

MWSP

1 Allgemeines

- Projekte
 - vs operative arbeit
 - scheitern ... gründe
- Portfolio
 - strategie, kein umsetzungsziel
- Projektsetup
 - herausforderung, bricht strukturen auf
- Organisationsstruktur
 - Functional
 - Projectized
 - Matrix
 - weak
 - balanced
 - strong
- PM-Disziplinen
 - Integration Management
 - projektkoordination, abstrakt
 - Project Scope Statement
 - Management Plan (direct & manage)
 - Controlling, Monitoring
 - Change Control, Close Project
 - Scope Management
 - Scope Planning
 - Scope Definition
 - WBS erstellung
 - Scope Verification (check devliverables)
 - Scope Control
 - Time Management
 - Activity Definition & Sequencing
 - Activity Resource & Duration Estimating
 - Schedule Development & Control
 - Cost Management
 - Cost Estimating
 - Cost Budgeting
 - Cost Control
 - Quality Management
 - durch: Q-Policies, Prozesse, Abläufe
 - Quality Planning
 - Quality Assurance & Control
 - Human Resource Management
 - Human Resource Planning
 - Acquire, Develop & Manage Team
 - Communications Management
 - Kommunikationsrichtlinien
 - Communication Planning
 - Information Distribution

- Performance Reporting, Manage Stakeholders
- Risk Management
 - Identify, Analyse, Monitor & Control Risks
 - Risk Management Planning
 - Qualitative & Quantitative Risk Analysis
 - Risk Response Planning
 - Risk Monitoring & Control
- Procurement Management
 - Beschaffung
 - Plan Purchases, Acquisitions & Contracting
 - Select Sellers
 - Contract Administration & Closure

2 Planung

- Integration Management
 - projektkoordination, abstrakt
 - Project Scope Statement
 - Management Plan (direct & manage)
 - Controlling, Monitoring
 - Change Control, Close Project
- Project Charter
 - Inputs u.a. Project Statement of Work (SOW)
- Preliminary Project Scope Statement
- Management Plan
- Scope Management
 - Scope Planning
 - > Scope Management Plan (PSMP)
 - Scope Definition
 - > Project Scope Statement, Updates (PSMP)
 - WBS erstellung
 - Dekomposition
 - Scope Verification (check deliverables)
 - Scope Control
 - Integrated Change Management
 - Configuration Management
 - Analyse der Abweichung
 - Erneute Planung/Umplanung
- Netzplan vs Balkenplan
 - CPM
 - kritischer Pfad
 - Pufferzeiten
 - Ressourcenplanung
 - Gantt
- Aufwands- & Kostenschätzung

3 Aufwandschätzung

- Educated guessing
 - Schätzklausur
 - Delphi Methode
 - Standard

- Breitband mit Abstimmung
 - iterativ, bis konsens
- Prozentsatzmethode
 - Phasen-basiertes Vorgehensmodell
- Analogiemethode
 - Schlussfolgerung aus vergleichbaren Projekten
 - Projektdatenbank
 - Adaptierung der Rahmenbedingung > Schätzung
 - Probleme: oft nicht vergleichbar, Ablaufdatum durch Evolution

4 Quality Management

- Qualität = Grad der Erfüllung von Anforderungen
- Qualitätsrichtlinien, Ziele & Verantwortlichkeiten
- Precision vs. Accuracy
- Kundenzufriedenheit: Erwartungen, Anforderungen, Anwendbarkeit
- Prozesse
 - Quality Planning
 - Qualitätsstandards identifizieren + Maßnahmen definieren
 - Tools
 - Kosten-Nutzen Analyse
 - Benchmarking
 - Statistische Versuchplanung
 - Cost of Quality
 - Outputs
 - Quality Management Plan
 - Qualitätsmetriken
 - Checklisten
 - Quality Baseline (Ziele) = Basis für Reporting
 - Quality Assurance
 - Anwendung der Planung
 - Quality Audits
 - Outputs
 - Änderungswünsche
 - Änderungsmaßnahmen
 - PMP updates
 - Quality Control
 - Überwachung der Ergebnisse
 - Problemerkennung & -behebung

5 Cost Management

- About
 - Projektperformance messen & analysieren
 - Probleme erkennen und reagieren
 - Projektfertigstellung innerhalb des Budgets
 - Rücksicht auf Auswirkungen von Projektentscheidungen und Stakeholderwünsche
- Cost Management Plan
 - plant CM-Prozess
- Cost Estimating
 - Analogous Estimating

- Bottom-Up Estimating
 - Workpackages zusammenfassen
- Parametric Estimating
 - COCOMO
- Vendor Bid Analysis
- Cost of Quality
- Cost Budgeting
 - Cost Baseline
 - Project Funding requirements
 - Contingency reserve
 - Cost Aggregation anhand WBS
 - Reserve Analysis
 - Contingency Reserve (known unknowns)
 - Management Contingency Reserve (unknown unknowns)
 - Parametric Estimation
- Cost Control
 - Ursachenidentifikation für Kostenabweichungen
 - Kostenperformance überwachen
 - Cost Baseline adaptieren
 - Techniken
 - Performance Measurement Analysis
 - Forecasting
 - Project Performance Reviews
 - Earned Value Method
 - Earned Value Method
 - Values
 - Planned Value (PV)
 - Actual Cost (AC)
 - Earned Value (EV)
 - Budget at Completion (BAC)
 - Indizes
 - Cost Variance
 - $CV = EV - AC$
 - Schedule Variance
 - $SV = EV - PV$
 - Cost Performance Index
 - $CPI = EV / AC$
 - Schedule Performance Index
 - $SPI = EV / PV$
 - Forecasting
 - Estimate to Complete
 - $ETC = (BAC - EV) / CPI$
 - Estimate at Completion
 - $EAC = BAC / CPI$

6 Risik Management

- Ziel
 - Risiken Identifizieren, Analysieren, Gegensteuern & Überwachen
 - Eintrittswahrscheinlichkeit & Ausmaß optimieren (positiv+, negativ-)
- Risiko
 - Ereignis od. Zustand mit positivem/negativem Effekt

- hat Ursache & Auswirkung (Projektziele)
- bekannte - identifiziert, analysiert & Maßnahmen definiert (vgl Contingency Reserve)
- unbekannte - nicht planbar, allgemeine Reserven (vgl Management Contingency Reserve)
- Prozesse
 - Risk Management Planning
 - Risk Management Plan
 - Verantwortlichkeiten
 - Budgetierung
 - Zeitplanung
 - Risk Breakdown Structure (Kategorien, Struktur)
 - Impact Scales (Objective%, Cost increase, Time increase, Scope decrease, Quality degradation)
 - Risk Identification
 - Risk Register
 - Quantitative Risk Analysis
 - Priorisierung der Risiken
 - definiert: wahrscheinlichkeiten und auswirkungen
 - schnell und kosteneffektiv
 - Wahrscheinlichkeits-Auswirkungs-Matrix
 - Qualitative Risk Analysis
 - genaue Analyse großer Risiken
 - definiert: details wie Kosten, Auswirkung, Priorität, Entscheidungen
 - Entscheidungsbaum/Decision Tree
 - Risk Response Planning
 - Risk Monitoring & Control
 - Risk Audits
 - Trend Analysen

7 COCOMO II

- Target
 - Person months (PM)
 - Time of development (TDEV)
- Sizing
 - Counting Source Lines of Code (SLOC)
 - Counting Unadjusted Function Points (UFP)
 - User Function Types
 - FP Counting Weights
 - Relating UFPs to SLOC
 - conversion ratios
 - Aggregating New, Adapted and Reused Code
 - Equivalent Source Lines of Code (ESLOC)
 - Nonlinear Reuse Effects
 - Reuse Model
 - Adaptation Adjustment Modifier (AAM)
 - Software Understanding increment (SU)
 - Assessment and Assimilation Increment (AA)
 - Programmer Unfamiliarity (UNFM)
 - Adaptation Adjustment Factor (AAF)
 - Guidelines for Quantifying Adapted Software

- Requirements Evolution and Volatility (REVL)
 - percentage of code discarded due to evolution
 - Automatically Translated Code
 - efficiency of automated tools for software restructuring
 - much code modified by low efforts
 - AT (percentage of code modified automatically), ATPROD factor
 - Sizing Software Maintenance
 - BaseCodeSize
 - Maintenance Change Factor (MCF)
 - Maintenance Adjustment Factor (MAF)
 - with SU & UNFM
- Effort Estimationsee Formula
 - Formula
 - Person-Hours per Person-Month (PH/PM) > TDEV
 - constant A
 - productivity constant in PM/KSLOC
 - $A = 2.94$
 - exponent E
 - Scale Factors
 - Effort Multipliers EM
 - Cost drivers
 - Scale Factors
 - relative economies/diseconomies of scale
 - value
 - $E < 1.0$
 - double project size > project effort less than double
 - $E = 1.0$
 - economies and diseconomies of scale are in balance
 - $E > 1.0$
 - growth of communications overhead for larger projects, integration...
 - list
 - Precedentedness (PREC)
 - Development Flexibility (FLEX)
 - Architecture / Risk Resolution (RESL)
 - Team Cohesion (TEAM)
 - Process Maturity (PMAT)
 - Effort Multipliers (EM)
 - Cost drivers
 - rating: Extra Low to Extra High
 - EM per cost driver rating
 - translate from qualitative to quantitative rating
 - = significant source of project effort or productivity variation
 - factor base 1.00
 - special cost driver: Size
 - Post-ArchitectureCost Drivers
 - Product Factors
 - Required Software Reliability (RELY)
 - Data Base Size (DATA)
 - Product Complexity (CPLX)
 - Developed for Reusability (RUSE)
 - Documentation Match to Life-Cycle Needs (DOCU)

- Platform Factors
 - Execution Time Constraint (TIME)
 - Main Storage Constraint (STOR)
 - Platform Volatility (PVOL)
- Personnel Factors
 - Analyst Capability (ACAP)
 - Programmer Capability (PCAP)
 - Personnel Continuity (PCON)
 - Applications Experience (APEX)
 - Platform Experience (PLEX)
 - Language and Tool Experience (LTEX)
- Project Factors
 - Use of Software Tools (TOOL)
 - Multisite Development (SITE)
 - Required Development Schedule (SCED)
- Early Design Model Drivers
 - derived from Post-Architecture model
 - combine multiple factors
 - factors
 - Personnel Capability (PERS) and Mapping Example
 - Product Reliability and Complexity (RCPX)
 - Developed for Reusability (RUSE)
 - Platform Difficulty (PDIF)
 - Personnel Experience (PREX)
 - Facilities (FCIL)
 - Required Development Schedule (SCED)
- Multiple Module Effort Estimation
 - sum component sizes
 - apply project-level drivers, scale factors and SCED cost driver
 - determine each component's basic effort, PMbasic
 - apply component-level cost drivers (without SCED)
 - sum each component's effort to PMaggregate
- Schedule Estimation
- Software Maintenance
 - assumption: software maintenance cost has same cost driver attributes as development
 - some adaptations

8 Netzplan

- you know...

9 pr 09

- Was sind Scale Factors und Effort Multipliers in COCOMO II?
- Welche Aufwandschätzmethoden sind für Projekte ohne Referenzobjekte geeignet?
- Was ist die Wahrscheinlichkeits/Auswirkungsmatrix?
- Welche Qualitätsmanagement Prozesse gibt es?
- Was ist ein Portfolio und was ist der Unterschied zu Programmen?
- Erklären Sie in eigenen Worten die Earned Value Methode (ohne Formeln).

- Mit welchen Formalismen kann der Scope eines Projektes den Stakeholdern vermittelt werden?
- Was ist die Linienorganisation?
- Was sind die Unterschiede zwischen der quantitativen und der qualitativen Risikoanalyse?