Informatics 132
Project 6: RadioFlag

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Usability Problems

Focus: Is there a way to simplify the user interface for RadioFlag?

1. View Drill-down
   - Complicated user interface for 'drill-down' navigation
   - How to make the navigation more efficient
   - Is there a better way to organize the interface to help make it more presentable?

2. Search Page
   - Search page provides unnecessary complications
   - Many users often type something, and do not intuit that they need to select a type of object to complete the search.
   - Is there a clearer way to provide the search functionality?

Methods of Testing

- **Heuristic Evaluation** - Each usability problem was analyzed using heuristic evaluation guidelines in order to identify sources of the usability problems that exist with the current design. These evaluations are intended to be used in comparison to the usability testing results.

  1. View Drill Down
     - Shneiderman's Eight Golden Rules of Interface Design
     - Usability Path tracing

  2. Search Page
     - 10 heuristic evaluation guidelines created by Jakob Nielsen and Rolf Molich

Methods of Testing

- **Usability Testing** - Usability testing was conducted for both usability issues. Each test was conducted in a reserved room accompanied by both pre-questionnaires and post-questionnaires. Tests were recorded for further analysis on the user interface.

  1. View Drill Down - Asked subjects to complete three tasks that involved drill down. Recorded their use of the system and various related statistics.

  2. Search Page - Asked subjects to complete two to three tasks that involved searching. Recorded their use of the search function and various related statistics

Insights

- Usability Test Results - Drill Down
  - User background trends
    - All subjects only listen to the radio while driving
    - All involved in social networks
    - General lack of awareness of app D:
  - Statistics
    - 5 Subjects x 3 Tasks
    - 4 Task Failures (Over 3 minutes)
    - 3 users with Twitter experience
    - No user testing experience among subjects

Insights

- Usability Test Results - Drill Down
  - Trending results in user experience/background and ability to accomplish/figure out goals
    - No correlation between use of Twitter and usability
    - Male subjects more inclined to use search functionality
    - Extensive use of back button and deep drilling
  - User feedback in overall usability and usability relative to tasks
    - 1 attempt to find in-app help
    - Interface was initially confusing for 4 of 5 subjects
    - After testing was over only one claimed it was confusing
  - Interesting or noteworthy insights discovered during testing
    - The search issue caused issues in this test
    - Poor initial usability, but quickly improves with use

Insights

- **Heuristic Evaluation Analysis: Drill-down**

Key Issues Identified for Drill-down Functionality:

- Permit easy reversal of actions:
    - Users often end up pressing back button multiple times to return to first screen

- Support internal locus of control:
    - Icons are not labeled which often makes users not know what to click.

- Reduce short term memory load:
    - Various icons are used and functions are relocated in each screen which is difficult for users to remember the functionality of the application
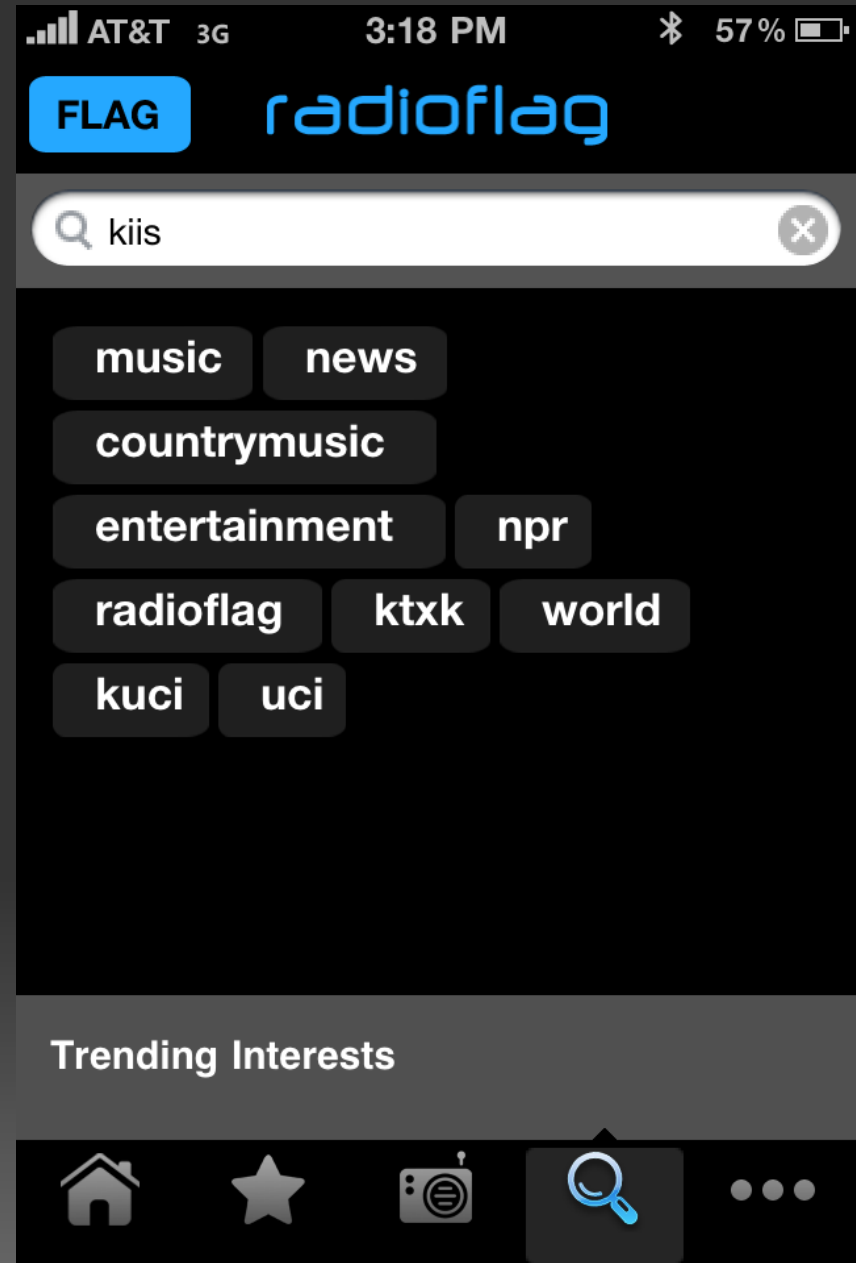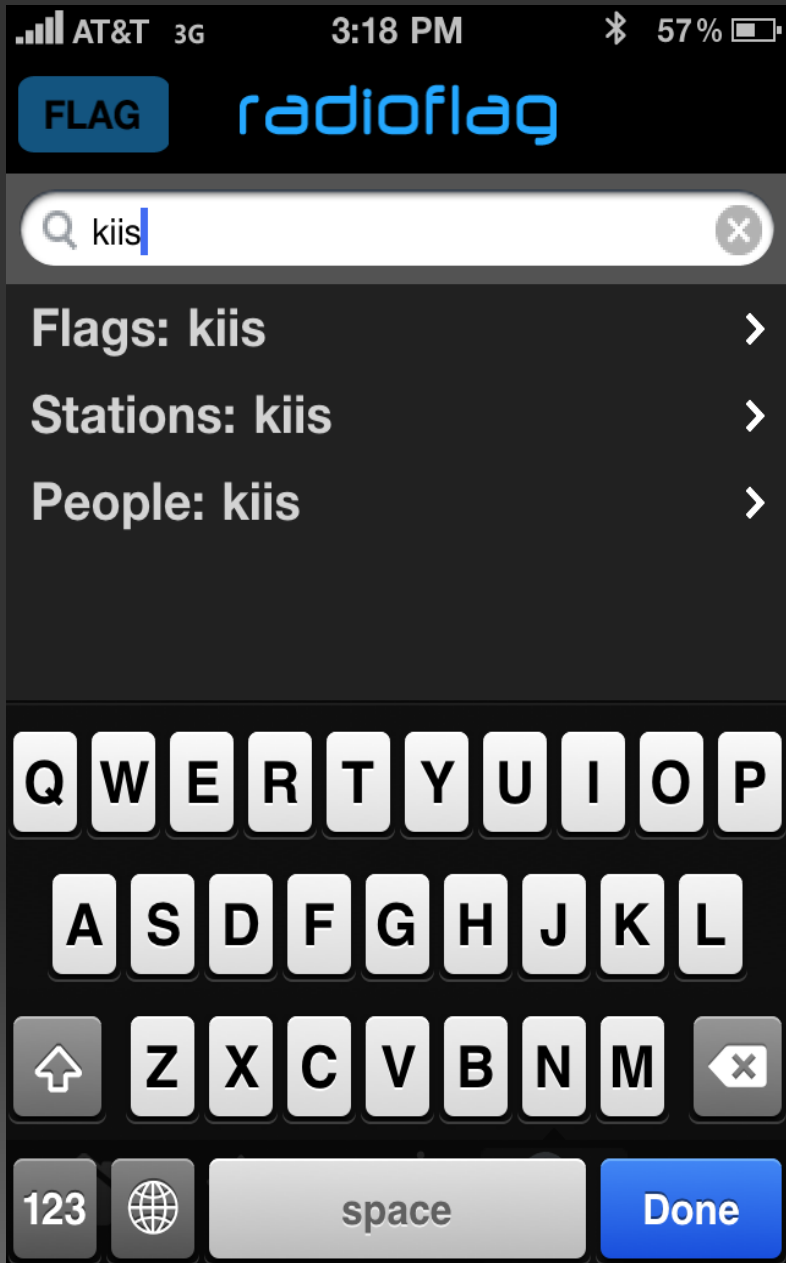
Insights

- Usability Test Results - Search
  - General User Statistics
    - 2 Pilot Testers - given two tasks
    - 5 Real Testers - given two tasks (except last test subject was given three tasks)
    - 2 Iphone/Smartphone Users
    - All involved in social networking websites

Insights

- Usability Test Results - Search
  - Trending results in user experience/background and ability to accomplish/figure out goals
    - No one uses trending views
    - 2/7 users used the trending recommendations
    - 4/7 users ran into "done" fail
    - 3/7 users ran into "lack of search result status" which confused users
  - User feedback in overall usability and usability relative to tasks
    - 5/7 users ran into errors for search tasks
  - Interesting or noteworthy insights discovered during testing
    - Search options could be too close to each other
    - No relevance to search
   - Users thought trending views as search history

Search

Insights

- **Heuristic Evaluation Analysis: Searching**

Key Issues Identified for Search Functionality:

- Visibility of System Status (HG#1):
  - Search progress is not identifiable to users

- Match Between System and the Real World (HG#2):
  - Default search action is not intuitively bound to the return button

- Consistency and Standards (HG#4):
  - Current UI for searching appears to have a search dialogue box for each individual trend type however actual search functionality still requests search type

Search
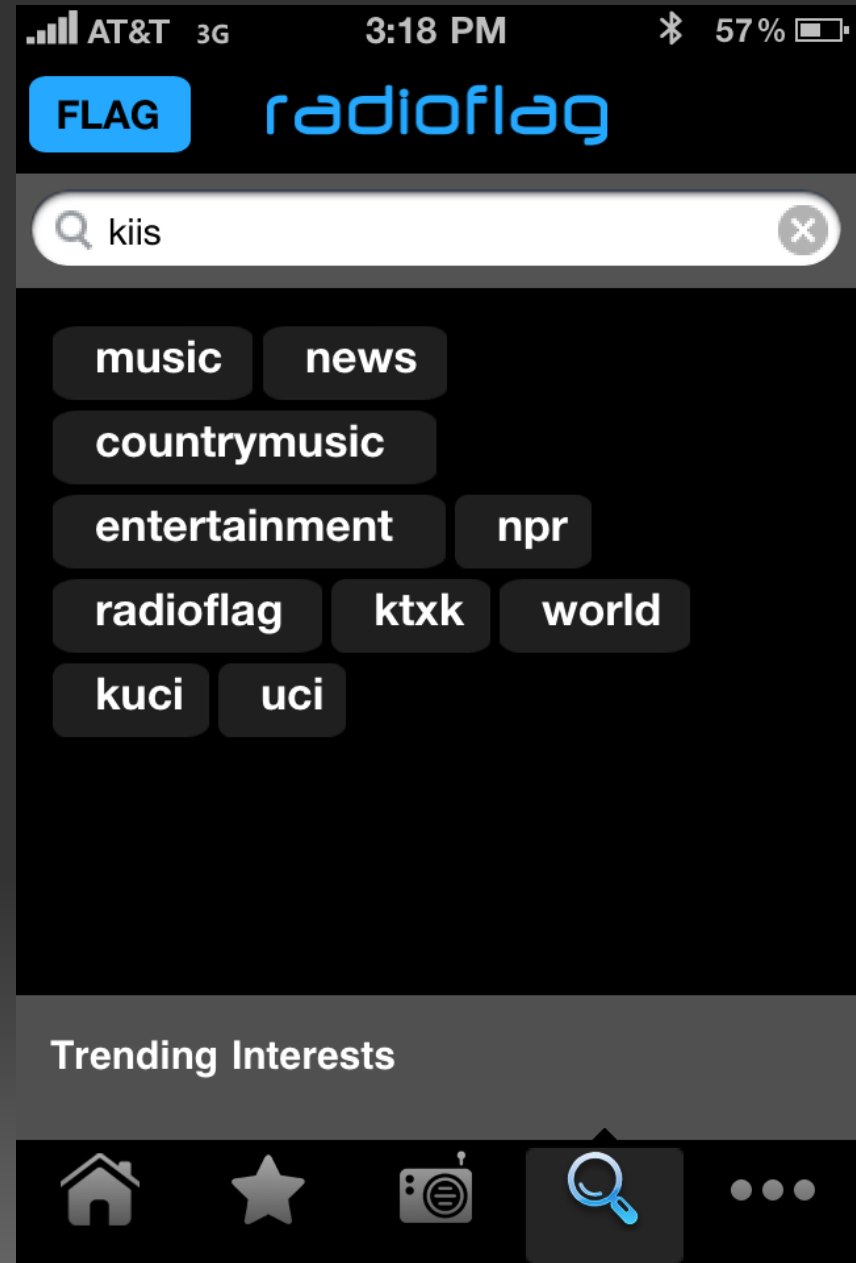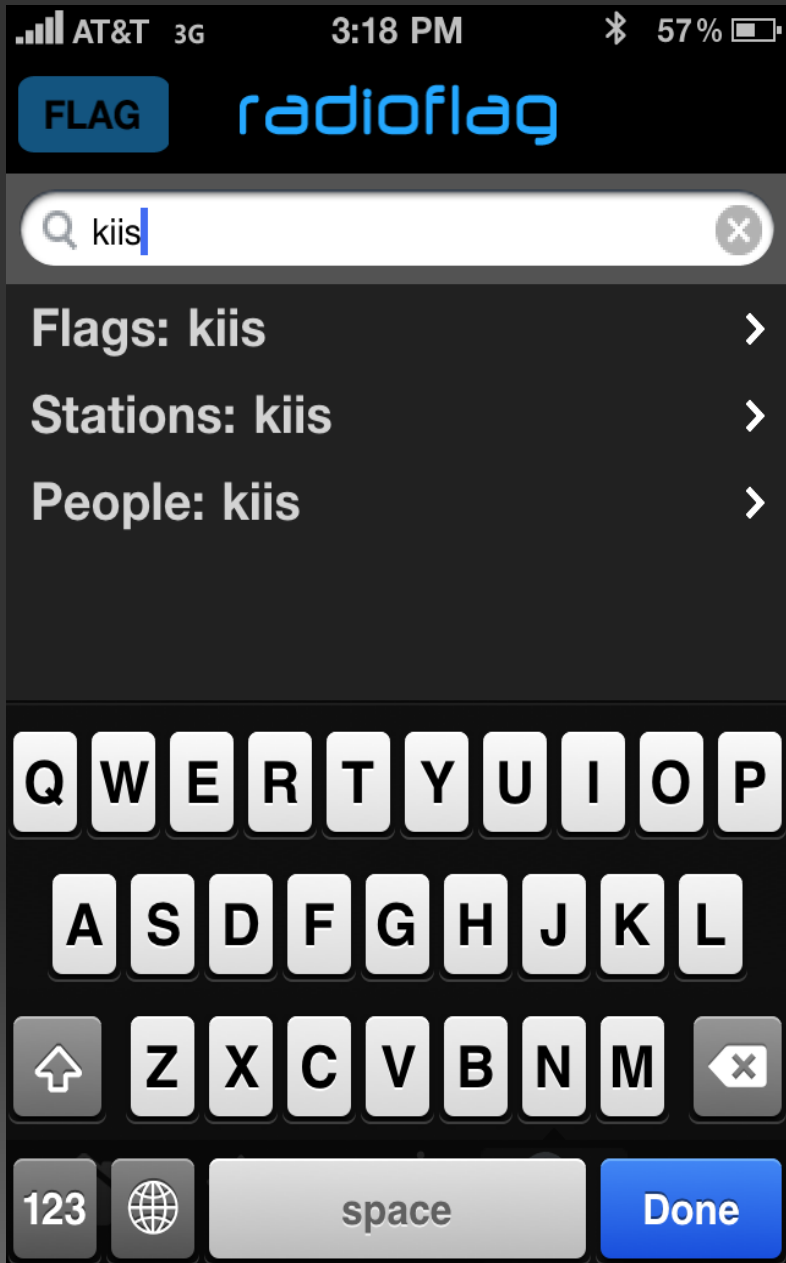
Analysis of Results

- **<u>Drill-down</u>**
  - There are two main issues that are confirmed with the heuristic evaluation after the usability test.
    - **Multiple back button pressing, in many tasks when the users are requested to return to first page they would end up pressing back button between 7-15 times.**

    - **Inconsistency and of understanding, all the icons in the app was not labeled. Many users who are new to iPhones or twitter-like apps do not understand what the icons stand for. During navigation, many users do not know what they are looking at. User, Flags, Stations.**

Analysis of Results

- **<u>Search Functionality</u>**
  - Top 2 issues for search functionality found during the heuristic evaluation and confirmed during the usability testing involved the "done" action and lack of search status:

    - **4 out of 7** users encountered "done" fail as many as 4 times in a single testing. This confirms the need for a default action and/or search to be implemented

    - **3 out of 7** test subjects searched for a topic that did not exist and encountered issues with *lack of search results*. One subject waited as long as *47 seconds* for a response with the other subjects waiting at least *16 seconds* before trying again

Decisions & Future Goals

- Based on our heuristic evaluations and usability testing results, we decided to prioritize the top two key issues for each usability problem being addressed

- These key issues will be the focus when re-designing the interface and creating a mockup design to be implemented and tested

- The success of our mockup design will be measured by whether or not user error rates and/or time spent executing tasks can be reduced as a result

Updated Schedule

Week 07: Interim Presentation
- Create Mockup (ALL),
- Begin Mockup HE (William, Thomas)
- Begin Mockup UT (Derek, Shawn)

Week 08:
- Finish Mockup HE and UT (ALL)
- Begin Analyzing Results (ALL)

Week 09:
- Finish Analyzing Results (ALL)
- Begin Final Report (ALL)

Week 10: Final Presentation, Finish Final Report (ALL)

Week 11: Final Report Due (ALL)

Thank You

Questions?