

## Responses from Brian Dunbar to the OpenNASA suggestions for [www.nasa.gov](http://www.nasa.gov).

### Generic

Solicit input from advertising/marketing/psychology professionals in design I agree, and we've been doing it since 2002. The last two designs of [www.nasa.gov](http://www.nasa.gov) were done by a professional design firm, Critical Mass of Toronto. Both times, they won design "bake offs" with competitors in the industry. We've also gotten some analysis and great feedback from Jared Spool of User Interface Engineering, though we haven't been able to implement all of their recommendations yet. We also are committed to getting feedback from users, which we do through a customer-satisfaction survey and industry-standard usability testing. The structural aspects of the 2007 redesign were the direct result of 5 years of user feedback and three rounds of usability testing.

- RFP should include financial incentives  
Since most of what we're buying now are essentially commodities (bandwidth, servers, COTS software) we can use a firm, fixed-price contract for web services. That gives NASA predictability on costs, and gives the vendor a financial incentive to control or reduce its costs to maximize profit. For those things that are less easily adapted to an FFP contract, we'll have an IDIQ component that will allow NASA to issue and fund additional tasks.
- Content & design should:
  - Be compelling and useful.  
Agreed. We track where people go on the site and what they think of it. Visits and customer-satisfaction have increased every year since 2002. How do you think we can do better?
  - Push to increase the number of visitors/members to site, as well as the number of active members (i.e. those who log in frequently, maybe once per month)  
Visits have grown from 27 million in 2003 to more than 120 million last year. The percentage of our audience reporting frequent visits have also increased in the same period: monthly or more from 46 to 79 percent; weekly or more from 29 to 64 percent, and at least once a day from 25 to 37 percent. Again specific suggestions on how to do better are welcome.
  - Maximize use of open-source technologies (e.g. wiki/Sharepoint-type software; ex: Mindtouch Deki - <http://wiki.developer.mindtouch.com>)  
I don't care which technology does what, or whether it's open-source, proprietary, COTS, GOTS or InternOTS, as long as it meets my requirements. Rather than suggesting this or that tool, I'd rather have specific suggestions on requirements not being met, as

you've done throughout much of the rest of this document.

I will confess to being skeptical of an open-source framework that doesn't have committed resources for development along with it. I'm also not persuaded the open-source is cheaper overall, given that it requires so much more development on the front end. But open-source software is becoming more sophisticated, so I'll be interested in seeing what vendors propose.

- Set up [nasa.gov](http://nasa.gov) as a 'framework' that can be expanded by not only the "webmasters" and "editors," but anyone with knowledge and know-how. Sounds good in principle, but how do you make that work in a tightly integrated, high-volume production environment? [www.nasa.gov](http://www.nasa.gov) is a heavily-trafficked site and the face of NASA on the web. It integrates more than a dozen pieces of software beyond the CMS into a presentation layer. A development component is essential within its infrastructure, but it can't be a playground for dilettantes.

There needs to be strong governance that allocates available resources to projects that meet agency requirements (which doesn't necessarily exclude pure experimentation, since that's part of what we're all about). New elements need to be proven secure and interoperable before they go live. Even with all the experience we've had with the infrastructure, we've introduced new elements that unexpectedly broke something already working.

Development and integration of new elements also carry direct and indirect costs, and the more free-wheeling the development environment, the greater those costs are. Who's going to fund them?

- Create an incentive structure around the use of the [nasa.gov](http://nasa.gov) website, allowing NASA employees to use the web for the benefit of NASA. Take advantage of the "army of resources" and mobilize them by using [nasa.gov](http://nasa.gov) as the prize; eg: The opportunity is there for anyone who wants to capitalize on the audience of [www.nasa.gov](http://www.nasa.gov). I can't offer other incentives, but I don't see what the real barriers are. Anyone who wants to provide [www.nasa.gov](http://www.nasa.gov) with an army of resources is welcome anytime.
  - If someone gives a great talk, post it on YouTube and pull back into [nasa.gov](http://nasa.gov) (like [ted.com](http://ted.com)). We can do this already. We don't do it more because of the resources involved (up to 10 minutes to caption each minute of unscripted video to meet 508 requirements – which we have to abide by whether a video is on YouTube or [nasa.gov](http://nasa.gov)) and because when we have done it, our audience hasn't shown a great deal of interest. What would work better would be for someone (the speaker, a public affairs officer or someone else with the content knowledge) to work with a video editor to capture the best moments from such a talk and get them online themselves or through the editorial board.

- If someone successfully starts an online community (such as on Facebook) centered around NASA, use it as a funnel system to draw users back to nasa.gov for more information (v. “decentivizing “official” involvement on websites like Facebook, etc.)

This is already happening with Twitter feeds, YouTube videos and Facebook pages. See [www.nasa.gov/collaborate](http://www.nasa.gov/collaborate). So far, our metrics show videos are seen far more often on [www.nasa.gov](http://www.nasa.gov) than on YouTube, and despite the increase of NASA content on Twitter and Facebook, the exposure of NASA content on those sites is miniscule compared to traffic to nasa.gov. Referrals to [www.nasa.gov](http://www.nasa.gov) from those sites are increasing, but still minute (fractions of fractions of 1 percent overall) compared to people coming via bookmarks, e-mail links and search engines. (But I like what you’ve done on the new [open.nasa.gov](http://open.nasa.gov) with those feeds. I may steal that presentation.)

My real concern with social media is how little room they leave to provide context. Whether it’s the 140-character limit on Twitter or a disembodied video clip on YouTube, it’s damn hard to do more than provide people with a “That’s cool” moment. And I don’t believe such moments are sufficient in and of themselves to create an ongoing interest in NASA programs. Others will disagree, no doubt.

- If someone successfully communicates NASA to a non-traditional audience via technologies such as Twitter, highlight this activity on the nasa.gov website

Doing so on [www.nasa.gov/collaborate](http://www.nasa.gov/collaborate), and we’re doing it more and more throughout the site. Any other specific suggestions?

## Content Management

- Website should:
  - Be a resource for common engineering/science problems (can be used by college students and professionals for research, training, etc.)  
I don’t disagree with the idea, but it’s a far stretch beyond what we were chartered by management to do, and Public Affairs really shouldn’t be leading the effort. It will take resources and a commitment from someone within NASA to champion it.
  - Include a rating system that is easy to use and easily seen, to give feedback to developments and content managers on how users view the website  
We’ve got our content-rating system out now. How would you improve it? Content managers have full access to all of our metrics – Urchin, Akamai, Google, Baynote -- to use as they choose.
  - Create a section that allows NASA to connect with professionals in all industries, where internal innovation/process/technical issues can be made public, so that NASA can invite collaborators to help generate solutions

Same comment as above. It takes a champion outside Public Affairs and resources.

- o Offer a readily available, easy to use, customizable template system, one that can be immediately reproduced by the other 9000+ NASA websites (centers, programs, projects, and anyone in between) - creates flexibility for usage. The goal should be to make it either easy to clone the NASA website for specific purposes (instead of generating your own website), or to make it easy for people to generate content within the nasa.gov infrastructure - or both.

This is a philosophical and governance debate rather than a technical issue. We created a graphics "affinity kit" for the 2002 design in the hopes that it would be a transition for sites that were coming fully into the infrastructure. Instead it became an end unto itself, and people felt free to change it as they chose, often not for reasons other than to use a different font or color palette.

That goes against what NASA management has wanted to do regarding strategic communications, i.e., developing an identifiable NASA look and feel. Doing that in turn means using a consistent look and feel by developing style and graphic standards and enforcing them. The best way to do that is by locking down templates and limiting discretion. Coming out of the newspaper world, where there's almost no latitude in such areas, I'm very comfortable with that. Many others at NASA are not. But I confess I've never understood why we pay contractors to do design work that has already been done instead to develop new and interesting content.

### Database & Apps Development

- Allow for the development and implementation of applications for the website - be flexible in scaling and expanding the website according to not just technological of today, but those of the future, as well  
We've tried to capture the requirement for this in the draft RFP for the next Web contract. See if you think we managed it. Be forewarned: this sort of request will likely require funds from the requestor.
- Develop web games that children/site visitors can play while surfing - content of games may not necessarily be related to NASA, but should be exclusive to NASA's website  
Visit the Kids Club and offer some feedback there. Our Education Office has done a great job of collecting a lot of games there. This is another good idea that will probably require bringing money to the table.
- Integrate social media tools (Twitter, Facebook/Good Friends Connect, Facebook applications, iPhone applications, etc.) and incorporate more outreach. This should not be just a destination site, but an outreach opportunity that allows fans,

friends, followers, and colleagues to be informed about latest innovations wherever it is they spend most of their time. By branching out and “appearing” in places target audiences frequent, not only will visitorship increase, but brand awareness will, as well. These networking tools can also help NASA identify technical and business collaborators who could help to solve pressing issues that may arise (similar to the anecdote related in the following article:

<http://blog.wired.com/defense/2009/01/sat-shoot-down.html>)

[Another good idea, and we've started down this road. Come and play.](#)

- Create NASA-inspired games/”widgets” that people can interact with on iPhones and similar technologies. Mobilizing NASA would be moving ahead of the curve - look at opportunities that show and remain true to NASA’s innovation.  
[I haven't seen iPhone apps yet, but there are plenty of Google Gadgets, Apple Desktop Widgets and other third-party apps being developed by people outside NASA using our stuff. Given our staff size, we can't do it all, so anyone with a good idea is welcome to dive in.](#)
- Content should be compelling and useful  
[OK. What else you got? Traffic and customer satisfaction have been up every year, so in the aggregate we've got this covered. What specifically do you think is missing?](#)
- Implement Flash in intelligent ways; this could be related, for example, to streaming video on the nasa.gov website - by using Flash Player, nasa.gov videos could be embedded in other locations (blogs, forums, social media, etc.), enabling it to spread virally.  
[Starting to get there. The YouTube presentation has become a convention, so we're using it. But it doesn't easily allow us to aggregate related videos like our current video player does. Definitely the right direction. I don't necessarily agree that an embed link is necessary to get the word out about a video; good content will do that itself. Others may disagree.](#)
- Chatting software embedded into website, so no additional software installation is needed.  
[The chatting software is there, we just haven't had anyone request to use it as a communications tool. Now if you're talking about providing external visitors with a tool to chat among themselves, someone will need to act as a moderator.](#)
- Create a portal with access to open-source software required to complete an entire engineering design - this could be used both internally and externally.  
[Another good idea that requires a champion outside Public Affairs and funding.](#)

### Bandwidth

- Use Torrent-type technology to allow portion of the NASA website to be installed on external mirror servers (voluntarily). Doing so can effectively increase the amount of bandwidth for NASA immeasurably (could be a natural progression of Torrent technology)

Again, I'm agnostic on technology, though I admit to feeling skittish about relying on a delivery technology that is by definition out of our control. But we'll see what vendors propose to meet the bandwidth requirements we've outlined.

### Search

- Search feature should incorporate a wider searchable database - something like Google's searching capabilities, incorporated into NASA resources and the web would enable users to search for and locate items more quickly and efficiently. We're effectively doing this already, using the Google Custom Search Engine, combined with the Baynote Observer. We cover the waterfront of NASA sites in our index, and the algorithms for returning results are entirely Google's. When I've run searches on our engine vs. google.com, our results have been dead-on. If you've got specific cases to look at, please send them along.

The truth is, we've done about as much as we can do with search via technology alone. As content owners, we can collectively do three things to make our search better: 1) follow search-engine optimization best practices, including metadata usage; 2) develop and adhere to an overall information architecture that addresses all of our content and links it together accordingly; 3) reduce duplicative, extraneous and out-of-date content and minimize the number of repositories our search engine must crawl.

A few site owners have addressed the first item. The latter two require an overall web governance structure that so far NASA has chosen not to institute.