This activity makes use of iSonic (<http://www.cs.umd.edu/hcil/audiomap/>), a program that uses sonification to display geographic data to blind users. It can be used by both sighted and visually impaired users. It is designed from the ground up to be completely accessible.

Before being run, it requires some installation and setup. It will only work on Windows. The instructions are available on the website above, but they are briefly summarized below.

1. Download and install the Java JRE *if* you do not already have it. It is likely that you already do. Any version at or above 5.0 will work.
2. Download and install the Microsoft Speech SDK 5.1 (this has not been tested with other versions.) Go to <http://www.microsoft.com/en-us/download/details.aspx?id=10121>, click Download, and select “SpeechSDK51.exe”. Run the executable once downloaded to install the program.
3. Once Microsoft Speech SDK 5.1 has been installed, download and run the “SpeechServer” program from (<http://www.cs.umd.edu/hcil/audiomap/demo/SpeechServer.exe>). This must be running in the background before you run the iSonic program itself.
4. Download the 2003 Disability and Census Data with scatterplot, table, and map from (<http://www.cs.umd.edu/hcil/audiomap/demo/us_states_withscatterplot.jnlp>) and run it, bypassing any warnings that may show up. If it runs correctly, it was making a beeping sound and play an introductory message.

The following is a guided tutorial for students, after they’ve been introduced to the program, to follow along to familiarize themselves with the tool, learn how sonification can display data, and at the end use the tool to find information about the United States. Advise the students to not use the help menu on F1, but to feel free to use F10 to browse the menu and check out the different commands and shortcuts.

1. Once iSonic has started up, you will be on a page showing a scattergraph of some of the data. For now we will ignore this. Try using the tab key to cycle through the different displays. You should hear it announce what each page is when you change to it. There is a scatterplot, a graph, and a table, all showing census information on the United States. Listen to each page’s description and then cycle back to the map page using tab.
2. Once you are on the map page (which is now displaying “Population 21-64 years with a disability”), use the arrow keys to move between different states. You will only hear various beeps as you move around. By pressing the space bar, you can hear far more information about your current state.
3. Press F10 to access the menu, which contains all of the different commands and their keyboard shortcuts. Using the arrow keys, navigate left to “Information Level”, then down to “Decrease Level.” Repeat this process until it says “Information Level 0.” Try navigating the map now.
4. After you are finished with trying out information level 0, go back to “Information Level” and select “Increase Level”. Again, try navigating the map. Note what sounds it makes and what information it gives you. Increase the information level again and try information levels 2 and 3.
   1. Activity: Can you find your home state?
5. Now that you are on information level 3, you should hear a beep, the name of the state, and a number for “Population 21-64 years with a disability”.
   1. Activity: What state have you found that has the highest number for the current statistic?