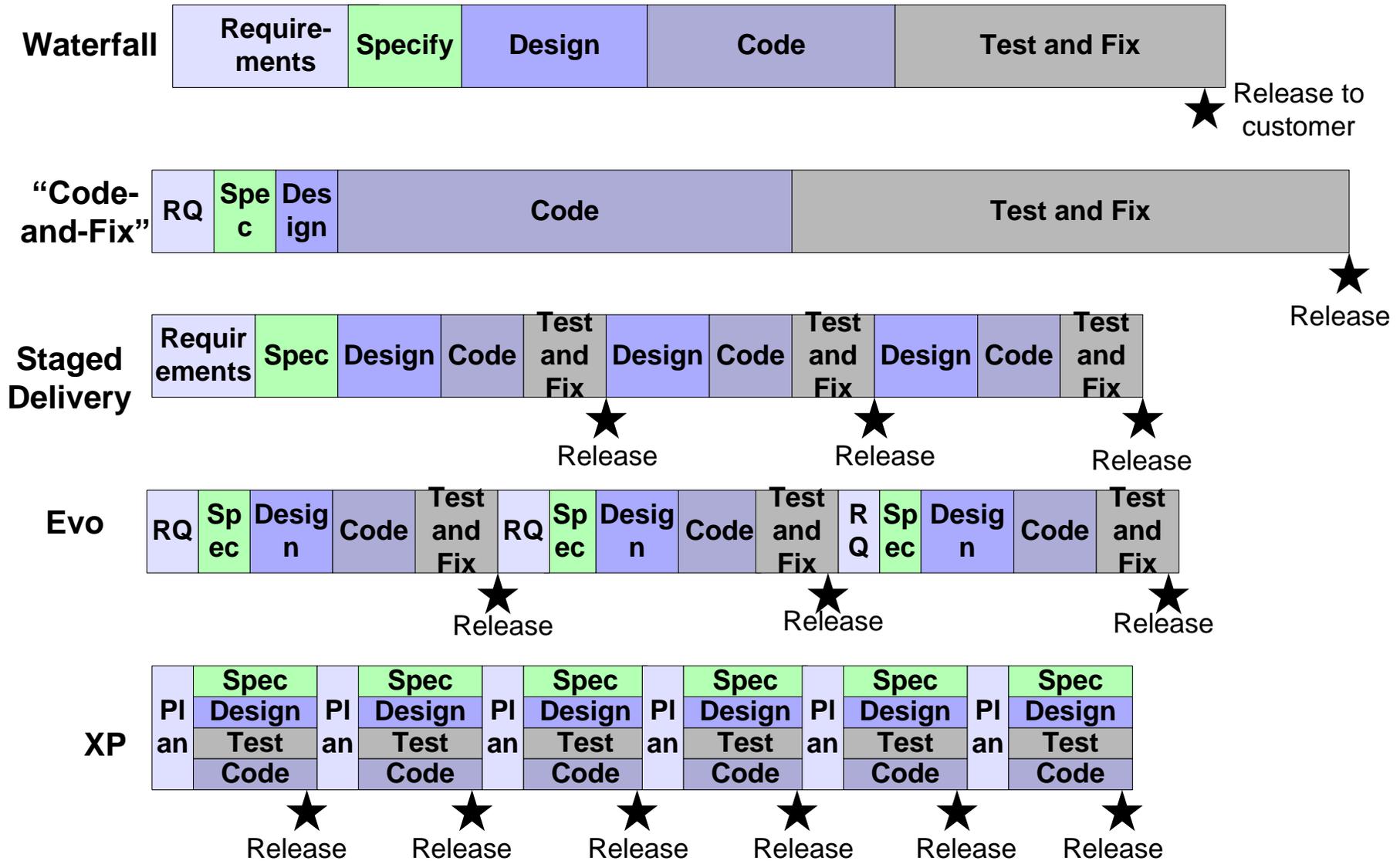


A Rough Comparison of Some Significant Lifecycle Models

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Timeline: The Evolution of Software Lifecycle Models

1955-59	<p>Code-and-fix model is prevalent. It is generally called “programming”.</p> <p>1956 (Benington): stagewise model is defined. Makes a distinction between requirements, specification, design, and construction.</p> <p>1957 (Baker): Distinction made between testing and debugging.</p>
1960-69	<p>Several varieties of <i>incremental</i> (some phases time-boxed or staged) and <i>iterative</i> (all phases are repeated) development are in use.</p> <p>Early 1960s: Project Mercury at NASA runs half-day iterations and uses test-first development.</p> <p>1968: (Randell, Zurcher) IBM research center publishes a report recommending iterative development.</p>
1970-79	<p>1970 (Royce): waterfall model formally defined, with feedback loops. Described as useful for very straightforward projects operating within U.S. government contracts.</p> <p>1971-75: re-interpretation of waterfall as having no feedback, and being good for all projects.</p> <p>1972: Trident sub software built by IBM in 6-month iterations.</p> <p>1976 (Gilb): earliest description of evolutionary delivery.</p> <p>1978: Mil-Std 1679 is published. It requires a waterfall approach.</p> <p>1977-1980: space shuttle software built in 17 iterations over 31 months.</p>
1980-89	<p>1981: First publication describing CleanRoom.</p> <p>1985 (Boehm): description of the spiral model.</p> <p>1985: DoD standard 2167 is published. It requires a waterfall approach.</p> <p>1987: DoD-Std-2167 is replaced by DoD standard 2167A, which allows iterative methods. This is widely interpreted as recommending or requiring waterfall.</p> <p>1988 (Gilb): first book to extensively discuss iterative methods, including evo.</p>
1990-99	<p>1994: DoD-Std-2167A is replaced by Mil-Std-498, which advises use of iterative methods.</p> <p>1994: DSDM defined by a group of RAD practitioners in the U.K.</p> <p>1994-6: Rational Unified Process is defined by people within Rational.</p> <p>1996: (McConnell) staged delivery is described in <i>Rapid Software Development</i>.</p> <p>1997: (Schwaber, Beedle) Scrum is developed.</p> <p>Late 1990s: (Beck) first descriptions of XP.</p>
2000-05	<p>2000: Mil-Std-498 is replaced by DoD 5000.2, which also advises iterative development.</p> <p>2001: The Agile Alliance is formed.</p> <p>2002: (Cockburn) first book using the term “agile”</p>

Most of the information in the table came from these sources:

- “Iterative and Incremental Development: A Brief History”; Larman, Craig and Basili, Victor; IEEE Computer; June 2003
- Ould, Martyn; *Managing Software Quality and Business Risk*; 1999; p. 92
- Heztel, Bill; *The Complete Guide to Software Testing*, 2nd ed.; 1988