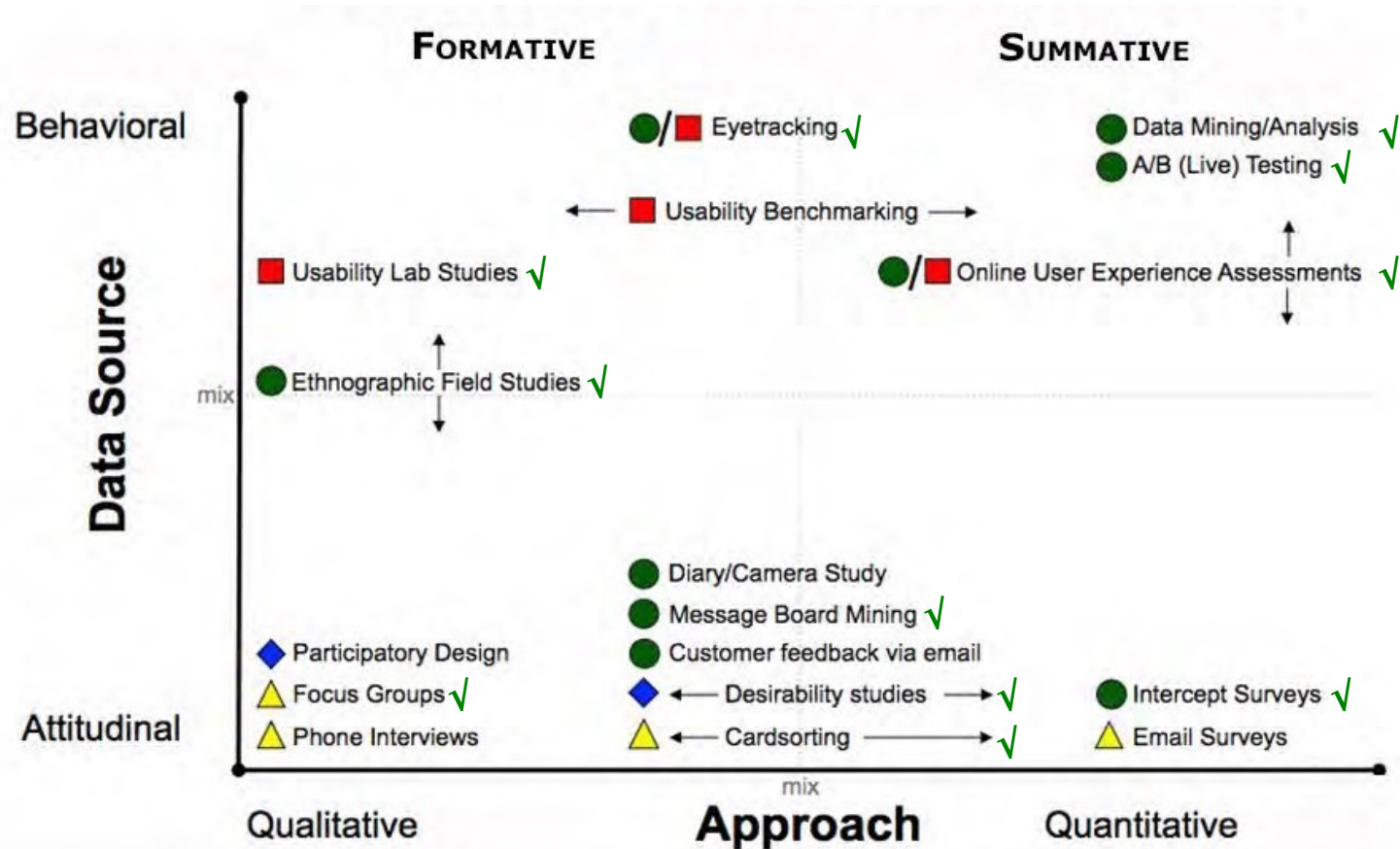


Research Methodologies



Key for Context of Product Use during data collection

- Natural use of product
- ▲ De-contextualized / not using product
- Scripted (often lab-based) use of product
- ◆ Combination / hybrid

LIBERALLY ADAPTED FROM:
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Heuristic Reviews Not shown

Hardware User Research

IBM Store Systems

Raleigh, NC
1993-1995

Role: Pre-Pro HF Engineer

- Formal Lab Testing
- Heuristic Reviews
- Hallway Testing
- OOB Testing
- Documentation Testing
- Pictorial Instruction Testing



Question: What range of display angle is optimal?

Method: Lab testing; adjust display and report on target clarity
Result: 19 to 55 degrees

Other: 'International Journal of Industrial Ergonomics' "Optimal Viewing Angle for Touch--Screen Displays: Is There Such a Thing?" 22, 343-350.



Question: Is there a difference between speed and error rates for a cash register manual entry scenario between IBM Surepoint Touch and NCR Dynakey?

Method: Lab testing; manual entry grocery store task; 2X2X2 ANOVA
Result: Touch decreased speed and increased error rates significantly in novice users; experienced users showed no significant increase in errors but remained slower than keypad

Other: User error rates and speed relating to usage of NCR DynaKey vs IBM SurePoint Touch - IBM Internal Publication



Question: Is there a difference in error rates between the MICR reader being placed on the left as opposed to the right?

Method: Lab testing; check insertion and printing; T-test

Result: Preference data showed users preferred the MICR reader on the left while placement of reader on the right led to marginal increase in speed

Other: User error rates and speed relating to usage of NCR DynaKey vs IBM SurePoint Touch --- IBM Internal Publication

Product end-to-end Research

IBM NHD

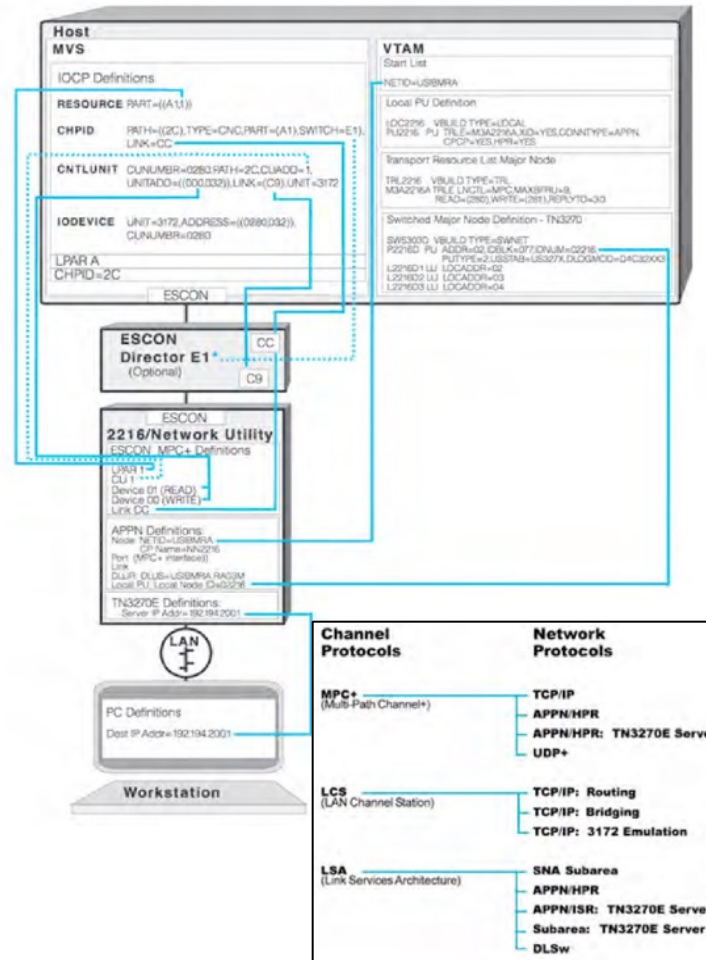
RTP, NC
1995-1999

Role: Sr Associate / Staff HF Engineer

- Formal Lab Testing
- Heuristic Reviews
- Contextual Inquiry
- Interviews
- Field Studies (observation)
- Critical Incident Analysis



ESCON MPC+ APPN/HRP and TN3270E Server



Question: Why is the IBM 2216 failing in the role of a 3172 drop in replacement?

Method: Field studies, Service Engineer interviews, Contextual Inquiries

Findings: Discovered that Quality was failing on the production line, provided documentation was overwhelming and did not map to users' mental model. IBM back end processes were failing customers.

Result: Visual documentation was created to show RELATIONSHIPS between parameters in the related environments

Other: 2216 Re-Purpose documentation was created

Software UX Research & Design

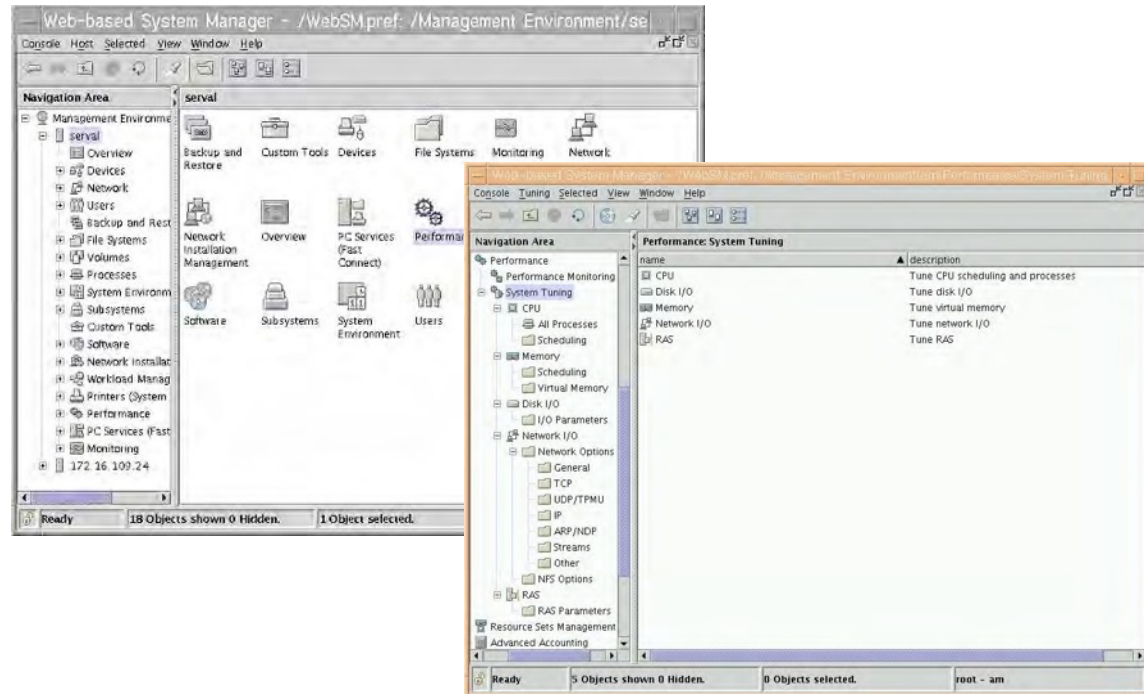
IBM pSeries

Austin, TX

1999 – 2005

Role: Advisory HF Engineer

- Formal Lab Testing
- Focus Groups
- Heuristic Reviews
- Interviews
- A/B Testing
- Level 1 Support Problem Analysis
- Division Rep to Corporate UCD Council



Ongoing: Continued refinement and functional enhancement of Web Based System Manager GUI; Close working relationship w/ Director, AIX Product Management, Bill Sandve

Method: Focus Groups, Usability Testing (Lab), A/B Testing, UX Design, Interviews with Technical Sales and Marketing, feature/function analysis with SUN Solaris Manager

Result: Directly responsible for driving Monitoring and Performance applications into WebSM product suite

Other: Patent Issued (IBM) #US20030217132 "System and method for remotely managing a computer system by a wireless communications device" (2003)

Paper: Strengthening AIX Security: A System--Hardening Approach

Contributor: AIX 5L Differences Guide (IBM Redbook)

Website UX Research & Design

UTEP

El Paso, TX
2007 - 2010

Role: Director Web Content
Compliance

- Focus Groups
- Heuristic Reviews
- Paper Surveys
- Tree Testing
- Card Sorting
- Interviews
- A/B Testing



Problem: The University website had become a jumble of navigational elements that was confusing to the students, visitors and faculty/staff. (See Top Left) This failure of information architecture was further exacerbated by broken interaction patterns and the use of non standard widgets in the interface (news tickers, elements that seemed clickable but were not and items that were click--able which had no affordance.

The Home Page had dropped in viewership significantly. Users were bookmarking specific pages (when they found them) in order to locate needed information instead of having an easy pathway through the Home Page. As the first greeting and Business impression, the Home Page needed a total rebuild.

Outcome: The Home Page Redesign increased hit rate and readership by over 333% and was part of the effort that resulted in 11% increase in enrollment after roll out. This was accomplished by doing three major things:

- Reworking the Home Page main navigation to directly point to TOPICS and information relevant to a user's ROLE (role--based and topic--based navigation)
- Providing Information Quick Guides which consolidated disparate pieces of information important to user types into one place. Information Quick Guide
- Creating informational Tours of the University and its highlights

Banking Benchmark



Methodology citi

Remote Testing

- Un-moderated (400 participants)
 - 400 participants screened and recruited by outside panel agency; 200 Citicustomers, 200 Non-Citicustomers
 - Asked to participate in study via email and provided link to UserZoom tool site
 - Gather user click streams, time on task, satisfaction metrics and user feedback
 - Span Nov 2012
 - Citic website as in use by the public during stated timeframe
- Demographics/Participant Profiles
 - Education
 - Some College (20%)
 - Bachelor's Degree (48%)
 - Graduate Degree (32%)
 - Income
 - < \$2K
 - Primary Bank Affiliation
 - Citicustomers (20%)
 - USAA (5%)
 - Wells Fargo
 - Chase (5%)
 - BofA (5%)
 - Employment Sta.
 - All out State
 - Gender
 - 45% Male/55%

Task: Checking Account citi

- Task: You will be moving your combined account balances of \$94,499.00 to Citibank. What checking account allows you to avoid monthly fees, taking into account your combined account balances?
- Heat Map: First Click indicated that most users expected to find the information in the following flow:
 - Banking - Main Menu
 - Services - Main Menu
 - Login
 - Open an account - Tool Bar
- 26% of users who landed on the 'Compare Basic and Internet Checking account' page double clicked back to the Home Page.



** All other hot spots were secondary and not all. © Citicustomers. Citic is a service mark of Citic Bank Corporation.

Problem: A major bank was experiencing a drop off in deposit account and credit card conversions. Further, client NPS scores were decreasing in relation to the competition. As VP of User Research and Insights, I was tasked with benchmarking the current web experience with existing clients based on common tasks and comparing that to potential new client task results.

My Role: Research Principle

Competencies Utilized: Staff scheduling/planning, Project management, usability test construction, test execution, data analysis.

Methodologies / Tools Utilized: UserZoom, First Click Analysis, Click Stream Tracking, pre-post satisfaction scores, SUS scale.

Outcome: Several key areas of failure in the current UI were discovered as well as finding blockages to conversion by potential customers.

[Banking Benchmark](#)
[Website Success and Satisfaction study](#)

UX Evaluation

PNC Landing Page



- 1 Column = Multiple Product Layout - Horizontal (1-3 products)
- Comparison Chart separate
- Account selector - linked on page
- Not all products can be viewed without scrolling
- Stats
 - 56 words per product
 - Flesch Reading Ease 72.7
 - Flesch-Kincaid Grade Level 8.8
- Checking Application Completion Rates (ComScore)
 - 1Q12 = 12%
 - 2Q12 = 15%

Problem: A major bank was experiencing a drop off in checking account conversions in relation to the competitors. As VP of User Research and Insights, I analyzed the various pages from a complexity standpoint to see if the competitors had verbally and visually less complicated page structures and Citibank.

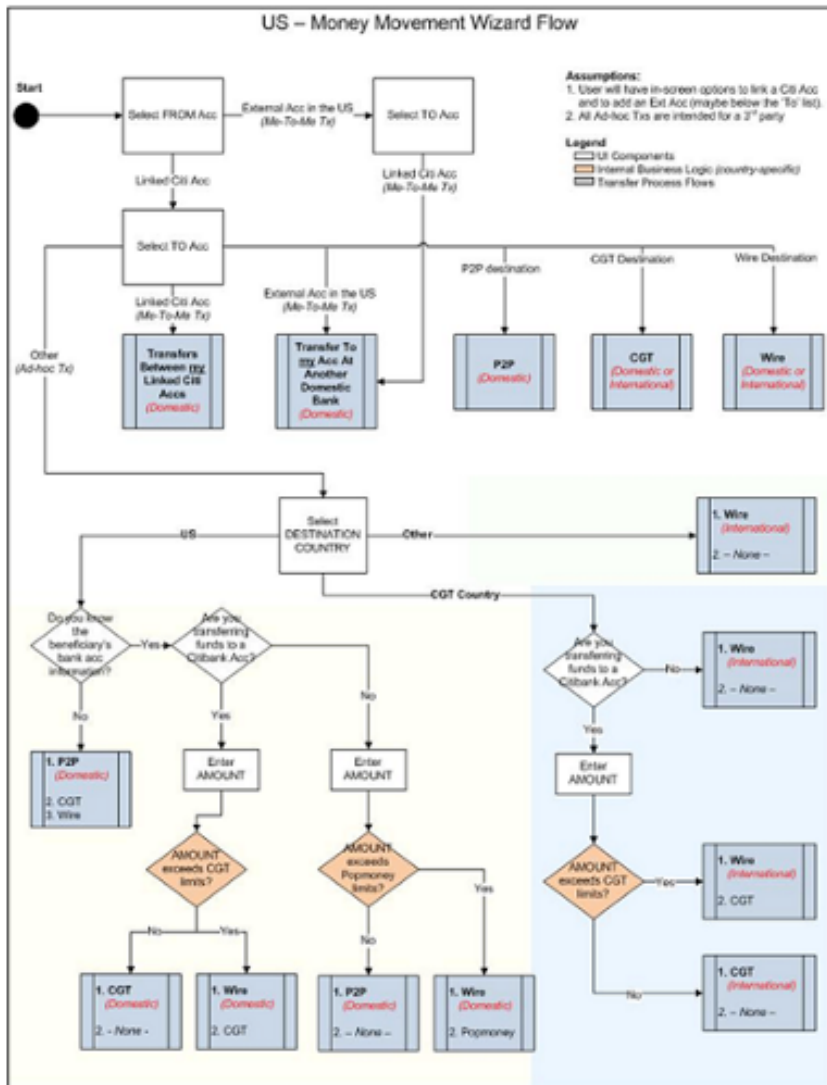
My Role: Research Principle

Competencies Utilized: Analysis skills

Outcome: Several strong correlations were found between growth businesses and their aesthetics, number of words per product, reading grade level verbiage, column vs row layout schemes and link placement.

[Checking Account Evaluation](#)

Heuristic Review



Problem: Customers at a major bank were having trouble understanding/navigating the Money Movement flow when transferring money between linked accounts, to other people, between countries, and making payments.

My Role: Research Principle

Competencies Utilized: Heuristic Analysis

Outcome: Many issues were identified and wireframes were created to rectify those issues in future implementations.

[Money Flow Evaluation](#)

Mobile App Comment Analysis



Citi Mobile®

CITIBANK N.A. Finance

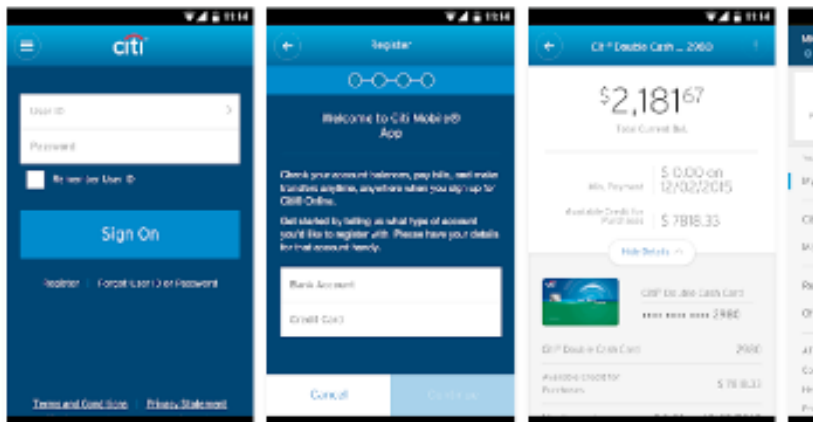
Everyone

You don't have any devices

★★★★☆ 33,549

Add to Wishlist

Install



Problem: Citibank mobile apps (iPad, iPhone, Android, Kindle Fire) were experiencing alarming rates of complaints and low NPS scores. A thorough public comments analysis was needed to discern if those complaints were due to usability, Technology or Business Process issues.

My Role: Research Principle

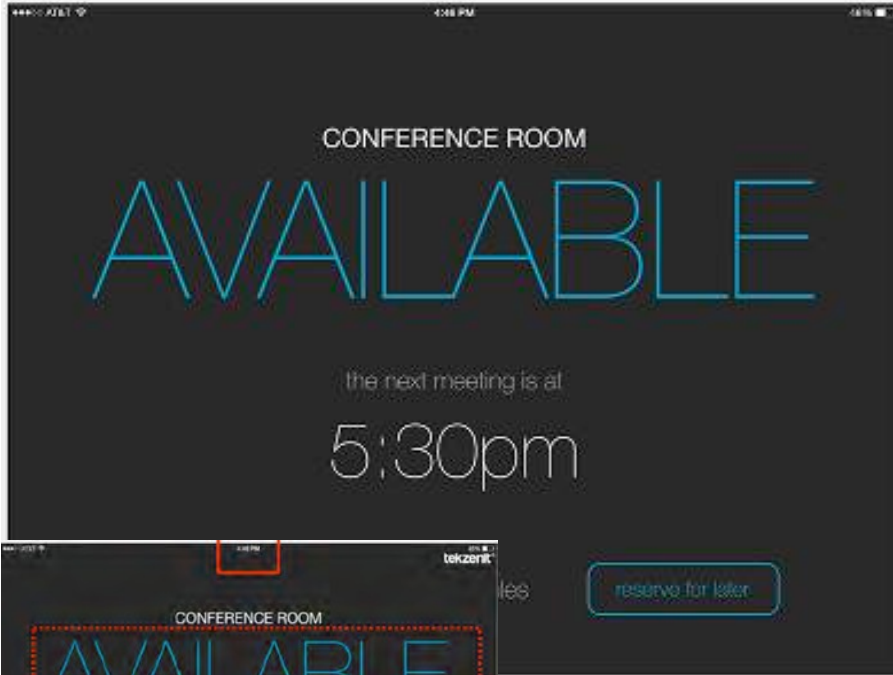
Competencies Utilized: Comments Analysis

Outcome:

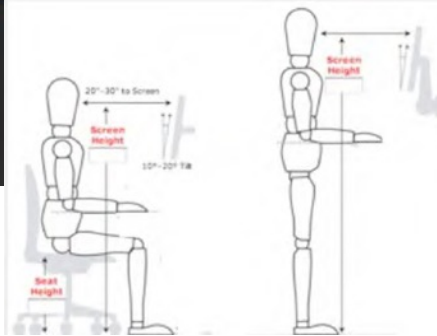
After this highly successful analysis was first performed, Citi put into place this type of public comments analysis for their apps every 60 days. Feedback was funneled into area work streams in order to reduce customer complaints.

[Comments Analysis Presentation](#)

App Testing & Evaluation



Item	Color	Background	Value	Pass / Fail
1	ffffff	181818	17.75	P
2	707070	464646	1.9	F
3	ffffff	111111	16.48	P
4	424242	1f1f1f	1.64	F
5	464646	111111	2	F
6	464646	1f1f1f	1.74	F



Problem: CRS app was designed w/o any usability/ user research input and was to be used to promote company expertise in App development. After release one, management decided to go back and address their UX oversight.

My Role: Research Principle

Competencies Utilized: Staff scheduling/planning, Project management, usability test construction, test execution, data analysis, accessibility assessment, Eye Tracking analysis

Outcome: A more user friendly demonstration app for the company

Phase I (Evaluate current design)

[Evaluative in-lab usability testing](#)

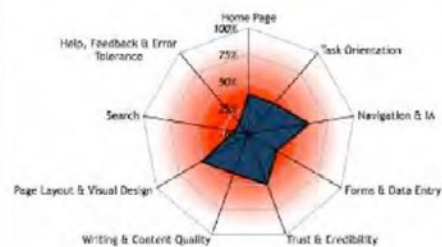
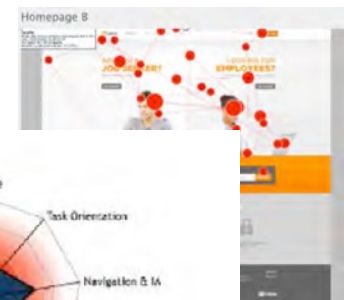
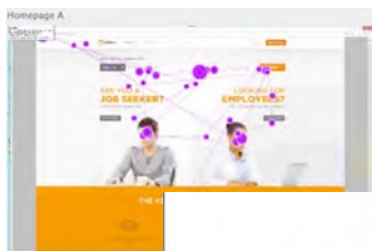
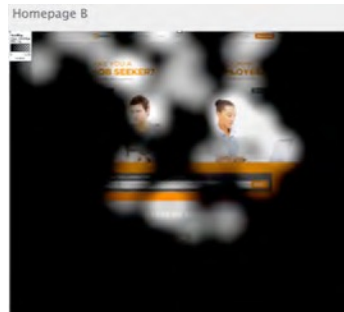
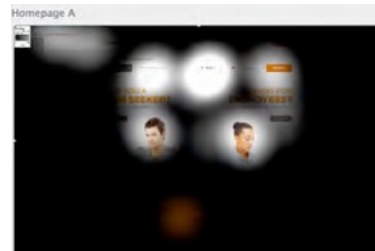
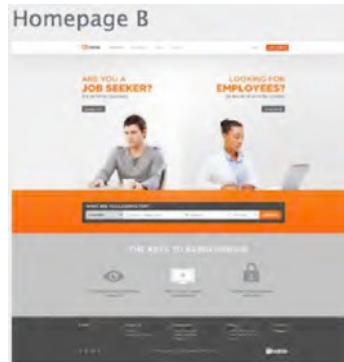
Task-based Summative

[Accessibility Assessment & Suggestions](#)

Phase II (Test changes implemented after Phase I)

Project halted by management

A/B Testing & Heuristic Review



Problem: Conversion rates for client's services were dismal in relation to expectations

My Role: Research Principle

Competencies Utilized: Staff scheduling/planning, Project management, usability test construction, test execution, data analysis, accessibility assessment, First Click Analysis, Eye Tracking analysis

Outcome: Significant design changes which lead customers to the conversion step
Phase I (Evaluate existing website to provide suggestions for redesign)

Heuristic Review & Design Issues In-Depth Analysis

Phase II (Compare 2 designs created with input from Phase I)

Task based comparative in-lab evaluation

- First click analysis
- Subjective ratings
- Eye-tracking assessment

Heuristic Review



Problem: Customer wished to take home grown web application mainstream in order to increase company revenue. Customer also wished for UX project estimation in order to stay within budget

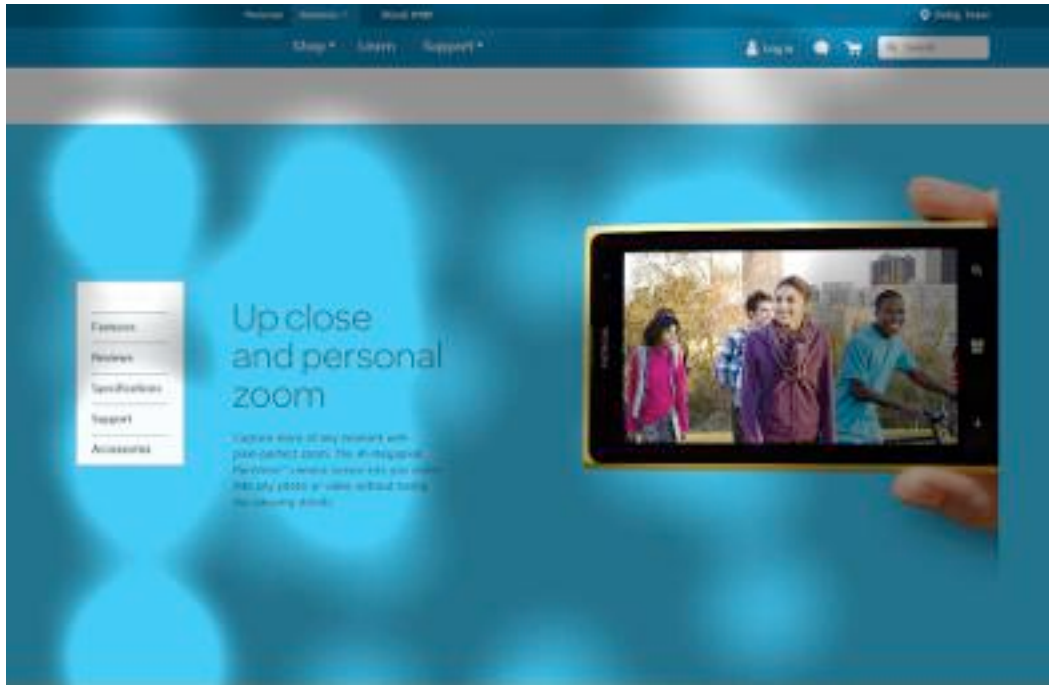
My Role: Research Principle

Competencies Utilized: Heuristic Evaluation, client meetings, project estimation

Outcome: We won the contract

Assessment of website for Project Pitch (Heuristic Review)

Eye-Tracking Analysis



Problem: Prior studies suggested that a vertical navigation element would not be utilized by customers while navigating long pages due to multiple factors of the element, placement and recognition. Taking feedback/results from 3 prior tests a new navigational element was created addressing previously discovered issues. The new solution was then tested.

My Role: Research Principle

Competencies Utilized: Staff scheduling/ planning, Project management, usability test construction, test execution, data analysis, accessibility assessment

Outcome: Research data was used to convince client that the design was usable, stable and acceptable by end users.

Investigational Study

In-lab
Task-based
Eye-Tracking

Logo Preference / Paired Comparison Technique



Problem: After several months of work on a large re-branding, modernization & packaging project the company could not decide which of the three logos to choose. The paired-comparison technique was used to provide input into their decision.

My Role: Research Principle

Competencies Utilized: usability test construction, test execution, data analysis

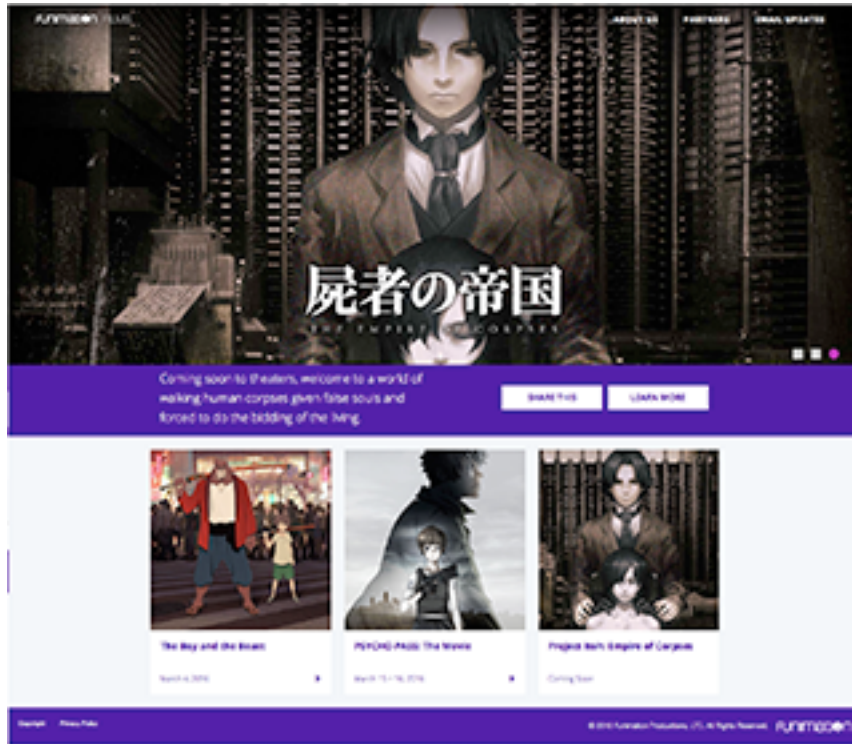
Outcome: Data presented to client in order help set their branding direction

[Paired Comparison Technique Methodology](#) [Logo Preference Results](#)

NOTE: *Paired Comparison Analysis is useful for weighing up the relative importance of different options. It's particularly helpful where priorities aren't clear, where the options are completely different, where evaluation criteria are subjective, or where they're competing in importance.*

[See the final design on the live website](#)

UX Design Theatrical Website



Problem: A new responsive website needed to be developed for a new business venture - Theatrical releases for an established streaming media company. Responsive designs were evaluated and business requirements solidified.

My Role: Senior UX Architect

Competencies Utilized: UX Design / Responsive Design / Wire framing

Outcome: Design went through several iterations and certain business requirements were de scoped. Final Wireframes were approved and UI Design was implemented

[Website Responsive UX Design \(early design\)](#)

[Live website \(final product\)](#)

Live Website Usability Study

User Account – Video History

Task Description:

Find out where you can find the listing showing that you watched some of the "Black Butler" episode "His Butler, Able".

Success: 0.03%

Success measured by reading comments after task completion (10/319)

Usability Metrics

Perceived Ease of Completing Task	Satisfied or Very Satisfied with time to complete task	Avg. time to complete task/Sd.	Avg. Unique Page Views/Sd.	Avg. Clicks to completion/Sd.
57%	58%	0:40/.38	2/2	5/7

Dominant Path (<4% paths removed)



Top Insights

- Hard to find
- Not centrally located
- "Continue Watching" confused with "My Profile"/"History"

Difficulties Encountered

- Not enough product details / missing details (9%)
- Could not locate the information (29%)
- Process took too long / too many steps (17%)
- I did not know where to begin (24%)
- Website is disorganized (16%)
- Too much scrolling (14%)
- Pages of the site are confusing / cluttered (13%)
- Navigation of the site is confusing / illogical (18%)
- Not enough feedback on my actions to let me know I've completed a step (10%)

Problem: A complete baseline of an existing Streaming Media / Merchandise website needed to be completed in order to catalog issues and develop a roadmap for fixes and new designs and to drive management backing into additional resources to revamp existing website. This study was done by using participants who had never visited the website in order to obtain the "New User Perspective"

My Role: Senior UX Architect / UX Researcher

Competencies Utilized: UX Research / UserZoom / Data Analysis

Metrics Utilized: NPS analysis, Pre/Post Perception surveys, Click stream analysis, First Click Analysis, Heat maps, Time on Task, Error Rates, Comment Analysis

Outcome: Results fed into design requirements

[Website Research Project](#)
[Participant Screener for Project](#)

Area UX Strategy Blueprint

UX Strategy Blueprint

Challenges Coherency - Shop vs Stream Usability Issues Horrid First Time Experience Streaming Customer Retention			
Aspirations Anime Hub for North America Most Complete Anime Experience	Focus Areas Users - Personas 2, 3, & 4 Regions - North America and Europe Services - Streaming, Shopping, Fan Engagement Use Cases - Finding products, Purchasing Products, Purchasing Streaming Subscriptions, App Utilization Areas of UX - Information Architecture, Interaction design, visual design, branding	Guiding Principles <ul style="list-style-type: none">• Complete Anime Experience• Available in all Formats<ul style="list-style-type: none">• Streaming• Apps• Theaters• DVD/Blu-ray• Merchandise	Activities <ul style="list-style-type: none">• User Research• Concept Development• Prototyping• UI Patterns• UI guidelines• Technological Exploration
Measurements <ul style="list-style-type: none">• Double Shop Sales• Double Streaming Subscription Purchases• Decrease need for Customer Support by 50%• Increase in NPS scores to rival Netflix/Amazon• Increase in SUS scores to at least a 'D'			

Problem: Newly created area w/i a multi-million dollar company had just begun to create a UX department. After the three key players were in place, it was time to develop a UX Strategy and a Research Plan for company growth and increased customer satisfaction.

My Role: Senior UX Architect/Strategist

Competencies Utilized: UX Strategy/Business Strategy

Output: The following deck is the basis for the UX / UI design and research.

[UX Strategy Deck \(ppt\)](#)

UX Research Roadmap

Estimated Resources

- 11+ Months
- +2 UXR Headcount (contractors)
- Work Products
 - Baseline Assessment
 - Competitive Assessment*
 - **VoC** Survey Initiation (ongoing)
 - Customer Research Database
 - Structure Testing (Navigation)
 - Component Testing (nav bar/ design)
 - Prototype testing (click through)
 - Pre-Launch User Test (working site)
 - Post-Launch Benchmarking
 - Set up for ongoing monitoring/ evaluation



Problem: Newly formed UX Department needed to establish a UX research roadmap in order to provide upper management with a plan and costs for the first year + for UX research.

My Role: Senior UX Architect

Competencies Utilized: UX Research/Business Strategy

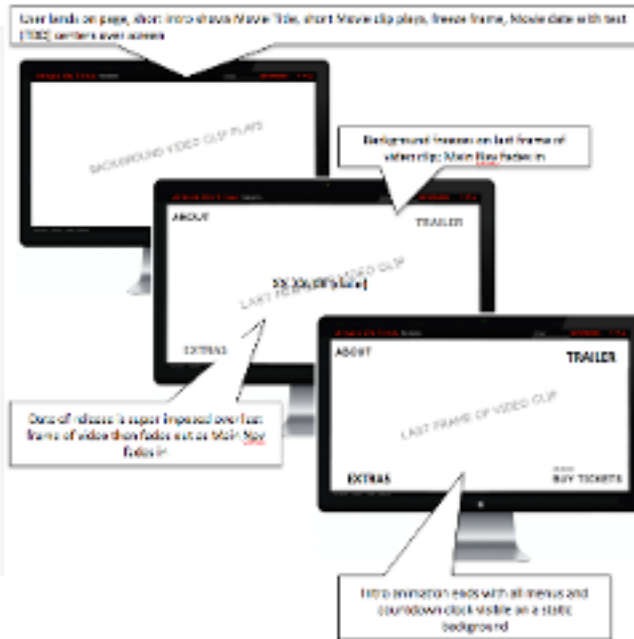
Outcome: UX Research Roadmap was well accepted and implemented.

[UX Research Roadmap \(ppt\)](#)

Live Action Movie Website

Main Page – Story Board

GI200
M E D I A



- Four Quadrant Layout for easy Responsive Design
- Background Movie Clip w/ Sound (or static image depending on the viewing platform)
- After video completes, main menu fades in and countdown clock is exposed proximate to the BUY TICKETS area

Problem: A new website for an important movie release needed to be designed exemplifying Usability, Extensibility, Responsive Design, and Theatrical Impact.

My Role: Senior UX Architect

Competencies Utilized: Wire-framing, UX Design

Outcome: Four Quadrant Design currently being adopted as a template for Movie Premiers. "Attack On Titan" Theatrical release website winner of 2015 MarCom Gold Awards, and the Dallas Texas ADDY Silver Awards. The "Attack on Titan" website went on to win GOLD in [District Level ADDYS](#) (Texas, Louisiana, Oklahoma, Arkansas).

[Movie Website Design \(ppt\)](#)

[2015 MarCom Gold Winner \(website\)](#)

[2016 Dallas ADDY Awards Silver Winner \(website\)](#)

[Live Movie Website](#)

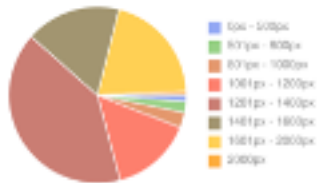
Voice of the Customer Research

Users Browser Resolution (top 10)

Window Width < 900px Dominates

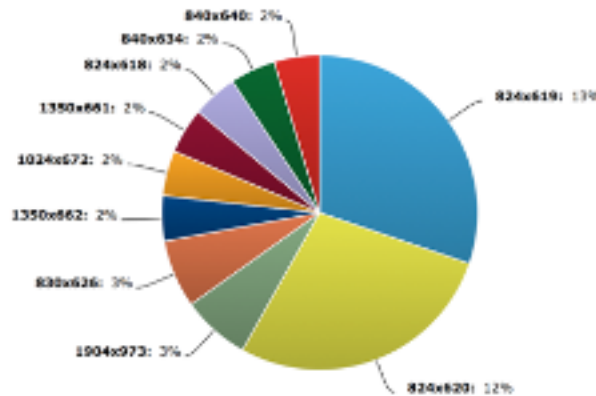
824x619	13%
824x620	12%
820x620	3%
1914x972	3%
1350x663	2%
840x634	2%
1350x662	2%
824x618	2%
840x690	2%
1024x672	2%

General Population Screen Width Ranges



<http://toponica.com/screen-resolution-ranges-for-keynote-windows/>

GIZOO
MEDIA



Problem: In order to find the intersection point between potential customers and existing customers a VoC survey was undertaken to find common issues.

My Role: Senior UX Architect

Competencies Utilized: UserZoom, UX Research

Outcome: Four distinct areas of concern were found to be common between potential customers and existing customers of an eBusiness website.

[VoC Website Research](#) (power point)

UX/UI Widget Guidelines

User Need	Usage Criteria	Widget to Use	Example
The user quickly needs to enter data into the system, which then in turn interprets the user's input.	<ul style="list-style-type: none"> - Use when more explicit UI elements such as select boxes, radio buttons, checkboxes and multiple input fields make entering the data too complicated a process - Use when filling out forms takes too much time for the user compared to what he or she wants to accomplish - Use when the input you want to collect is regarding one topic. For instance a physical location or an event with a given start date - Use when expected input can be somewhat easily interpreted by a computer program - Do NOT use when the user can possibly ask anything. Only use for a narrowly defined purpose 	Intelligent Fields (Self Parsing) also known as Auto Complete and type ahead	
The user needs to enter data into the system	<ul style="list-style-type: none"> - Use when you find yourself creating labels for input fields that do not really explain what the input field is all about - Use when you find yourself creating long and complicated labels for input fields, which in turn makes it hard for users to understand - Use when you can possibly express the context of the input field by placing it in a sentence - Use when you have a relatively small set of input fields and those input fields, in turn, have 6 or less possible values 	Natural Language Form	
The user needs to enter data into the system	<ul style="list-style-type: none"> - Use when the label of an input field does not fully explain what should be filled in, its format or when using such a label feels like over-explaining the interface - Use when you want to save the space that an additional label takes up - Use in combination with a label, to further explain what kind of input is needed 	Field Masking	
The user needs to hide sensitive information such as passwords, from prying eyes	<ul style="list-style-type: none"> - Use when sensitive information being outputted needs to be kept secret 	Input Masking	
The user needs to easily and quickly edit a value on a page	<ul style="list-style-type: none"> - Use when the user needs to edit a relatively low number of fields - Use when the value the user needs to edit is of a simple format, i.e. a text string, drop down box, radio button, etc - Use if you want the user to be able to edit a value without actually going to an administration page, but by staying on the same page 	Inline Editor	

Problem: UI/UX department along with IT had no internal guidelines for widget (control) usage

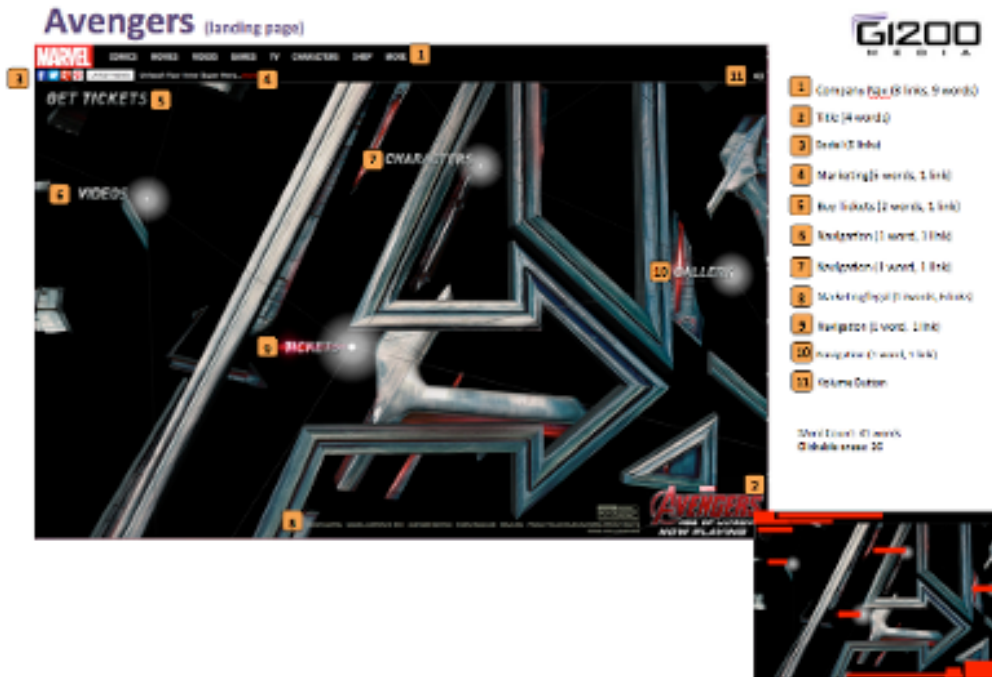
My Role: Senior UX Architect

Competencies Utilized: UX/UI experience

Outcome: Company wide UI Widget Guidelines document created to go across UI Design, UX and Information Technology

[Preliminary UI/UX Widget Guidelines](#)

Less is More



Problem: Marketing insisted on WORDS WORDS WORDS on theatrical release movie websites which is against the current trend, increases user cognitive load and results in decreased user satisfaction.

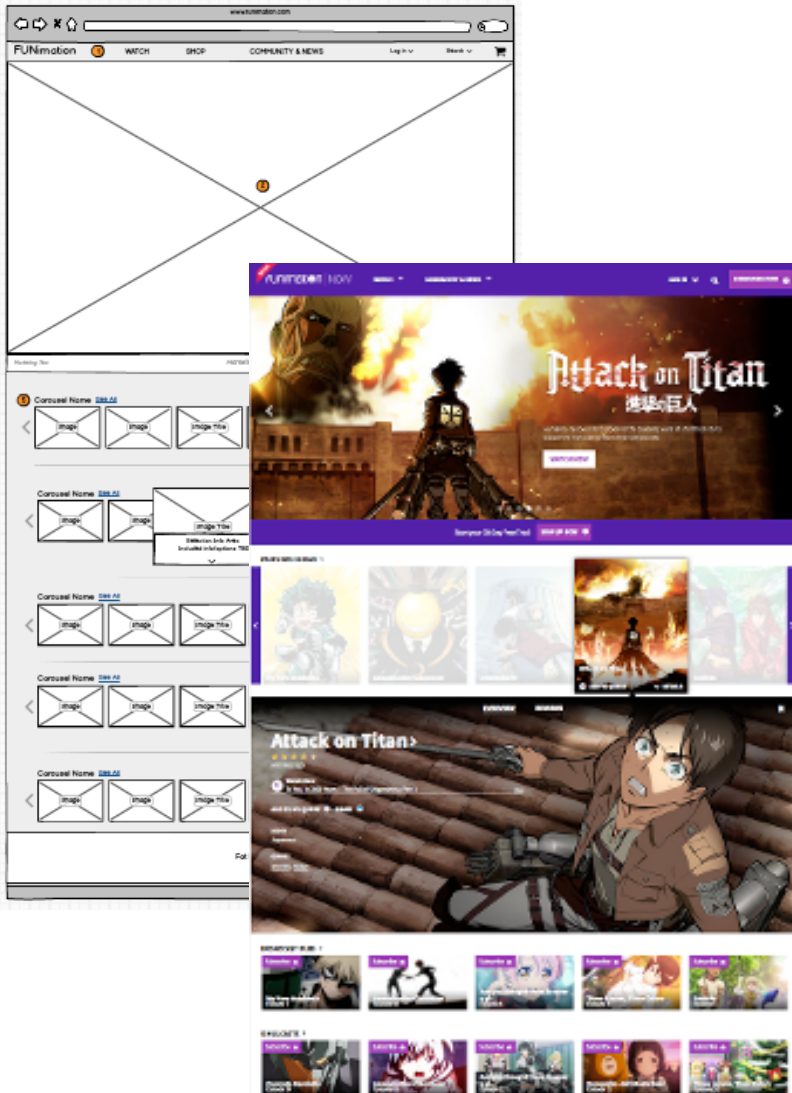
My Role: Senior UX Architect / Researcher

Competencies Utilized: UX/UI research

Outcome: Pending on Marketing to digest the results and take action on their verbose marketing materials

[Content Inventory](#)

Website Architecture



Problem: The website redesign required a radical new look and interactivity. The information should come to the user instead of making the user go to the information (and thus losing their place in the multidimensional content arenas). The website needed to promote streaming video, Forums, Community, Conventions, DVD/Blu-ray and gaming apps. TWO UX research studies were completed utilizing 819 test participants to perform standard visitors' tasks and identify weaknesses that this design addresses.

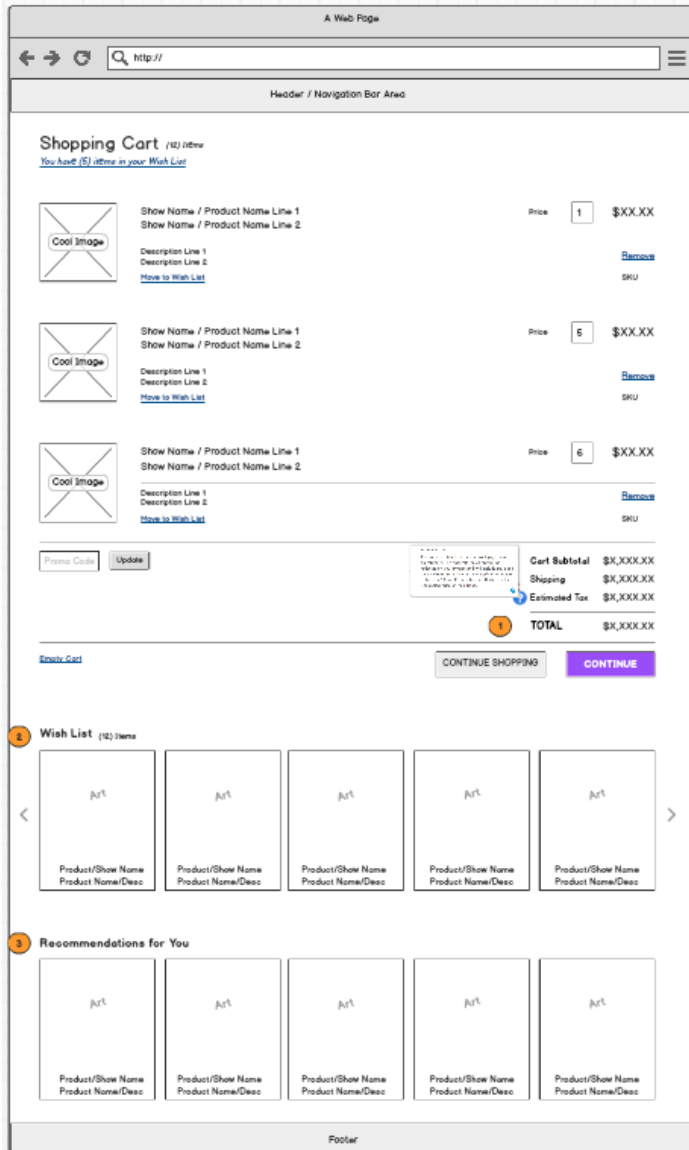
My Role: Senior UX Architect / Researcher

Competencies Utilized: UX Design/UI research

Outcome: The company is currently working with SONY DADC New Media Solutions to build the website and use the concepts in the annotated wireframes.

[Website EarlyAnnotated Wireframes](#)
[Live UK Website](#)

Sales – Shopping Cart



Problem 1: The streaming media only website will be adding physical product for customer purchase. The metaphor and interaction models should strive for a consistent experience. This was an exercise for integrating the two into a seamless experience for the customers. It encompasses search results, topical browsing pages, and shopping carts.

Problem 2: Shopping Cart and Checkout Experience should fit the shopping patterns of the Users. The company's users checkout with an average 2.3 products in their carts, so it should be tailored to that common experience instead of one in which a person would come away with dozens of articles in their shopping cart.

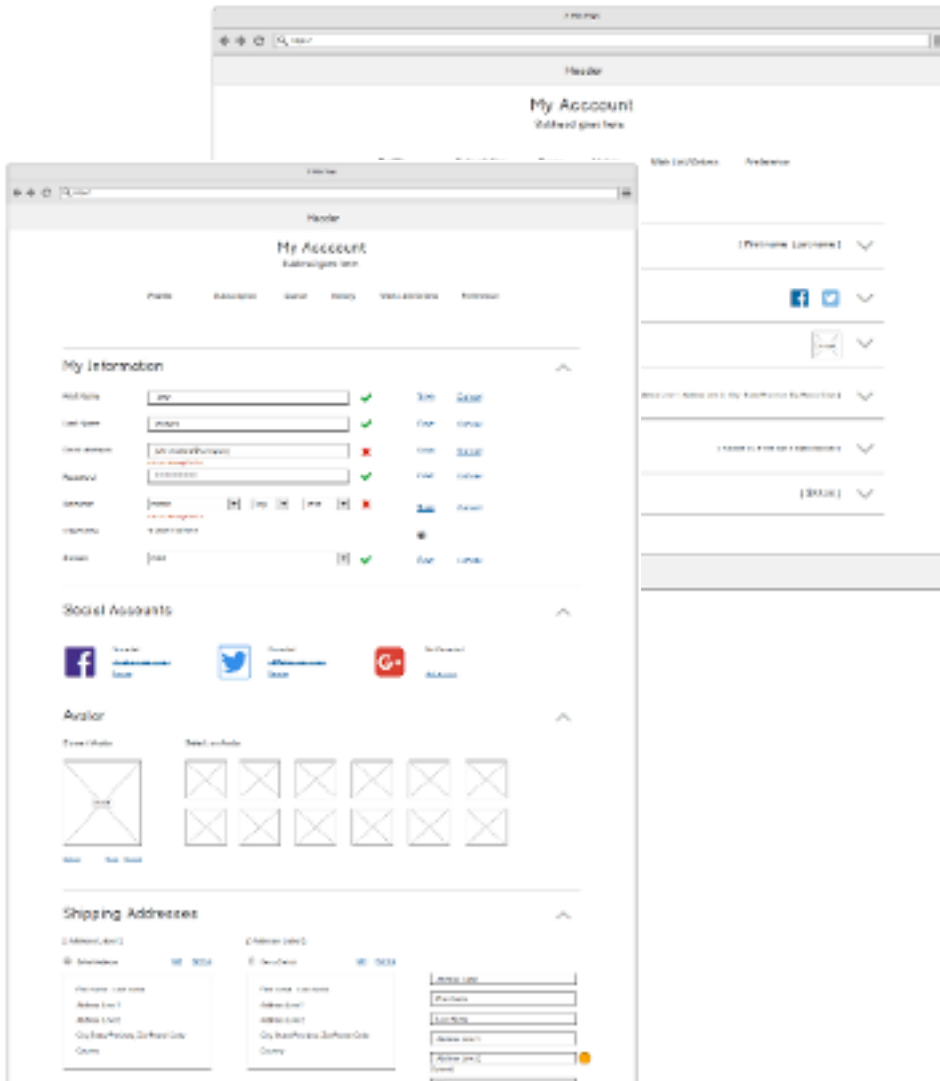
My Role: Senior UX Architect

Competencies Utilized: UX Design, Wireframing

Outcome: Currently working with UI Design to create production flats.

Shopping/Product [Early Annotated Wireframes](#)

Website User Account



Problem : The user account section of this streaming video subscription service was particularly complicated, as it is to allow the user to manage such items as:

Personal Information

Social log in

Address book for shipping addresses and payment methods

Gift card balances

Subscription Upgrades and Downgrades

Streaming Feature Add Ons

Subscription restart after plan lapse

My Role: Senior UX Architect

Competencies Utilized: UX Design, Wireframing

Outcome: Launch estimated August 2016

Wireframes:

[Account Main Section](#)

[Account Change Plan](#)

[Account Restart Subscription](#)

[Account Cancel Plan](#)

[Account Cancel AddOns](#)