DISH Technologies

HEURISTIC EVALUATION & USER TESTING

NIELSEN'S HEURISTICS

- **Visibility of system status**

  The system should always keep users informed about what is going on, through appropriate feedback within reasonable time.

- **Match between system and the real world**

  The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms. Follow real-world conventions, making information appear in a natural and logical order.

- **User control and freedom**

  Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state without having to go through an extended dialogue. Support undo and redo.

- **Consistency and standards**

  Users should not have to wonder whether different words, situations, or actions mean the same thing. Follow platform conventions.

- **Error prevention**

  Even better than good error messages is a careful design which prevents a problem from occurring in the first place. Either eliminate error-prone conditions or check for them and present users with a confirmation option before they commit to the action.

- **Recognition rather than recall**

  Minimize the user's memory load by making objects, actions, and options visible. The user should not have to remember information from one part of the dialogue to another. Instructions for use of the system should be visible or easily retrievable whenever appropriate.

- **Flexibility and efficiency of use**

  Accelerators -- unseen by the novice user -- may often speed up the interaction for the expert user such that the system can cater to both inexperienced and experienced users. Allow users to tailor frequent actions.

- **Aesthetic and minimalist design**

  Dialogues should not contain information which is irrelevant or rarely needed. Every extra unit of information in a dialogue competes with the relevant units of information and diminishes their relative visibility.

- **Help users recognize, diagnose, and recover from errors**

  Error messages should be expressed in plain language (no codes), precisely indicate the problem, and constructively suggest a solution.

- **Help and documentation**

  Even though it is better if the system can be used without documentation, it may be necessary to provide help and documentation. Any such information should be easy to search, focused on the user's task, list concrete steps to be carried out, and not be too large.

SEVERITY RATINGS

Severe	Usability Catastrophe
High	Major Usability Problem
Medium	Minor Usability Problem: Low Priority Fix
Low	Cosmetic Problem

DESCRIPTION AND METHODS

This documents includes findings from a heuristic evaluation using Jakob's Nielsen's 10 Usability Heuristics for User Interface Design (https://www.nngroup.com/articles/ten-usability-heuristics/) as well as highlight from an internal usability testing session. The usability session included 4 participants who are DISH employees and were not familiar or had a low familiarity with the DISH commercial controller app. Participants were asked to interact with the app while given specific tasks and scenarios. Task included tuning to a channel in the guide, searching for content, tuning to a channel using the remote, creating and identifying groups, and general troubleshooting.

The document includes screenshots from the current version of the app as well as mockups from the original design file. Significant difference are marked.
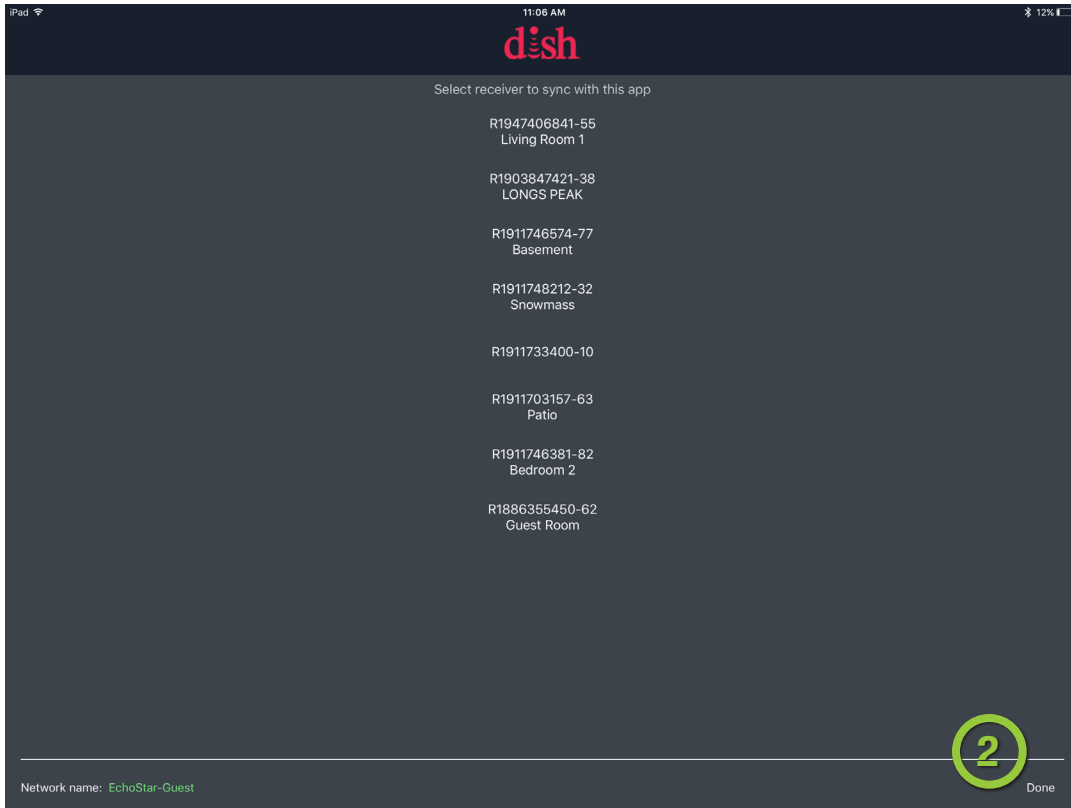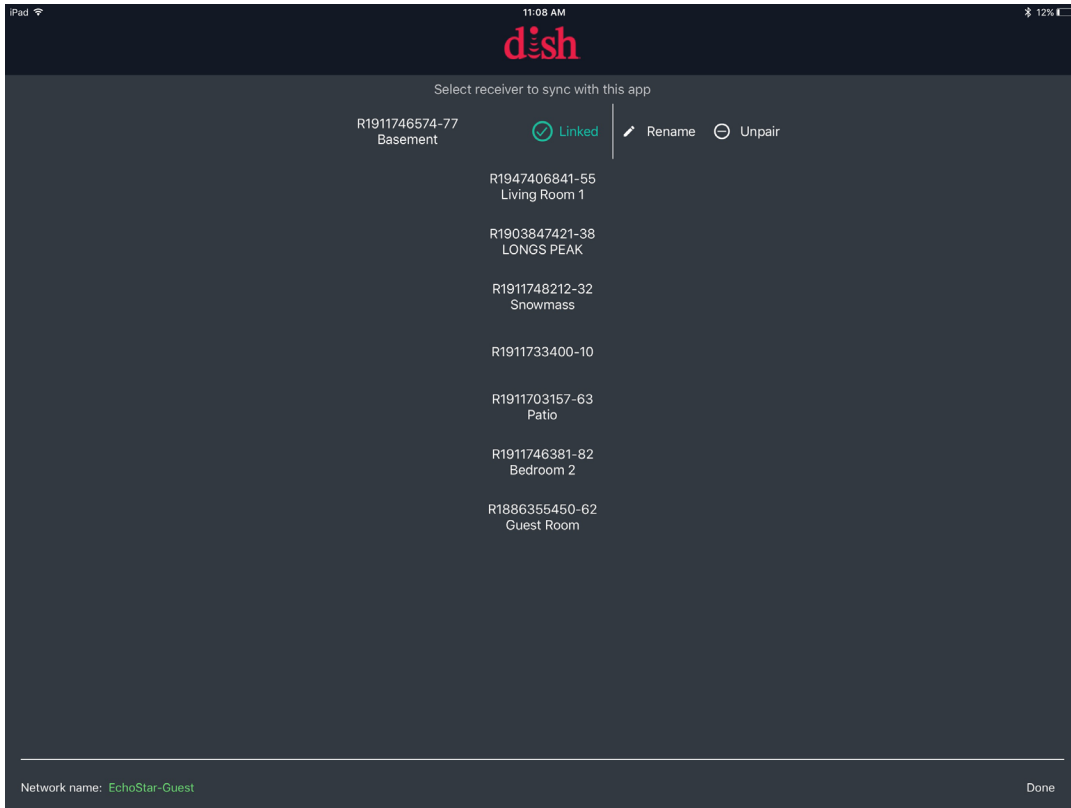
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Receivers

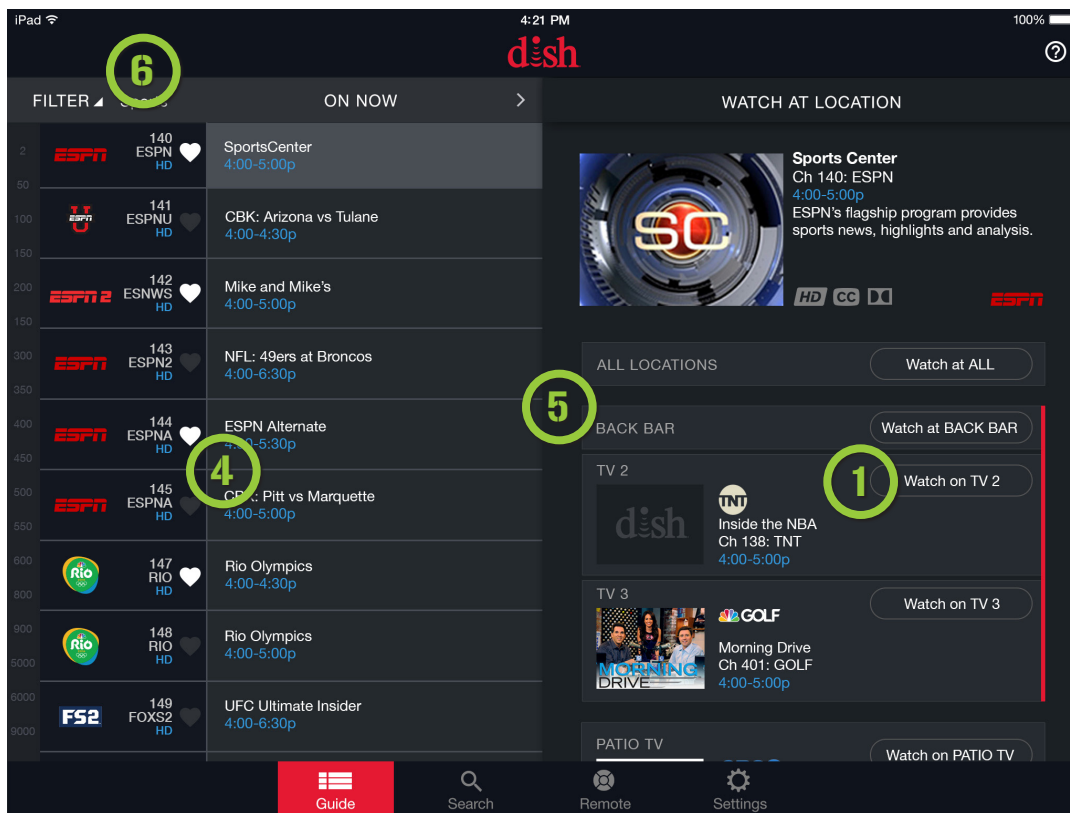| #	Heuristic Violated	Severity	Description	Solution
1	Flexibility and Efficiency of Use	Severe	In order to refresh list of receivers, the user has to exit out of the app, and then reopen it	Have app refresh when user pulls down on a list
2	Recognition Rather Than Recall & Consistency and Standards	High	"Done" button is easy to miss	Add a receivers icon to the tab bar and have that displayed at all times
				if there's nothing on this screen, add some info on how to subscribe to dish
				create a no receivers screen

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HEURISTIC EVALUATION & USER TESTING

RECEIVERS - SYNCED RECEIVERS

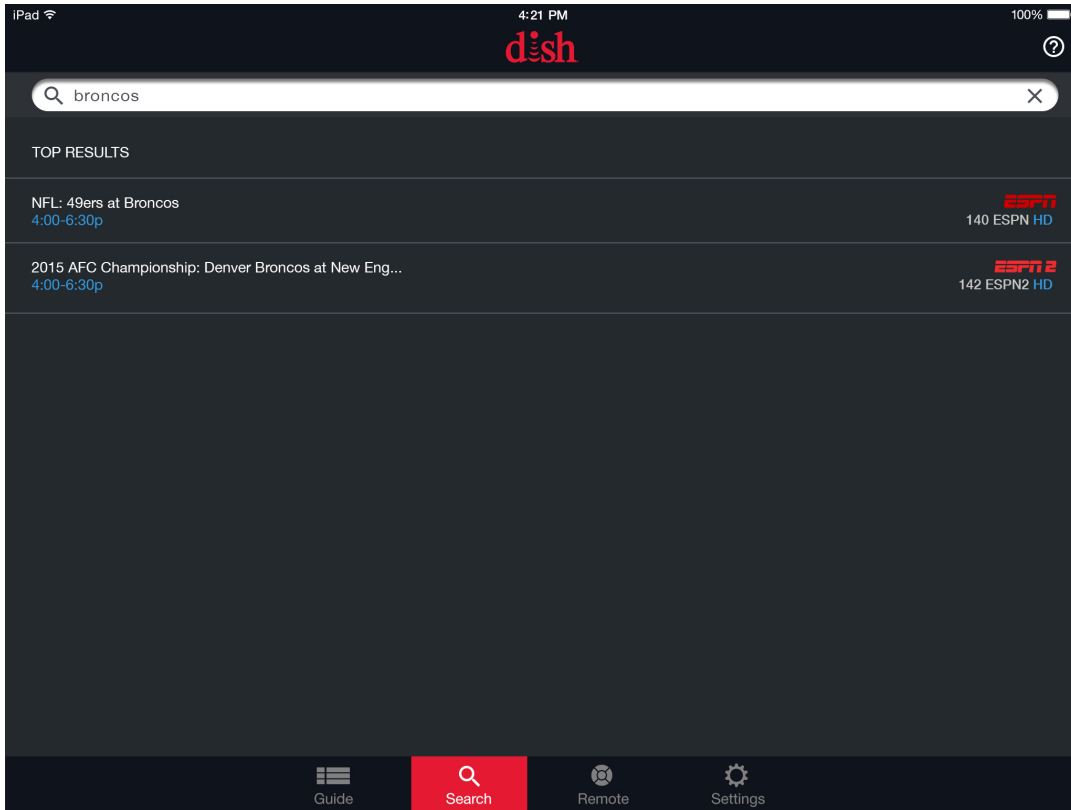| #	Heuristic Violated	Severity	Description	Solution
1	Flexibility and Efficiency of Use	Severe	This is the first screen users see when they enter the app. Most likely would want to see the guide or what's on tv's.	Show what each receiver is currently playing or default to guide. Create a receiver tab to quickly see connected receivers.
2	Match Between System and the Real World	Medium	Information is not lined up, creating confusion	Display information in a more uniform way to users know to where to look for information
			Redirect user to top of the list once reciever is paired	
				trouble shooting screens

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GUIDE

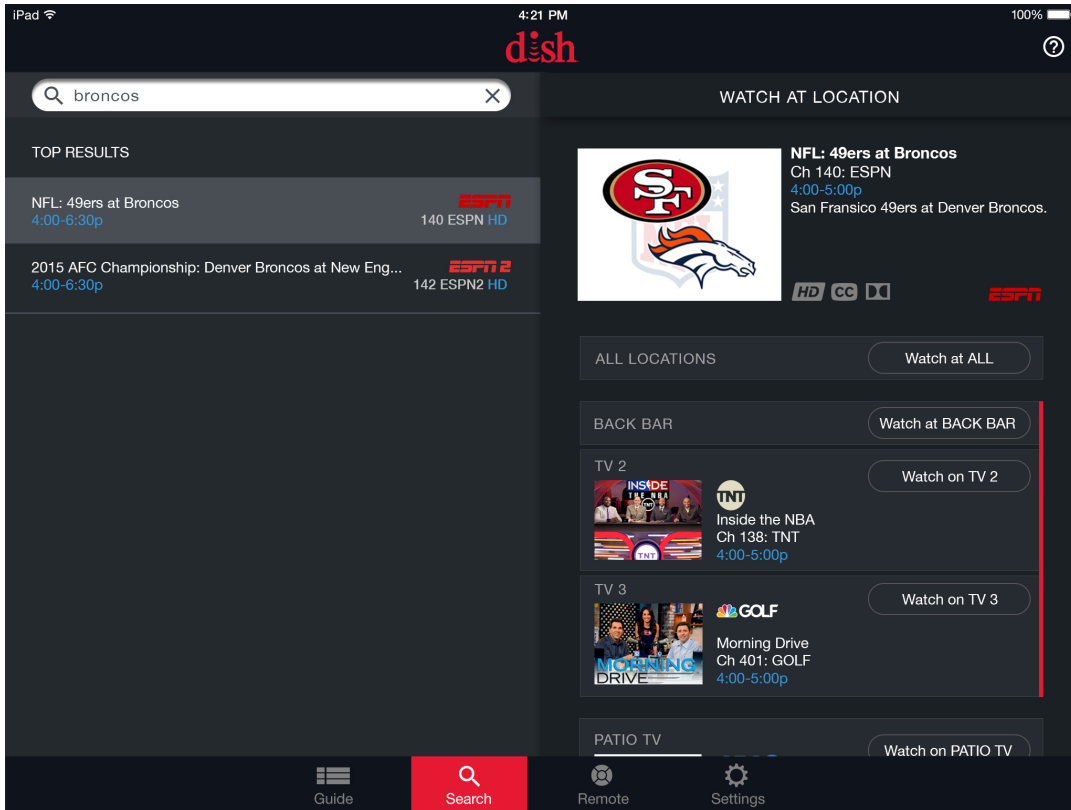| #	Heuristic Violated	Severity	Description	Solution
1	Match between system and real world	Severe	The "Watch on TV 2" isn't clear enough. It is position right next to the image of what is currently playing on next to the button, implying that show is going to be show on that receiver.	Expand language to include event title
2	Visibility of system status	Severe	There is no indication of lag time when user is changing channels	Add some kind of loading animation to prevent users from selecting different channels while the app is processing original requests
3	Aesthetic and minimalist design	Severe	On demo, there's a No Group group that controls all tvs	Remove "No Group" Group
4	Recognition rather than recall	High	Several users did not notice the heart icons and could not discern what that they would compose a favorite list.	Add a way to create a favorite's list in settings. User may then be aware of the favorite list function and would have context for the heart icons as well as the filter functionality.
5	Recognition rather than recall	High	It's hard to identify the difference between groups and individual TVs	Create an icon to better signify groups
6	Flexibility and efficiency of use	Medium	Users requested additional filters - most notably Sports and News	And additional filters so user can easily navigate the guide
			Once favorite filter is selected, there's no indication something was selected	Have channel list update in background
				Pull down to indicate you're at the top of the list of guide and receivers

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SEARCH - RESULTS (UNSELECTED)

#	Heuristic Violated	Severity	Description	Solution
1	Match between system and the real world	Medium	Users cannot search by terms they want to user (ex. Today's Games)	Amend the search to include terms Commercial Customers would use.
2	Consistency and Standards	Medium	User's lose the list of receivers and do not gain anything significant from the full screen search	Change default search screen layout to include list of receives like the Selected Results Search screen
				Display search results with events on later in the day
				add no results
				indication of what search is searching
				Hide keyboard until search bar is selected
				add heart icon and search icon

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Search - Selected Results

#	Heuristic Violated	Severity	Description	Solution
				add heart icon

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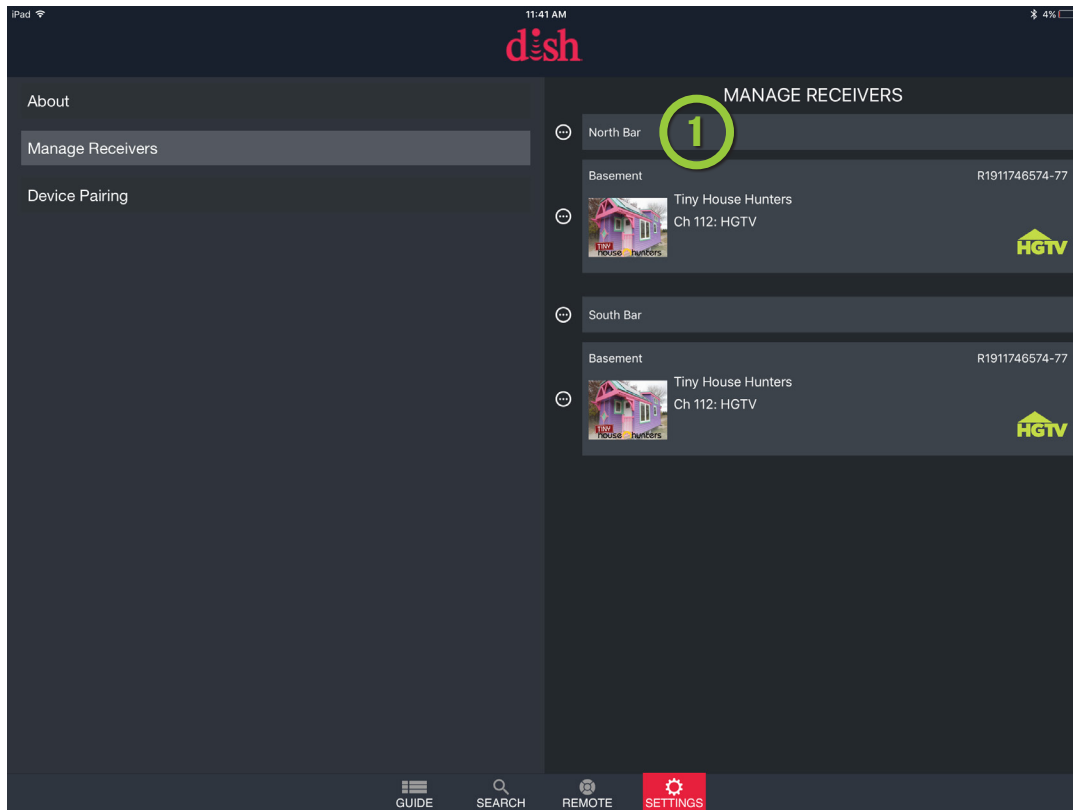
MANAGE RECEIVERS

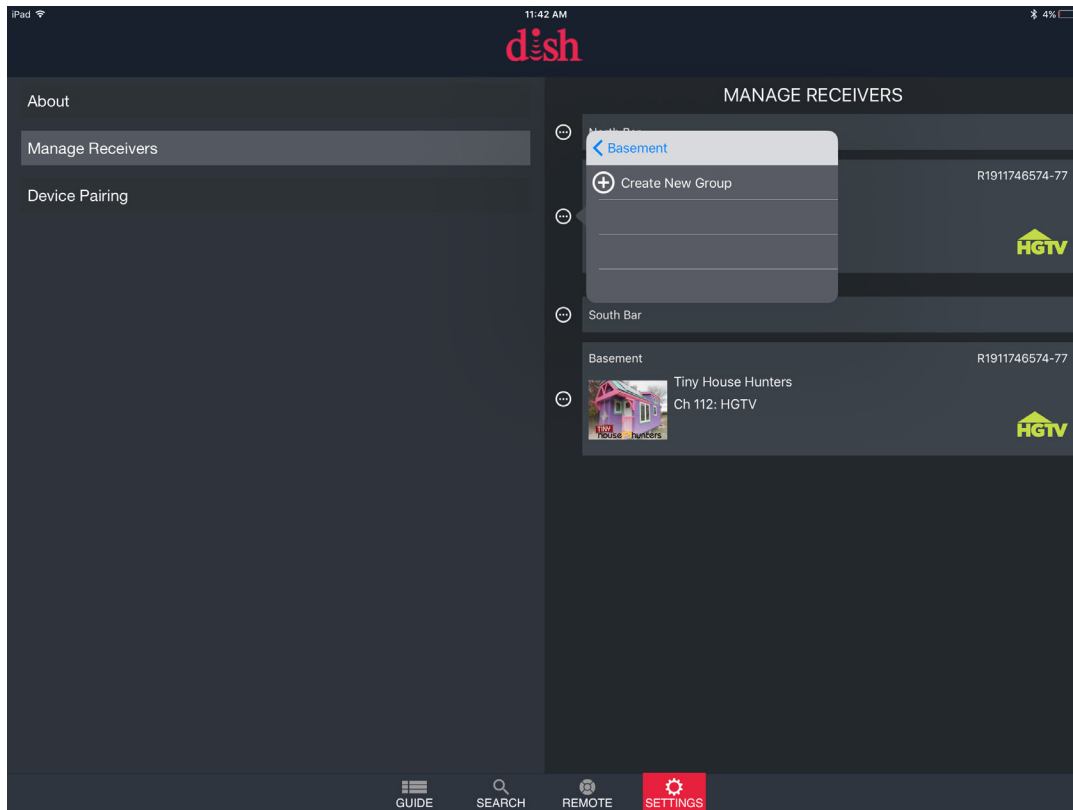| #	Heuristic Violated	Severity	Description	Solution
1	Recognition rather than recall	High	It's hard to identify the difference between groups and individual TVs	Create an icon to better signify groups/ color tab
				add create group bar at top
				add about section

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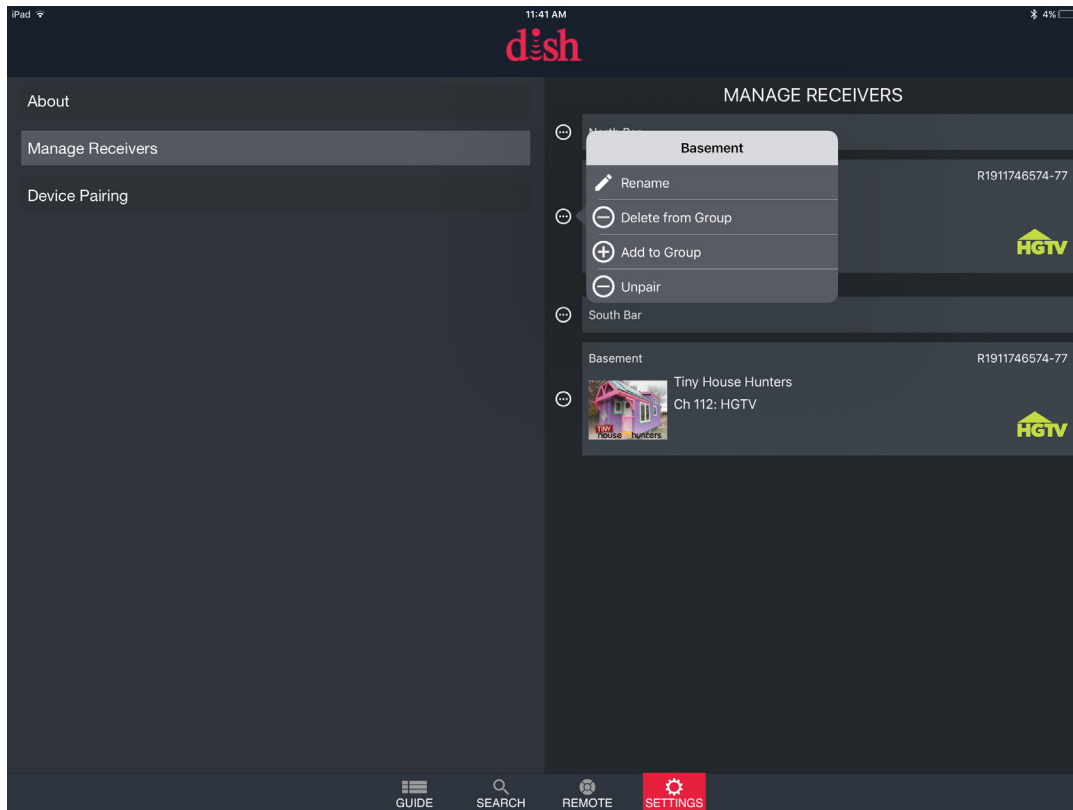
MANAGE RECEIVERS - GROUP POP-UP

#	Heuristic Violated	Severity	Description	Solution

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Manage Receiver - Individual Receiver

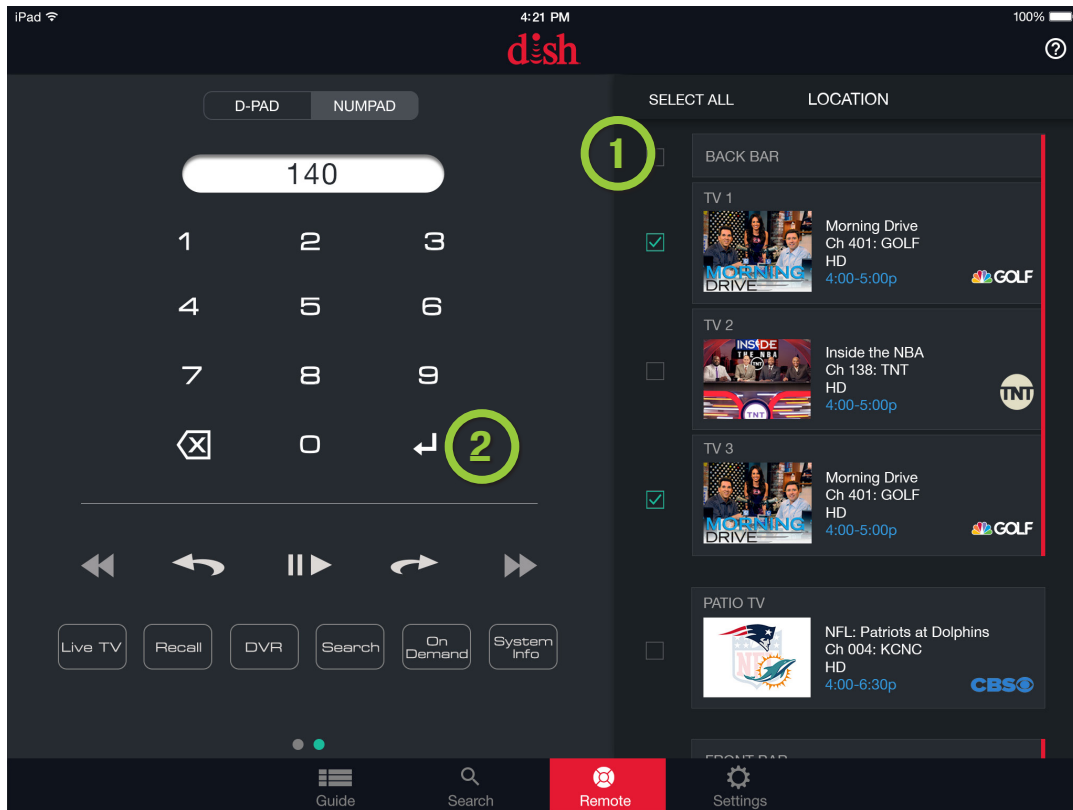| #	Heuristic Violated	Severity	Description	Solution

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MANAGE RECEIVER - INDIVIDUAL RECEIVER

#	Heuristic Violated	Severity	Description	Solution
1	Consistency and Standards	Severe	Remote works on a different interaction paradigm than the guide and search. Several users were confused in how to interact with the remote function. One user failed in interacting with the remote altogether.	We could amend this screen to function like the guide, or we could design a new way for users to decide whether they want to choose the receiver or event/channel first.
2	Recognition rather than recall	Medium	Users were delayed in recognizing that they needed to select the enter button after inputing the channel number	Use a different icon or make the enter button more conspicuous and recognizable.
				need to select checkboxes if keeping design in addition to selecting body of TV selection