Lab 2: Analysis of spatiotemporal (eye-tracking) data

The data file contains data from an eye-tracking session lasting just under 5 minutes.

The raw data has been pre-processed to contain just fixations, not every eye sample.

There are 6 fields per sample:

1. A timestamp for the event.
2. A fixation index which is just an order in the file.
3. The event duration in milliseconds.
4. A gaze point index (which is pretty meaningless).
5. X coordinate of gaze point in pixels.
6. Y coordinate of gaze point in pixels.

The objective is to identify regions of interest to the user and observe how they change over time. Questions of interest might include:

How many regions can be identified?

How many are heavily used and when?

Which regions are only used for part of the analysis procedure?

What are the frequent transitions between the areas of interest? and how do those transition patterns change over time?

You can use visual representations of the (accumulated) fixations or analytical methods such as clustering, or any combination which seems appropriate.