

The Mouse: Indicator of Influence?

Can the voting machine tell when the stress on a voter might compromise their vote? A voter might be agitated because they aren't sure of whom to vote for, because someone is manipulating them or because something else is wrong. It is our hypothesis that an agitated voter will have this agitation reflected in their mouse movements, and that by recording and reasoning about mouse movement, we will be able to determine if a voter is somehow agitated when casting their vote.

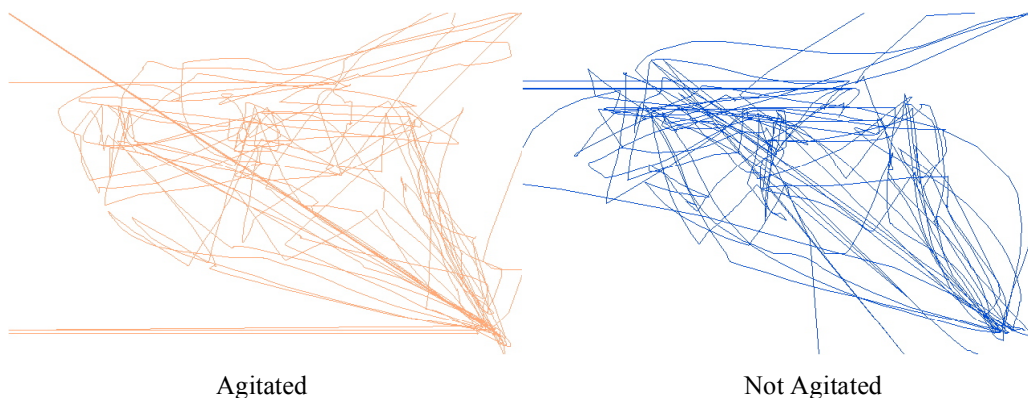
Preliminary Study:

Using Max/MSP we have created a mechanism for capturing, recording and visualizing a users mouse activity while casting votes. In the preliminary experiment each participant is asked to vote on two series of ballots. The participant is exposed to an agitating agent (mobile phone ringing) while they are voting on one of the series of ballots. Participants cast the remaining series of ballots without agitating agents.

Using this system we have been able to log data from a small collection of participants. From visual inspection of the mouse data we have determined a number of potential areas of interest.

They are:

- Agitated voters seem to take less time to complete filling out the entire ballot. We assume that this is because the voter wants to reduce their exposure to the agitating stimulus.
- Because agitated voters attempt to complete the voting process as quickly as possible, they manipulate the mouse faster. This results in a greater proportion of ballistic movements, thus increasing the number of sharp corners and instances of rapid acceleration and deceleration.



Future Work:

We are currently looking for other possible features that indicate voter agitation. We are using these features to train a Support Vector Machine for automated real-time classification of voters.