

**John Schumacher**

**A UX Presentation**

# Get to Know Me!



**Music**



**Skiing**



**Cooking**



**Sports**

# UX Research Project

Player transactions on ESPN Fantasy Football phone application

Preliminary Discovery Projects      Design & Methods      Results & Impact      Improve & Reevaluate

# Preliminary Discovery Projects

Single expert user talk-through on game day: Approach

## Approach

Performed in Naturalistic Setting

Distractions Handled Naturally

Talk-through Steps, Emotion, & Thoughts

### Critical Task Analysis (5 Tasks)

1. Find a Player
2. Find Next Week's Matchup
3. Determine Player Stat's Weekly Change
4. Compare Player Stats
5. Propose a Trade

### One-hour Site Visit

### Semi-structured Interview

Most & Least Used Features

Ease of Use

Frequency of Use

How & Where to Improve

# Preliminary Discovery Projects

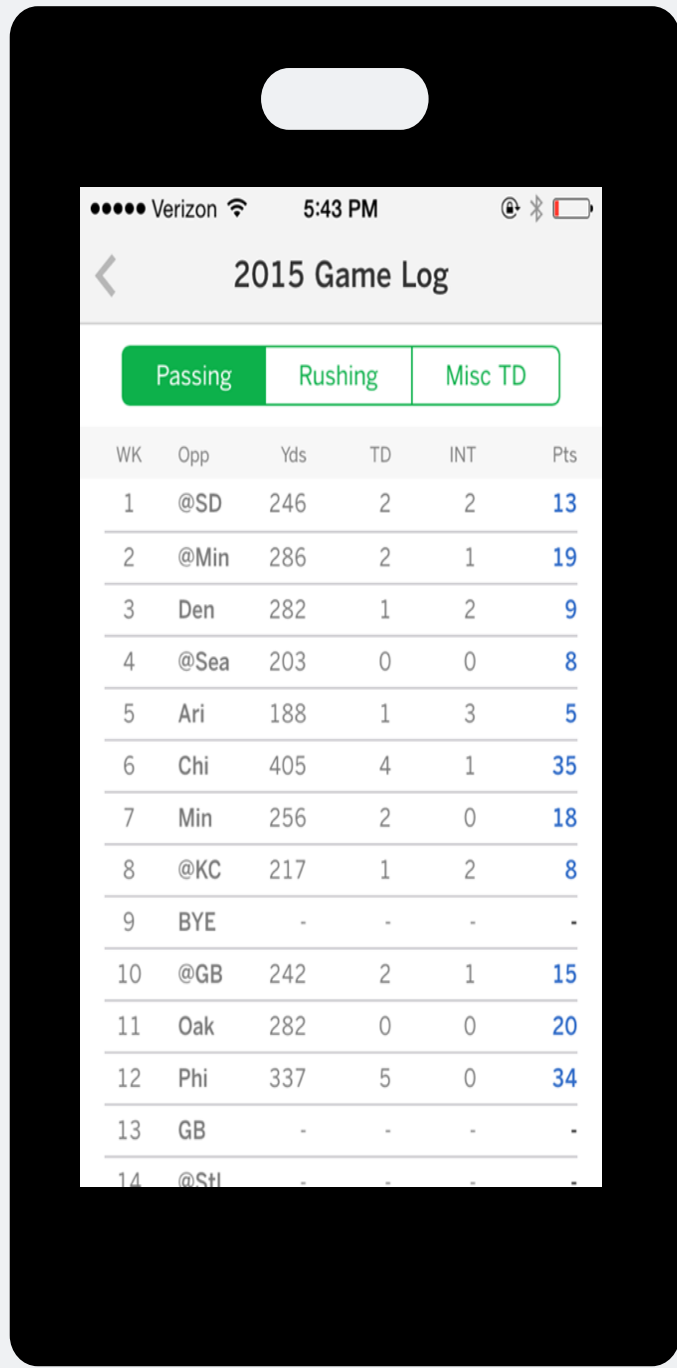
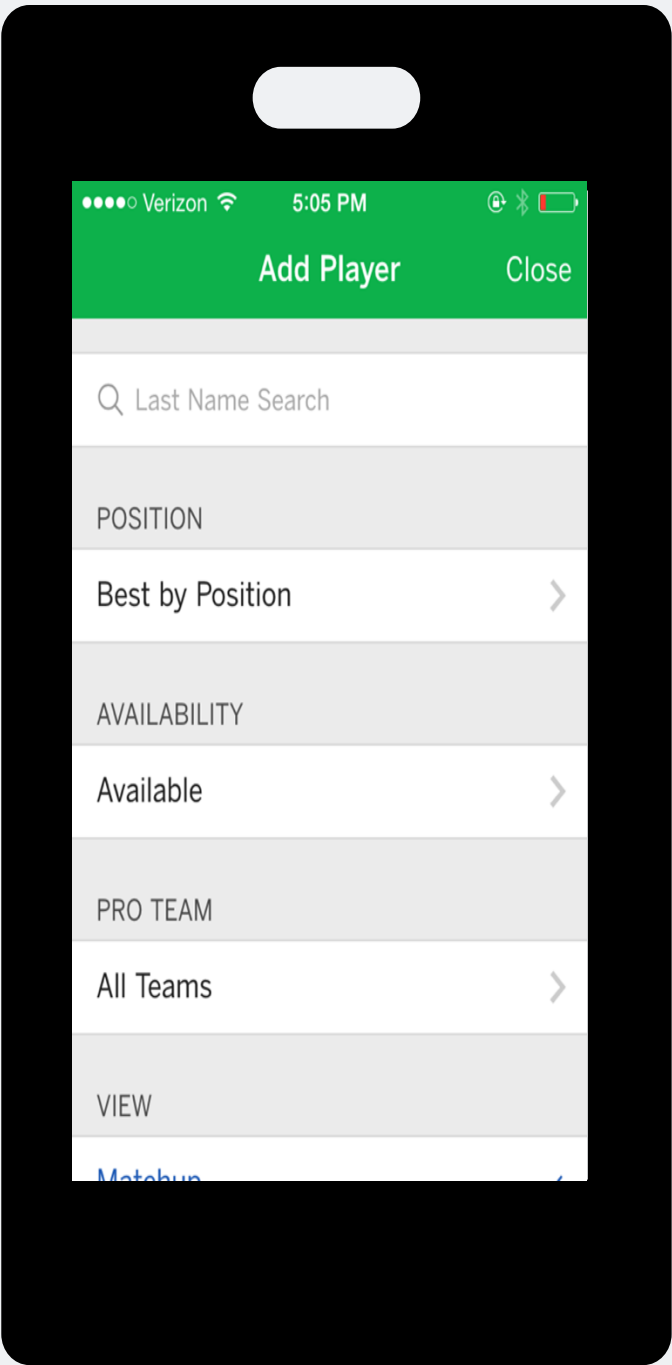
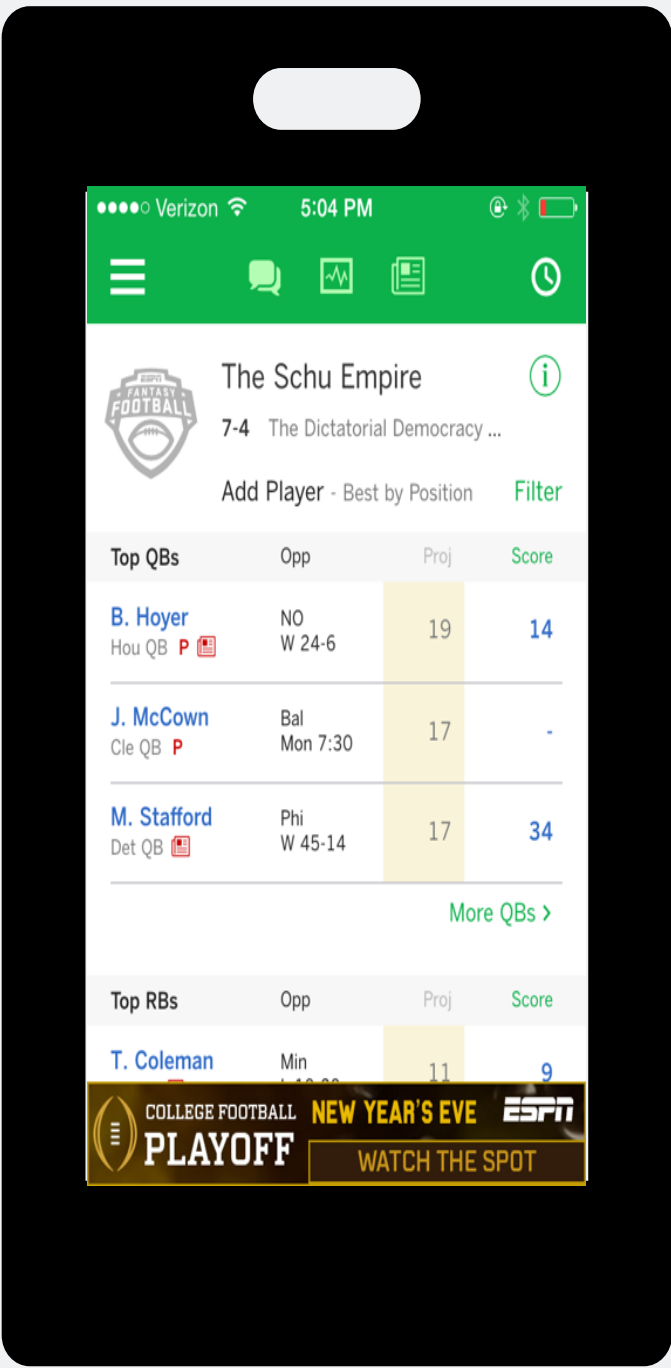
Single expert user talk-through on game day: Key Findings

## Key Findings

Do Away with Home Screen

Allow for Tracking of Favorite Players

Make Player Transaction Capabilities Easier



# Preliminary Discovery Projects

## Follow-up site-visits

### Purpose

- Further Define Strengths and Pain Points of the Player Transaction Capabilities of Application
- Utilize a Wider Skillset Range of Users

### Approach

- Performed in Naturalistic Setting
- Distractions Handled Naturally
- One-hour Site Visit**
  - Completed Player Transaction Tasks of their Choosing
- Semi-structured Interview**

### Strengths

- Projections
- Viewing Available Players
- Claiming Players

### Pain Points

- Sorting
  - Position
  - Waiver
  - Trades
- Comparing Players
  - Current Rostered Players versus Prospective
- Viewing Stats

# Preliminary Discovery Projects

## Blank-page technique

### Purpose

Designed “Add Free Agent / Available Player” Page

Free Design

Illumination of Needs / Desires of Users

Sketched on 4 x 6 Outline

Three Participants

### Key Findings

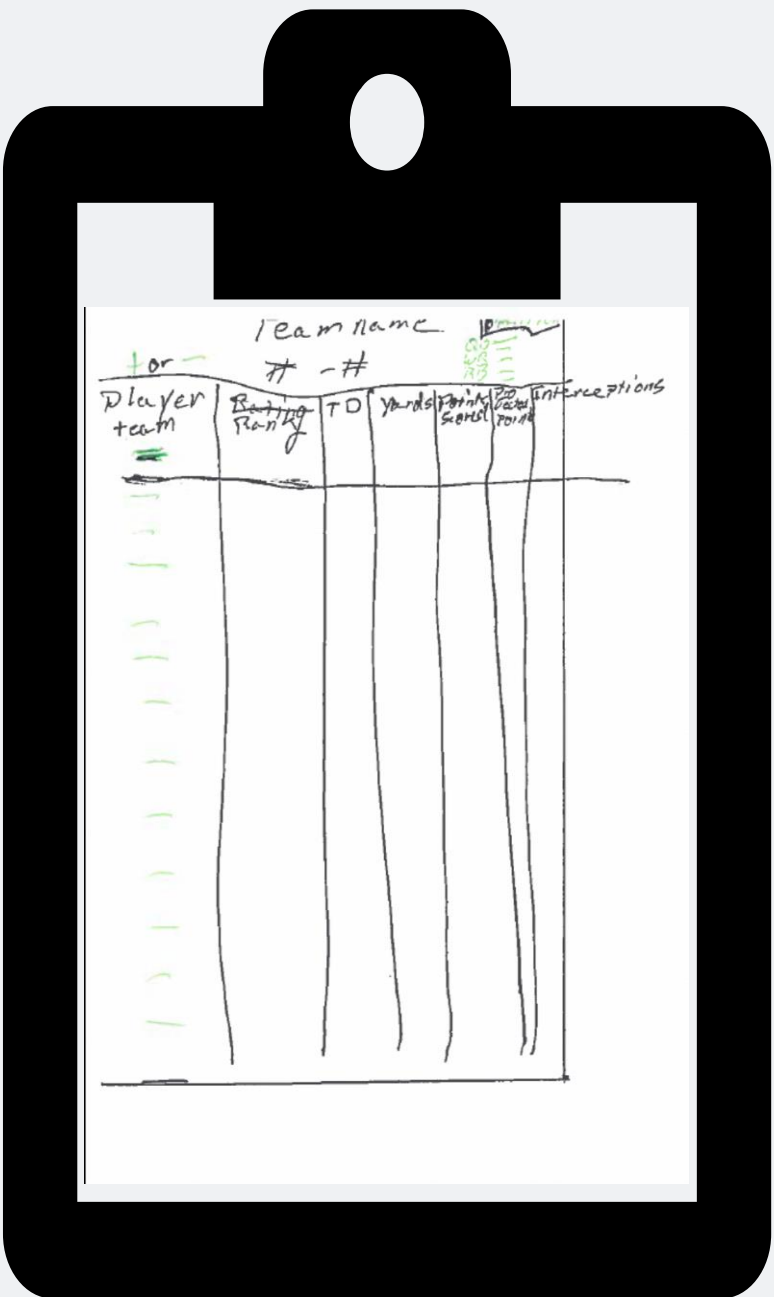
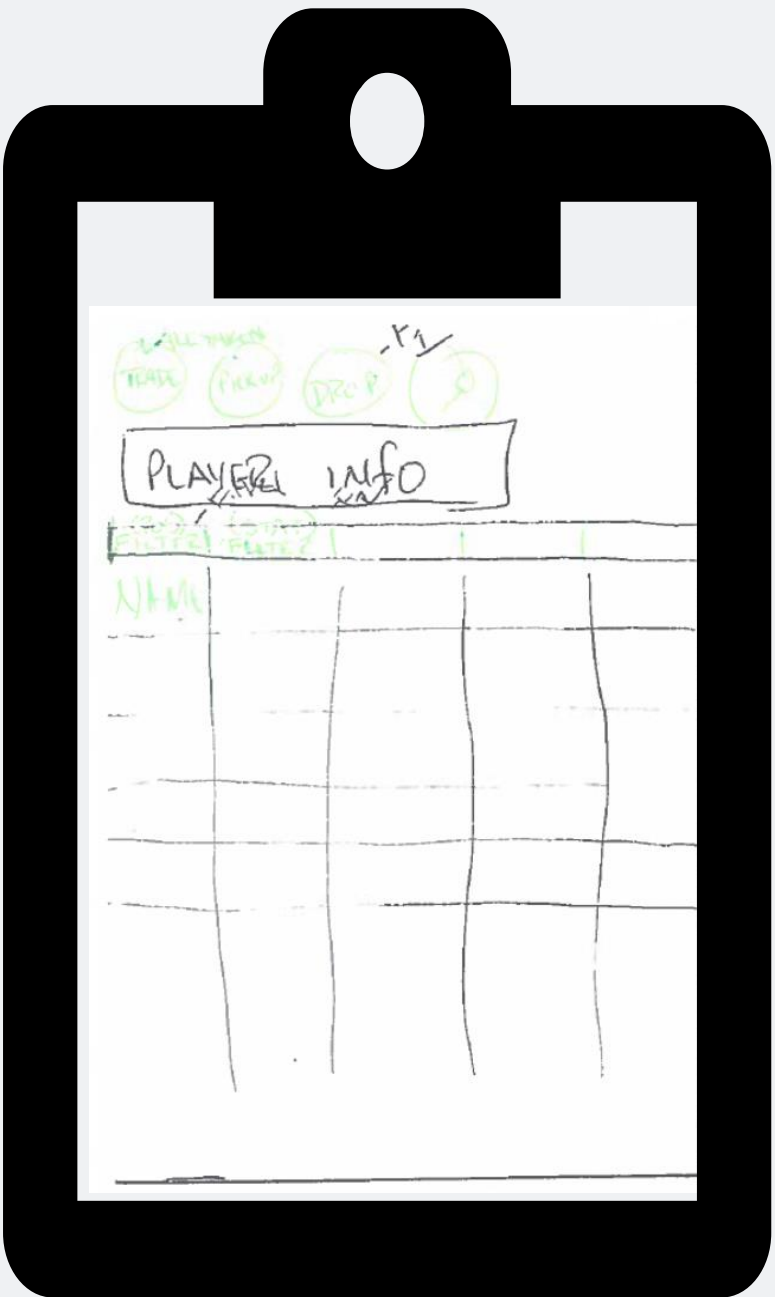
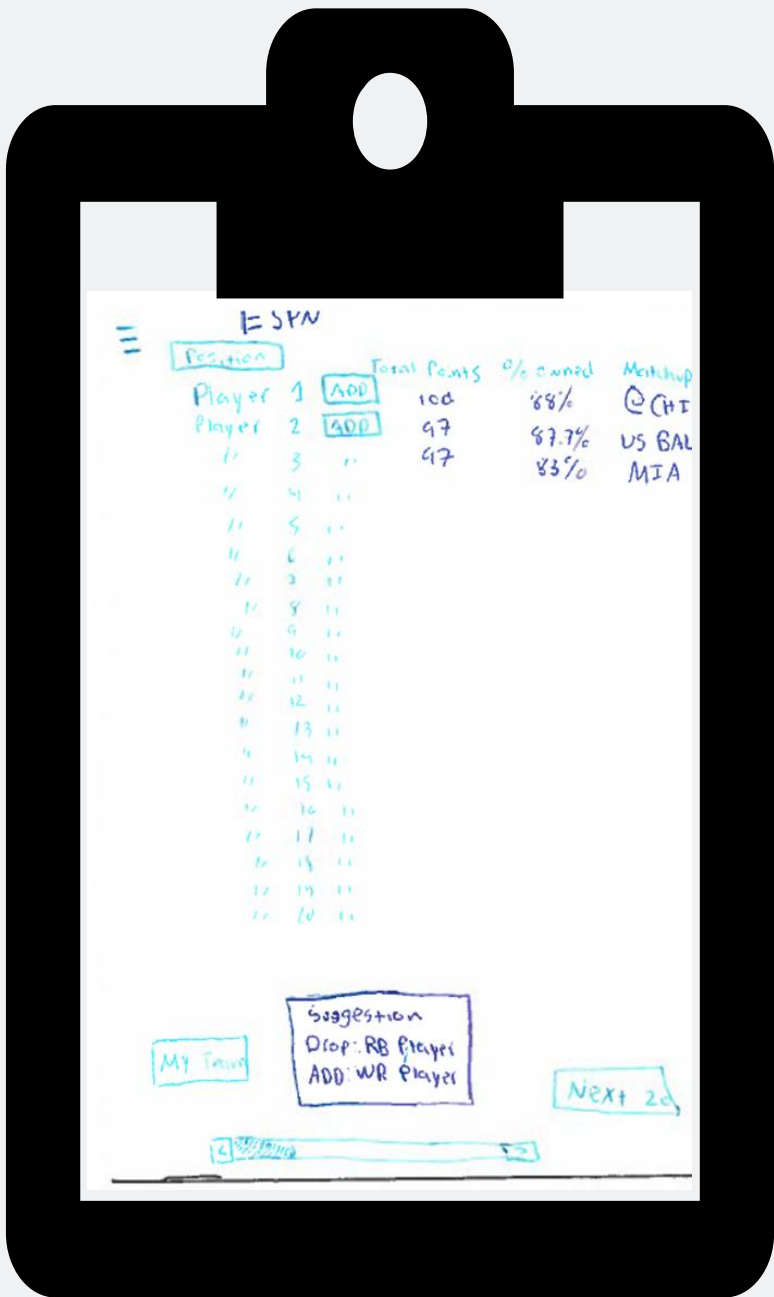
Improve Filtering of Stats

E.g., Multilevel Filtering

Increase Relevant Statistics on First Page

Reduce Number of Steps Needed to Claim Players

Make Player Comparison Easier





# Design & Methods

Approach, tasks, and new design

## Approach

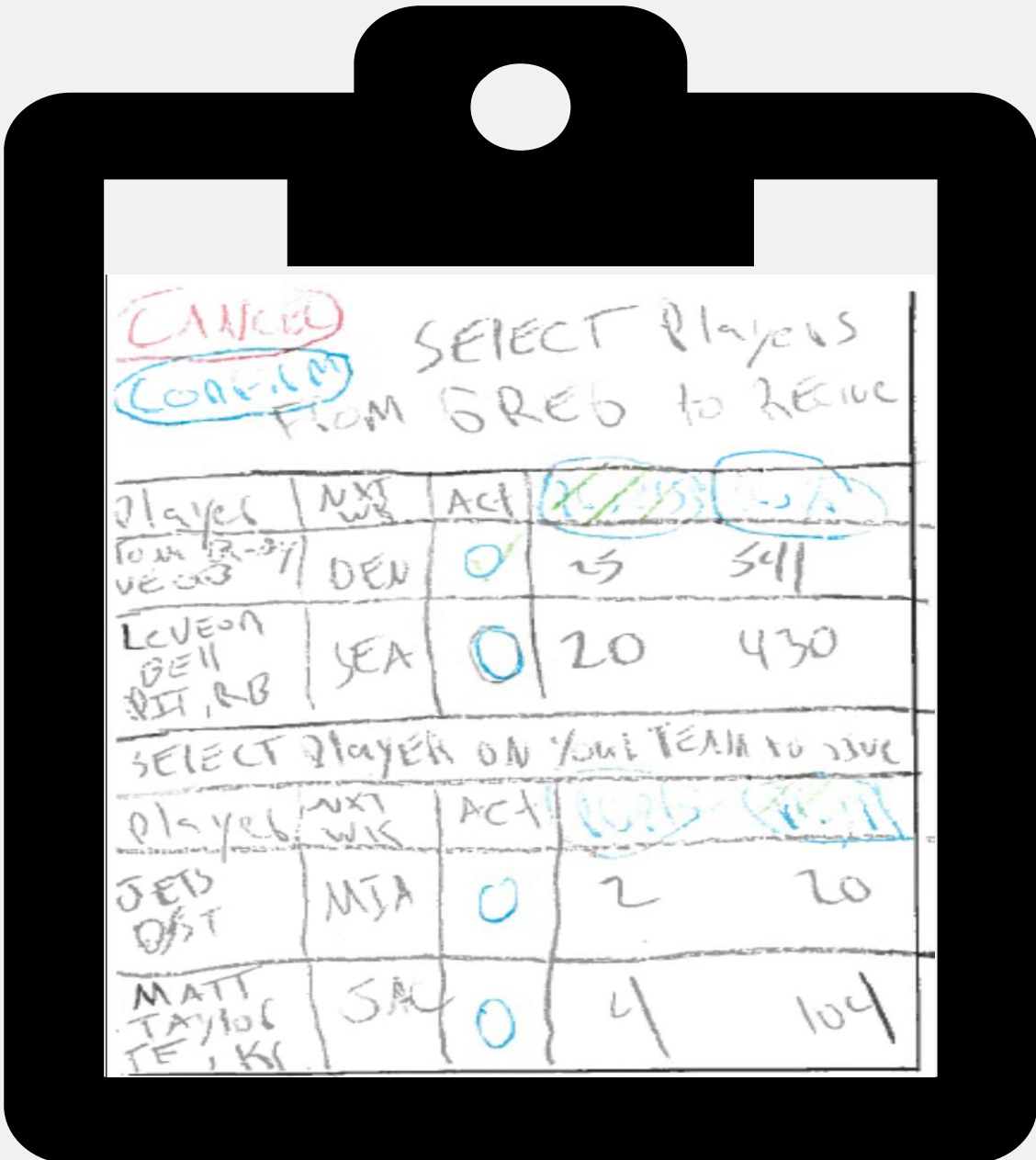
- A/B User Testing of Four Player Transaction Tasks
  - New Design versus Original ESPN Design
- Errors & Pain-points were Logged
- Administered System Usability Scale

## Player Transaction Tasks Tested

- Find an Available Player & His Projected Points
- Add & Drop a Player
- Find the Total Rushing TD's of a QB
- Complete a Trade

## New Design

- Guided by Previous Discovery Projects
- 4 by 6 Paper Prototypes
  - Utilized Printed Screenshots for ESPN
- New Design Sought to Improve:
  - Filtering of Statistics
  - Scrolling of Statistics
  - Player Comparison





# Design & Methods

Participants, instructions, variables, and assessment

## Participants

- 9 Users - (B/W Subjects)
  - 4 New Design
  - 5 ESPN
- All Experienced Fantasy Football Players
- 3 Hours per Week Spent on Fantasy Football Average
- ESPN Users: No Prior Experience Using Application

## Variables of Interest

- Primary Independent Variable / Predictor
  - Platform (ESPN versus New Design)
- UX Metrics / Dependent Variables
  - # of Errors
  - Time on Task
  - Usability (I.e., SUS)

## Task Instructions

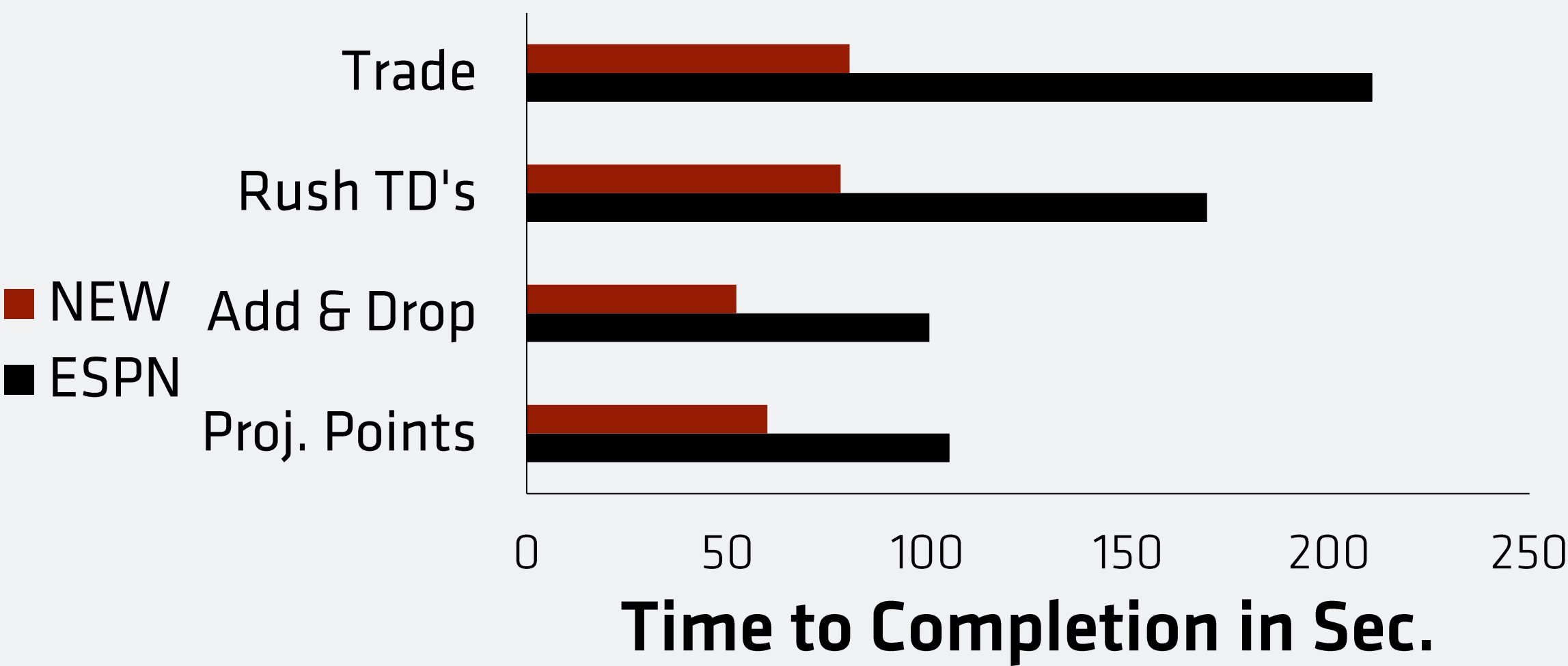
- Keep Papers on Table
- Click & Swipe as Normal
  - Notified if Incorrect
  - Next Relevant Page Given if Correct
- Researcher Indicates Task Completion

## Assessment of Impact

- Descriptive Statistics
  - E.g., Effect Size & Hazard Ratio
- Visual Graphs
- Inferential Statistics
  - Non-Parametric
  - Permutation / Exact

# Results & Impact

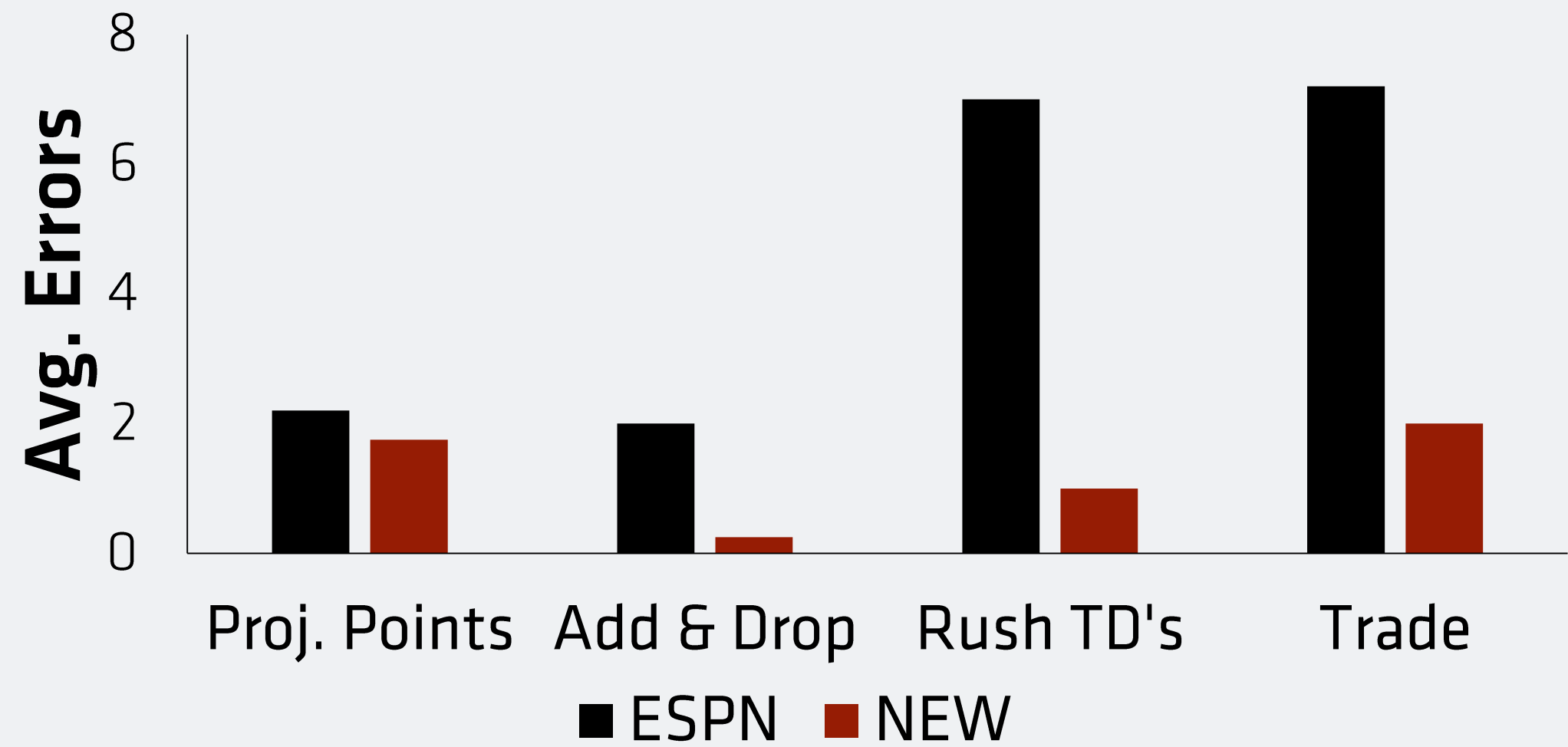
## Time to completion



	ESPN <i>Mean</i>	New <i>Mean</i>	<i>Mean Difference</i>	Effect Size (Cohen's D)	Hazard Ratio	Wilcoxon P- value	Exact Log- Rank P-value
Proj. Points	105.40	60.00	45.40	1.19	7.21	.142	.119
Add & Drop	100.40	52.25	48.15	2.16	5.21	.049*	.071
Rush TD's	169.60	78.25	91.35	1.04	4.14	.142	.135
Trade	210.80	80.50	130.30	2.26	10.97	.027*	.039*
Total	586.20	271.00	315.2	2.26	237.19	.014*	.024*

# Results & Impact

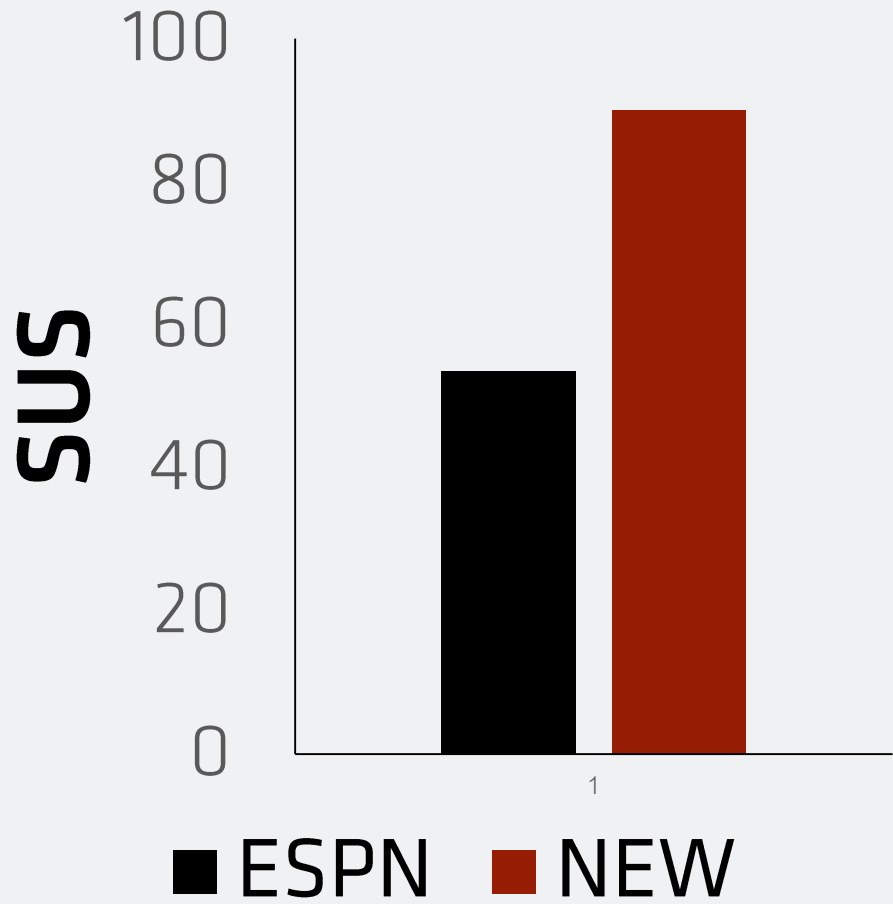
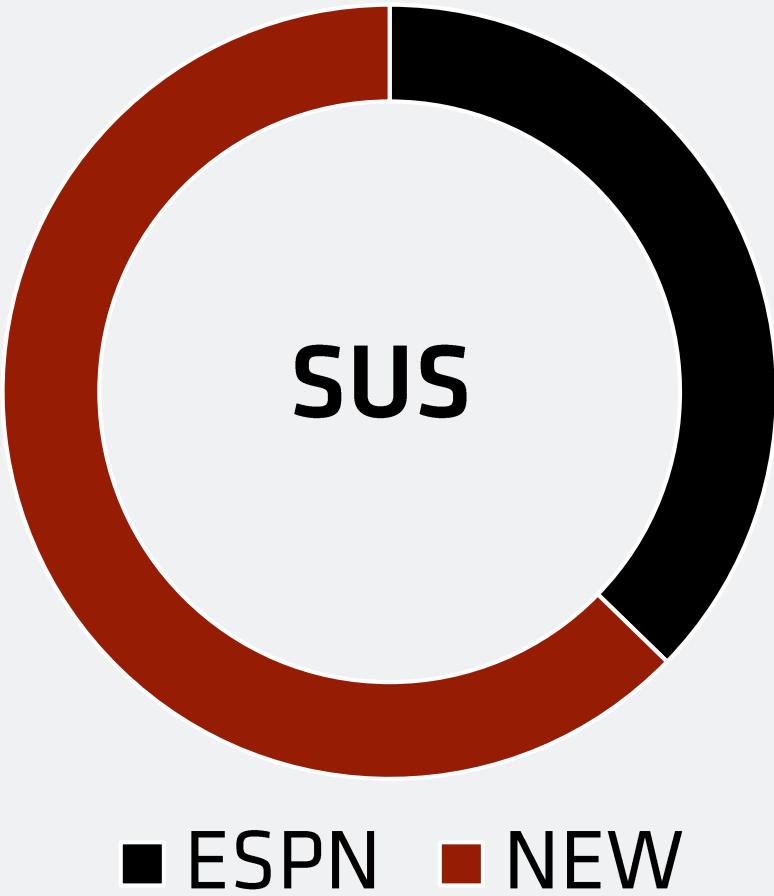
## Number of errors



	ESPN <i>Mean</i>	New <i>Mean</i>	<i>Mean Difference</i>	Effect Size (Cohen's D)	Ratio	Wilcoxon P-value	Exact Wilcoxon P-value
Proj. Points	2.20	1.75	0.45	0.32	1.26	.612	.810
Add & Drop	2.00	0.25	1.75	1.57	8.00	.067	.111
Rush TD's	7.00	1	6.00	1.73	7.00	.035*	.040*
Trade	7.20	2.00	5.20	1.34	3.60	.040*	.079
Total	18.40	5	13.4	2.06	3.68	.027*	.032*

# Results & Impact

## System Usability Scale



Kendall Tau Correlation	SUS	Number of Errors	Time to Completion
SUS	1	-.648 0.016*	-.648 0.16*
Number Of Errors	-.648 0.16*	1	.889 0.001*
Time to Completion	-.648 0.16*	.889 0.001*	1

	ESPN Mean	New Mean	Mean Difference	Effect Size (Cohen's D)	Ratio	Wilcoxon P-value	Exact Wilcoxon P-value
Total	53.50	90	36.5	1.75	1.68	.027*	.032*

# Results & Impact

## Overall impact and design recommendations

### Overall Impact

Performance Consistently Better on New Design

Performance Gap is Large

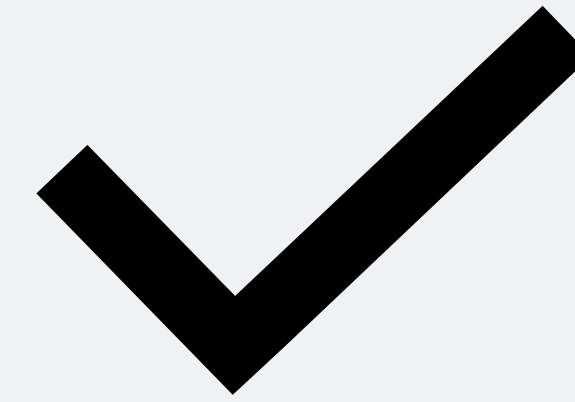
Total Time: Effect Size = 2.26 & Hazard Ratio = 237.19

Errors: Effect Size = 2.06 & Ratio = 3.68

SUS: Effect Size = 1.75 & Ratio = 1.68

ESPN Falters Primarily with Ability to Filter & Compare

I.e., Stats & Players



### ESPN Design Recommendations

Employ Better Multilevel Filtering

Increase Prevalence Throughout

Clearly Indicate Filter Selection

Utilize Scrollable Statistics

Allow Users to Compare Rostered Players to  
Prospective Players on the Same Screen

# Improve & Reevaluate

## Refined Six Month Timeline

### Refined Six Month Timeline

Aug. 1<sup>st</sup>: Recruit Cross-functional Team & Brainstorm

E.g., Project Charter, Expert Reviews & Data Log Analysis



Sept. 1<sup>st</sup>: Begin Discovery with Users

E.g., Surveys, CTA's, Ethnography



October 1<sup>st</sup>: Conceptualize Design Improvements

E.g., Prototype & Wireframe



Nov. 1<sup>st</sup>: Begin Controlled Laboratory UX Studies



Dec. 1<sup>st</sup>: Develop Live Versions



Jan. 1<sup>st</sup>: Begin Live A/B Testing

I.e., Playoffs Begin



Jan. 15<sup>th</sup>: Analyze and Create Executive Summary



Jan. 22<sup>nd</sup>: Present Findings & Recommendations



Feb. 1<sup>st</sup>: Go Live to All Users



Feb. 2<sup>nd</sup>: **Celebrate!**

# Improve & Reevaluate

A few specific improvements

## Discovery Improvements

Discover Distinct Users & Needs

Latent Class / Profile Analyses

Survey Refinement & Administration

Card Sorting

Employ Ethnography Methods

Employ Competitive Analysis

## Results & Impact Improvements

Utilize a Larger Sample to Better Handle Complex Modeling

E.g., Multilevel, Generalized, & Mediation Models

Treat Design Changes as Independent Variables

Utilize a Greater Range of DV's

E.g., Eye Tracking Data, Memory Performance

## Design & Methods Improvements

Recruit a Research Team

I.e., Software Developer & Content Designer

Employ Higher Fidelity

Streamline New Design Better & Employ Icons

Better Measure Relevant Covariates





**That's all Folks!**