

Residency Web 2.0 Best Practices

CORD Academic Assembly San Diego, CA

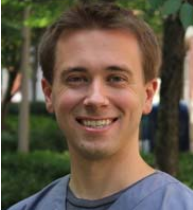
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Attachments

- 1) Residency Web 2.0 Best Practice Heuristics
- 2) Residency Web 2.0 Features and Functionality
- 3) Residency Web 2.0 Resources

Residency Web 2.0 Best Practice Heuristics

Engage users to create a sense of community

- User contributed content
- Highs/lowers page
- Academic and operational discussions
- Create a portal that brings community-oriented content right up front, like ongoing discussions and newly posted pearls/podcasts

Adopt Web 2.0 into the residency culture

- Make it part of the culture to use the site/project
- Refer to the site/project whenever possible; eliminate alternatives
- Use the site/project as a stepping stone for launching new innovations

Provide a safe place for discussion

- Rotation guide – confidential forum for residents only
- Residents and faculty can discuss pearls that are posted from rounds, or residents can ask questions in a forum format that's secure from public.

Offer fresh and updated content

- Integrate a notification system using twitter, facebook, or google buzz in addition to email.
- Designate staff to continuously update content

Keep things simple

- Make the user interface as simple, intuitive, and practical as possible
- Focus on user experience and design principles
- Focus on doing a few things well rather than trying to add extra bells and whistles

Create value for the user

- When designing a new Web 2.0 feature, think: "does this feature make something easier or better?"

Create an easy method for feedback

- Include tools/methods for providing easy feedback on innovation
- Engage users to identify additional features

Create features that are mobile friendly

- Integrate features with mobile platforms to allow users to interact with content on-the-go
- Ensure as much cross-platform compatibility as possible

Provide integrated views of data

- Provide new ways of looking at data by integrating multiple sources
- Web 2.0 mashups

Design an environment that is self-maintaining

Use metadata tags to categorize data

- Important for curriculum evaluation as well as evaluation of project
- Important for users to be able to readily search for items of interest

Residency Web 2.0 Features and Functionality

Feature	Description
Rotation Guide	<p>The Rotation Guide is a peer to peer guide on specific rotation expectations, faculty, unofficial curriculum, and resident experiences</p> <p>The Rotation Guide is a wiki based forum for residents to share knowledge and experiences. It is a widely popular feature among residents. Residents update the guide with useful information like where and when to meet on the first day of a rotation, how to sign in to the internal hospital wifi network on an iPhone, how to enable auto-login when signing orders. It is constantly updated month to month rather than year to year. Updates in real time reduce the redundancy of informal sign-outs between residents at the start and end of every rotation.</p> <p>It is completely resident-driven with no faculty involvement. Our different residencies have had varying degrees of faculty oversight. Residents are encouraged to contribute their thoughts to the guide so that a compilation of useful tips is available for the next class.</p>
Highs and Lows page	<p>A highs and lows leaderboard records highest/lowest lab values and the resident who saw it.</p> <p>It also includes things like “favorite triage note”, “favorite patient quotes”. It’s been a popular page for residents to visit. Highest blood alcohol level while maintaining airway – 542.</p> <p>This is a fun thing that is not particularly useful, but the residents and faculty really enjoy it and creates not only a sense of community, but a reason to keep returning to the web 2.0 portal.</p>
Shared Calendar	<p>A shared calendar includes administrative events like who is on sick call, which resident needs to give a lecture on which date.</p> <p>The calendar at BIDMC is also used to schedule residents to work the Red Sox games, as well as coordinate games which still have available tickets. The shared calendar is used through Google Sites, which allows for residents to sync residency calendar events with mobile devices. Using Google’s shared calendar for residency program activities and lectures has been very popular with residents/faculty because changes occur all the time and they are able to always turn on their phone and have the most up-to-date schedule sync with their calendar.</p>

<p>Clinical Cases</p>	<p>Clinical cases can be posted on a web 2.0 site to provide another avenue to deliver learning points</p> <ul style="list-style-type: none"> • Interesting Case Log – HIPPA secure/compliant interesting case log (pictures and text) • Weekly Pearls • ECGs/Ultrasounds/Clinical Images from the department with RSS feeds • Morning Report Log – log of morning report topics, categorized by the EM Model <p>Some residents/faculty are well familiar with RSS feeds, but others are not. We have been trying to teach how they can subscribe to our ECG and weekly pearl RSS feeds so that they can, for example, log into their Google Reader and see the latest ECG and weekly pearls from the department.</p>
<p>Online Lectures</p>	<p>An online lecture repository allows residents to upload/download lectures and other clinical content.</p> <ul style="list-style-type: none"> • Asynchronous learning with online lectures • Lecture podcast archive • Direct linking video recorded didactic lectures (so that users don't have to go to a separate site to watch lectures) • Streaming video lectures (both original, hosted content and linked 3rd party content – NEJM,youtube) <p>Vimeo is a relatively cheap and easy solution to streaming video lectures. For a reasonable yearly subscription, you have abundant uploading of HD video content. Most importantly, the content can be completely secured for authorized viewing and can be exclusively embedded into your residency website. Very easy resource to use for lecture videos on a budget.</p>
<p>Photos</p>	<p>A photos page facilitates sharing pictures among residents.</p> <p>This is another fun thing that's not particularly useful but residents/faculty enjoy it. It provides a sense of community and is another reason for residents to regularly visit the site.</p>
<p>Shared Links</p>	<p>Shared links of useful sites/podcasts that residents have found useful</p>

Residency Web 2.0 Selected Topics

Collaboration Tools

- On line collaboration, via documents and discussions, as well as educational materials have been the some of the most well utilized features. Web 2.0 allows a new way of learning where participants share and collaborate online.
- Web 2.0 greatly enhances the ability of groups to academically collaborate, be it on research protocol development or paper writing.
- From an operational standpoint, the collaborative project planning and protocol development tools have been a big step forward in keeping everyone in the loop with departmental activities. Collaborative tools need to be open so that anyone in the residency can edit and update the site.

Content creation, management, and auditing

- Content created by users will be lost when their accounts get deleted
- Must have formal process to screen content for protected health information (PHI). This is not as big an issue if inside hospital firewall
- Concerns about intellectual property. This is a huge topic for some of the faculty. While some faculty members do not care about their content being freely available, some strictly prohibit the distribution of their slides, lecture audio/video. We have taken a stance to record and post all lecture podcasts and slides to a restricted part of the website, assessable by residents/faculty only, which everyone has agreed on. We have no publically available lecture content at this point, but some faculty have expressed interest as a means of recruiting.

Participation

- Participation is one of the most difficult problems facing the implementation of Web 2.0 solutions. Much of this is generational. It can be very difficult to get some attending and resident staff to transition into an interactive web world. Web 1.0 applications like email and published schedules are ubiquitous and essentially required for most every aspect of one's professional career.
- Contributing to a wiki or online discussion, while not complicated, requires a mental frameshift to understand the web 2.0 advantage. The best way to accomplish this is to require it in concrete ways. Moving mandatory activities onto a Web 2.0 platform can work wonders, but is easy to undermine if you allow individuals to subvert the system. Design a process where the only path to completion is through a Web 2.0 interface and do it over and over again until it becomes the expected operating procedure.

IT Support

- This is a recurrent problem if you are trying to implement a system on internal, hospital servers. You may get some attention to your project, but any difficulties you have can become just another trouble call for a busy MIS department. The problem with taking everything entirely outside (to the cloud) is that some discussions really require disclosure of protected health information which would be considered a

HIPPA violation. Being behind the hospital firewall allows you to have those discussions in a secure environment.

- On the other hand, some residencies have moved entirely outside the hospital internal operations. New features and functionalities are added frequently, and maintenance is taken care of by a third party. However, they are unable to conduct any M&M type discussions online.

Academic Portfolio / Academic Advancement

- Using Web 2.0 functionality to create and maintain an interactive and accessible portfolio of your professional activities is one way to enhance one's career.
- While blog contributions or maintenance are not traditional inputs for academic promotion, they can serve as a melting pot for academic brainstorming and even paper generation.
- Furthermore, moderating an online discussion, if it is part of a structured learning curriculum, can function as an equivalent (if not superior) didactic teaching activity.
- The ability of Web 2.0 to damage one's career should not be understated. There are certain standards that medical professionals are expected to maintain. Off color or markedly unprofessional posts, photographs or videos can dramatically impact a career. Given the long memory of the web, residents and young attendings, who are less self-conscious and more at risk of sharing in this manner, should be particularly careful. You should always assume that your future employers can and will find your on-line posts.

How do you Recruit, Motivate, and Retain IT-focused clinicians

- Start early. We actively look for IT interest in resident applicants. While residents should not be considered a stable IT work force, they often bring a different perspective than a seasoned attending. That said, a resident cannot replace a dedicated cadre of IT focused individuals who can manage operational and educational projects. Ideally, a cadre of attending physicians with a deep interest/experience in IT should be coupled with (at minimum) one dedicated non-physician IT specialist. To me, this is the most productive arrangement – a group of physicians who can speak IT with someone who has the time and skills to manage websites, blogs or other collaborative environments and to extract and process data from disparate systems. Frankly, physician time is much more expensive than the time of a dedicated programmer/database/IT specialist.
- The best way to retain IT faculty is to empower people and keep them engaged and interested. A representative from your IT group needs a seat at the table for everything the department does as well as some freedom to operate independently, as well as full division status within your department.
- Protected time – IT projects are much like other academic projects. Whether as a resident or faculty member, they require protected time. In point of fact, protected IT time can be a significant multiplier for the academic activities of the entire faculty
- Project leaders need to feel like their efforts are valued; that they are making a meaningful contribution to the residency. People who undermine these efforts are incredibly disruptive to these efforts

Residency Web 2.0 Resources



<http://www.google.com/apps>

- + **Cost:** Free version / Business edition costs \$50/yr/user
- + **Features:** Email, Calendar, Google Sites, Google Docs
- + **Maintenance:** Since this is a cloud based service, all maintenance is taken care of by Google
- **User Limit:** Free version - 50 user max / Business edition – unlimited
- **Enterprise Interfacing:** Although the Google architecture does allow for interfacing with the hospital enterprise system (clinical and administrative systems), this would be difficult from both a technical perspective as well as from a security and organizational perspective



<http://www.squarespace.com>

- + **Cost:** \$240 / yr
- + **Features:** SquareSpace comes with out-of-the-box solutions for most all web 2.0 functionality. (forums, blogs, RSS feeds, podcasts, pic galleries, forms, email). It also supports different types of “audiences” (faculty, residents, students) to provide a customized experience.
- + **Maintenance:** Since this service is cloud based, maintenance is handled by SquareSpace
- + **User Limit:** There is no user limit
- **Privacy:** SquareSpace is a 3rd party organization that does not meet requirements to host protected health information.
- **Enterprise Interfacing:** SquareSpace is not equipped to handle complex interfacing with hospital enterprise systems



<http://sharepoint.microsoft.com>

- + **Privacy:** Since this is behind the hospital intranet, PHI can be hosted without violating HIPPA
- + **Enterprise Interfacing:** Plugs in directly with Microsoft Exchange. This allows for the same username/password to be used for the windows logon, outlook email, and other Microsoft products, as well as the opportunity for a single-sign-on
- + **User Limit:** There is no user limit on SharePoint. Since it uses the Microsoft Exchange mechanism, user management is much simplified
- **Cost:** Although SharePoint is nominally free from Microsoft, it does require considerable IT investments for the initial setup and continued maintenance of the product
- **Features:** Although SharePoint does come with a large assortment of features, newer features may require IT to install