High Level Overview

UX Research

David M Batten

Background

Group1200 Media Senior UX Architect & Researcher (2015-Present)

Tekzenit Head of Research (2013-2014)

IBM Advisory Human Factors Engineer (1993-2005)

Citibank VP User Research & Insights (2011-2013)

University of Texas at El Paso Director of Web Usability & Content Compliance (2007-2010)

This is a high level overview of career research studies, to view the full range of expertise visit: *Online Portfolio*

Awards & Recognition

IBM Advisory Human Factors Engineer (1993-2005)

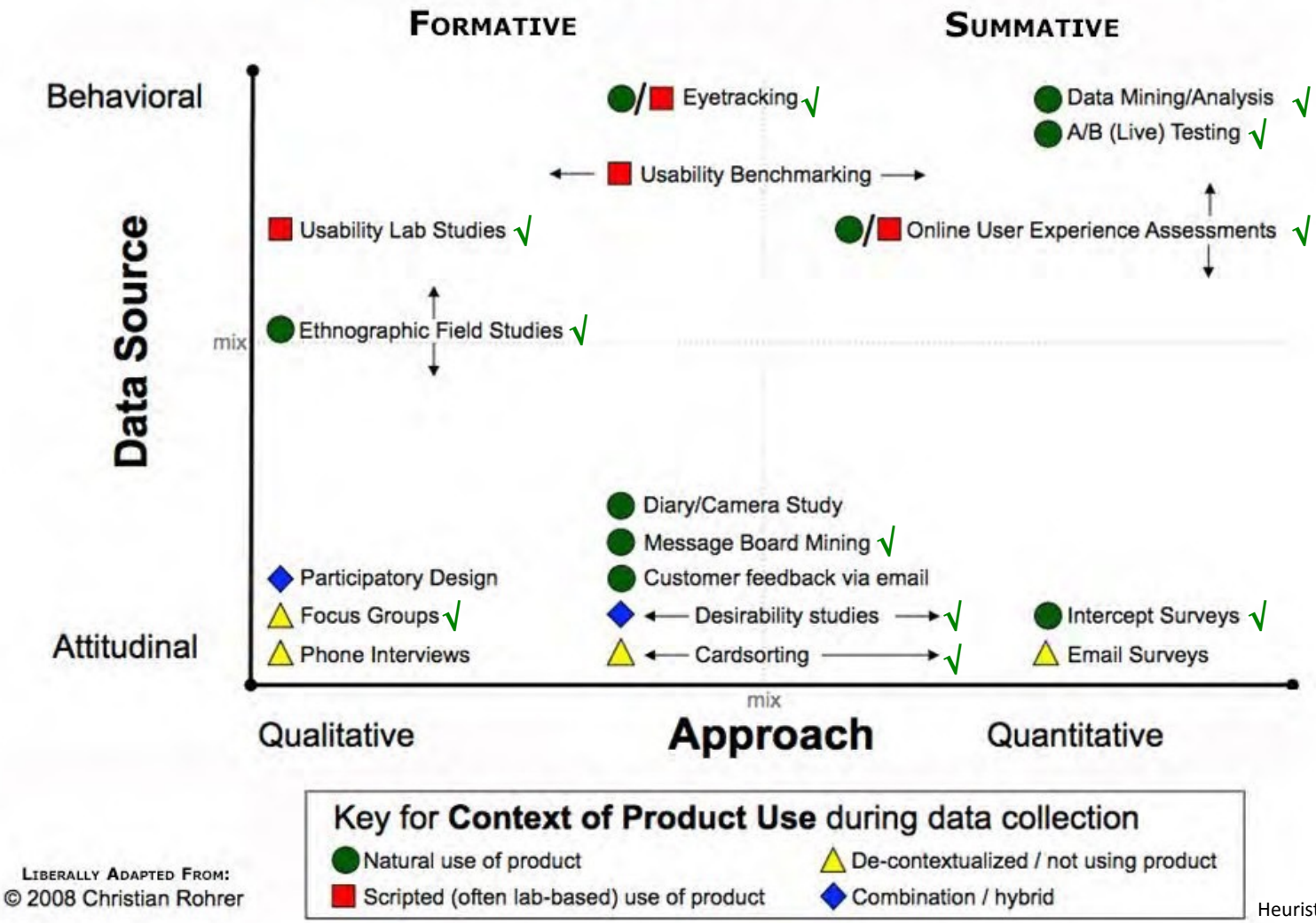
- Optimal Viewing Angle for Touch-Screen Displays: Is There Such a Thing? International Journal of Industrial Ergonomics, 22, 343-350.
- Color Coding to Facilitate Performance of Focused Attention Tasks with Object Displays. Proceedings of the Human Factors Society 36th Annual Meeting, Vol. 2, 1493-1497.
- Patent: "System and method for remotely managing a computer system by a wireless communications device" (US20030217132)
- "End to End UCD work on pSeries Information and Capacity on Demand" IBM 2003 "Make it Easy" Conference (Presenter)
- "AIX 5L Differences Guide Version 5.2 Edition" IBM Redbook Publication; (sg245765)
- "Strengthening AIX Security: A System-Hardening Approach" IBM Whitepaper, 2002

Group1200 Media Senior UX Architect & Researcher (2015-Present)

- "Attack On Titan" Live Website (Entertainment)
  - AAF Dallas District – Gold Award – 2016
  - MARcom 2015 Award
  - Dallas ADDY –Silver - 2016

This is a high level overview of career research studies, to view the full range of expertise visit: *Online Portfolio*

Research Methodologies



Heuristic Reviews Not shown

Experience

Corporate **Banking** **Entertainment** **Agency** **Technology**

Section 508 Compliance

Benchmarking

Quantitative Data

OOB Testing

Tree Testing

Research Roadmaps

Heuristic Reviews

Eye Tracking

VoC Studies

UX Strategy

Card Sorting

Qualitative Data

User Testing Plans

Style Guides

Hardware User Research

Division Liaison to Corporate UCD Council

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

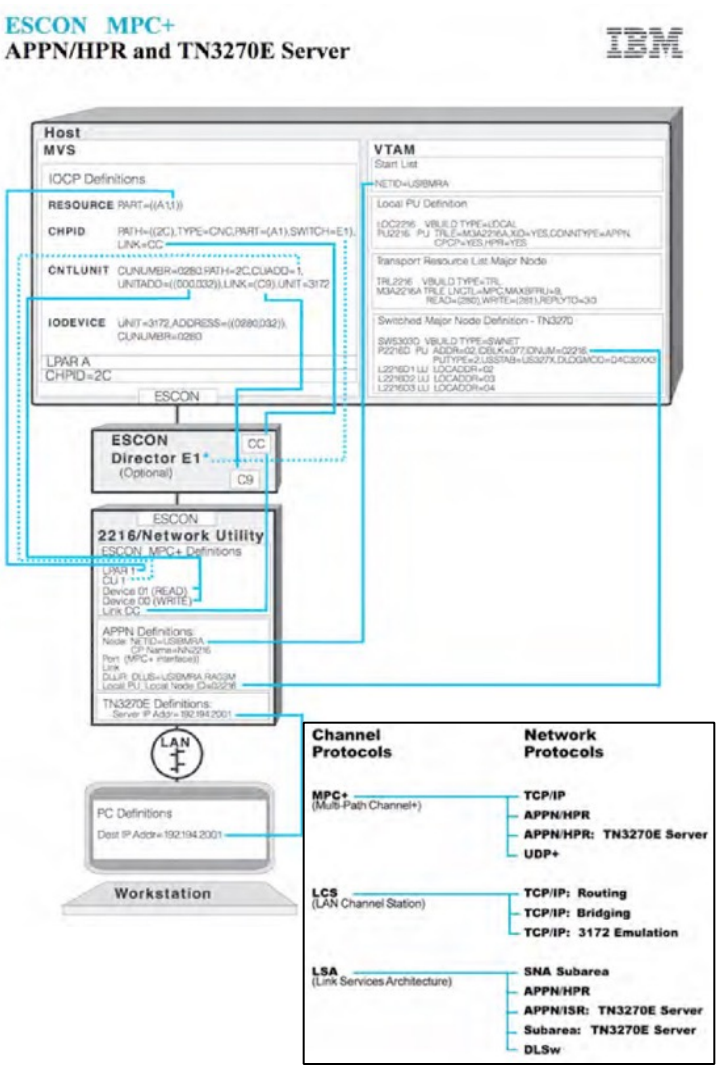
Product end-to-end Research

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



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

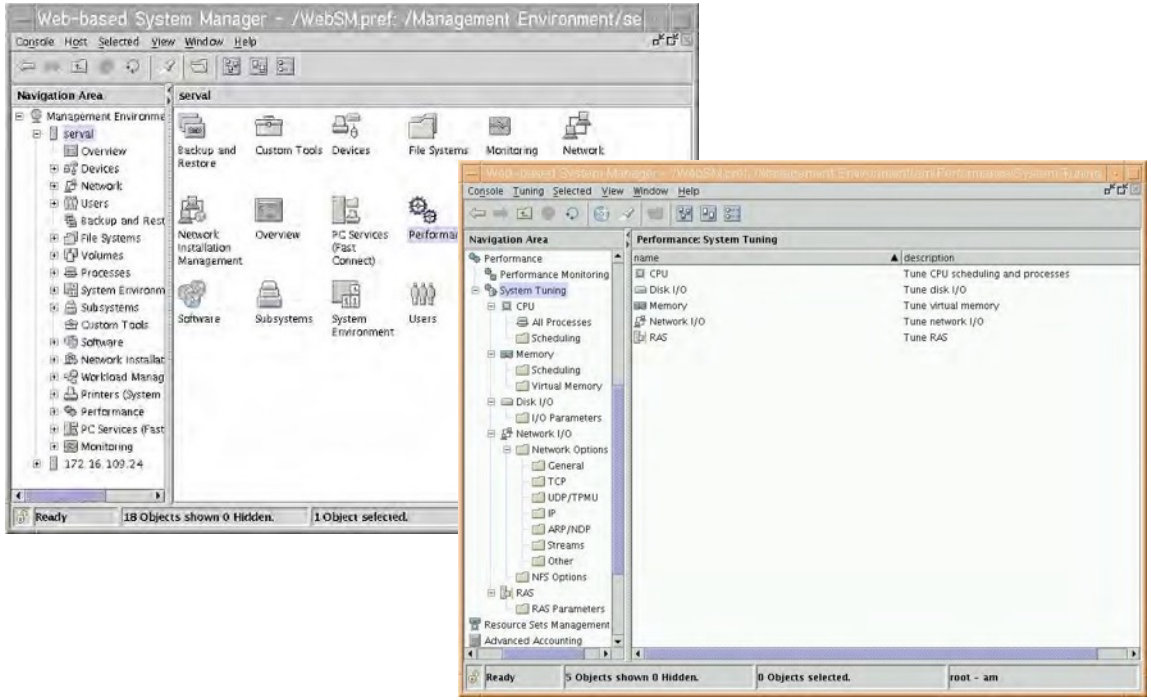
Other: 2216 Re–Purpose documentation was created

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--HardeningApproach

Contributor: AIX 5L Differences Guide (IBM Redbook)

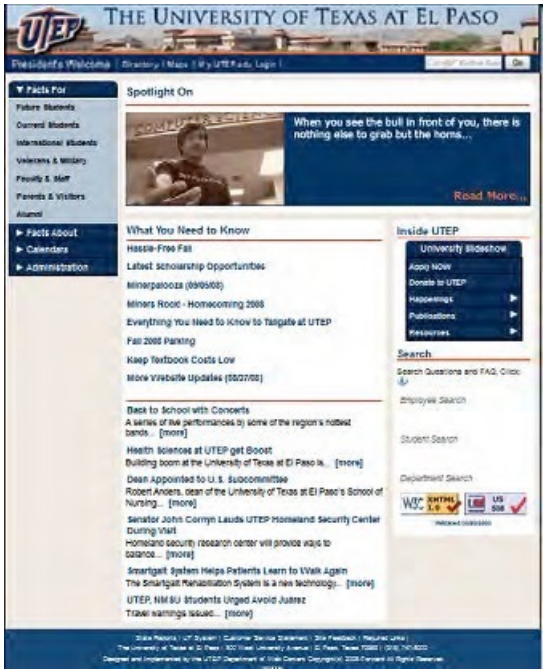
Website UX Research & Design

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



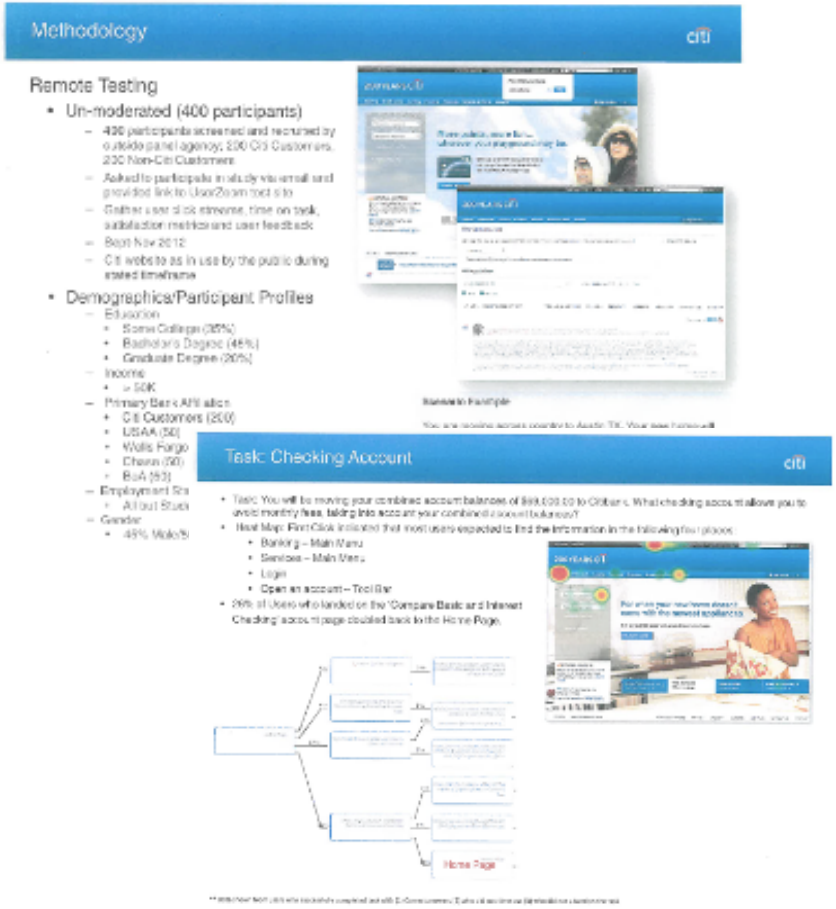
Problem: The University website had become a jumble of navigational elements that was confusing to the students, visitors and faculty/staff. (See Top Left) This failure of information architecture was further exacerbated by broken interaction pa2erns and the use of non standard widgets in the interface (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



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

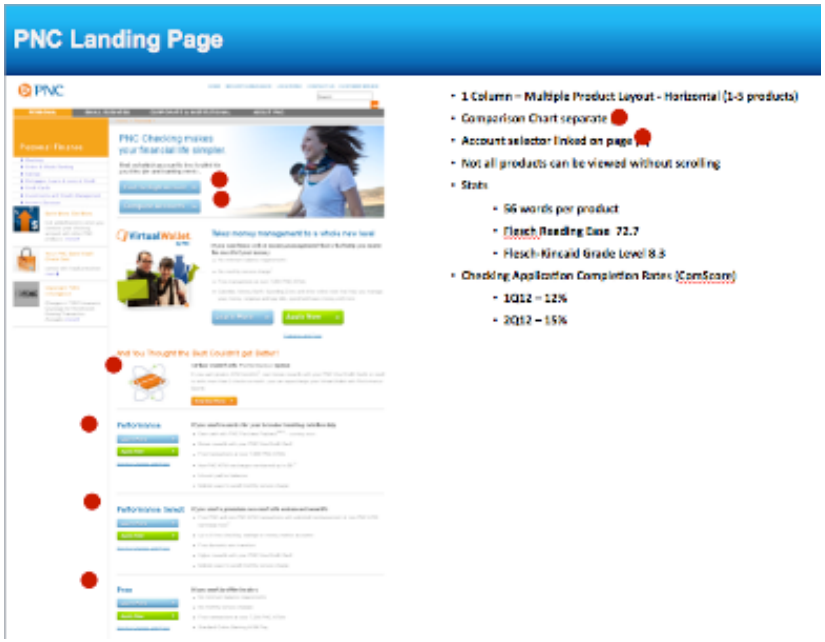
Competencies Utilized: Staff scheduling/planning, Project management, usability test construction, test execution, data analysis.

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



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.

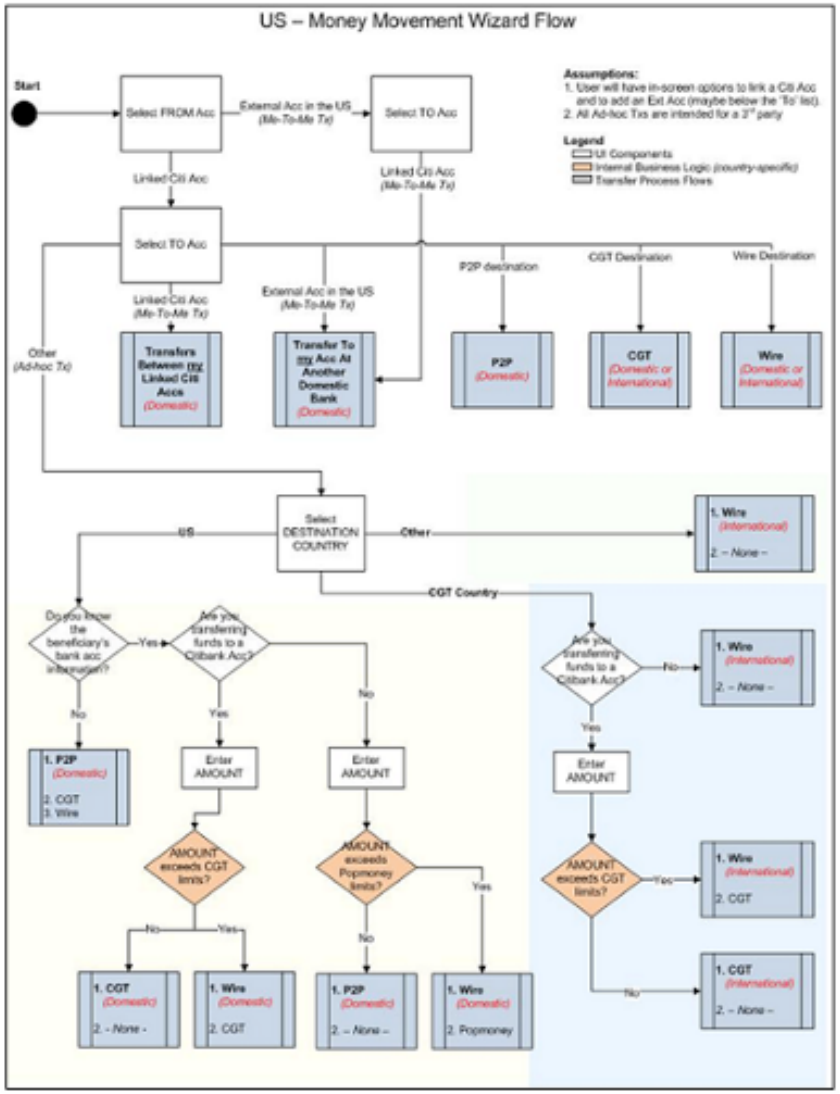
My Role: Research Principle

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.

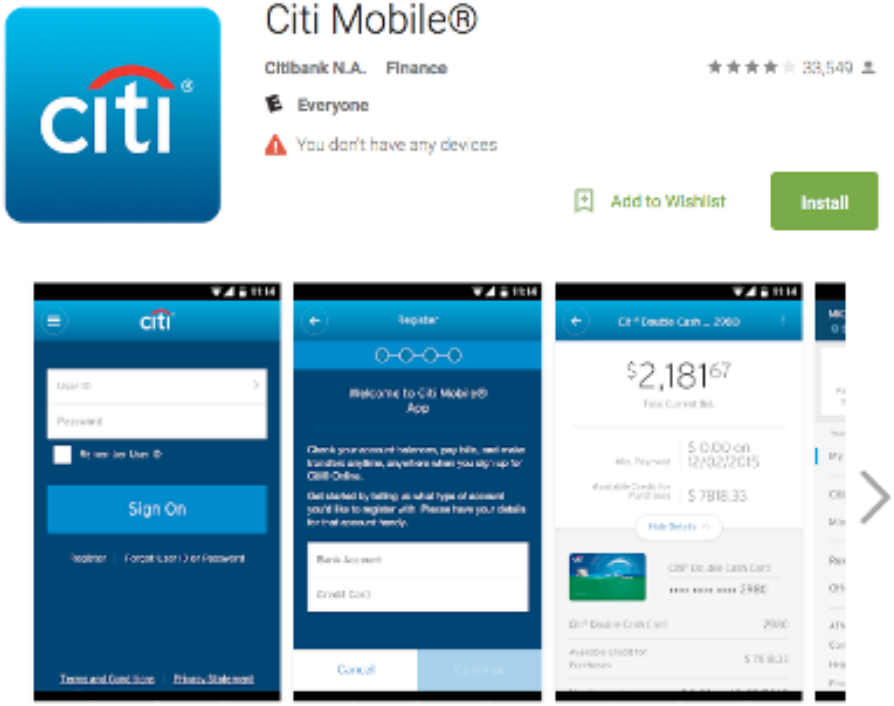
My Role: Research Principle

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



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.

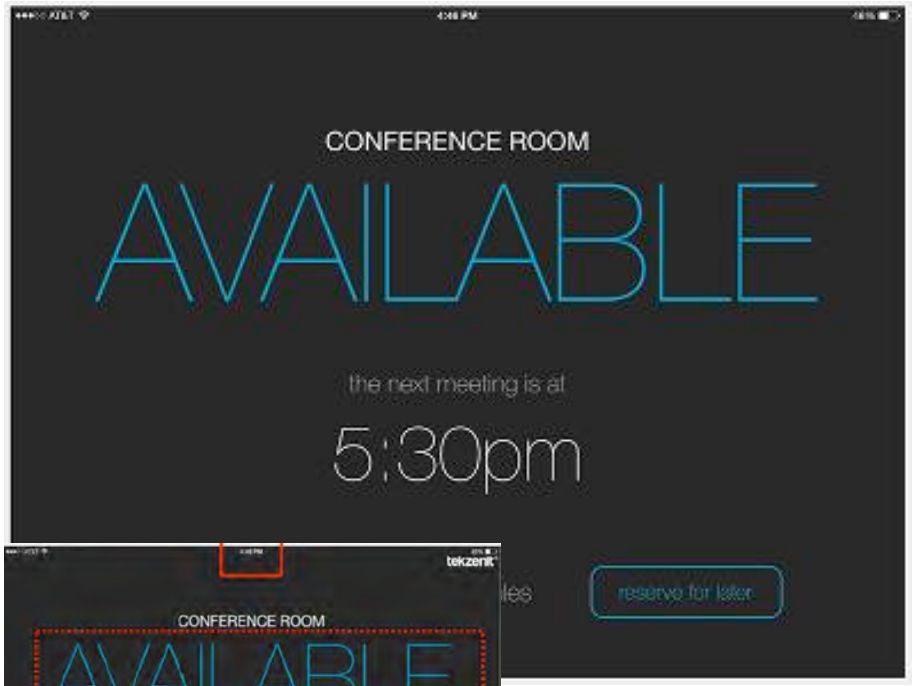
My Role: Research Principle

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
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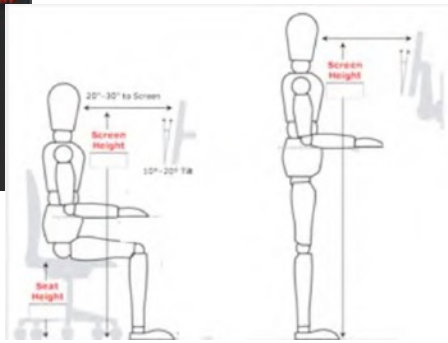
2	707070	464646	1.9	F
3	ffffff	111111	16.48	P
4	424242	1f1f1f	1.64	F
5	464646	111111	2	F
6	464646	1f1f1f	1.74	F



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.

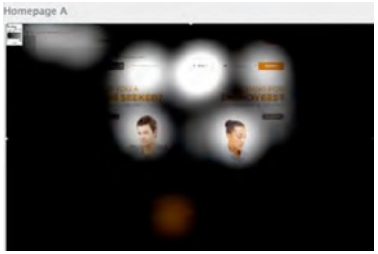
My Role: Research Principle

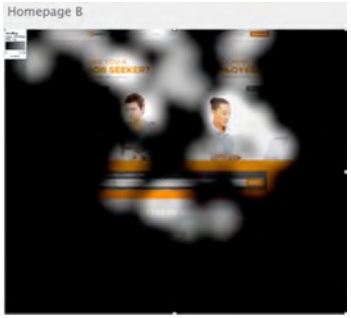
Competencies Utilized: Staff scheduling/planning, Project management, usability test construction, test execution, data analysis, accessibility assessment, Eye Tracking analysis

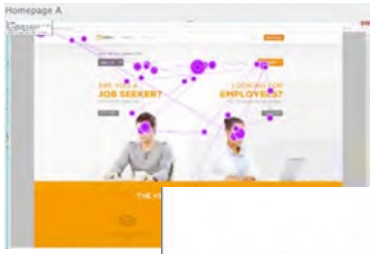
Outcome: A more user friendly demonstration app for the company
Phase I (Evaluate current design)
Evaluative in-lab usability testing
Task-based Summative
Accessibility Assessment & Suggestions

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

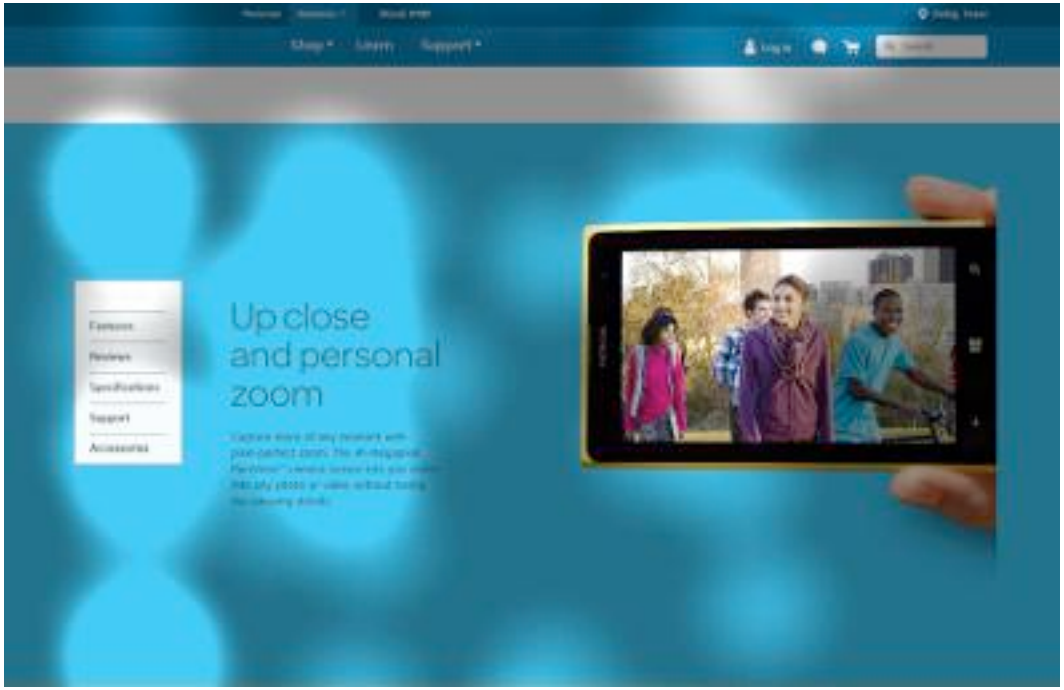
My Role: Research Principle

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

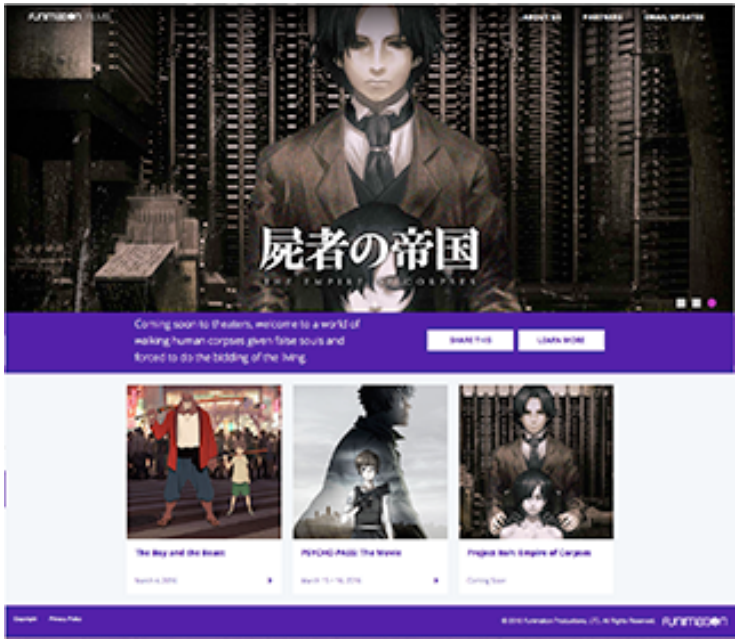
Outcome: Data presented to client in order help set their branding direction

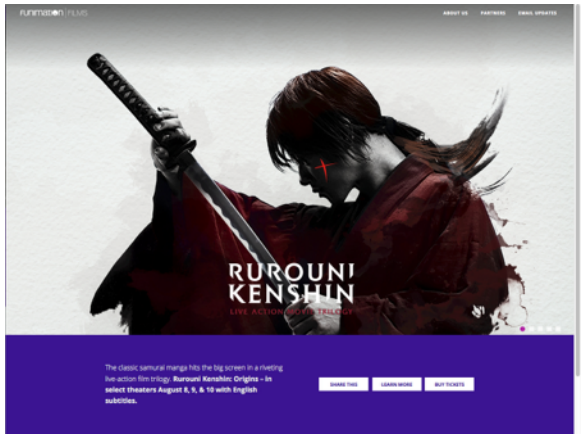
Paired Comparison Technique Methodology
Logo Preference Results

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

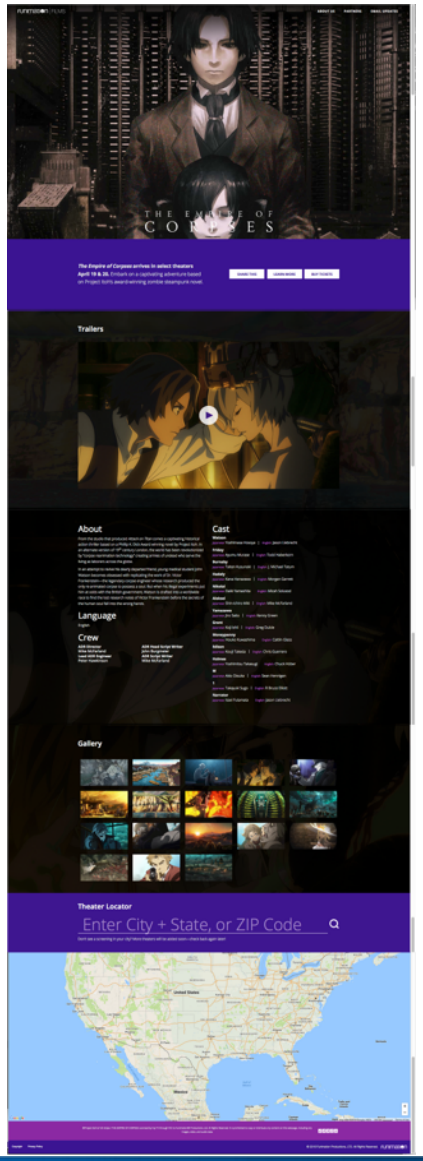
Competencies Utilized: UX Design / Responsive Design / Wire framing

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)

Website UX Design (phase II)

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)

Top Insights

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

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

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%)

Dominant Path (<4% paths removed)

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

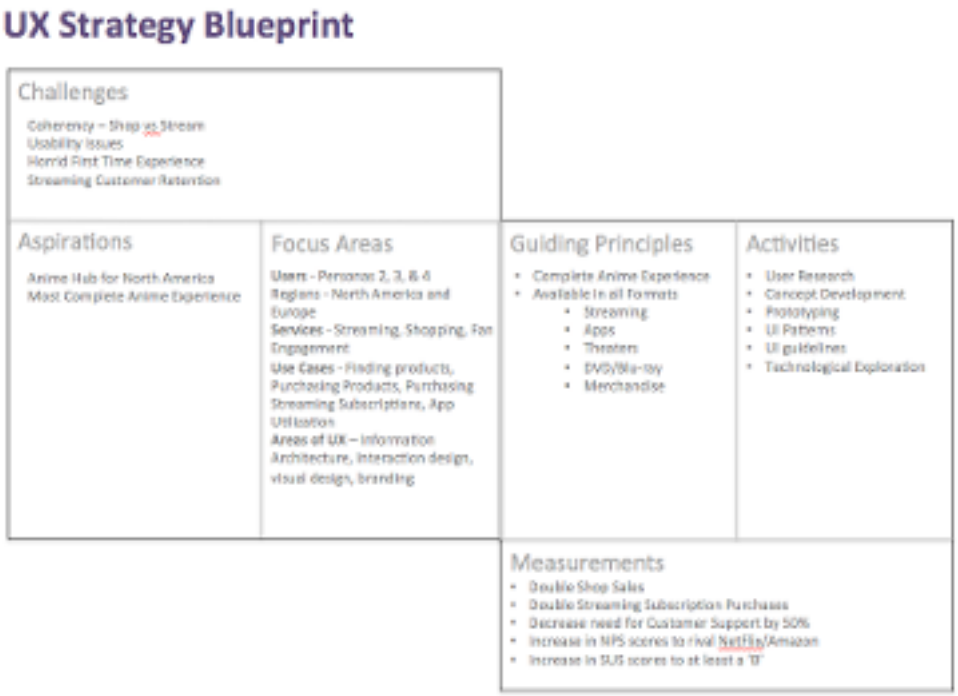
Competencies Utilized: UX Research / UserZoom / Data Analysis

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



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.

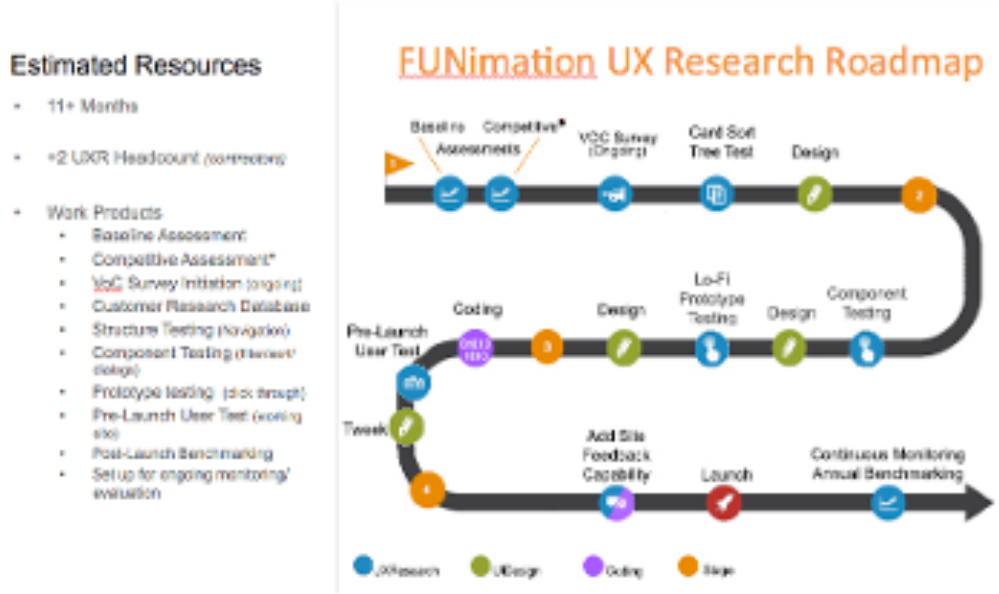
My Role: Senior UX Architect/Strategist

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



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.

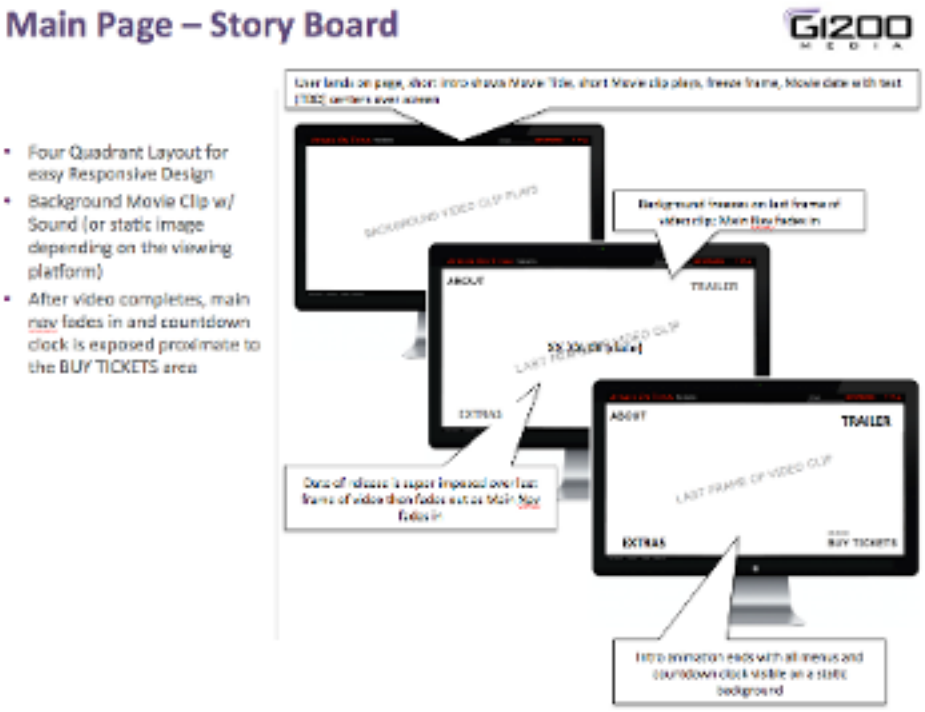
My Role: Senior UX Architect

Competencies Utilized: UX Research/Business Strategy

Outcome: UX Research Roadmap was well accepted and implemented.

UX Research Roadmmap (ppt)

Live Action Movie Website



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

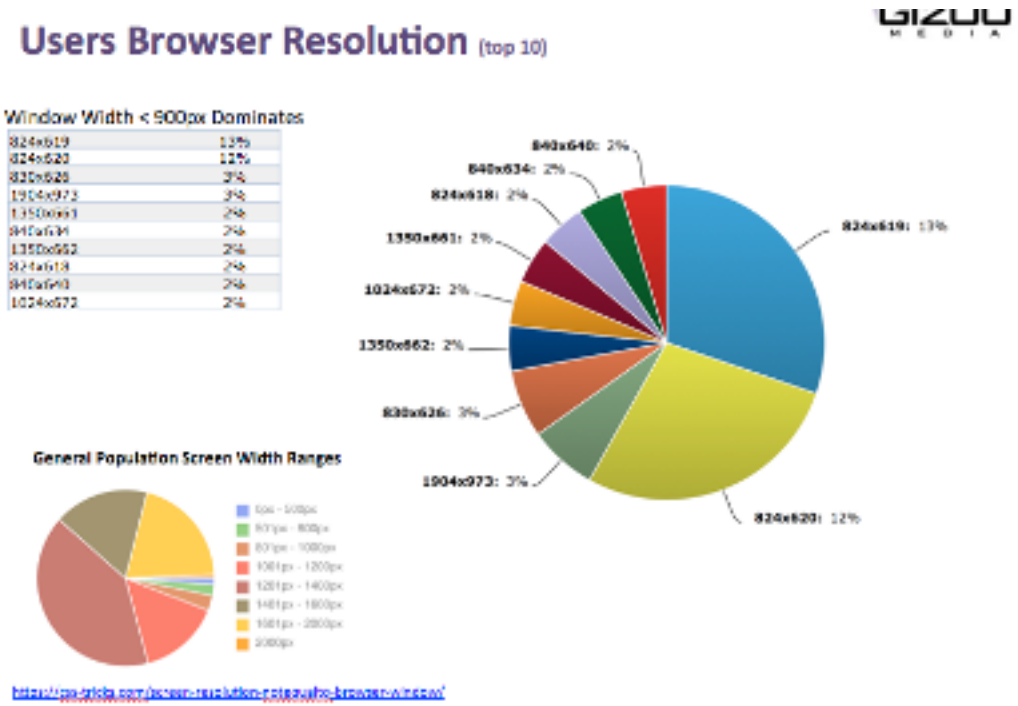
My Role: Senior UX Architect

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 Sliver Winner (website)
Live Movie Website

Voice of the Customer Research



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

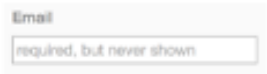
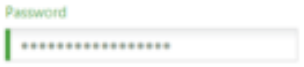
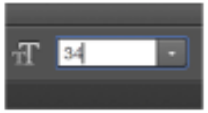
My Role: Senior UX Architect

Competencies Utilized: UserZoom, UX Research

Outcome: Four distinct areas of concern were found to be common between potential customers and existing customers of a 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.	- 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	- 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	- 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	- Use when sensitive information being putted needs to be keep secret	Input Masking	
The user needs to easily and quickly edit a value on a page	-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, ie.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.

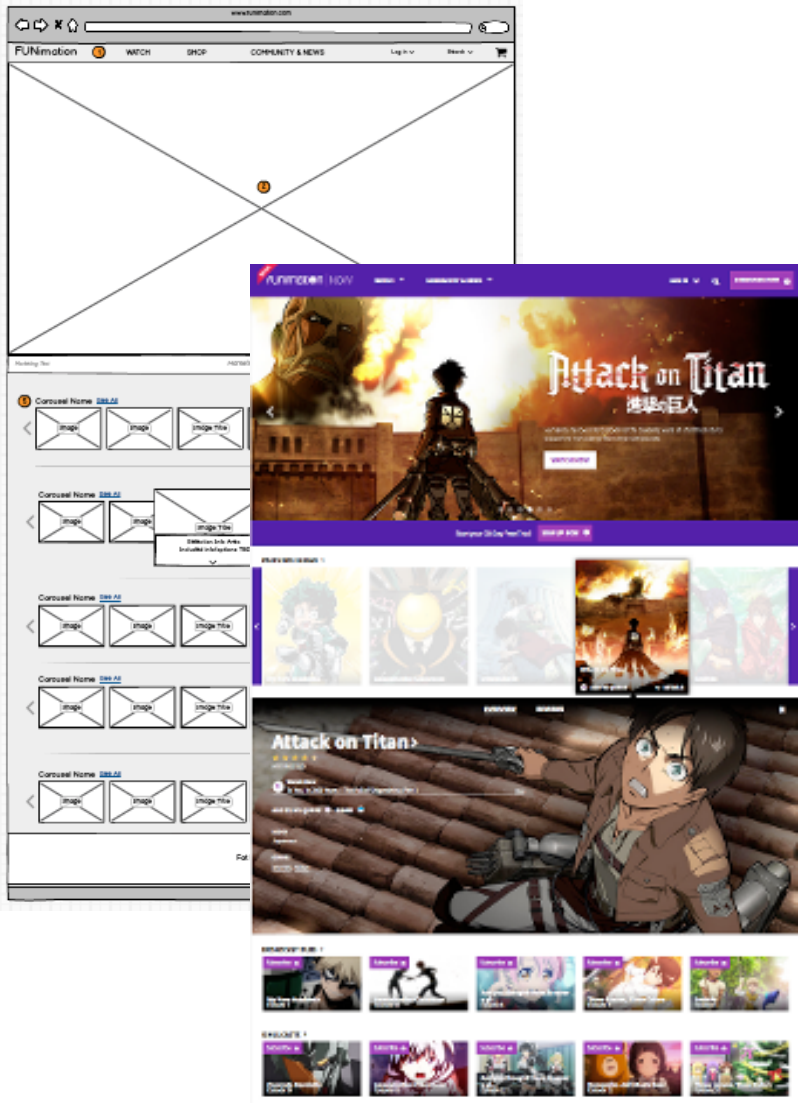
My Role: Senior UX Architect / Researcher

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.

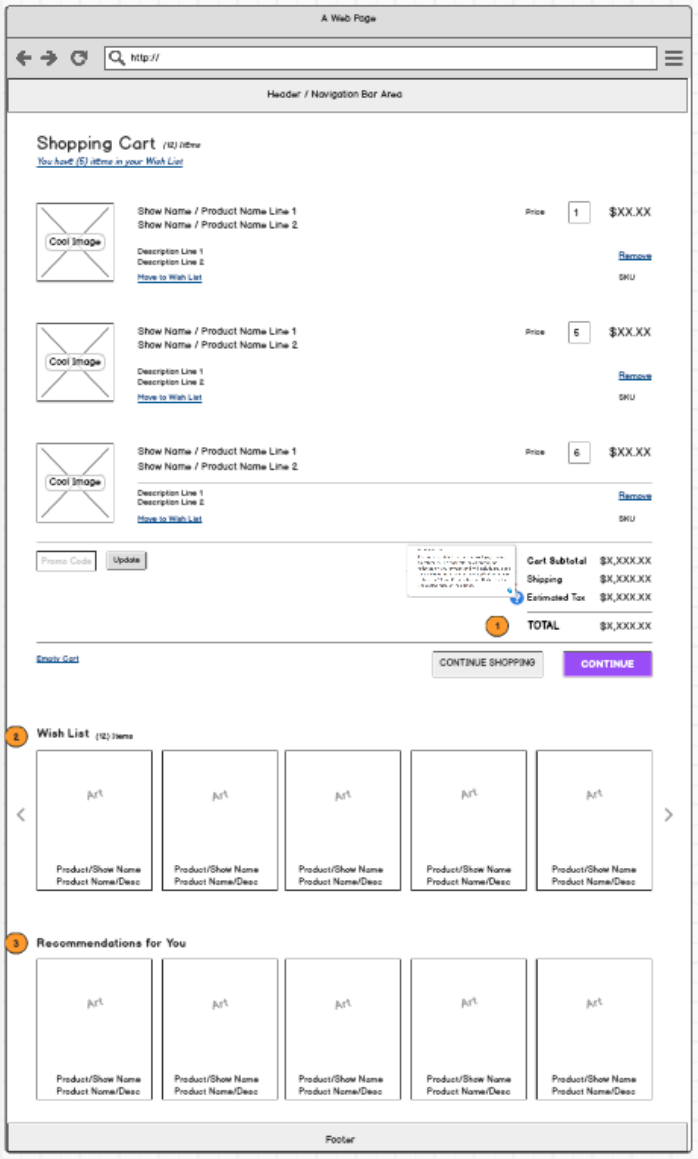
My Role: Senior UX Architect / Researcher

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.

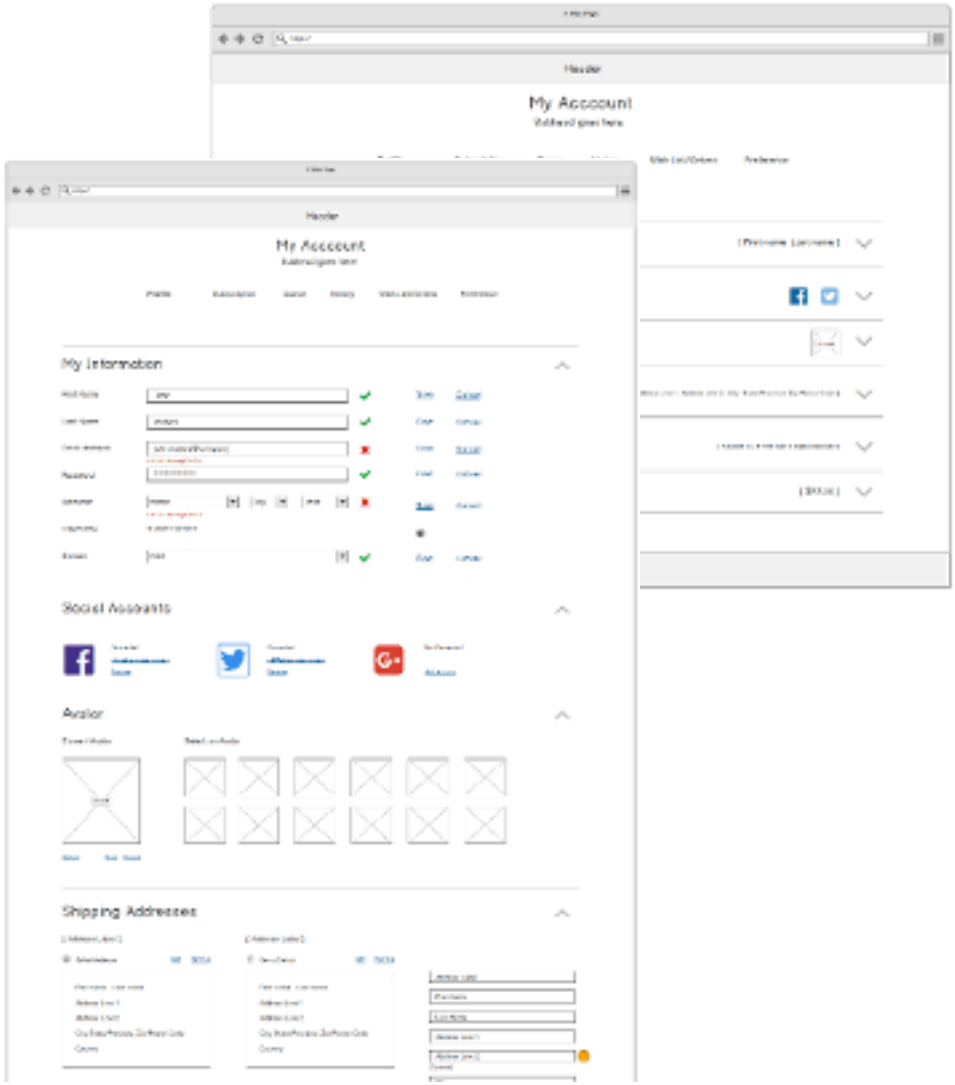
My Role: Senior UX Architect

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/September 2016

Wireframes:

- Account Main Section
- Account Change Plan
- Account Restart Subscription
- Account Cancel Plan
- Account Cancel AddOns