Benefits of Usability Testing with JAWS and Eye-Tracking Users on the Census Regions Web Site

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Overview

- Purpose of the Census Regions Web Site
- Methodology
  - Eye Tracking
  - Screen Reader
- Selected Task Findings
- Summary

Purpose of the Census Regions Web Site

- Find a job
- Find out about upcoming events
- Driving Directions
- Contact the local Director
- Authenticate a Census Taker
- Enter/update Partnership information
- Schedule a workshop

Methodology

- Test ten tasks with 13 users
  - 5 blind Job Access With Speech (JAWS) screen-reader users for Section 508 conformance
  - 8 eye-tracking users with normal vision
  - All users navigation is tracked
  - Background survey
  - Debriefing Interview

Eye-Tracking

- Tobii X120 with Tobii Studio software
- Tracks where users look
- Shows
  - what path the eye follows
  - how long users were looking at an item
- No definitive starting point, unconstrained

Screen-Readers

- Used by persons with a vision deficit: low vision and blind
- Reads aloud text, links, and labels for radio buttons, buttons, check-boxes, data entry fields, and combo boxes
- Users' navigation path recorded on videotape
- Navigation determined by the programmed tab order on screen and keys pressed
- Fixed Path

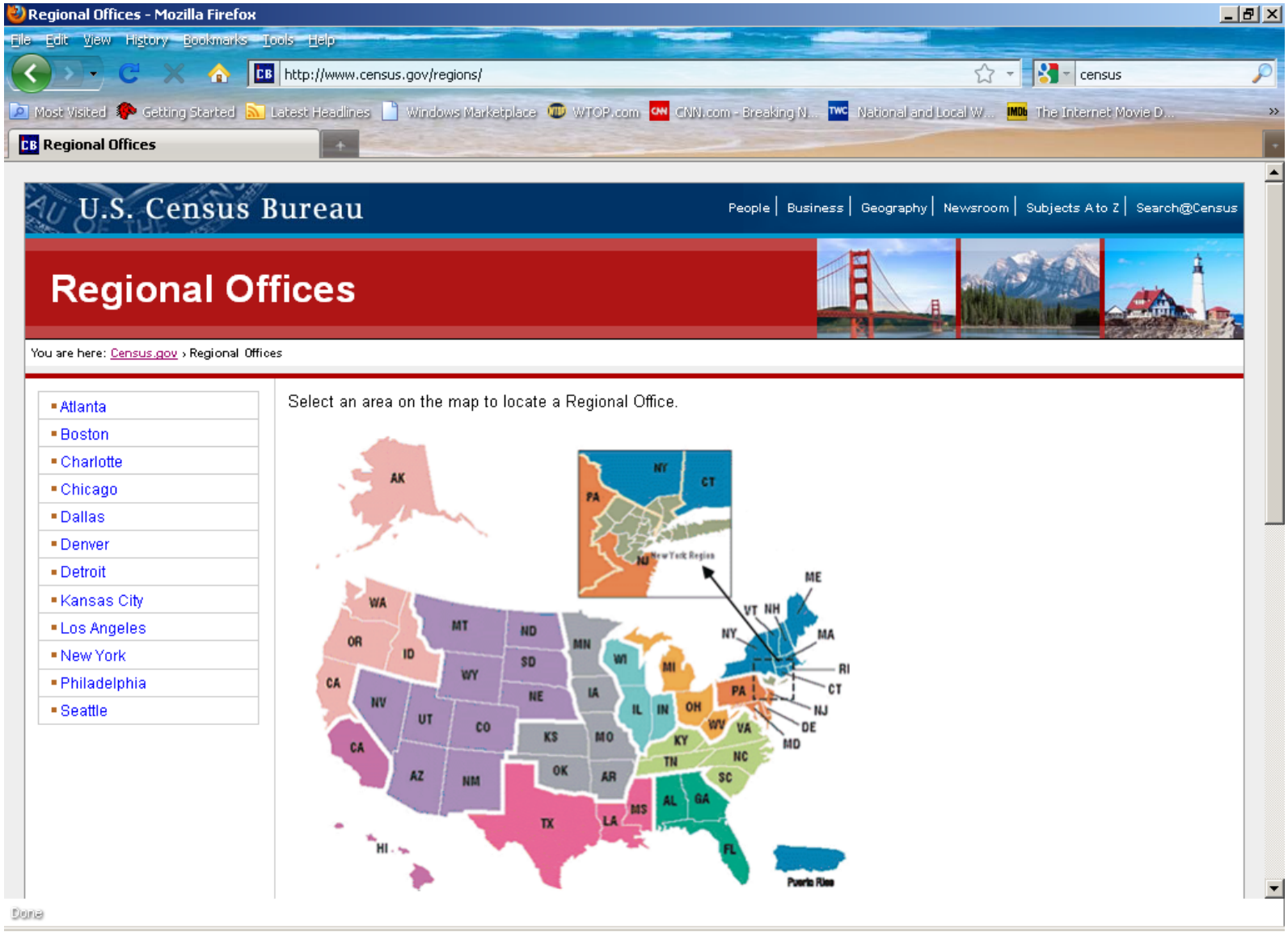
Selected Task Findings

- Task 1: Verify credentials for a Census Taker in the Commonwealth of the Northern Mariana Islands (CNMI)
- Task 2: Find a job in Puerto Rico
- Task 3: View 1980 microfiche data
- Task 4: Find driving directions to the Charlotte, NC office

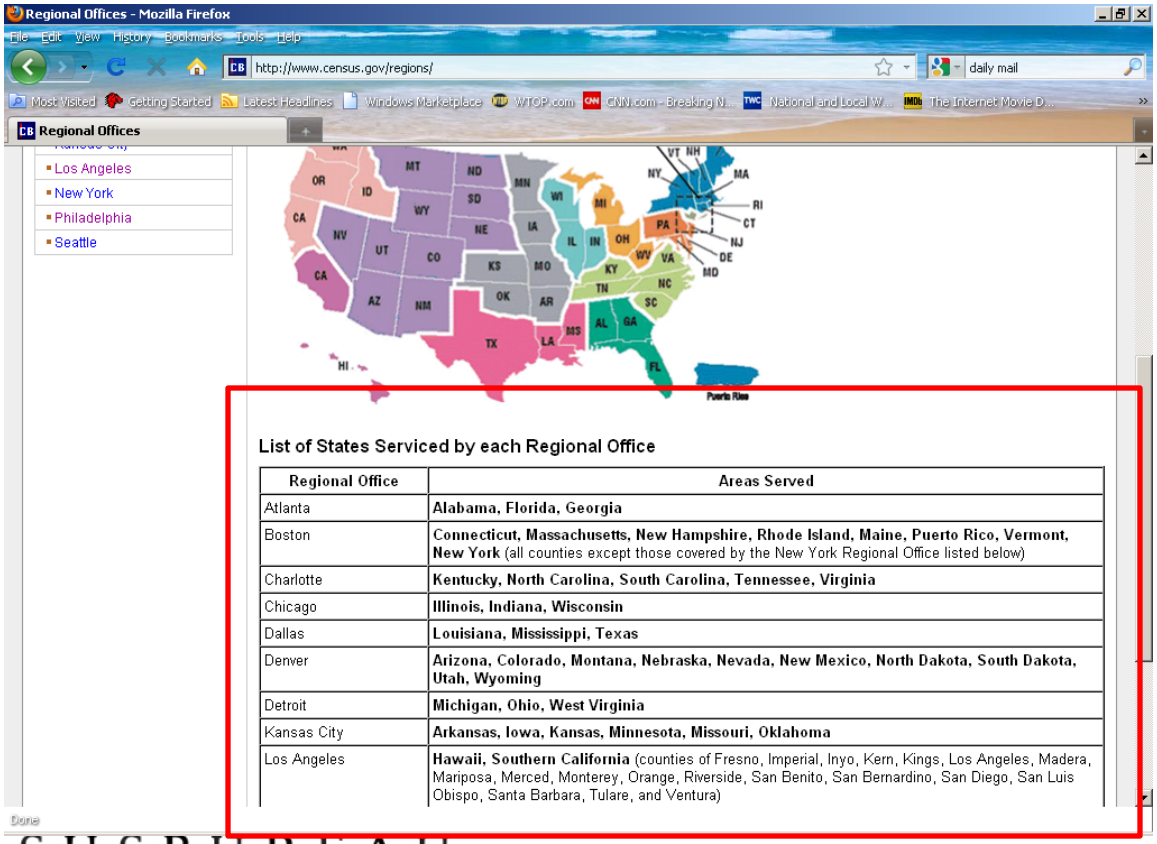
Task 1

Suppose you live in the Commonwealth of the Northern Mariana Islands. How would you find out if the Census Field Representative at your door is from the Census Bureau?

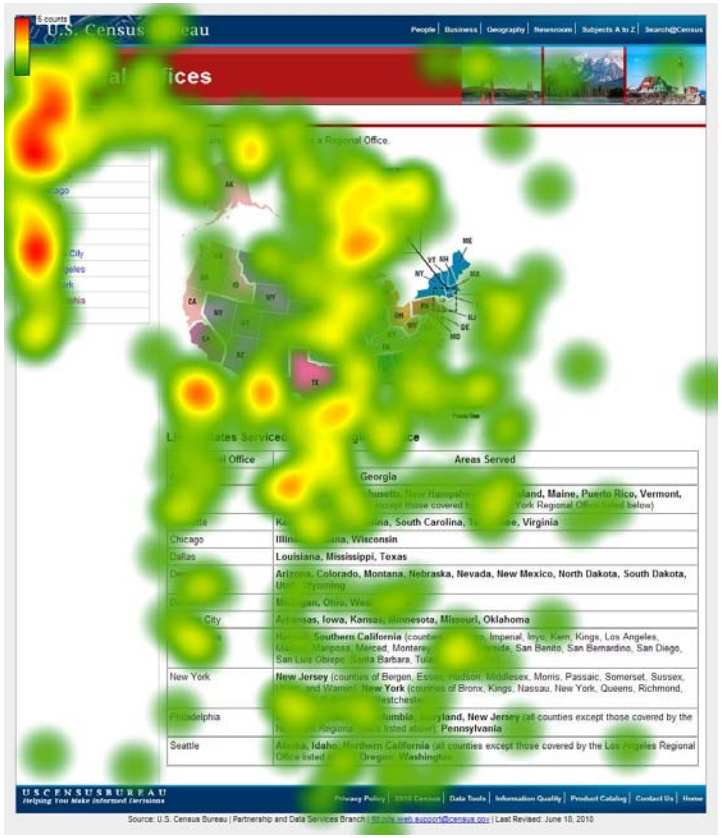
Regional Offices Main Page



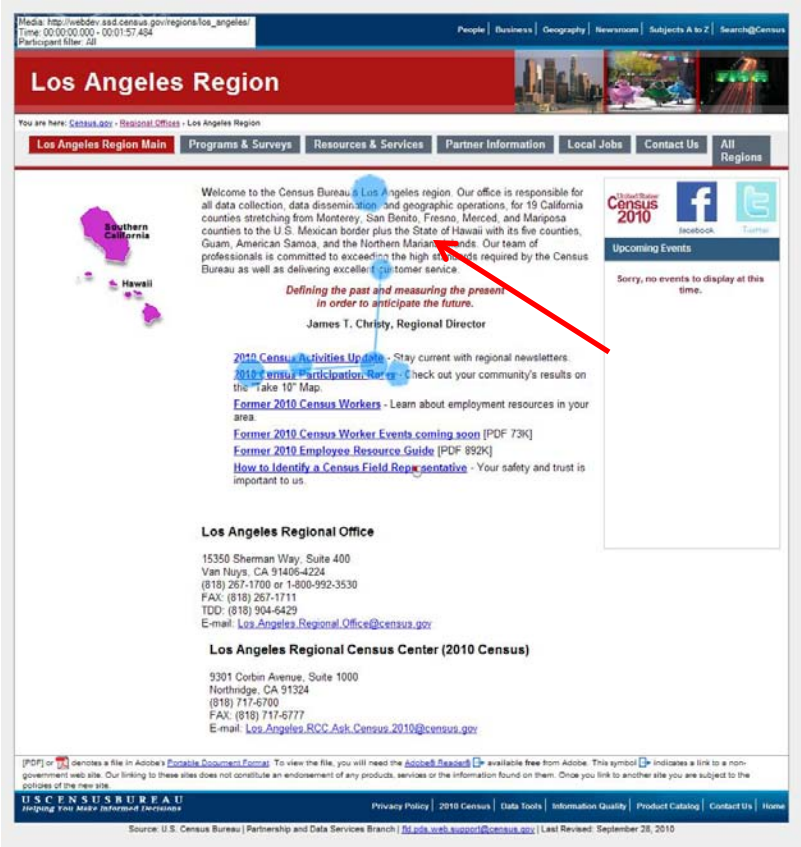
Regions are determined by population instead of state boundaries, so areas served are described in a table



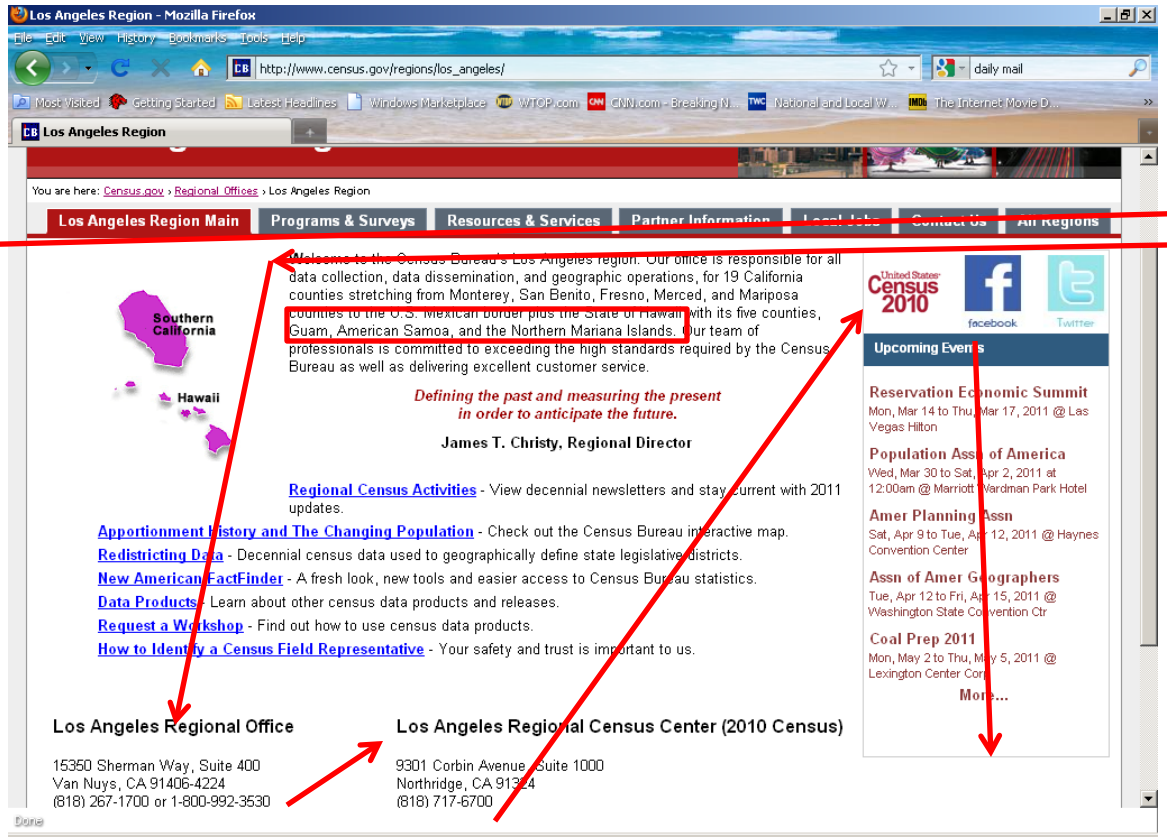
Eye-tracking Users looked all over the map and table listing for CNMI



Only one eye-tracking user came to this page and did not see CNMI in the paragraph.



One JAWS user found CNMI because he read every word on the screen



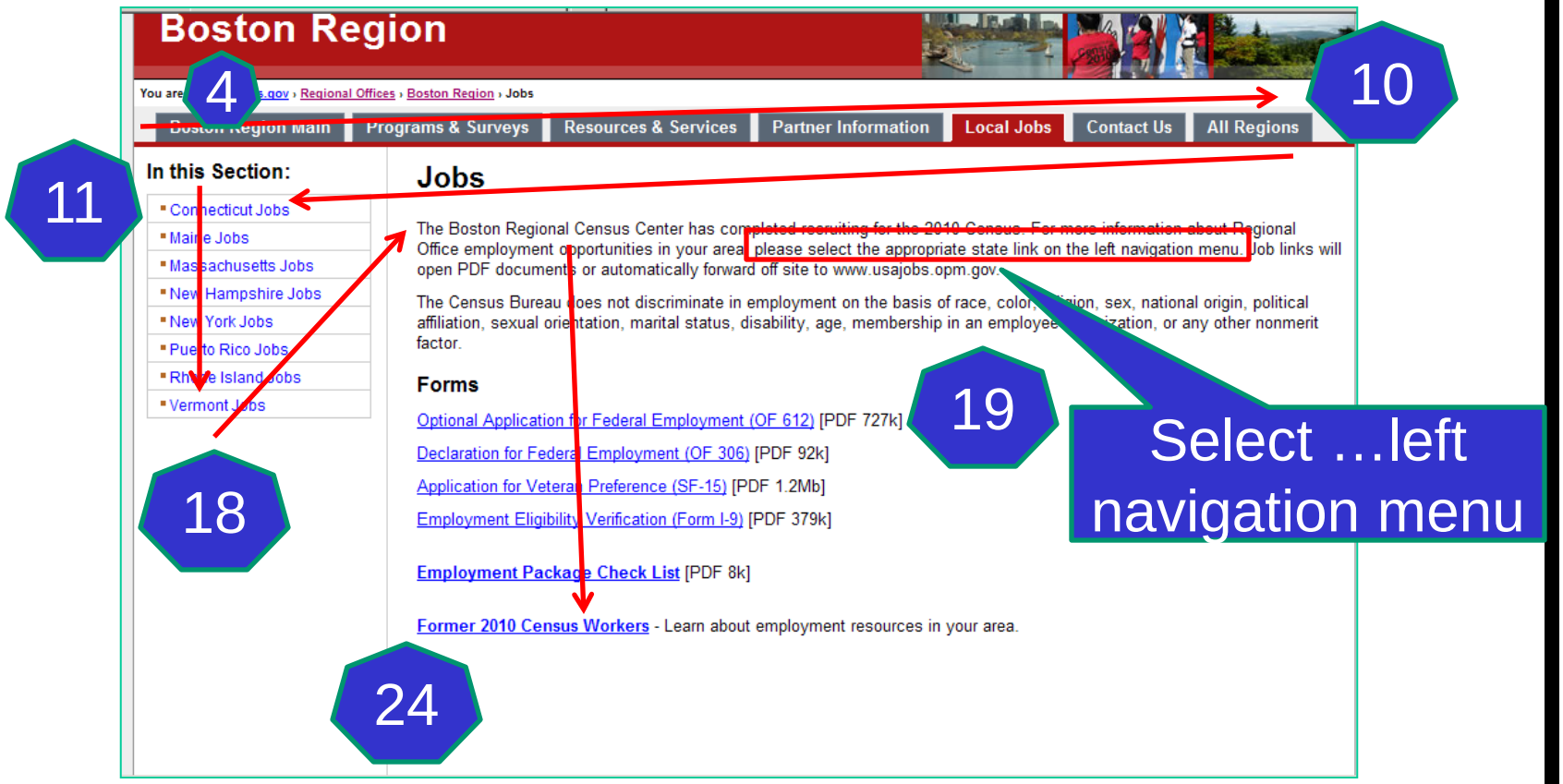
Task 1 Summary

- Users began their search for CNMI on the map and links on the main page but did not find it
- CNMI was not found in the table listing below the map
- The single eye-tracking user viewing the LA Region page did not find CNMI in the text
- One JAWS user found CNMI because all text was vocalized
- Concept of “Region” was confusing

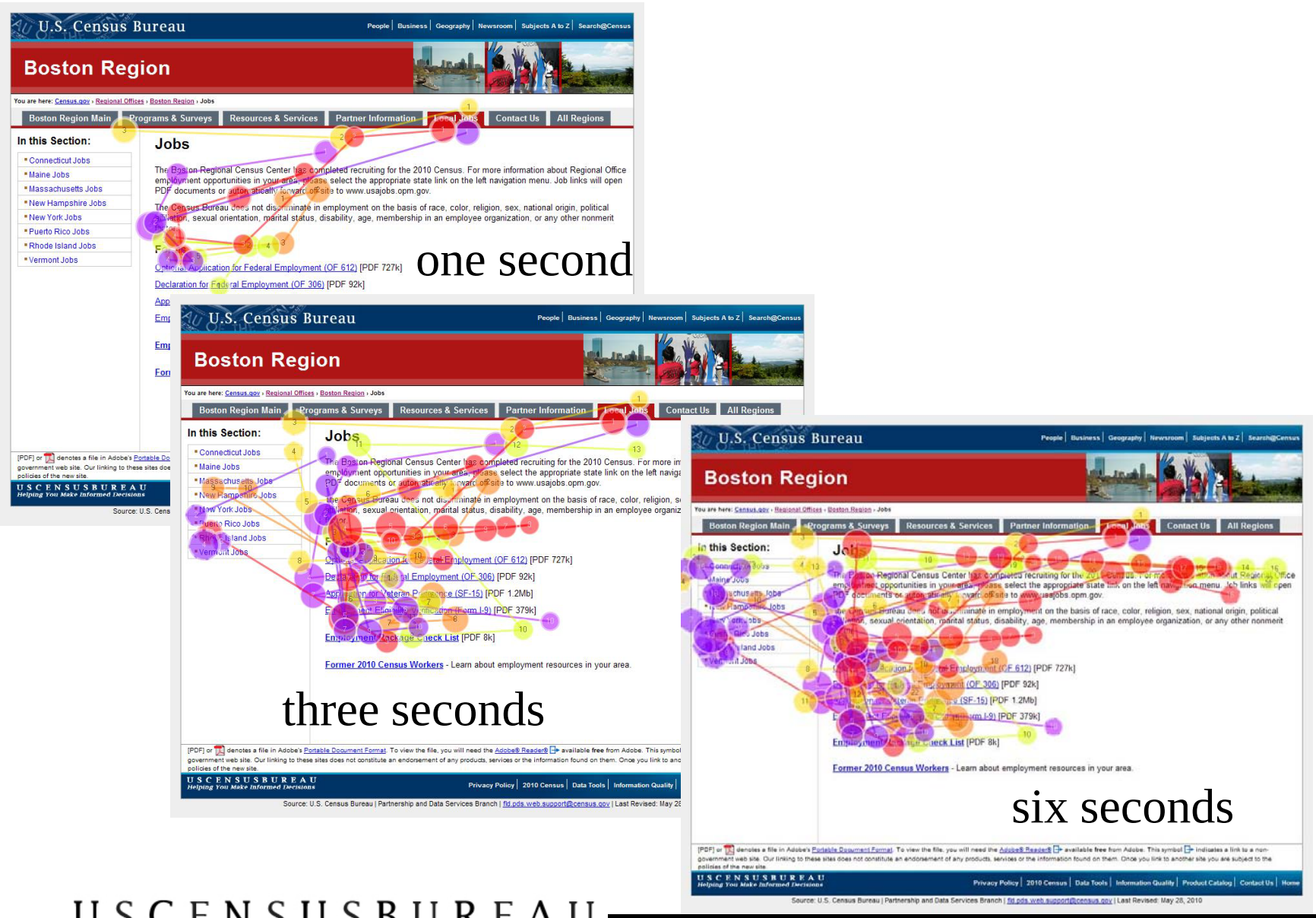
Task 2

You are seeking a position as a Field Representative. You wish to find what qualifications are needed and the workload hours in Puerto Rico.

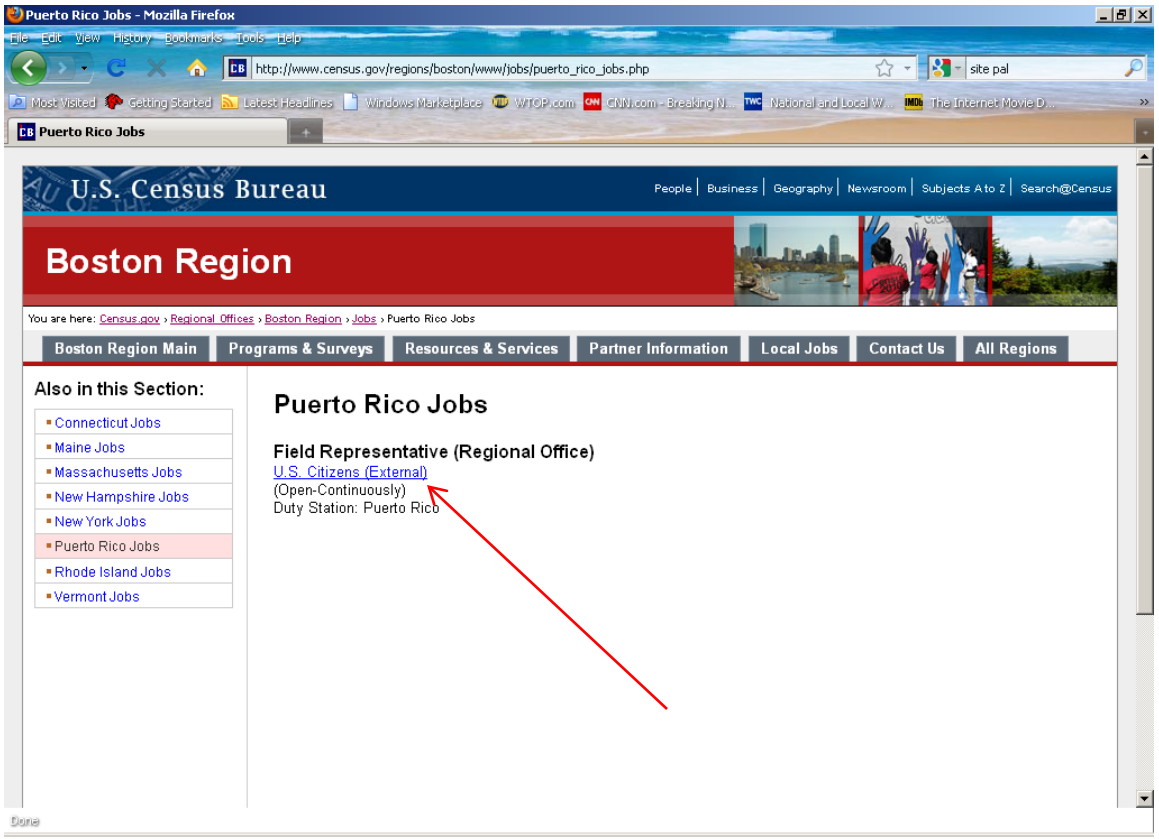
Path of JAWS users



Users saw State job links last



Some Users were confused by the term “External”



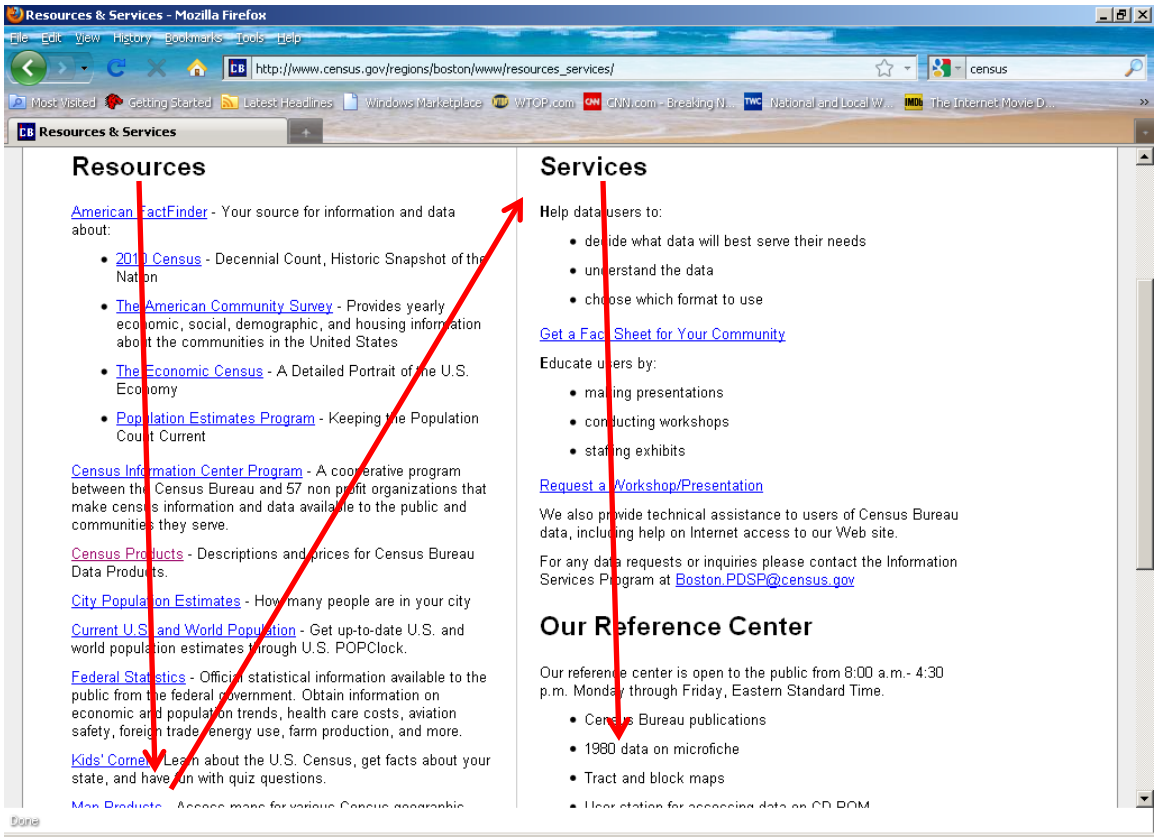
Task 2 Summary

- Users had difficulty locating Puerto Rico because it is in the Boston region
- Instructions to look to the left for job links are problematic for all users because sighted users see the page center first, but JAWS users hear the left panel first
- The word “External” was confusing to JAWS users, and all other users did not care if the link took them off-site
- Confusion between Job and Partnership

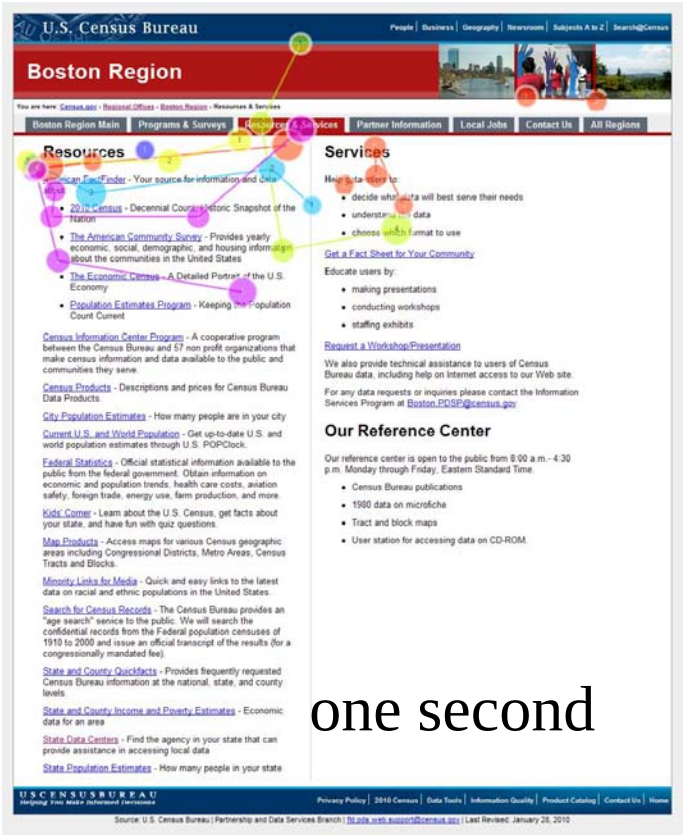
Task 3

You are interested in viewing microfiche data from the 1980 Census and are wondering if you need an appointment with the Boston Regional office to physically see the data. Where would you find this information?

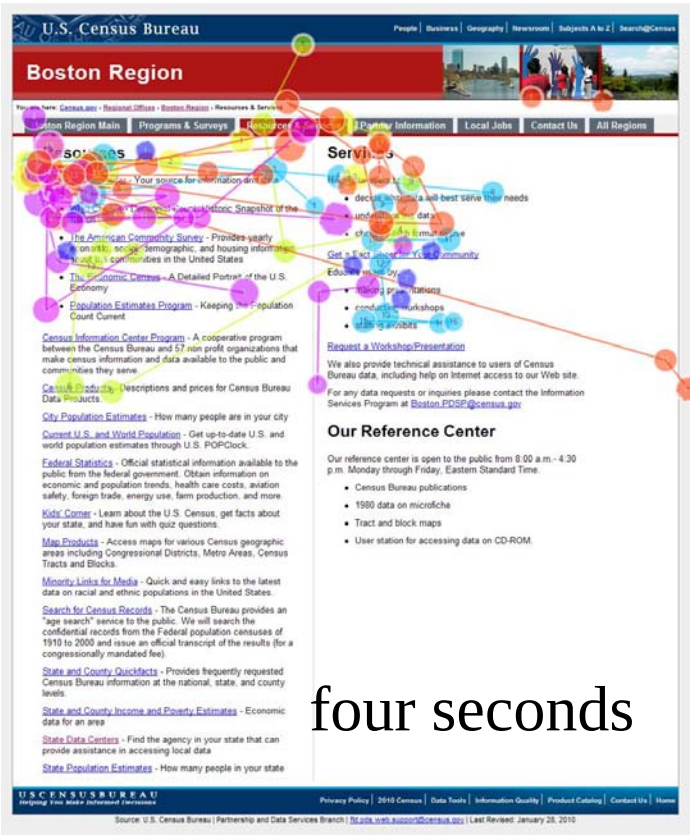
JAWS users had to tab through all left column links to complete the task on the Resources & Services page.



Eye-tracking users gaze moved from left to right.



one second



four seconds

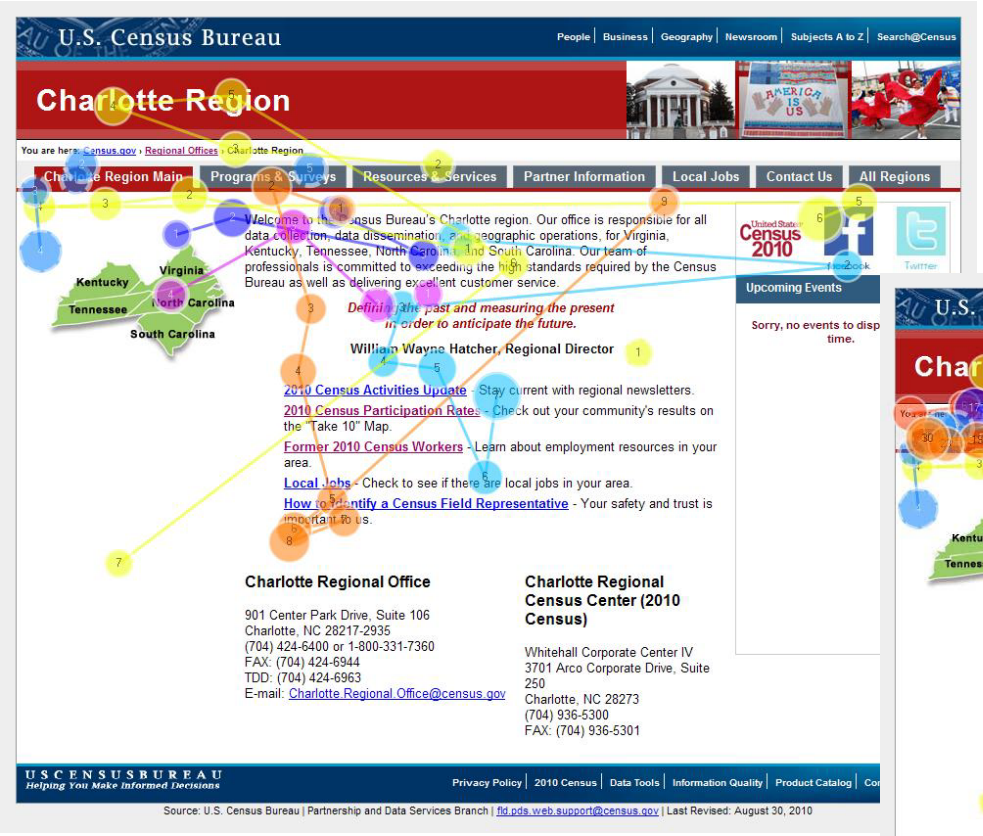
Task 3 Summary

- Some confusion between the “Resources & Services” and “Programs & Surveys” tabs: Services and Programs seem similar
- Resources links hindered all users from finding the answer
  - JAWS users had to navigate through all the Resources links before finding their answer
  - Eye-tracking users gaze moved left to right to locate the answer

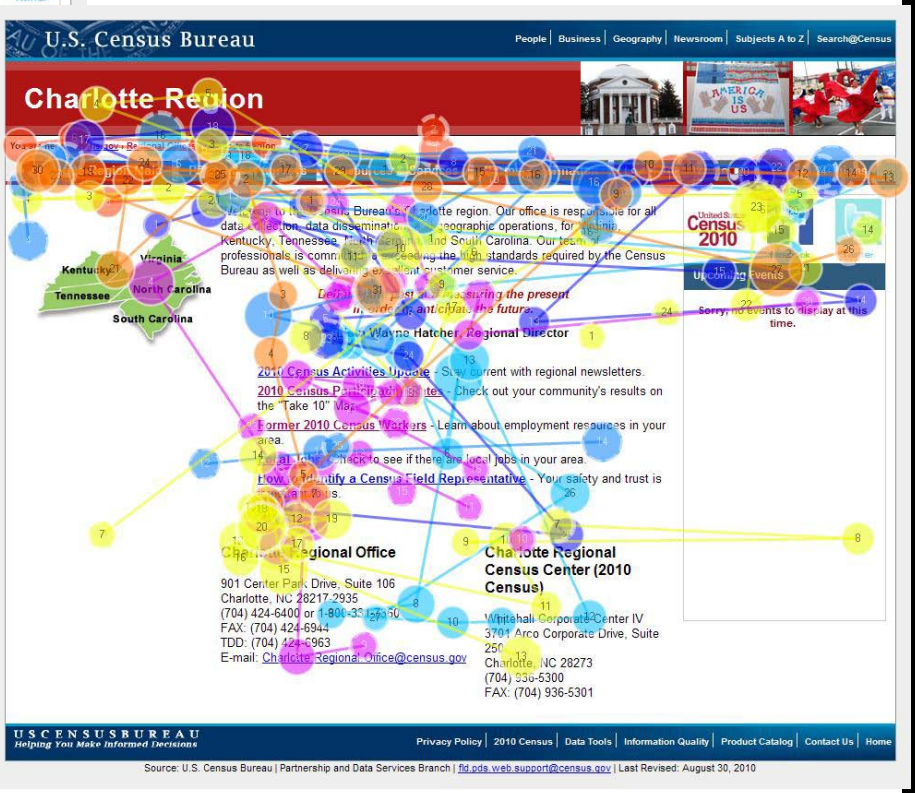
Task 4

Find the directions to the Charlotte Regional Office via their Web Site.

A region's main page lack directions near the address



ten seconds



two seconds

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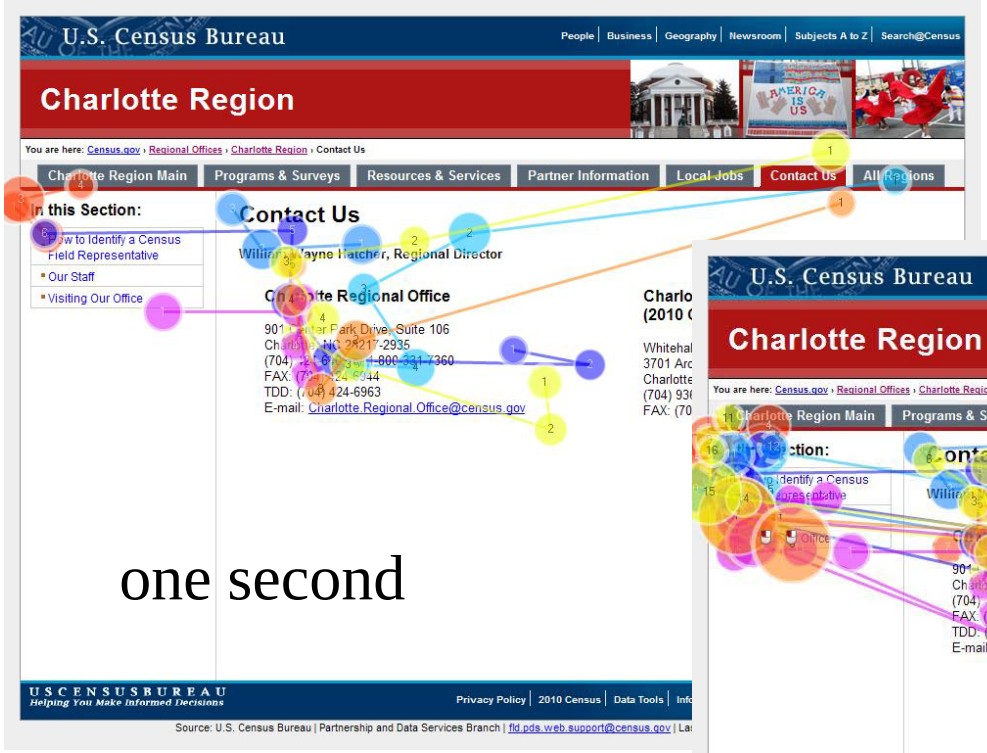
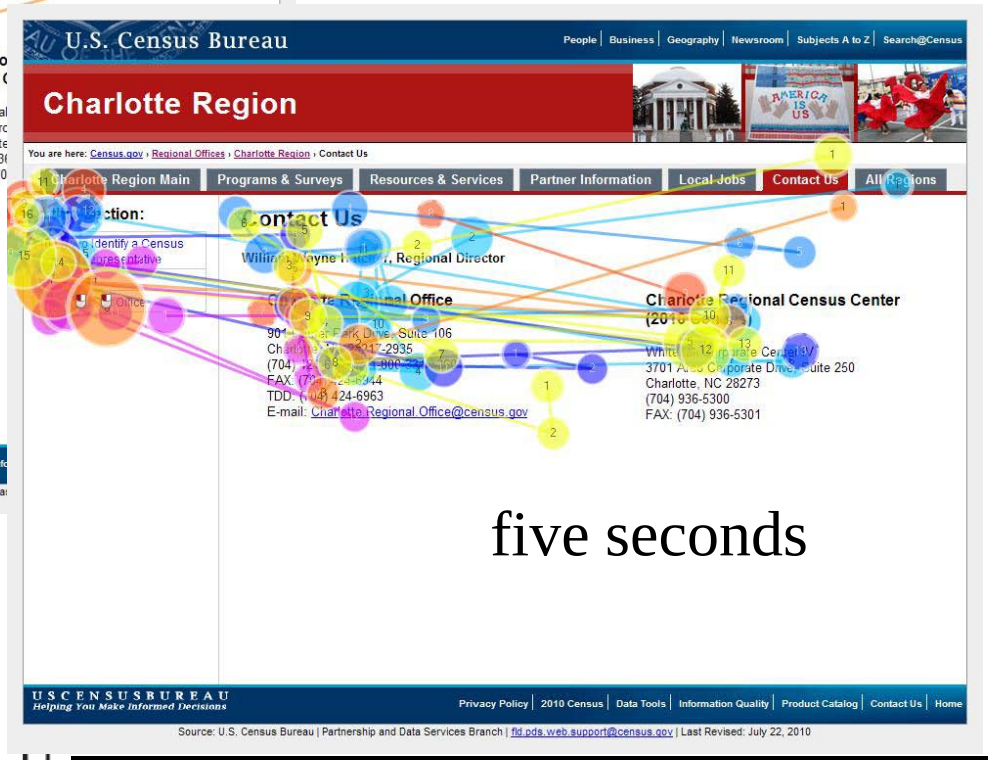
A region's contact page lack directions near the address

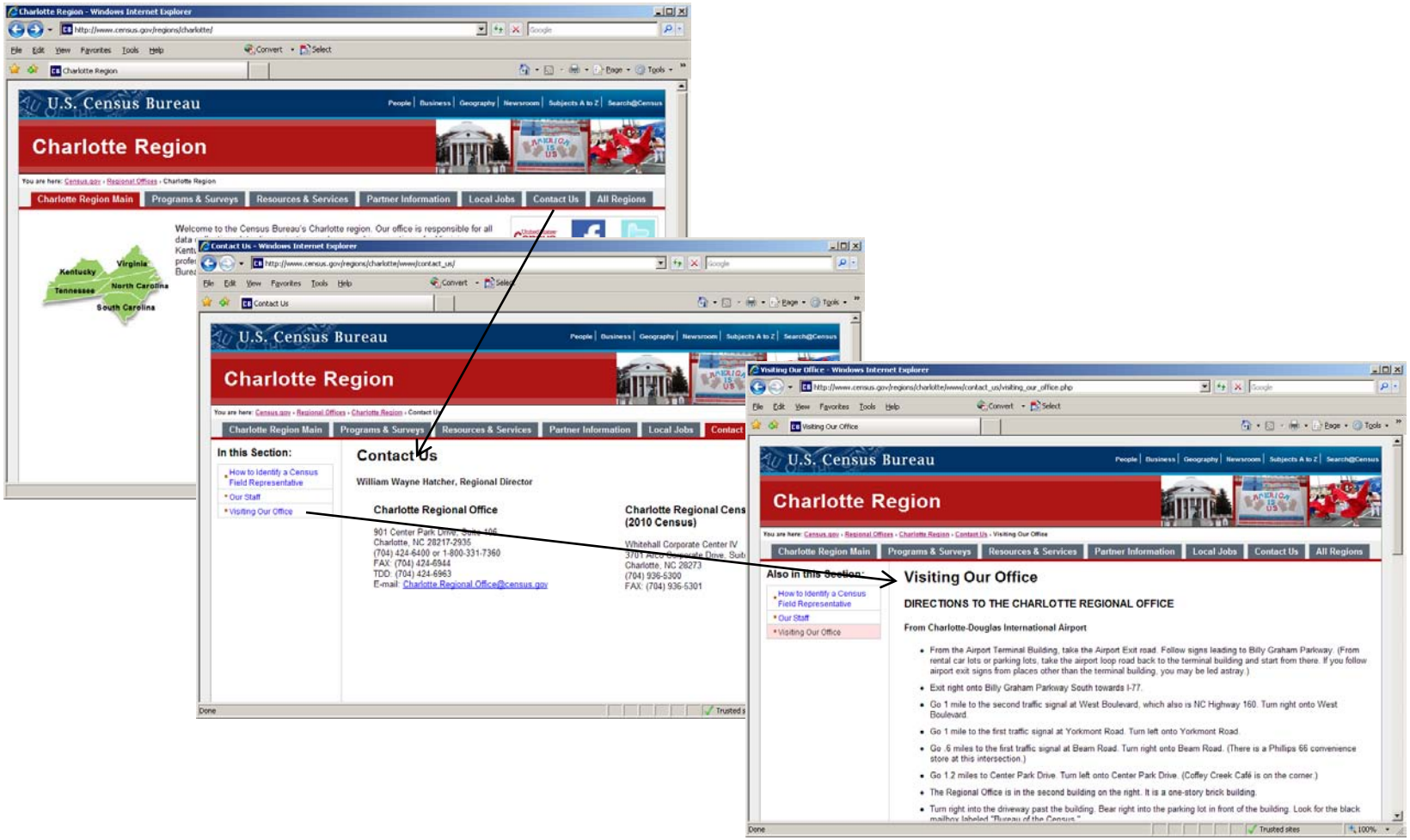


one second



five seconds

Users must navigate down 2 levels to find driving directions



Task 4 Summary

- Directions were not provided as users might expect near the address on a region's main and contact us pages
- Users had to navigate down 2 levels to access directions

Lessons Learned

- All users had difficulty navigating to find “buried” information
  - Directions
  - Verify A Census Worker’s credentials
- The two column screen design impacted a user’s success
  - Resources & Services Tab
  - Local Jobs Tab
  - Contact Us Tab

Summary

- List Pacific Territories on the map and table below on the main page and on the map on the LA Region page
- Use zip code or city & state to locate the nearest Census office
- Place links to directions and staff near the address on Regional Office pages
- Use a 1 column design to place instructions and links to jobs together
- Place a link to verify any Census Taker's credentials on the main screen

Benefits of Testing with Screen-Reader and Eye-Tracking Software

- Track blind and sighted users experiences with a Web Page
- Complement each other: unconstrained and fixed path navigation can be evaluated
- Instruction text can be modified for usage with unconstrained and fixed path navigation

Acknowledgements

- Dianna Thaxton, Partnership & Data Services Branch, Field Division
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