Agile Based Development

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Agile - Key Principles

- *Time-boxed scheduling*
- *Commitment to Iteration Plan*
- *Just In Time Requirements Elaboration*
- *Early and Continuous Testing*
- *De-emphasizing a lot of up-front effort in analysis and design and documentation*
- *Small teams*
- Agile vigilance
- Frequent releases
- Empowered teams

Agile for PDC-Concert

- Agile is a Culture to be nurtured across PDC & MDC Development Teams and Product Management Teams
- Agile Business Requires Agile Development

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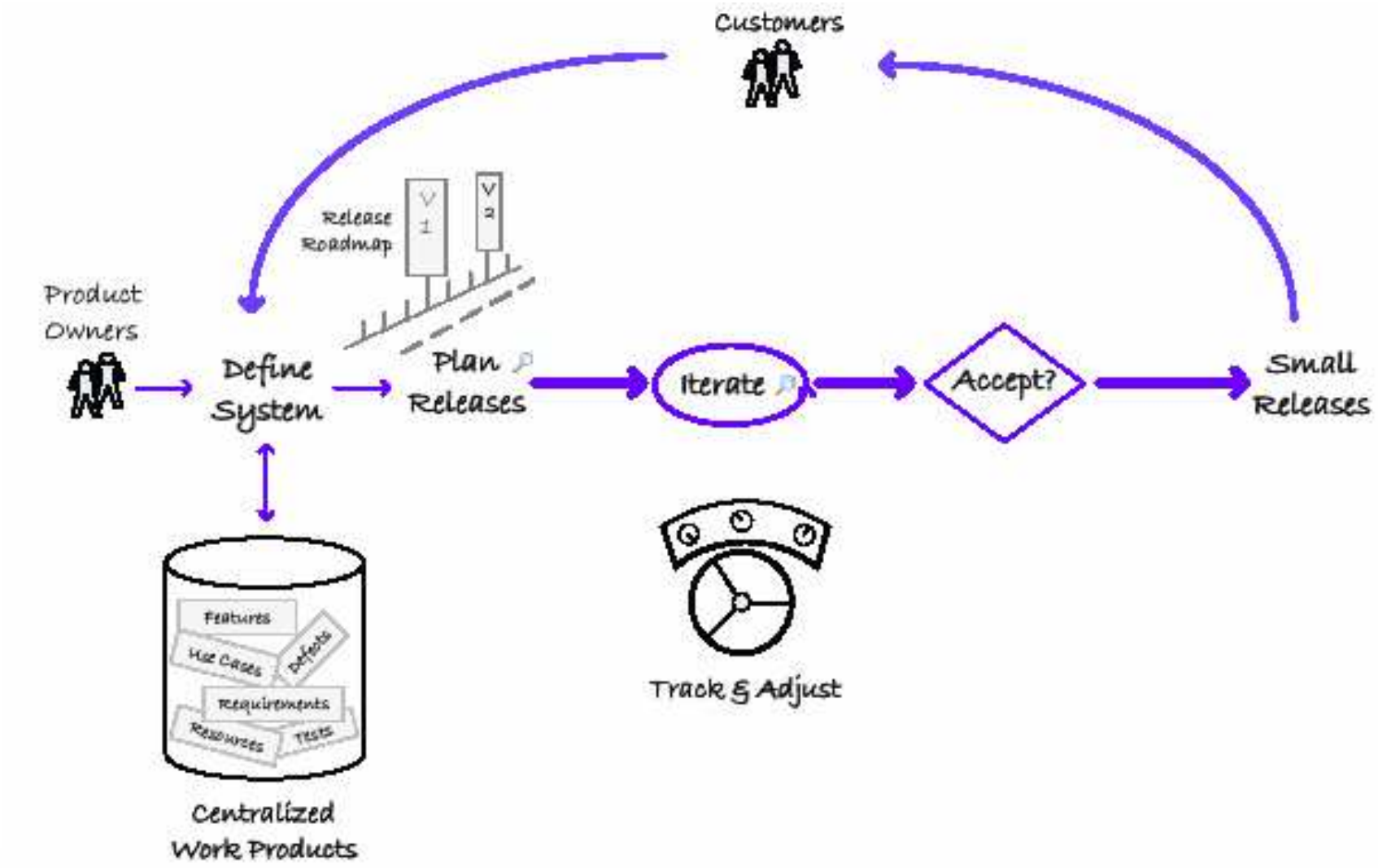
Agile Development Process



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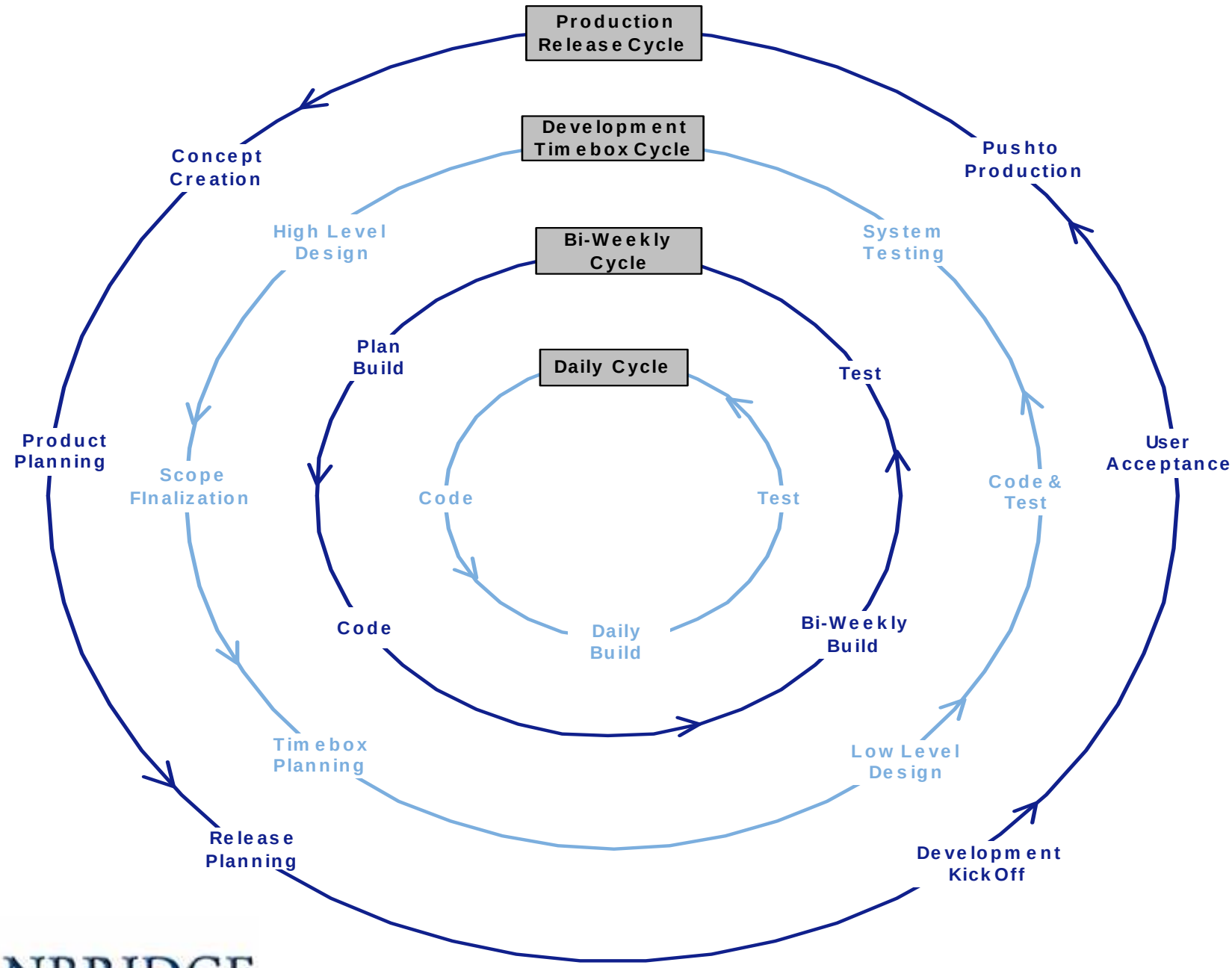
ProcessCycles



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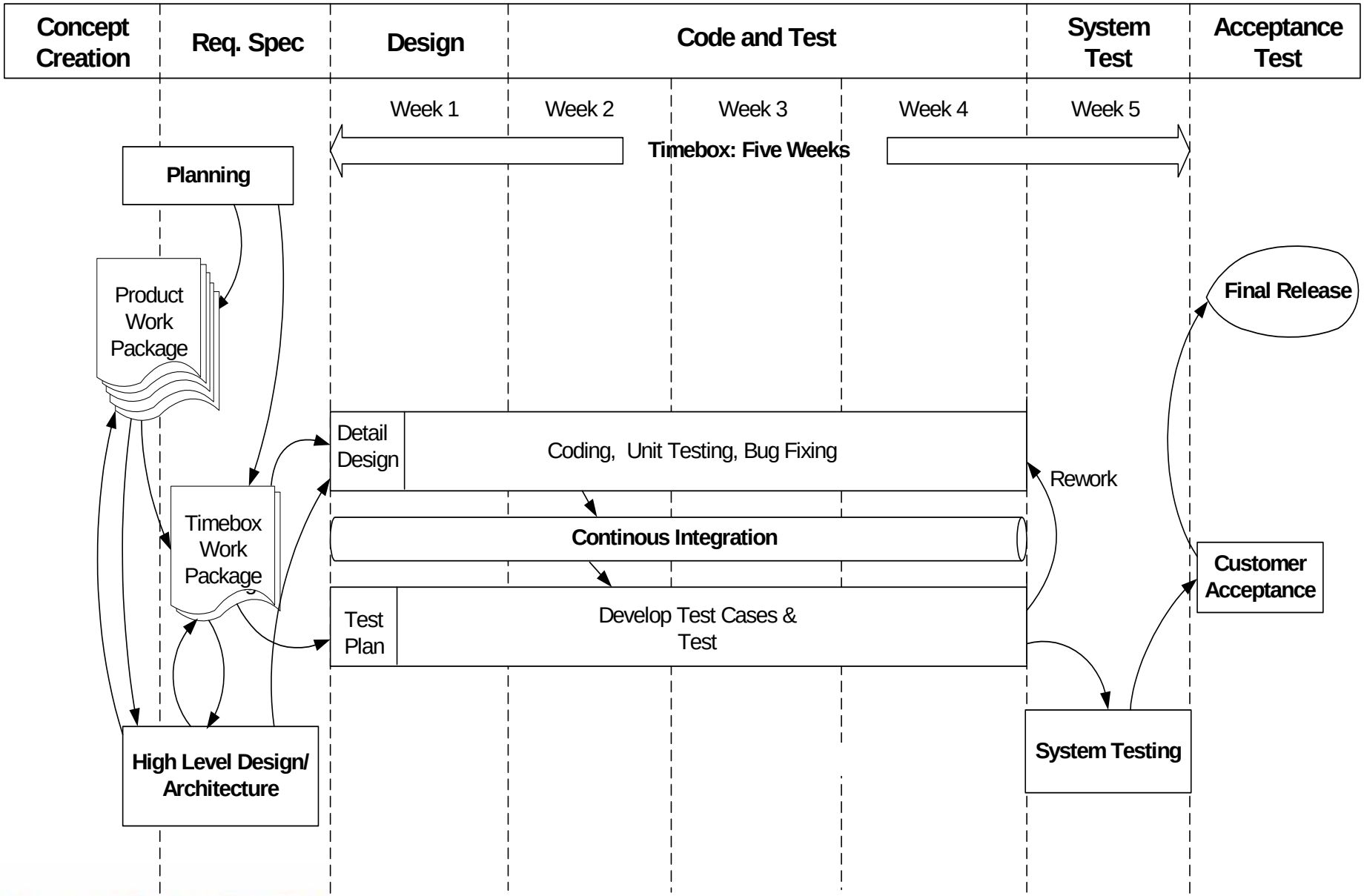
Concert Process Overview



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Deliverables Overview

	Development	Test	Operations /Build	Management/Reporting
Week 1	Scope / FSD (JAD Session) Scope Review Checklist Architecture Diagram Architecture Diagram Review Checklist RTM RTM Update UI (Reusable JSPs)	Mini Test Plan Review Checklist for Mini Test Plan	Deployment Diagram Deployment Diagram Checklist	Timesheets Score Cards Updated MPP Weekly Status (Twice a week)
Week 2	Minispec / Design (Class Diagram / Sequence Diagram) Review Checklist for Design Updated RTM Junit Classes Review Checklist for Junit Classes Code	System Test Scenarios Review Checklist for System Test Scenario Functional Test Cases Performance Test Scenarios	Daily Build Daily Build Deployment	Timesheets Score Cards Updated MPP Weekly Status (Twice a week)
Week 3	Code Code Review Junit Updates RTM Updates Junit Test Results UA UA Review Checklist	Functional / Integration Test Cases Performance Test Scenarios	Daily Build Daily Build Deployment	Timesheets Score Cards Updated MPP Weekly Status (Twice a week)
Week 4	Code Rework Code Review Junit Updates RTM Updates Junit Test Results UA / UA Review Checklist	Functional Test Results Performance Test Scripts Performance Test Results Test Report Updated RTM	Daily Build Daily Build Deployment	Timesheets Score Cards Updated MPP Weekly Status (Twice a week)
Week 5	Rework Delivery Checklist Release Notes TTP Documents UA updates Junit Results	System Test Results (All Projects) Final Test Report Review of Final Test Report	Release Candidate	Timesheets Score Cards Updated MPP Weekly Status (Twice a week)
Week 6 Week 1-Next Cycle	Planning for the Next Cycle. Tasks of Week 1 for the next cycle	Acceptance Test	Production Push	Timesheets Score Cards Updated MPP Weekly Status (Twice a week)

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Agile Implementation

Case Study I

- AdminEjbs
  - Challenges
    - Eliminate problem of NavNode entity bean instances remaining in server cache
    - Re-factor design to align it with the long term design goals of AdminEJBs and Concert
  - Solution
    - Re-factored NavNodeManager Session Bean
    - Re-factored direct calls to NavNode and NavNodeService CMPs
    - POJO based Domain Objects
    - DAOs for Domain Objects
    - Re-factored 'Read' methods in NavNode Application Service

Case Study I

- Achievements
  - Successfully reduced load on server
  - Significant reduction in beans count within sitemap functionality
  - Good improvement in performance of left navigation as well as system control
  - Definition of Agile methodologies based process document
  - Successful first implementation of Junit driven development using JMock objects
- Project statistics
  - Duration: 5 weeks
  - Team Size: 5

Case Study II

- Build External Test
  - Challenges
    - Enabling existing Build external Test functionality
    - Impact on all critical Use cases within Concert
    - Time-boxed timeline
  - Solution
    - Detailed Impact analysis from various perspectives
      - Use Case
      - Database
      - EMS and NCS4School
    - 2 cycles of regression testing to identify and correct showstoppers
    - Prioritization of issues occurring in impacted functionalities

Case Study II

- Achievements
  - Successfully enabled the basic flow of external tests
  - 3 weeks of development effort
- Project statistics
  - Duration: 5 weeks
  - Team Size: 5

Tools

- Requirements: Traceability Matrix (RTM)
- Design : Rational Rose, MS Visio
- Development: Java, J2EE, IntelliJ, Junit, Wiley
- Project Tracking : Project Monitor, MS Project
- Defects Tracking: Clear Quest
- SCM systems: Clear Case Multi-site
- Automated Testing: Rational Robot, Silk Performer

Metrics

- Project Monitor sample
- Other sample reports –
  - Junit code coverage
  - Performance test results
  - Functional Test scripts coverage

What we did right

- Junit driven development
- Frequent and timely code reviews
- Identified backup resources for key team members
- Ensured test team involvement from kickoff stage
- Project manager as a facilitator
- Frequent team interactions and discussions
- Capitalized on complementary individual strengths
- Continuous and regular information flow

Thank You