
INTRODUCTION TO INTERACTION DESIGN

- › What is Interaction Design?
- › Principles of Interaction Design
- › Design Patterns
- › Exercise

WHAT IS INTERACTION DESIGN?

“For every action, there is an equal and opposite reaction.”

SIR ISAAC NEWTON

“Interaction design focuses on something that traditional design disciplines do not often explore: the design of behavior.”

ALAN COOPER

“Interaction Design (IXD) defines the structure and behavior of interactive systems.”

INTERACTION DESIGN ASSOCIATION

MEET NOAH. HE IS AN INTERACTION DESIGNER AT
GOOGLE



SH*T INTERACTION DESIGNERS SAY



INTERACTION DESIGN



WHAT IS INTERACTION DESIGN

WHERE DOES IT FIT?

- Subset of UX Design
- Comes from HCI and ergonomics
- Interrelated to UI Design

WHERE DOES IT FIT?

- Macro-level:
 - Concerned with flows through the system
- Micro-level:
 - Concerned with affordances on an interface

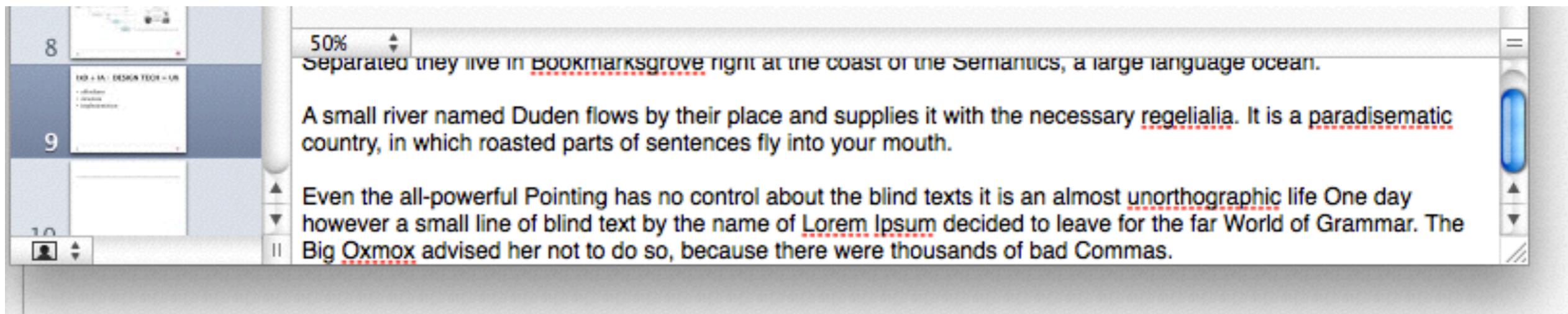
WHAT IS AN AFFORDANCE?

An item that makes a potential action possible.

WHAT IS AN AFFORDANCE?



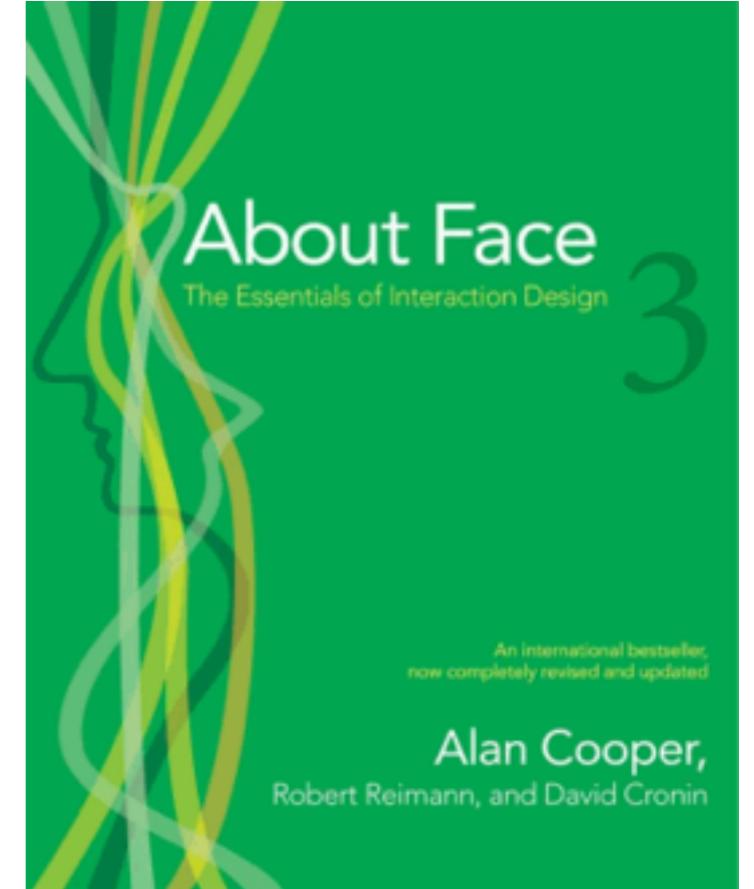
COUNT THE AFFORDANCES



PRINCIPLES OF INTERACTION DESIGN

COOPER HIGHLIGHTS

- Don't make the user feel stupid
- Keep tools close at hand
- Contextualize information
- Provide direct manipulation and graphical input
- Reflect object and application status
- Software should behave like a considerate human being

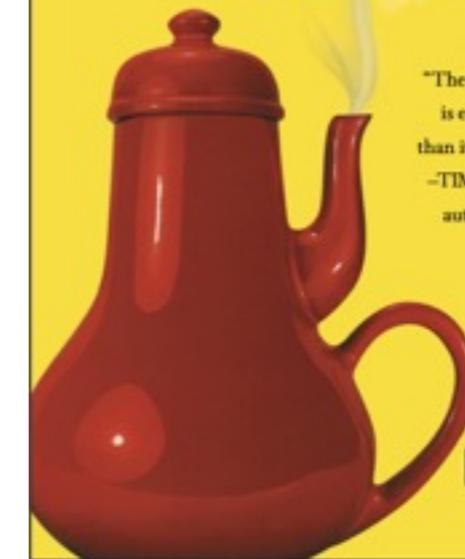


NORMAN HIGHLIGHTS

- Visibility
- Feedback
- Constraints
- Mapping
- Consistency
- Affordance

REVISED & EXPANDED EDITION

The DESIGN of EVERYDAY THINGS



"The Design of Everyday Things
is even more relevant today
than it was when first published."
—TIM BROWN, CEO of IDEO,
author of *Change by Design*

DON
NORMAN

ADOBE HIGHLIGHTS

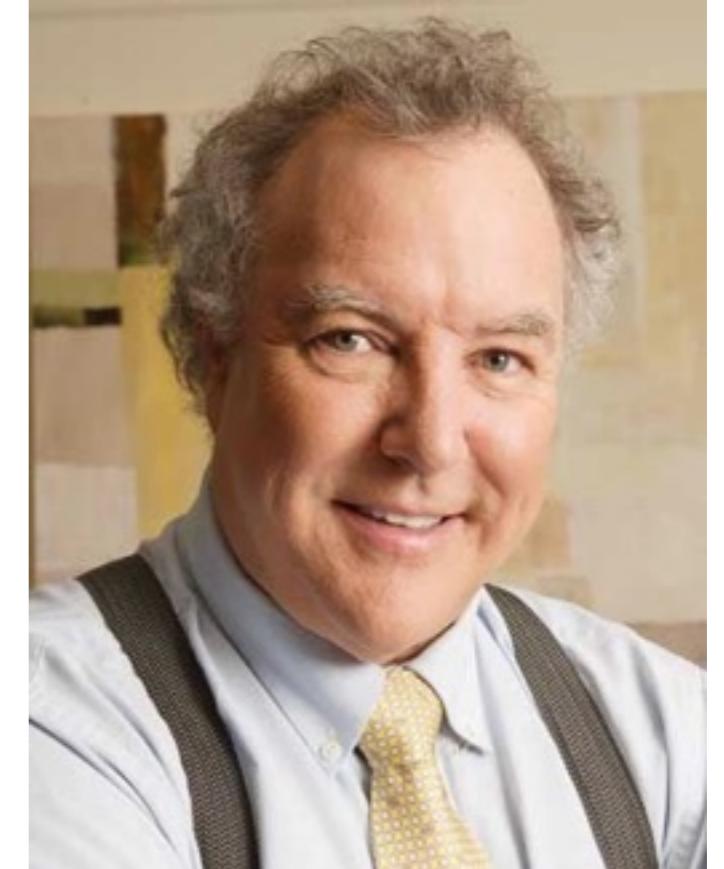
Effective interaction designs are:

- Consistent
- Learnable
- Feedback
- Visible
- Predictable



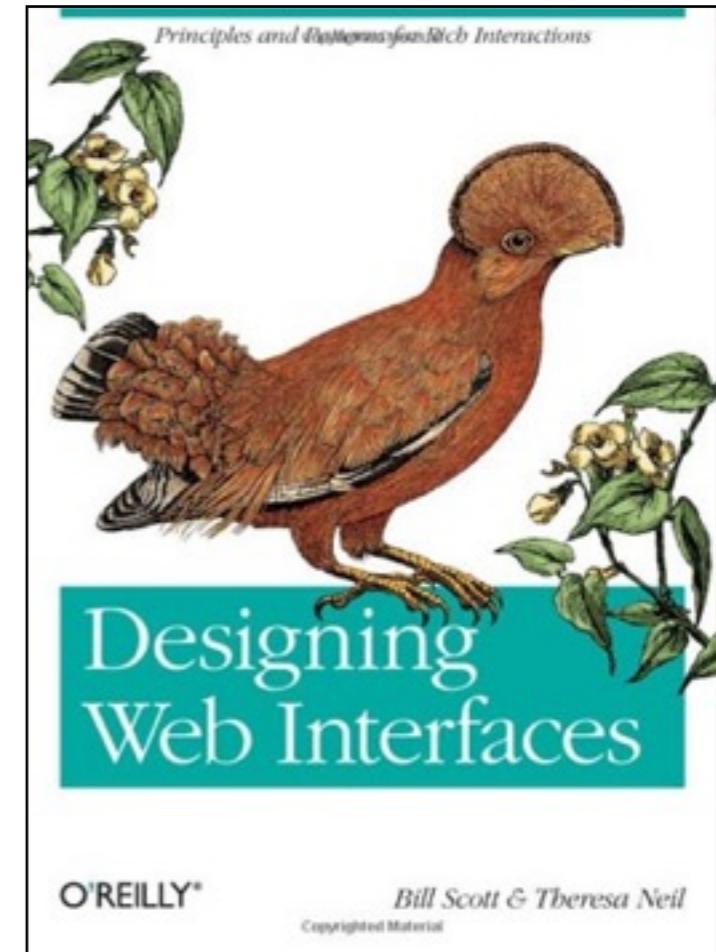
TOG HIGHLIGHTS

- Anticipation
- Explorable Interfaces
- Metaphors
- Protect Users' Work
- Readability
- Track State



BILL SCOTT'S PRINCIPLES

- Make it direct
- Keep it lightweight
- Stay on the page
- Provide invitations
- Use transitions
- React immediately



MAKE IT DIRECT

- Allow input wherever there is output
- Shorten the length of any interaction
- Make objects directly actionable

KEEP IT LIGHTWEIGHT

- Small “micro-interactions” which don’t take you out of flow
- Contextual to an item displayed

STAY ON THE PAGE

- Keep the user's context
- Use overlays or expanded areas
- Reduces need for loading extra content
- Every page jump is a mental speed bump

PROVIDE INVITATIONS

- Avoid blank slates
- Make explicit calls to action

USE TRANSITIONS

- Illustrate the action just undertaken
- Indicate a change of state
- Direct attention

REACT IMMEDIATELY

- Respond directly to input
- React to changing input
- Indicate progress
- Prevent errors before they happen

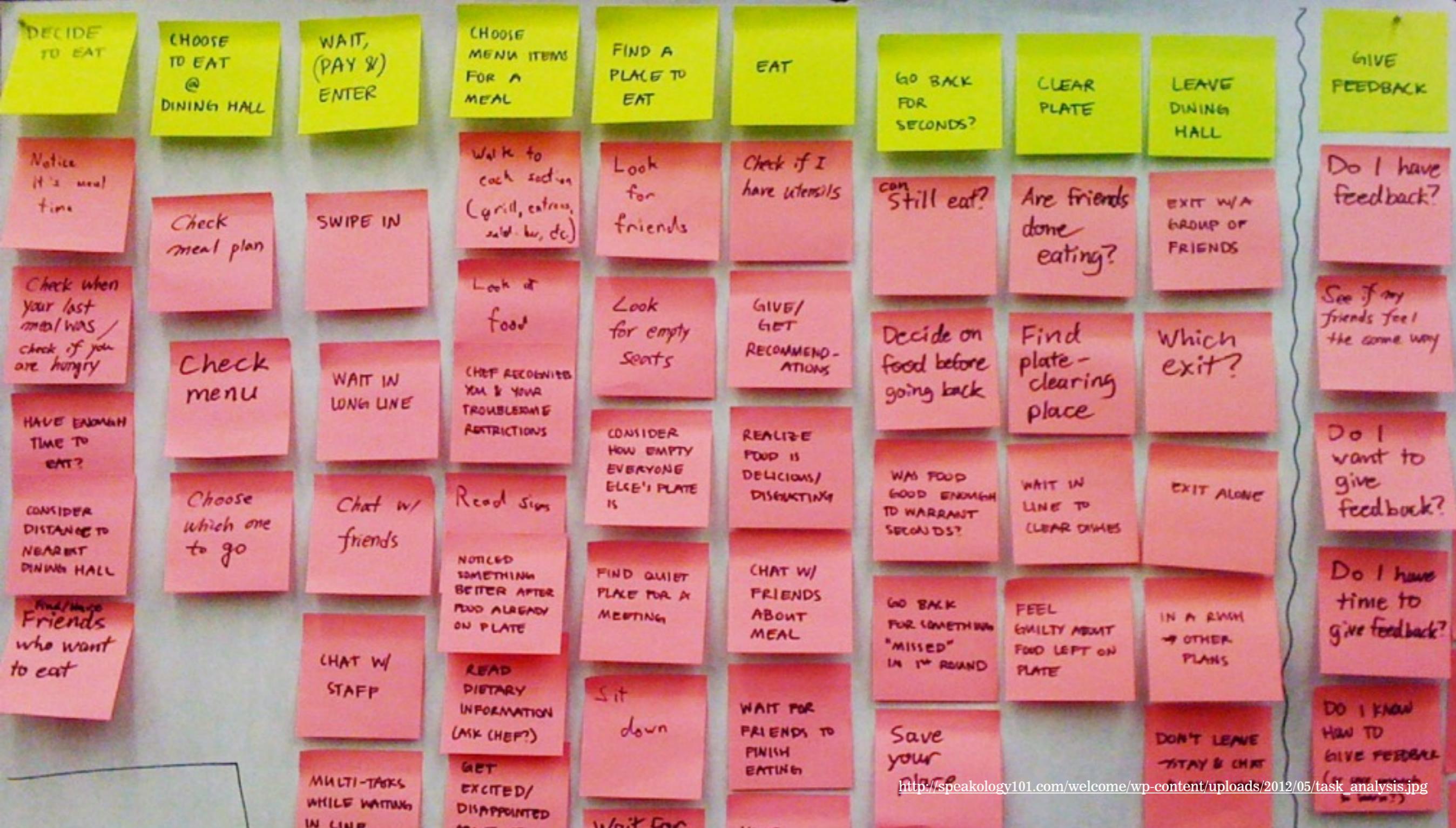
IXD METHODS

OVERVIEW

- Task analysis
- Bodystorming
- User journeys

TASK ANALYSIS

- How do users complete tasks?
- What is the happy path vs. what paths do users actually take?
- We can do this by walking through the necessary steps ourselves, by observing actual users in usability tests, or with analytics data
- We can represent task analyses in words or flow diagrams



Call History - Compiled Task Analysis

Before Scene

The spare bedroom (office) of Jenny's two-bedroom townhome in suburban Indianapolis.

Jenny comes home from a weekend away and wants to see if there have been any important phone calls or messages that she missed. She sees the voicemail indicator on her phone and begins the lengthy process of calling and listening to her voicemail.

After Scene

The spare bedroom (office) of Jenny's two-bedroom townhome in suburban Indianapolis.

Jenny comes home from a weekend away and wants to see if there have been any important phone calls or messages that she missed. She looks at her Comcast Message Center Dashboard; she quickly sees that she has five new voicemails. Through the Comcast Message Center's dashboard, she is able to see that the third voicemail is from her mother and plays the message instantly.

Future Scene

The spare bedroom (office) of Jenny's two-bedroom townhome in suburban Indianapolis.

Jenny comes home from a weekend away and wants to see if there have been any important phone calls or messages that she missed. She looks at her Comcast Message Center Dashboard; she quickly sees that she has five new voicemails. Through the Comcast Message Center's dashboard, she is able to see that the third voicemail is from her mother and plays the message instantly. The Comcast Message Center's priority indicator, Jenny can see that her mother may not be home, but has her cell phone with her. Jenny calls her mother back on her cell phone.



Checking voicemail is tedious and time consuming. I want a system that is quick, convenient, and easy for once.

Sub Tasks	Jenny returns home from a weekend away.	Jenny checks to see if anyone called while she was away.	Jenny checks to see if anyone left a voicemail message.	Jenny listens to her voicemail.	Jenny checks for missed calls she needs to return.	Jenny adds the caller to her address book.	Jenny reviews her list of calls to return.	Jenny returns her phone calls.
Scenario	Jenny returns home from a weekend away. She walks in the front door, puts down her bags and takes a look around. Everything appears to be right where she left it.	Jenny walks into the office to check the callid light on her phone to see if anyone called while she was away.	Jenny checks the voicemail indicator and sees the number six. She knows she had saved some messages, but doesn't know how many.	Jenny sees there are four new voicemail messages. The second new message is from her mother. She would like to listen to it first.	Jenny sees that her grandmother called, but didn't leave a voicemail; she typically doesn't leave messages.	One of Jenny's friends called from her new mobile phone. Jenny wants to add the number to her address book.	Jenny has a list of calls to return. Each item has the name, number, and a few brief notes about the call.	Jenny reviews the order of calls she needs to make and returns the phone calls she can now, saving the others for later.
Considerations/Influencers	Can it be notified that I missed a call while I was away? Is it gold? Is it silver? Do I need any specific equipment? How much does it cost?	Can I be notified quickly that someone important called while I was away?	Can I check quickly to see if I have any messages waiting?	Can I listen to a specific message? Can I listen to the message quickly? Can I pause or delete the message before it is completed playing?	Can I check my missed calls quickly and conveniently? Can I quickly determine which call will need to return that don't have voicemail?	Can I add the new number to my address book quickly and easily? If an entry already exists, can I update it easily? Can I sync the address book with my mobile?	Do I have enough time to return all these calls now? Which calls should I return first?	Do I have enough time to return these calls now?
Pain-Points	Checking for missed calls and voicemail is tedious and inconvenient.	I have to go to my office to see if anyone called. Checking from the road is even more laborious and inconvenient.	How many of the messages are new? Which ones are important? Can I pick a specific message to listen to? Which messages need immediate attention?	Listening to voicemail is time intensive and time consuming. Why can't I listen to a specific message without listening to the ones before it? Do I have time to listen to the messages now?	Checking for missed calls is inconvenient and time consuming. Can the system help me determine which calls need to be returned?	Keeping all my devices in one is difficult. How can I keep my mobile phone and email address books in sync?	How do I know what each call is about? How will I know that I've returned a call, or marked it for "call back later"?	How do I keep track of which calls I've returned? Do I have to use something else to return the calls?
Functionality	<p>C.4.1 View call history status. G.O. The customer can view the status of whether or not (s)he has any new missed calls.</p> <p>C.4.2 View new missed call history. G.O. The customer can view the call history for new missed calls.</p> <p>C.4.3 View full missed call history. G.O. The customer can view the entire call history, including new and past missed calls.</p> <p>C.4.4 View full incoming-call history. G.O. The customer can view the entire incoming call history, including all missed, unanswered, and forwarded calls.</p> <p>C.4.5 View similar or duplicate calls. G.O. The customer can view if anyone placed a duplicate call to more than one phone.</p>	<p>C.4.4 View voicemail status. G.O. The customer can view the status of whether or not (s)he has any new voicemail.</p> <p>C.4.5 View new voicemail list. G.O. The customer can view a list of new voicemail messages with the name (number) and date/time of each voicemail.</p> <p>C.4.6 View full voicemail history. G.O. The customer can view the entire voicemail history, including new and past voicemails.</p> <p>C.4.7 View similar or duplicate messages. G.O. The customer can view if anyone who left a duplicate voicemail on multiple phones, or search for a similar message.</p>	<p>C.4.1 Access the voicemail system. G.O. The customer accesses the voicemail system to listen to new messages.</p> <p>C.4.2 View new missed call history. G.O. The customer can view the new missed calls history.</p> <p>C.4.3 Play message. G.O. Upon selection, the message automatically begins playback.</p> <p>C.4.4 Delete. G.O. The customer can delete missed calls from the missed call history.</p>	<p>C.4.5 View cell priority status. G.O. The customer can view the priority/importance of a call to help them determine which calls need to be returned.</p> <p>C.4.6 Add to address book (update in address book). G.O. The customer can add (update) a name and number in the address book.</p>	<p>C.4.7 Review call back list. G.O. The customer can review a call back list, ordered by priority, and with notes for each call.</p>	<p>C.4.8 Return calls. G.O. The customer can return calls from within the message center.</p>		

Glossary

- (H) High - address as soon as possible
- (M) Medium - address after priority 1
- (L) Low - after priority 2 and if there is time in development cycle
- (F) Future - consider for a future version of the product

BODYSTORMING

- Participants play out scenarios and interactions with their bodies
- Like improv
- The system is represented by a human



JOURNEY MAPPING

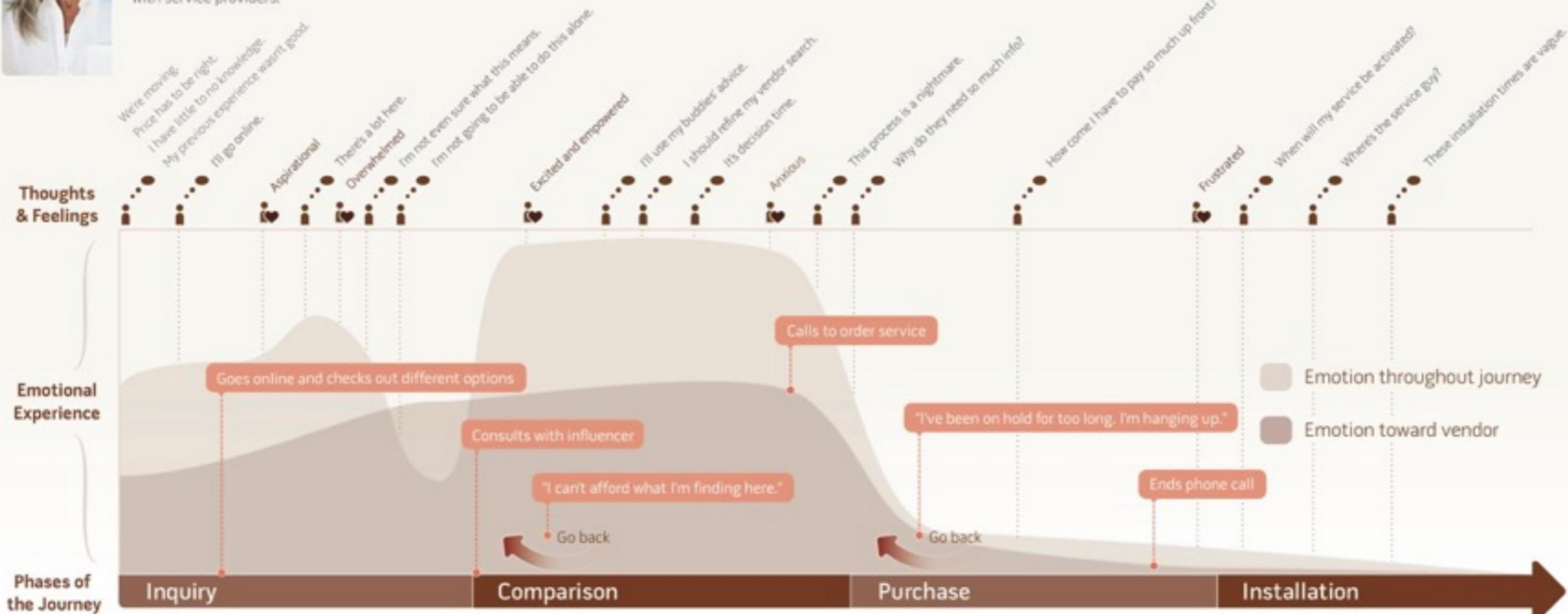
- User journeys summarize a user's interactions with a product or company at a high level
- They can be used as a deliverable for interaction design



Sarah's Broadband Provider Journey

effective^{UI}

Sarah is moving her family of three. She knows she's going to need phone and Internet service. The effective and contextual factors that will affect Sarah's choice in broadband vendors are price, and her existing knowledge of and previous experience with service providers.



Description

The Inquiry phase features the reasons people are shopping around for new service. These are usually related to moving and relocation, an upgrade to existing service or hunting down new deals. Moving is the biggest reason.

Recommendations

Design homepages with separate, targeted call-out areas lying above the fold, tailored for residential and tech-savvy customers. Internal product areas should include basic plain-English product descriptions and large price points with a clear call to action. Bullet points should include keywords that summarize options and features typically found in product datasheets.

Description

The potential customer comes into the Comparison phase usually armed with the right info and tech jargon and is looking for the lowest cost. Customers tend to be brand agnostic. If they can't find the right price or the right services, they may leave and go back to Inquiry.

Recommendations

Use IP location services to geo-locate customers – removing the current service address roadblock. This allows users to configure services before adding them to the cart and reflects bundled price discounts in a clear and obvious manner.

Description

The Purchase phase involves the provider requiring quite a bit of personal info. The order flow tends to be complex, and the process can be all over the map. There is a sense of delayed gratification – waiting on service installation and activation.

Recommendations

Reduce the amount of information required by streamlining and improving any areas that contain form fields, using industry best practices. Work on setting expectations for the installation phase with phone customer service reps to improve the overall experience with your brand.

Description

The Installation phase is the handoff from customer service to the installer. There are usually scheduling conflicts among all parties involved. This phase can be somewhat painful for the customer in dealing with the installer.

Recommendations

Many factors converge to make this phase of the customer journey unpleasant. Providing accurate arrival times, courteous technicians and clear instruction materials during Installation can help alleviate the negative experience in this phase. Also, consider having leave-behind customer comment into the process.

<http://www.ux-lady.com/experience-maps-user-journey-and-more-exp-map-layout/>

KEY OBJECTIVE(S)

Conduct a Hierarchical Task Analysis for a simple task that a classmate does everyday.

AGENDA

7 mins

1. Walk through a task with your classmate and sketch a flow diagram consisting of each subtask
2. Switch!

7 mins

DELIVERABLE

Sketched flow diagram of subtasks

RESOURCES

Pen and paper

KEY OBJECTIVE(S)

Use bodystorming as a technique to understand the roles and interactions that could occur in a given scenario

AGENDA

7 mins

1. Play out a scenario with your classmate by acting it out.

DELIVERABLE

None

RESOURCES

Your body and improvised props

Q&A