | | |
| 9 | | | | | | |
| 10 | | | | | | |
| 11 | | | | | | |
| 12 | | | | | | |
| 13 | | | | | | |
| 14 | | | | | | |
| 15 | | | | | | |
| 16 | | | | | | |
| 17 | | | | | | |
| 18 | | | | | | |
| 19 | | | | | | |
| 20 | | | | | | |

Chart ▾

Development Speed ▾

Product Backlog ▾

Sprint Backlog ▾

Feature Archive ▾

◀ ▶

Example DoD for Sprint Release

- Sprint Release DoD
 - Database consistency checks in test environment succeeded
- Always expected
 - Project builds, deploys, and tests successfully

Quiz: Sprint Planning

1. If a “user registration feature” is 8 story points, then a “user login feature” must be of size
 - a) Less than 8 points
 - b) Exactly 8 points
 - c) More than 8 points
 - d) Cannot determine

Development Speed (Velocity)

$$v = s / t$$

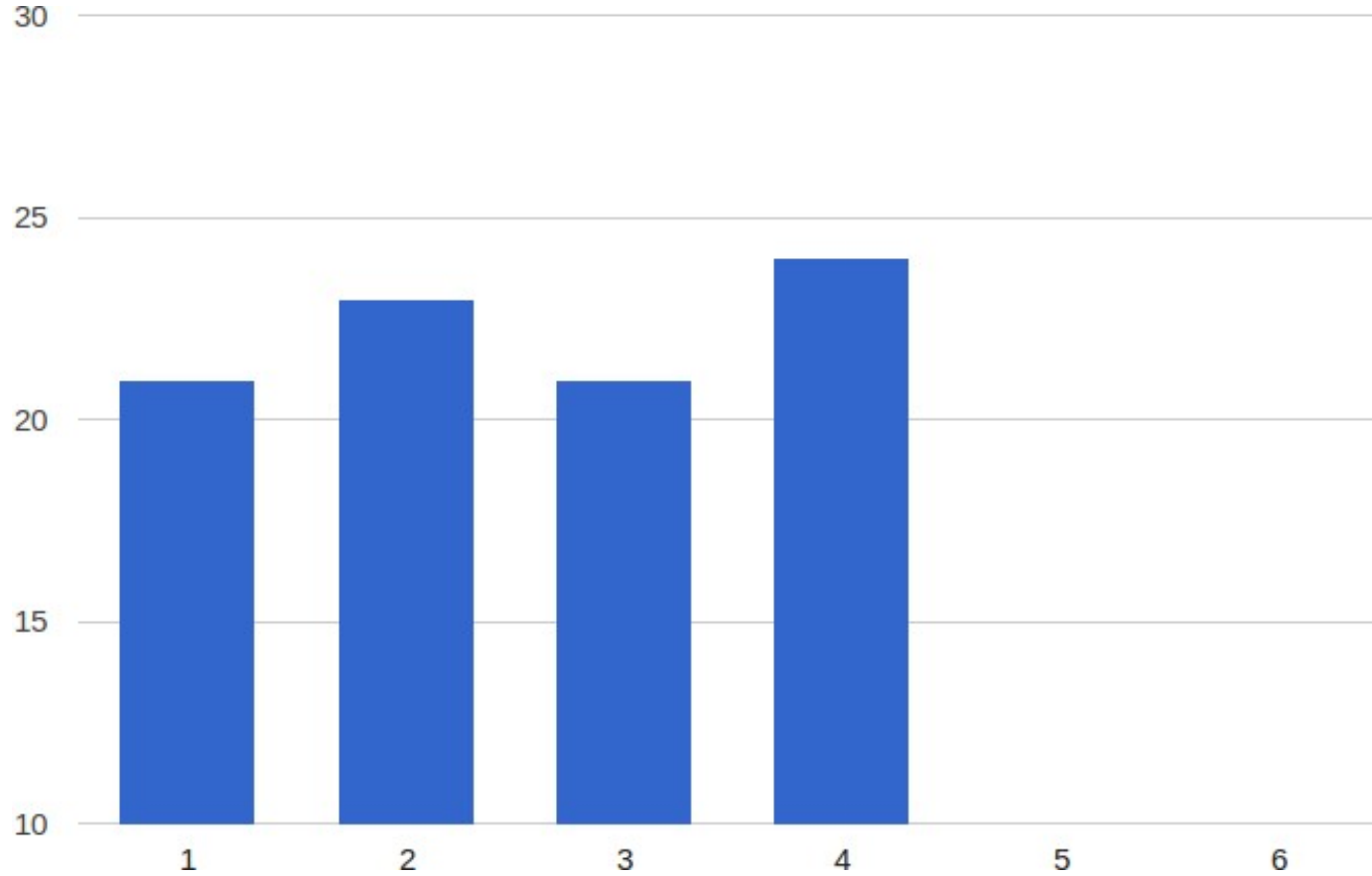
[story points / sprint]

v = speed (velocity)
s = size (of feature)
t = time (in sprints)

Track Development Speed (Practice)

- Track Development Speed
 - Responsible: Product owner
 - Artifacts: Sprint backlog
 - Collaborators: None

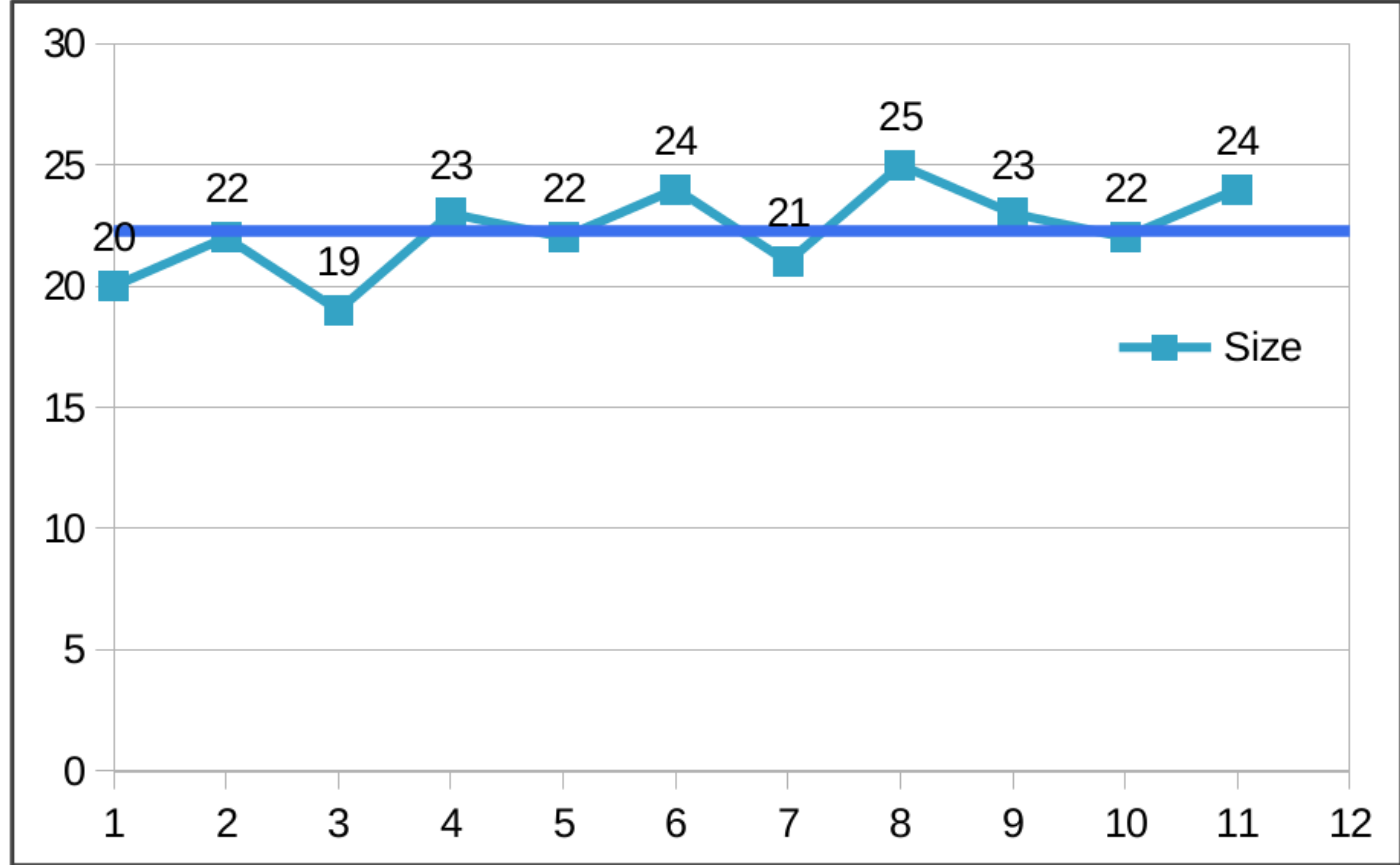
Development Speed Chart (Artifact)



Working with Development Speed

| # | Size |
|----|------|
| 1 | 20 |
| 2 | 22 |
| 3 | 19 |
| 4 | 23 |
| 5 | 22 |
| 6 | 24 |
| 7 | 21 |
| 8 | 25 |
| 9 | 23 |
| 10 | 22 |
| 11 | 24 |
| 12 | |

| | |
|-----|-------|
| Avg | 22,27 |
|-----|-------|



Quiz: Progress Tracking

1. You are calculating development speed using a moving average of the last four sprints. Development speed fluctuates wildly. Possible reasons may be:
 - a) The user stories are badly written
 - b) The team is being distracted
 - c) The code quality is poor
 - d) All of the above

5. Release Planning

Release Planning (Practice)

- Plan Releases
 - Responsible: Product owner
 - Artifacts: Release plan
 - Collaborators: Market / customer, funder / sponsor
 - **Note: Not part of Scrum proper**

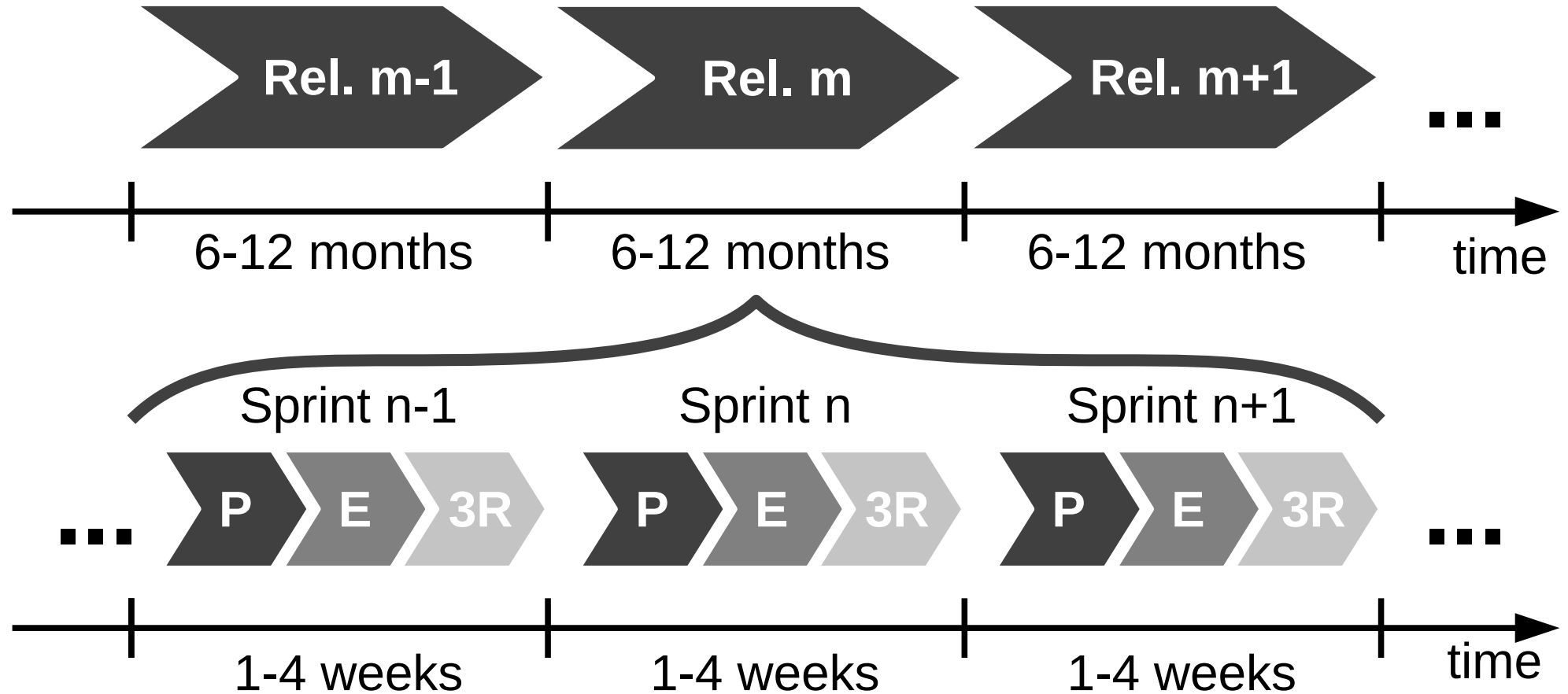
Release Plan (Artifact)

- Release Plan
 - A sequence of releases with defined start and end times
 - Where each release represents a deployable product increment
 - That provides new significant business value to market / customer
 - **Note: Core of roadmap is captured as the release plan**
- Other properties
 - Defined rhythm: Releases should be of about equal length in time
 - Common are 3, 6, and 12 months increments
 - External factors: Start and end dates are often determined by external factors
- The release plan defines the release schedule

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 | | |
| | | | | | | | |

Release as Sequence of Sprints



Single Release Plan (Artifact)

- Single Release Plan
 - Is a product increment for the next market release / customer deployment
 - Consists of all product backlog items considered part of that increment
 - Structures the release into sprints by theme and purpose
 - Is a planning and communication tool, not a strict plan
- Other properties
 - Evolving: Is adapted in reaction to changes in team and environment

Single Release Planning (Practice)

- Plan Single Release
 - Responsible: Product owner
 - Artifacts: Single release plan
 - Collaborators: Market / customer, developers

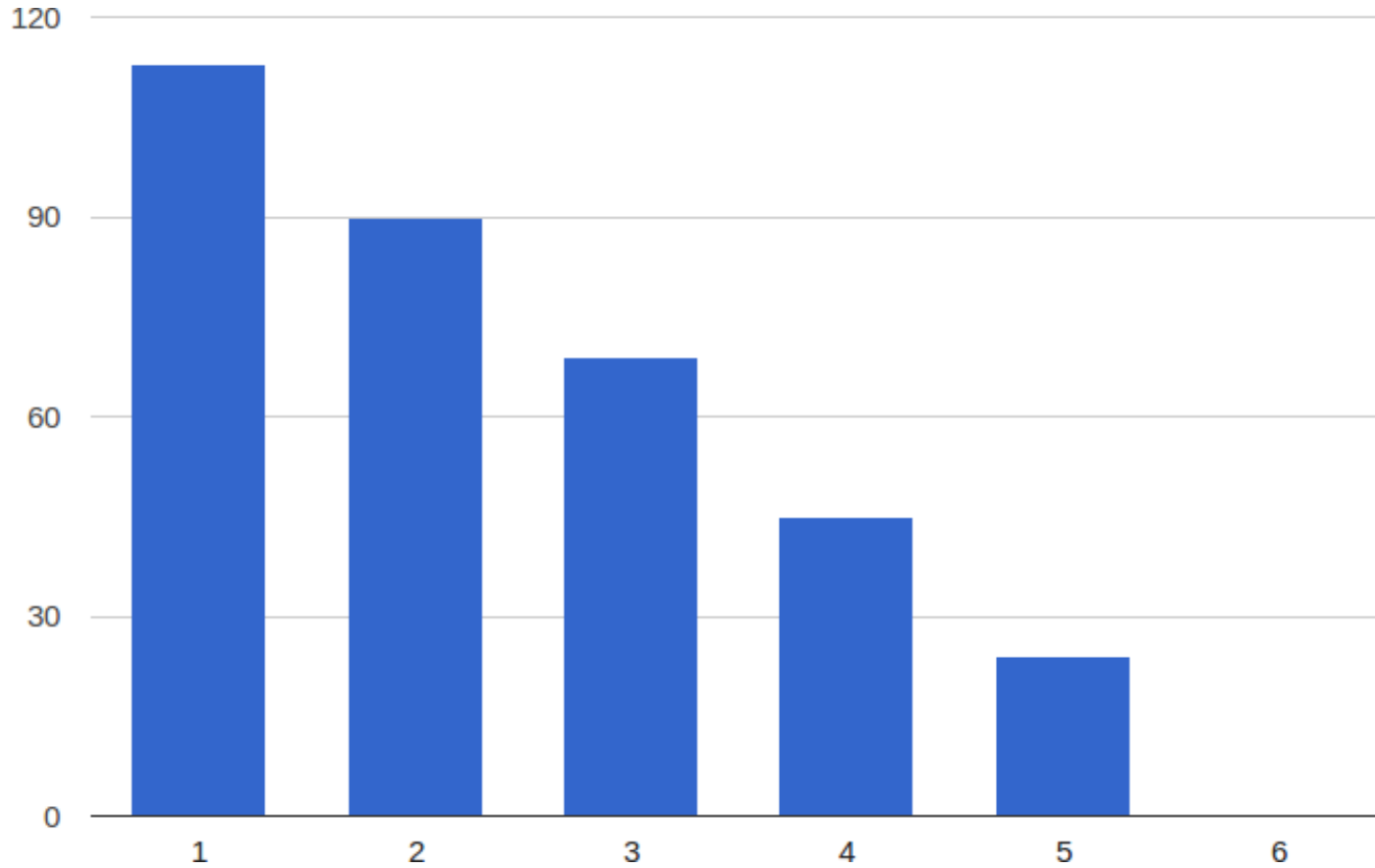
Example DoD for Product Release

- Product release DoD
 - Component test coverage is 70% or higher
 - Software documentation passes external review
 - User manual passes external review
- Always expected
 - Project builds, deploys, and tests successfully

Track Release Burn-Down

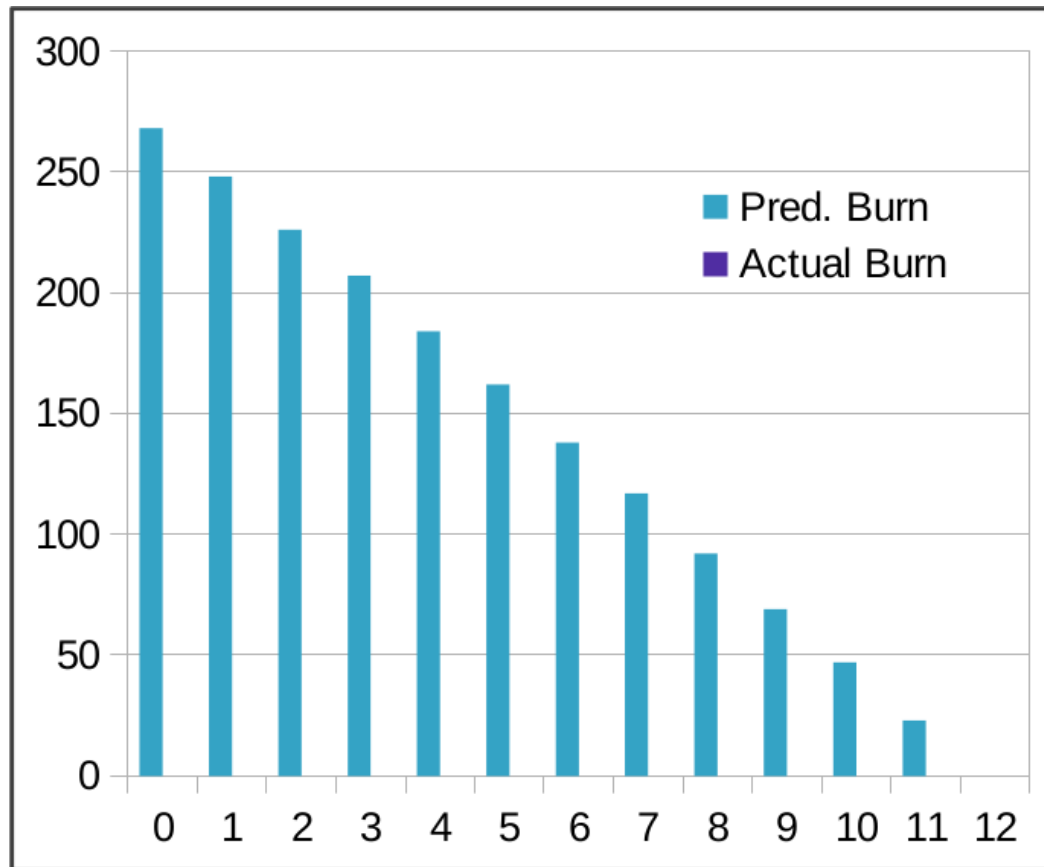
- Track Release Burn-down
 - Responsible: Product owner
 - Artifacts: Release burn-down chart
 - Collaborators: None

Release Burn-down Chart (Artifact)



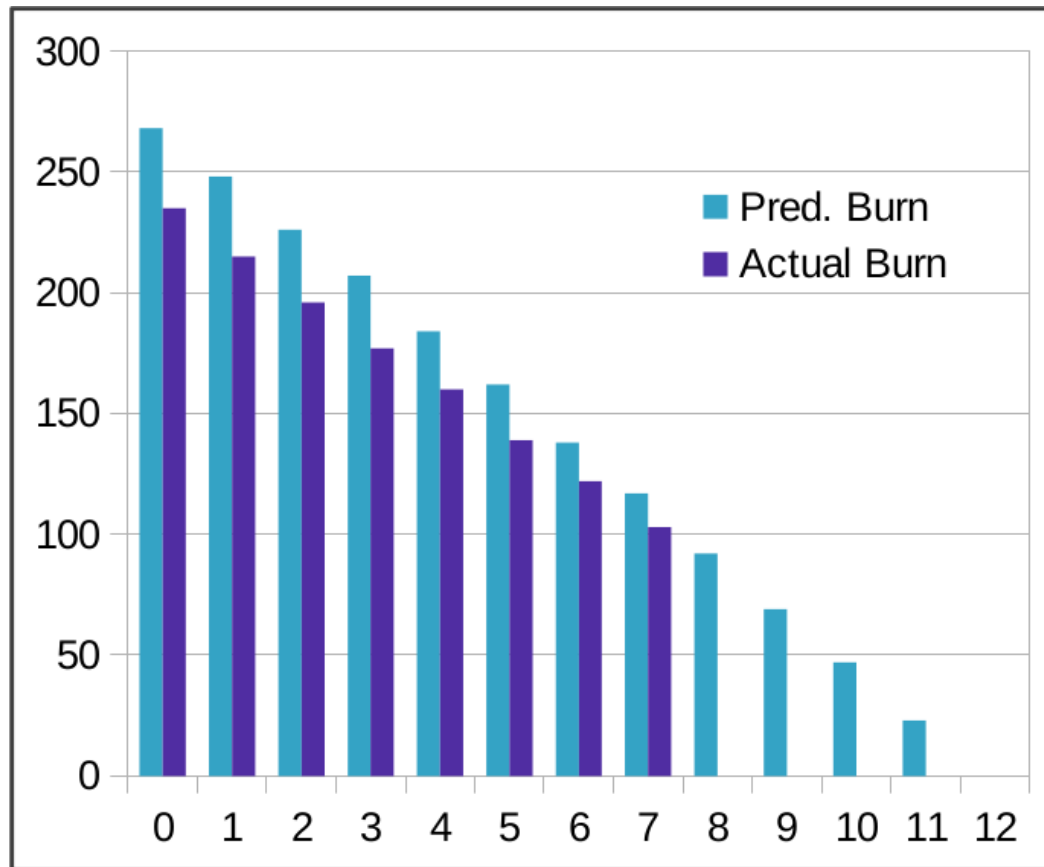
Predicting Burn-down

| # | Pred. Size | Pred. Burn | Actual Size | Actual Burn |
|----|------------|------------|-------------|-------------|
| 0 | | 268 | | |
| 1 | 20 | 248 | | |
| 2 | 22 | 226 | | |
| 3 | 19 | 207 | | |
| 4 | 23 | 184 | | |
| 5 | 22 | 162 | | |
| 6 | 24 | 138 | | |
| 7 | 21 | 117 | | |
| 8 | 25 | 92 | | |
| 9 | 23 | 69 | | |
| 10 | 22 | 47 | | |
| 11 | 24 | 23 | | |
| 12 | 23 | 0 | | |



Adjusting Burn-down

| # | Pred. Size | Pred. Burn | Actual Size | Actual Burn |
|----|------------|------------|-------------|-------------|
| 0 | | 268 | | 235 |
| 1 | 20 | 248 | 20 | 215 |
| 2 | 22 | 226 | 19 | 196 |
| 3 | 19 | 207 | 19 | 177 |
| 4 | 23 | 184 | 17 | 160 |
| 5 | 22 | 162 | 21 | 139 |
| 6 | 24 | 138 | 17 | 122 |
| 7 | 21 | 117 | 19 | 103 |
| 8 | 25 | 92 | 21 | 82 |
| 9 | 23 | 69 | 20 | 62 |
| 10 | 22 | 47 | 19 | 43 |
| 11 | 24 | 23 | 22 | 21 |
| 12 | 23 | 0 | 21 | 0 |



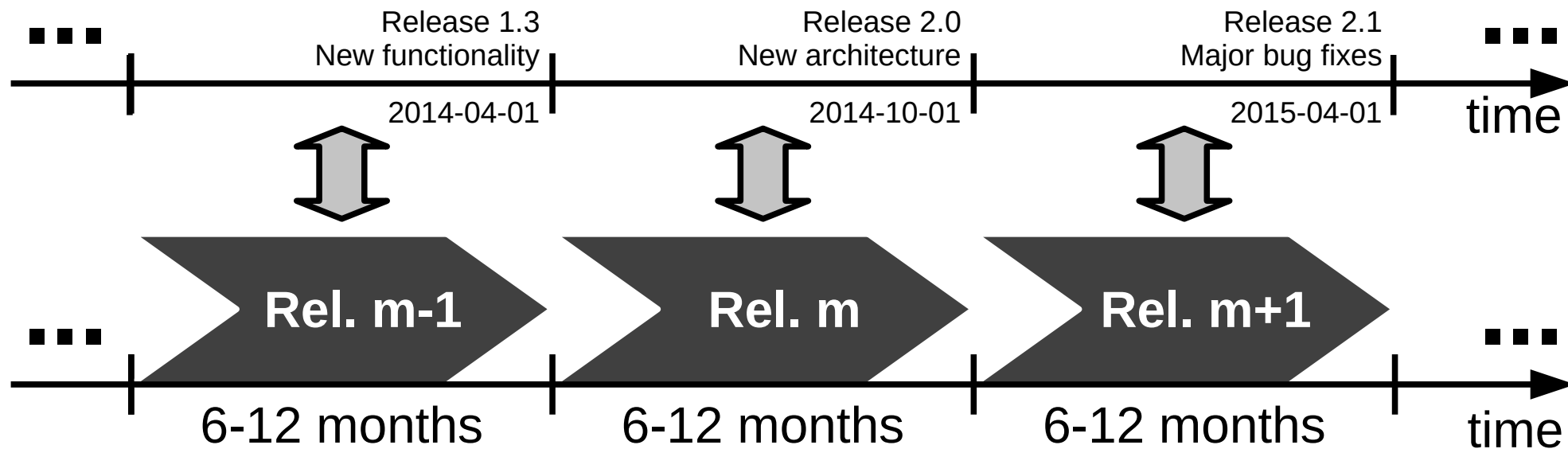
6. Roadmapping

Roadmap (Artifact)

- External Roadmap
 - Overview-oriented; few details are provided
 - Serves communication needs
 - Serves external stakeholders
- Internal Roadmap
 - As detail oriented as needed (richer than external roadmap)
 - Serves planning and communication needs
 - Serves internal stakeholders

Roadmap as Sequence of Releases

External roadmap

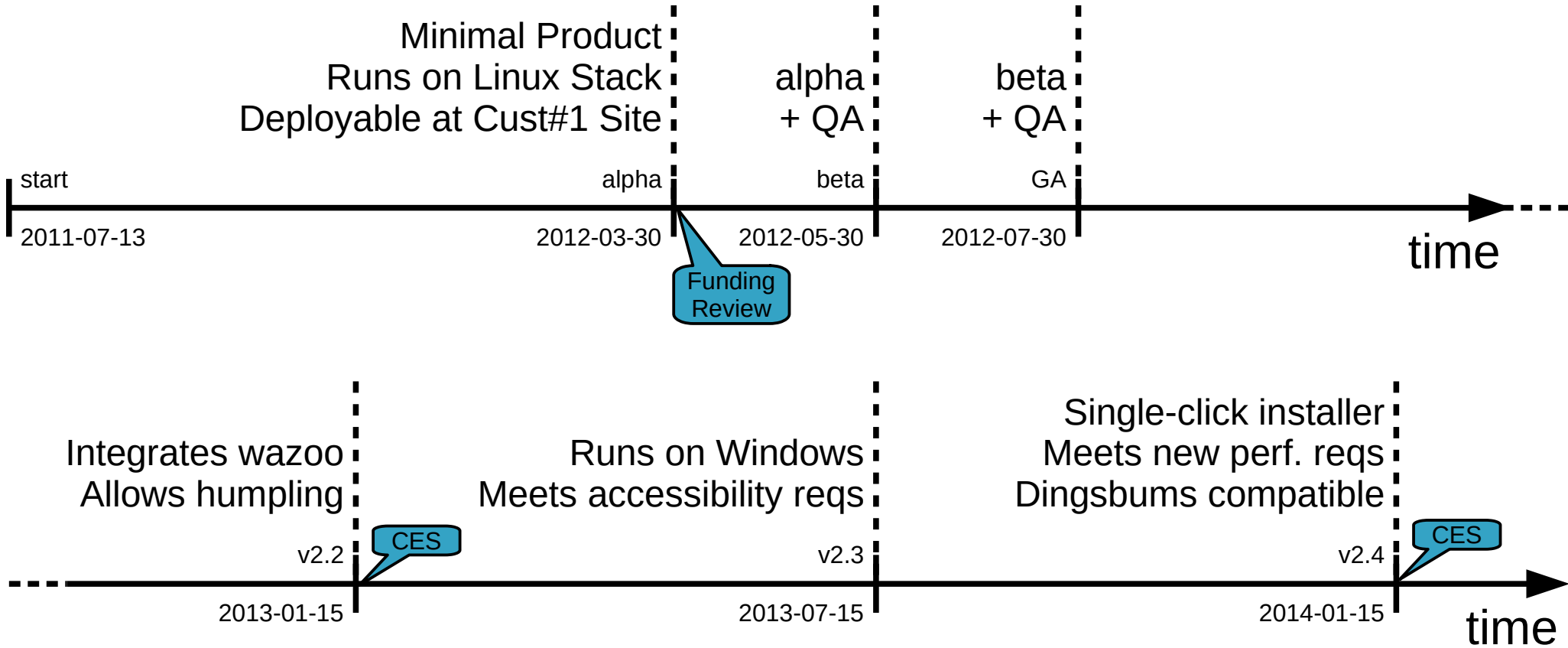


Internal roadmap

Roadmapping (Practice)

- Plan Roadmap
 - Responsible: Product owner
 - Artifacts: Release plan, releases
 - Collaborators: Market / customer, funder / sponsor
 - **Note: Not part of Scrum proper**

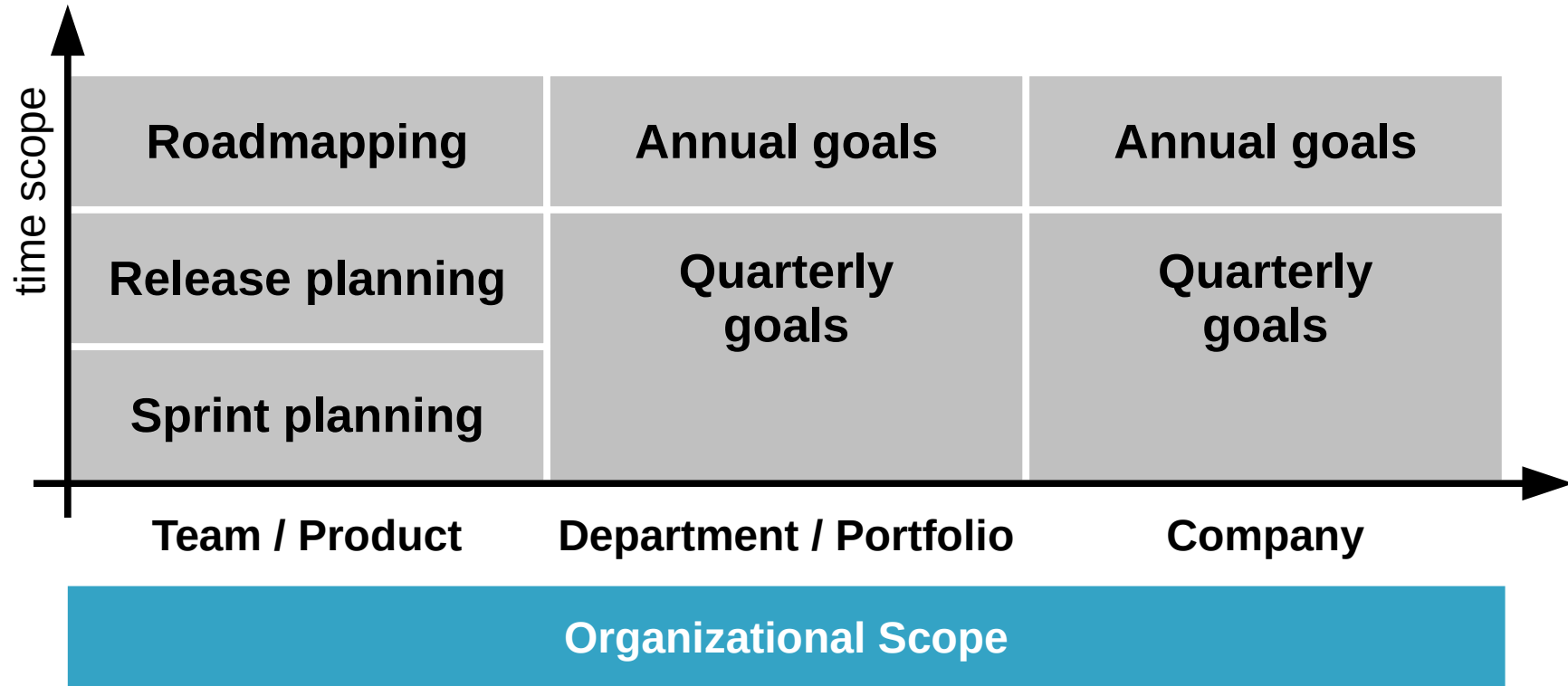
Example Roadmap



Vision vs. Roadmap vs. Release

| | Timeframe | Content | Certainty | Owner |
|-----------------|-------------------------|-----------------------|-----------|---------------------------------|
| Product Vision | Long-term (3+ years) | High-level ideas | Low | CEO |
| Product Roadmap | Medium (1-5 years) | Themes and epics | Medium | Strategic product manager |
| Product Release | Short-term (months) | Epics and features | High | Technical product manager |

Planning by Organizational Scope



Review / Summary of Session

1. Planning horizons
2. Definition of done
3. Types of sprints
4. Sprint planning
5. Release planning
6. Roadmapping

Thank you! Questions?

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