Lean Development Principles

Google — Principles
- Focus on the user and all else will follow — Can also be stated "Revenue is a by product (or side-effect) of the value you provide to your customers"
- It's best to do one thing really, really well
- Democracy on the web works.
- Fast is better than slow

Eliminate Waste
- Extra Features — Develop the 20% of the features that provide 80% of the value
- Churn
  - Requirements — Specifying too early
  - Test / Fix Cycles — Testing Too Late
- Crossing Boundaries — Organizational Boundaries — Typically add 25% overhead cost

Build Quality In
- Test Driven Development
- Stop Building Legacy Code — Code that lacks
  - automated unit tests — JUnit
  - automated acceptance tests — Fitnesse
- Big Bang is Obsolete
  - ✔ Continuous Integration
    - minimal branching
    - **[1]** make small changes that work within the context of the application rather than big branches that change behavior in a major way
  - Nested Synchronization — iterations
    - have to involve whole team
    - Work comes together at regular intervals

Create Knowledge
- Use Scientific Method
  - establish hypotheses
  - conduct rapid experiments
  - create concise documentation
  - implement best alternative
  - **Set based Development**
- Standards Exist to be Challenged and Improved — staff should be encouraged to challenge and change standards
- Predictable Performance is Driven By Feedback

Defer Commitment
- Break Dependencies
- Schedule irreversible decisions to the "last responsible moment"

Deliver Fast
- Rapid Delivery, High Quality, and Low Cost are Fully Compatible
- Queuing theory applies to development, not just servers
  - Focusing on utilization creates traffic jams that actually reduce utilization
  - Drive down cycle time with small batches and fewer things in process
- Limit work to Capacity
  - Establish a reliable, repeatable velocity with iterative development
  - Aggressively limit the size of lists and queues to your capacity to deliver

Respect People
- Teams Thrive on Pride, Commitment, Trust, and Applause
- Provide Effective Leadership
- Respect Partners — Allegiance to the joint venture must never create a conflict of interest

Optimize the Whole
- Focus on the entire value stream
  - From Concept to Cash
  - From Customer Request to Released Software
- Deliver a Complete Product
  - Develop a complete product, not just software
  - Complete Products are delivered by complete teams — includes
    - Development
    - Quality Assurance
    - Product Owner
    - Business Sponsors / Stakeholders
    - User Experience
- Measure UP
  - Measure process capacity with cycle time
  - Measure team performance with delivered business value
  - Measure customer satisfaction with net promoter score