Software product management

“Companies win or fail depending on their product managers.”
(Ebert, 2007)
Agenda

- Software Product Management
- SPM Competence Model
What is Software Product Management?

Software product management (SPM) is the discipline that governs a software product over its whole life cycle, from its inception to customer delivery, in order to generate the biggest possible value to the business.
What is a product manager?

“A product manager is a ‘mini CEO’ representing the enterprise or business unit in strategy definition and operational execution.”

Ebert (2007)
What about the other managers?

• Ebert (2007):
  – “a product manager leads and manages one or several products from the inception to the phase-out in order to maximize business value”
  – “a marketing manager determines how to sell a product or service”
  – “a project manager determines how to best execute a project or contract”
SPM and the life cycle

Ebert (2007)
Origins of (S)PM

• 19th century: manufacturing industry (Product Lifecycle Management – PLM)
• Last decades: Microsoft, Sony Ericsson, SAP
What’s so special about Spm?

• High frequency of releases
• Complex requirements organization & tracking
• Product manager has many responsibilities but little authority over development
• Interaction with many stakeholders
The poor product manager...
Agenda

- Software Product Management
- SPM Competence Model
Competence model for SPM

• Why a competence model?
  – To aid product managers in their work
  – To structure education in SPM
  – To structure research in SPM

• Based on deliverable structure of a product software company
Deliverable structure

Portfolio

*Portfolio*: The complete set of products of a company
Portfolio: The complete set of products of a company.

“There is so much new stuff that many developers confessed they are having a hard time to get up to speed with all the new …”
Deliverable structure

Portfolio

Product 1  Product 2  ...  Product k

Product: A packaged configuration targeted to a specific market
Product: A packaged configuration targeted to a specific market
Deliverable structure

Portfolio

Product 1  Product 2  ...  Product $k$

Release 1.0  Release 1.1  ...  Release 2.0  ...

*Release*: A formalized sellable version
Release: A formalized sellable version
Deliverable structure

- Portfolio
  - Product 1
  - Product 2
  - ... Product k
  - Release 1.0
  - Release 1.1
  - ... Release 2.0
  - Requirement 1
  - Requirement 2
  - ... Requirement n

*Requirement*: Wish for a future product feature
Dear Dave,

One more thing: Menlo requires the ability to store a bill-of-lading number (shipper’s reference number) and a carrier pro number at the item level for inbound (purchase) orders. Can this be included?

KR,
Bert

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**Requirement:** Wish for a future product feature
Model levels

- Deliverable structure leads to business functions
- Responsibility for business function implies accountability for deliverables
SPM Competence Model

Software Product Management

Portfolio management
- Market analysis
- Product lifecycle management
- Partnering & contracting

Product planning
- Roadmap intelligence
- Product roadmapping
- Core asset roadmapping

Release planning
- Requirements prioritization
- Scope change management
- Build validation
- Release definition
- Release definition validation
- Launch preparation

Requirements management
- Requirements gathering
- Requirements identification
- Requirements organizing

External stakeholders
- Market
- Customers
- Partners

Internal stakeholders
- Company board
- Sales
- Marketing
- Research & Innovation
- Development
- Support
- Services
Stakeholders

External stakeholders

- Market
- Customers
- Partners

Software Product Management

Internal stakeholders

- Company board
- Sales
- Marketing
- Research & Innovation
- Development
- Support
- Services
Internal functions

External stakeholders

Market

Customers

Partners

Software Product Management

Portfolio management

Product planning

Release planning

Requirements management

Internal stakeholders

Company board

Sales

Marketing

Research & innovation

Development

Support

Services
Requirements management (1)
Requirements management (2)

• “to deal with the content and administrative data of each individual requirement”
• 3 processes
  – Requirement gathering
  – Requirements identification
  – Requirements organizing
Requirements management (3)

• Requirement gathering
  – Stakeholder interviews
  – Customer interaction programs
  – Joint Requirement Development groups

• Requirements identification
  – **Market** requirements vs. **product** requirements
  – **Functional** requirements **quality** requirements & **constraints**

• Requirements organizing
  – Product or release
  – Theme or core asset
  – Linking requirements, dependability, traceability
Release planning (1)
Release planning (2)

- “to deal with the set of requirements of each release”

- 6 processes
  - Requirements *prioritization*
  - Release definition
  - Release definition *validation*
  - Scope change management
  - Build validation
  - *Launch* preparation
Release planning (3)

- *Prioritization* techniques

- Business case / ROI estimation to *validate* release definition

- Communicating the new *launch*
Product planning (1)
Product planning (2)

• “to deal with the different releases each product has”

• 3 processes
  – Roadmap intelligence (markets, competitors, technologies)
  – Product roadmapping (adapted to type of stakeholder)
  – Roadmapping of core assets (i.e. components shared by multiple products)
Product planning (3)

- **Product roadmap**
  - A high-level sketch of where the company’s products are going
  - giving internal and external stakeholders the ability to plan accordingly

![Diagram showing product roadmap]

**Features**
- **IR1**
  - Road Rage Ported (part 1)
  - Brickyard port started (stretch goal to complete)
  - Distributed platform demo
  - ALL GUIs for both games demonstrable
  - New features (see prioritized list)
  - Demo of Beemer game
  - Game 1 Demo - Proof of viability on new platform

- **IR2**
  - Road Rage Completed (single user)
  - Brickyard Ported (single user)
  - Road Rage multiuser demonstrable
  - First multiuser game feature for Road Rage
  - New features (see prioritized list)
  - Beemer game in Alpha
  - First two games available (Road Rage and Brickyard)

- **IR3**
  - Multiuser Road Rage first release
  - Brickyard Ported multiuser demo
  - New features for both games (see prioritized list)
  - Beemer game to E3 Tradeshow?
  - First distributed game (Road Rage)

*An updated, themed, and prioritized “plan of record”*
Portfolio management (1)

External stakeholders

- Market
- Customers
- Partners

Software Product Management

- Portfolio management
  - Market analysis
  - Product lifecycle management
  - Partnering & contracting

Product planning

Release planning

Requirements management

Internal stakeholders

- Company board
- Sales
- Marketing
- Research & innovation
- Development
- Support
- Services
Portfolio management (2)

• “to deal with all products in the product portfolio”

• 3 processes
  – Market analysis
  – Product lifecycle management (coverage gaps, areas of overlap; strategy)
  – Partnering & contracting
Portfolio management (3)

Configuration Management for Software Product Lines
Competence model

External stakeholders

Software Product Management

Internal stakeholders

- Market
- Customers
- Partners

- Portfolio management
  - Market analysis
  - Product lifecycle management
  - Partnering & contracting

- Product planning
  - Roadmap intelligence
  - Product roadmapping
  - Core asset roadmapping

- Release planning
  - Requirements prioritization
  - Scope change management
  - Build validation
  - Release definition
  - Release definition validation
  - Launch preparation

- Requirements management
  - Requirements gathering
  - Requirements identification
  - Requirements organizing

- Company board
- Sales
- Marketing
- Research & innovation
- Development
- Support
- Services
SPM Website

• All info on the SPM competence model can be found at:

www.softwareproductmanagement.org