

Market-Driven Requirements Engineering

"The hardest part of building a software system
is deciding precisely what to build."

Tobias Bannwart
Anil Kandrical
Jef Van Loon

Overview

1. **Bespoke Development vs. Market-Driven Development**
2. **Challenges in Market-Driven Requirements Engineering**
3. **Addressing the Challenges: Requirements Lifecycle Models**
4. **A Key Problem: Requirements Prioritization**

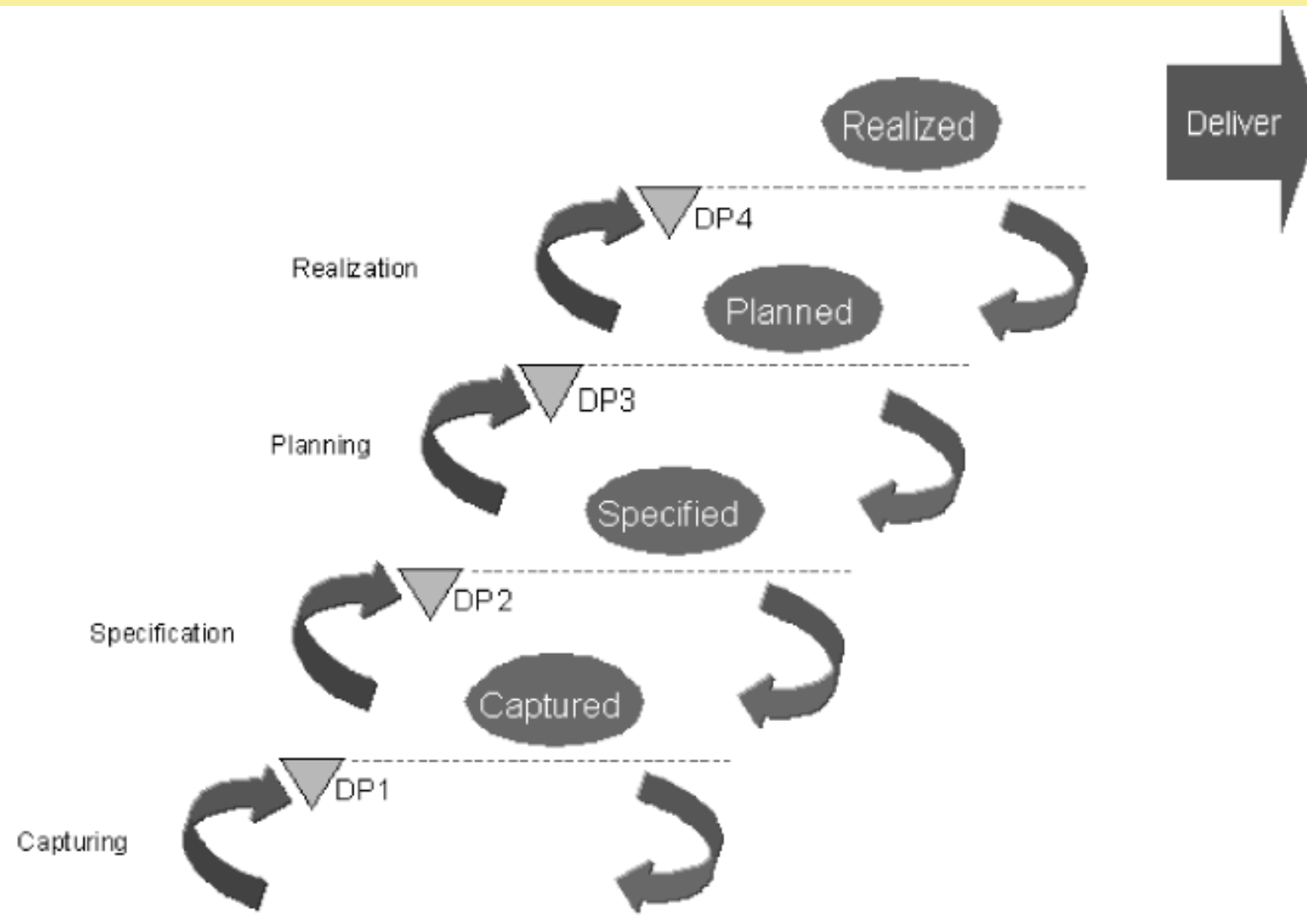
Bespoke Development vs. Market-Driven Development

	Bespoke	Market-driven
Main stakeholder	Customer organization	Developing organization
Users	known / identifiable	unknown, may not (yet) exist
Distance to users	usually small	usually large
Req. Conception	elicited, analyzed, validated	invented (market pull / technology push)
Lifecycle	One release, then maintenance	several releases
Specific RE issues	elicitation, modeling, validation, conflict resolution	steady stream of requirements, prioritization
Primary goal	compliance to specification	time-to-market
Measure of success	satisfaction, acceptance	sales, market share

Challenges in Market-Driven Requirements Engineering

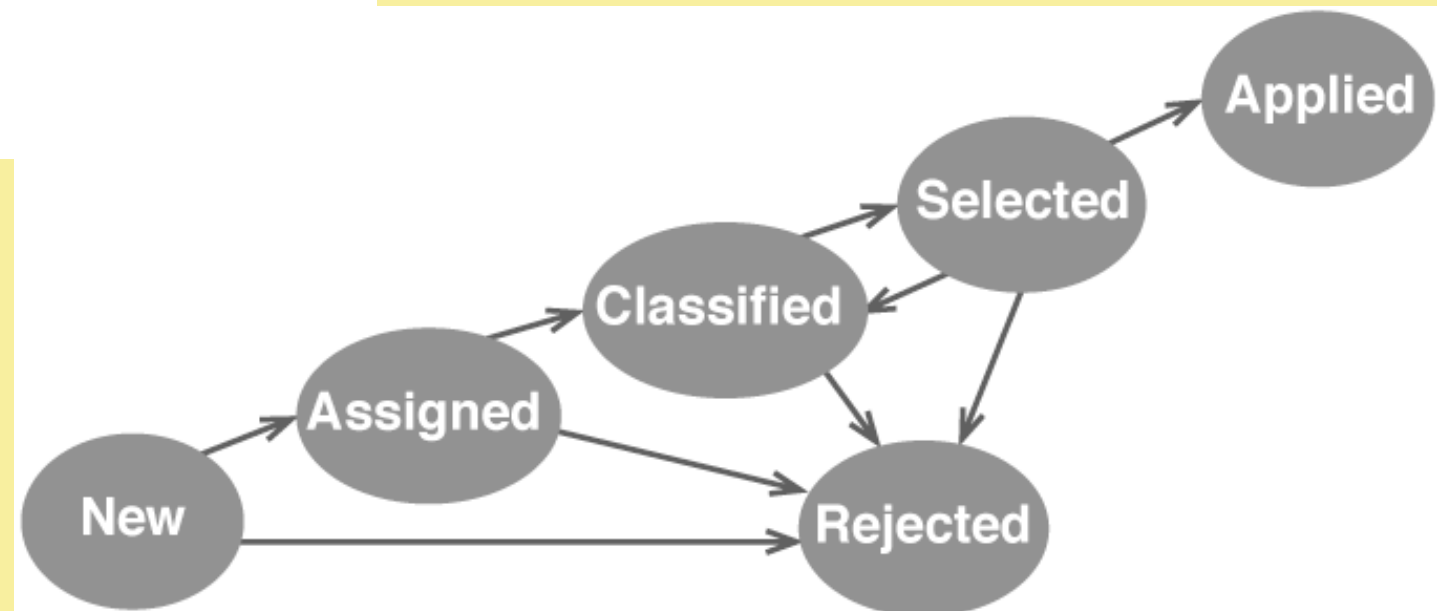
- [Balancing market pull and technology push
- [Chasm between marketing and development
- [Organizational instability and market turbulence
- [Simple tools for basic needs
- [Requirements dependencies
- [Cost-value-estimation and release planning
- [Overloaded requirements management

Addressing the Challenges: Requirements Lifecycle Models



REPEAT (Telelogic)

RDEM (Ericsson)



Carlshamre & Regnell

Addressing the Challenges: Requirements Lifecycle Models

Roles

- RDEM: Application Domain Team (Domain Manager, Development Manager, Lead Analyst, Lead Designer, Lead Tester; 20 roles in total!)
- REPEAT: Customer, Issuer, Expert, Requirements Management Group, Requirements Team, Construction Team, Test Team

Activities

- RDEM: Capturing and specification, planning, realization
- REPEAT: Elicitation, documentation, validation; focus on requirements selection, release planning

A Key Problem: Requirements Prioritization

Why do we need prioritization?

- MDRE: continuous stream of requirements
- Bespoke RE: different stakeholders have different interests

Different prioritization methods for decision making

- Analytical Hierarchy Process (AHP)
- 100 Dollar Test
- Top Ten
- Ranking
- Numerical assignment (grouping)

Requirements Prioritization: Challenges

— [Which method should be used?

— in general: use the simplest one, use complex ones when more sophisticated evaluation is necessary (e.g. for solving disagreements)
[Berander & Andrews]

— [Prioritization in market-driven RE

— not all users are accessible: use sales data, competitor data, marketing research [Berander & Andrews]

Q&A

Thank you.

