

# Stata Navigational System

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At some point, we've all gotten lost in the Stata Center. It can be a difficult building to navigate if you've never seen it before. But once you know your way around, it's not too hard. It seems, then, that we should be able to automate the complicated process of giving people directions in Stata.

This project is to build a system that will guide visitors around the Stata Center. The user could use their phone to give a destination (just like in Google Maps) and then take a picture of where they are. The system will recognize the location and orientation in space and will tell the user in which direction to continue. The user can take pictures along the way to verify the path and get continued directions.

For your first implementation, you can also build a web system; it doesn't necessarily need to be phone-based. You may want to gather some "training" images from around Stata. How can you account for the differences between the training images and the images that users will take? From an image, how can you determine which direction to go in? Do you need to localize the user *exactly* to give directions? Can you take a hierarchical approach (it may first help to know what floor the user is on)?



Figure 1: Input; "Destination: 32-123"



Figure 2: Output: "Go forward"