Rapid Acquisition Through Platform-based Collaboration

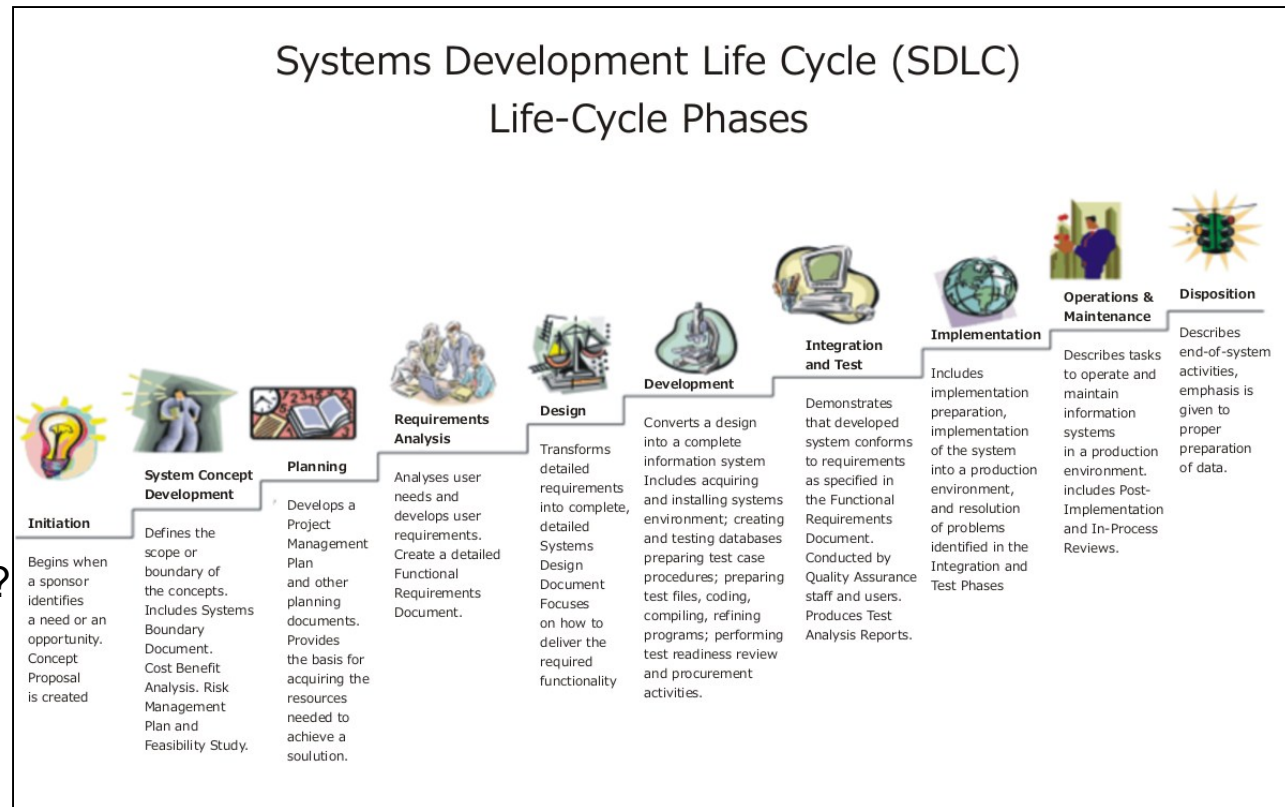Robert Franceschini, Ph.D.
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System Acquisition Life Cycle

- Why?
  - Assured outcome

- How does one make this rapid?
  - Address risk.
  - Cut out steps?
  - Reduce time in key steps?
  - Be clever about steps?

Systems Development Life Cycle (SDLC) Life-Cycle Phases

Initiation — Begins when a sponsor identifies a need or an opportunity. Concept Proposal is created

System Concept Development — Defines the scope or boundary of the concepts. Includes Systems Boundary Document. Cost Benefit Analysis. Risk Management Plan and Feasibility Study.

Planning — Develops a Project Management Plan and other planning documents. Provides the basis for acquiring the resources needed to achieve a soulution.

Requirements Analysis — Analyses user needs and develops user requirements. Create a detailed Functional Requirements Document.

Design — Transforms detailed requirements into complete, detailed Systems Design Document Focuses on how to deliver the required functionality

Development — Converts a design into a complete information system Includes acquiring and installing systems environment; creating and testing databases preparing test case procedures; preparing test files, coding, compiling, refining programs; performing test readiness review and procurement activities.

Integration and Test — Demonstrates that developed system conforms to requirements as specified in the Functional Requirements Document. Conducted by Quality Assurance staff and users. Produces Test Analysis Reports.

Implementation — Includes implementation preparation, implementation of the system into a production environment, and resolution of problems identified in the Integration and Test Phases

Operations & Maintenance — Describes tasks to operate and maintain information systems in a production environment. includes Post-Implementation and In-Process Reviews.

Disposition — Describes end-of-system activities, emphasis is given to proper preparation of data.

Source: US Department of Justice, http://www.justice.gov/jmd/irm/lifecycle/ch1.htm

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Platform Approach Reduces Time in Acquisition by Leveraging Previous Work

- **Swift adaptation to evolving market**
- **Price competitive and reliable**
- **Reuse reduces risk and simplifies operations and maintenance**

Vehicle Trainer Platform

	System					

	Air Mission Trainer (AMT)	Stryker Variant	Tank Variant	Fixed and Mobile Variants
Unique Cabs				

	Instructor's Station	Instructor's Station
Common		

Core	Image Generator
	Motion System
	Simulation Engine
	Terrain
	Computer System

Compose solution from previously developed and tested platforms to reduce acquisition time and simplify operations and maintenance.

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How Do We Broaden the Use of this Approach?

- Government
  - Communicate needs early and be as open as possible.
  - Think in terms of an "ecosystem" of platforms.
  - Develop system-of-systems engineering around connecting platforms rapidly.
  - Be open to using industry test data to maximize testing across the spectrum.

- Industry
  - Invest in platform development and maintenance.
  - Support appropriate level of "openness" to allow connection of platforms.
  - Optimize processes around platform components.
  - Be open to early government looks at testing to build confidence in quality.

Work together to build platforms to allow rapid acquisition with assured outcomes.

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