Software Process

- Requirements workflow
  - Determine clients needs
  - Application domain
  - Business model
  - Client oriented

- Analysis Workflow
  - Analyze and refine requirements
  - Developer oriented

- Design workflow
  - Refine analysis artifacts into a form that can be implemented
  - Architectural – decompose into modules
  - Detail – each module

- Implementation Workflow
  - Components
  - Code artifacts

- Test Workflow
  - Traceability
  - Unit, integration, system, acceptance, regression
  - Software Quality Assurance

- Maintenance
  - Planned
  - Previous activities determine quantity and change impact

Unified Process

- UML Unified Modeling Language
- Object oriented paradigm
- Iterative and incremental methodology
- Model
  - Set of UML diagrams
    - Use Case Diagram
    - Class Diagram
    - Interaction Diagrams
      - Sequence and collaboration
    - Statecharts
    - Activity Diagram
    - Packages
    - Component Diagram
    - Deployment Diagram
  - Phases
- Inception
  - Feasibility
  - Economically viable
  - Risk identification
  - Initial Use Cases
- Elaboration
  - Refinement of previous artifacts
  - Completed Use Cases
  - Completed architecture
  - Software Management Plan
  - Risk analysis
- Construction
  - All artifacts for beta release
- Transition
  - Final artifacts and manuals

**Classical Process**
- Structured analysis and design
- Top-down methodology
- Graphical technique depicting information flows and the transformations that are applied as data moves from input to output
- Modeling Tools
  - Context Diagram
  - Data flow diagram
  - Entity-relationship diagram
  - Control-flow diagram
  - State-transition diagram
  - Data dictionary
  - Process specification (PSPEC)
  - Control Specification (CSPEC)
- Phases
  - Requirements
    - Feasibility
    - Risk identification
    - Context Diagram
    - Requirements Definition
    - Software management plan
    - Initial Acceptance test plan
  - Analysis
• Requirements Specification
• Data Flow Diagrams
• Final Acceptance Test Plan
• Risk Analysis
• Initial User Interface

– Design
  • Architecture
  • Detailed Design
  • User Interface Design
  • Unit Test Plan
  • Integration Test plan

– Implementation
  • All artifacts for beta release
  • All manuals