TAAG April Presentation
"Embracing Change"

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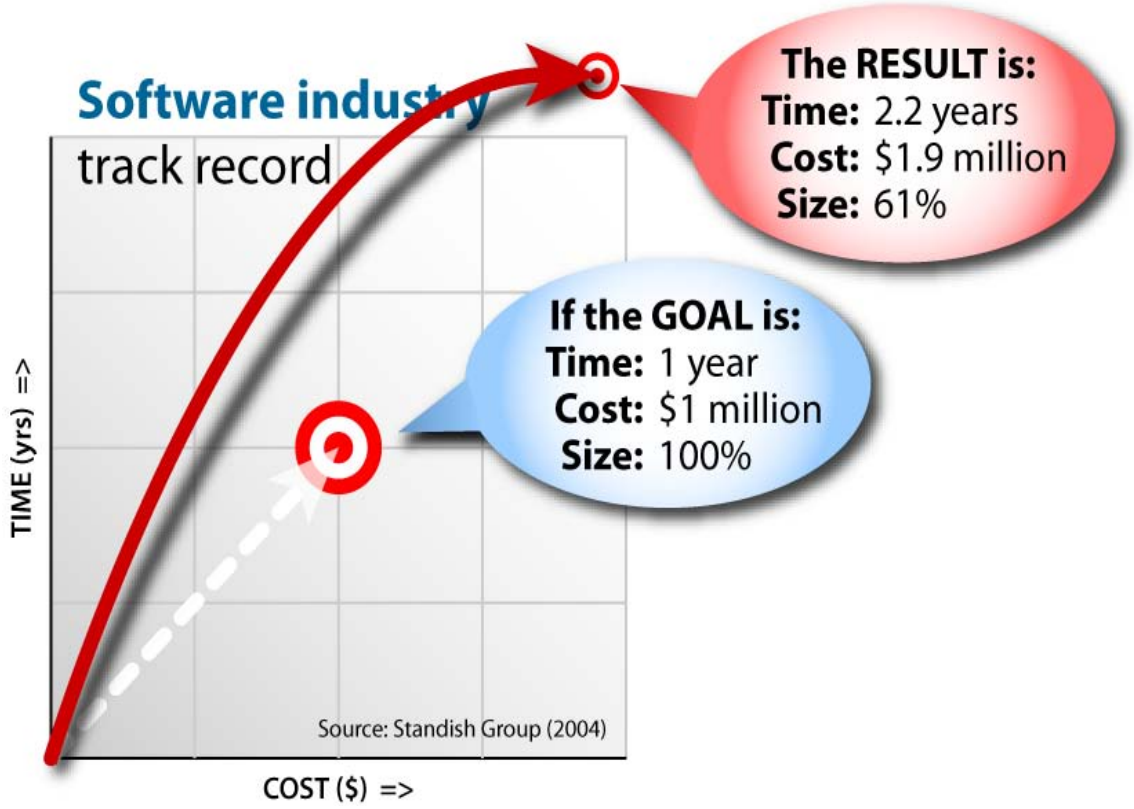
The problem

Software projects are late, expensive and buggy

- For a typical software development project ...



Everyone is Looking for a Solution

Most IT groups deal with the same core problems whether they sell their service or provide it as part of a corporate resource

- Shrinking budgets / more demand for automation
- Compressed deadlines /greater sense of urgency
- Changing / incomplete requirements
- Demanding users / clients
- Unrealistic expectations
- Inadequate tools to help address these issues

Our current thinking on the solution

The Nimble Method℠

A unique combination of 4 best practices

- **User Experience**
- **Function Point Analysis**
- **Agile Development**
- **Scope Management**

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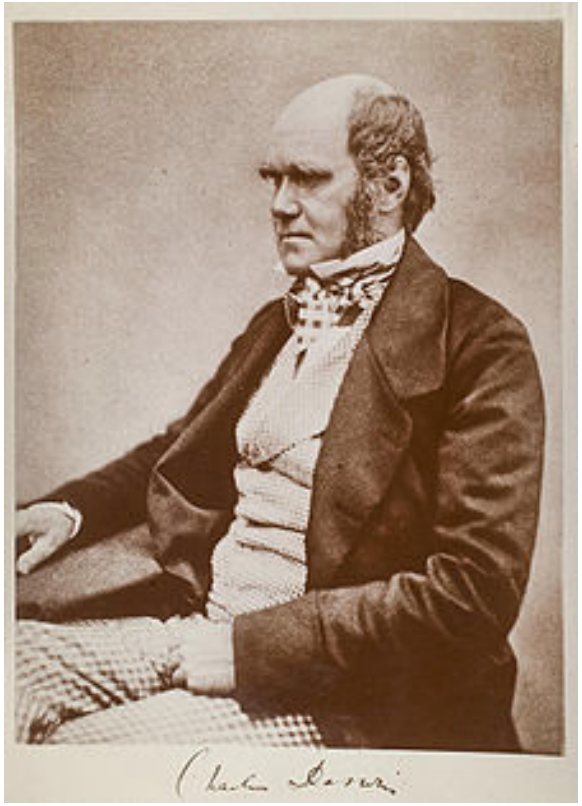
Why Change?.....To Survive!

"It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change."

(Charles Darwin)



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Experience Before Agile Development

Feb 2007: - Started Order Fulfillment Project
- Estimated 6 people for 6 months
- Waterfall Methodology

May 2007: - Scope Increased by 260%
- Our Change Order was for +50%

July 2007: - SH doubled the team & worked OT

Oct 2007: - Delivered all functionality within 150% of the original schedule

End Results: - Client Never Implemented
- We lost money

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Lessons Learned

1. Establish a Baseline FPA
2. Develop and Test Code in Iterations
3. Establish Project Metrics based on Code Delivery
4. Rely more on frequent Business User Input, Data Models & UI's than on text based Use Cases
5. Provide independent Scope Management

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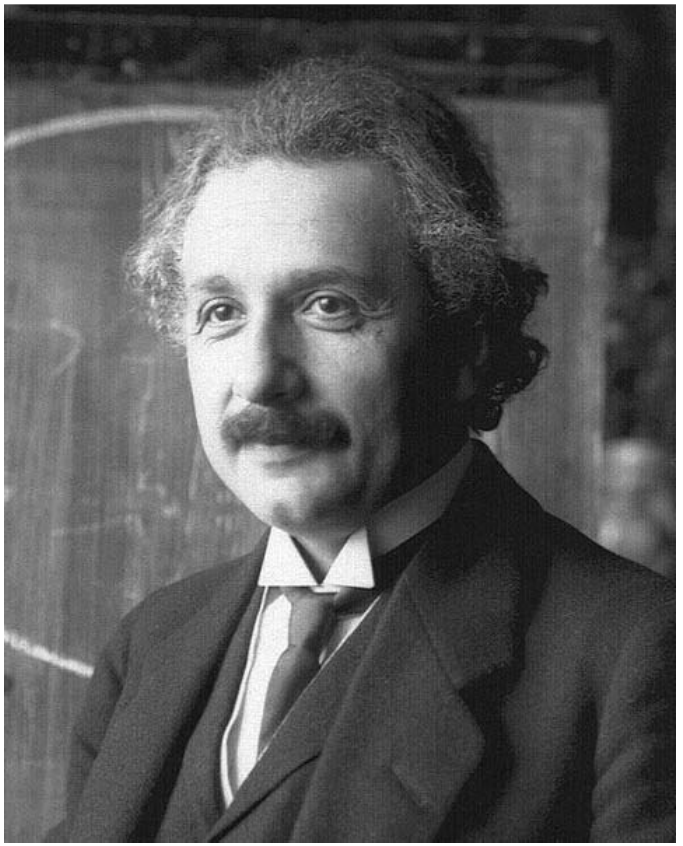
"A clever person solves problems. A wise person avoids them."

(Albert Einstein)



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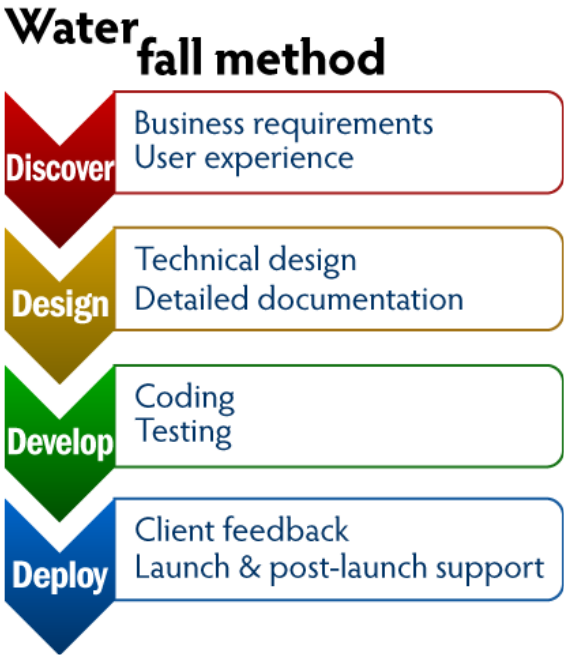
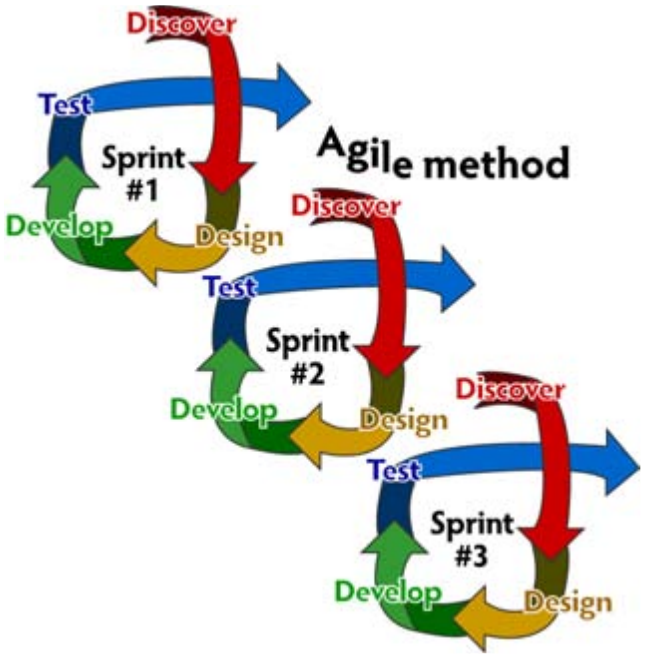
Nimble Dev: Hybrid of best practices

The Nimble Method™





Waterfall risks

- Sequential work = long timelines
- Rigid schedule = difficult to adapt
- Client only involved at start & end

Agile risks

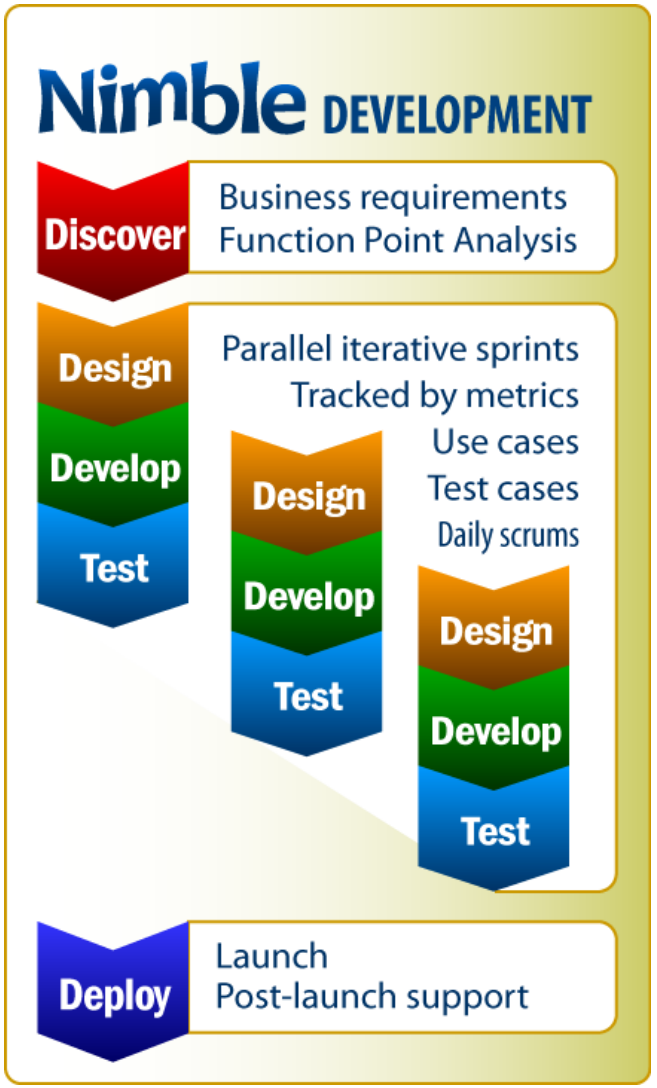
- Unstructured path = uncertain timelines
- Undefined requirements = scope creep
- Hard to quote a price up front

Nimble Dev Avoids Past Problems

The Nimble Method™

Best of Agile + FPA

- Accurate Project Sizing
- Early Test Feedback
- Role-based teams
- Daily scrums
- Client involved
- Frequent code delivery
- Tracked by metrics



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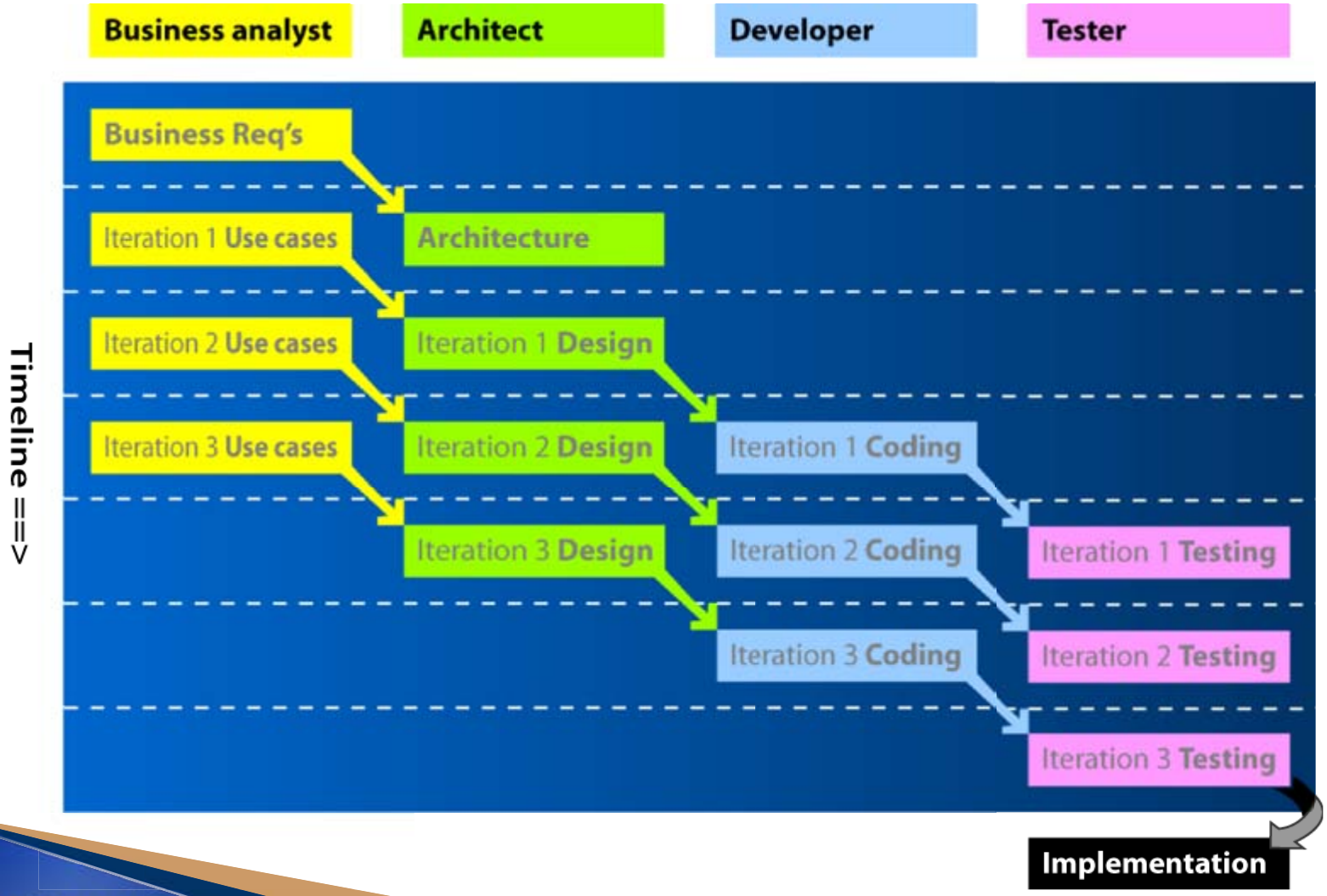
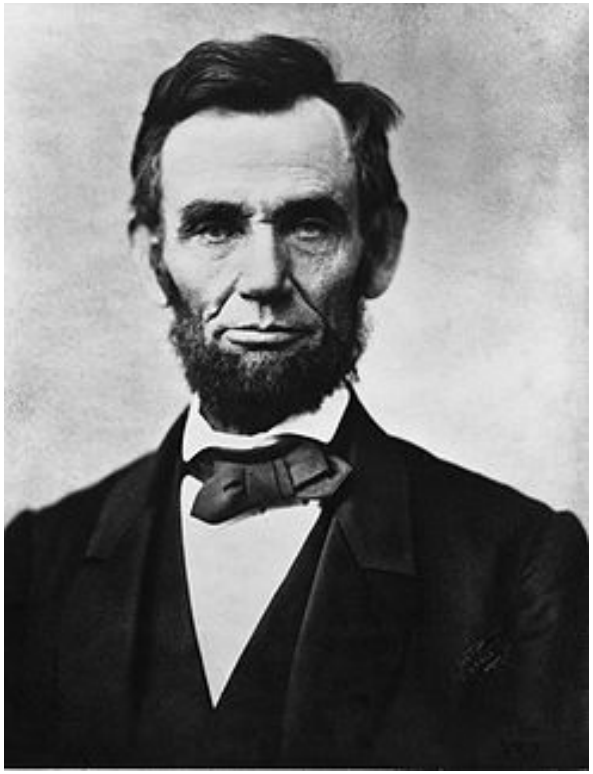
Nimble Dev: Typical timeline



Calling it Agile doesn't make it Agile!

"If you call a tail a leg, how many legs does a dog have? Four. Because calling it a leg doesn't make it a leg."
(Abraham Lincoln)



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Agile vs. Nimble Philosophy Comparison

Agile	Nimble
1. Highest priority is Customer Satisfaction	✓
2. Welcome changing requirements	✓
3. Deliver working software frequently	✓
4. Work with business people daily	✓
5. Build projects around motivated individuals	
6. Convey information face to face	✓

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Agile vs. Nimble Comparison continued….

Agile	Nimble
7. Progress measured in working software	✓
8. Promotes sustainable development	✓
9. Good design enhances agility	✓
10. Maximizes the amount of work not done	✓
11. Self-organizing teams create best designs	
12. Adjusts behavior at regular intervals	✓

Nimble℠ is working with Agility!

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Agile vs. Nimble Comparison continued….

Explanation of Areas of Difference:

- 5. Build projects around motivated individuals

  We build projects around the user's functional requirements. Once we sized the project with Function Point Analysis(FPA), we then create a team of motivated individuals.

- 11. Self-organizing teams create the best designs

  We create a logical functional component model of the entire application, when applying FPA during the discovery phase, and the Dev team uses it as a guide, when defining the technical design of each iteration.

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Why Function Point Analysis (FPA) is key to our Methodology change

It Helps Us Avoid 5 Top Project Risks :

1. **Lack of User Input**
2. **Incomplete Requirements**
3. **Changing Requirements**
4. **Lack of Executive Support**
5. **Unrealistic Expectations**

- The Standish Group

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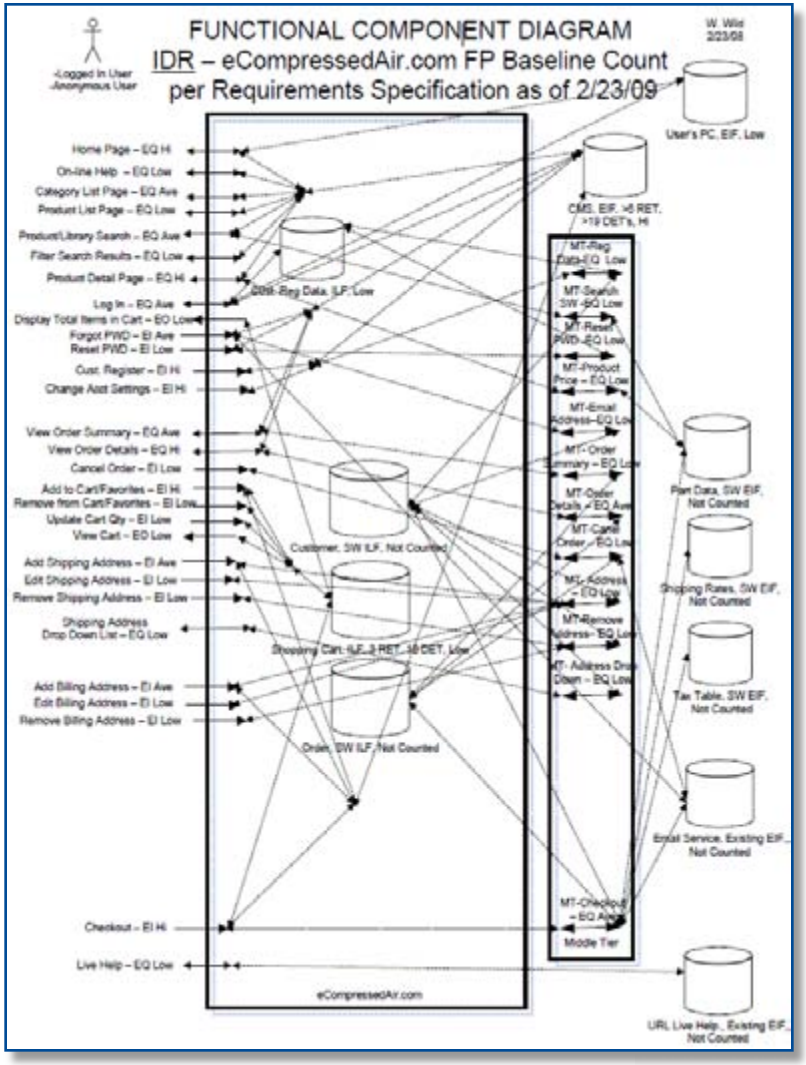
What is Function Point Analysis?

The Nimble Method™

- **ISO standard tool to measure size of software projects, for more info see www.IFPUG.org**
- **Sets scope of effort**
  - Like a house plan's square footage
- **Estimate is precise**
  - Accuracy ±5%
- **1,200+ certified analysts in 30 nations**



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Preventing Defects is a Key to Maximizing the Amount of Work Not Done (Code Rework)

" Over a typical software life cycle, more than 50% of the total accrued costs will be associated with finding and repairing defects."

(Capers Jones, Applied Software Measurement)

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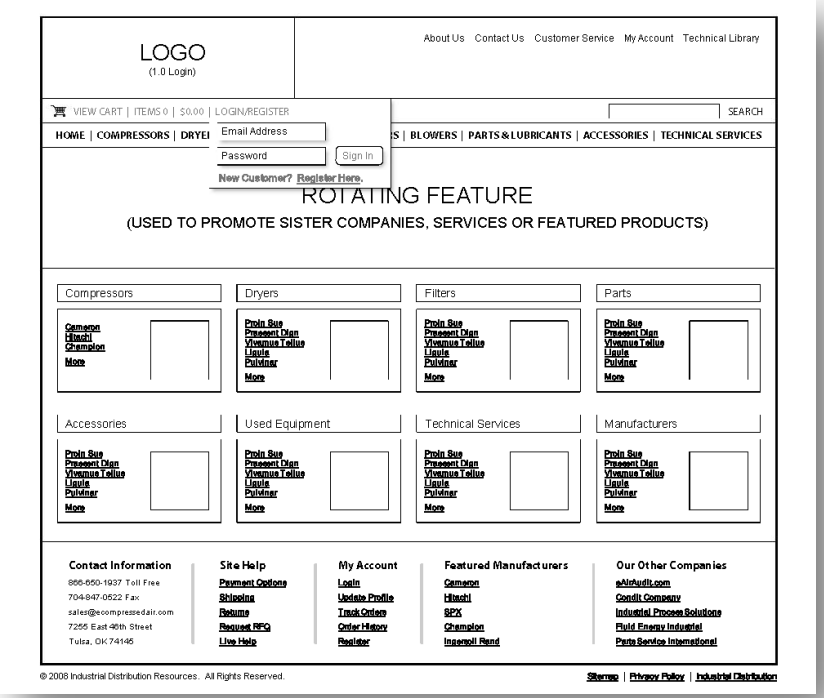
User Experience: User-centric design

The Nimble Method™

- Form follows function; keep the focus on usability



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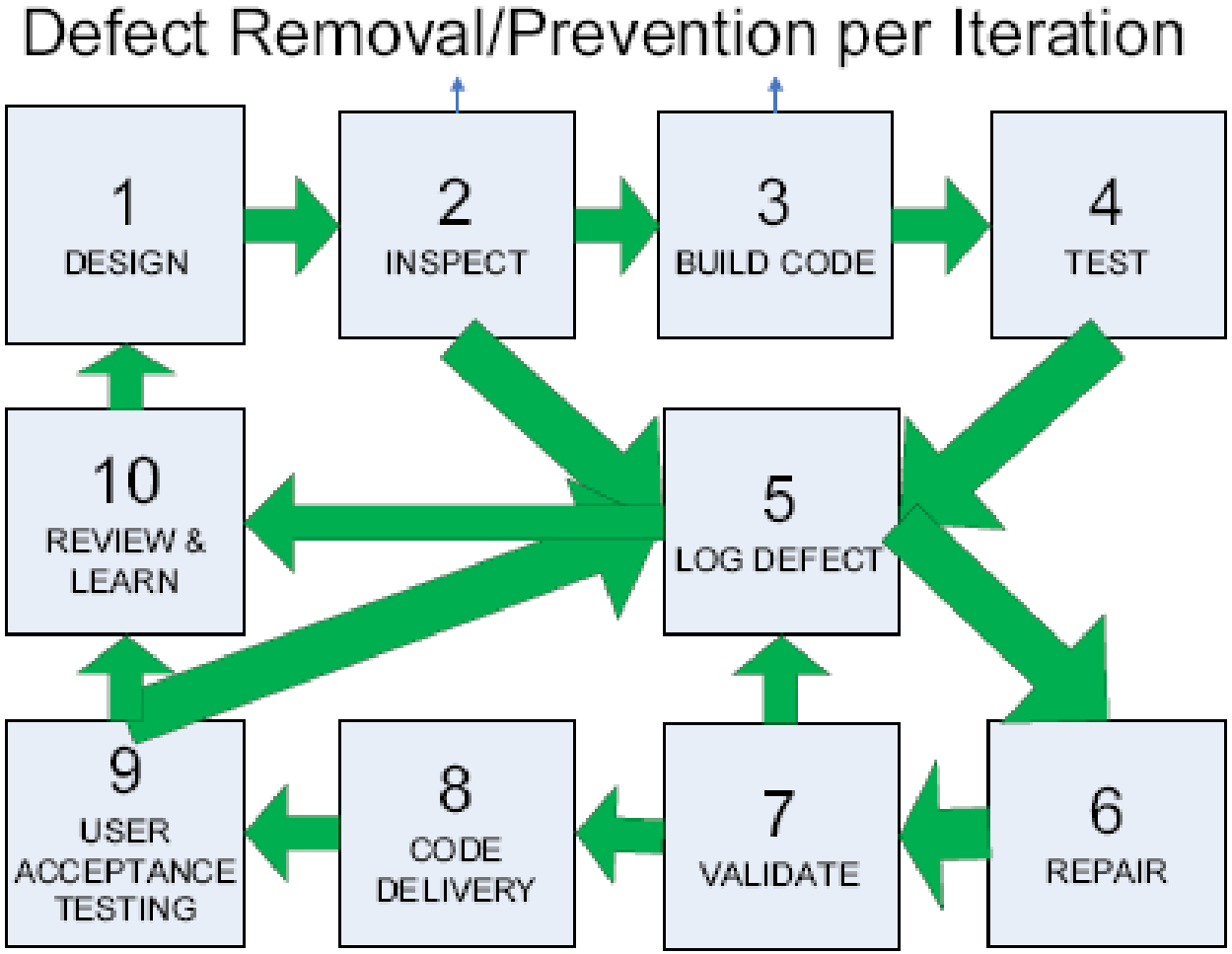
How agile development has prevented defects & reduced rework.....



Other Development Automation Tools

- CruiseControl.net - Continuous Integration server. Builds the App after every check-in & executes the following automated tools.
  - NUnit - Runs unit tests
  - NCover – Insures all code is unit tested
  - FX Cop - Runs static code analysis on the source code to make sure it adheres to our coding standards.
  - Source Monitor - Analyzes the code to determine the code complexity and makes sure that it is at acceptable levels.

Using Enterprise Architect to Restore Balance

"The Agile movement is not anti-methodology, in fact, many of us want to restore credibility to the word methodology. We want to restore a balance."

(Jim Highsmith, for the Agile Alliance)

NOTE: EA (Sparx Systems) is a collaborative modeling tool used to minimize our documentation. It allows us to only have to document a change to the model one time, even though the change may appear in several related artifacts.

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Key to Embracing Change - Identify a Proof of Concept Project & Take Agile Out for a Spin……

- Communicate and train
- Solidify internal support
- Applies to new or existing projects
- Gain experience
- Further refine your methodology
- Develop internal metrics

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Order Fulfillment Proof of Concept Project:

Iteration#	5	6	7	8	Total
# of Use Cases	6	5	5	5	21
FP Count	143	154	131	101	529
Est. Dev. Hrs	758	818	698	539	2,813
Actual Dev. Hrs	691	519	559	909	2,678
Est. Defects	75	81	69	53	278
Actual Defects	78	71	67	91	307

Actual vs. Estimated Development Hrs = 95%

Actual vs. Estimated Defects = 110%

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Scope Traceability Matrix (See Attach. A)

Using Function Points, the impact of changes to a project's scope can be measured quickly and accurately

			Count #:	1			Count #:	2		
			Date:	11/9/2007			Date:	12/4/2007		
Component			Reason:	Proposal Estimate			Reason:	Requirements Spec Recount		
Traceability			Function	# of	# of	# of	Function	# of	# of	# of
Number	Component Diagram Desc.	Functionality Description	Type	DET	FTR/RET	FP's	Type	DET	FTR/RET	FP's
1.1.00	View Our Cars	Select Cars Page	EQ	>5	4	6	EQ	21	4	6
1.2.01	View Our Cars	Sitecore DB	EIF	>50	1	7	EIF	46	9	10
1.3.00	View Our Cars	Fleet	EIF	<51	1	5	EIF	7	1	5
1.4.01	View Our Cars	Rate	EIF	<51	1	5	EIF	4	1	5
1.5.01	View Our Cars	Secondary Nav Links	EIF	<51	1	5				0
2.1.00	View Location Map Page	Select Map Page	EQ	>5	4	6	EQ	20	3	6
2.2.00	View Location Map Page	Locations	EIF	<51	1	5	EIF	7	1	5
2.3.00	View Location Map Page	Map (Live Earth)	EIF	<51	1	5	EIF	4	1	5
3.1.00	Location Things To Do	Select Things To Do Page	EQ	>19	3	6	EQ	40	5	6
3.2.01	Location Things To Do	Wotties Primary	EIF	>19	>5	10	EIF	29	2	7
3.3.00	Location Things To Do	Wotties Secondary					EIF	12	1	5
3.4.00	Location Things To Do	Wotties Events					EIF	<51	1	5
4.1.00	View Location Weather	Select Weather Page	EQ	>19	3	6	EQ	28	3	6

	TOTAL =	71			TOTAL =	95
				FP Change =		24
				% Change =		33.80%

Project Delivery Rate Report (See Attach. B)

Using Function Points, a project's progress is monitored by its ***output***, not input.

Major Project Element	Planned Schedule	Actual Status
Phase 1		
Initiation	12/27-2/15	Verbal approval Received from Client to start project. SOW presented to Client on 2/5 and signed on 2/15.
Project Planning	12/27-/3/10	Project Plan updated on 3/10.
Capture Requirements	1/7-2/27	Requirements Document was signed on 3/4/08.
Produce UC's	1/21-3/10	All UC's have been approved as of 3/13/08.

Phase 2	**DEVELOPMENT SCH TO STARTED 3/3/08**			Dvlpmnt	
Component			Function	Status	z
Number	Parent UC Description	Functionality Description	Type	Code	Status Comment
	DollarX	IMT-Update Profile/PWD	EQ	TS	teration 1 (Dev Sch; 2/29 - 3/27)...Can't Test Email
	DollarX	IMT-Enroll Member	EQ	TS	teration 1 (Dev Sch; 2/29 - 3/27)...Can't Test Email
	DollarX	IMT-Reset PWD	EQ	Cmpl	teration 1 (Dev Sch; 2/29 - 3/27)
	DollarX	Screen Level Help	EQ	Cmpl	teration 1 (Dev Sch; 2/29 - 3/27)
	DollarX	Modify Profile Form	EI	TS	teration 1 (Dev Sch; 2/29 - 3/27)...Caching & CD File Issues
	DollarX	Enrollment Form	EI	TS	teration 1 (Dev Sch; 2/29 - 3/27)...Nightly Processing Issue
	DollarX	Upgrade Form	EI	Cmpl	teration 1 (Dev Sch; 2/29 - 3/27)
	DollarX	Member ID# Msg	EQ	Cmpl	teration 1 (Dev Sch; 2/29 - 3/27)
	DollarX	CMS	EIF	Cmpl	teration 1 (Dev Sch; 2/29 - 3/27)
	DollarX	Profile Audit Log	ILF	Cmpl	teration 1 (Dev Sch; 2/29 - 3/27)

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Experience After Integrating Agile into our Software Development Methodology

- Service Differentiation
- Prospects willing to try a new approach
- May have to educate your Client

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Experience with Nimble℠

Project Sequence	1st	2nd	3rd
Adj. FP Count	103	146	197
Planned Project Hrs.	1442	2045	3030
Actual Project Hrs.	1793	1953	3416
Actual/Planned Hrs.	118%	96%	113%
Code Delivery vs. Plan	-2 days	0 days	+6 days

Ave. Actual/Planned Hrs. = 110%

Ave. Code Delivery vs. Plan = +2.67 days

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Software Development Industry Problem:

"The average software project is late and expensive. Software projects estimated at 1 yr & $1M will be delivered in 2.2 yr & cost $1.9M. After all of that, it will only have 61% of the originally specified functionality." (Standish Group Survey)

Agile+FPA = Software Industry Problem Solved!

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Questions & Answers Session

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