The Accidental Project Manager: QA Road Maps and Training Wheels

Patricia Ensworth

Harborlight Management Services
www.harborlightmanagement.com

The Accidental Project Manager:
Surviving the Transition from Techie to Manager
www.wiley.com/compbooks/ensworth
Agenda

- Cautionary tales
- Navigation aids
- Guidance and support
- Organizational context
Hierarchy of Processes

- Project Management
  - Requirements Gathering
  - Estimating
  - Testing
  - Configuration Management
  - Defect Tracking
Some Accidental Project Managers

- The Secret Agent
- The Lost Soul
- The Therapist
QA Road Maps: Cartographers

- ISO
- SEI
- Project Management Institute (PMI)
  - Founded 1969
  - Headquarters in Pennsylvania
  - Chapters in 125 countries, 100,000+ members
  - Standards development organization
  - Project Management Body of Knowledge (PMBOK)
  - Project Management Professional certificate (PMP)
  - Project Management Maturity Model (PMMM)
QA Road Maps: Legend

- Project manager knowledge areas
  - Integration
  - Scope
  - Time
  - Cost
  - Quality
  - Human Resources
  - Communications
  - Risk
  - Procurement
QA Road Maps: Legend

- Project lifecycle
  - Initiating
  - Planning
    - Scope definition
    - Requirements gathering
    - Process formulation
    - Project plan creation
  - Executing
    - Design
    - Development
    - Testing
    - Deployment
  - Closing
QA Road Maps: Route

- Initiating Phase
  - Project Charter
    - Goal
    - Sponsor
    - Project Manager
QA Road Maps: Route

- Planning phase - analysis
  - *Scope document*
  - Requirements document
  - General responsibility matrix
  - Task analysis
  - *Work breakdown structure*
  - *Network diagram*
  - Estimates
  - *PERT chart*
  - GANTT chart
Scope Document

- Goal
- Critical Success Factors
- Critical Success Measures
- Constraints
- Assumptions
- Risks
- Exclusions
- Schedule
- Budget
<table>
<thead>
<tr>
<th>ID</th>
<th>WBS</th>
<th>Task Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Start project</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>Initiation phase</td>
</tr>
<tr>
<td>3</td>
<td>2.1</td>
<td>Develop project charter</td>
</tr>
<tr>
<td>4</td>
<td>2.2</td>
<td>Project charter approved</td>
</tr>
<tr>
<td>5</td>
<td>3</td>
<td>Planning phase</td>
</tr>
<tr>
<td>6</td>
<td>3.1</td>
<td>Product activities</td>
</tr>
<tr>
<td>7</td>
<td>3.1.1</td>
<td>Define pilot design</td>
</tr>
<tr>
<td>8</td>
<td>3.1.1.1</td>
<td>Analyze success criteria</td>
</tr>
<tr>
<td>9</td>
<td>3.1.1.2</td>
<td>Develop methodology to meet success criteria</td>
</tr>
<tr>
<td>10</td>
<td>3.1.1.3</td>
<td>Success criteria and methodology approved</td>
</tr>
<tr>
<td>11</td>
<td>3.1.2</td>
<td>Define requirements for measurements and analytics</td>
</tr>
<tr>
<td>12</td>
<td>3.1.2.1</td>
<td>Define data requirements</td>
</tr>
<tr>
<td>13</td>
<td>3.1.2.1.1</td>
<td>Define sales requirements</td>
</tr>
<tr>
<td>14</td>
<td>3.1.2.1.2</td>
<td>Define marketing requirements</td>
</tr>
<tr>
<td>15</td>
<td>3.1.2.1.3</td>
<td>Define billing requirements</td>
</tr>
<tr>
<td>16</td>
<td>3.1.2.1.4</td>
<td>Define integration requirements</td>
</tr>
<tr>
<td>17</td>
<td>3.1.2.1.5</td>
<td>Data requirements approved</td>
</tr>
<tr>
<td>18</td>
<td>3.1.2.2</td>
<td>Define IT requirements</td>
</tr>
<tr>
<td>19</td>
<td>3.1.2.2.1</td>
<td>Define SysDev requirements</td>
</tr>
<tr>
<td>20</td>
<td>3.1.2.2.2</td>
<td>Define Operations requirements</td>
</tr>
<tr>
<td>21</td>
<td>3.1.2.2.3</td>
<td>Define Telcom requirements</td>
</tr>
<tr>
<td>22</td>
<td>3.1.2.2.4</td>
<td>Define integration requirements</td>
</tr>
<tr>
<td>23</td>
<td>3.1.2.2.5</td>
<td>IT requirements approved</td>
</tr>
</tbody>
</table>
PERT Chart
QA Road Maps: Route

Planning phase – Project Plan

- Deliverables
  - WBS
  - Dependencies
- Schedule
  - Dates
  - Critical path
- Milestones
- Resource assignments
  - Task owner
  - Department participation
  - Responsibility matrix
QA Road Maps: Route

- Planning phase – Project Plan
  - Budget
  - *Communications plan*
  - *Quality plan*
  - HR plan
  - Risk plan
  - Procurement plan
<table>
<thead>
<tr>
<th>Task ID</th>
<th>WBS #</th>
<th>Activity/Task Description</th>
<th>IT - SysDev</th>
<th>IT - Ops</th>
<th>IT - Telcom</th>
<th>Strategy</th>
<th>Marketing</th>
<th>Sales</th>
<th>Billing</th>
<th>Finance</th>
<th>HR</th>
<th>Comm</th>
<th>Legal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1</td>
<td></td>
<td>Start project</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2</td>
<td></td>
<td>Initiation phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.1.1</td>
<td></td>
<td>Develop project charter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2.2</td>
<td></td>
<td>Project charter approved</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.3</td>
<td></td>
<td>Planning phase</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.3.1</td>
<td></td>
<td>Product activities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.3.1.1</td>
<td></td>
<td>Define pilot design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.3.1.1</td>
<td></td>
<td>Analyze success criteria</td>
<td>M</td>
<td>O</td>
<td>O</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>R</td>
<td>R</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.3.1.2</td>
<td></td>
<td>Develop methodology to meet success criteria</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>M</td>
<td>O</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.3.1.3</td>
<td></td>
<td>Success criteria and methodology approved</td>
<td>P</td>
<td>D</td>
<td>D</td>
<td>M</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
<td>D</td>
</tr>
<tr>
<td>11.3.1.2</td>
<td></td>
<td>Define requirements for measurements and analytics</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.3.1.2.1</td>
<td></td>
<td>Define data requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13.3.1.2.1.1</td>
<td></td>
<td>Define sales requirements</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P</td>
<td>0</td>
<td>0</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>14.3.1.2.1.2</td>
<td></td>
<td>Define marketing requirements</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P</td>
<td>0</td>
<td>0</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>15.3.1.2.1.3</td>
<td></td>
<td>Define billing requirements</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P</td>
<td>0</td>
<td>0</td>
<td>M</td>
<td></td>
</tr>
<tr>
<td>16.3.1.2.1.4</td>
<td></td>
<td>Define integration requirements</td>
<td>A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>P</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **P**: Performs the task and submits the deliverable
- **R**: Reviews the task/deliverable
- **A**: Approves the task/deliverable
- **M**: Provides mandatory input to task/deliverable
- **O**: Provides optional input to task/deliverable
- **S**: Must be notified when task/deliverable is going to start
- **F**: Must be notified when task/deliverable is going to finish
- **D**: On the distribution list for materials related to the task/deliverable
Communication Plan

I. Protocols

A. Meetings
   1. Core management meetings
      • Agenda
      • Format
      • Duration
      • Frequency
      • Rules / etiquette
   2. Core team meetings
      • Agenda
      • Format
      • Duration
      • Frequency
      • Rules / etiquette
   3. FM / SH / SME meetings
      • Agenda
      • Format
      • Duration
      • Frequency
      • Rules / etiquette

B. Status reports
   1. Content
   2. Format
   3. Frequency

C. Procedures
   1. Remote / virtual / telecommuting work
   2. Tool usage
   3. Oral instructions vs. written correspondence
   4. Collaborative authoring
   5. Conflict resolution

II. Tools

A. Office applications
B. E-mail
C. Instant messaging
D. Discussion databases
E. Blogs
F. Websites
G. Shared servers
H. Voice mail
I. Teleconferences
J. Videoconferences
K. Phone text messaging
Quality Plan

I. Product Quality

A. Quality Assurance
   1. Quality criteria definitions
   2. Quality assessment methods

B. Quality Control
   1. Testing
   2. Defect tracking
   3. Test results analysis
   4. Requirements revisions
   5. Focus groups

II. Project Quality

A. Quality Assurance
   1. Standards and procedures
      - Requirements
      - Change management
      - Documentation
      - Configuration management
      - Source code control
      - Version control
      - Peer review
      - Coding
      - Code commentary
      - Builds
      - Releases
   2. Environment
      - Development environment
      - Test environment
         - Unit test environment
         - System test environment
         - Integration test environment
         - Automated test environment
         - Performance test environment
         - International test environment
         - Beta test environment
         - UAT test environment
      - Staging environment
      - Production environment
   3. Tools
      - Development tools
      - Testing tools

B. Quality Control
   1. Auditing practices
   2. Maintenance activities
QA Road Maps: Route

- Executing phase
  - Change request form
  - Change log
  - System documentation
  - Test documentation
  - Status reports
  - Metrics
  - Estimates vs. actuals
  - Updated project plan
QA Road Maps: Route

- Closing phase
  - User acceptance agreement
  - Management report
  - Lessons Learned report
  - Maintenance plan
  - Completed documentation
  - Performance evaluations
  - Final version of project plan
QA Training Wheels

- Select appropriate processes
- Review the WBS
- Expand QA roles
QA Training Wheels: Adaptation

- Processes and documents
  - Analyze goals, workflow, team
  - Identify weaknesses and gaps
  - Recommend appropriate solutions

- Communication plan
- WBS, RAM
- Network diagram, quality plan
QA Training Wheels: WBS

- Project management tasks
  - Include in work breakdown structure
  - Link to project plan
  - Create realistic estimates
<table>
<thead>
<tr>
<th>ID</th>
<th>WBS</th>
<th>Task Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>1.4</td>
<td>Execution phase</td>
</tr>
<tr>
<td>66</td>
<td>1.4.1</td>
<td>Product activities</td>
</tr>
<tr>
<td>158</td>
<td>1.4.2</td>
<td>Project activities</td>
</tr>
<tr>
<td>159</td>
<td>1.4.2.1</td>
<td>Manage scope / cost / schedule</td>
</tr>
<tr>
<td>163</td>
<td>1.4.2.2</td>
<td>Manage communications</td>
</tr>
<tr>
<td>175</td>
<td>1.4.2.3</td>
<td>Manage quality</td>
</tr>
<tr>
<td>176</td>
<td>1.4.2.3.1</td>
<td>Manage quality assurance</td>
</tr>
<tr>
<td>177</td>
<td>1.4.2.3.1.1</td>
<td>Establish product standards and procedures</td>
</tr>
<tr>
<td>180</td>
<td>1.4.2.3.1.2</td>
<td>Establish project standards and procedures</td>
</tr>
<tr>
<td>192</td>
<td>1.4.2.3.1.3</td>
<td>Design technical infrastructure</td>
</tr>
<tr>
<td>193</td>
<td>1.4.2.3.1.3.1</td>
<td>Build requirements repository</td>
</tr>
<tr>
<td>196</td>
<td>1.4.2.3.1.3.2</td>
<td>Build change management repository</td>
</tr>
<tr>
<td>199</td>
<td>1.4.2.3.1.3.3</td>
<td>Build documentation repository</td>
</tr>
<tr>
<td>202</td>
<td>1.4.2.3.1.3.4</td>
<td>Implement configuration management database</td>
</tr>
<tr>
<td>203</td>
<td>1.4.2.3.1.3.5</td>
<td>Implement source code database</td>
</tr>
<tr>
<td>204</td>
<td>1.4.2.3.1.3.6</td>
<td>Implement version control database</td>
</tr>
<tr>
<td>205</td>
<td>1.4.2.3.1.4</td>
<td>Configure project environment</td>
</tr>
<tr>
<td>218</td>
<td>1.4.2.3.1.5</td>
<td>Select tools</td>
</tr>
<tr>
<td>221</td>
<td>1.4.2.3.2</td>
<td>Manage quality control</td>
</tr>
<tr>
<td>222</td>
<td>1.4.2.3.2.1</td>
<td>Monitor product quality</td>
</tr>
<tr>
<td>223</td>
<td>1.4.2.3.2.1.1</td>
<td>Analyze defects reported</td>
</tr>
<tr>
<td>224</td>
<td>1.4.2.3.2.1.2</td>
<td>Analyze change requests submitted</td>
</tr>
<tr>
<td>225</td>
<td>1.4.2.3.2.1.3</td>
<td>Analyze tests failed</td>
</tr>
<tr>
<td>226</td>
<td>1.4.2.3.2.1.4</td>
<td>Analyze requirements revised</td>
</tr>
<tr>
<td>227</td>
<td>1.4.2.3.2.1.5</td>
<td>Conduct SME focus groups</td>
</tr>
<tr>
<td>228</td>
<td>1.4.2.3.2.2</td>
<td>Monitor project quality</td>
</tr>
<tr>
<td>229</td>
<td>1.4.2.3.2.2.1</td>
<td>Perform audits</td>
</tr>
<tr>
<td>242</td>
<td>1.4.2.3.2.2.2</td>
<td>Perform maintenance</td>
</tr>
<tr>
<td>251</td>
<td>1.4.2.3.2.2.3</td>
<td>Implement process improvements</td>
</tr>
</tbody>
</table>

**Project Plan – QA tasks**
<table>
<thead>
<tr>
<th>ID</th>
<th>WBS</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>65</td>
<td>1.4</td>
<td>Execution phase</td>
</tr>
<tr>
<td>66</td>
<td>1.4.1</td>
<td>Product activities</td>
</tr>
<tr>
<td>67</td>
<td>1.4.1.1</td>
<td>Manage design</td>
</tr>
<tr>
<td>68</td>
<td>1.4.1.1.1</td>
<td>Develop use cases</td>
</tr>
<tr>
<td>69</td>
<td>1.4.1.1.2</td>
<td>Create data architecture</td>
</tr>
<tr>
<td>70</td>
<td>1.4.1.1.3</td>
<td>Create hardware architecture</td>
</tr>
<tr>
<td>71</td>
<td>1.4.1.1.4</td>
<td>Perform impact analysis</td>
</tr>
<tr>
<td>72</td>
<td>1.4.1.1.5</td>
<td>Develop migration strategy</td>
</tr>
<tr>
<td>73</td>
<td>1.4.1.1.6</td>
<td>Design product</td>
</tr>
<tr>
<td>82</td>
<td>1.4.1.1.7</td>
<td>Product design approved</td>
</tr>
<tr>
<td>83</td>
<td>1.4.1.1.8</td>
<td>Design tests</td>
</tr>
<tr>
<td>84</td>
<td>1.4.1.1.8.1</td>
<td>Design manual tests</td>
</tr>
<tr>
<td>85</td>
<td>1.4.1.1.8.1.1</td>
<td>Design UI tests</td>
</tr>
<tr>
<td>86</td>
<td>1.4.1.1.8.1.2</td>
<td>Design object tests</td>
</tr>
<tr>
<td>87</td>
<td>1.4.1.1.8.1.3</td>
<td>Design workflow tests</td>
</tr>
<tr>
<td>88</td>
<td>1.4.1.1.8.1.4</td>
<td>Design rules tests</td>
</tr>
<tr>
<td>89</td>
<td>1.4.1.1.8.1.5</td>
<td>Design middle tier tests</td>
</tr>
<tr>
<td>90</td>
<td>1.4.1.1.8.1.6</td>
<td>Design database tests</td>
</tr>
<tr>
<td>91</td>
<td>1.4.1.1.8.1.7</td>
<td>Design connectivity tests</td>
</tr>
<tr>
<td>92</td>
<td>1.4.1.1.8.1.8</td>
<td>Design permissions tests</td>
</tr>
<tr>
<td>93</td>
<td>1.4.1.1.8.2</td>
<td>Design automated tests</td>
</tr>
<tr>
<td>94</td>
<td>1.4.1.1.8.2.1</td>
<td>Design automated tests for functionality</td>
</tr>
<tr>
<td>95</td>
<td>1.4.1.1.8.2.2</td>
<td>Design automated tests for performance</td>
</tr>
<tr>
<td>96</td>
<td>1.4.1.1.8.3</td>
<td>Design beta test</td>
</tr>
<tr>
<td>97</td>
<td>1.4.1.1.8.4</td>
<td>Design user acceptance test</td>
</tr>
<tr>
<td>98</td>
<td>1.4.1.1.9</td>
<td>Test design approved</td>
</tr>
<tr>
<td>99</td>
<td>1.4.1.1.10</td>
<td>Create design documentation</td>
</tr>
<tr>
<td>100</td>
<td>1.4.1.2</td>
<td>Manage development</td>
</tr>
<tr>
<td>141</td>
<td>1.4.1.3</td>
<td>Manage deployment</td>
</tr>
</tbody>
</table>
QA Training Wheels: Roles

- Expansion of activities
  - Sociologist
  - Trainer
  - Ombudsperson
  - Coach
  - Advisor
Organizational strategies

- Independent QA department
  - Collaboration with Project Office
  - Collaboration with Training Department

- Project QA
  - Coordination with other projects
  - Development of templates
  - Education and marketing

- Embedded QA
  - Knowledge base
  - User groups
  - Best practices symposium