

LiveMind Lean

Lean was assembled by Robert Weidner, and is based on:

The Theory and Practice of Change Management (Third Edition), written by John Hayes.

Kaizen, retrieved from <http://dictionary.reference.com/browse/kaizen>.

Lean Software Development, retrieved from http://en.wikipedia.org/wiki/Lean_software_development.

Queueing Theory, retrieved from http://en.wikipedia.org/wiki/Queueing_theory.

Kanban, retrieved from [http://en.wikipedia.org/wiki/Kanban_\(development\)](http://en.wikipedia.org/wiki/Kanban_(development)).

The Five Principles of Lean	Lean thinking involves specifying value, lining up activities in the most effective sequence, conducting activities without interruption whenever 'pulled' to do so by customer demand, and continuously seeking ways to improve.
Value	This needs to be viewed and defined from the perspective of the end customer.
Stream	Next, the value stream needs to be mapped and wasteful steps eliminated.
Flow	For the value-creating steps that remain, seek then to optimize flow.
Pull	Flow is pulled through the system to deliver what the customer wants, when they want it, without stockpiling waste.
Perfection	Perfection is complete elimination of waste. The ongoing search for continuous improvement is in pursuit of this goal.
The Seven Wastes	Taiichi Ohno's seven wastes offer employees a useful framework for searching out and eliminating all those activities that fail to add value.
Overproduction	Making more than required, or making it earlier than required.
Waiting	Products waiting on the next production step, or people waiting for work to do.
Unnecessary transportation	Moving products farther than required.
Overprocessing products or parts	This can occur because of poor design or inefficient tools.
Inventory	Holding more inventory than is minimally required.
Unnecessary motion	People moving or walking more than minimally required.
Defective parts	Requiring effort to inspect and fix.
The 5S Methodology	A technique for improving the way work is performed.
Separate	Evaluating and removing anything that is not required from the production area.
Sort	Specifying and labeling locations for all remaining items. Locations are chosen to minimize motion.
Sweep	The area is cleaned and kept clean to facilitate efficient working.
Standardize	Making everything consistent. Machines are set up identically and tasks are performed in a standardized way.
Sustain	Maintaining the discipline of the preceding steps.
Additional Terms	Other words and definitions commonly referenced in Lean speak.
Kaizen	A business philosophy or system that is based on making positive changes on a regular basis to improve productivity.
8th Source of Waste	Producing goods and services that fail to meet the needs of the customer.
Work-in-process (WIP)	Partially finished work waiting for completion and eventual value-delivery to the customer.
Constraint	A bottleneck that reduces the throughput of a system.
The Five Whys	Used to identify and eliminate the root cause of problems by asking the question "why?" recursively, five times.

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Queuing Theory	Used to increase flow through a system, particularly at the constraint.
First in first out	Customers are served one at a time. The customer that has been waiting the longest is served first.
Last in first out	Customers are served one at a time. The customer with the shortest waiting time will be served first.
Processor sharing	Service capacity is shared equally between all customers.
Priority	The next job to serve is the one with the highest priority.
Shortest job first	The next job to serve is the one with the smallest size.
Preemptive shortest job first	The next job to serve is the one with the original smallest size.
Shortest remaining processing time	The next job to serve is the one with the smallest remaining processing requirement.
Service facility	Single server - form line; parallel servers - form line for many servers; tandem queue - customers decide where to go.
Customer's behavior of waiting	Balking - decide not to join; jockeying - switch between queues; reneging - leave the queue.
Kanban	Kanban is a pull-system that uses a "signal board" to visually display the status and priority of work in process.
Visualize the workflow	You cannot improve what you cannot see. Show progress
Lead using a team approach	Without collaboration, nothing of significant value can be created or improved.
Reduce the batch size	Decreasing the size of the batch unit of work will increase the flow through the system, particularly at the constraint.
Learn and improve continuously	Take time to reflect in order to learn from experience.
The Seven Principles of Lean Software Development	The principles of Lean expounded upon and applied to software development, and frequently referenced within the agile community.
Eliminate waste	Anything that does not add value to the customer should be regarded as waste, and subsequently eliminated.
Amplify learning	Speed up the learning process by using short iteration cycles to collapse the feedback loop and amplify learning.
Decide as late as possible	Defer commitment for as long as possible, making decisions when the greatest amount of information is available.
Deliver as fast as possible	Identify and solve business needs as quickly as possible, then iterate on the design based on subsequent feedback.
Empower the team	Those close to the technology on a daily basis are in the best position to make technical decisions. Allow them to do so.
Build integrity in	Involve the customer throughout the development effort to validate assumptions and ensure quality.
See the whole	Produce a system with smoothly interacting components through continuous integration and removing technical debt.
Just-in-time (JIT)	The act of <i>deferring commitment</i> until the <i>last responsible moment</i> .
Delivery	Reduces inventory and overhead by delivering items as needed. Also ensures inventory is never outdated.
Production	Item is assembled and created to specifications created on demand and pulled by the customer.
Analysis	Detailed planning conducted on a short horizon to ensure empirical process control.