



Software Development Models

Security Architecture & Tool Sets

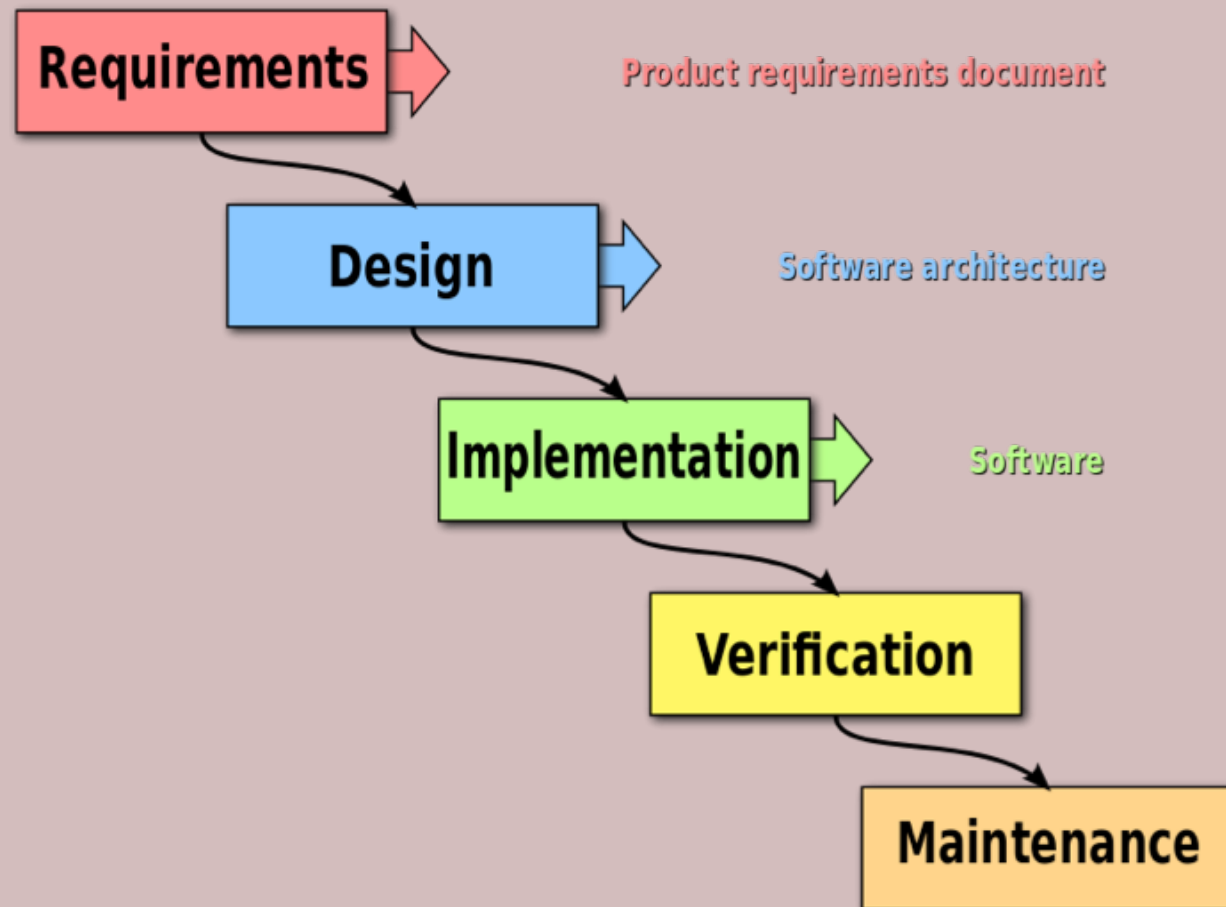
Software Development Models

- Many models of software development exist
- Models provide a common framework to use
- Can use detailed practices, procedures, and documentation
- Can also be less formal and haphazard



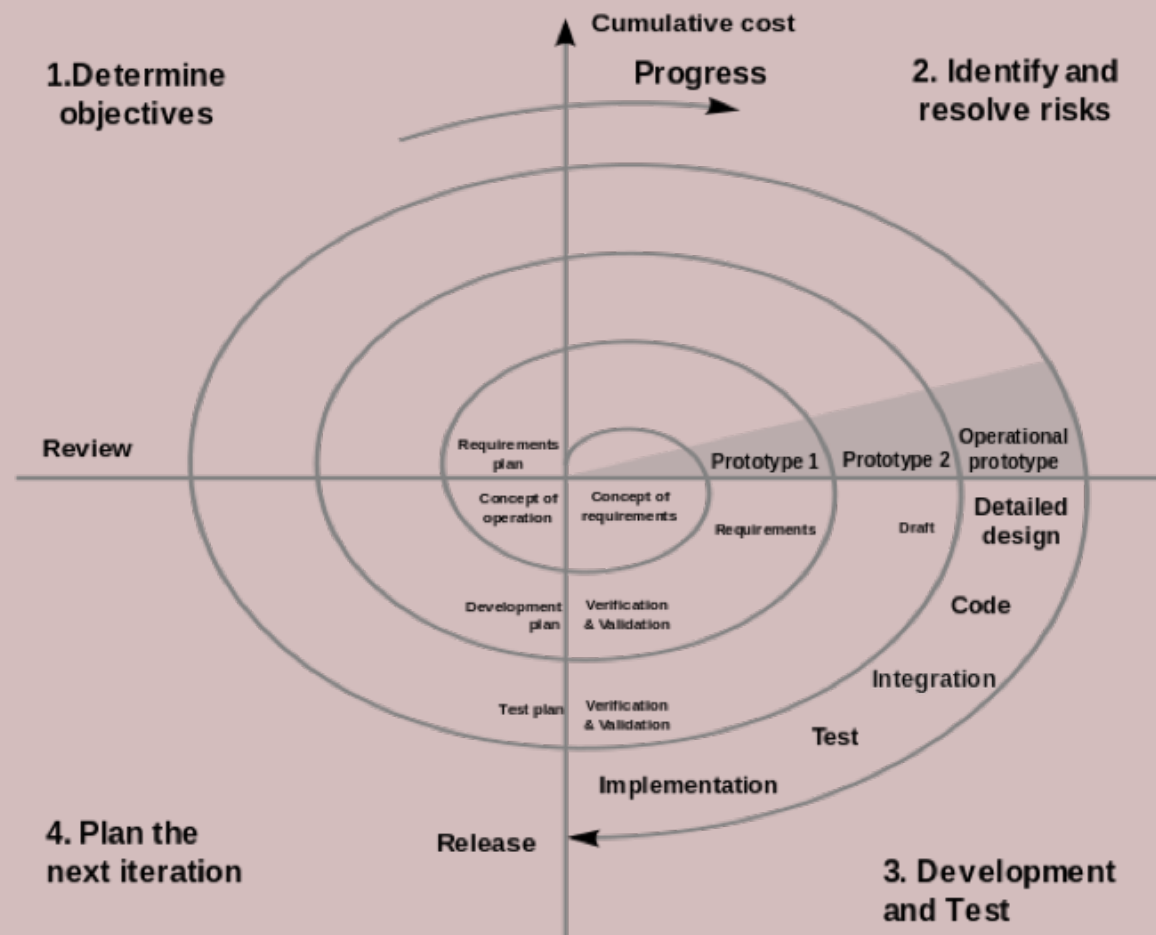
Waterfall Model

- Linear model with each phase following the previous phase



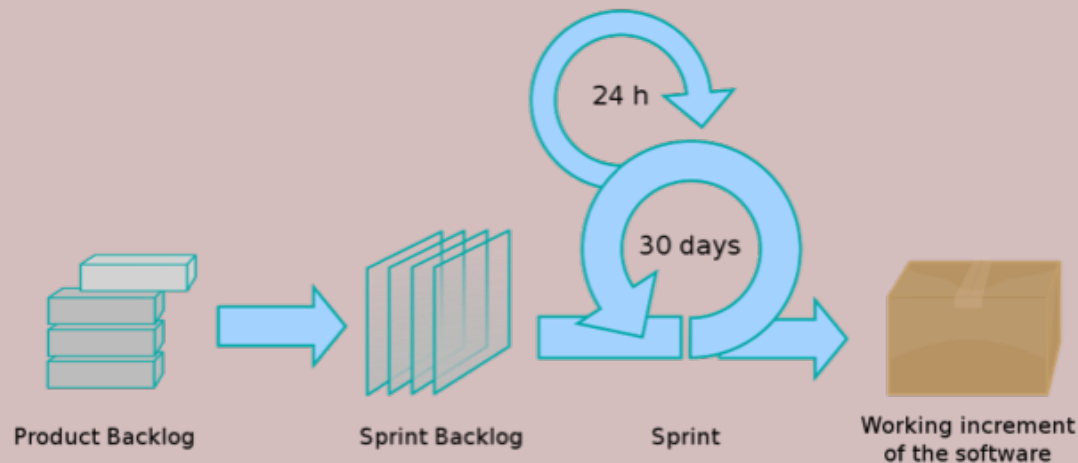
Spiral Model

- Modification of Waterfall, it adds iterative process to revisit phases over and over



Agile

- Iterative and incremental process
- Foundations of Agile:
 - Individuals and interactions are most important
 - Working software is better than the documentation
 - Customer collaboration over contract negotiation
 - Responding to changes fast is better than a plan



Terms Used in Agile

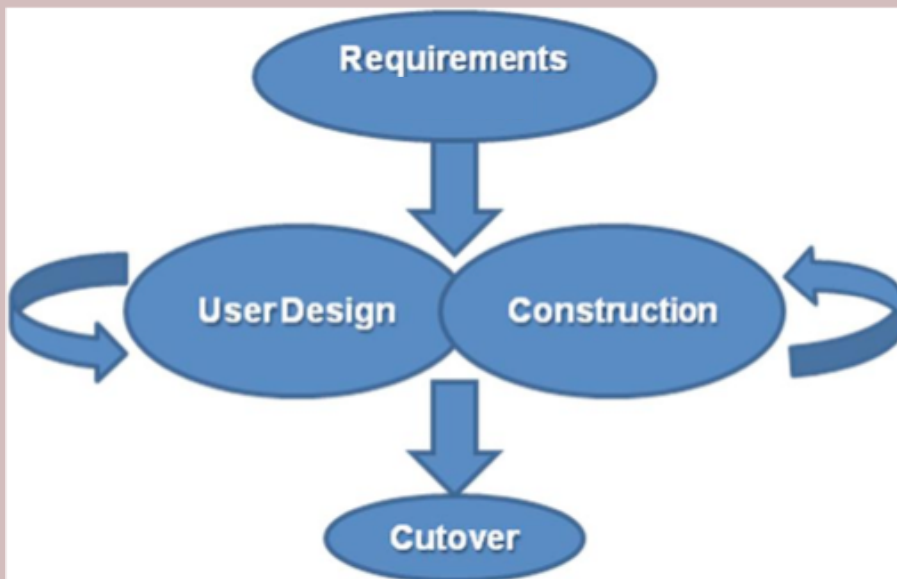
- Backlogs
 - List of features or tasks to complete
- Planning Poker
 - Estimation tool for planning in Agile
- Timeboxing
 - Agreed upon time to work on specific goal
- User stories
 - Describe high-level user requirements
- Velocity tracking
 - Adds up estimates for current sprint efforts and compares to what was actually complete



RAD

(Rapid Application Development)

- Iterative process relying on building prototypes
- Provides a highly responsive development environment for modularized work
- No planning phase... they just start coding



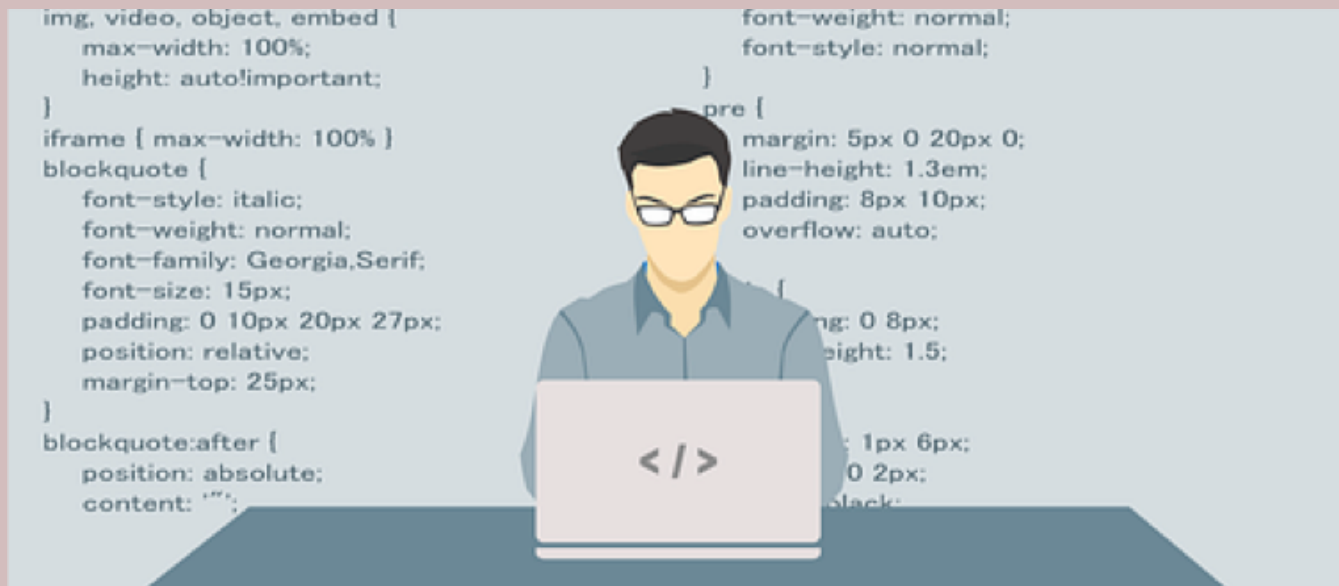
Terms Used in RAD

- Business Modeling
 - Focuses on understanding business processes
- Data Modeling
 - Gather and analyze datasets and the relationships
- Process Modeling
 - Define the processes and data flows
- Application Generation
 - Code & convert data and processes into prototype
- Testing and Turnover
 - Focus on interfaces between components and verifying functionality



Big Bang SDLC Model

- All coding is based on requirements and making resources available
- Doesn't scale well, works best for single coder
- No planning or process



V Model

- Extension of the waterfall which pairs testing and development phases together

