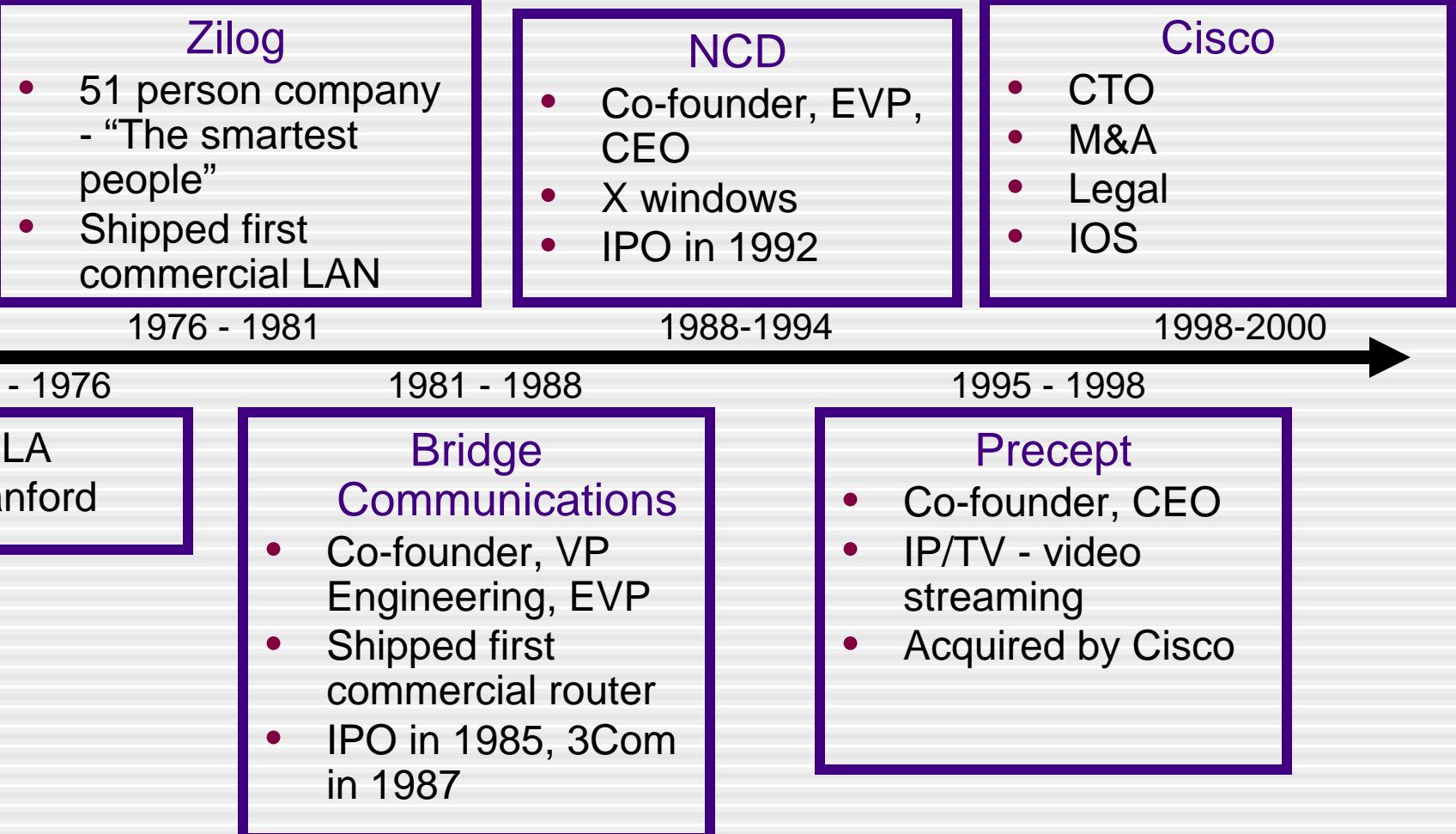


IT R&D Ecosystem Workshop

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Judy Estrin
CEO, Packet Design

Serial Entrepreneur



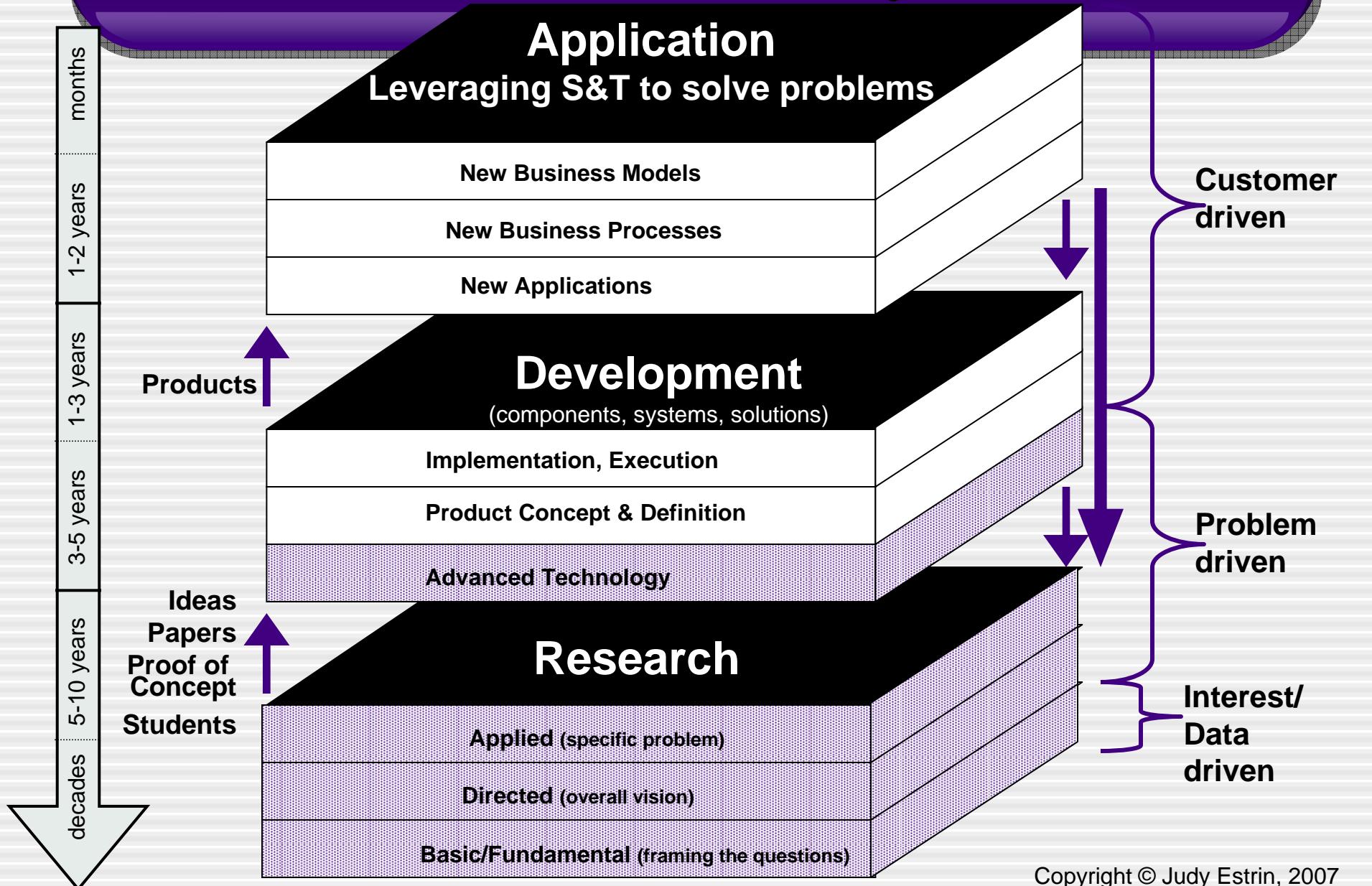
Life Today

- CEO Packet Design, LLC - originally a technology incubator
- Board member
 - Fedex since 1989 
 - The Walt Disney Company since 1998 
 - Packet Design, Inc one of 3 start-ups spun out of LLC
 - Arch Rock, Inc - startup in sensor nets market
- Writing a book on Innovation and Entrepreneurialism

QuickTime™ and a
TIFF (Uncompressed) decompressor
are needed to see this picture.



Innovation Ecosystem



Environmental Factors

- Fueling the process
 - Problems/Needs
 - Funding
 - Policy
- Educating, inspiring, motivating the innovators
 - Education
 - Leadership
 - Culture

Innovations Core Values

- Questioning (curiosity, inquisitive, critical evaluation, self assessment, non-judgmental)
- Risk taking (willingness to be vulnerable, attitude toward failure)
- Openness (to data, to input, to share, to imagine)
- Patience (but not passive)
- Trust

Thoughts

- Environment in the 60's through 90's allowed innovation to thrive
 - Multiple 'breakthroughs': CPUs, PCs, networking, the web
 - Lots of new problems to solve
 - Capital - research funding, venture capitalists, capital markets
 - Acceptability of risk - entrepreneurs, larger companies, venture capitalists
- The ecosystem was well balanced and core values strong

Thoughts

- Just when our lead in S&T innovation is most critical, many of our actions of the last ten years (the bubble and crash) worked against innovation.
- We are currently milking the innovation of the 60's, 70's and 80's. Country is suffering from "Innovator's Dilemma" (Christensen)
- The bubble was about time to market not innovation (we lost our **patience**) - role of startup shifted from advanced technology to business model innovation
- Reaction to the crash was to become more **risk** averse - this has gotten better but not better enough. Hard to find really early stage investors. Time to liquidity is longer and thus more cash is required.
- Trust relationship between investors and entrepreneurs has changed
- Potential financial outcomes are lower - everyone needs to reset expectations
- Terrorism and political environment have impacted our **openness**, critical **questioning** and **trust**

Thoughts

- We need a new model
 - Social, political, economic landscape has changed
 - Networks are more important than institutions
 - IT market has matured - but IT is still critical. The future is interdisciplinary. Need to focus on basic advances in computer science with a view toward other disciplines and new application innovation.
- Number of interrelated problems to be solved:
 - Funding (research, early stage VC, corporate)
 - Policy (immigration, SOX, litigation, patents, health care reform...)
 - Education (K-12, leadership)
 - Inspiration (exploration vs. protection/defense)