

# Principles of Product Development Flow

**Part 9: Achieving Decentralized Control**

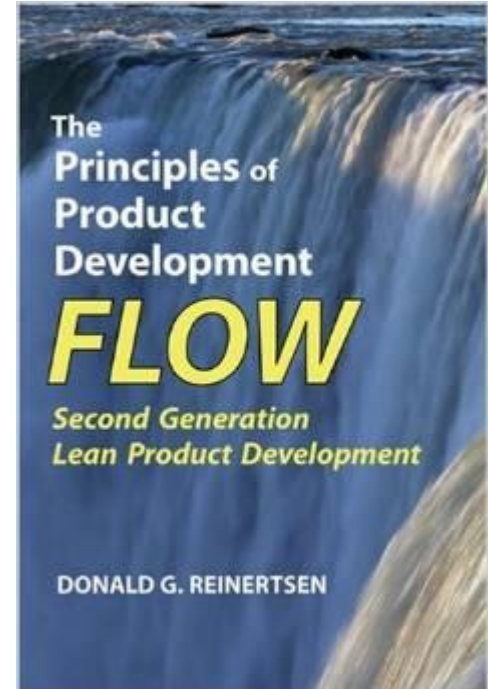
# About Me

- Started programming in 1981
- Owner of Enoki Solutions Inc.
  - Consulting and Software Development
- Exposed to several industries
- Running VanDev since Oct 2010

**Book:**

# **The Principles of Product Development Flow**

- ~\$45 on Amazon.ca
- Published in 2009
- Award winning
- Difficult material
- Generally ignored :(
- Awesome IMNSHO



# Format

- Several “Principles”
- D - Decentralized
- 23 this time

*generals always prepare for the last war*

## D1 The Second Perishability Principle: Decentralize control for problems and opportunities that age poorly.

- Fire: best dealt with when small
- Decentralize response
  - **Authority** to act
  - **Preparation** (fire extinguisher placement)
- Emergent opportunities that age poorly are often not exploited perfectly
  - Accept it. (Hindsight is 20/20)

## D2 The Scale Principle: Centralize control for problems that are infrequent, large, or that have significant economies of scale.

- Software has few economies of scale
  - **Repeatable** response to a problem
  - Standard containers, frameworks, vcs, build, deploy, operations, etc.
- Specialists tend to be centralized
- Watch response time
  - Central resources respond much slower
  - Fast good decision > Slow better decision

## **D3 The Principle of Layered Control: Adapt the control approach to emerging information about the problem.**

- If unsure of approach
  - Time box & review at a set time
  - Start at the lowest priority and escalate as needed
  - Start decentralized and centralized as appropriate
  - Focus on discovery and learning
  - Place limits/boundaries



## D4 The Opportunistic Principle: Adjust the plan for unplanned obstacles and opportunities.

- No battle plan survives first contact with the enemy
- We plan to set **alignment**
- As information about requirements is further uncovered we change our actions according to an aligned understanding

## **D5 The Principle of Virtual Centralization: Be able to quickly reorganize decentralized resources to create centralized power.**

- Task your specialists with low priority work so they can be pulled onto high priority emergent problems quickly
- Cross train employees where possible so you can bring more force to bear on emergent problems

## **D6 The Inefficiency Principle: The inefficiency of decentralization can cost less than the value of faster response time.**

- The vast majority of people trained in CPR will never use this skill, yet we still train them  
→ Response time critical, so we accept the expense
- Perceived inefficiency can be addressed with the economic model (Chapter 2).

## **D7 The Principle of Alignment: There is more value created with overall alignment than local excellence.**

- Making all features slightly better is worse than making a few features considerably better
- Once we believe we've determined the features that will be market differentiators we align focus on them

## D8 The Principle of Mission: Specify the end state, its purpose, and the minimal possible constraints.

- **Not** what to do, **not** when to do by, **not** what resources to use
- Focus on **intent** and **why**
- Generate deep understanding of the reasoning behind the goals across the organization

## D9 The Principle of Boundaries: Establish clear roles and boundaries.

- Avoid the bikeshed
  - # of people making a decision should be proportional to the value of the decision
- Accept decisions made by others
  - that is in their role and responsibilities
  - your input often has low economic value
- “If you are going to worry about it, I won’t.”

## **D10 The Main Effort Principle: Designate a main effort and subordinate other activities.**

- Focus the main effort on the product features that differentiate in the market
- The other feature may need to exist, but refinement and effort on them is minimized; not eliminated

## D11 The Principle of Dynamic Alignment: The main effort may shift quickly when conditions change.

- Constantly check that the main effort is focused on features that will differentiate in the market and **change** focus with the market



## **D12 The Second Agility Principle: Develop the ability to quickly shift focus.**

- Develop processes to enable changing focus
- OODA loop: Orient, Observe, Decide, Act
- Small team, high skill, features follow the market
- Late binding: Pluggable components to swap out as requirements changes

## **D13 The Principle of Peer-Level Coordination: Tactical coordination should be local.**

- Adjacent processes need to talk to maintain alignment
- Routing communications to a central authority is inefficient and time consuming

## **D14 The Principle of Flexible Plans: Use simple modular plans.**

- Plans for communications and process
- Lots of little plans with variations
- Contingency plans
- Change is part of the plan

## **D15 The Principle of Tactical Reserves: Decentralize a portion of reserves.**

- Spread capacity margin around
- Layer capacity margin at each level of the hierarchy
- We cannot predicate where we will need it

## D16 The Principle of Early Contact: Make early and meaningful contact with the problem.

- Ship early and often
- Get feedback
- Adjust
- First to market gains advantages
  - shapes the market
  - earliest feedback

## **D17 The Principle of Decentralized Information: For decentralized decisions, disseminate key information widely.**

- Information is required to make good decisions
- If information is held centrally the decisions at the edge will be in conflict with the central view (and vice versa)
- Information must flow both ways

## D18 The Frequent Response Principle: We can't respond faster than our frequency response.

- If our shipping frequency is monthly we react to changes monthly **at best**
- To accelerate decisions involve the smallest number of people that need to be involved
- Question involvement
  - A single team with full control will always react faster
  - “Traditional” teams will fight this!

## **D19 The Quality of Service Principle: When response time is important, measure response time.**

- Response time tend to be inversely proportional to efficiency
- Be sure any group on the critical path is measured on response time and not efficiency



## D20 The Second Market Principle: Use internal and external markets to decentralize control.

- Internal markets via tokens or budget
  - Projects bid on time from other teams
  - Forces projects to justify support and shared resource costs
- Tie cross team interactions back to the economic model
- Avoid “free”

## **D21 The Principle of Regenerative Initiative: Cultivating initiative enables us to use initiative.**

- An imperfect decision executed rapidly is better than a perfect decision executed late
- Initiative must be encouraged and provided with positive reinforcement; otherwise initiative will disappear from your organization

## **D22 The Principle of Face-to-Face Communication: Exploit the speed and bandwidth of face-to-face communications.**

- Verbal, face-to-face, discussions generate the best and fastest feedback
- Colocate teams to enable this

## D23 The Trust Principle: Trust is build through experience.

- Trust is built through experience working with someone
- Keeping teams together enables this
- Move projects around teams, not people around projects
- Small batches enable teams to deliver and gain external trust

# Conclusions

- DC enables rapid reaction
- DC requires rethinking existing teams and structure in your organization
- DC requires trust
- DC requires communication and information dissemination

# Q&A