A Dashboard for Visualization of Emails

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Motivation
The motivation for this visualization was to enable email management in a better way. Email management systems such as Outlook or Thunderbird currently do not provide an interactive way to sort information while they carry significant amounts of useful information. For example, there is no way the frequency of the email received from different people can be visualized, or how many emails have been cc-ed while it was sent to the user, how the user has categorized his/her emails based on the level of importance, how many emails have been replied. Furthermore, there is no specific way to study pattern of all these changes through the emails. Considering the wealth of the information email management systems can store, a dashboard for visualization of email exchange is proposed.

Description
In this visualization, users can compare emails received from or sent to different people. There are a number of simple statistics one can extract from an email exchange system. One can look at the email sizes, if the email has been replied, how emails are categorized based on the importance (on arrival), if the email is cc-ed to other people, and etc.

In the proposed visualization, the bottom axis represents the timeline. In the image the timeline is the period the real data have been exported from Outlook of the author. However, the column shows the correspondences made. In the presented case, all the people who have sent email to the user are listed next to the vertical axis. There are three different methods that are used to represent different information: (1) color; (2) size; and (3) symbols. In addition, fish-eye and bi-focal distortion cameras are implemented allowing the user to easily zoom in and out of the represented data and do not worry about the size of the information required to be interacted with.

From this visualization, users can easily sort out all their correspondences with different people, quickly access the emails required to be replied to or the email that are categorized as important and etc. In the following figures, three different types of information are extracted. In figure 1, all the emails received by the user are sorted based on the sender and the time received. For each data node, a symbol and a color are assigned. In this case, the color is distinct based on senders’ email address and the size, represents the email size. In figure 2, users have selected to highlight emails by the size of their bodies. In this case three colors are assigned to each node, to represent and categorize all the correspondences based on their email body size (small, medium and large sizes). In figure 3, different colors are representing the importance of the emails received which is assigned by the sender in a three step category (low importance, normal, and high importance).

A Very useful application
One useful benefit of this visualization for our campus and the University of Illinois is to see when and how people are changing the address from username [at] uiuc.edu to username [at] illinois.edu.
Figure 1. Email exchange dashboard representing senders in the vertical axis and the time in the horizontal axis. The size of the nodes represents email’s body size and spectrum of color is assigned to different senders.
Figure 2. Email exchange dashboard representing senders in the vertical axis and the time in the horizontal axis. Different colors are representing the email size in three categories of small, medium and large size emails.
Figure 3. Email exchange dashboard representing senders in the vertical axis and the time in the horizontal axis. Different colors are representing the email importance assigned by the sender (low importance, normal, and high importance).