

About Products and Product Development

UW CSE 403

**Skip Walter
CEO**

**Attenex Corporation
November 22, 2002**



Gaining Experience

Where'd you get your good judgement?

From my experience.

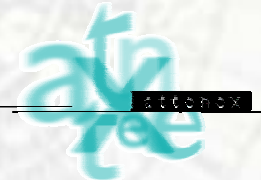
Where'd you get your experience from?

From my bad judgement.



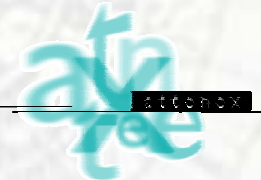
Context Quotes

- **On Models:**
 - All models are false.
 - However, some are useful.
- **“Why should we look to the past in order to prepare for the future? Because there is nowhere else to look.” James Burke, *Connections***
- **“A man is known by the company he organizes.” Ambrose Bierce**



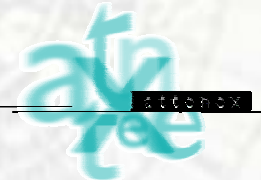
Outline

- **Context of a Product**
- **Technology Adoption Lifecycle Curve**
- **Whole Product Thinking**
- **Reverse Product Design**
- **r2DNA – recombinant reflective Digital Network Assets**



But First a Story

- **First meeting after my promotion from product development manager for All-IN-1 to Director of Office Automation Products:**
 - US Group Vice President:
 - What business are we in?
 - Who is our customer?
 - Why do our customers value what we do?
 - What products do we offer?
- **Huh?**

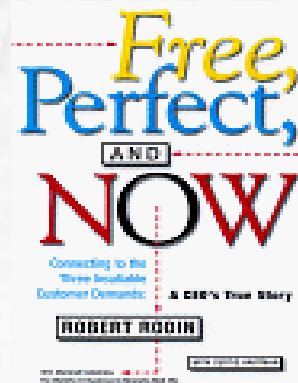


The Simple Questions

- **What is a product?**
- **What is a project?**
- **What is a prototype?**
- **What is a customer?**
- **Deming's Five Whys?**

A Product has a Context

- **Economy – growing or shrinking?**
- **Industry – who are the leaders?**
- **Company – core or context?**
- **Department – revenue or expense?**

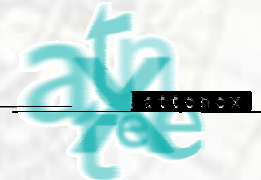


And My Way!



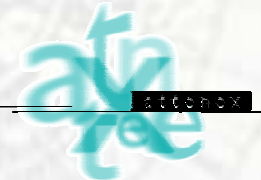
The Mind of a Product Creator

- **See a need in the world of real users.**
- ***Capability.* Ability to pull resources together.**
- ***Viability.* Ability to keep resources together.**
- ***Desirability.* Ability to find someone willing to pay for the product.**
- **Energy. Ability to keep going when no one “gets” your wonderful idea.**



The Four Questions

- **What are we trying to create?**
- **How will we know that we've created it?**
- **What resources do we have to get started now?**
- **What other opportunities does this lead to?**

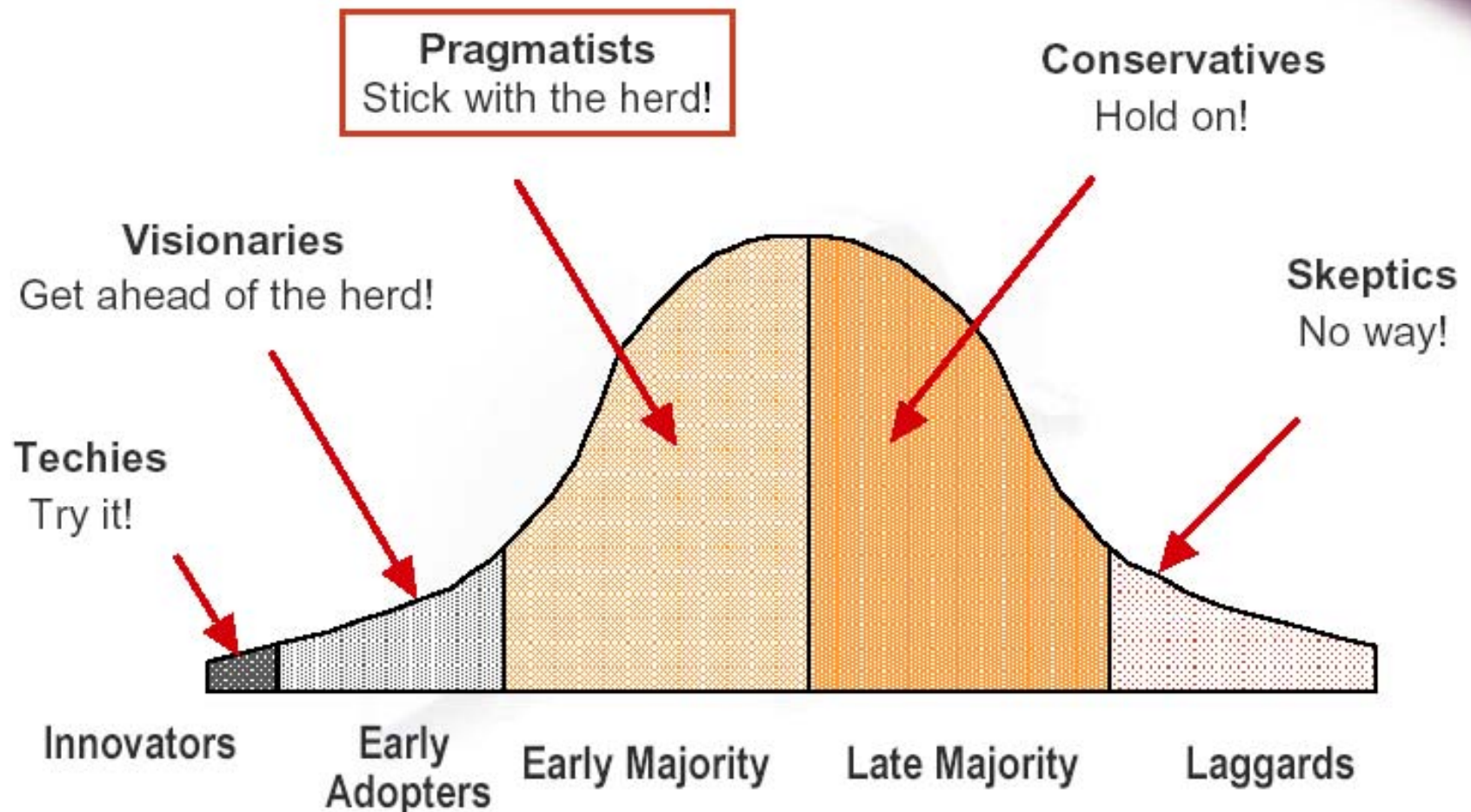


Influencers, Purchasers, Users

- **Marketing of Colleges Story**
- **Customer Does Not Parse**
- **Walter's Second Law:**
 - Words mean something but rarely the same thing to different people.
- **Distinctions of Customer**
 - Influencer
 - Purchaser
 - User

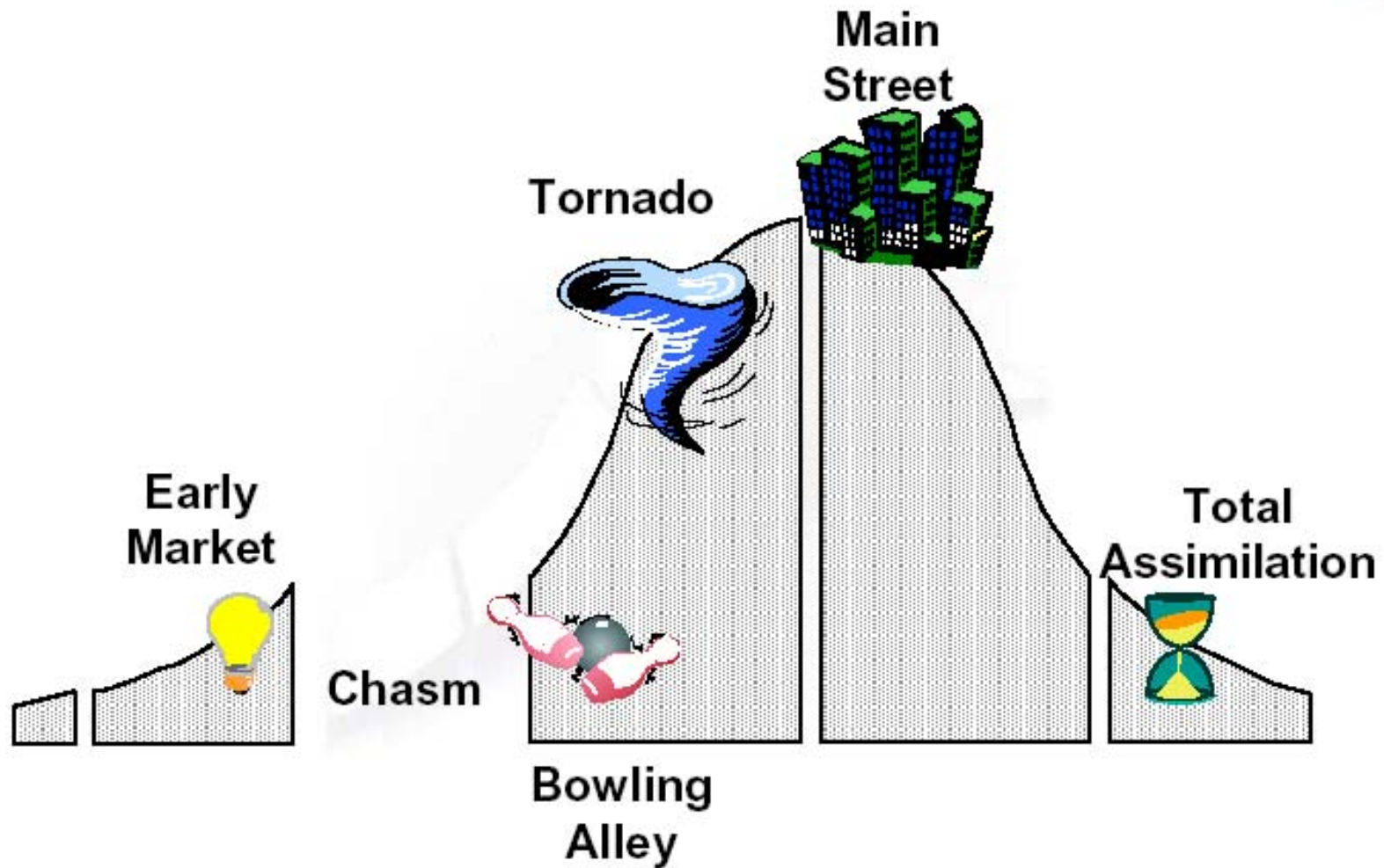


Technology Adoption Life Cycle



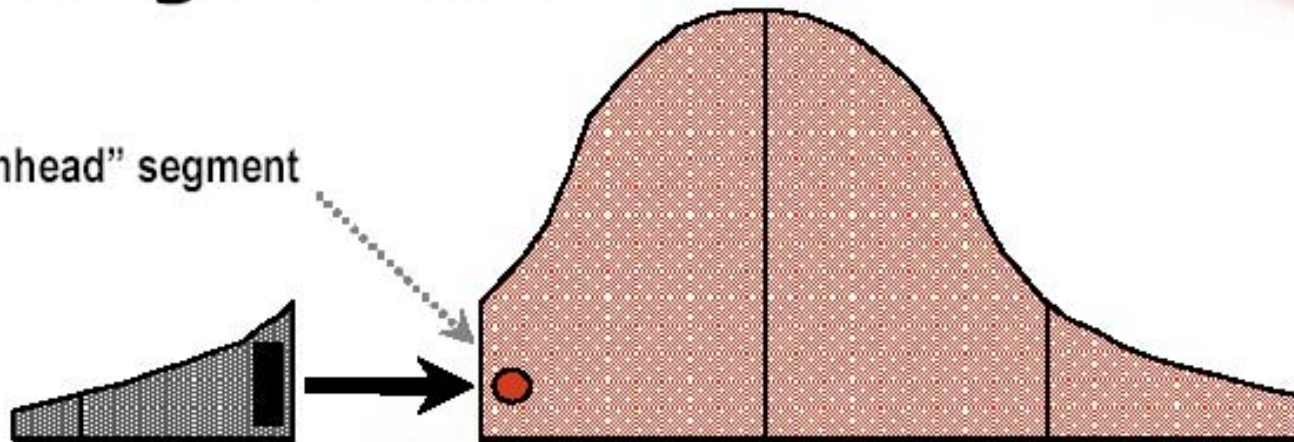
Pragmatists create the dynamics of high-tech market development.

Market Development Model



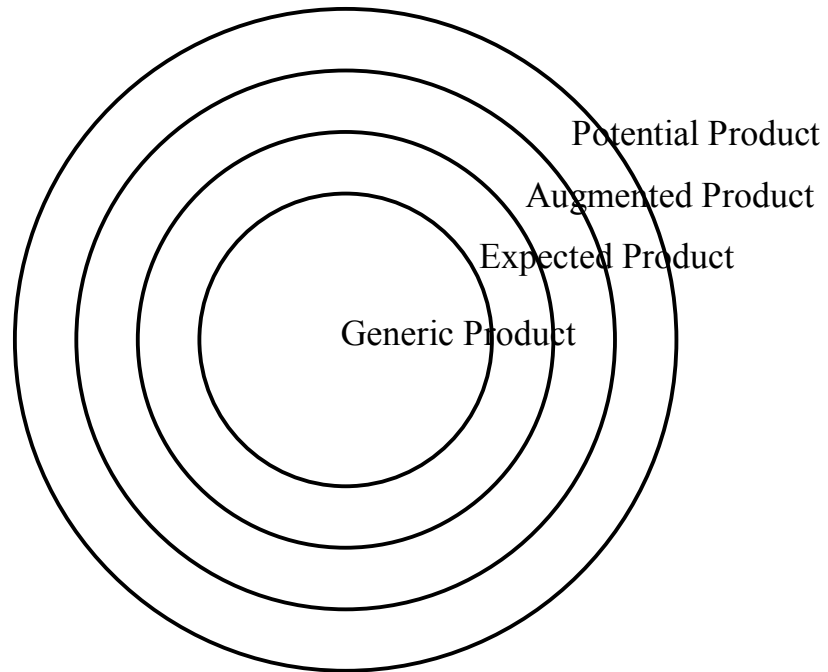
Crossing the Chasm

The "Beachhead" segment



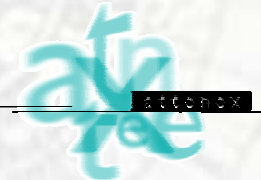
- **The Problem**
 - 80% of many solutions—100% of none
 - Pragmatists won't buy 80% solutions
- **Conventional solution (leading to failure)**
 - Committing to the most common enhancement requests
 - Never *finishing* any one customer's wish-list
- **The Correct solution (leading to success)**
 - Focus on a single customer segment and build whole product for that segment
 - Use experience and product to move to similar segments

The Whole Product Model



Whole Product Concept

- **Generic** - what a company actually delivers to a customer
- **Expected** - what activity the user hopes the product will benefit
- **Augmented** - who else complements the generic product
- **Potential** - what are ways and directions that the product can be further enhanced.

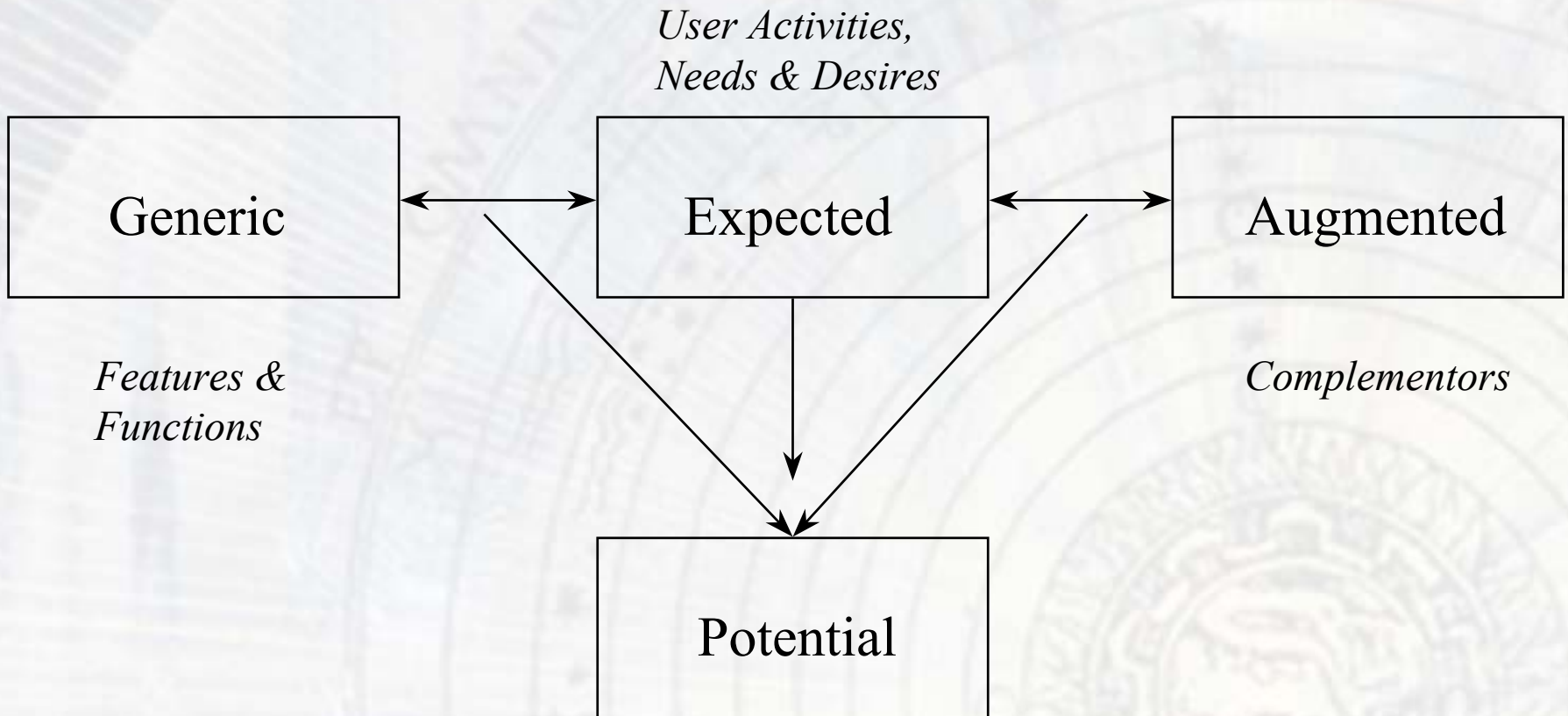


Amazon.Com Example

- ***Generic*** - Books search and database, CD search and database, Video search and database, Recommended Books, Book Reviews, Book ordering and delivery, Amazon Associates, Customer Database, etc.
- ***Expected*** - Book browsing, book ordering, book sampling, MetaBook, Personal Book Inventory
- ***Augmented*** - Amazon Associates, Multi-media Computers, ISPs, Browsers, RealNetworks, Book Distributors
- ***Potential*** - Digital Book Ordering and Delivery, Meta Book Commentaries, “People like me” Communities



Innovation Strategies

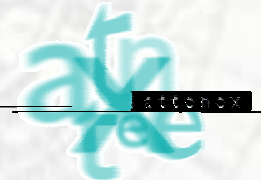


Where does technology and an expanded understanding of user needs lead us?



Reverse Product Design

- **Traditional Process – Technology Centered Design**
 - Innovation (R&D)
 - Story (Marketing)
 - Activity (Sales, Service and Support)
- **Reverse Product Design – start with the human being**
 - Activity
 - Story for Understanding
 - Innovation
 - Story for Persuasion

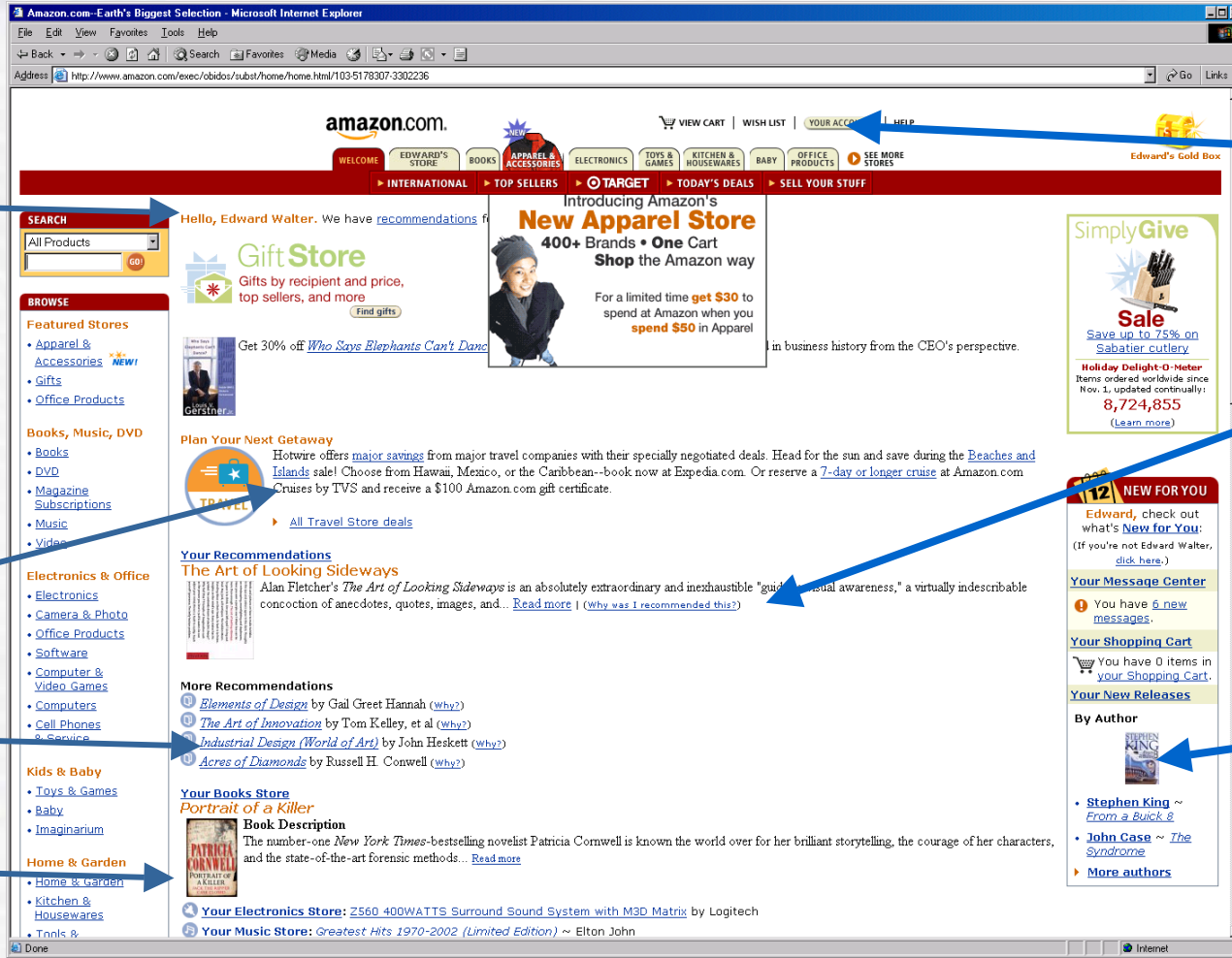


r2DNA

- **Recombinant reflective Digital Network Assets**
- **r2DNA as a brainstorming tool**
 - Identify the Digital Assets
 - In what ways can the Digital Assets be recombined
 - What other Digital Network Assets can I network my Digital Assets to
 - For a given user, reflect on the pattern of usage to determine higher order intents or goals on the part of the influencers, purchasers and users
- **And a few simple rules**
 - One rule generates
 - One rule reduces
 - Another maintains – tendency to persist



Digital Assets at Amazon.com



Order History

Demographic Info

Book Rankings

Book Reviews

Customized Topics

Cover Images

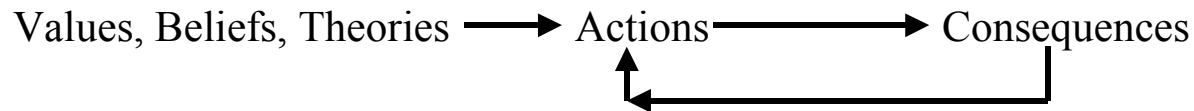
Book Info



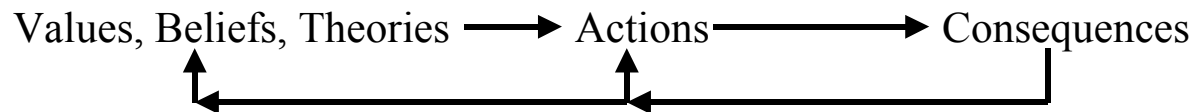
Reflection in Product Design

Reflection

Model 1

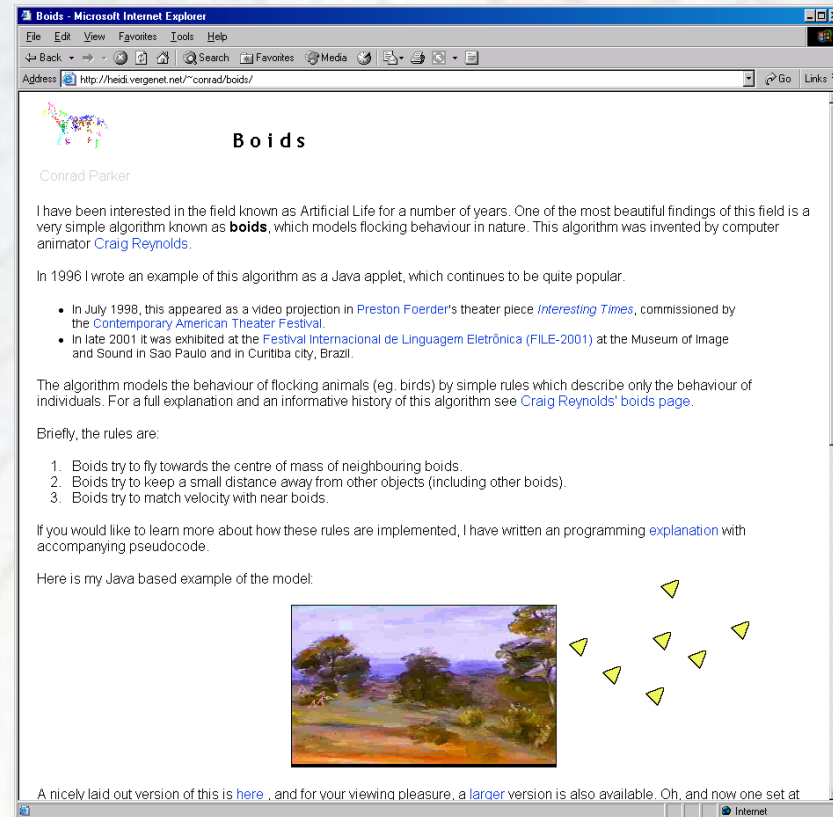


Model 2



And a few simple rules - BOIDS

- **And a few simple rules**
 - One rule generates
 - One rule reduces
 - Another maintains – tendency to persist



Boids

Conrad Parker

I have been interested in the field known as Artificial Life for a number of years. One of the most beautiful findings of this field is a very simple algorithm known as **boids**, which models flocking behaviour in nature. This algorithm was invented by computer animator [Craig Reynolds](#).

In 1996 I wrote an example of this algorithm as a Java applet, which continues to be quite popular.

- In July 1998, this appeared as a video projection in [Preston Foerder's](#) theater piece [Interesting Times](#), commissioned by the [Contemporary American Theater Festival](#).
- In late 2001 it was exhibited at the [Festival Internacional de Linguagem Eletrônica \(FILE-2001\)](#) at the Museum of Image and Sound in Sao Paulo and in Curitiba city, Brazil.


The algorithm models the behaviour of flocking animals (eg. birds) by simple rules which describe only the behaviour of individuals. For a full explanation and an informative history of this algorithm see [Craig Reynolds' boids page](#).

Briefly, the rules are:

1. Boids try to fly towards the centre of mass of neighbouring boids.
2. Boids try to keep a small distance away from other objects (including other boids).
3. Boids try to match velocity with near boids.

If you would like to learn more about how these rules are implemented, I have written an programming [explanation](#) with accompanying pseudocode.

Here is my Java based example of the model:



A nicely laid out version of this is [here](#) , and for your viewing pleasure, a [larger](#) version is also available. Oh, and now one set at

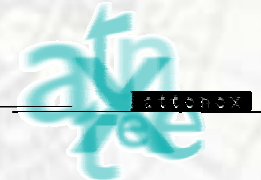


Objective Functions

- **When we are evaluating product proposals there are really only three generic categories**
 - **how will your product:**
 - Increase revenue
 - Decrease expenses
 - Decrease time
- **For our company**
- **For our customers**

The Slywotzky Imperatives

- **What matters is:**
 - Moving from burdening talent with low-value work to gaining high talent leverage;
 - Moving from getting information in lag time to getting it in real time;
 - Moving from guessing what customers want to knowing their needs.



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**Skip Walter
CEO**

Attenex Corporation

Mail: skip@attenex.com

Phone: 206-386-5844

