Customer Involvement in Standard Software Production

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1: Utrecht University, the Netherlands; 2: Vrije Universiteit Amsterdam; 3: AFAS; 4: Centric
Outline

- Introduction: Software Product Management
- Customer Involvement Methods
- From Product Development Request to Requirement
- Lessons Learned
- Conclusion and discussion
Software product management

- Market
  - Market trends
- Board
  - Strategy
  - Feature requests
- Sales
  - Technology
- Development
  - Scope changes
  - Contracts, Partner requests
- Customers
  - Bugs, Feature requests
- Partners

[Faculty of Science Information and Computing Sciences]
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.
Deliverable structure

Portfolio

Product 1  Product 2  ...  Product k

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

Requirement 1  Requirement 2  ...  Requirement n

**Issue:** How to deal with high volume requirements management in market driven software production
Customer Involvement

- Customer Involvement is a success factor in software industry (Powell, 1995)
- Industry is used to 1-to-1 communication and must implement 1-to-many customer communication
- No effective means for large scale requirements management
- There is a need for adequate methods to involve customers
Customer Involvement Methods

- **Design for customers**
  A product development approach where products are designed on behalf of the customers.
  Data: Incident reports

- **Design with customers**
  Enables customers to react to different proposed design solutions.
  Data: Idea feedback

- **Design by customers**
  A product development approach where customers are actively involved in the design of their own product.
  Data: Suggestions

Customer Involvement Factory

PDR = Product Development Request
Case Study

- AFAS, Leusden in the Netherlands
- Bookkeeping products for small and medium enterprises
- Over 10,000 customers
- About 15,000 feature requests annually
- Customer Participation Session (CPS)
- Use of interviews and artifacts resulting from CPSs
Customer Participation Session (CPS)
Involvement through Incident reports

- Reports of questions, complaints or bugs
- Approximately 60,000 reports per year
- Handled by helpdesk and consultancy
- 85% can be solved by referring to the manual
  15% is a bug or shortcoming

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<thead>
<tr>
<th></th>
<th>Incident Reports</th>
<th>PDRs</th>
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<tbody>
<tr>
<td>2005</td>
<td>64,541</td>
<td>15,411</td>
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<tr>
<td>2006</td>
<td>62,981</td>
<td>12,913</td>
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<tr>
<td>2007</td>
<td>56,515</td>
<td>15,346</td>
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<td>2008</td>
<td>68,570</td>
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Involvement through Idea feedback

- Theatre setting with 10 to 50 customer representatives
- Moderator (CEO or product manager) presents PDRs
- Customers are asked to give their opinion by electronic voting
- PDRs are accepted or rejected on the spot
- Fast feedback
- Electronic voting: no pollution of social process
Involvement through Suggestions

- Same theatre setting
- Every customer can name a suggestion
- All suggestions are voted about by raising hands
- Rejection is done on the spot
- Everybody gets a turn
- Social pressure is deliberately used
# From PDR to Requirement

About 15,000 PDRs/year; for 3 Product Managers: 25-30 PDRs/day

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<thead>
<tr>
<th>PDR Factory</th>
<th>Similarity</th>
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<tbody>
<tr>
<td></td>
<td>To be merged, grouped or linked</td>
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<tr>
<td>Complexity</td>
<td>To be split in multiple new PDRs</td>
</tr>
<tr>
<td>Ambiguity</td>
<td>To be explained by issuer</td>
</tr>
<tr>
<td>Completeness</td>
<td>To be sent back to issuer for completion</td>
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<tr>
<td>Feasibility</td>
<td>To be accepted or rejected</td>
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Feasibility Analysis

- PDRs are rated on several criteria
  - Market enlargement
  - Add unique selling point
  - Need for certain expertise

- Scores between 1 and 5

- Also negative effects

- Scores are relative
# Customer Involvement Factory

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<td>Suggestions</td>
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<tr>
<td>Customer</td>
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Requirements

Release

Release\(_{n+1}\)
Lessons in Customer Involvement

- Organize CPSs in all phases of the software life cycle
- Responsible product manager should be present at the CPS.
- There is no minimum number of participants for a CPS, there is however a maximum of about 50
- Give customers feedback afterwards about their suggested requirements
- Focus on interactivity
- Actively manage PDRs
Conclusion

- Customer involvement in requirements gathering does benefit a product software company

- Discipline in managing the PDRs is very important in a large scale requirements environment

Further reading:
More

- Competence Model for Software Product Management
  www.softwareproductmanagement.org

- Certification courses for SPM
  Int. Software Product Management Association
  www.certified-spm.org

- Conference on Software Business
  June in Potsdam
  www.icsob.org
Discussion