Lean Development

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Definitions

Accountability Board: A visual system for tracking individual tasks
Flow Interrupter: Anything that interrupts the flow of development
Learning Cycle: Short, focused development bursts, usually 2 to 4 weeks in duration
Pace: The time it takes to complete development tasks
Stage Gate: An approval step in a traditional waterfall process that projects must pass
Set-based design: The technique to move multiple design options forward in parallel, in contrast to single-point design which carries forward only a single solution

Situation

Observations of stage-gate project development at Steelcase showed that the pace and progress of development is not exposed, with the following symptoms:

- **Development status is not completely known**
- **The method to help the team is unclear**
- **Development problems are exposed too late**
- **Development stretches out due to late exposure of key problems**
- **Stage-gate check points are too far apart to maintain pace**
- **Discovery and knowledge capture are not emphasized**

Problem

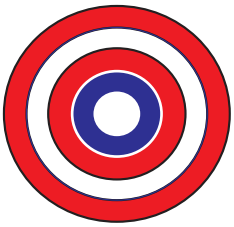
Traditional Project Management	Learning Cycles in Lean Development
• Development cycles are too long	• Short and efficient development
• Focus on a single design alternative thought to be the best (point based)	• Multiple design alternatives reveal the most robust solution (set-based)
• Interrupters are allowed throughout	• Flow with controlled interrupters
• Rework late in the process to recover from point-based design	• Problems identified and made visible to find solutions earlier

Reflection and Analysis

	Traditional	Lean Way
1.	Infrequent stage-gates not measuring development pace	Accountability within each learning cycle maintains pace
2.	Tasks broken down	Problems broken down
3.	Global resource plan	Learning cycles resource plan
4.	Timeline-based	Knowledge-based
5.	Deliverables measured	Learning measured
6.	Linear	Iterative
7.	Separate testing phase	Prototype in every cycle
8.	Point-based solution design	Set-based with many concepts

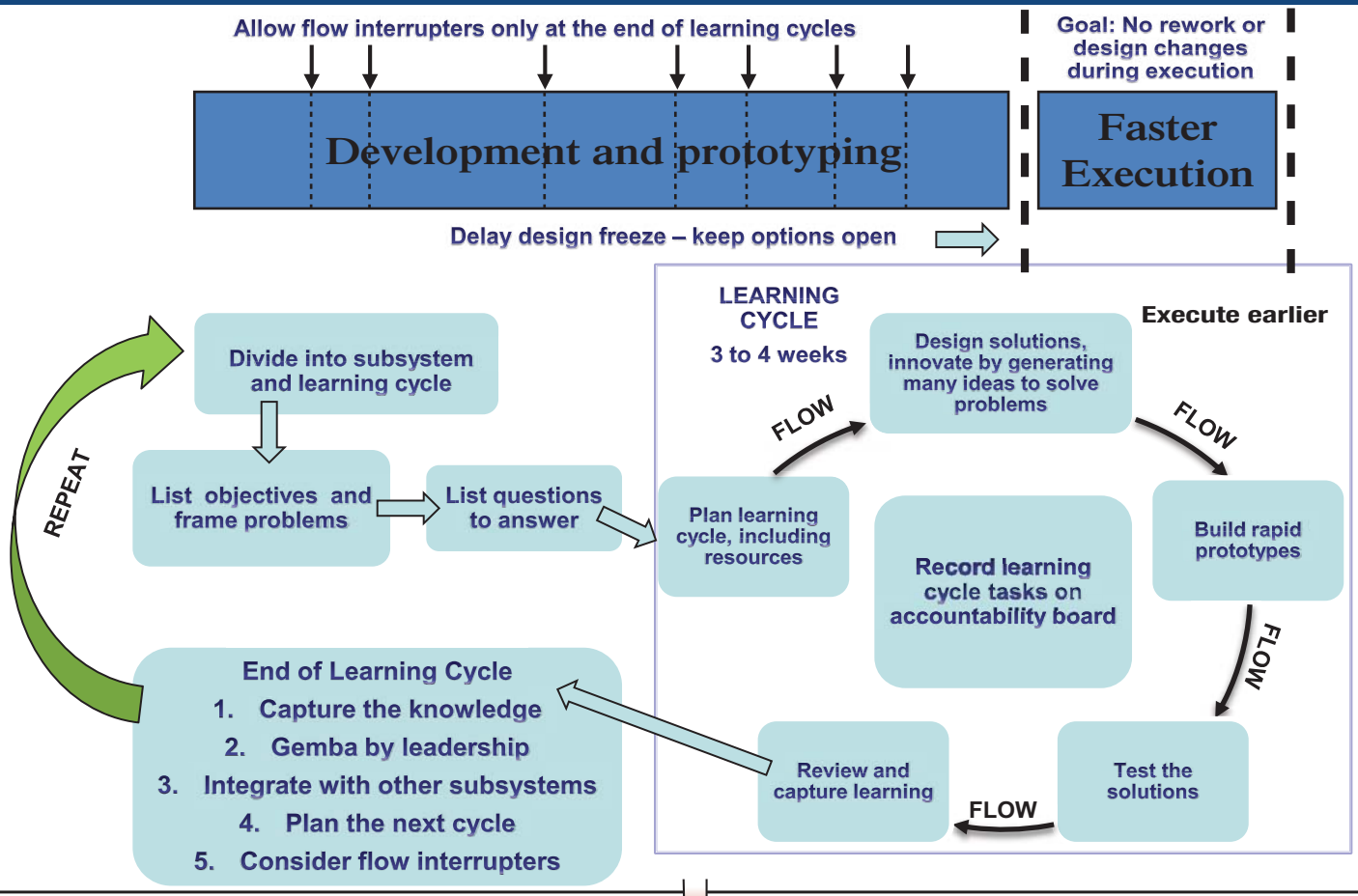
Objectives

Business:
- Improve pace
- Increase capacity
- Increase accountability
- Accelerate innovation
- Flawless execution



People:
- Work without interruption
- Capacity managed
- Timely problem solving
- Development is more fun!

Trial solution



Outcomes

- **Higher quality/innovative solutions**
- **Development pace measured**
- **Earlier project cancellation**
- **Cycle time reduced by 50%**
- **Fewer test failures in execution**
- **Knowledge captured along the way**

Resources and Contact Information

Schipper, Timothy H. and Swets, Mark D. *Innovative Lean Development: How to Create, Implement and Maintain a Learning Culture Using Fast Learning Cycles*, New York, Productivity Press, 2010

Huthwaite, Bart. *Lean Design Solution*. Mackinac Island, MI. Institute for Lean Innovation, 2004

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Have a suggestion or source for a Single-Point Lesson? Contact David Mann, Single-Point editor: david@dmannlean.com