

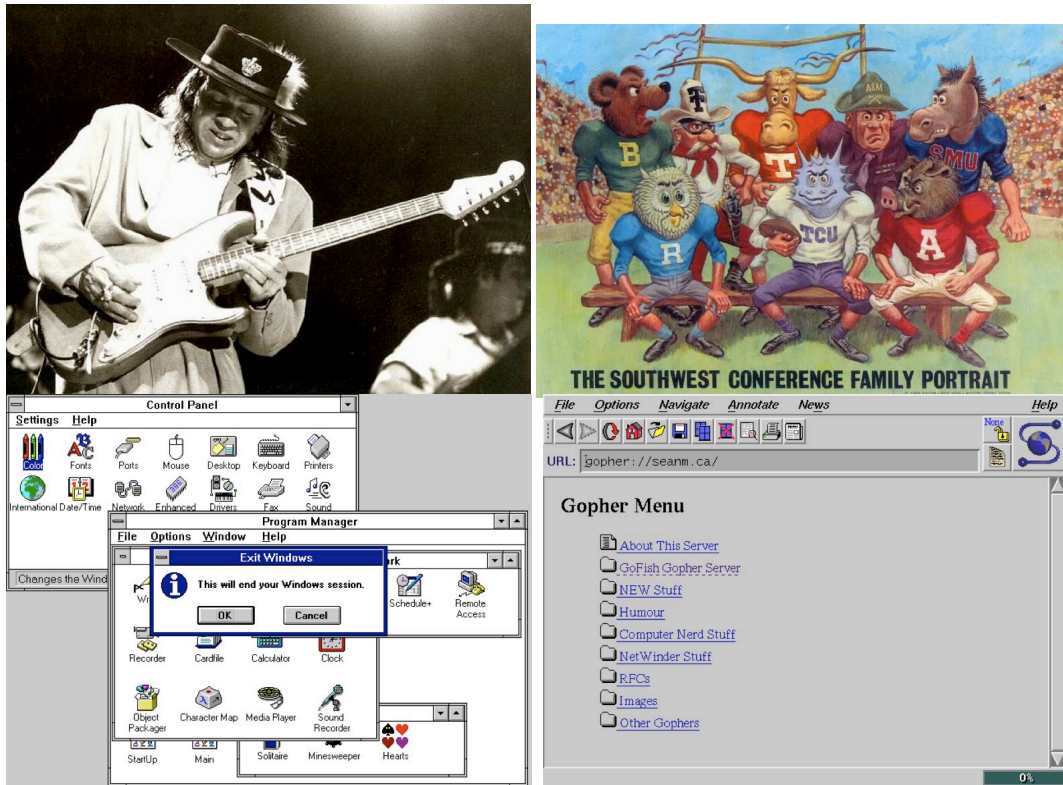
High-Fidelity Prototyping

Presented by Mark Kraemer for
Eleanor Jordan's MIS 374 class on
October 22, 2007



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I'm Mark Kraemer. I graduated from the UT MIS Program in December 1992. A lot has happened in the past 15 years.



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When I started at UT in 1988:

- this program was still called DPA & Stevie Ray Vaughn was still playing at Antone's.
- when I actually started on the MIS track the name had changed to MIS. We did 333 in COBOL and we did our 374 project in the just-released Lotus Approach

Even when I graduated four years later:

- UT Athletics were still part of the Southwest Conference
- Microsoft had just released Windows version 3.1
- and the "World Wide Web" was still an academic project at CERN.

Somethings don't change, though. Eleanor and Rick were there through it all. I've kept in close touch with many friends from our MIS classes and we still talk about things we learned while we were here.

Since then, I've spent the majority of my career as a consultant.



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Now I'm the Principal Practice Consultant for the User Experience Design Competency in the EMC Global Services Microsoft Practice. We're the User Experience Design studio based in Dallas.

EMC is a giant in storage products (very large disk drives - the kind of hardware that replaces mainframes). Several years ago EMC started getting into software to compliment their storage capabilities (like security software, document management products, and VMWare). Now they're expanding into services. They bought my former firm, Geniant, and that's how I have ended up here.

We create the front-end for custom application development projects and other design-centric deliverables (assessments, proposals, prototypes, anything visual).

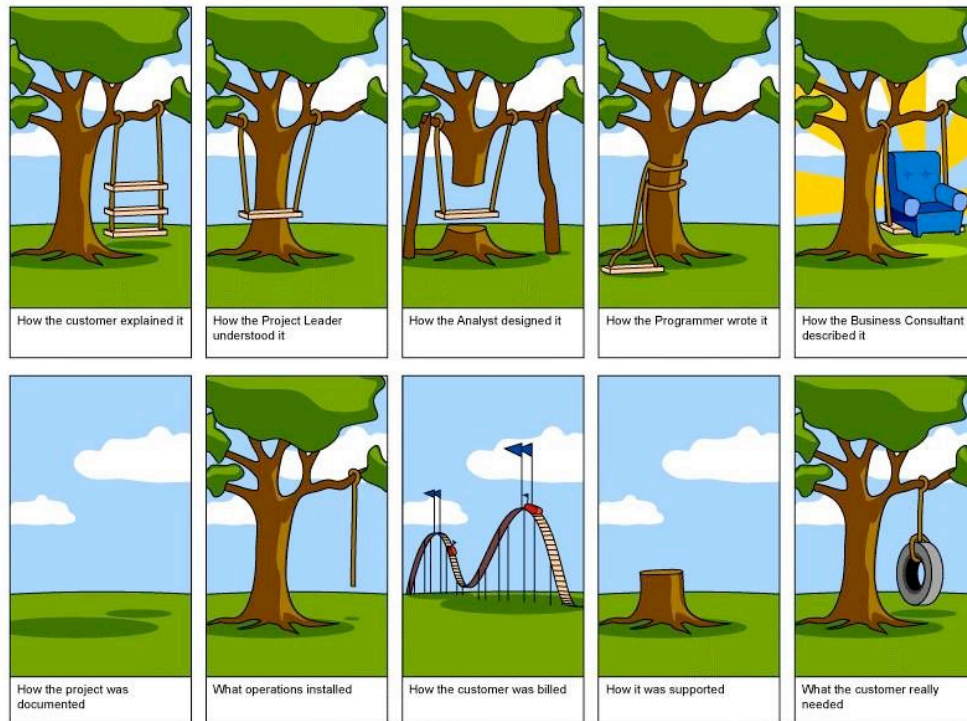
Most people think of User Experience as Visual Design. That's one of our core talents, but it also requires Information Architecture / Interaction Design, and Front-End Development.

I've been at EMC for just over a year. I've been in consulting for the 12 of my 15 years experience since graduating.

We use prototyping on 95% of the custom app projects we deliver. Today I'd like to share what I've learned since 1992.

Typical project story ...

If you haven't seen this before, you likely will soon.



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Customers rarely come to us with problems, instead they already have a solution. They think they know what they need, and they aren't bashful to tell you about it.

The Project leader realizes she did this before at another client. We can't use the exact same solution (due to client confidentiality and intellectual capital rights), but we can modify it and do something similar.

So the analyst was smart and saw that the swing needed room to move. This design should solve that.

I work in pre-sales and on assessments a lot. I might be guilty of the Business Consultant panel every once in a while.

A general term for all these roles listed is "stake-holders". A stakeholder is anyone who has responsibility for a portion of the project. The ones listed here are typical for a corporate project.

Your class projects likely have less. At a minimum, they likely have at least the client sponsor, the end-users, and you.

As the cartoon illustrates, each stakeholder brings their own perspective to a project. The requirements and design phases of a project require that everyone understand exactly what's going to be delivered. If there's miscommunication along the way, some stake-holders will not be satisfied.

“There’s
nothing functional
about a
functional spec,,

from “Getting Real” by Jason Fried of 37Signals

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During the requirements or design phase a project, a typical deliverable is a document describing how the application should function. This document rarely serves as a perfect rendition of application requirements and/or design.

These documents have many names, but they’re usually the same thing in spirit.

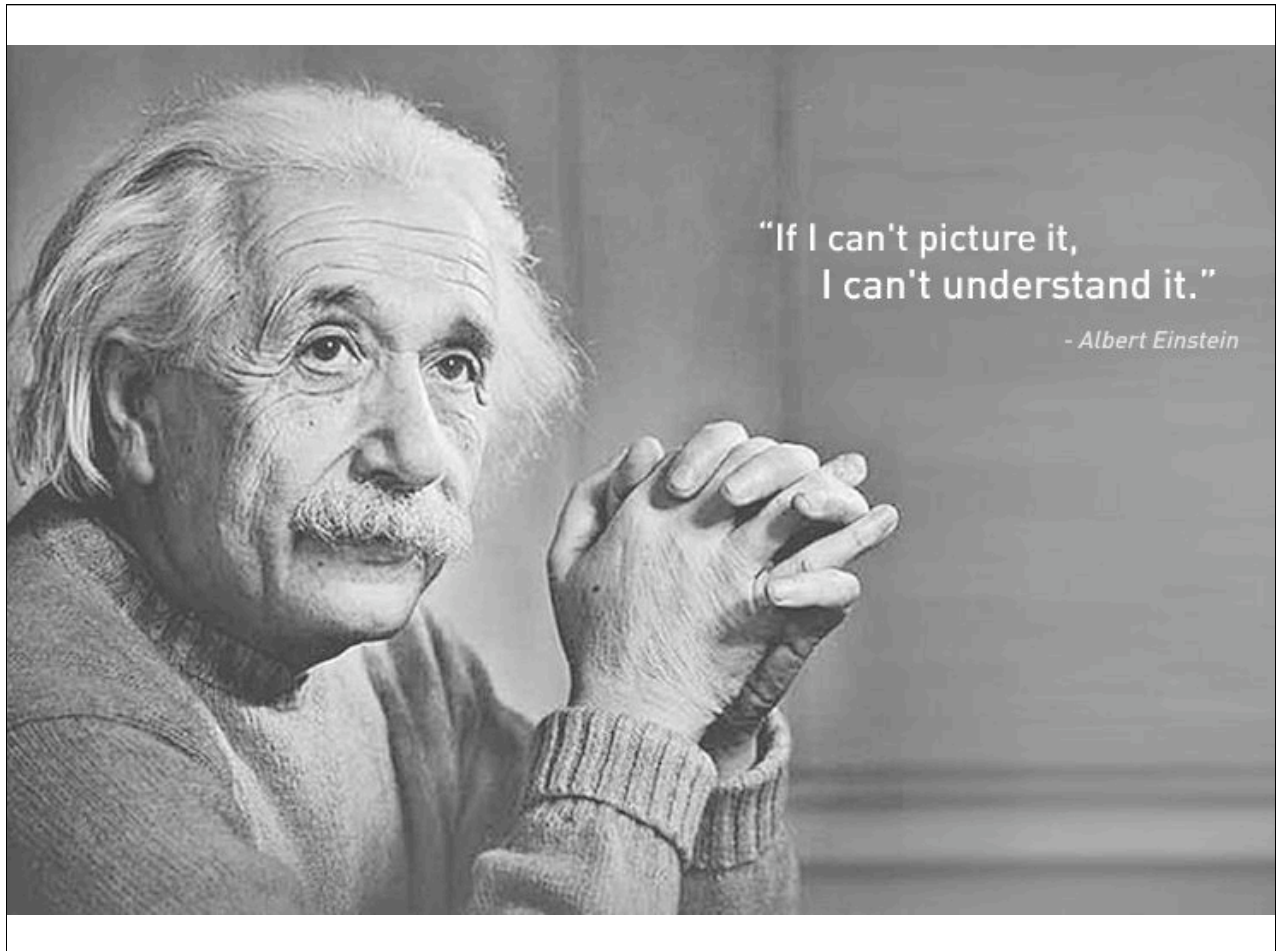
They might be called:

- Requirements Documents
- Business Requirements Specification
- Functional Specification (or a Functional Spec, for short)

One of my favorite quotes about such documents by Jason Fried of 37Signals.

It’s a document - it doesn’t really function. It doesn’t do anything. You have to read it. Everyone that reads it is likely to have their own interpretation.

Fried continues: Functional specs only lead to an illusion of agreement. A bunch of people agreeing on paragraphs of text isn’t a true agreement. Everyone may be reading the same thing but they’re thinking something different. This inevitably comes out later on: "Wait, that's not what I had in mind." "Huh? That's not how we described it." "Yes it was and we all agreed on it — you even signed off on it." This kind of thing happens all the time.





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A great way to facilitate understanding is through the use of a prototype. So, what is a prototype?

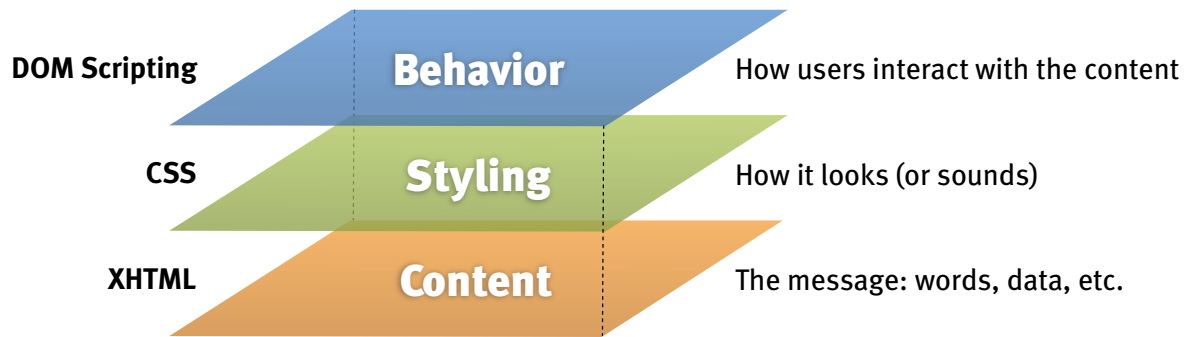
The Treachery Of Images (La trahison des images 1928-29) is a painting by Belgian Surrealist painter René Magritte.

The picture shows a pipe that looks as though it might come from a tobacco store advertisement. Magritte painted below the pipe: "Ceci n'est pas une pipe" (This is not a pipe), which seems a contradiction but is actually true. The painting is not a pipe, but rather an image of a pipe. Legend says Magritte himself commented: "Just try to stuff it with tobacco! If I were to have had written on my picture 'This is a pipe' I would have been lying.

A prototype is a representation of the real thing (but it's important to note that it is not the real thing itself). If it were the real thing, it wouldn't be a prototype, it would be the real thing. (make sense?)

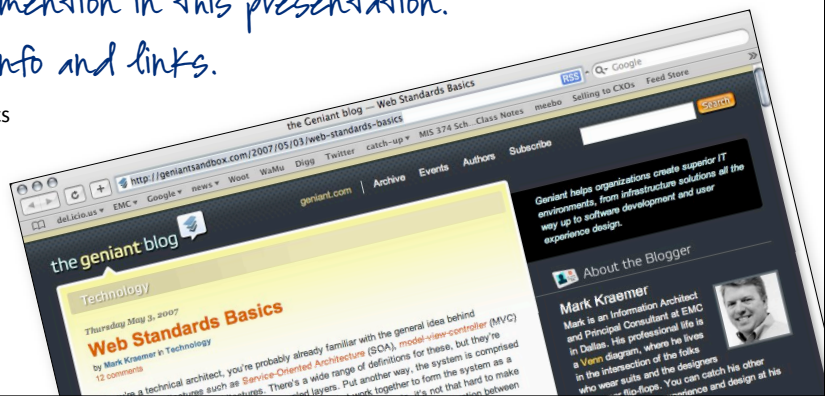
Web Standards in a Nutshell

The presentation layer of any site or application consists of three separate sub-layers: content, format, and behavior.



Keeping the code for these three layers separated has too many benefits to mention in this presentation. See my article for more info and links.

<http://geniantsandbox.com/web-standards-basics>





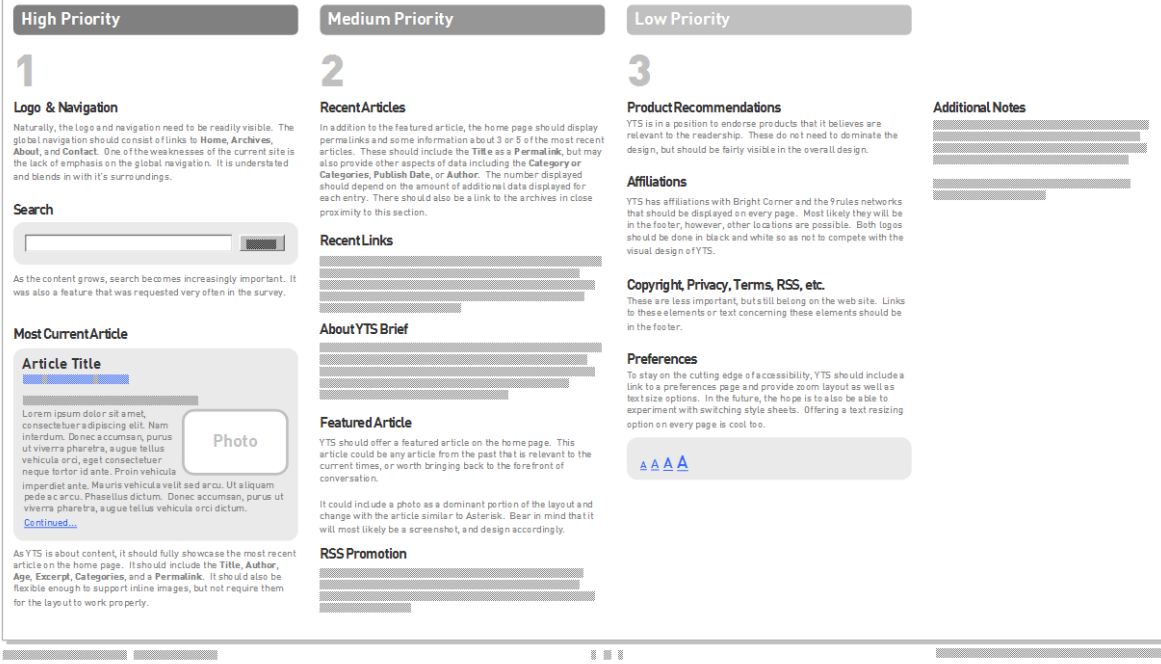
These are all methods for documenting, sharing, and creating knowledge about user interfaces.

Each deliverable has its own pros and cons.
Understanding the trade-offs will help you know which are best for your project.

Page Description Diagrams
(aka PDDs) communicate content
and priority without dictating
layout or style.

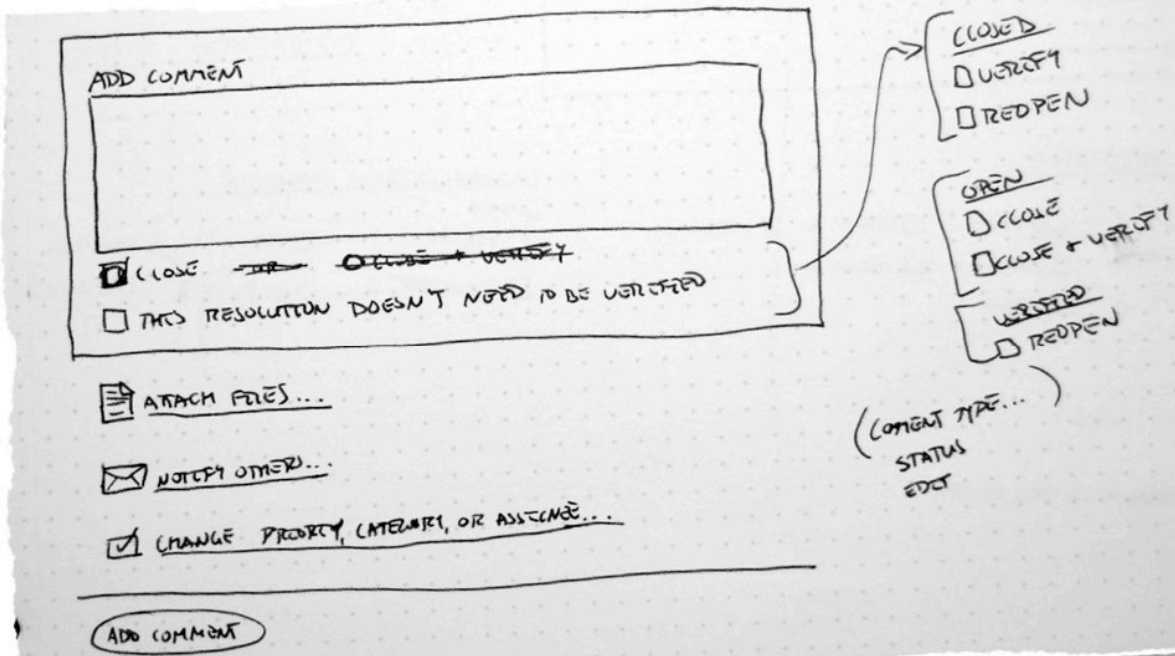
Sometimes, they're too abstract
for stake-holders to understand.

Home Page Description Diagram



PDDs allow visual designers to understand content requirements without creating artificial or preconceived ideas for layout or style.

Sketches enable
rapid collaboration and exploration
at the cost of resolution.

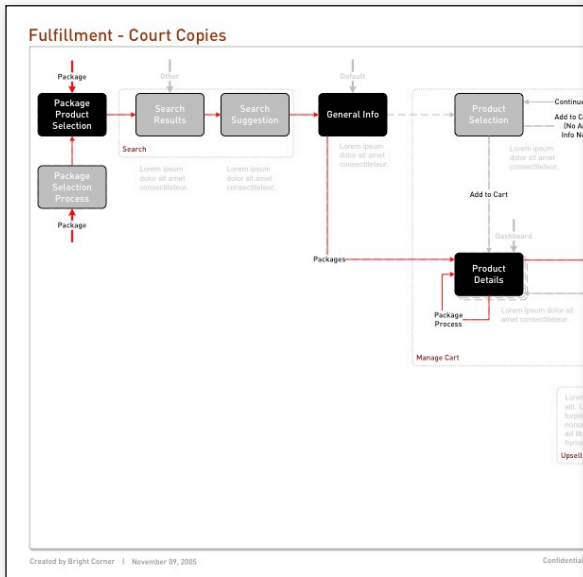


Anyone can sketch; you don't have to be an artist.
It's actually quite liberating to work with pen and paper or whiteboard.

Wireframes show the content and a suggested layout for each screen.

Unless they're annotated or matched with a flow diagram, they don't address behavior.

While they're easy to create, they can be a nightmare to maintain.



People use Visio, Omnigraffle, and even PowerPoint to create Wireframes. All three allow basic linking for page flow.

Batches - Upload Batch (Admin)

Admin Header

Batch Upload for [Client Name]

Client Identifiers

File Format Error

We were unable to validate your file. Please review the following error messages, correct your file, and try your upload again.

Line 2: An invalid Birth Date was provided
Line 5: No Last Name was provide

*** = Required Field**

Batch Information

Batch Name 1

User to Notify 2 Select Username

Delivery

☐ Client will download batch results.

☒ Send completed reports with hits directly to client's inbox 1

The user will still only receive one notification upon batch completion. They will, however, see all of the completed reports in their inbox.

Product & Price

Product Type 2 Product 1

☐ Include null DOBs

Price 3 \$ per record

Batch File

Each row in your file should contain the following columns

1. Reference id (your unique ID for this report)
2. Last Name
3. First Name
4. Birth Date (mm/dd/yyyy)

File 4 Browse...

File Type

☒ Excel

☐ Comma Delimited (CSV)

☐ Tab Delimited

Submit Batch

4 Hits from batches that result in FCRA decisions needed should not prevent the user from performing future searches.

Output files should only show hits, not clears.

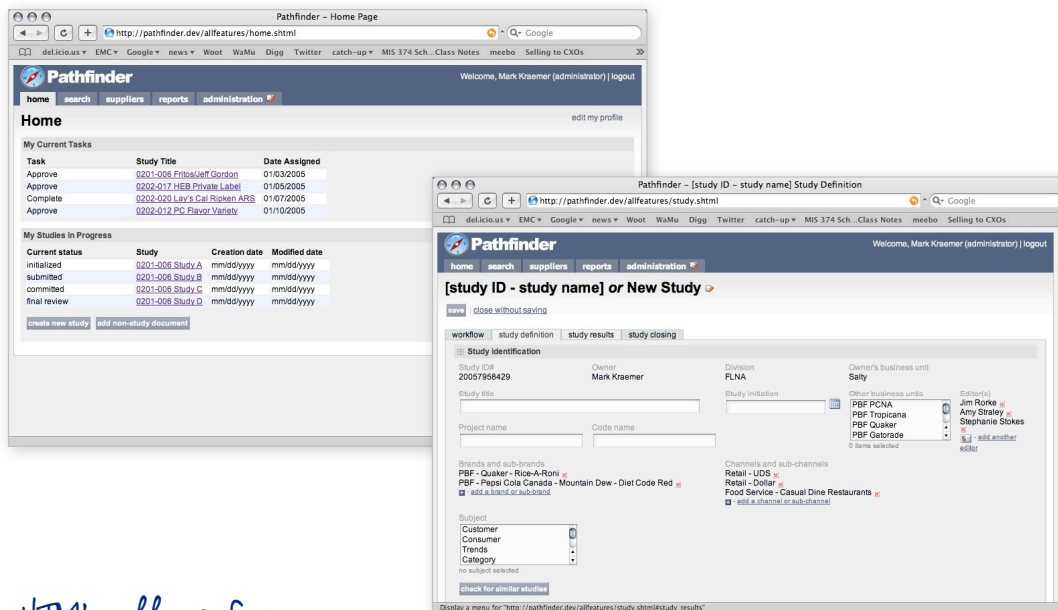
Output files should not show hit details due to FCRA issues.

While they're easy to create, they can be a nightmare to maintain.

HTML can bring wireframes to life.

Code can introduce basic interaction examples, and make maintenance easier by reusing code for common sections.

Whereas most anyone can create PDDs, sketches, or wireframes, this requires proficiency in HTML.



HTML allows for:

- easier maintenance (global nav, common forms, etc.)
- richer behavior examples if you add DOM scripting
- preliminary user testing
- it can evolve into the final presentation layer deliverables

Comps provide a pixel-perfect rendition how screens will appear, so they're easy to understand.

Unless linked by HTML, they don't demonstrate interaction.

By their nature, comps require the skills of a visual designer.



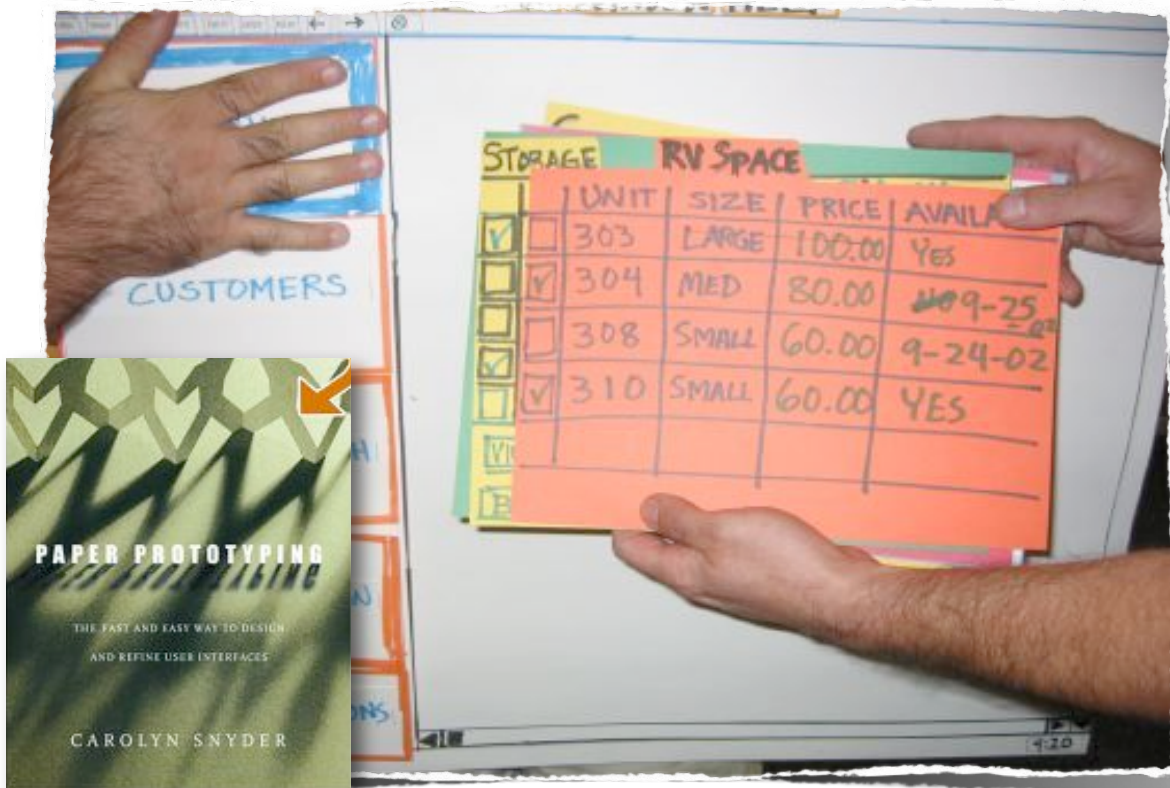
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“Comp” is short for either “Comparative Design” or “Graphic Composition.” Everyone forgot which.

Comps are “pixel-perfect” representations of what the layout (where content and controls are placed) and the visual design (what colors, fonts, and images will be used). Less attention is paid to what the actual content will be (notice the “greeking” of text for the body of each feature).

This is the actual final approved comp from “the Geniant blog” we launched last ?? - when? If you compare it to the final site, you’ll see that our visual designers were able to faithfully reproduce the visual design exactly. The only difference is the content.

Paper Prototypes

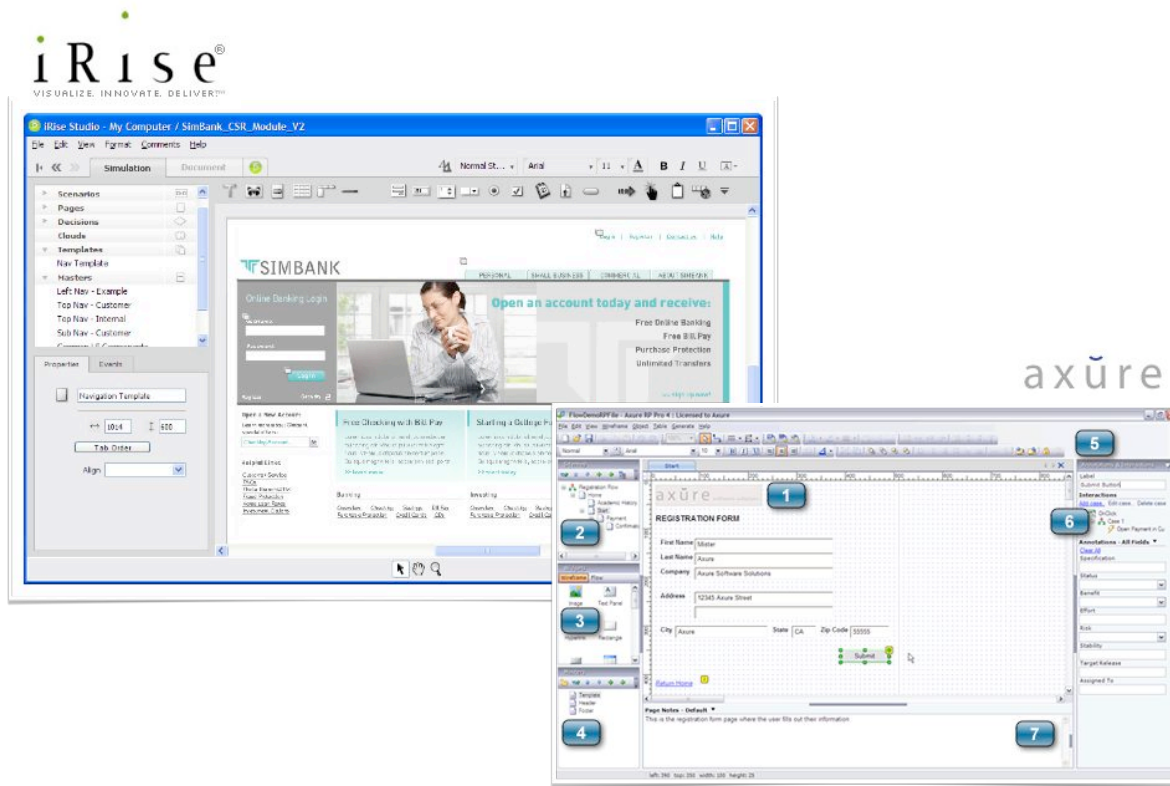


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Paper Prototypes are an interesting idea worth mentioning, but I haven't had a lot of experience using them.

See "Paper Prototyping" by Carolyn Snyder (published by Morgan Kaufmann) for more information.

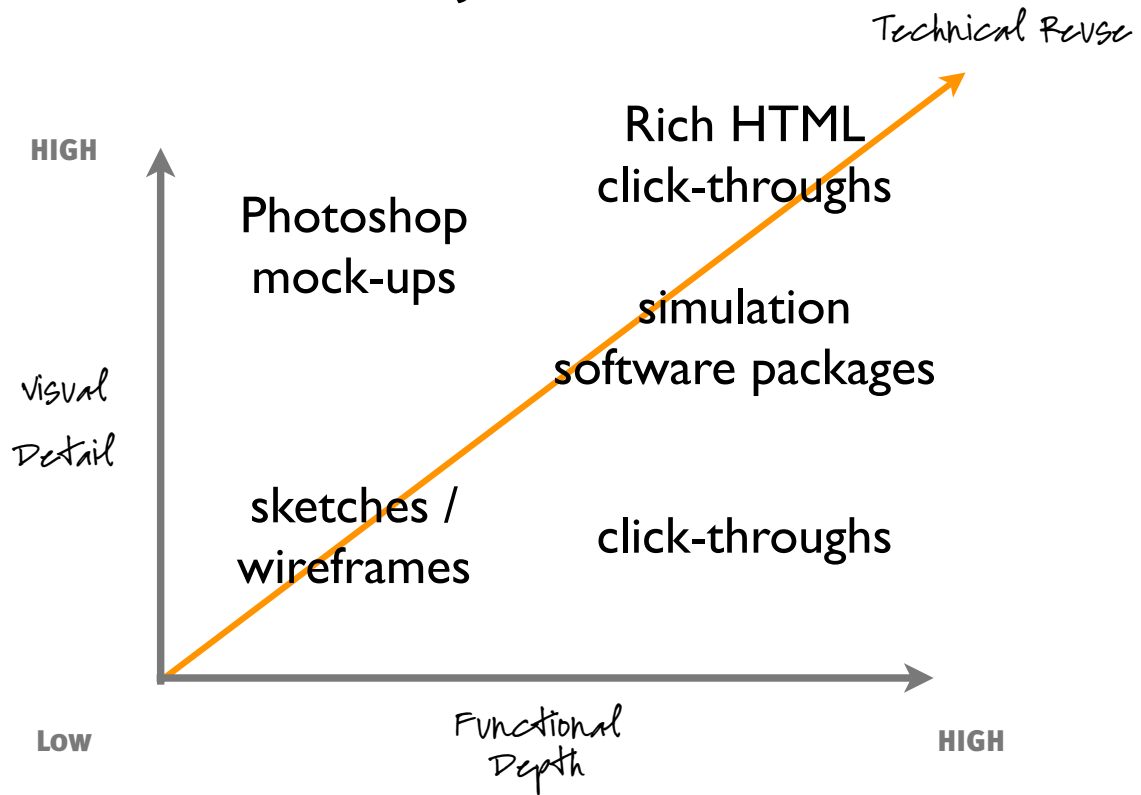
Rich Simulation



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While the HTML Prototypes require lots of code to be written, there are simulation applications that help create prototypes that look real, and act real, but use machine-generated (meaning not reusable) code or 3rd party players.

Dimensions of Fidelity

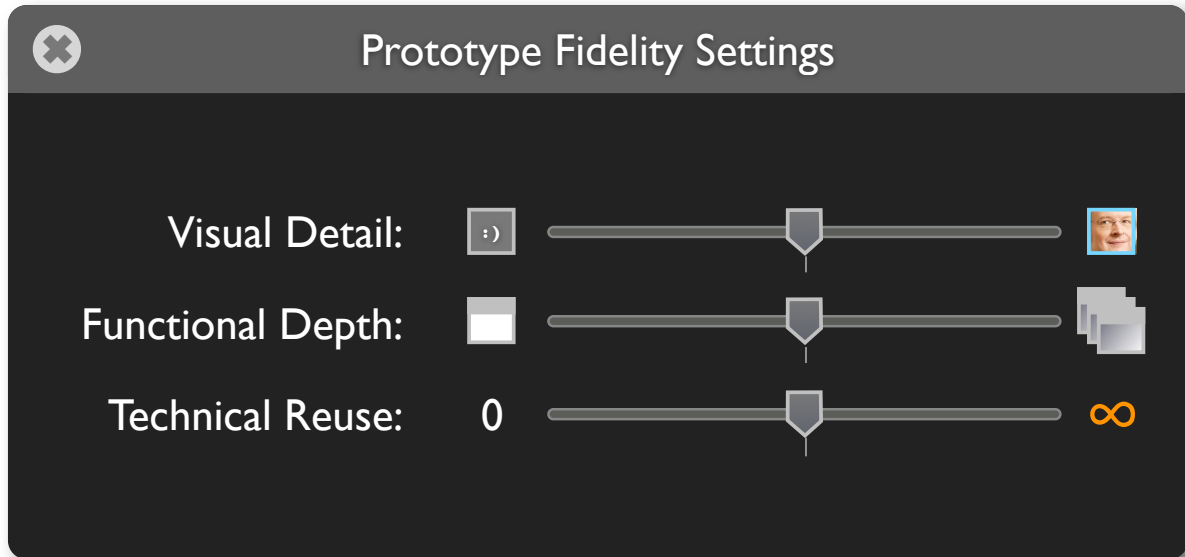


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We showed a continuum of least to most realistic earlier, but there are several dimensions or attributes that combine to make the simulation more or less realistic.

No coincidence, these are the same skills required for the folks on the UXD team.

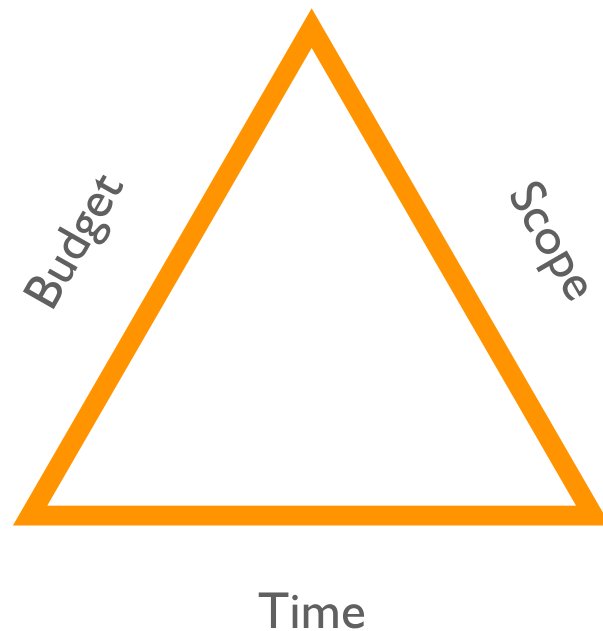
So, what's best for your project?



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Greater fidelity for any of the primary attributes will require more greater time and talent.
If you do all 3 full-tilt, then you're not prototyping, you're developing. (Remember the pipe?)
There are other reasons why all 3 can't be done simultaneously ...

Cheap, Fast, Good: Pick Two



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Project management is bound by the resources available to complete the work.

Most stake-holders will want as much fidelity as you can muster. You likely can't do high-fidelity on all dimensions, so trade-offs will likely need to be made.

So, early in the project (or even your current phase) expose the stake-holders value system: what's really most important?

"Rationalization" is a consulting buzzword that's been popular for a while now. The essence is making the tough decisions rational (based on fact) not just the emotion.

The prototype is an interim deliverable itself. It has users.

So, the facts we looking for are the answers to the question "who is this deliverable for, and how will they use it?"

Who will use your prototype?

	visual detail	functional depth	technical reuse
investors	✓	maybe	not likely
project sponsors	✓	maybe	maybe
end users	maybe	✓	not likely
business analysts	not likely	✓	not likely
graphic artists	✓	maybe	not likely
front-end developers	✓	maybe	maybe
back-end developers	✓	maybe	✓

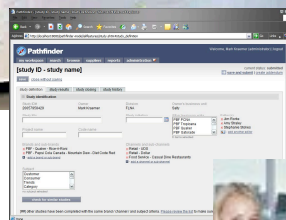
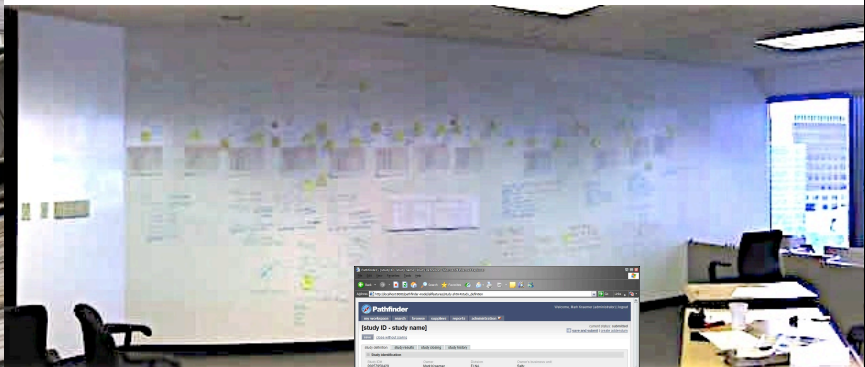
27

This is a short list of possible users with possible needs. Different users on different projects will have different needs.

The big question is “who needs to approve this before we move forward in the project, and how will the person I am handing it to use it?”

The answer to that question will help you decide which deliverable helps your project the most.

Case Study: The Pathfinder Project



Project Background

Marketing Research



1. collect it



2. share it

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Client was a huge multinational consumer packaged goods company with brands that have memorable Super Bowl commercials. We had a long history working with them, we already knew each other very well.

This project was to help the client conduct and share market research:

- do 12-17 year olds prefer the NBA or NASCAR?
- will mothers see value in a larger package?
- which name works best for new flavor?

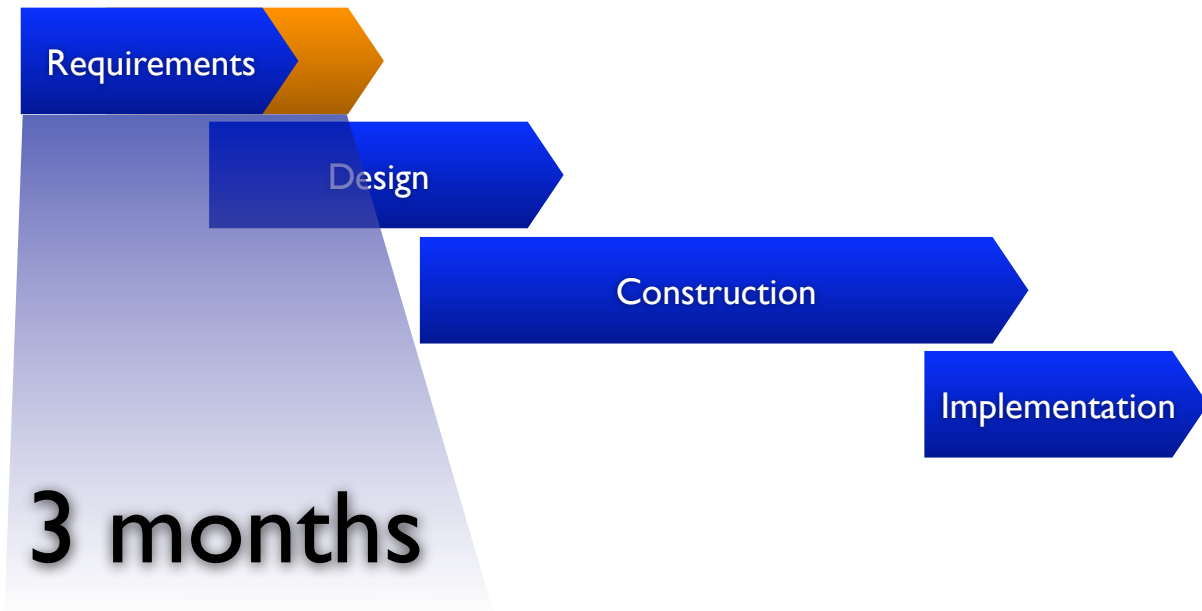
The project seemed deceptively simple because it was a specific task for a specific function. However, it was really complex because:

- Crossed all products in all divisions (division managers, brand managers)
- Crossed all countries (all of those above x lots more)

(First hint of potential communication disaster)

Seems simple, but every business unit in every country had their own method and they didn't want to change

Background: the process so far ...

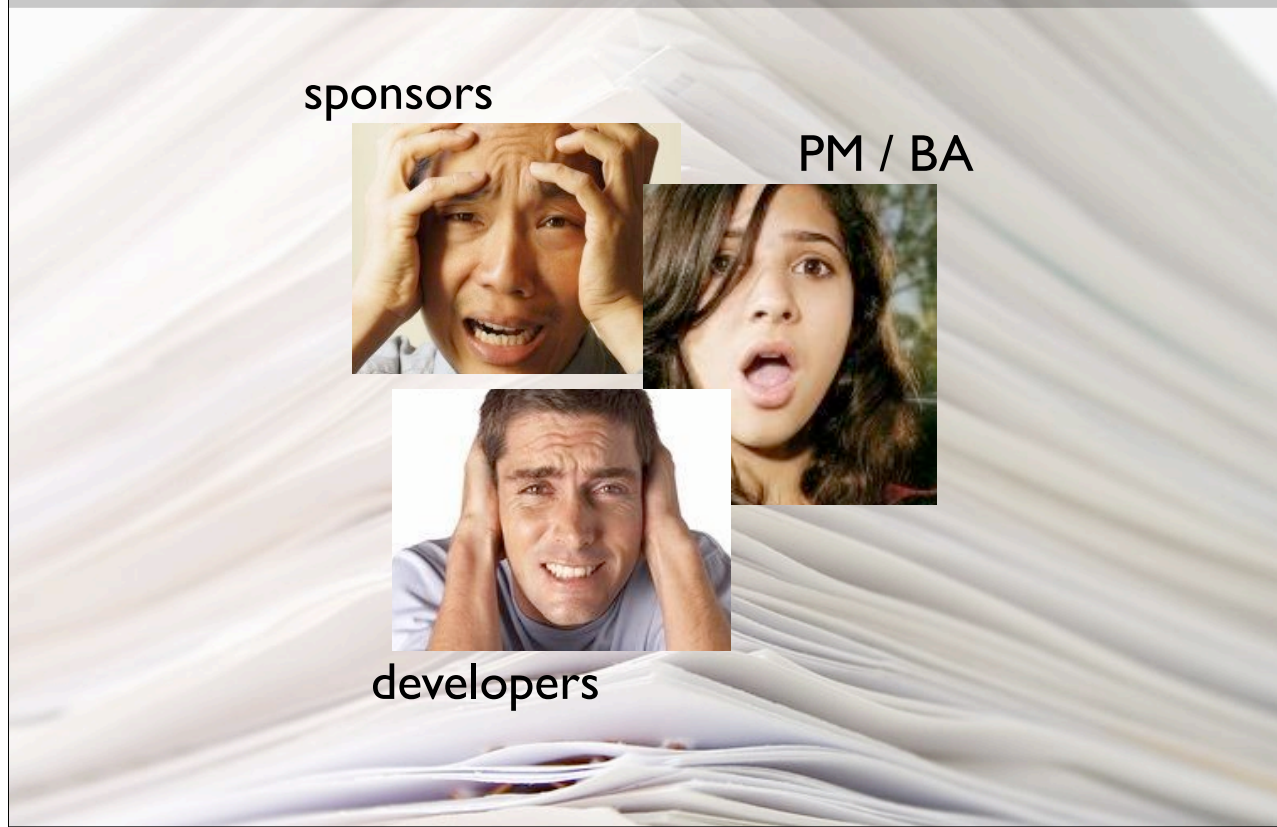


30

The budget (>\$1M total in hardware/software/services) dictated that we use the client's "large project" methodology, which was a traditional waterfall / stage-gate approach with ISO9000-like rigor. It's the classic Requirements → Design Construction → Testing → Implementation you learn about in this class.

It took 3 months to get a first draft of the requirements using their methodology.

Requirements phase yielded ..



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When printed, a single copy of each document filled a 2" binder.

The pages were:

- 30% Word documents and
- 70% Excel tables listing requirements
- with a few charts sprinkled in

We were all victims of false-productivity-perception:

- Lots of deliverables to show (everyone worked hard),
- but little value to demonstrate (what's the next action?)

CLICK!!!


The business units were not ready to sign-off as they weren't comfortable that their specific needs were being addressed.

Our team didn't have confidence to bid on the construction because we still didn't have a clear picture of what the requirements really required.

This very large project was stalled.

What everyone did learn: the project was much more complex than a configuration for a product "out-of-the-box." None of the standard workflow or library screens were going to fit the complex requirements.

What specifically was missing?

	visual detail	functional depth	technical reuse
project sponsors	?!	-	-
regional / brand players	?!	?!	-
client PM / BA	-	?!	-
our PM / BA	?!	?!	?!
 UI architect	-	?!	?!
our back-end developers	?!	?!	?!

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Remember the list of stake-holders we saw before?

Here are the folks involved in this specific project. Each one was missing key information they were expecting to understand by the end of the requirements phase.

What should we try next?



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This project was in very big trouble. We were at risk of being let go from a project at this client for the first time in our long history.

Our internal team pow-wowed for a week to figure out the next steps.

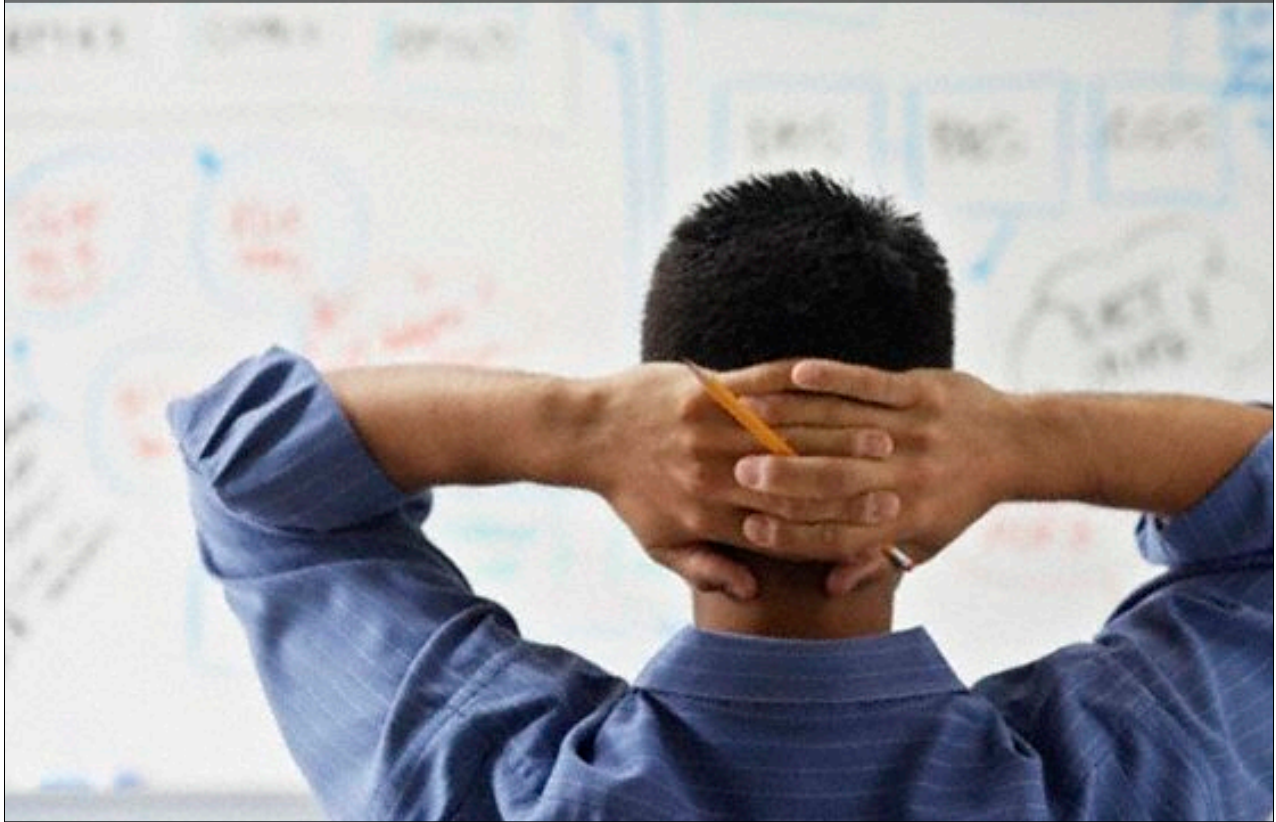
- How can we figure out how to estimate the construction for this thing when we don't understand the big (medium, or little for that matter) picture?

- We already worked hard for 12 weeks on the requirements, what other deliverables do we need to get a better understanding?

We even brought the key client business analyst to think with us for a day.

- We needed less words and more pictures!
- We needed a graphic representation of the workflow!
- We decided we needed a prototype!

Functional depth: Understanding Workflow



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We considered each of the prototype dimensions. We needed:

More clarity for functional depth.

We needed a graphic representation of the workflow! “System shall ...” statements were not enough to clearly illustrate these complex processes.

On past projects we had done lots of workflow projects, and lots of workflow diagrams. We needed to do them for this project as well.

The client methodology didn’t include them, but we needed them to understand the workflow.

But the workflow in a nice diagram won’t be enough. Workflow alone wouldn’t demonstrate the various perspectives required for each step in the process.

Visual Detail: IKIWISI

Pathfinder

[Study Name]

savecancel

study definitionstudy resultsstudy closingstudy history

Study ID	Owner	Division	Owner's business unit
2345236	Mark Kraemer	North American	Automated Widgets

Study title

Study initiation

Project name

Code name

Study abstract

Other business units

Widgets
Sprockets
Crackers
Action Figures

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During the requirements process, we drafted a few screens in PowerPoint.

Client wasn't visually demanding (branding, emotional appeal, etc.)

So, maybe we can extend the PowerPoint screens?

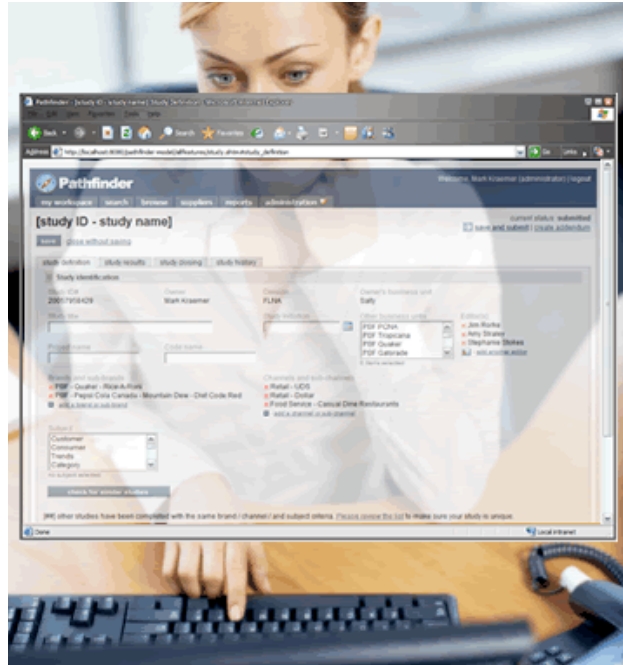
Well, not really. We already exhausted the "data to pixel" density on the preliminary screens. We needed a lot more detail than a non-scrolling, feels less than 72dpi PowerPoint page could provide.

Visual Detail: IKIWIUI



visual style ∝

understanding +
enthusiasm



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Visio or other wireframes could provide more functional detail but lacked the final look and feel we needed to emotionally re-engage the clients have you ever gotten excited about looking at a large collection of wireframes? - IAs are not allowed to answer!

We needed lots of visual detail to show exactly how it would look. We needed to eliminate the clients' confusion of interpreting the requirements. Something like Fireworks or Photoshop would work.

If the different stake-holders could see what we were proposing, we'd eliminate at least half of the communication required to get consensus.

We could even string them together as images in a browser and use image maps to let them click through the basic use cases.

But ... (keep reading on the next page)

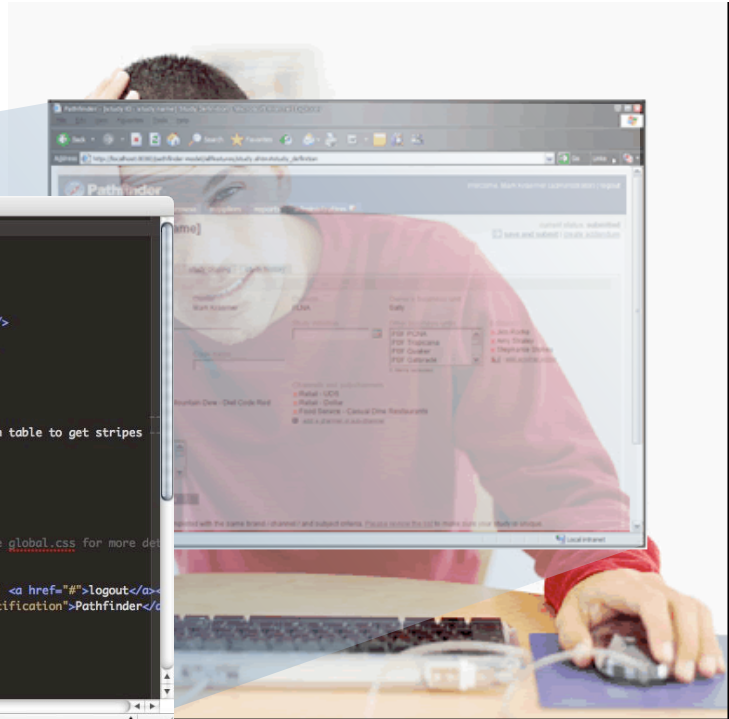
Technical Reuse: HTHDICT?



technical reuse:
our developers
needed hi-fi too!

```
nonstudy_content.htm
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN"
"http://www.w3.org/TR/html4/loose.dtd">
<html>
<head>
<title>Pathfinder - Non-Study Content</title>

<meta http-equiv="Content-Type" content="text/html; charset=iso-8859-1" />
<link rel="stylesheet" type="text/css" href="/pathfinder/global.css" />
<script type="text/javascript" src="/pathfinder/zebratable.js"></script>
<script type="text/javascript">
window.onload=function(){
  <!-- this section is the onload scripts
  <!-- insert a stripe(['table name here'], '#FFF', '#EDF3FE') for each table to get stripes
}
</script>
</head>
<body>
<!-- the BODY's ID creates the selected tab in the global navigation. see global.css for more details
<div id="global_header">
<div id="user_identification">Welcome, Mark Kraemer (administrator) | <a href="#">logout</a>
<a href="/pathfinder/allfeatures/home.htm"></a><div id="application_identification">Pathfinder</div>
</div>
<div id="global_navigation" class="clearfix">
<ul>
<li id="gnav-home"><a href="home.htm">home</a></li>
</ul>
</div>
</body>
</html>
```



37

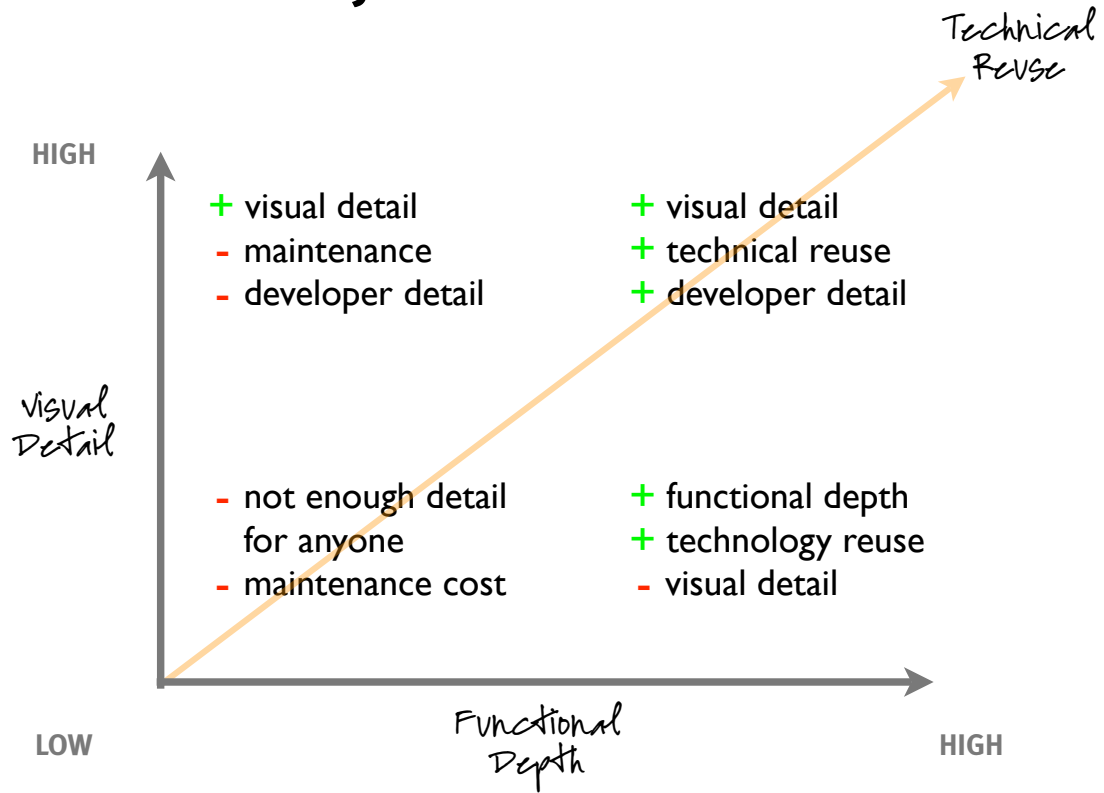
Sounds great, but the developers were in the room too.

When they saw the preliminary comps I was working up, they asked: *CLICK* How The Heck Do I Code That?

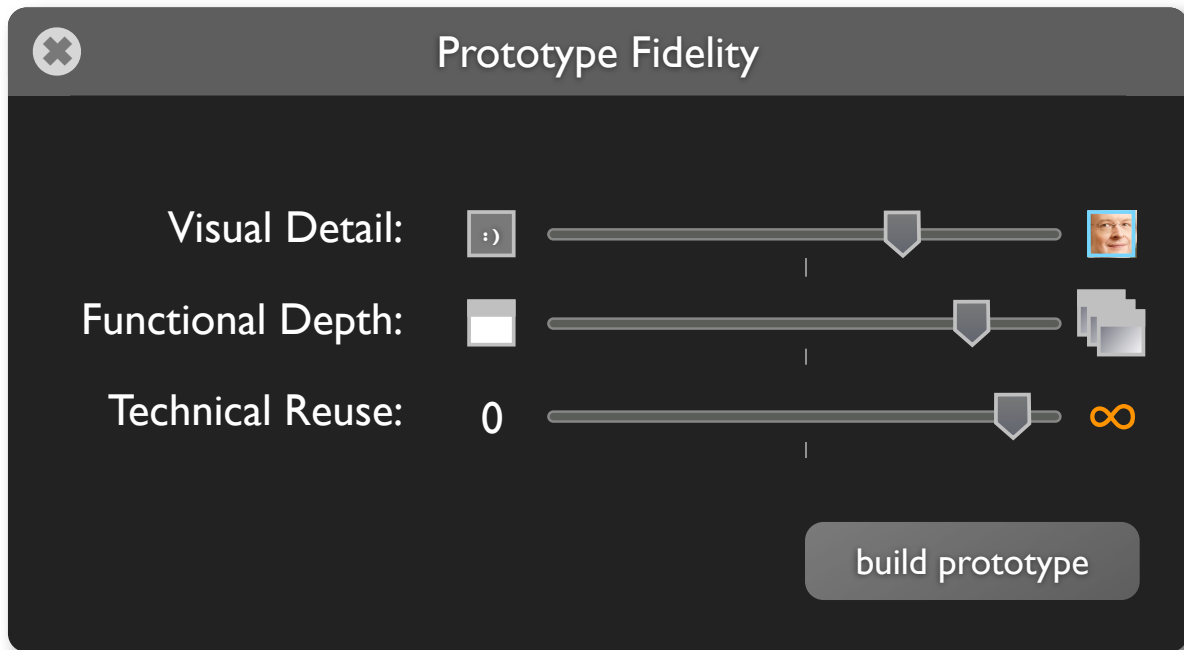
The developers realized that this project was going to be more complex than configuring a product-package.

They understood basic HTML, but they back-end specialists. They weren't front-end developers. They needed some development help for the HTML, CSS, and javascript behaviors.

How much fidelity did we need?



Pick two? We needed all three!



The image shows a software interface titled "Prototype Fidelity" with a close button (X) in the top-left corner. It contains three horizontal sliders, each with a label on the left, a control element, and an icon on the right. The sliders are set to different levels: Visual Detail is approximately 75%, Functional Depth is approximately 80%, and Technical Reuse is approximately 85%. A "build prototype" button is located at the bottom right.

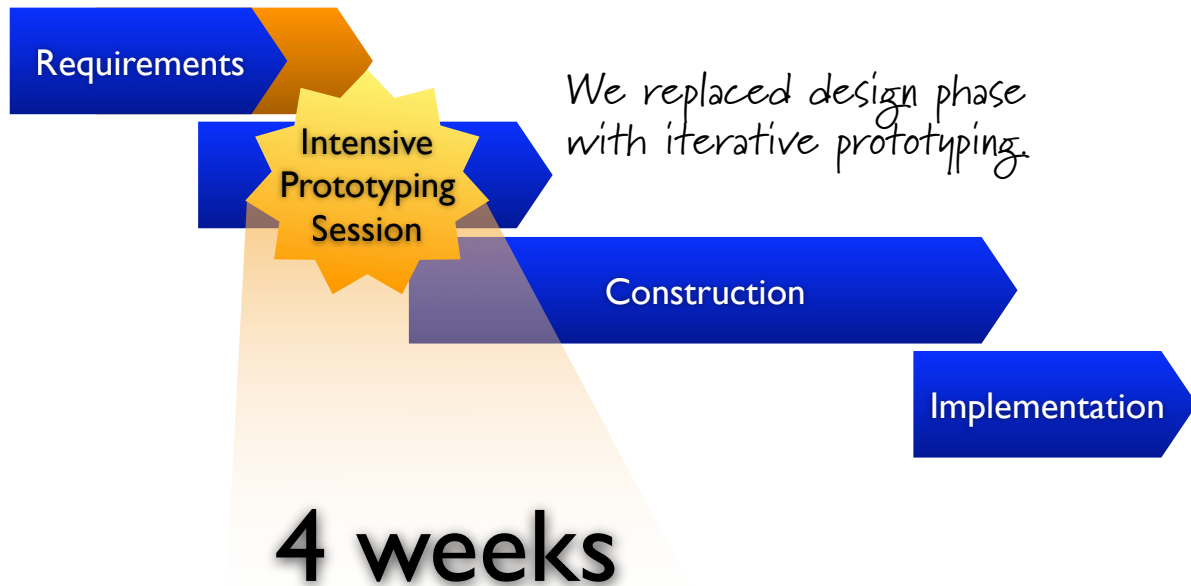
Category	Control Element	Icon
Visual Detail:	Slider (approx. 75%)	Person's face
Functional Depth:	Slider (approx. 80%)	Stack of papers
Technical Reuse:	Slider (approx. 85%)	Infinity symbol

build prototype

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We were already 3 weeks behind. To take time for a prototype this detailed would put us farther behind, right?

Prototyping Intervention



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We didn't have a choice. We asked for 4 weeks to develop a hi-fidelity prototype that would:

- Demonstrate in detail how each of the primary use cases would look on real screens
- Use real HTML, CSS, images, and javascript to render the screens

To ease concern about more slippage, we explained this would take the place of the design phase (we do this our way) and get us right back on the original schedule.

We actually saved time because we started UI construction (the UI framework) while we're still in design.

Study Fields

Field Name	Required?	Field Type	Field Length	Selection Values	Default Value	Validation Rules	Validation Message	Screen	Available for Parameter Search?	Feeds From	Impl. By
Study Stage	-	computed	20 char	-	formula: YYYYBSSSSSS, where YYYY = Study Initiation Date Year, BB = 2 digit BU identifier, SSSSS = 5 digit sequence	-	-	All	Y	Current workflow	N
Study Initiation Date	Y	date	date	-	-	valid date	Y	Study Definition	Y	-	-
Duration	-	computed	25 char	All divisions	Study Owner's Division	-	-	Study Definition	N	Division ref table	-
Owner BU	-	computed	25 char	All business units for selected Division	Study Owner's BU	-	-	Study Definition	Y	BU ref table	-
Other BU	-	computed	25 char	All business units for selected Division	blank	-	-	Study Definition	Y	BU ref table	-
Study Owner	-	computed	32 char	All users in Owner role	Study creator	-	-	Study Definition	Y	-	N
Study Editors	N	multi-select	32 char	All users in Owner role	blank	-	-	Study Definition	Y	-	-
Notification Lst	N	multi-select	32 char	All Pathfinder application users	blank	-	-	Study Definition	N	-	-
Study Title	Y	text	60 char	-	blank	none	-	Study Definition	Y	-	-
Project Name (R&D)	N	text	25 char	-	blank	none	-	Study Definition	N	-	-
Code Name (Marketing)	N	text	25 char	-	blank	none	-	Study Definition	N	-	-
Brand	Y	multi-select	30 char	Union of all Brands for Owner BU and Other BU's	blank	req'd if no channel or subject	Y	Study Definition	Y	Brand ref table	-
Sub Brand	N	multi-select	30 char	All Brands for selected Brand	blank	req'd if no brand or subject	Y	Study Definition	N	Sub Brand ref table	-
Channel	Y	multi-select	6 char	All Channels	blank	req'd if no brand or subject	Y	Study Definition	Y	Channel ref table	-
Sub Channel	N	multi-select	30 char	All Sub-Channels for selected Channel	blank	req'd if no brand or channel	Y	Study Definition	Y	Sub-Channel ref table	-
Subject	Y	multi-select	25 char	Custom: Consumer, Trends, Category, Competitive, Corporate, Advertising, Innovation/New Products, Promotions/Events/MSD, Field Communications, Health & Wellness, On The Go, Near, Strategic Partners, All Family Kids (0-7), Teeners (8-12), Teens, Young Adults, Business, Midsize, Micro-American, Hispanic/Latino, Middleman, Asian, Gen X, Gen Y/Millennials/Generation X, Kids, Multi-Cultural, Women's, Men, Women, Empty Nesters, Primary Caregivers, Shoppers, Unemployed Hispanic, Assisted/Low Income, Date Keepers (incl. Mom), Active Travel Consumers, Competitive, Site Activities, Performance/Support, Decision, Income, Needs, Goals, Capabilities, Synthesized, Other	blank	req'd if Methodology is Synthesized	Y	Study Definition	Y	Subject ref table	-
Target Consumer Group	Y	multi-select	30 char	-	blank	req'd if Methodology is Synthesized	Y	Study Definition	Y	Target Consumer Group ref table	-
Methodology	Y	multi-select	25 char	-	blank	-	-	Study Definition	Y	Methodology ref table	-
Study Type	Y	multi-select	60 char	All Study Types for selected Methodology	blank	-	-	Study Definition	Y	Study Type ref table	-
Sub-Study Type	N	multi-select	60 char	All Sub-Study Types for selected Methodology	blank	-	-	Study Definition	N	Sub-Study Type ref table	-

prototype ≠
only deliverable
you need

41

We flew the business analyst in to spend the week with us.

We talked through each use case in excruciating detail.

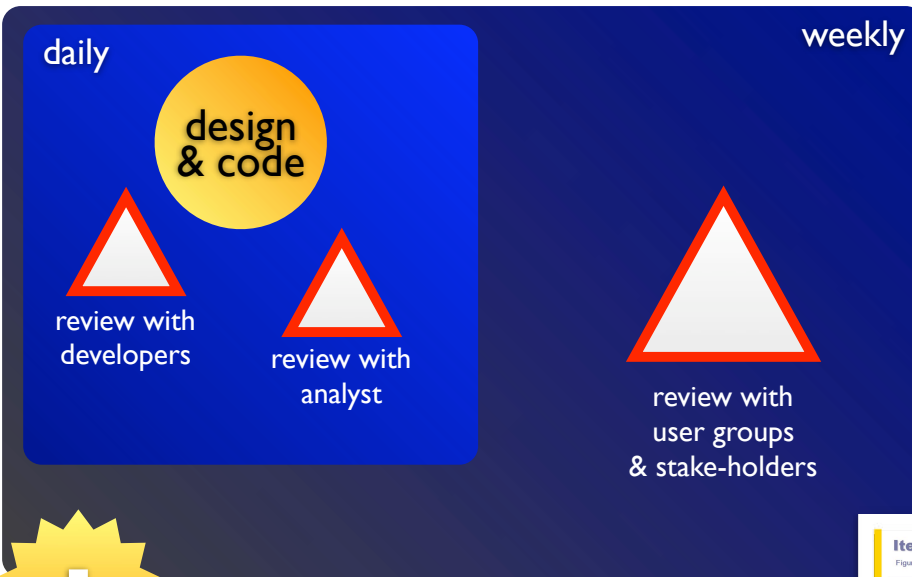
- outlined the steps
- identified the audiences for each step
- identified the fields in each step (both editable and display-only)
- identified the security for each field in each step for each user (read/change/hide)

We used:

- dry erase marker floor to ceiling whiteboard
- printed excel spreadsheet (field inventory with type, validation rules, security matrix)
- sticky notes (exceptions and other notes)
- hand-drawn sketches to rough out each screen (full page, low detail key concepts)

We turned all that into a giant Visio diagram, each box referenced a giant tab on a spreadsheet.

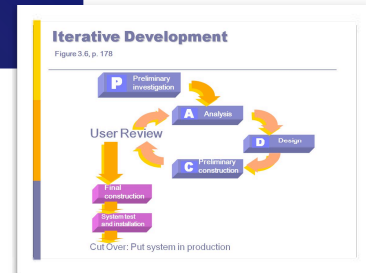
Weeks 2, 3, & 4



Looks a lot like this ... doesn't it?



**prototyping
thrives on feedback**



42

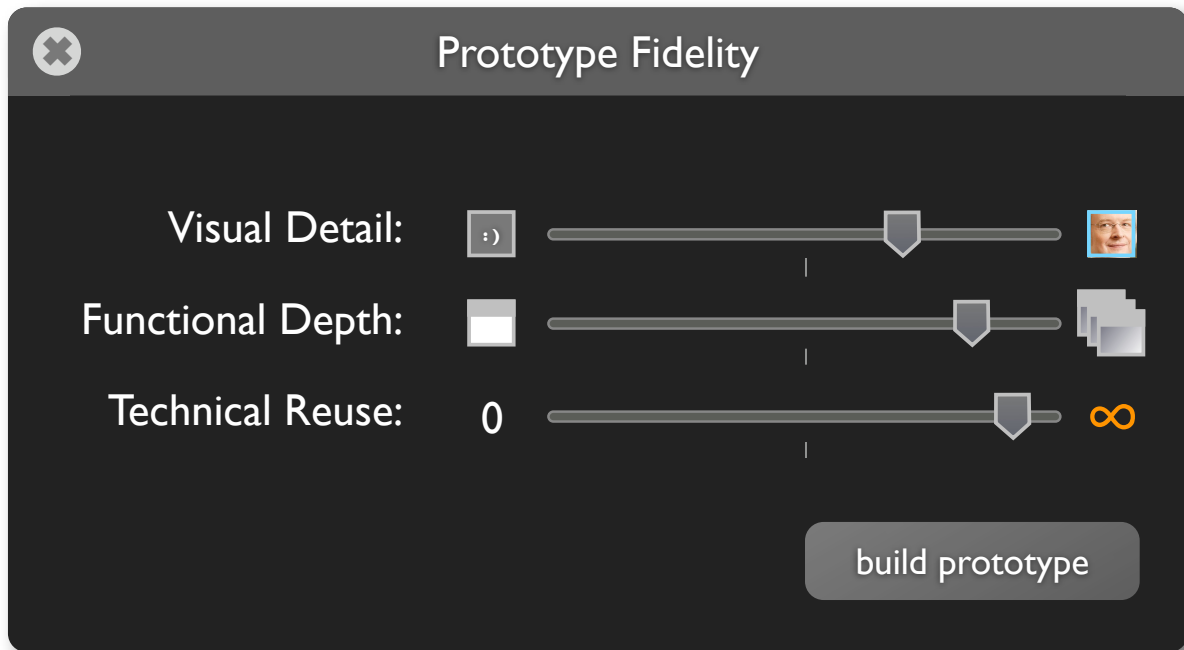
Daily: code, late-day review with developers and with the business analyst

Weekly: review with a major stake-holder group.

Prototyping thrives on feedback. The strength is in changing quickly and often.

This iterative idea should look familiar.

How we handled each dimension ...



Visual Style

GENERIC
LOGO

JUST A HINT
OF COLOR
(MOSTLY GRAY)

ALL IN CSS
FOR EASIER
CHANGES LATER



we built
the visual
foundation

The screenshot shows the Pathfinder application interface. At the top is a dark blue header with the Pathfinder logo and navigation tabs: my workspace, search, browse, suppliers, reports, and toolbox. Below the header is a light gray bar with the text "[study ID - study name]". Underneath are buttons for "save" and "close without saving". A tabbed interface shows "study definition", "study results", "study closing", and "study history". The "study results" tab is active, displaying the message "This study is in the submitted stage." Below this is a horizontal workflow diagram with steps: draft, initialized, submitted (highlighted in blue), committed, final review, and finalized. At the bottom is a "Study workflow history" table.

Date	Step taken	Person	Comments
Oct 15, 2006	study created	Jim Rorke	
Oct 23, 2006	study initialized	Jim Rorke	
Nov 02, 2006	study reviewed by supplier	Kent Brockman	
Nov 03, 2006	study submitted for approvers	Jim Rorke	
Nov 04, 2006	study approved by Insights approver	Amy Straley	
Nov 16, 2006	revision requested by Marketing approver	Brad Hairston	increase age rang
Nov 18, 2006	Addendum submitted	Jim Rorke	

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Being an internal application, the stake-holders had limited demands for the application look and feel.

They wanted it to have a “commercial-grade” visual style, but did not have specific requests for appearance.

We provided a modicum of style to make the prototype feel more like a real application than just HTML wireframes.

Proper separation of style from layout will allow visual style tweaking later in the process.

Functional Depth

The screenshot shows a web browser window titled "Pathfinder - [study ID - study name] Study Definition - Microsoft Internet Explorer". The address bar shows the URL: `http://localhost:8080/pathfinder-model/allfeatures/study.shtm#study_definition`. The page has a dark blue header with the "Pathfinder" logo and a welcome message: "Welcome, Mark Kraemer (administrator) | logout". Below the header, the page title is "[study ID - study name]" and the current status is "submitted". There are links for "save and submit" and "create addendum".

The main content area has tabs for "study definition", "study results", "study closing", and "study history". The "study definition" tab is active, showing a form for "Study identification". The form includes fields for "Study ID#" (20057958429), "Owner" (Mark Kraemer), "Division" (FLNA), and "Owner's business unit" (Salty). There are also fields for "Study title", "Project name", and "Code name". A "Study initiation" date picker is present. A list of "Other business units" includes PBF PCNA, PBF Tropicana, PBF Quaker, and PBF Gatorade. A list of "Editor(s)" includes Jim Rorke, Amy Straley, and Stephanie Stokes. There are links for "add another editor" and "add a brand or sub-brand".

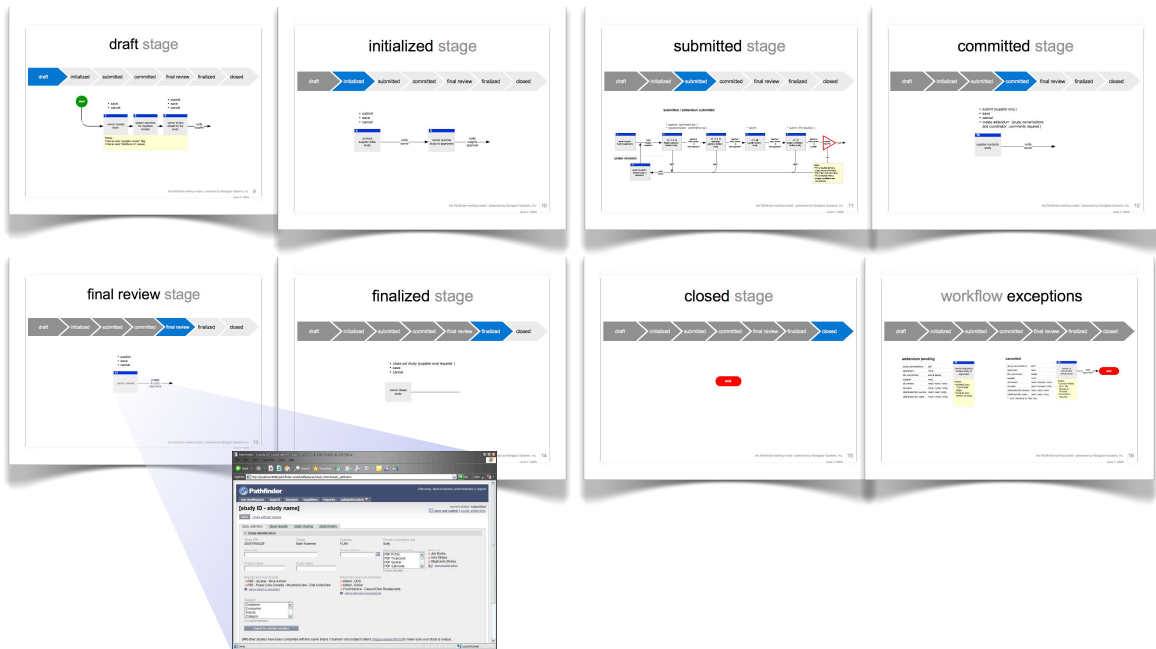
Below the form, there are sections for "Brands and sub-brands" and "Channels and sub-channels". The "Brands and sub-brands" section lists PBF - Quaker - Rice-A-Roni, PBF - Pepsi Cola Canada - Mountain Dew - Diet Code Red, and a link to "add a brand or sub-brand". The "Channels and sub-channels" section lists Retail - UDS, Retail - Dollar, and Food Service - Casual Dine Restaurants, with a link to "add a channel or sub-channel".

A "Subject" section includes a dropdown menu with "Customer", "Consumer", "Trends", and "Category". A "check for similar studies" button is located below the subject section. At the bottom, a message states: "[##] other studies have been completed with the same brand / channel / and subject criteria. Please review the list to make sure your study is unique."

45

Start with the base-case: the most common, least complicated pass through the workflow. This is the soul or the essence of the application. What's the big idea? Let's address it first. We made it scenario-based, created a little story for consistent context from screen to screen. Worried about the task itself (the "little IA") rather than the global navigation.

Inch wide, mile deep.



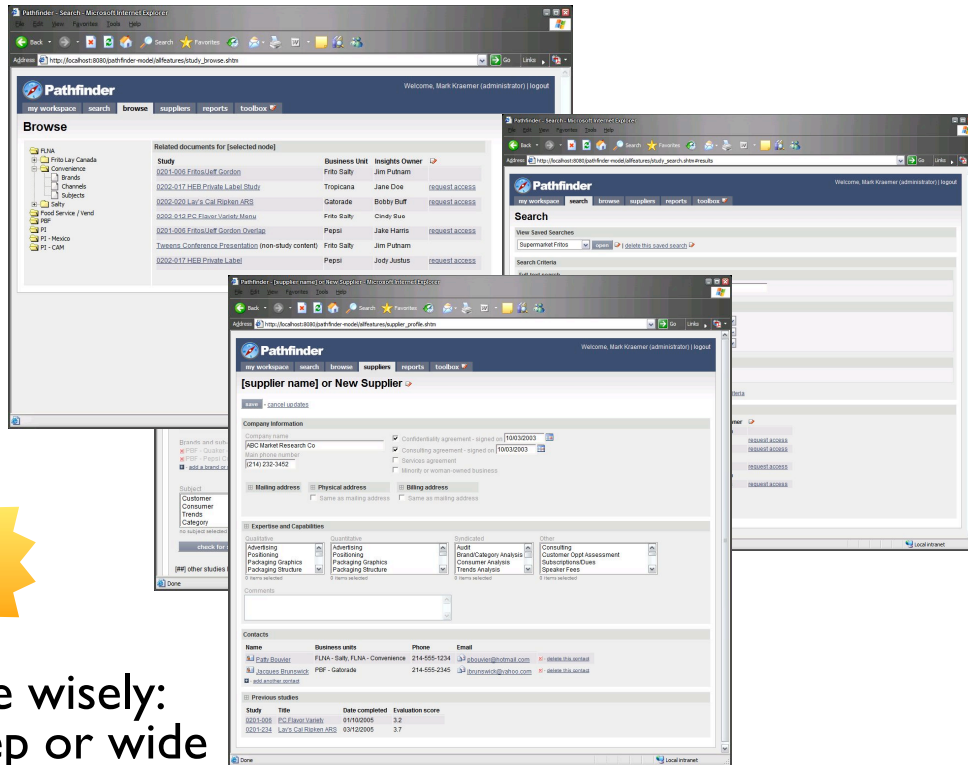
46

We added the complexities to the first workflow before worrying about the other functions

Secondary Functionality



choose wisely:
go deep or wide



After we were satisfied with the complete first function, we started concentrating on the other functions.

Each new function introduced the need for more elements in the global navigation “big IA”.

Scenarios provide context and understanding.



scenario : use case

::

persona : target audience



a real story
provides needed
context

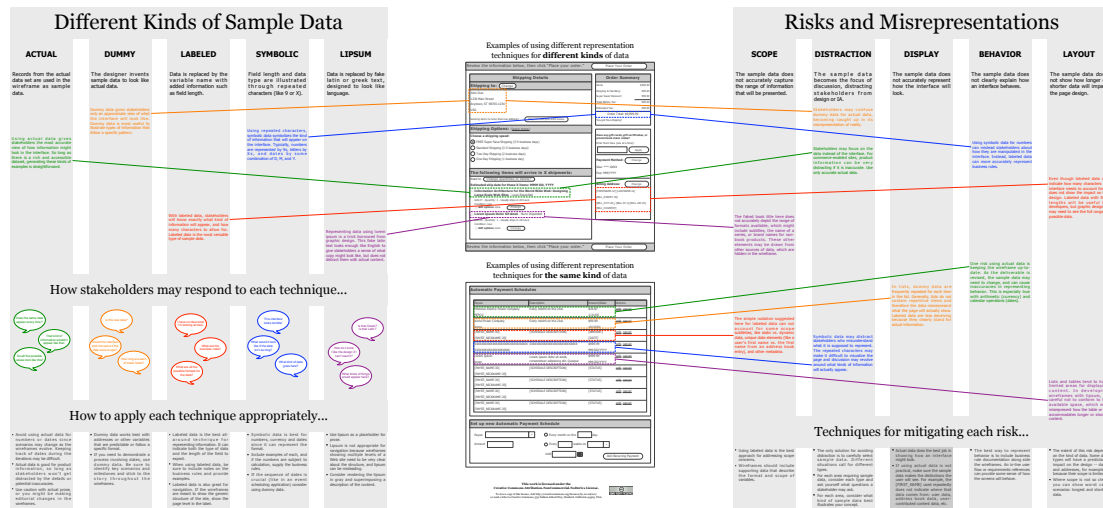
Use-Cases are often sterile, written in a purposely generic style. When fleshing out a use case for prototyping, use a story with real names and real entities that would be common to the process. The stake-holders familiarity with these entities will help guide them through the new screens and workflows.

Use as much realistic data as possible.

Representing Data in Wireframes

By Dan Brown
brownorama@gmail.com
www.greenonions.com

IA Summit 2005
Crossing Boundaries
Montreal, Quebec, Canada
3-7 March 2005



http://www.greenonions.com/portfolio/dbrown_ia2005_wireframes.pdf

Prototyping is about removing hurdles.

The more realistic the scenario:

the easier it will be for clients to understand (totals drive clients nuts)

the sooner we'll see how well the design holds up with real data

Trade-offs involved - it takes more time to have real data

See Dan Brown's "Representing Data in Wireframes" at greenonions.com for the full PDF - It shows how the wrong sample data can misrepresent the behavior or layout of a Web page.

Functional details: How low can you go?

- order of screens in a workflow
- validation messages
- AJAXie behaviors



show as much
as you can,
at least enough to
explain the big idea

Provide an example once, no need to repeat or branch

Technical Reuse: Staging

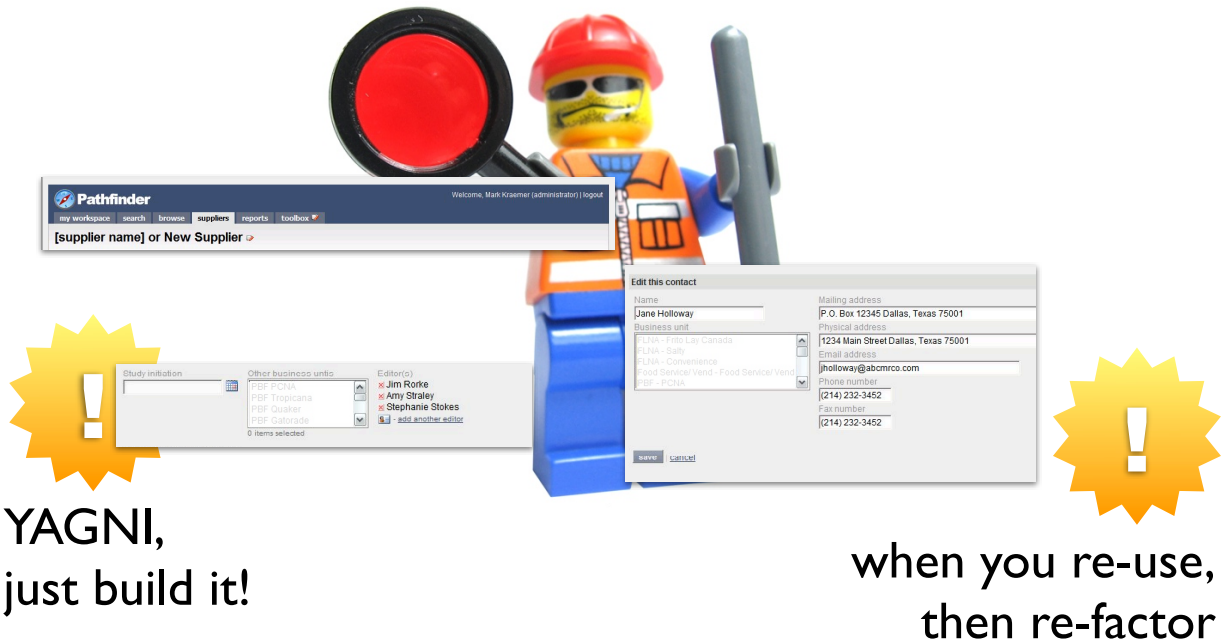
completely static - no server?

- + portable
- JavaScript for includes / reusable code

use a **simple server**

- + reuse via SSI, PHP, JSP, ASP, Ruby, etc.
- need server or connection to the server

Technical Reuse: YAGNI & Refactoring



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You Ain't Gonna Need It. Don't over-think how something is used. If you need a new style for a specific situation, code it inline or in the head. Architecting too much up front will take valuable time that could be spent iterating details with your users.

Once you find yourself needing that style or page component again, that's the time to refactor and pull it out.

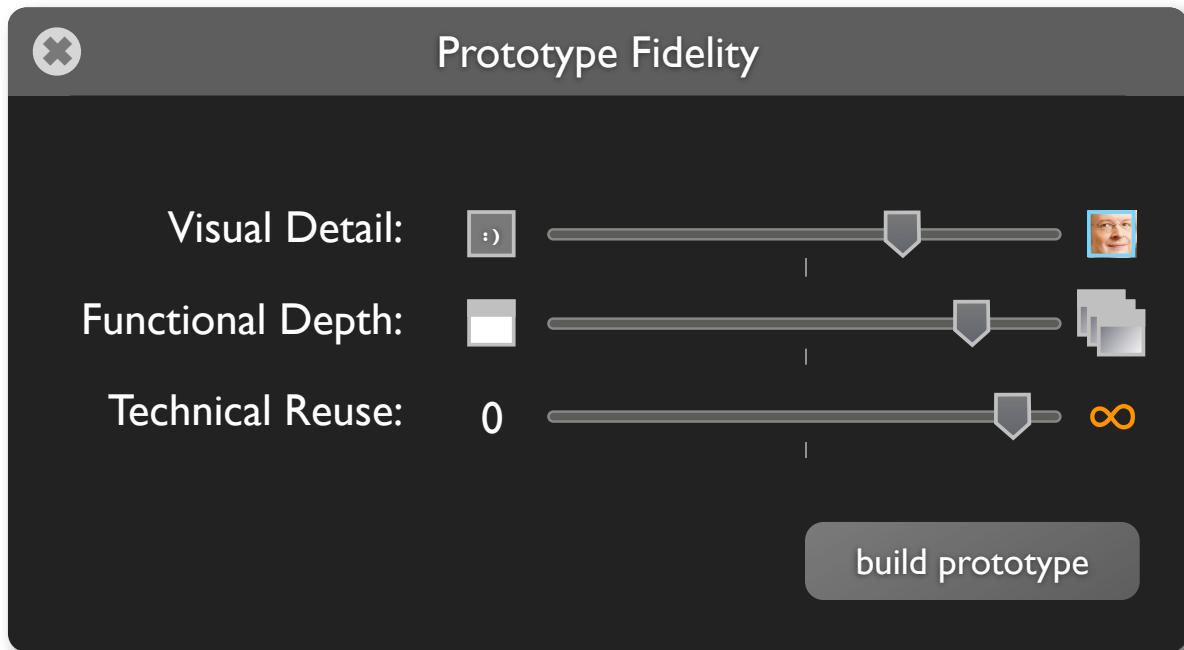
Typical items that are reused in a prototype:

- Global Navigation
- Sub-navigation metaphors (tab sets, side-bars, etc)
- Common field controls or sets (dialog boxes, pop-ups, address fields, etc.)

Results for the Pathfinder Project Prototype

- Everyone signed off on design
- We got back on schedule
- We gained twice the understanding in half the time

So, what's best for your project?



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Each deliverable we covered has its own pros and cons. There's a cost for each of them on the continuum from abstract to real. The more experience you gain working with each type, the sooner you'll be able to identify which one will bring the best returns on each project.

Relevant Links

- My delicious bookmarks tagged “prototyping”
<http://del.icio.us/kraemer/prototyping>
- The Geniant Blog
<http://geniantsandbox.com>
- Garrett Dimon’s PDD/Wireframe Templates
<http://v1.garrettdimon.com/resources/templates-stencils-for-visio-omnigraffe>

Thanks!

Please visit or write if you have more questions:

<http://markup.thekraemers.com>

<http://geniantblog.com>

mark.kraemer@gmail.com