Waterfall and Rapid Prototyping Models

- **Waterfall model**
  - Many successes
  - Client needs
- **Rapid prototyping model**
  - Cannot be used for robust applications
- **Solution**
  - Rapid prototyping for requirements phase
  - Waterfall for rest of life cycle

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Incremental Model

- Divide project into *builds*

Requirements phase — Verify → Specification phase — Verify → Architectural design — Verify → For each build: Perform detailed design, implementation, and integration. Test. Deliver to client. → Maintenance phase → Retirement

→ Development
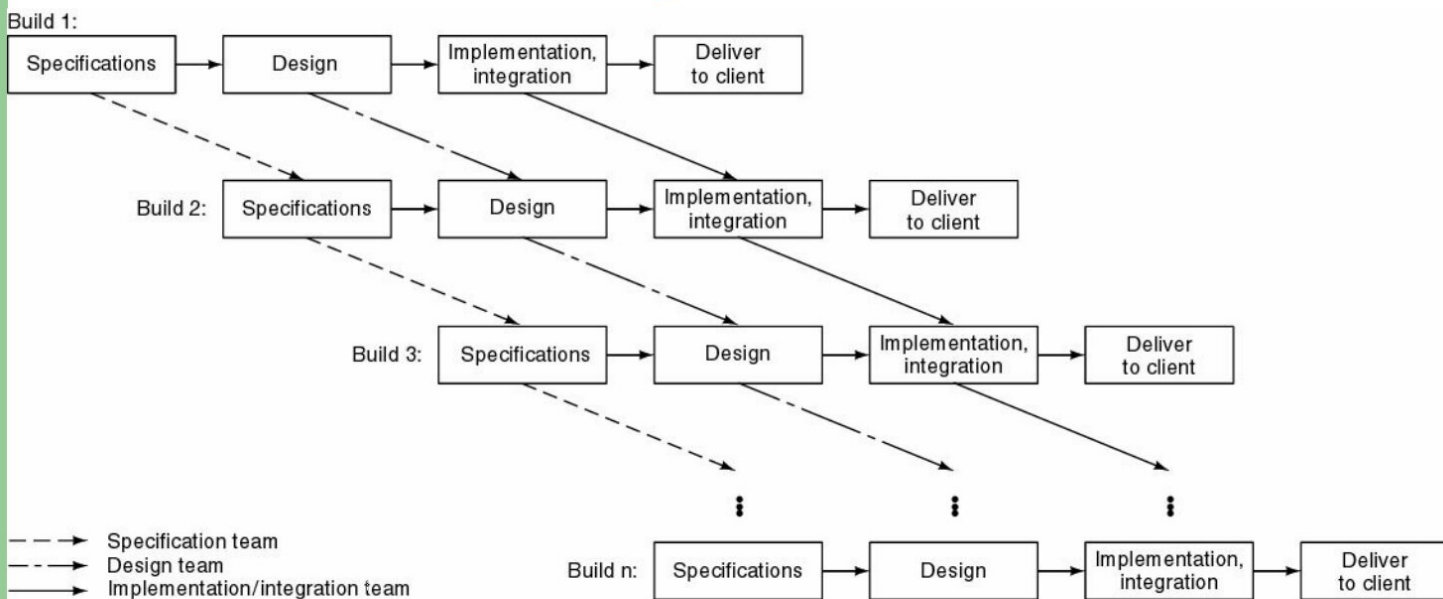- - → Maintenance

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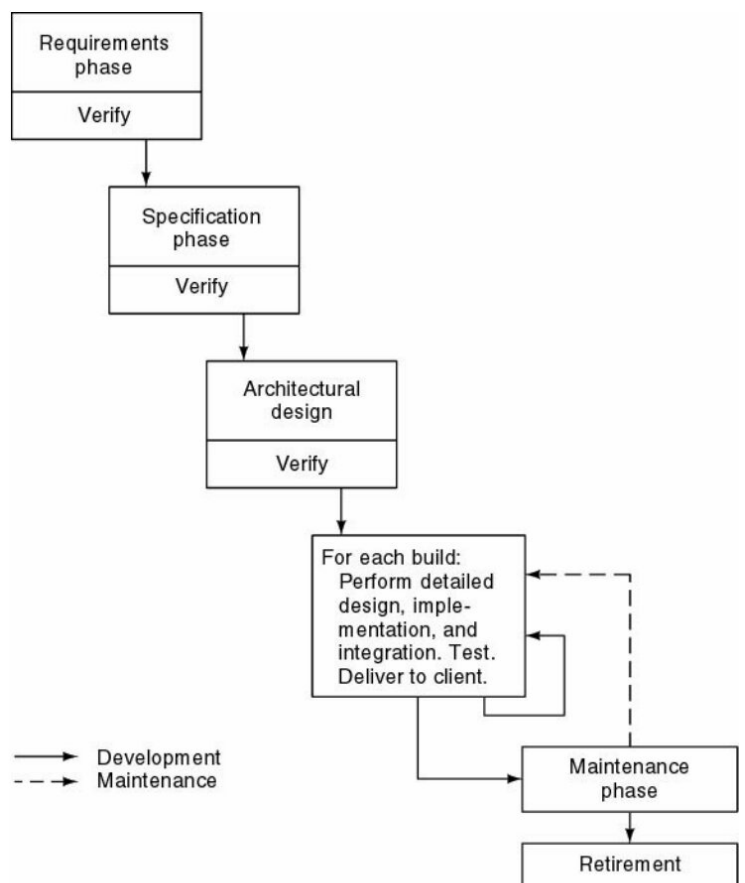
Incremental Model (contd)

- Waterfall, rapid prototyping models
  - Operational quality complete product at end
- Incremental model
  - Operational quality portion of product within weeks
- Less traumatic
- Smaller capital outlay, rapid return on investment
- Need open architecture—maintenance implications
- Variations used in object-oriented life cycle

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Incremental Model (contd)

- More risky version—pieces may not fit
  - CABTAB and its dangers

Build 1:
| Specifications | → | Design | → | Implementation, integration | → | Deliver to client |

Build 2: | Specifications | → | Design | → | Implementation, integration | → | Deliver to client |

Build 3: | Specifications | → | Design | → | Implementation, integration | → | Deliver to client |

Build n: | Specifications | → | Design | → | Implementation, integration | → | Deliver to client |

- - - → Specification team
- - - → Design team
——— → Implementation/integration team

Code a bit, test a bit – CABTAB

- Haphazard undisciplined approach

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