Testing and Refining ESPN's Fantasy Football Phone Application Player Transaction Tasks

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Presentation Overview

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What is Usability/UX

- Usability (MEELS)
  - Memorability
  - Efficiency
  - Errors
  - Learnability
  - Satisfaction
- UX
  - Utility
  - Usability
  - Desirability
  - Brand Experience

Background Problem

- From previous work (i.e. site visits and paper prototyping projects) it was found that the ESPN fantasy football phone application did not handle player transactions tasks well.
  - Problems
    - Filtering Players
    - Filtering Stats
    - Comparing free agents to players on roster
    - Etc.
- What follows is an attempt to address some of these issues.

User Profiles

- Fantasy Football User Characteristics
  - 13% of American Population
  - Mostly Male
    - 1/4th Female
    - Males also more likely to have multiple teams and spend more time using application.
  - Average Age
    - Male: 38
      - 59% 18 – 39
    - Female: 39
      - 72% 30 – 49
  - Mostly Affluent

Site Visit - Overview

- Three participants completed player transaction tasks using the ESPN fantasy football phone application.
- Conducted to further define problem areas and areas of strength for the application in regards to player transactions.

Site Visit – Participants/Locations

- Participants
  - 3 Males in Mid 20's
  - All Caucasian
  - All ESPN fantasy football users
  - Average hours spent per week. . .
    - Using phone application to complete ESPN player transactions tasks: 3.6
    - Using other platforms to complete ESPN player transactions tasks: 2
    - Watching NFL Games: 3.8
    - Researching NFL on media platforms (internet, newspaper, etc.): 1.3
- Location
  - A small pub in Lubbock TX
    - Conducted in pub to keep ecological validity high

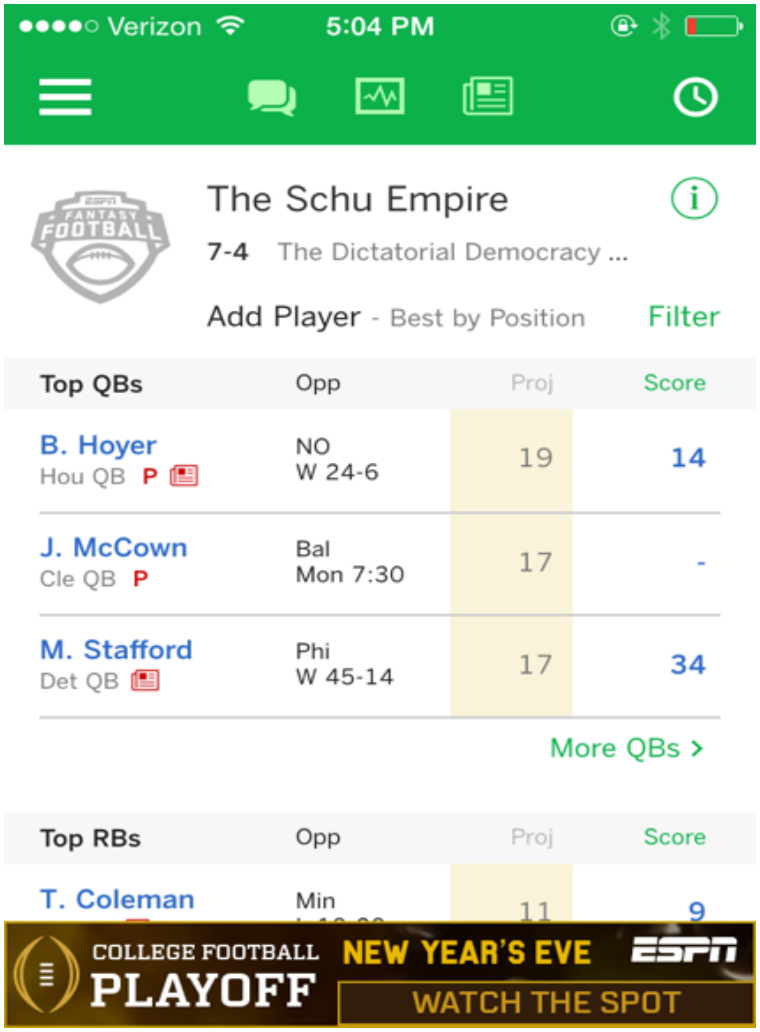
Site Visit - Procedure

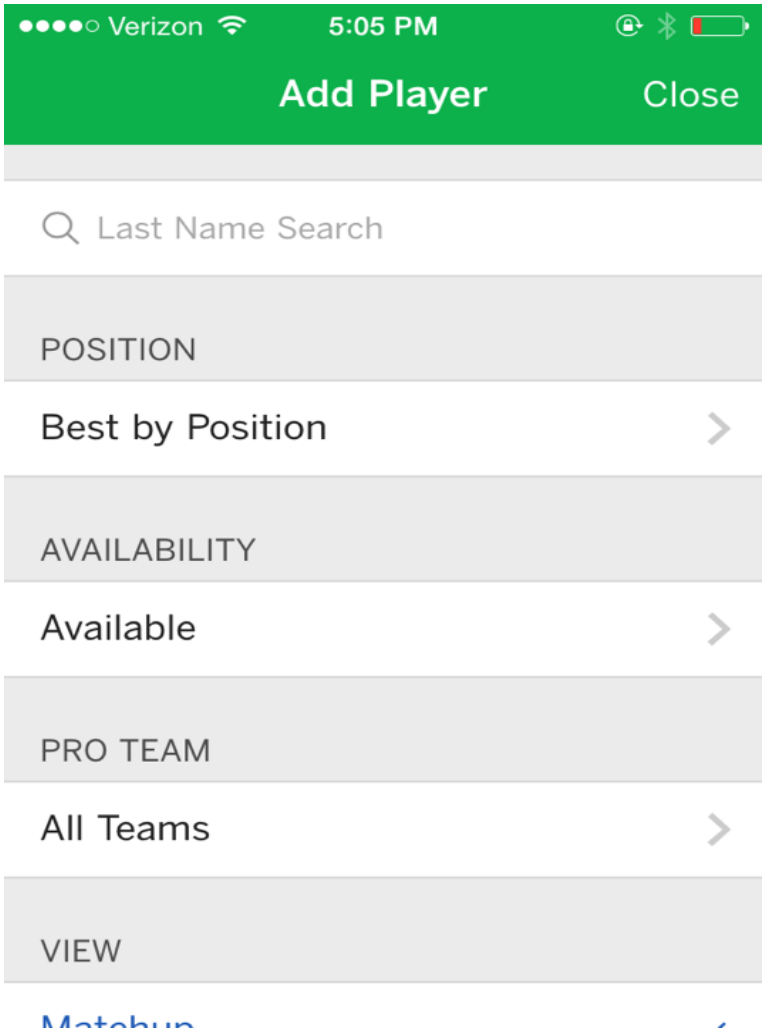
1. Task Instructions Given
   - Participants told –
     - Complete player transaction tasks of their choosing using the application on their phone
     - While completing tasks use Talk Aloud
     - Their voices would be recorded
     - Handle distractions as they normally would
2. Site Visit commenced
   - Researcher took notes on strengths and pain points of each task performed
3. Survey Administered
   - Survey assessed
     - satisfaction, strengths, and weaknesses of application
     - demographic information about users

Site Visit – Major Findings

- Strengths of Application:
  - Projections
  - Viewing Available Players
  - Claiming Players
- Pain Points of Application
  - Sorting
    - Position
    - Waiver
    - Trades
  - Comparing Players
    - Current Roster Players versus Other Players
  - Viewing Stats

Filtering


Verizon 5:04 PM
The Schu Empire
7-4 The Dictatorial Democracy ...
Add Player - Best by Position
Filter
Top QBs Opp Proj Score
B. Hoyer Hou QB P NO W 24-6 19 14
J. McCown Cle QB P Bal Mon 7:30 17 -
M. Stafford Det QB Phi W 45-14 17 34
More QBs >
Top RBs Opp Proj Score
T. Coleman Min 11 9
COLLEGE FOOTBALL PLAYOFF
NEW YEAR'S EVE
ESPN
WATCH THE SPOT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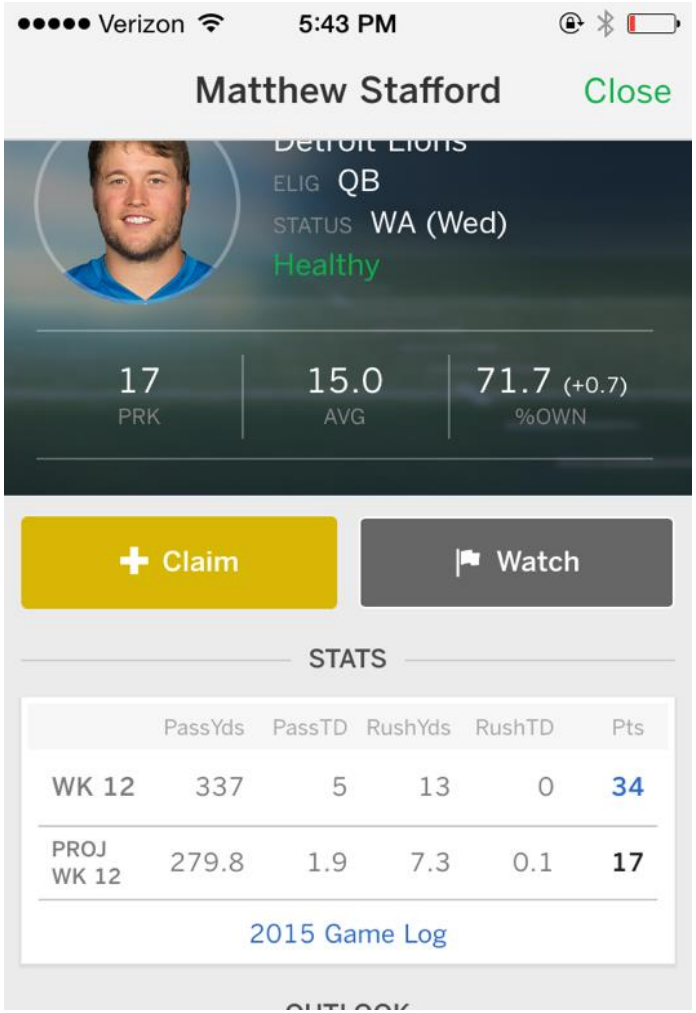
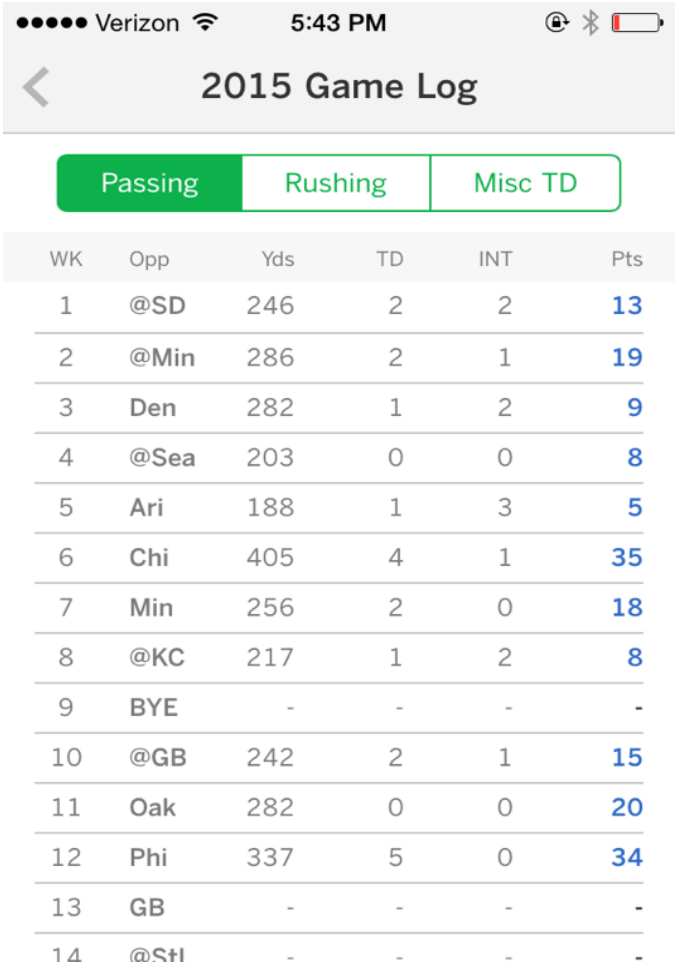
Add Player
Close
Last Name Search
POSITION
Best by Position
AVAILABILITY
Available
PRO TEAM
All Teams
VIEW

Viewing Stats





WK	Opp	Yds	TD	INT	Pts
1	@SD	246	2	2	13
2	@Min	286	2	1	19
3	Den	282	1	2	9
4	@Sea	203	0	0	8
5	Ari	188	1	3	5
6	Chi	405	4	1	35
7	Min	256	2	0	18
8	@KC	217	1	2	8
9	BYE	-	-	-	-
10	@GB	242	2	1	15
11	Oak	282	0	0	20
12	Phi	337	5	0	34
13	GB	-	-	-	-
14	@Stl	-	-	-	-

Paper Prototyping Task Analysis - Overview

- Using the Site Visit as a guide new paper prototypes were created for pages dealing with player transactions.
- We had participants perform player transaction tasks either using the New Design or the ESPN design on paper prototypes.

- Hypothesis
  - The New Design should outperform the ESPN Design

Task Analysis – Participants/Location

- 9 total (7 male & 2 Female)
  - 5 ESPN (no experience using ESPN)
  - 4 New Design
- Ages: mid 20's to mid 30's
- All Participants football fans
- 6 Participants have experience playing fantasy football
- Average hours spent per week. . .
  - Using phone applications to complete player transactions tasks: 1.6
  - Researching NFL on media platforms (internet, newspaper, etc.): 1.7
- Location
  - A small pub in Lubbock TX
    - Conducted in pub to keep ecological validity high

Task Analysis - Tasks

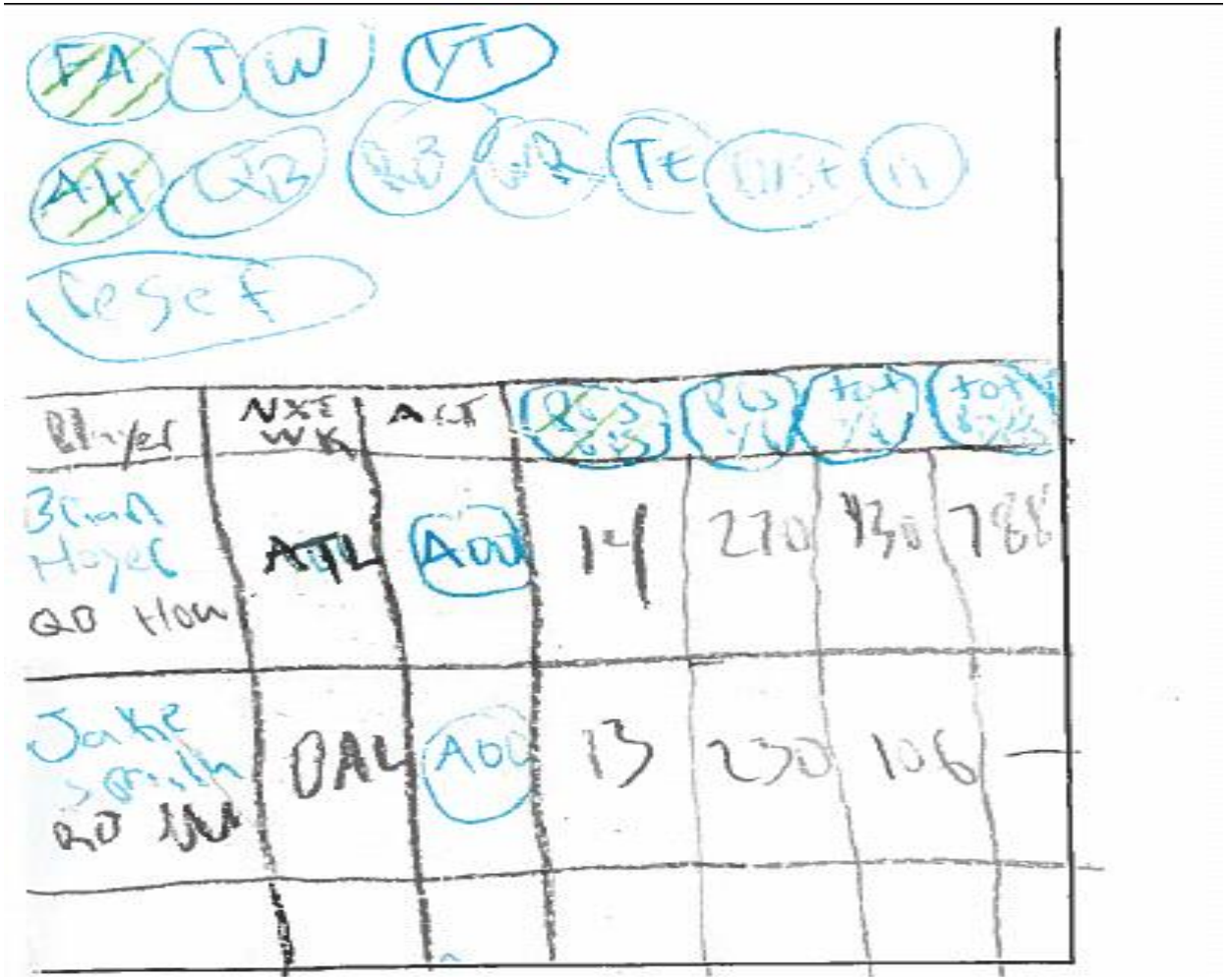
- Tasks (in order of presentation)
  1. Finding an Available Player and His Projected Fantasy Points for the Week
  2. Adding and Dropping a Player
  3. Finding the Total Rushing TD's for a QB
  4. Completing a Trade

Task Analysis - Materials

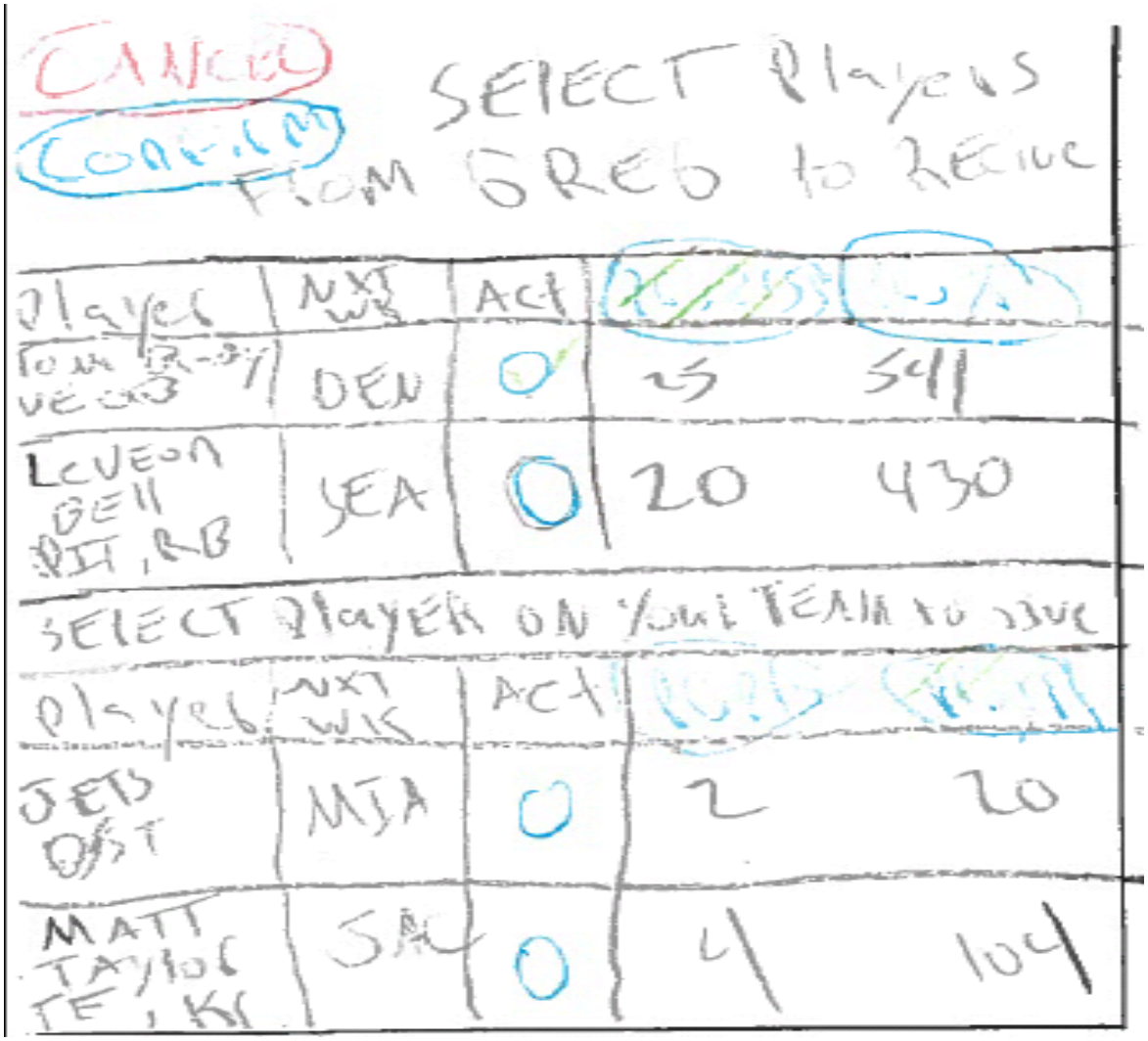
- All paper prototypes were 4 by 6 inches
- ESPN
  - Printed from screenshots
- New Design
  - Created using color pencils
  - Location of players kept consistent with ESPN
- IPhone 4s
  - Recording Voice
  - Keeping Time
- Observation log
  - Record pain point and Strengths
  - Record Errors
- Surveys (2)
  1. Custom Made Survey – 10 questions
     - satisfaction, strengths, and weaknesses of application
     - demographic information about users
  2. SUS

Task Analysis – Materials (ESPN)

Task Analysis – Materials (New Design)



Task Analysis – Materials (New Design)



Task Analysis - Procedure

1. Task Instruction Given
   - Participants told –
     - Keep papers on table
     - Click and swipe as normal.
     - If incorrect the participant will be notified.
     - If correct the next page relevant page will be given.
     - While completing tasks use Talk Aloud
     - Researcher will indicate once a task is complete.
2. Task Analysis Commenced
   - Researcher took notes on strengths and pain points of each task performed
   - Researcher recorded the number of errors (incorrect swipes or clicks) that the participant made
   - Time was recorded
   - Voice was recorded
3. Surveys Administered

Task Analysis – Analysis Design

- IV's
  - Platform (ESPN vs New Design)
- DV's (Total and for Each Task)
  - Errors
  - Time on Task
- Statistical Analysis
  - The prototypes were compared for each task on performance using the Mann Whitney U Test
  - Spearman's Correlations were ran using the quantitative survey questions and performance results
- Alpha was set at .05 for significance and between .05 and .10 for marginal significance

Task Analysis - Results

- Researcher Observations and Participant Observations
  - ESPN
    - Strengths
      - Scrolling down to find positions, specifically free agents.
      - Adding a player and completing a trade once a player was found.
      - Learning filter functions if found early.
    - Pain Points
      - Learning filter functions initially (task 4).
      - Sorting to players on other rosters to start a trade (task 4).
      - Finding stats other than point projections (task 3).
      - Interpreting terms (task 3).

Task Analysis - Results

- Researcher Observations and Participant Observations
  - New Design
    - Strengths
      - Filtering to Trade (task 4)
      - Comparing Players (task 4)
      - Scrolling to Find Stats (task 3)
      - Most simple tasks such as adding player (tasks 1 and 2)
      - Keeping Tasks Short
    - Pain Points
      - Aesthetics
      - Recognizing a Filter was Selected

Task Analysis - Results

	Average Errors			Average Time (Min)		
	ESPN	New Design	Significant	ESPN	New Design	Significant
Task 1	2.20	1.75	No	1.76	1.00	No
Task 2	2.00	0.25	No	1.67	0.87	No
Task 3	7.00	1.00	Yes	2.83	1.30	No
Task 4	7.20	2.00	Marginal	3.51	1.34	Yes
Total	18.40	5.00	Yes	9.77	4.52	Yes

	ESPN	New Design	Significant
SUS	53.50	90.00	Yes
Ease of Use (Custom Survey)	45	91	No

Task Analysis - Results

- Relevant Significant Correlations
  - SUS and Ease of Use
  - SUS and Total Errors
  - SUS and Total Time
  - Ease of Use and Total Errors (marginal)
  - Ease of Use and Total Time(marginal)

Discussion - Overview

- Results from both the data and from observations showed that New Design outperformed ESPN
  - Specifically the New Design outclassed ESPN in the more complex tasks such as:
    - Filtering
    - Finding and interpreting stats
    - Comparing Players

Discussion - Recommendations

- Use multilevel filtering on homepage
- Allow individuals to scroll to stats instead of having to filter
- Allow individuals to compare players on same screen when making transactions.
- Do not use confusing or misleading terms.
- Indicate when a filter is selected clearly.

References

One in Four Fantasy Football Players Are Women. (n.d.). Retrieved December 3, 2015, from http://www.prnewswire.com/news-releases/one-in-four-fantasy-football-players-are-women-526803351.html

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Testing and Refining ESPN's Fantasy Football Phone Application for Player Transaction Tasks

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Fantasy football is an important aspect of regular life for many individuals. It is estimated that Americans spend about 15 billion dollars annually on their fantasy team or about 467 dollars per fantasy player (Goff, 2009). Fantasy football is mostly played on applications or websites viewed on one's computer, tablet, or phone. Due to fantasy football being such a big part of American life, it is important that these applications and sites are not only useful for the user but also bring a pleasurable experience.

For this reason, the ESPN fantasy football phone application was looked at in a series of site visits, user journey maps, and paper prototyping analyses over the course of a few months. From these experiences, it was determined that the ESPN fantasy football application is quite a well-designed application but did not handle player transaction tasks, such as comparing free agents to players on the roster, very well. Due to this, we ran more centralized site visits and task analyses to determine how the experience of completing ESPN player transaction tasks could be improved when using the phone application.

The first step of this process was to complete more site visits focusing solely on player transaction tasks to define more clearly where the issues lie. We brought three participants to a local bar and asked them to complete player transaction tasks of their choosing on their phone before giving them a short survey to complete at the end. All participants were ESPN fantasy football players and, as such, had experience using the application. The location of a bar was chosen to recreate a natural setting where many people would be likely to interact with a fantasy football application. Additionally, to help ensure a natural environment, all participants were instructed to go about handling distractions as they normally would when trying to complete fantasy football tasks at a bar.

Results from the site visit suggested that were some strengths of the application when dealing with player transactions but also affirmed that were many issues at hand. In terms of strengths of the application, it seemed that the ESPN phone application handled the tasks of viewing available free agents, viewing the upcoming weeks scoring projections for free agents, and claiming free agents quite well. Viewing free agents and their projected points for the week is easy because it is the first thing you see when arriving at the "Add Player" page on the application. This is the page on the ESPN fantasy football application that allows you to complete most player transaction tasks. Additionally, though, viewing free agents was made easier in that free agents are grouped by position and one only needs to scroll down on the initial page to see the different positions. Claiming free agents was easy because all one has to do to is click on the name of a free agent then click "claim."

Pain points of the application included more complex sorting of the players, comparing rostered players to prospective players, and viewing more complex stats for the players. In terms of sorting players, it is difficult to find players available to trade for or players on a specific team because it requires the use of a filter button that is ambiguous in nature. The application in this regard also forces the user to go through a series of unnecessary clicks. Comparing rostered players to available players is difficult because it requires the user to toggle or move between screens instead of showing both on the same screen. Lastly, viewing more complex stats requires many clicks again, with the terms being used often being ambiguously labeled, and often the application does not show total counts for important stats.

Using the results obtained from the site visit in the next step of testing we created paper prototype pages for player transaction tasks and had participants complete player transaction tasks using paper prototypes of the ESPN design or the new design. The new design was created

to allow more complex sorting on the first page, and for the user to be able to scroll to more viewable stats. It was believed that the new design would outperform the ESPN design, and as such, we could use the new design to reformat the ESPN application better.

We utilized a between-subject design with nine total participants: five participants were placed in the ESPN design condition and four were placed in the new design condition. All participants followed the NFL and six participants had experience playing fantasy football. No participants in the ESPN condition had experience playing fantasy football using ESPN. All participants completed the same four tasks then completed two short surveys. The four tasks included finding an available player and his projected fantasy points for the week, adding and dropping a player, finding the total rushing touchdowns for a QB, and completing a trade. Tasks one and two were considered to be easy, and three and four difficult. While performing tasks participants were told to click and swipe as they normally would. If an action was correct, the participant was given a new page, and if incorrect, the participant was told that the action was incorrect. Time for completion was recorded along with total incorrect swipes and clicks.

It should be noted that total clicks and swipes were not recorded because adding the correct amount of swipes and clicks to the errors is a linear transformation for all tasks and would not change the results. While performing, participants were instructed to use think-aloud and their voice was recorded. After completing all tasks, participants completed the system usability scale (SUS) (Bangor, Kortum, & Miller, 2009) and a 10 question custom survey that assessed demographic information along with the satisfaction, strengths, and weaknesses of the application.

We compared the ESPN design and the new design in terms of both time and total errors for each task and across all tasks using Mann Whitney U tests, which is a non-parametric test. It

was decided that using nonparametric tests was best because CLT did not protect the normality assumption with only 9 participants. Using an alpha of .05, results indicated that participants took significantly more time across task four and across all tasks when looking at total time. In terms of errors made, participants in the new design committed significantly less errors in task 3 and committed significantly fewer errors across all tasks. Additionally, SUS ratings for the new design were significantly higher than that of ESPN, suggesting that the usability of the new design was better than that of ESPN. The SUS also correlated significantly with total time and total errors suggesting that this scale was measuring usability. Researcher and participant observation also reaffirmed what the statistical analyses showed, which is that the new design outclassed the ESPN design. Specifically, using the new design participants were better able to filter players to show players on other fantasy teams to propose a trade, compare players being added and dropped on the same page, and find more advanced stats for the individual players. These benefits of the new design over the ESPN design for completing player transaction tasks mostly showed themselves on the more difficult latter two tasks.

Overall, findings from this project indicate that there is much to be desired for the application and it requires some changes. First, the phone application should change its "Add Player" page to allow for multilevel filtering on the initial page. The application should also allow users to compare the prospective player to their current players on the same page, use more concise and straightforward terms, and allow individuals to scroll to stats so they are more easily accessible. All is not lost though for the ESPN application, their use of aesthetics was indicated to be appealing, and the ability to find available free agents and sort by position is handled quite well in the application.

References

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