Juniper Directory

Heuristic Evaluation & Redesign

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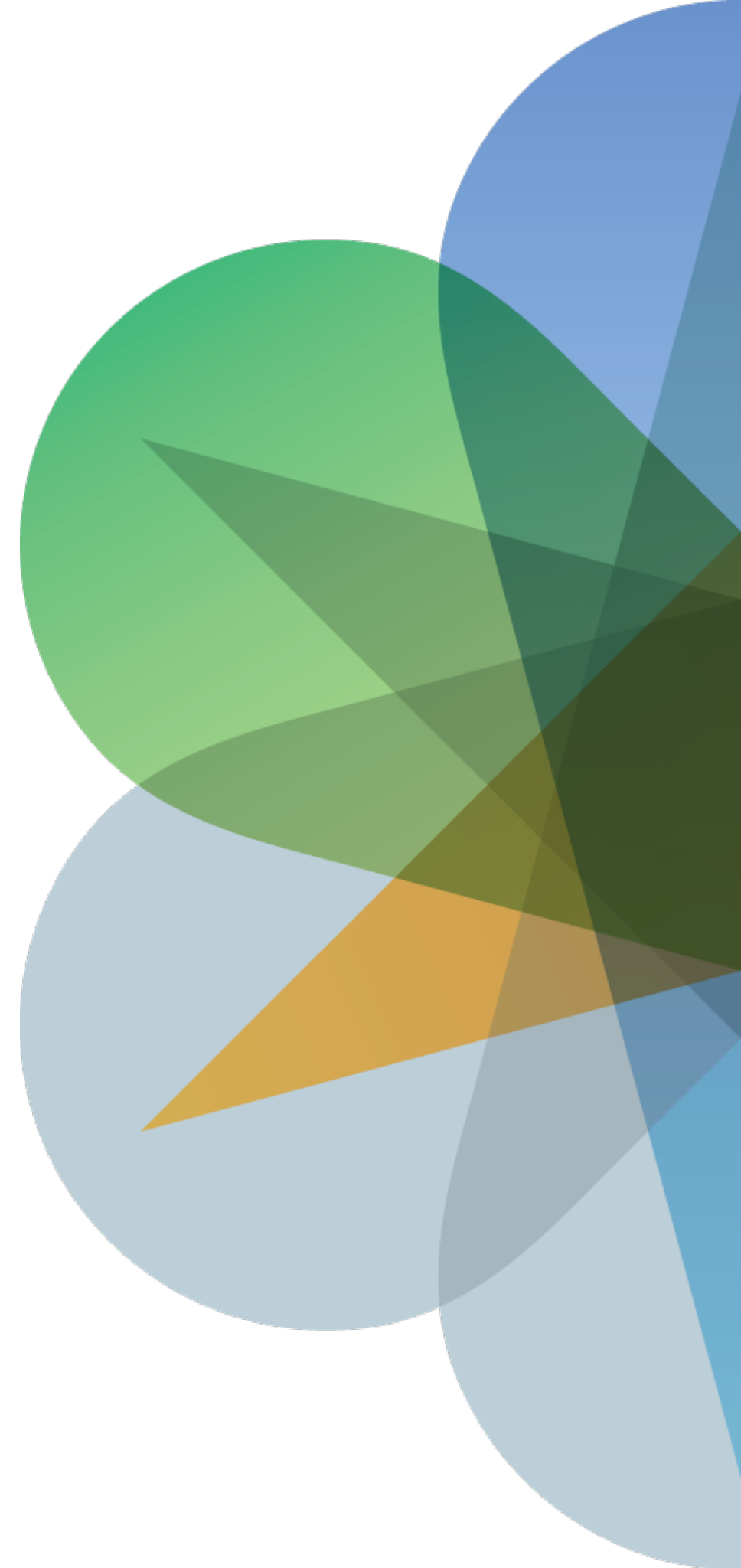Summer 2015

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Overview

The Juniper Directory website provides access to the Juniper employee database for mobile devices.

The current website focuses solely on searching for colleagues by name, email or alias. However, a thorough heuristic evaluation reveals several usability problems that need to be addressed.

This document identifies and lists the different usability issues and also includes a redesign of the entire website which not only addresses those issues, but also proposes new interactions which can improve the experience of using the Juniper Directory.

The issues identified are categorized by severity:
- Critical - the website should not be active if this issue is not fixed
- Major - this issue needs to be fixed immediately
- Minor - should be fixed after all Major issues are addressed
- Cosmetic - does not affect functionality, but still needs to be fixed

The redesign of the website was completed on Proto.io - an online prototyping tool. A link to the interactive version of the prototype is available on the last page of this document.

What is Heuristic Evaluation?

Heuristic evaluation is a usability engineering method for finding problems in a user interface design so that they can be attended to as part of an iterative design process.

Created by Jakob Nielsen, these 10 general principles for interaction design are now an industry-standard for measuring the usability of any digital application. They are called "heuristics" because they are broad rules of thumb and not specific usability guidelines.

Heuristic evaluation involves having a small set of evaluators examine the interface and judge its compliance with recognized usability principles. During the evaluation session, the evaluator goes through the interface several times and inspects the various elements and compares them with a list of recognized heuristics.

In addition to the checklist of general heuristics to be considered for all elements, the evaluator obviously is also allowed to consider any additional usability principles or results that come to mind that may be relevant for any specific element.

The output from using the heuristic evaluation method is a list of usability problems in the interface with references to those usability principles that were violated by the design in each case in the opinion of the evaluator.

For more information about heuristic evaluation, refer:
- 10 Usability Heuristics for User Interface Design - http://www.nngroup.com/articles/ten-usability-heuristics
- How to Conduct a Heuristic Evaluation - http://www.nngroup.com/articles/how-to-conduct-a-heuristic-evaluation

The 10 Usability 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 & The Real World
The system should speak the users' language, with words, phrases and concepts familiar to the user, rather than system-oriented terms.

User Control & Freedom
Users often choose system functions by mistake and will need a clearly marked "emergency exit" to leave the unwanted state.

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

Error Prevention
Design carefully to prevent a problem from occurring in the first place.

Recognition Rather Than Recall
Minimize the user's memory load by making objects, actions, and options visible.

Flexibility & Efficiency Of Use
Allow users to tailor frequent actions.

Aesthetic & Minimalist Design
Every extra unit of information competes with the relevant units of information and diminishes their relative visibility.

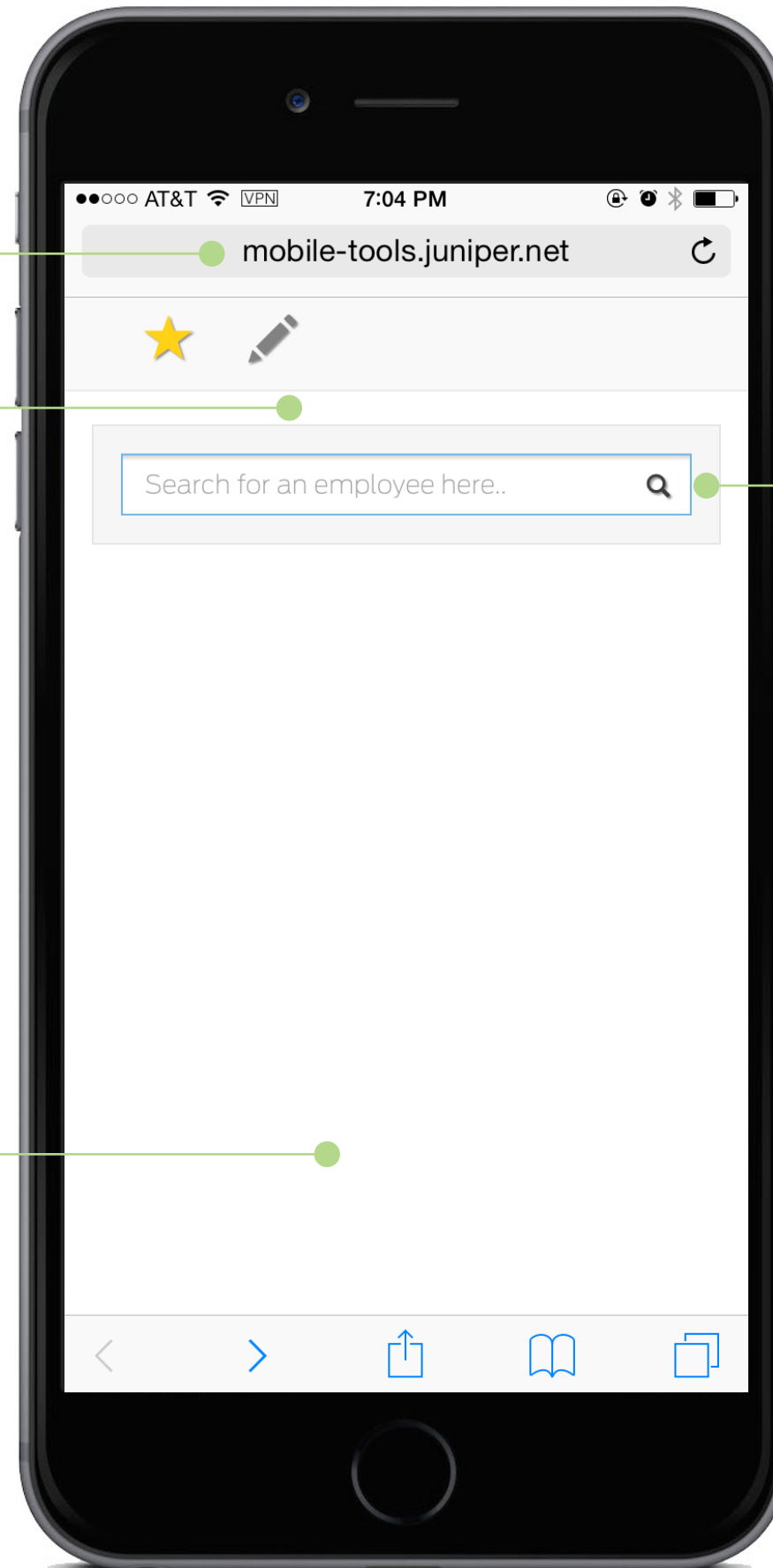**Help Users Recognize, Diagnose, & Recover From Errors**
Error messages should be expressed in plain language and constructively suggest a solution.

Help & Documentation
Provide help and documentation where necessary.

Homepage

No Juniper Directory branding

Severity: Major

Heuristic: Recognition Rather Than Recall

The lack of a Juniper Directory logo or title makes it hard for anyone unfamiliar with the site to identify it.

In addition to the logo, the HTML title of the page should also be set to "Juniper Directory", so the browsers can display a human-readable title, rather than the URL.

More ways of searching

Severity: Critical

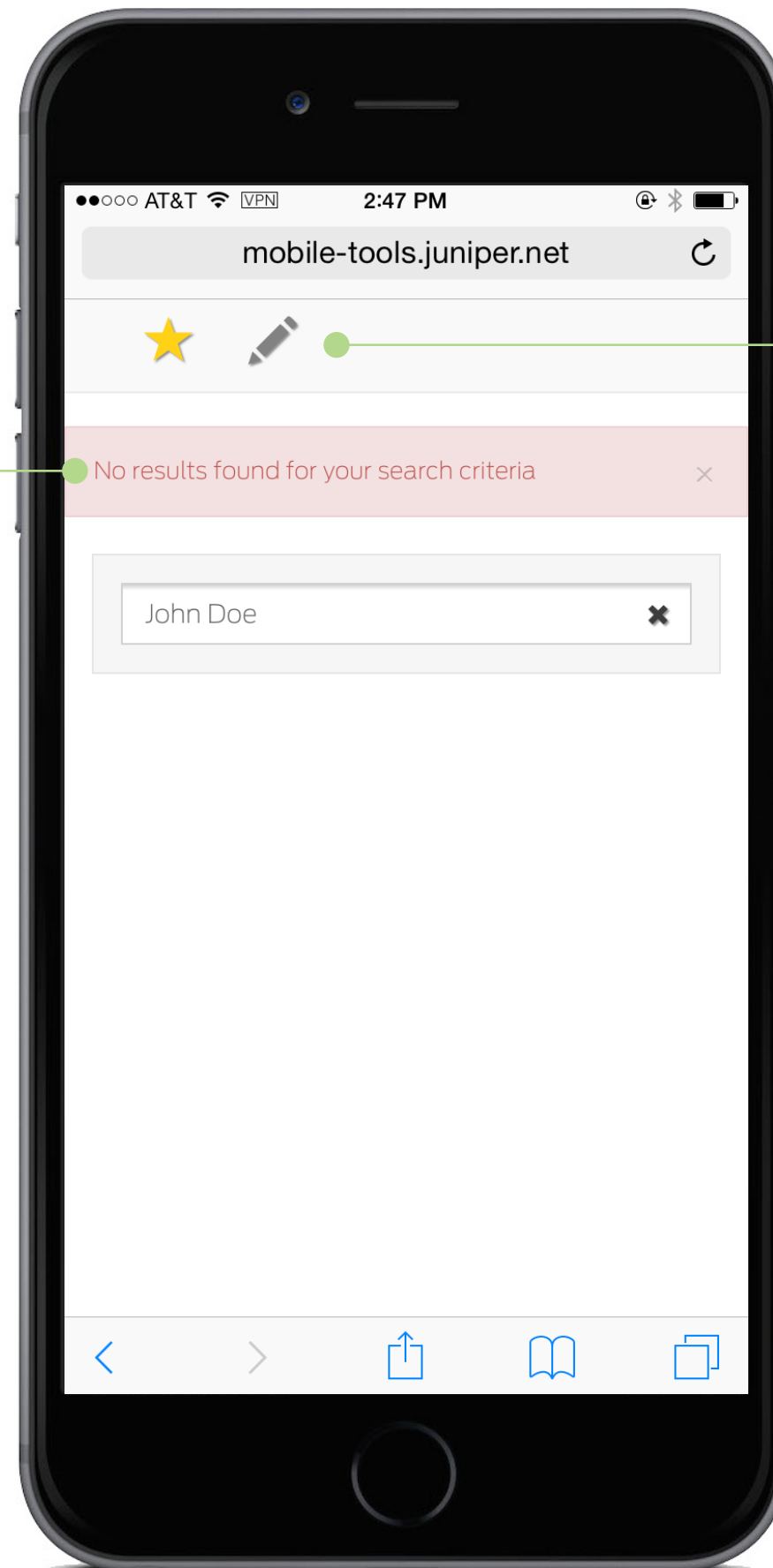Heuristic: Recognition Rather Than Recall, Flexibility & Ease Of Use

The current design requires the user to already know the name of the person they're looking for. Providing options such as "Search by Department" or "Search by Location" can help the user find people even if they don't know their names.

No page footer

Severity: Minor

Heuristic: Visibility of System Status

In addition to housing copyright infromation and less-frequently used links, website footers usually serve a very important purpose - to indicate that the page loaded completely. If there is no footer, the user may think there was an error which prevented the full page from loading.

●●○○○ AT&T 🛜 VPN   7:04 PM   🔒 ⏱ ✳ ▬

mobile-tools.juniper.net   ↻

Search for an employee here..   🔍

Unintuitive icon

Severity: Cosmetic
Heuristic: Consistency & Standards

The icon used currently is usually associated with the "Edit" action, rather than "Feedback".

No results found for your search criteria

Error message should remain visible

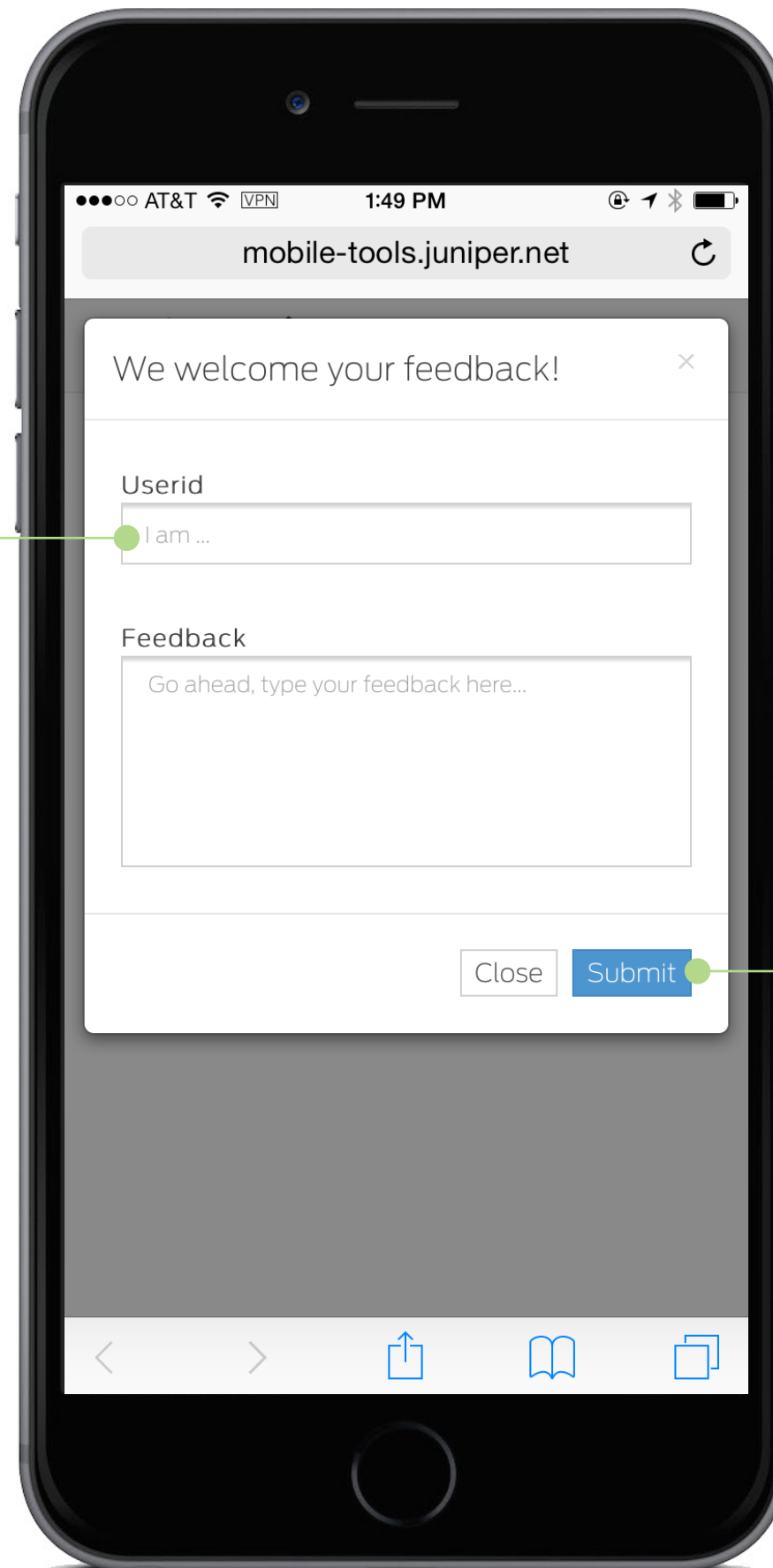Severity: Minor
Heuristic: Help Users Recognize, Diagnose & Recover From Errors

This message automatically disappears after 5 seconds. The user may easily miss this error if they were not looking at the screen at the time. Important messages like this should remain on screen till the user takes a different action.

mobile-tools.juniper.net

John Doe

●●○○○ AT&T VPN 2:47 PM

User ID should be auto-filled

Severity: Minor

Heuristic: Error Prevention

Expecting the user the enter the User ID themselves can lead to 2 issues: the user may enter an invalid User ID, for which there is no validation. Or, users can easily impersonate someone else. While the latter may be unlikely, its always better to avoid such issues rather than addressing them later.

Form submissions should be validated

Severity: Major

Heuristic: Error Prevention

Currently, the form accepts blank submissions. Basic validation should be implemented to reject invalid entries.

Profile Page

No link to return to homepage

Severity: Major
Heuristic: User Control & Freedom, Consistency & Standards

There is no way the user can return to the homepage. This will be needed especially when we add more ways to search on the homepage.
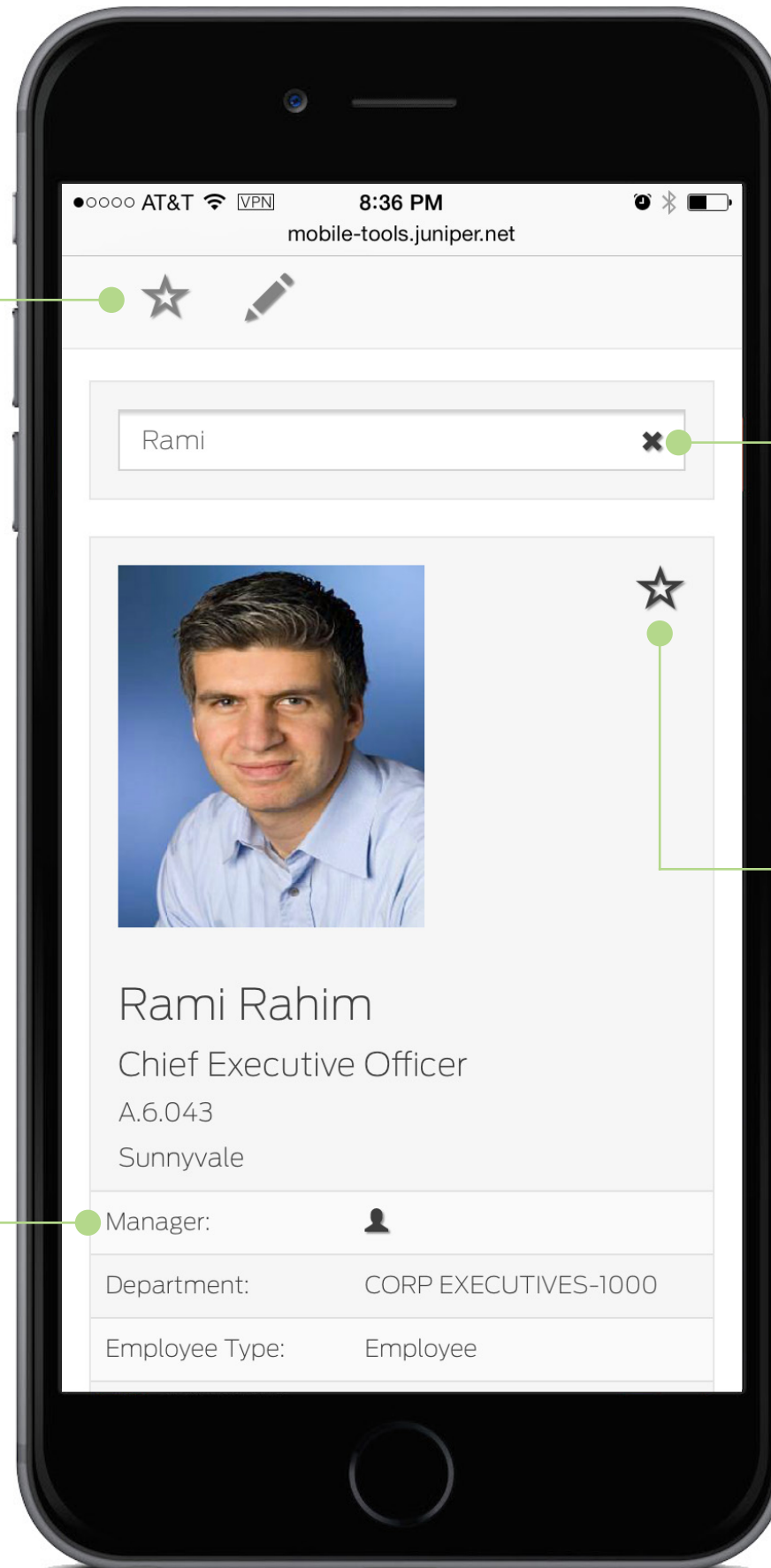
A link to the homepage does appear in the Favorites page, which leads to a lack of consistency.

Empty values should not be blank

Severity: Minor
Heuristic: Visibility of System Status

Blank fields lead to ambiguity. Instead, a simple message, in this case "None", would suffice.

8:36 PM
mobile-tools.juniper.net

Rami ✖

Rami Rahim
Chief Executive Officer
A.6.043
Sunnyvale

Manager: 👤
Department: CORP EXECUTIVES-1000
Employee Type: Employee

Unintuitive navigation

Severity: Minor
Heuristic: Consistency & Standards, User Control & Freedom

Tapping on this icon redirects the user to the homepage, which is not very intuitive. Users should be able to search for a different employee without being redirected to another page.
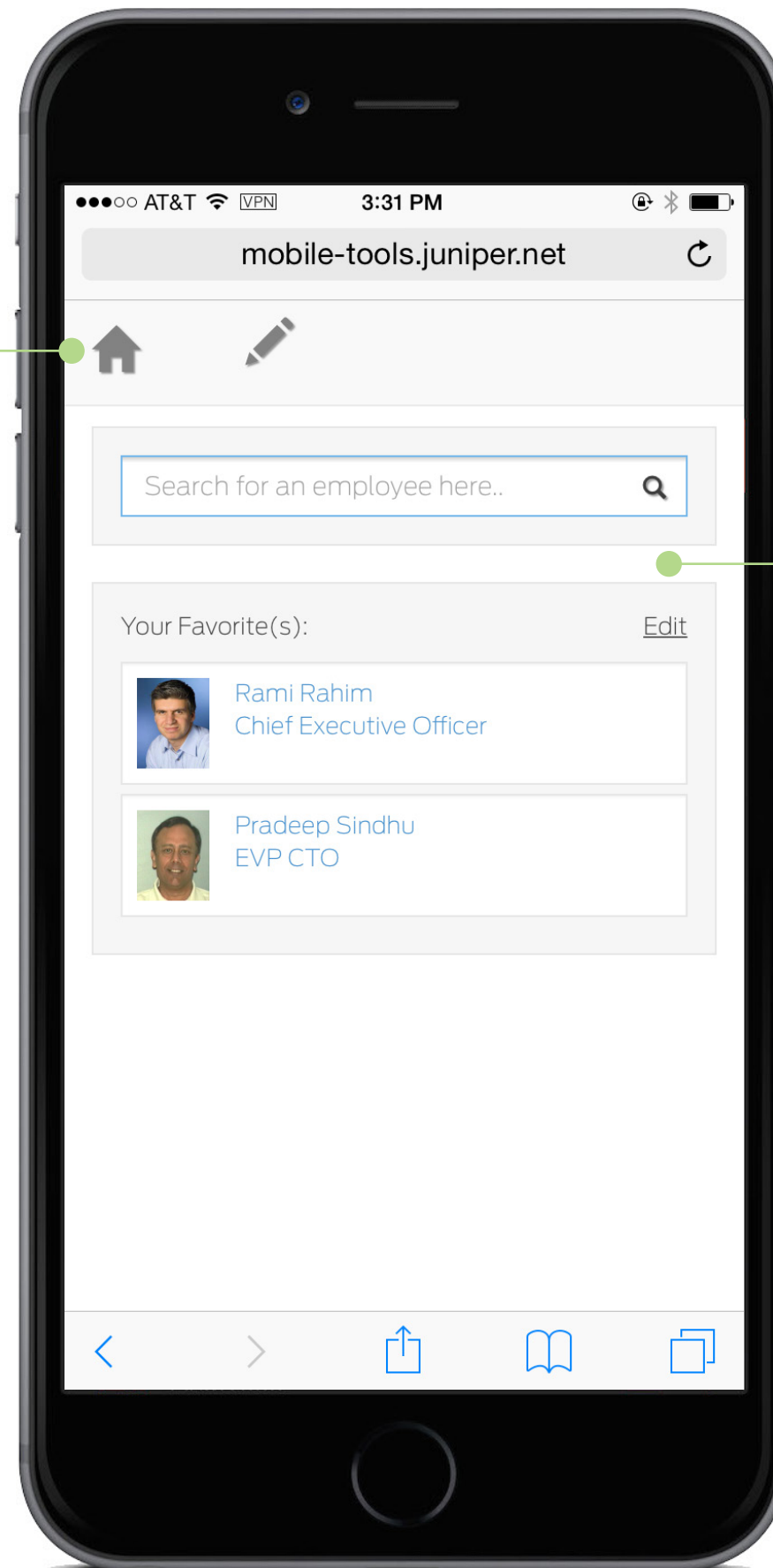
Repeated Icon

Severity: Cosmetic
Heuristic: Consistency & Standards

The icon to add a profile to the Favorites list is the same as the icon used in the link to the Favorites page in the top bar. Ideally, a different icon should be used.

Favorites

Inconsistent navigation

Severity: Major

Heuristic: User Control & Freedom, Consistency & Standards

The link to homepage only appears on a few pages. Ideally, it should appear on all pages, including the homepage, where it should be highlighted. The same applies for the Favorites icon, which is missing here.


Page title missing

Severity: Major

Heuristic: Visibility of System Status

Without the page title, the user is left guessing what page they are currently on.

In addition to the page title, breadcrumbs may also be used to help users trace their way back to previous pages. This could also be a nice way to understand the hierarchy of employees as they navigate through the 'Direct Reports' section.
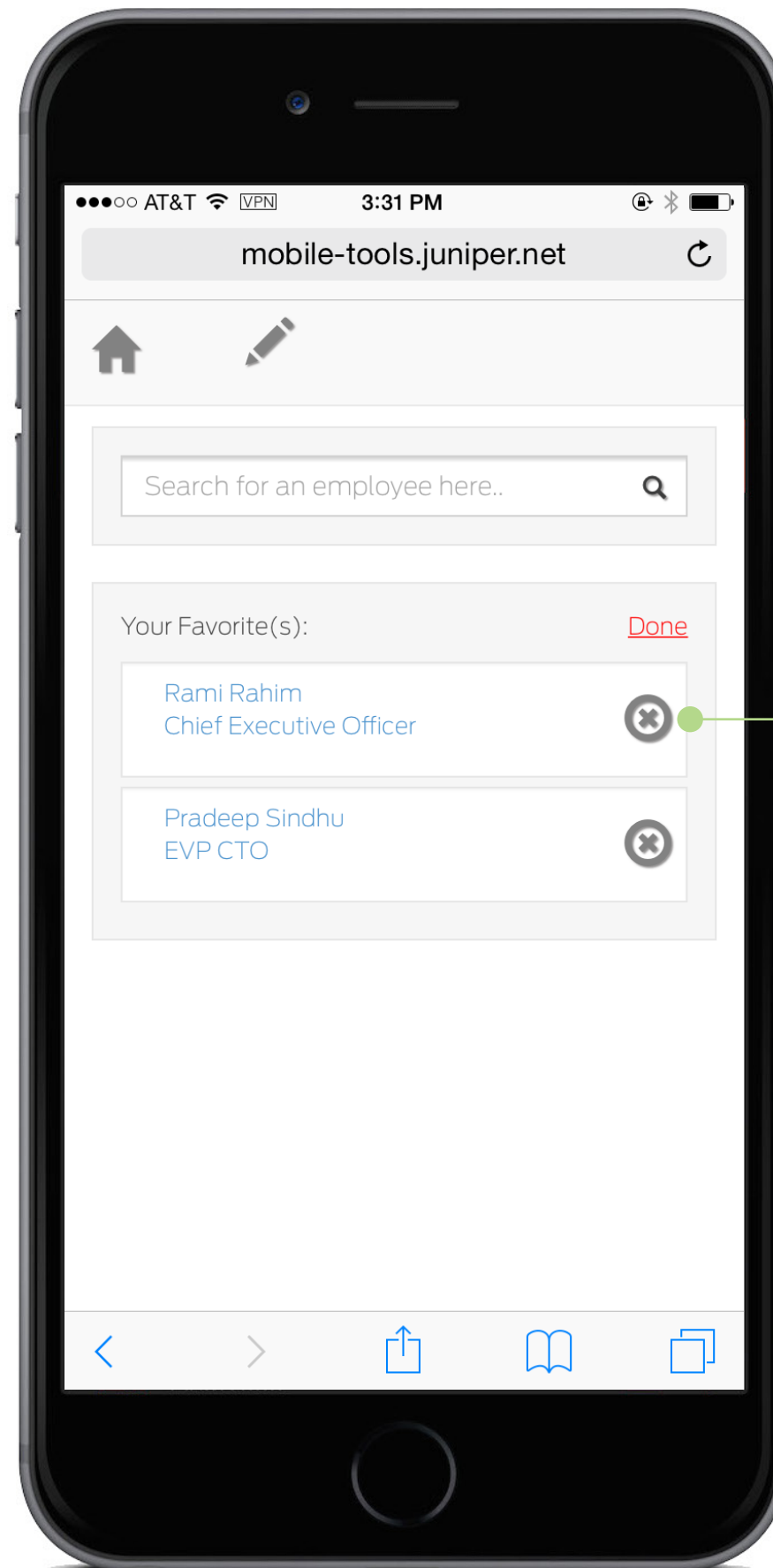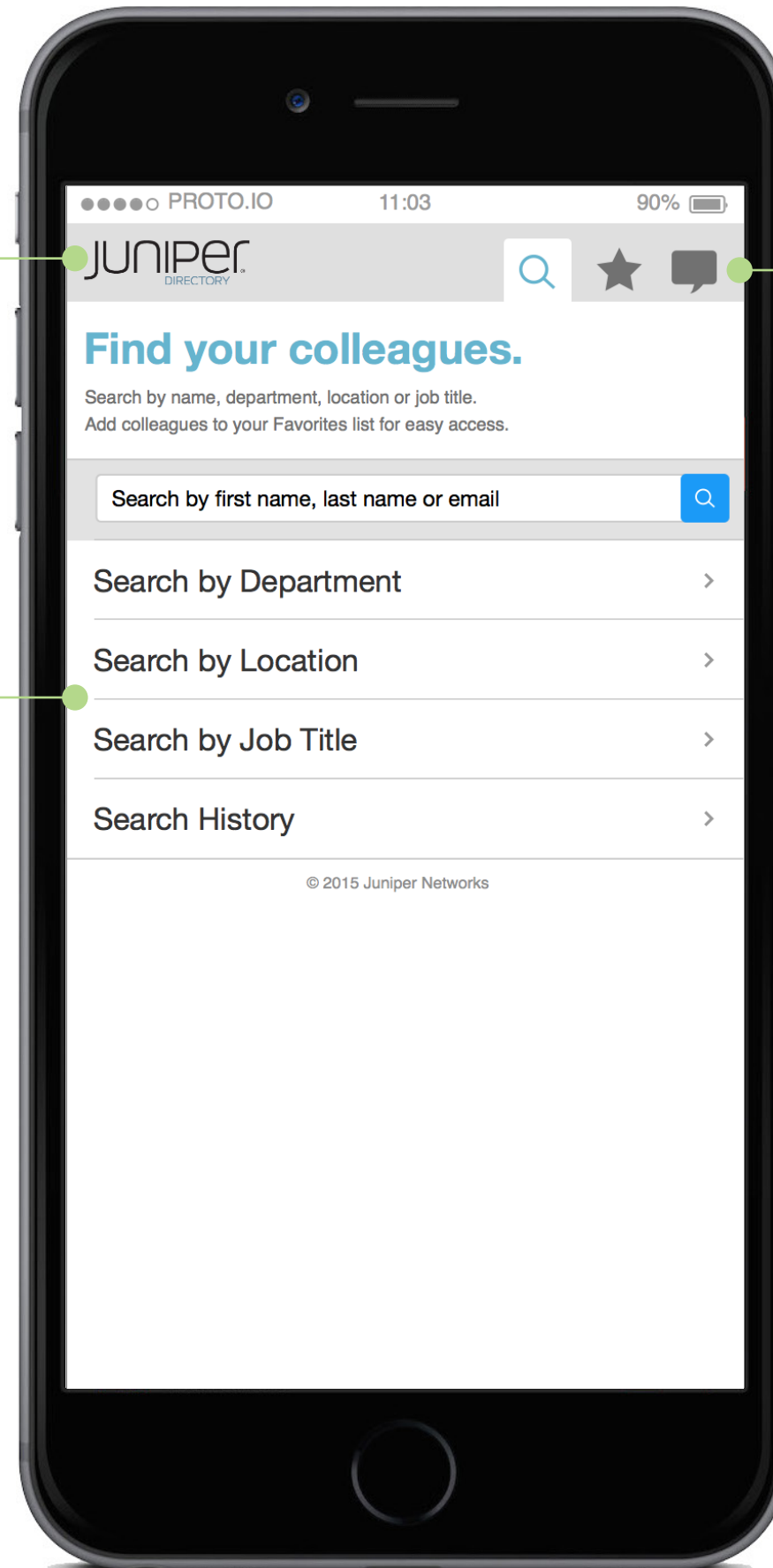
No confirmation before removal

Severity: Major
Heuristic: Error Prevention

There is no confirmation dialog before removing a profile from the Favorites list. Users may tap on the button accidentally, so a dialog which confirms if the user really wants to remove the profile would be helpful.

Homepage

Juniper Directory branding

Sets the context of the website and also acts as a link back to the homepage.

Multiple ways to search

Users can now find their colleagues by department, location or job title. Search History keeps track of their previous searches.

Consistent Navigation

The new navigation bar appears consistently across screens and highlights the current page.

If the feedback form is not used frequently, it can be removed from the navigation bar and a link can be placed in the footer.

Find your colleagues.

Search by name, department, location or job title.
Add colleagues to your Favorites list for easy access.

Search by first name, last name or email

Search by Department　　　　　　　　　　　　>

Search by Location　　　　　　　　　　　　　>

Search by Job Title　　　　　　　　　　　　　>

Search History　　　　　　　　　　　　　　　>

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Pre-filled user ID
The user ID is pre-filled and uneditable.
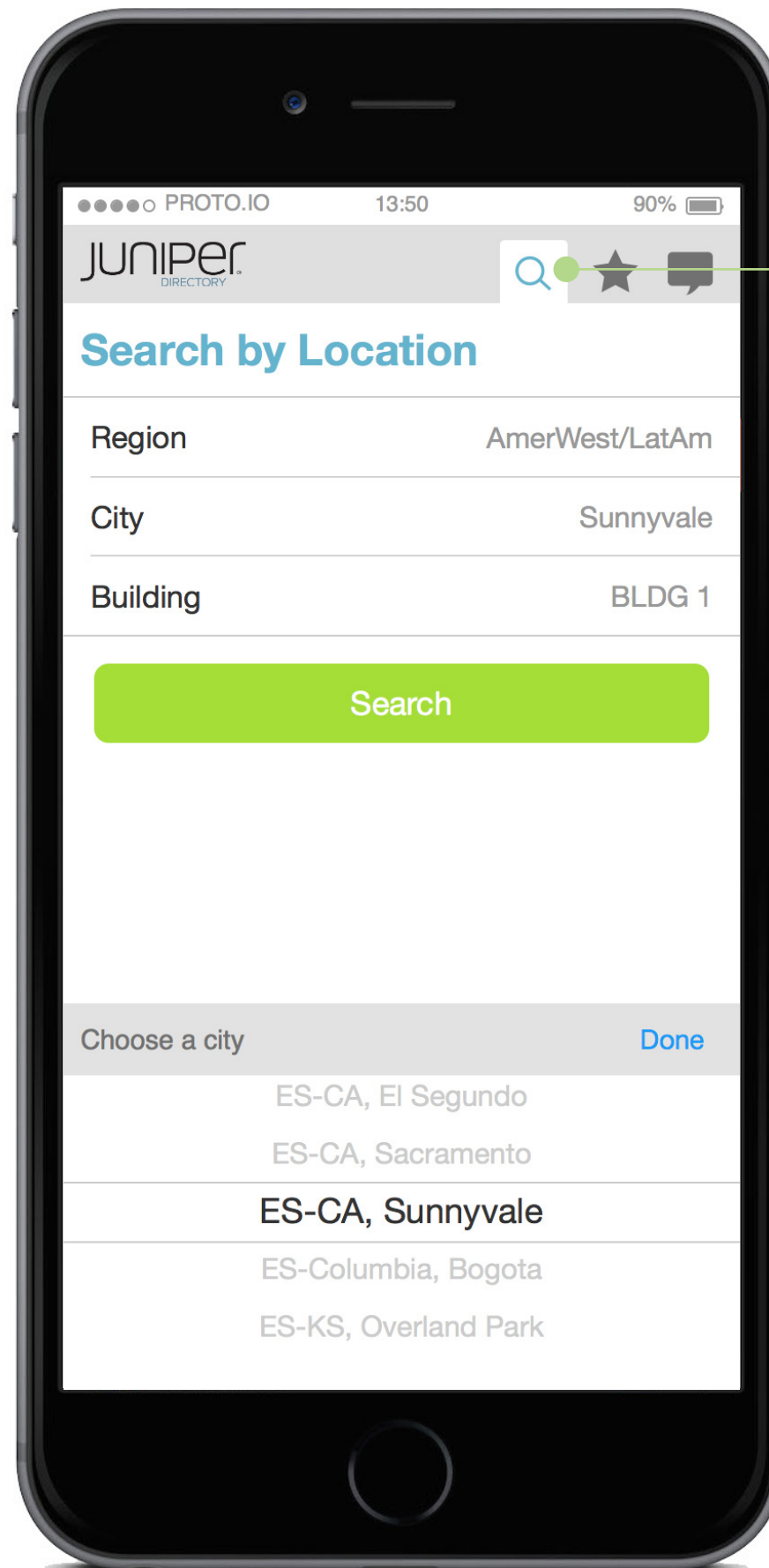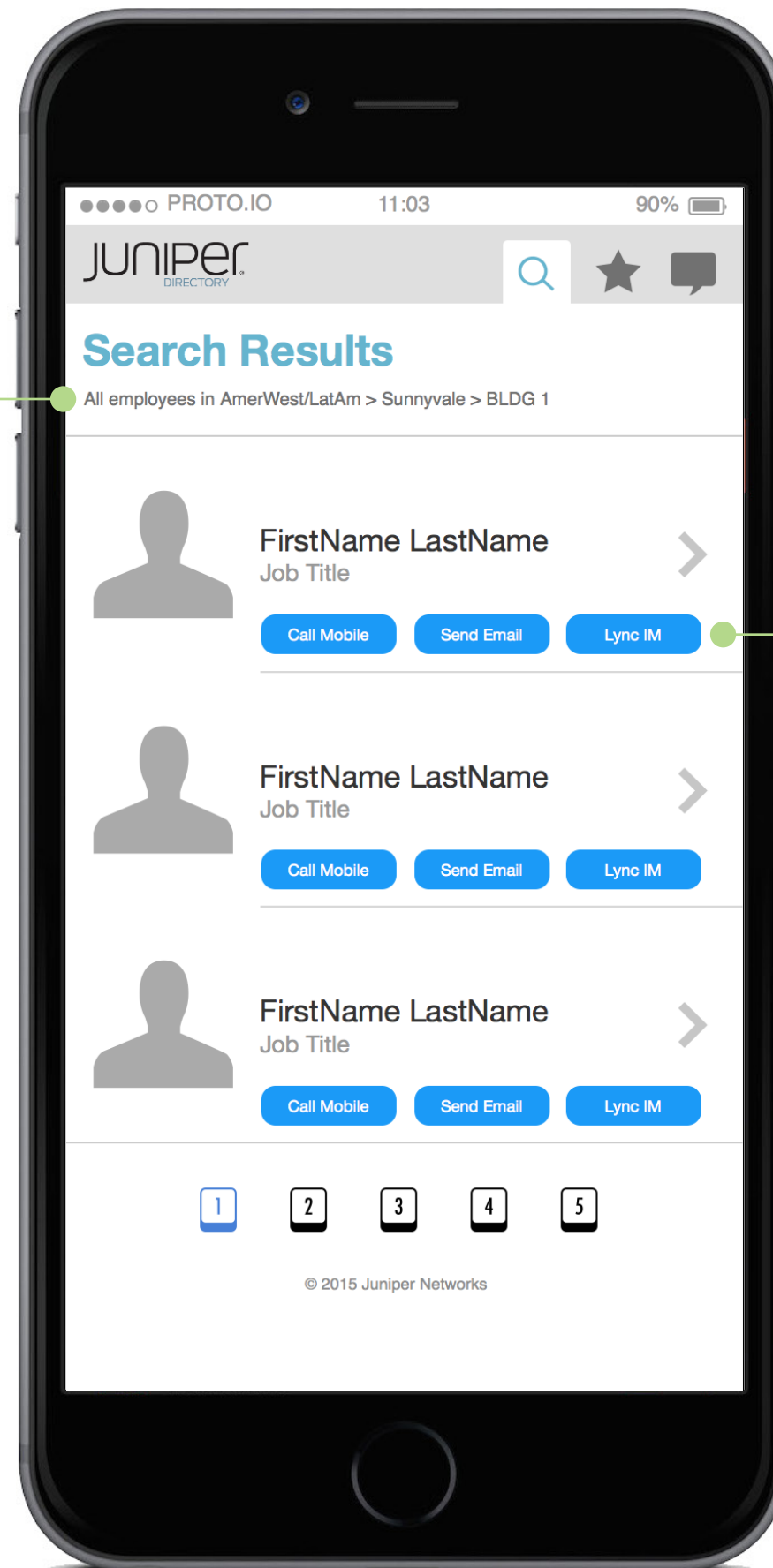
Search By Location

Search icon
The search icon has been used instead of the home icon to keep it relevant even in the inner pages like 'Search by Location'.
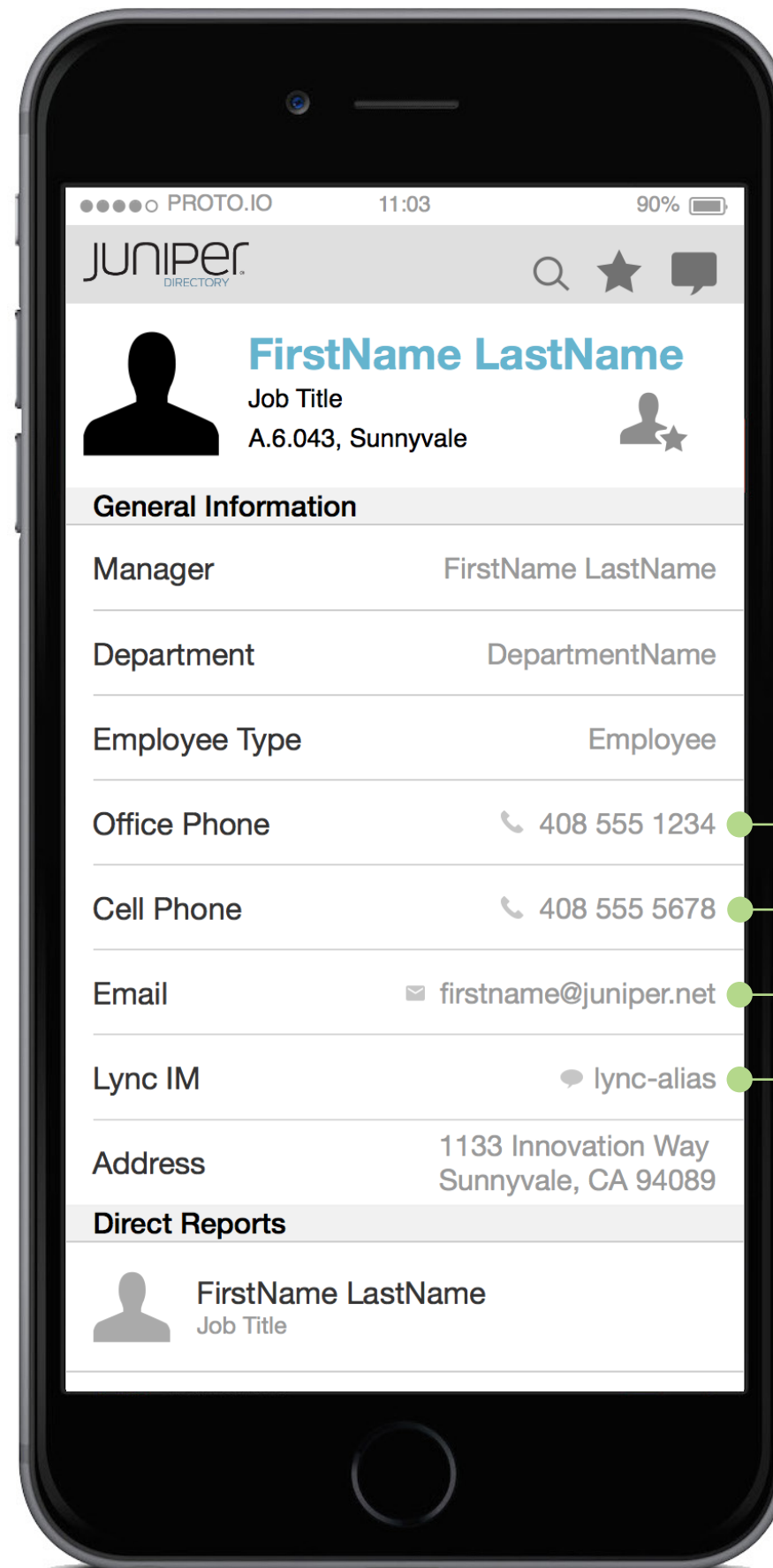
Constraints information
Displays the currently active search constraints.

Quick action buttons
From within the search results page, users can now perform actions such as calling, sending an email or a Lync IM to the colleague without having to navigate to the profile page.
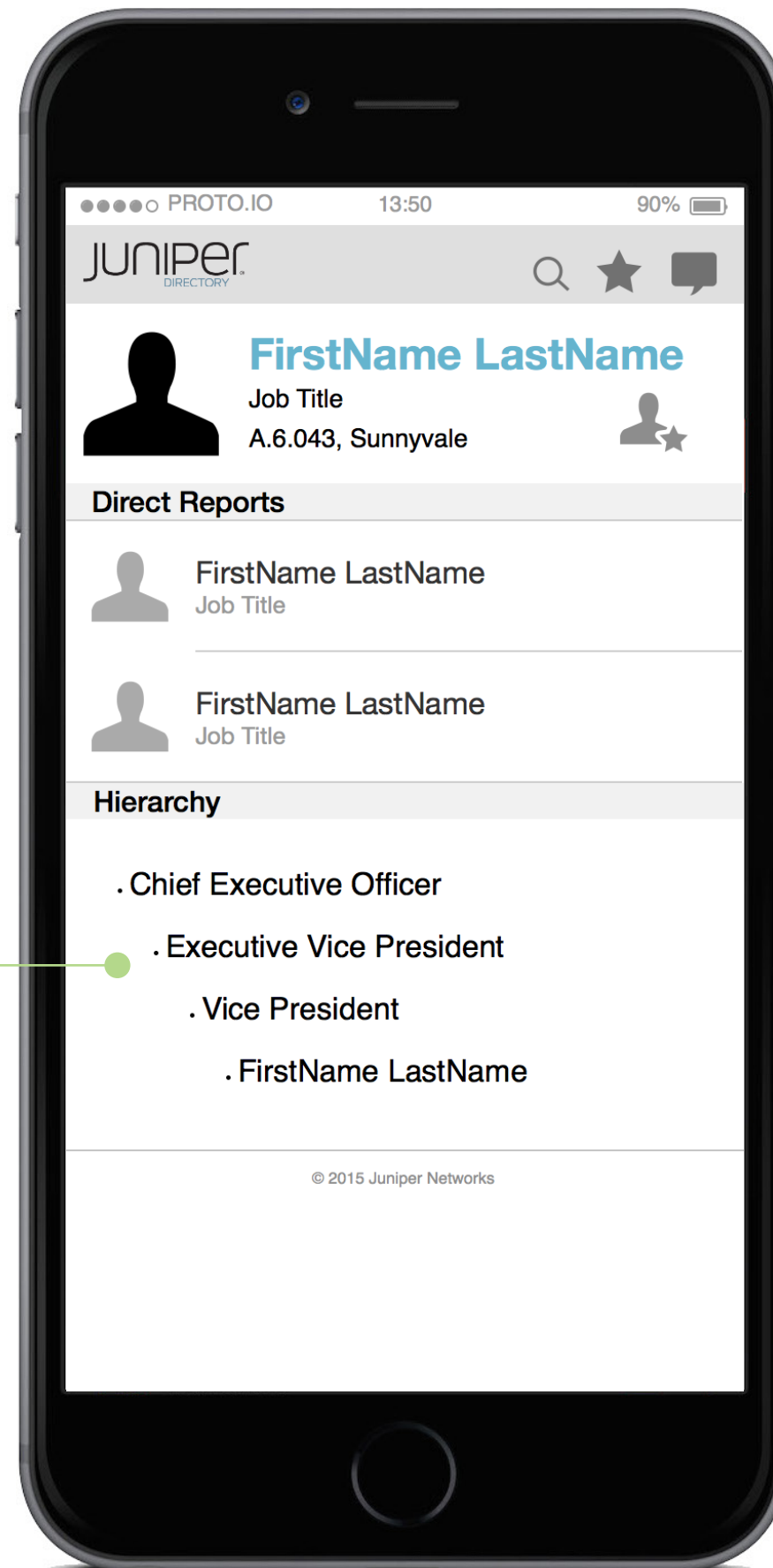
Profile Page

Actionable contact information
Tapping on the phone or email icons should initiate the relevant action like placing a phone call or composing an email.
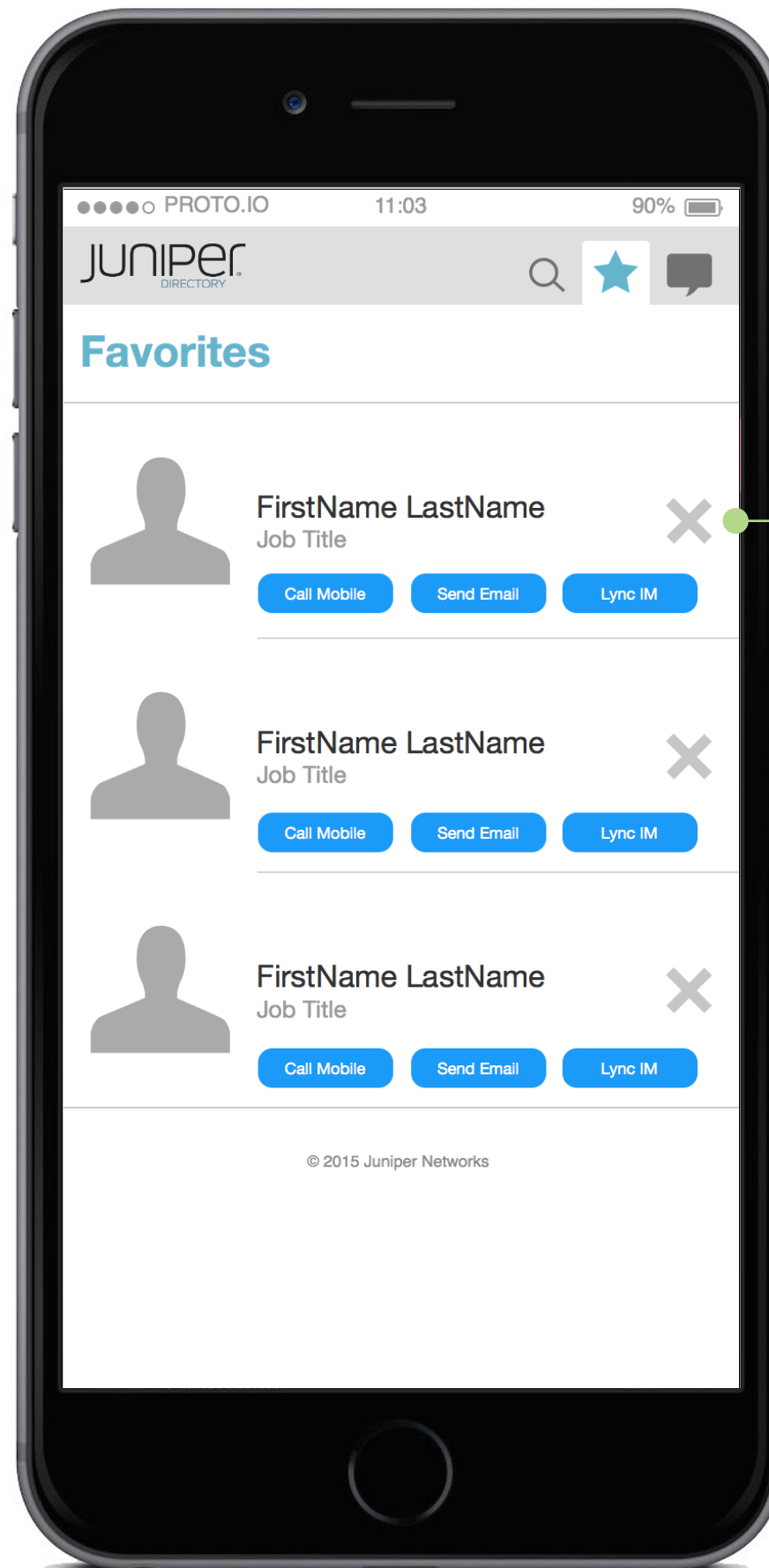
Organisation hierarchy view
In addition to the list of Direct Reports, the new Hierarchy section provides an overview of the colleague's position in the organisation hierarchy.

Favorites

Removal confirmation
Tapping on the icon triggers a confirmation dialog before removing the profile from the Favorites list.

View an interactive version of the redesign at:
http://bit.ly/1JysZUy

Link expires 07/20/2015