Agile and Innovation

Being responsive without losing your way

Hugh Beyer
Cohealo

Getting real about innovation

2 smart guys in a garage

NOT

But what about Apple and Microsoft?

Okay, sometimes in the garage

But… look at the timelines

What does it really take to innovate?

Some examples

iPhone

Not a new thing

The *next right* thing for Apple

Technology in place

Turn of the century:

* Wireless becoming available
* 2001: 3G network in Japan – slower in US
* Smartphone sales significant, but UI lagging
  - Downloading ringtones was the big deal
* Touchscreens on GPS systems
  - Not yet on phones

Consumer readiness

Early 2000's:

* Everyone has a phone
* Managers and salespeople have Blackberries
  (Just don't call it a Crackberry)
* People getting comfortable using the internet
  * but not yet practical on phone
* People starting to make money with web services

Business model

Apple already knows

* How to make computers and screens
* How to make consumer electronics
  * iPod – just a thumb drive with a UI
  * Newton – failed attempt at a PDA
* How to run retail store
  * Napster's demise opened up the business model
* How to sell content online with the iTunes Store

Plus

* Deal with AT&T lets apple retain control of design
* App Store extends iTunes model

Company mission and skill

The timeline:

* 1997 - Steve jobs returns to apple
* 1998 - iMac released; Newton released and fails
* **1999** - Apple registers iphone.org
* 2000 - Mac Cube
* 2001 - iPod & OSX
* **2002** - Apple files for iPhone trademark
* 2003 - 23 million iTunes downloads
* 2005 - Video iPod
* **2007** - iPhone launched

iPhone Innovation

* Built on past technical experience
* Sold to a prepared market
* Leveraging a proven business model
* Delivered over a decade through…
  * Many iterations
    * **Each taking a manageable step**
    * **Each delivering business value**

…By one company with amazing focus

Spreadsheets

Iteration over decades and companies:

* 1979, VisiCalc: Doing spreadsheet calculations on paper is stupid. Do them online.
  * But limited to the original Apple II vision
* 1983, Lotus 1-2-3: Spreadsheets are about presentation not just calculation
  * But limited to DOS platform
* 199?, MS Excel: Leverages Win 3
  * Larger ecosystem FTW

→ Still working towards DB's original vision

Innovation plays off vision and iteration

Vision gives you a direction

Iteration gets you there in achievable, useful steps

Having a vision

* Like a flag on the hill
* Keep in sight when you're up to your ass in alligators
* BUT Agile doesn't help drain the swamp
* In fact Agile *is* the swamp—by design

Agile mitigates against strategic thinking

* Stories break design up—intentionally
* A 2-week cycle encourages short-term thinking
  - Feed the beast
  - Anything you can't do in 2 weeks (really 1.5, or 1) isn't worth doing
* Lean UX increases connection with development at cost of advance work

Back up and rethink

What's the job of UX anyway?

The job of UX

Deliver the right experience for users

The system does what I want, in a way I understand, so I can achieve what I am trying to do

NOPE

The job of UX

Deliver the right experience for users

The system does what I want, in a way I understand, so I can achieve what I am trying to do

The system does what I didn't know I wanted, in a way I can adopt without struggle, to achieve a goal I care about

(but I didn't know you could help with it)

Innovation

Iterative design is great for improving how I do what I'm doing to make the ***task*** better

Innovation is about inventing something different for me to do to make my ***life*** better

… which requires field research

* You don’t know what users need until you know them
* You don’t know them until you’ve seen their life and walked in their shoes
  * I.e. field research/contextual inquiry

… embedded in user-centered design

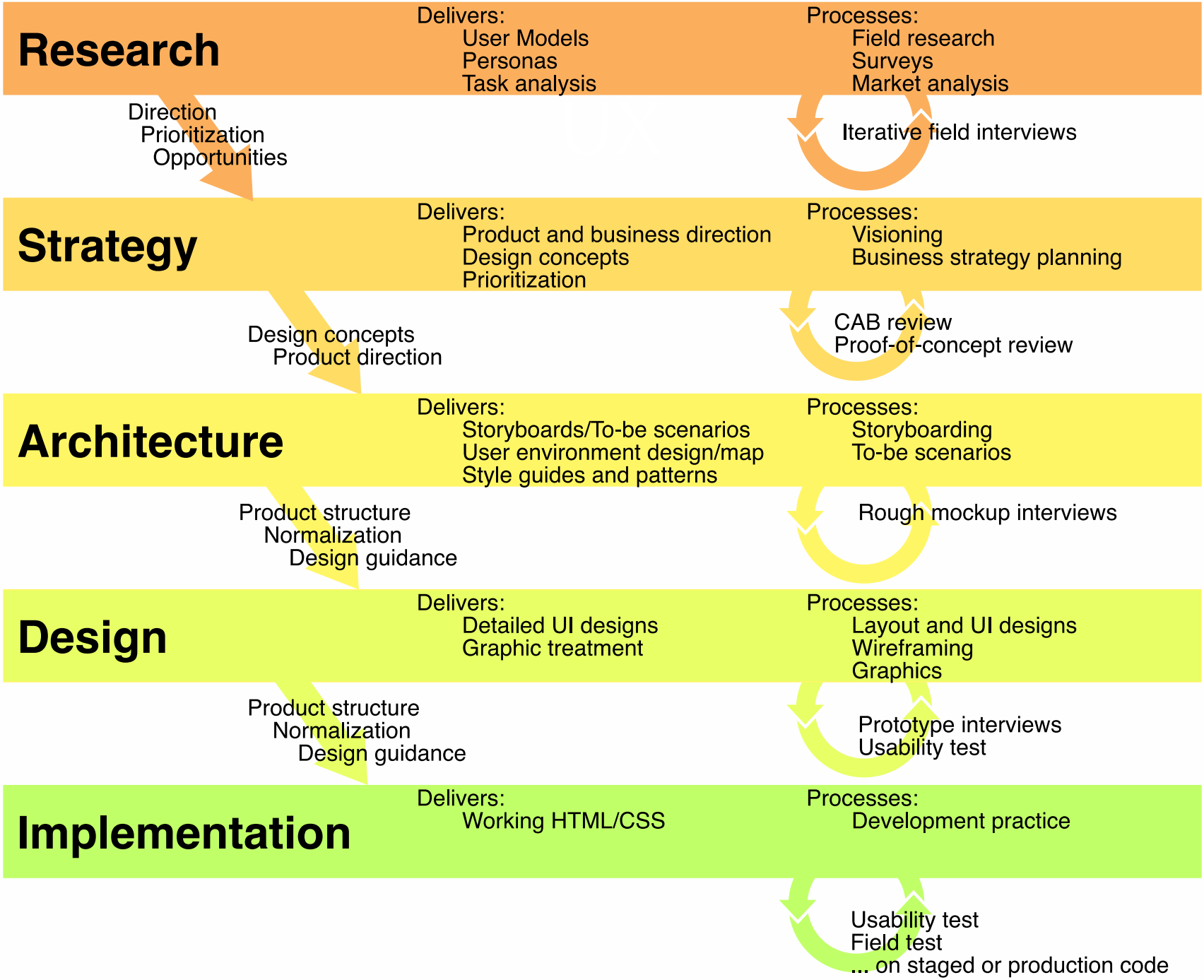
* Drive the understanding of users all the way through to product details

… with an iterative process

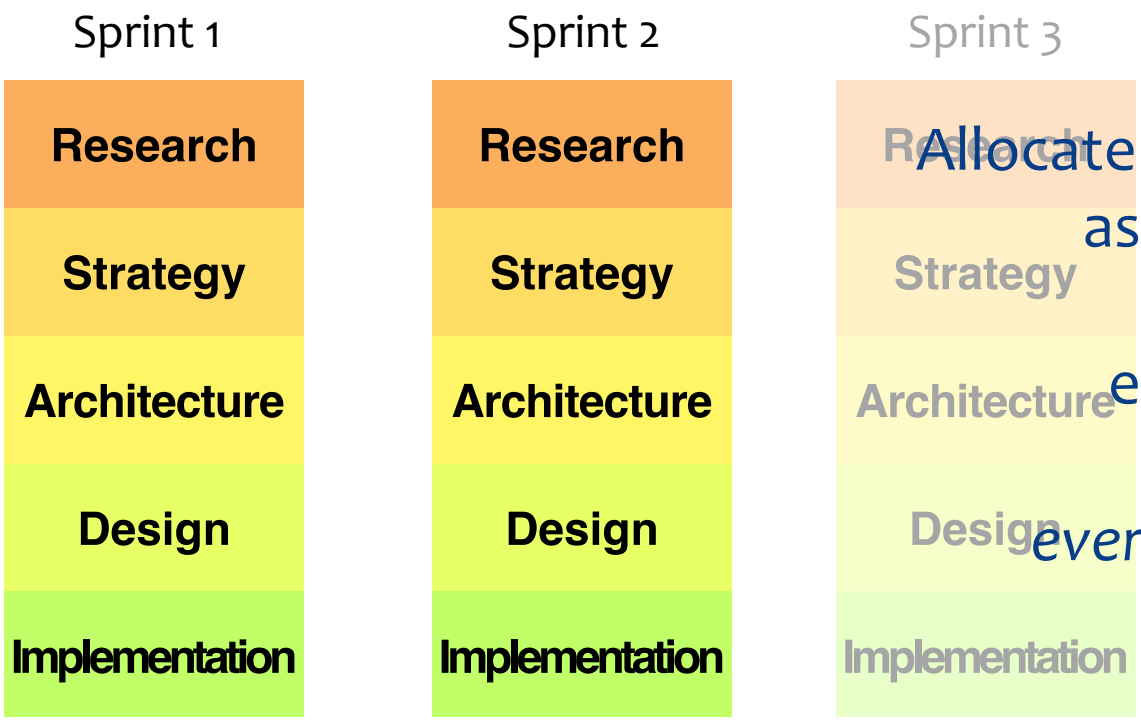
* Because you aren't going to get it right the first time
* And you can't discover emergent requirements unless you see the new design *in situ*

The job of UX

* Do the user research
* To drive the strategic vision
* Design a coherent system
* Craft good UIs
* Support the implementation


Research
Delivers:
User Models
Personas
Task analysis
Processes:
Field research
Surveys
Market analysis
Direction
Prioritization
Opportunities
Iterative field interviews
Strategy
Delivers:
Product and business direction
Design concepts
Prioritization
Processes:
Visioning
Business strategy planning
Design concepts
Product direction
CAB review
Proof-of-concept review
Architecture
Delivers:
Storyboards/To-be scenarios
User environment design/map
Style guides and patterns
Processes:
Storyboarding
To-be scenarios
Product structure
Normalization
Design guidance
Rough mockup interviews
Design
Delivers:
Detailed UI designs
Graphic treatment
Processes:
Layout and UI designs
Wireframing
Graphics
Product structure
Normalization
Design guidance
Prototype interviews
Usability test
Implementation
Delivers:
Working HTML/CSS
Processes:
Development practice
Usability test
Field test
... on staged or production code

In one iteration

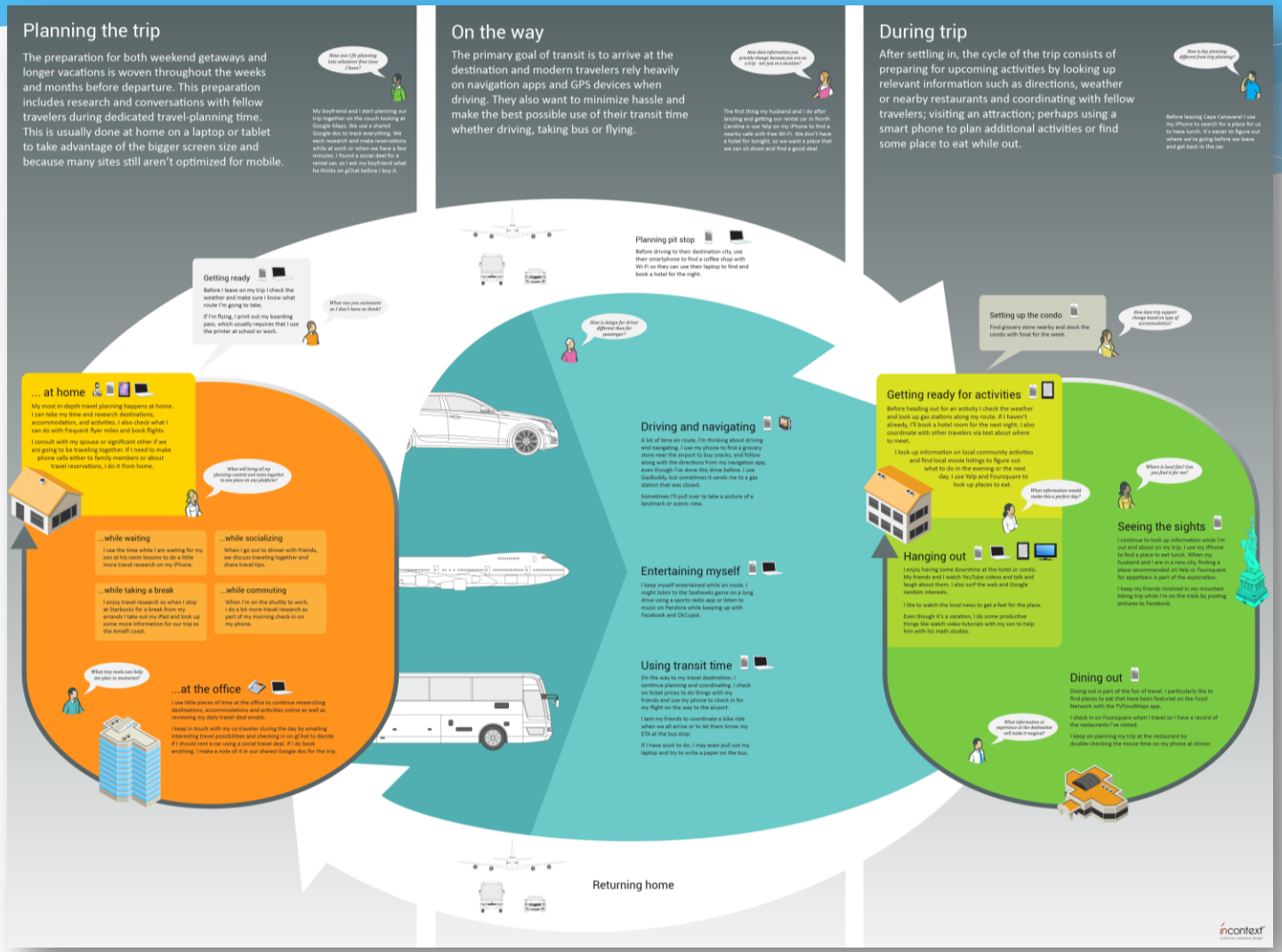


Allocate story points to all aspects of UX

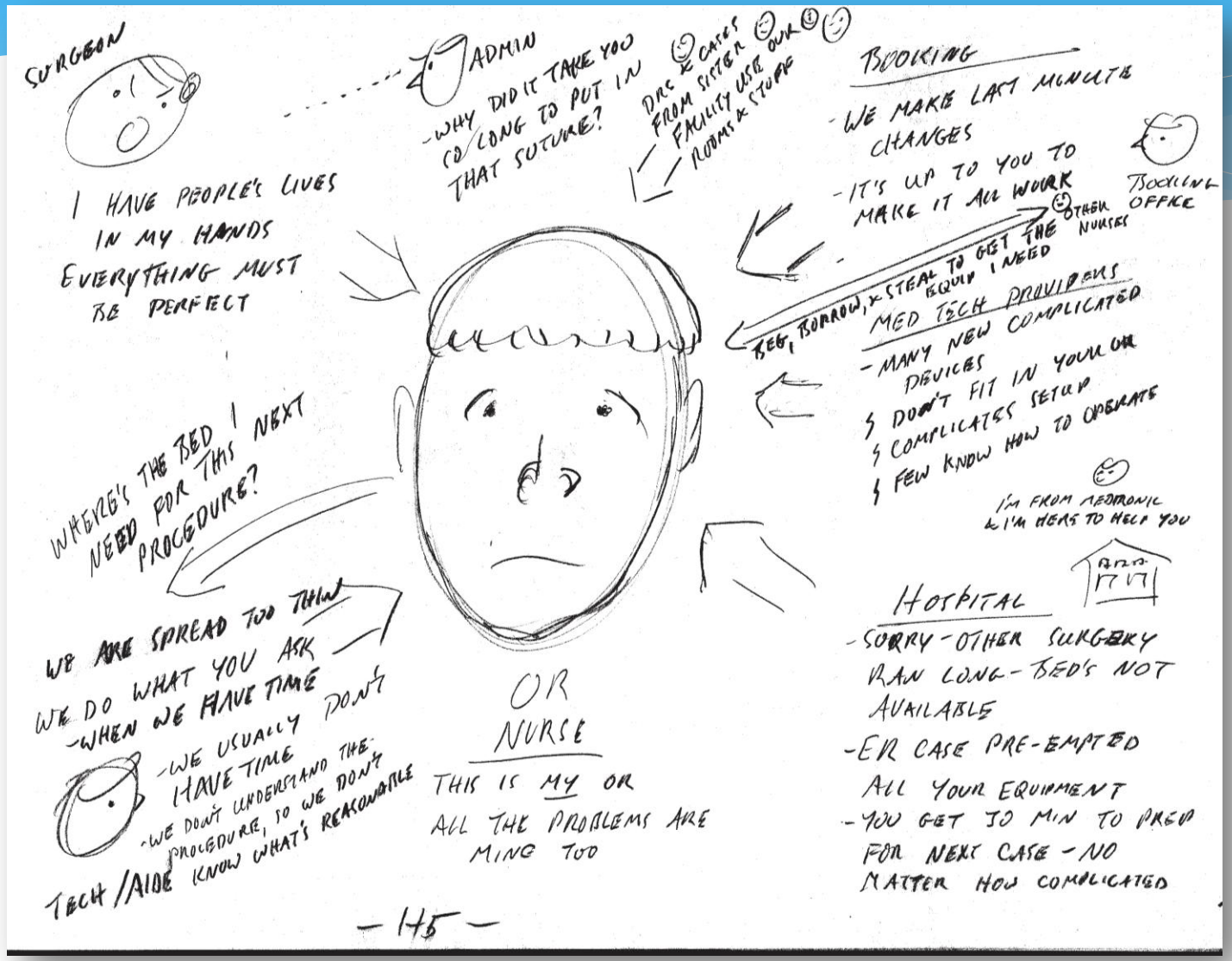
every sprint

every single sprint

User research used to produce this



Now it produces this



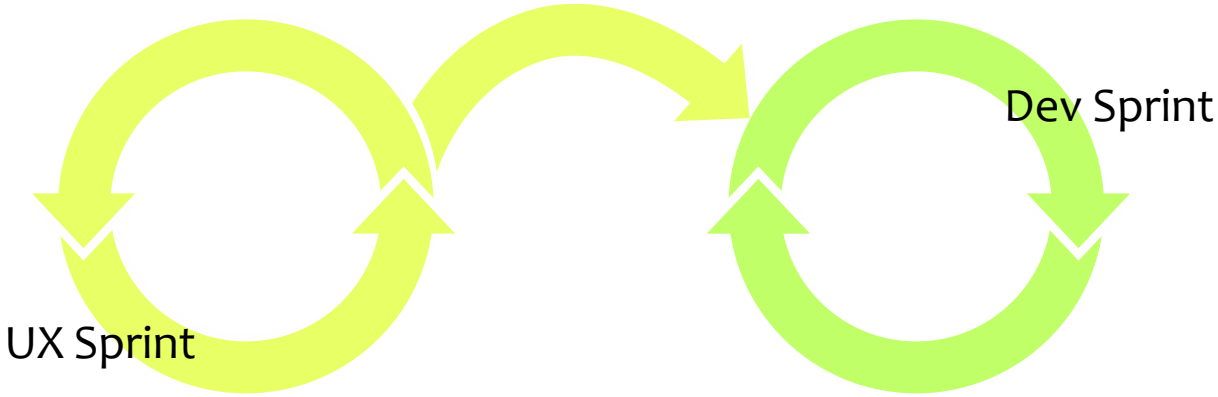
Leverage low-fi

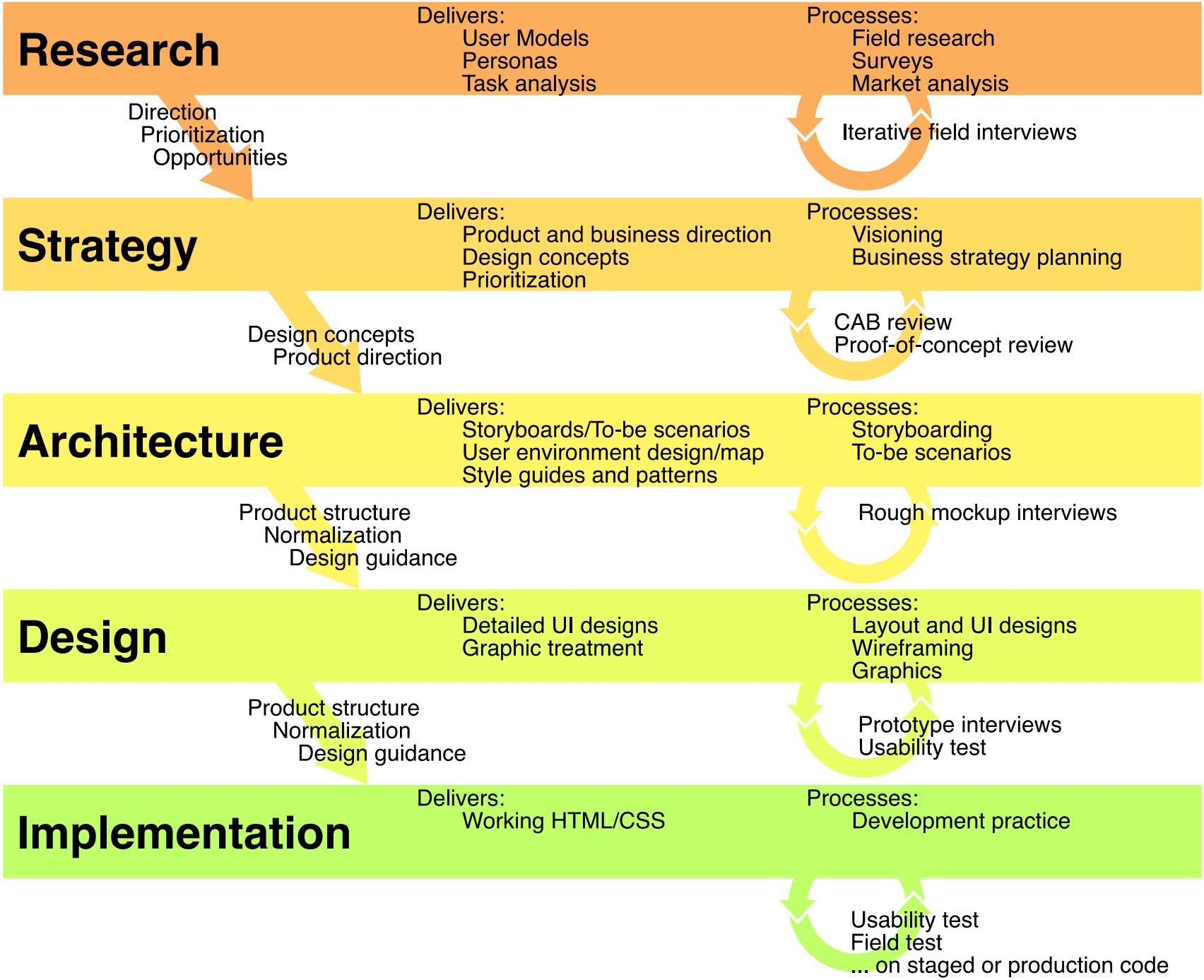
* Contextual Inquiry – paper and pen
  * No videotape no audiotape no script no no no
* Sketches
* Storyboards
* Wireframes
* Paper prototypes – postits
  * No usability lab no predefined tasks no 1-way mirror no

It's better anyway

But it won't all fit in a sprint

* Separate UX sprints dovetail with dev sprints
* UX Scrum backlog items deliver business value
* UX backlog items include stories for every type of UX work
  * Including implementation—dups dev story/task




Research
Delivers:
User Models
Personas
Task analysis
Processes:
Field research
Surveys
Market analysis
Direction
Prioritization
Opportunities
Iterative field interviews
Strategy
Delivers:
Product and business direction
Design concepts
Prioritization
Processes:
Visioning
Business strategy planning
Design concepts
Product direction
CAB review
Proof-of-concept review
Architecture
Delivers:
Storyboards/To-be scenarios
User environment design/map
Style guides and patterns
Processes:
Storyboarding
To-be scenarios
Product structure
Normalization
Design guidance
Rough mockup interviews
Design
Delivers:
Detailed UI designs
Graphic treatment
Processes:
Layout and UI designs
Wireframing
Graphics
Product structure
Normalization
Design guidance
Prototype interviews
Usability test
Implementation
Delivers:
Working HTML/CSS
Processes:
Development practice
Usability test
Field test
... on staged or production code

Life of a feature

* Need identified in user research
* Integrated with strategy
  * May iterate to prove business
* Built into architecture
  * May iterate with PP's to get structure right
* Designed
  * Wireframes, more detailed paper prototypes
* Implemented
  * May test and iterate final look

Avatar

* >$2billion income
* $400 mill invested by Cameron
* Transformation of experience: motion capture in real time—complete in-the-momen control over scene
* From thought to reality
* Ground of existing tech – autodesk – a step beyond CGI
* 10K sq feet server farm, 4K servers
* Who Framed Roger Rabbit already integrated animation & real
* Jurassic Park put realistic dinosaurs in place with humans
* Toy Story – cartoon for adults
* Gollum photorealsitic motion capture
* → Note all these made money
* Polar Express—all actors motion capture
* Beowulf—first time same film for 2 & 3D

Distribution

* 2001 Disney proottype
* 2002 120 digital screens, Star Wars episode 2 in 3D; specs and standards
* 2006 stereoscopic movies
* 2206 Chicken little
* 2008 55 Digital Theaters, 536 screrens (still small)
* 2009 Govt funds screeens (UK)
* 2010 DCIP provides financing

IMAX

* 1986 IMAX introduced at wolrds fair
* 1990's – IMAX in museums
* 2004 – Harry Potter & Polar Express in IMAX 3D – proves the business case
* 2007 – 179 IMAX theaters
* 2010 - >7000 IMAX theaters
* → so not a huge risk at this point

Top grossing movies

* Titanic – love, action, cool special effects
* LOTR – Fantasy, magic
* Pirates of the Carribean – Integrates CGI
* The Dark Knight – comics
* Harry Potter Sorcerer's stone
* Star Wars
* Shreck
* → so taste is animation, special effects, animation for adults, love and champions – Avatar is in sweet spot

Summary

* Everything in place for avatar
* Boring next step

James Cameron

* Aliens
* Abyss (3D water effects)
* Terminator – realistic special effects on CGI character
* 1996 writes script for Avatar
* Titanic
* 2009 Makes deal for avatar, starts working on camera
* 4 years to make film