Mobile Arts

Working Process Overview

Product (S) => Product Maintenance => Product Support

Product Status:
- PRT: Product Ready for Tender (product can be marketed to limited set of customers)
- PRA: Product Ready for Acceptance (product can be sold to limited set of customers)
- GA: General Availability (product can be sold to all customers)
- LTB: Last Time Buy (product may no longer be sold)
- EOL: End Of Life (no more support or maintenance of product)

Project Tollgates:
- TG0: Tollgate 0 (product research activities can start)
- TG1: Tollgate 1 (feasibility study and pre-sales activities can start)
- TG2: Tollgate 2 (design and marketing activities can start)
- TG5: Tollgate 5 (product supply and maintenance activities can start)
- TG9: Tollgate 9 (product support activities can start)
- TG13: Tollgate 13 (retired product maintenance activities can start)
- TG16: Tollgate 16 (no more activities are needed)

Project Types

- Time To Market (TTM) Project
  - First System Creation, or
  - Subsequent System Modification
- Time To Customer (TTC) Project
  - Market Adaptation, and/or
  - Customisation, and
  - Deployment
- Maintenance Project
  - Support and help desk
  - Error correction
  - Maintenance upgrades

Overall Methodology

- Architecture
  - Terminology
  - Reuse
  - Stability
  - Forward compatible
  - Reusable (sub)projects
- Product Structure
  - Architecture based (sub-component hierarchy)
  - Define responsibilities
  - Define repositions
- Document Structure
  - Product Structure based
  - Usability
  - Traceability
- Project Structure
  - Product Structure based
  - External project/system relations
  - Phasing (Tollgates, Milestones)
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Overall Methodology

- Iteration
  - Waterfall
  - Incremental
- Change control
  - Baselines
  - Subsequent releases
  - Requirement and architecture changes
  - Error correction
- Line Organisation responsibilities
  - Reorganized development and allocation
  - Cross-project prioritisation
  - Long-term quality
  - Architecture change approval
  - Product documentation approval
  - Project Steering Group: Tollgate approval

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Document Types

- Delta versus Full documents
  - Delta document: Modification focus only
  - Full document: All inclusive (inherited description)
- Project versus Product documents
  - Project document: Lives during project only
  - Product document: Maintained during product lifetime
- Release specific versus Common (product documents)
  - Release specific: Dedicated to given product release and updated to next release
  - Common: Shared between releases and/or products
- Project document uses
  - Planning, Control, Follow-up
- Product document uses
  - Planning
  - Marketing
  - Specification
  - Implementation
  - OAM (Installation, Operation)
  - Professional Services (Training, Operation, Support)
- Methodology documents
  - Process Description
  - Role Description

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Project Roles

- Project Management
  - Project Leader
  - Project Administrator
  - Test Leader
- Requirements
  - Product Manager
- Coordination
  - Technical Coordinator
  - Configuration Manager
  - Release Manager
- Implementation
  - Designer
  - Documenter
- Testing
  - Tester

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Line Organisation Roles in Project

- Requirements
  - Product Manager
- Architecture
  - System Manager
- Implementation
  - Development Environment Manager
- Testing
  - Test Environment Manager
- Quality Control
  - Quality Manager
- Professional Services
  - Generic Requirements

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Specifications

- Overview
  - Distribution of functionality upon components
  - Grey-box cross-component sequence diagrams
  - Multiplicative
- Details
  - Component specification
  - Black-box single component sequence diagrams
  - Additive

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Testing Types

- Function Test
  - Test of single function in component
  - Responsibility: Designer
- Joint Function Test
  - Test of function cross components
  - Responsibility: Tester
- Usability Test
  - Test of function usability (End-User and OAM)
  - Responsibility: Tester and OAM Guide writer
- System Test
  - Test of system characteristics
  - Regression test: “Daily builds”
  - Responsibility: System Tester
- Acceptance Test
  - Test of customer system
  - Responsibility: Field Tester and Customer
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**Used tools**
- Marketing
  - Power Point
  - Word (PDF)
- Project Planning
  - Project Planning: Excel, MS Project, Double Chocolatita
- Development
  - Specification: Word, Visio
  - Coding: Eiffel, Linus, Intel HW
  - Testing: Own environment simulation tools, Sun Solaris
- Repositories
  - Specifications: MS Folder structures
  - Code: CVS
  - Support and Maintenance
  - Trouble Reporting: Bugzilla

**Quality Control**
- Methodology
  - Documented
  - Feedback and tuning
- Documents
  - Use of Templates
  - Reviews and approval
- Code
  - Desk check / Design-Test Iteration
- Trouble Report
  - Trend

**Project Communication**
- A&O: Everyone sits close to each other
- Documentation
- Repositories
- Project Meetings
- Change Control Board

**General Technology Requirements**
- Operation, Administration, Maintenance (OAM)
  - Operator Management
  - Fault Management
  - Performance Management
  - License Management
- Charging
  - Offline/Pre-paid
  - Online/Pre-paid
- Regulatory Requirements
  - Lawful Intercept
  - Malicious Call Tracing
  - Number Portability
  - Emergency Call
  - Environment
  - Safety
  - Certification
- Security Requirements
  - Authentication/Authorization
  - Encryption
  - Firewalls
  - Fraud detection/prevention

**Characteristics Requirements**
- Scalability/Load-sharing
- Robustness/Resilience/Redundancy
  - HW errors
  - SW errors
- Capacity (and forward prediction)
  - Processing
  - Memory and disk
  - Bandwidth
  - External impact
- Quality of Service
  - Delays
  - Jitter
- Upgrade and Migration
  - External compatibility
  - Internal data

**Professional Services**
- Installation and upgrades
  - HW, SW and documentation
- Customer Training
  - OAM
  - Application
- Support (office hour or 24/7)
  - Help desk
  - Trouble Shooting
  - Emergency Correction
- Maintenance
  - Approved Corrections
  - Maintenance Packages
- Operation (optional)
  - Remote
  - Hosting
- Consultancy
  - Investigations (e.g. network design)
  - Customisation