Using Google Wave for a week – it's still great!

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Google Wave is a new tool for communication and collaboration on the web. When Wave was first announced May 28 at the Google I/O conference, many people immediately saw its potential as a great collaboration tool for scientists:

- Ricardo Vidal: Using Google Wave to surf the streams
- Me: Google Wave – don't forget the scientists
- Cameron Neylon: OMG! This changes EVERYTHING! – or – Yet Another Wave of Adulation and Google Wave in Research – the slightly more sober view – Part I – Papers
- Peter Murray-Rust: Google Wave first reactions and Google Wave and implications for science
- Björn Brembs: Will science ride the Google Wave into the 21st century

We based our first impressions on the material available online, especially the video of the Google Wave presentation at Google I/O. The problem is, Wave is currently only available to selected developers, and will not be generally available until the end of the year. Wave is currently not even beta software and was announced now so that third-party developers have enough time to build (and test) extensions to Wave.

Those of us being invited to SciFoo (which took place July 10-12 at Google) were lucky not only in attending a great conference, but also in getting a Wave account. Wave product manager Steph Hannon gave us an introduction to Wave on the first evening, and Cameron Neylon organized a session about Wave the next day. The session was mainly about the Wave extensions that we scientists would need (and I'm sure that Cameron will blog about that), but we could also ask two developers from the Wave team a lot of questions.

After using Wave for one week, I obviously have a much better feeling for how it can help scientists to communicate and collaborate. The best way to start is to think of Wave as email on steroids. Wave is web-based (which means that it currently only works when you have an internet connection) with a nice interface similar to Gmail or other webmail products. One big advantage over email is that all reply messages are directly connected to the original message (similar to comments on a blog). This is especially helpful for longer email threads and when more than two people are involved.

But Wave is also instant messaging. You see a small green dot next to your contacts that are currently online, and you can see them typing in real-time (which looks really creepy the first time you see that).

And Wave is also like a Wiki. You can not only respond to a message, but everybody participating in the Wave can also change the original message (and several people can work on the same message simultaneously). This works great for things such as listing all the blog posts about SciFoo.

The combination of wiki-style editing plus comments make Wave an interesting alternative to project management tools such as Basecamp. And this means that Wave can also be used to work on longer documents – something that the Wave developers regularly do for documentation, etc. Wave documents can also contain images, videos, links, etc. Wave supports different fonts, text colors, bold and italic text, and four different heading levels (for titles and subtitles).

But in contrast to most online collaboration tools, Wave can be extended with additional functionality that scientists require. Bibliographic references would be an obvious example, and here tools such as Google Docs or Adobe Buzzword fall short.

Wave extensions come in the form of gadgets (that work on the client) and robots (that work on the server). Wave gadgets are XML files, whereas robots can currently be developed in either Java or Python. Other programming languages (PHP, Ruby, Perl, etc.) for robots will soon become possible when robots no longer have to be hosted on Google App Engine. Using the tools provided by Google, writing a robot is actually not that difficult and it took me only an hour to have a sample "Hello World!" robot running in Wave. It will obviously take weeks or months to develop more sophisticated robots (e.g. for management of bibliographic references), but I'm sure that a number of exciting science-related extensions will be ready by the time Wave becomes publicly available later this year.

We plan a session with a live Wave demo at the Science Online London conference in August so that more scientists and science communicators become familiar with Wave. About 10 people that registered for the conference already have Wave accounts and I hope that some of them will come up with interesting science-related robots or gadgets. If you are a Wave user, you can reach me at mfenner@wavesandbox.com. And if you want to develop great science-related extensions for Wave, please contact Cameron Neylon.