Google Summer of Code 2010 Project Proposal

Drupal Crisis Management Suite

Jon Stacey

April 7, 2010

Download the PDF version of this proposal.

Abstract

During a crisis, such as a tornado like the one experienced by Union University in Tenn. or a shooting like Virginia Tech, an organization's Web site faces extraordinary demands while those most qualified to adapt it to those demands may be unavailable. I propose Crisis Management Suite, a set of modules aimed at allowing non-technical members of an organization to set in motion tasks that have been predetermined to transition the Web site into crisis mode with the click of a button.

Problem Scenario

Imagine the following scenario. A troubled student has taken several hostages in the biology lab of the local community college. The faculty and student body have been warned through the campus alert system, the administrative staff are on-site doing what they can to help authorities, and the Public Relations department is swamped handling phone calls from friends, parents, and the media.

Now picture the following two responses:

Response 1: A crisis was officially announced by the crisis response team and the media has begun covering it. The normal workflow of posting updates to the homepage has been interrupted because site administrators may not be available or may not be able to get the most up-to-date information, so the information people find on the site has nothing to do with the crisis. Likewise, within minutes, people from around the nation begin checking the organization's Web site for information and a "Slashdot effect" ensues because the site's template consumes too much bandwidth. In the words of a well-known pop culture Web site, "Epic Fail."

Response 2: A crisis was just announced by the crisis response team. One of the team members was designated at the meeting to activate crisis mode on the Web site and post an update about what is going on before notifying the media. As part of the response team, this member has a normally unavailable menu item (or block) for the Crisis Management Suite. The member navigates to this page and clicks on "Activate Crisis Mode." In a matter of seconds, the Web site theme is replaced with an optimized low bandwidth version made just for this occasion.

The member creates a new "Crisis Update," and in less than two minutes, the website contains the most recent information. From that point forward, any crisis response member that has new information can log in and create a new "Crisis Update."

A well planned and executed crisis response procedure is invaluable when a crisis hits. Simply by having a plan in place with the right tools can help a crisis management team be more efficient and communicative of vital information to the public.

Project Proposal

I propose the Crisis Management Suite, a set of modules aimed at allowing non-technical members of an organization to set in motion tasks that have been predetermined to transition the Web site into crisis mode with the click of a button. The Crisis Management Suite will extend Drupal's action and trigger system to fit this need as well as provide the easy to use menu items and blocks. Here is how I envision this module working.

Administrators
After installing Crisis Management, the Web team works with the crisis response team in discovering what should be done to the Web site during a crisis. The Web site administrators then implement the desired actions on the *Site configuration > Actions* page. The additional advanced actions will appear in the advanced action drop-down box.

Administrators will then go to *Site building > Triggers.* A "Crisis" tab will appear at the top providing two special triggers: "Trigger: When crisis mode is enabled" and "Trigger: When crisis mode is disabled." Administrators will then assign desired actions to occur when these triggers are activated. For example, some actions might include enabling a special theme, creating a crisis blog type, or sending Email alerts.

User accounts and roles are configured to provide privileged access to this module and are distributed to the members of the crisis response team.

After a crisis has been resolved, a Web site administrator will click "Deactivate Crisis Mode." The predefined actions that have been determined to bring the Web site out of crisis mode will be run.

Privileged Members
During a crisis, one of the members needs simply to login to Drupal and navigate to the crisis management page, which will be clearly visible. Once there, they click "Activate Crisis Mode."[1] The predefined actions are run and the team

---

[1] Possibilities might include confirmation, no confirmation, or an authorization code.

member can resume other functions, such as posting an update, or getting back to the situation.

Schedule of Deliverables

For the sake of simplicity, there will be a single deliverable. The Crisis Management Suite module will consist of several sub-modules to provide functionality as listed below:

Core Crisis Management Suite (main module)
- Blocks that can be configured for restricted access (e.g. Activate, Deactivate etc.)
- A "Crisis" tab on the Triggers page providing the following triggers:
  - Trigger: When crisis mode is enabled
  - Trigger: When crisis mode is disabled

Actions (sub-modules)

Action type	Description
block	Change block status
node	Create content type
node	Redirect specified node to URL
system	Change site information
system	Change site status and off-line message
system	Change default theme
system	Change module status
system	Change performance settings
system	Clear cached data
theme	Change theme settings
theme	Show javascript banner with message
user	Change user permissions

If there is time remaining and requests, I would like to add even more actions.

My secondary goal is to create a broad range of actions that are useful outside of the Crisis module, and perhaps moved into an "Actions Pack" module in the future. As such, extra actions will be created in sub-modules for portability. There

will be little to no coupling between actions and the core Crisis Management Suite allowing them to be easily extracted and used for other purposes.

Timeline

Here is an estimated timeline of development.

Community Bonding period	Get to know mentor(s), get up to speed on Drupal API, etc.
5/24-5/28 Start	- Stage 1 (Core): Menu links, blocks, triggers, access controls
5/31-6/4	- Stage 2 (Actions): Change theme settings
6/7-6/11	- Stage 2 (Actions): Change status of blocks
6/14-6/18	- Stage 2 (Actions): Create content type, redirect specified nodes to alternate URLs
6/21-6/25	- Stage 2 (Actions): Change site information, change site status and off-line message
6/28-7/2	- Stage 2 (Actions): Clear cached data
7/5-7/9	- Stage 3 (Actions): Change user permissions
7/12-7/16 Midterms	- Stage 4 (Review): Goal reevaluations and mid term review
7/19-7/23	- Stage 4 (Actions): Show javascript banner with message (possible module reuse)
7/26-7/30; 8/2-8/6	- stage 5 (Extension): Requested actions / Integration of crowd sourcing tools
8/9-8/13; 8/15-8/16 Pencils down	- Stage 6 (Production): Testing, documentation cleanup, testing, and more testing

If development goes smoothly and finishes ahead of schedule as I anticipate, then I would like to expand the list of actions based on community requests and approval from my mentor. Another area that I would like to explore is the addition of crowd sourcing tools, such as integration with the Ushahidi[2] project (e.g. receiving information updates via text messages).

---

[2] http://www.ushahidi.com

Open Source Development Experience

Last summer (2009) I worked on Drupal core to integrate PHP's stream wrappers with the Drupal File API[3]. I have contributed to several other well known open source projects including Wordpress and iPod Linux. My most recent open source development experience has been with Drupal (see Work/Internship Experience).

Work/Internship Experience

In the summer of 2008 I was hired by the Union College (Lincoln, Neb.) Marketing Communications department as part of an internship to relaunch the Web site using an open source platform, Drupal. I spent the summer wading through Drupal code and community modules to tailor the CMS to the needs of the college. My responsibilities for the transition included writing conversion scripts to move data from the outdated, in-house system to Drupal, as well as finding, modifying, and writing modules to provide the functionality that the college's Web committee had decided on.

Since then, I have continued to work on the college's Web site, providing support, fixing bugs (and submitting fixes back to the community), keeping up with security updates, and continuing to tailor the system to the needs and expectations of the more than 30 area content managers on campus.

Here is a small sampling of patches contributed back to the community:
[Support PHP stream wrappers](#)
[Drupal: tablesort_get_order()](#)
[Calendar Block: Drupal 5 port](#)
[Header Image: Organic Group Conditions](#)
[Token: Token malfunction with Auto NodeTitle...](#)

Academic Experience

I am currently wrapping up my fourth year of undergraduate classes, working towards a degree in Computer Information Systems. I have participated in numerous projects, both individual and team based, involving a variety of technologies. Some notable classes that are pertinent to this project include Enterprise Web Development, SQL with MySQL, and Systems Analysis and Design.

Why Drupal?

Having worked on customizing Drupal for the past year, I am very familiar with the core concepts and the community. Drupal is an amazing creation and has a

---

3 The 2009 GSoC project proposal was titled "Boost Drupal Media Module Development"

special place in my heart, and I want to see it become even better. As Drupal is increasingly implemented by schools, hospitals and governmental organizations which are required to have crisis contingency plans in place, this module will remove one headache for administrators and provide a significant value when being weighed against similar content management systems.

Personal Details

Name: Jon Stacey
Email and MSN Messenger: jon@jonsview.com
Personal blog: http://jonsview.com
LinkedIn resume: http://www.linkedin.com/in/jonstacey

See Also

There are several related resources to this proposal on the Drupal Web site:
Drupal user page: http://drupal.org/user/293513
Drupal groups user page: http://groups.drupal.org/user/21118

This proposal can be downloaded in PDF from the following URL.
http://jonsview.com/projects/google-summer-of-code-2010

The results of my 2008 internship with Union College are visible at
http://www.ucollege.edu

This application format is based on the Wordpress GSoC 2009 application template. http://codex.wordpress.org/GSoC_2009_Application_Template.