Facebook Groups are an interesting communication channel to visualize in that they are multifaceted entities and encapsulate multiple, distinct threads of conversation. For one thing, there is the The Wall, giving group members the opportunity to sound off about anything, ostensibly about the topic the group was formed around. The Wall is much like an individual's Wall, where the most recent posts are seen first and are the most visible element of text-based communication on that person's profile. The name 'Wall' implies a highly informal, unstructured public forum where anything can get posted, evoking the image of colorful bathroom stall messages you might see in the English building, for example.

Unique to Groups is the Discussion Board where structured threads of communication take place, much like on a newsgroup. Unlike newsgroups, the flow of a thread, such as replies to a previous post, are not readily apparent. Posts do not take on titles, thus cannot have the recursively enumerable "re:" indicator in their title, nor is the post being responded to automatically included in the text of the post. However, Facebook gives the user the option to create a new reply or a reply to a specific post, the latter of which is made visible in the new post's header (e.g. 'so-and-so' replied to 'that guy's' thread), and is hyperlinked to the post it refers to.

Because this is laid out in a linear fashion, it is hard to glean the flow of a thread, but the seeds for doing so are sown with the inclusion of that particular data. In smaller groups, discussion boards are not as lively, but in larger groups with a population on order of 100,000 or greater, the discussion board is a wellspring of interaction and general discussion - as a rule, the larger groups will tend to have threads that are tangential to the purpose of the group itself (evidence the thread title "OT: Let's Talk Babies" in the "Barack Obama (One Million Strong for Barack)" group, among many, many others).

As this above observation would evince, the quality of the board posts and threads tend to decrease in terms of the content, coherence, and civility. This is a rather unfortunate indicator of things to come, but as the internet becomes democratized in this fashion and people coalesce due to marginal common interests, it is inevitable. If Facebook is to become a 'proper' forum of communication and provide such a precedent for our generation, much like how Usenet was the premier online forum for the generation before us, something has to change.

It is apparent how threadVolution can address the multitude of issues presented above. For one, it seems clear that thread posts can be visualized as a tree structure with multiple posts originating in reply to previous posts, and so on, over the life of the thread. One could observe, within a single board thread, the evolution of a particular branch of a thread over time and the character of that thread, in terms of who has participated, the attentiveness with which one has replied to the thread, etc. With the application of common spell checking software, one could test for the coherence of threads, and combined with the mood of posts derived from some novel natural language processing, rate the quality of a subthread and decide whether it is worth getting his or her feet wet in heated discussion. This indicator could be aggregated across an entire discussion board's threads and give the viewer some indicator of whether or not the boards are worth reading. The same could be applied to the group's Wall with similar intent.

Such indicators could be used by group administrators for more proactive governance of a discussion board. For example, if it is gleaned that a particular user provokes the ire of
other posters or generally does not contribute to the well-being of the group as indicated by such a visualization, it becomes an easier decision to remove people from groups or restrict their access. Thus, threadVolution would carry out the mission of improving Facebook as a forum of threaded communication by providing users an indicator of quality and administrators effective means to make decisions in discussion moderation.

**Figure 1:** Using profile pictures to identify individual posters. The user can mouse over the picture corresponding to an individual’s post to read his or her message, report it, etc. The percent fill of the box highlighting each subthread corresponds to amount of activity on the thread, recentness of posts made to the thread, etc. The user can glean who actively participates in threads, the frequency with which they post and which subthreads they choose to participate in.
Figure 2: Thread moderation indicator. The background color of the subthread box has changed hue to yellow to alert the user of possible untenable uncivil discourse. This would be determined by specific administrator-defined filters and NLP.

Figure 3: Thread moderation indicator 2. The background color has changed to red to indicate the definite presence of explicit language. The detection of unreasoned arguments remains an issue of NLP. The stoplight analogy for coloring has been applied here, except the "go-ahead" color is blue instead of green to have aesthetic continuity with the general Facebook layout.