What Is the Difference Between a Life Cycle Model and a Development Model and Why Should I Care?

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- 1) framework of processes and activities concerned with the life cycle that can be organized into stages, which also acts as a common reference for communication and understanding
- 2) framework containing the processes, activities, and tasks involved in the development, operation, and maintenance of a software product, spanning the life of the system from the definition of its requirements to the termination of its use

Definition Development Model

- Typically only covers the development of a system or software
- Operation, maintenance and disposal are not included
- System development cycle.
 - Period of time that begins with the decision to develop a system and ends when the system is delivered to its end user
- Software development cycle
 - Period of time that begins with the decision to develop a software product and ends when the software is delivered

Mixing Up Things

- Systems development life cycle
 - Activities associated with a systems' development, encompassing the systems' requirements, design, validation, deployment, maintenance, and end of life

Challenges

- Harmonized approach for
 - Standardization
 - ISO/IEC/IEEE 15288
 - ISO/IEC/IEEE 12207
 - INCOSE Systems Engineering Handbook
 - SEBoK
 - ISO/IEC/IEEE 24748-1 and ISO/IEC/IEEE 24748-2
 - Industries
 - Automotive
 - Aerospace
 - Healthcare
 - Domains
 - HW
 - SW



Back to the Basics: Ashby's Law



In order to deal properly with the diversity of problems the world throws at you, you need to have a repertoire of responses which are (at least) as nuanced as the problems you face.

Source: Copyright the Estate of W. Ross Ashby <u>www.rossashby.info</u>

Concept	Upgrade
Development	Upgrade
Production	Upgrade
Utilization	
Support	
Retirement	

Why is a Life Cycle Model Important?

- It will affect the plans and controls for the program
- It will form the basis for project cost and schedule estimates
- It will determine how the project works with the customer
- It will define how the team works together
- It will shape what types of informal and formal reviews are established

Life Cycle Model Approaches



Driving Factors



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Source: https://www.projectmanagement.com/blog-post/67916/Update--Scaling-Factors-of-Tactical-Agility

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Key Takeaways

- Ensure consistency in terminology
- There is no one-size-fits-all
- Select an appropriate approach
- The processes defined in ISO/IEC/IEEE 15288 apply universally
- Tailoring and adaption is key

Your company's process landscape is a system, too

Thank you!

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