# Creating Custom Visualisations using Sketch Recognition

## Progress Report

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## Summary:

Progress on the project has been good – I trained a classifier for sketch recognition using Rata, and built a Windows application that uses it to classify sketches. The project is 1 week behind the schedule stated in the proposal. This gap should be reduced in the coming weeks by working at an increased speed.

## Milestones:

I began by researching existing works in the field of direct manipulation, as well as techniques for data visualisation. The aim of the project was narrowed down to two goals: allowing users to make graphs quicker than existing tools, and allowing users to create an unlimited domain of graphs by allowing extensibility of standard graphs. The first step of implementation was debugging the Rata framework and getting it working. Once this was achieved, I ran a pilot user study to see how people would draw graphs when given a blank canvas. The study also helped gather a training set for Rata to identify and differentiate between axes, bars and text. I built an application that accepts ink input, runs it through a Rata classifier, and adds formal representations of the strokes to the canvas at the appropriate position. For example, drawing an axis will result in a straight line aligned with the stroke, and drawing a bar will result in a rectangle as a bounding box. It also imports user data from Microsoft Excel files, and exposes the column headers to be dragged onto the graph as data series.

The immediate next steps would be to further build the application to let users map the imported data to the graph. Once the implementation is complete, I must prepare a user study and carry it out.

By week 12, I planned to have an application that would recognise shapes drawn by the user and expose relevant attributes. The first part of this goal is complete, I expect to have finished the latter by week 13. There were no large unforeseen difficulties.