Student Working Group News

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https://www.amia.org/working-group/student

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From The Chair

Greetings all!

On behalf of the ST-WG executive board, I appreciate the support you all have provided to us for leading the working group in 2010! An awesome team of members-at-large, appointed officers and volunteers are supporting the AMIA ST-WG by volunteering their time, energy and passion for the group's activities! We all are enthusiastically working on a number of projects that I will be sharing with you here.

Last year was one of the best AMIA-years I can remember; it gets phenomenally better each year, because we keep leveraging the efforts of the last ST-WG team as we strive for and achieve higher goals! The activities we continued and started in 2009, the organizational structure we established with various committees, and the number of ST-WG volunteers who worked with us and then ran for elections shows how much our members want to stay involved and appreciate the work the executive group has been doing. The number of members who attended the ST-WG business meeting at the AMIA Fall 2009 Symposium and the ST-WG dinner meet-up also proved that our members are eager to get involved with the group!

Today, I will mainly be focusing on three themes: leadership transition, my role and goals for the group, and updates for the executive group's activities and how you, the members, can participate.

Leadership transition:

This newsletter marks the transition of the ST-WG Executive Committee. You can see the list of the current members (some new and some staying on from last year) at the footer of the title page of this newsletter. Many thanks to all who enthusiastically support the group's activities!

My role and goals for the group:

I have a tough job, trying to follow David's footsteps! He has been an amazing mentor during my term as the Chair-elect in 2009 and has been a great supporter of my, at times seemingly crazy, ideas of innovation within the ST-WG. I will strive to continue to play the role of an executive sponsor to the ideas that the executive group and other members bring forth, and to support ongoing activities, while continuing the traditions that David, Catherine, Mike and earlier executive members started and supported.

Leading this group means a lot to me: it is an honor, a responsibility, an inspiration and continuous leadership training. I see this as an opportunity to inspire the AMIA student members to get more involved with student activities and thus gain from AMIA and experience some of the magic of AMIA that I have been inspired by. For me, being part of the ST-WG is about inspiring others to excel; about sharing experiences and opportunities; load balancing while working as a great team; and providing leadership training to the new executive members, volunteers and members.

My goals for the group are to: develop well-articulated ST-WG purposes, functions, goals and strategy; strive for organizational structure realignment based on our role/functions; and develop mechanisms for reaching out to welcome the new student members and introducing them to the benefits provided by being part of AMIA and especially the ST-WG. If you have any ideas about this or would like to volunteer for any of these activities, please write to me.

Updates to the exec group's activities:

In 2009, to streamline our activities and optimize our efforts, we established two committees for the executive group: the Communications Committee and the National Meetings Committee. This new structure allowed us to focus our energies on specific tasks. Last year, we basically had elected members in the committees, but this year as we have improved our workflow, we have included many volunteers into the committees. These committees are led by elected members of the group.

Communications Committee:

Faisal Vali was the founding Chair for this committee. This year Faisal is serving as an Advisor and Andy Nguyen is the Chair. Current tasks include:

1. Developing and maintaining smooth communications within the ST-WG board, within the ST-WG, and between the ST-WG and other AMIA groups.
2. Developing requirements for an optimal web-portal for the ST-WG communications needs.
3. A ST-WG White Paper: "The Use of Social Networking and Online Communication and Collaboration Tools by Professional Volunteer Organizations".
4. Maintaining an updated list of exec board members and volunteers (with e-mail addresses) arranged as a general list as well as according to committee memberships.
5. Helping AMIA staff (Rob@amia.org) update the ST-WG website: https://www.amia.org/working-group/student
6. Publishing regular ST-WG newsletters.

ST-WG regular conference call:

The executive group communicates frequently through Google groups set up for the two committees. We started a monthly conference call among the executive group last year. This year, we have opened up the call to all members of the ST-WG. A couple of general members attended the previous two calls and we have been sharing the minutes of the calls with the ST-WG listserv. Because we communicate extensively by e-mails, we are trying to set up an every-other-month recurring conference call for the ST-WG (instead of monthly). We will be sending out the call details to the listserv shortly.

National meetings committee:

Paulina Sockolow was the founding Chair of this committee last year (2009) with David in the advisory role. This year, Paulina is leading and looking for someone to step up to take the role of the Chair. Current tasks include:

1. Planning, organizing, implementing and conducting the ST-WG activities at national AMIA meetings such as:
   - The Careers in informatics panel at the AMIA Fall Symposium
   - Lunch / dinner meet ups at AMIA Fall and Spring meetings
   - The ST-WG business meeting at AMIA Fall Symposium
   - The ST-WG executive group planning meeting at AMIA Fall Symposium

Continuing our signature event over the last few years, we are planning a Career's Panel (pending approval after peer-review) for the AMIA 2010 Fall Symposium.

To sum up, I am very excited to be leading this awesome group! It has been a great experience over the last 2 years to work on various activities with the executive group and to inspire a number of ST-WG members to participate in the activities. I am looking forward to another great year in which we will further strengthen our structure and start reaching the milestones that we have been setting.

My contact info: I strive to be readily accessible for all things related to the ST-WG and career/workforce development. Feel free to write to me with new ideas, or feedback for existing activities, at muzna.amia@gmail.com.

Thanks for supporting the AMIA ST-WG!

Regards,

Muzna

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Member Contributions

AMIA ST-WG Project: White Paper on the Use of Social Networking and Online Communication and Collaboration Tools by Professional Volunteer Organizations

Many of you may be familiar with Web 2.0 and social networking tools like Facebook, Twitter, blogs, and wikis. In recent years, we have seen exponential use of such tools, both for personal use as well as for organizations; subsequently their value has also been increasingly realized by organizations. Organizations have noticed benefit by means of increased publicity, enhanced internal and external communications, and effective collaboration, among others. AMIA has recently utilized some of these tools such as wikis and Twitter to some extent. It remains to be seen if use of these will gain traction or if a clear strategy for moving forward with their use will evolve.

At our ST-WG meeting last November (at the AMIA 2009 Fall Symposium, San Francisco), an issue was raised by Faisal Vali, our Communications Committee Chair at the time, about how the ST-WG should best utilize social networking and other communication tools, including Facebook, Twitter, wikis, etc. Participants agreed that these tools have their value propositions but were also aware that they create a level of complexity that needs to be appropriately managed. With the lack of clear guidelines in the literature to help us navigate this domain, our discussion has led to a project that seeks to formulate and document the thought process on determining how a volunteer organization such as ours can utilize various communication tools and identify the opportunities, risks, and concerns surrounding them. The deliverable of this project will be a potentially-publishable white paper, which will document our experience and serve as a helpful guide not only to our WG but also to other AMIA WGs and other volunteer organizations.

This "white paper project" will be a collaborative effort by the ST-WG leadership, Communications Committee, and several volunteers in our WG including our social media and wiki "czars". Some discussions have already taken place among the WG leadership, with the expected time frame of 3-4 months until submission. We are still looking for more volunteers who may be interested in sharing their thoughts and experiences, and/or helping with the white paper. We welcome all social networking veterans and amateurs. I'm currently spearheading this project, under the leadership and guidance of Muzna Mirza (current ST-WG Chair) and Andrew Nguyen (current Communications Committee Chair). If you are interested or want to know more, please contact me at theer002@umn.edu.

This will be a great opportunity for us to share our collective experience and wisdom with others. I look forward to working with everyone on this interesting initiative!

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Review of: "Quantifying Clinical Narrative Redundancy in an Electronic Health Record"

Electronic medical records (EMR) have the potential to increase accuracy and clarity of patient information for the delivery of safe patient care[1,2]. Yet, EMRs often contain redundancy which could impact the accuracy and clarity of the patient's health status. The redundancy occurs as a result of a clinician re-entering previously noted data over the course of a patient's admission. Wrenn et al.[3] recognized that there may be advantages and disadvantages to redundancy within an EMR. Yet, little was known as to the frequency and types of data that was being repeated throughout the EMR.

In a recently published article, Wrenn et al.[3] conducted a retrospective descriptive study to investigate the amount of redundancy found within physician narrative notes (100 admission,1167 resident sign out, 303 progress and 100 discharge summary) collected from 100 records of patients admitted between June and December 2006. The authors used a modified Levenshtein algoritm[4] to analyze the notes. The applied method for this analysis has been used in studies of genetic sequencing and was modified to allow for simultaneous comparison

of multiple documents[3]. Results of this study found that redundancy was present in sign out and progress notes at least 50% of the time. At least 30% of the admission note data was repeated in the sign out, progress and discharge summary notes. The types of redundant data varied depending upon the note type.

Within the article, the authors mentioned 'copy and paste' as a possible facilitator of redundancy within the medical record[3]. 'Copy and paste' is a feature found within many EMR's that allows one clinician to cop' previously entered data and paste that data into a current part of the chart. While this feature is beneficial in saving time spent documenting, it has the risk of repeating information that is no longer current to the patient's medical status which could lead to medical errors[5].

The use of 'copy and paste' may contribute to some redundancy within the EMR but it is not the only source. Paper based medical records also contain redundancy where 'copy and paste' is not available. Thus, redundancy within the medical record is an issue related to the workflow processes of clinicians. Future work on redundancy should expand beyond physician notes and include documents from members of the entire health care team (e.g. nurses, social workers, nutritionists). The focus of additional research should be aimed at understanding how and why clinicians document patient information for safe patient care. This knowledge would aid in making decisions around appropriate types of redundancy within the EMR[3].

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Lists for Nurses

In my two years of nursing school, I learned how complex nursing work is. Nurses must carry many details in our heads as we do our work. This makes it more stressful and error-prone than it needs to be. Why not get some help from information technology? In this article, I describe a software tool that's under development. It will be for nurses to use as they work their shifts.

What's Hard About Nursing

Many of the physical tasks of nursing such as starting an IV or inserting a catheter demand a high level of skill and nursing schools teach them well. However, the mental side of the job-- also demanding of high skill--gets no attention. Each nurse must figure out for him- or herself how to:

- Have time management (prioritizing, optimizing)
- Remember to do everything (task tracking)
- Efficiently record and recall patient data (vital signs, responses to therapies, progress notes, interventions needed, additional requests e.g. "Tell my daughter I'm going to physical therapy this afternoon.")
- Remember drug allergies, diets, and care details big and small (e.g. for a patient who can't swallow pills, not forgetting to bring the applesauce to mix with the meds without a separate trip to the refrigerator).
- Work fast yet well in what never seems to be enough time.

Computer Technology to the Rescue

In my previous career I was a computer programmer so my thoughts naturally turned to a software solution. Together with a business partner, I am developing a program for nurses to use as we work our shifts. It is called

"NursesGetItDone." It runs on the popular Apple iPhone and iPod Touch and on a web site. NursesGetItDone is a nursing task-tracking tool. It is a to-do list with a note-taker and a work diary. It helps me:

- Prioritize ("What must I do next? How much time do I have?").
- Remain patient-centered ("What does this patient need now?")
- Organize tasks by room ("What should I do while I'm here?")
- Recall essential patient data for:
  - A call to the doctor to discuss a patient's change in status
  - Charting -- every nurse knows that "if it's not documented it didn't happen"
  - Report/handoff at the end of my shift
- Keep track of patients' special needs ("The meal cart is here but this icon by her name reminds me that she's NPO for surgery this afternoon").
- Keep a diary of where I've worked and what I did. The aggregate data from nurses working in hospitals and clinics all over the country will tell us new things about nursing that we've never known before.

The Central Concept: Task Lists

Remembering to do everything is no small feat. In nursing school, after my clinical rotations, I considered how little we were taught about this essential mental nursing skill. In our classes, we were lectured at great length about physical skills but I recall no professor speaking of the mental ones. How much of our mental energy is consumed by remembering? How much better could we be doing our jobs by devoting our minds fully to our high level activities--especially those demanding clinical skill and those involving actual patient care? This is not just a job aid, it is a real quality issue.

This notion of the value of lists is, of course, nothing new. Hospitals are revolutionizing the quality of care and vastly reducing errors by the simple introduction of checklists. Dr. Atul Gawande has written a book, "The Checklist Manifesto" (Metropolitan Books, $24.50) and articles in the New Yorker, the New York Times, and elsewhere, with research demonstrating that these simple methods improve outcomes and save lives.

In a January 5, 2010 story on National Public Radio--Dr. Gawande's 'Checklist' for Surgery

Success--he observes that experienced practitioners are resistant at first:

"You can imagine the response" to the idea of running through a checklist before surgery, Gawande says. But when his team surveyed the doctors who used the checklist, "There was about 80 percent who thought that this was something they wanted to continue to use. But 20 percent remained strongly against it. They said, 'This is a waste of my time, I don't think it makes any difference.' And then we asked them, 'If you were to have an operation, would you want the checklist?' Ninety-four percent wanted the checklist."

My contention is that doctors are not the only potential beneficiaries. Nurses, too, should use lists. Even the seasoned professionals who have "paid their dues" will be helped by a pocket tool that replaces that wad of paper every nurse carries. Gawande writes,

"...medicine today is so complex that even the sharpest doctors can no longer keep everything they need to know in their heads."

The same is true for nurses. Lists like these really work. Word is getting out. NursesGetItDone's time has come.

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AMIGAs

Muzna, chair of the AMIA ST-WG, asked me to put something together for the newsletter about how we met, and I thought "now, that won't be difficult!"…we met through AMIA!

The AMIA acronym plays nicely into the Spanish word for female friends, amigas, and we have been **AMIGA**s since 2008. I am from Australia and have been an international student member in AMIA. In early 2008, when I read the AMIA ST-WG newsletter, I realized she was in the Fellowship I was interested in. So, I wrote to her and she guided me about the Public Health Informatics Fellowship Program (PHIFP) at

Centers for Disease Control and Prevention (CDC). We also realised that we both love travelling. At that time, I sent Muzna photos of my lovely trip to Patagonia, Chile and she was inspired to add that destination to her 'to do' list. Likewise, I plan to visit some of the beautiful places Muzna has visited. We stayed in touch and met when I visited Atlanta for my Fellowship interviews, and now I am a Public Health Informatics Fellow with the CDC. I travel to South Africa as part of the Fellowship and my **AMI**G**A**, Muzna, also happens to be my housemate when I am in Atlanta.

It has been a great experience knowing someone through AMIA and then getting connected both in personal and professional life. So do yourself a favor and find yourself an

AMIG**A**!

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AMIA Student Members Visit Googleplex

Twelve members of the AMIA ST-WG visited the Googleplex in Mountain View, California, the day after the conclusion of the 2009 AMIA Annual Symposium. The trip, which took place on

November 19th, found members being greeted by our host Corrie Conrad (cconrad@google.com), project manager at Google.org, on a beautiful sunny fall day. Mountain View is but one of many communities in the Silicon Valley area of California where the vast majority of technology companies are either headquartered or have a presence.

The visit was engineered with several purposes in mind: to learn about the Google culture, Google's innovative business methodologies, to meet the Google.org team in order to learn about projects related to health informatics, and of course to learn about job prospects. To these ends, the group was given a tour of the Google campus and also met with key members of the Google.org team. The campus is made up of

several former Silicon Graphics (SGI) buildings which have been remodeled to fit with the Google culture and theme of "bringing the outside indoors". The buildings are spacious and include glass and tent-enclosed conference rooms designed to insulate sound and not distract nearby engineers who are working diligently on tomorrow's technology. The campus is sprawling and communal bicycles are provided as a means of allowing people to move quickly from one building to another. The meat of our visit came when we sat down in one of Google's brightly colored meeting rooms with key members of the Google.org team.

We spoke first with Tom Lasko, MD PhD (tlasko@google.com) who has been with Google for the past two years. Tom works primarily on Google Health PHR and he spoke about his role at Google, the culture of Google, and his project of interest, Google Health PHR. Between Corrie and Tom, the group was presented with an overview of the *Flu-Trends project* http://google.org/flutrends/, which is geared towards identifying trends in flu activity. According to the Google team, so far the Flu-

Trends project has been surprisingly predictive of trends found by the Centers for Disease Control and Prevention (CDC). In addition, the group saw a demonstration of the Flu Shot

Locator, a tool that allows people to locate where to receive flu and H1N1 shots as information presented over Google Maps.

Mark Smolinski (smolinski@google.com), a Medical Epidemiologist who previously worked with the CDC, presented *GeoChat* http://code.google.com/p/geochat/ as a means for healthcare workers in remote places in the world to communicate in real-time by chat to validate disease detection and threats. Mark pointed out how the real opportunity that is provided by the ubiquitous nature of mobile devices has powered this project.

Kataneh Sarvian (ksarvian@google.com) was the last presenter, covering development of the *Open Data Kit or ODK* http://code.google.com/p/open-data-kit/. ODK are sets of open source tools designed to help organizations collect, manage, aggregate, analyze, and visualize data. An example given concerned ODK collect on handheld android devices with input forms created using XForms http://www.w3.org/MarkUp/Forms/#waXForms.

Corrie and others talked about the Google.org team and that, at the time of the AMIA ST-WG visit, there were only 30 employees in the Google.org section of Google. While Google hires mostly engineers, non-engineers are also needed, and Google is looking for people to join the Google Health team. Google is looking for both engineers with health knowledge and health professionals with engineering knowledge. Google is very concerned about the development of standards and interoperability in health informatics.

One of the perks of working at Google is a freedom to move from project to project as your work affects so many other people. Add to that the 20% of each employee's time that is given to one's own projects, which may become full-fledged and funded Google projects, depending on various factors. Given all this the potential for personal contributions and growth are immense.

The AMIA Student-working group team thoroughly enjoyed the trip to Googleplex, and the visit with the Google.org team!! We are still in touch with the team and are looking for opportunities for collaboration on student or Google projects!

Michael Whittie summed up our visit, "I was impressed by the openness and vibrancy of the campus – it felt like the environment would be very conducive to creativity and productivity. I think the biggest lessons learned apply to public health informatics but may or may not be specific to it; that is, the allowance of project freedom and encouragement of individual initiative (such as 20% time), plus the creation of a positive and comfortable physical work environment, are investments that really seem to pay off."

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