MINK WIC 2013

Missouri Iowa Nebraska Kansas Women in Computing

Conference Proceedings

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October 18 – 19, 2013
Kansas City, MO.

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The Missouri Iowa Nebraska Kansas Women in Computing (MINK WIC) Conference, located at the Ewing Marion Kauffman Conference Center in Kansas City, MO, October 18-19, 2013, was made possible by the hard work and collaboration of many people. We attempt here to name everyone whose hard work has made it a success! We apologize for any omissions.

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Keynote Speaker

Nora Denzel

Retired Technical Executive

The Most Popular Ways Technical Women Shoot Themselves in the Foot in their Careers

Abstract

Nora will share with you the lessons she learned along the journey from software engineer to technology executive.   Using humor and personal stories, she'll cover the most common ways that technical women shoot themselves in the foot in the workplace and how you can avoid making them.

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Nora M. Denzel is a recently-retired technical executive who now serves on three public company boards. Before retiring, she spent over 25 years working in the Silicon Valley starting out as a software engineer and becoming an executive in 4 technology companies including HP and IBM.

Nora has been recognized many times in different technical disciplines for her contributions to the technology industry. She was named as one of the top computer storage "movers and shakers" by Computer Storage Magazine, and one of the most powerful people in computer networking by Computer Network Magazine. In 2012 she was named as one of the top 25 women engineers by Business Insider magazine and one of the top women in technology by CIO magazine.

Keynote Speaker

Sarah Granger

Entrepreneur

Empowerment in the Digital Age

Abstract

When Sarah Granger first ventured online as a tween in the 1980s in Kansas City, the Internet as we know it today didn't exist. All she had was an Apple II+ computer, a modem, a few programming lessons, and a willingness to learn. Thirty years later, we're surrounded by Fiberhoods, startup villages, and social apps. The technology tools may have changed, but the skills Sarah learned growing up online in KC still apply to her life and work every day in Silicon Valley. She will share the most important lessons that empowered her to become a successful technologist, entrepreneur, writer and leader and in digital media.

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Sarah Granger is an award-winning innovator in digital media, social technology and online culture. One of the *Silicon Valley Business Journal* "40 Under 40" rising stars in 2012, Sarah has also written hundreds of articles and blogs, reaching millions of readers around the world. Her work has been published in wide range of publications, including *Harvard Business Review*, *Forbes Russia*, *Spectrum* magazine, *The Huffington Post*, *BlogHer* and *The San Francisco Chronicle* at *SFGate.com*. In 2011, Sarah founded the Center for Technology, Media & Society to engage in a wide range of issues relating to information technology's impact on our lives and in our world.

Sarah began studying computer programming as a nine year-old, growing up in Kansas City. After graduating from the University of Michigan, she moved to the San Francisco Bay Area to became a system and network security engineer at Lawrence Livermore National Lab and then Net Daemons Associates (NDA), a startup IT service provider. She later founded bComfy, an innovative online software model for ergonomics, and SFBayStyle, a pioneering online magazine. As a consultant, she has worked with dozens of companies and nonprofit organizations in six countries. She currently advises young startups, helping build the pipeline of more entrepreneurs.

A frequent speaker and media commentator, Sarah has been a main stage presenter at several conferences, including South by Southwest Interactive, Exceptional Women in Publishing, Tech Policy Summit, Innovation Journalism, and the first Startup Women Forum in Russia. She has been featured as a technology and social media expert on *CBS News*, *Good Morning America*, *RT* and *NPR* and quoted in *The New York Times*, *Entrepreneur*, *The Washington Post*, *PBS.org*, and *The Hill*. She was a contributing author of *Ethical Hacking*, *Shift & Reset*, and *Diplomacy, Development and Security in the Information Age*. Her first book, *Your Life Online*, will be published in 2014.

For more information, see sarahgranger.com and @sarahgranger on Twitter.

Invited Technical Speakers

Jennifer Lohoefener
Software Architect at Perceptive Software

Title: *Thinking Beyond the Code: Making Your Own Rules*

Abstract: Systems today can consist of hundreds, thousands, even millions of components all defined using different semantic domains. How do we assure a system as a whole will operate correctly? How can we guarantee the individual components will interact with one another as expected? Formal methods can help us obtain answers to these types of questions. In a sense, they allow us to formalize rules for how our systems behave. We will discuss the rudimentary concepts behind the application of formal methods within design as well as examine the benefits of domain specific languages for distinct computing needs. In a field that is constantly evolving and transforming, it can be difficult to keep up with the change. There are tools available to help, but we cannot be afraid to make our own rules.

Biography: Jennifer is a graduate of the University of Kansas where she received her B.S. in Computer Engineering and her PhD. in Computer Science. Before her position at Perceptive Software, she was a faculty member in the Electrical Engineering and Computer Science department at Grantham University. Today she continues to serve as a member of the board for Grantham's engineering program. Her research interests include domain specific languages, language semantics, formal methods, and automated theorem proving. She is a published author who has presented numerous invited talks both nationally and internationally.

Pamela Delaney
Senior Member of the Technical Staff at NetApp, Inc.

Title: *Attributes of Influential Software Developers (Development is More than Just Coding!)*

Abstract: Execellent logic and coding skills are necessary to be an effective contributor in a software development organization. However, posessing those skills is not sufficient to become a leader in an organization. There are many smart, effective people with little influence. There are many who are passed over in crunch conditions. This talk focuses on skills and traits found commonly in the most influential technical people in NetApp.

Biography: Pamela has held roles as an individual contributor, technical team leader and feature lead as part of a larger E-Series development team. While with NetApp, her development efforts have focused on embedded software utilized in high performance RAID Storage arrays. Prior to joining NetApp, she held positions with Wichita State University as a visiting professor and with The University of Arizona as an assistant professor of Electrical and Computer Engineering. She holds a Bachelor degree from The University of Arizona and Master's and PhD degrees in Electrical Engineering from Princeton University.

Graduate Papers

An Improved Method for Measuring the Quality of Anonymized Data
Presenter: Nafia Malik, Wichita State University   nxmalik@wichita.edu
In this research we give a metric for measuring the risk of disclosure of anonymized data sets. In the real world, the risk of leaking sensitive information remains as the database owners have to release some form of data set for knowledge discovery. Our metric provides a formula for measuring the anonymity remaining in the aftermath of an attack to assess the safety level of anonymized data in the context of realistic attacks. The existing method considers the hacker, based on some prior knowledge, eliminates the infeasible links and evaluates other links as equally likely to map an anonymized set of data items to the original set of data items. We consider a more realistic scenario where the hacker assigns a real valued probability to each link to measure how much the link belongs to the actual mapping. Our metric computes the weighted expectation of the 'cracks' and also gives a heuristic to compute the metric with a reduced computational complexity.

An Empirical Study on Symptoms of Heavier Internet Usage among Young Adults
Presenter: SaiPreethi Vishwanathan, Missouri University of Science and Technology
                 svmc9@mst.edu
Understanding negative consequences of heavy Internet use on mental health is a topic that is gaining significant traction recently. A number of studies have investigated heavy Internet usage, especially among young adults, in relation to online games, social media and email. While such studies do provide valuable insights, Internet usage so far has been characterized only by means of self-reported surveys that may suffer from errors and biases. In this paper, we report the findings of a two month empirical study on heavy Internet usage among students conducted at a college campus. The novelty of the study is that it is believed to be the first to use real Internet data that is collected continuously, passively and preserving privacy. A total of 69 freshman students were surveyed for symptoms of heavy Internet usage, using the Internet Related Problem Scale, and their campus Internet usage was monitored (after appropriate anonymization procedures to maintain subject privacy). Statistical analysis revealed that several Internet usage features, such as instant messaging, entropy, gaming, web browsing, peer-to-peer usage, remote usage, and email usage exhibit significant correlations with symptoms of Internet addiction like introversion, craving, loss of control and tolerance. Although the study found that Facebook and Twitter usage did not show significant statistical correlations with symptoms of heavier Internet usage, it was found that students tending towards heavier Internet usage used those websites less often. We believe that this study provides critical new insights into symptoms of heavier (possibly addictive) Internet usage among young adults, which is now a topic of significant concern to the mental health community today.

Graduate Posters

Women in Project Management
Presenter: **Bandari, Poornima, Northwest Missouri State University**
s516465@mail.nwmissouri.edu

The objective of this poster is to determine the common skill set between men and women and how it might play an important role in building up the career of project management. This poster would explain a few examples to encourage women in project management. Women have the basic skills of management which would be seen in normal household activities. The same would be applied in case of managing the projects of a company by knowing a certain set of standards and by being educated in the management field. These days, women continue to break through the gender gap and rise in their successful careers in project management. There are some professional development scholarships being awarded to female project management practitioners. This poster would also explain the basic gender differences that might arise in project management and how they can be overcome by applying a few management techniques. I would also like to present a few scenarios that I have experienced during my tenure in Infosys Limited, where I have worked for about three years with my project manager being a woman and my batch coordinator being a woman.

App Reviewer
Presenter: **Alekhya Boyapati, University of Missouri –Kansas City** abdp6@mail.umkc.edu

In recent years, there has been a significant increase in the number of mobile web applications being developed every day. According to a recent survey there are around 9 billion mobile users in the world today, and this number is expected to increase to 24 billion by 2020. As the number of smart phone users has increased, they have gotten accustomed to web applications which are making their lives a lot simpler and easier. The craze among people for web applications pushed them towards learning application development, and tools such as Microsoft Visual studio expedited the process of developing applications for mobiles easily in a very short period. Thus, the number of applications is increasing exponentially, irrespective of the platform such as Windows, Android or iOS. With huge numbers of applications in their app store, users are confused in choosing applications according to their requirements. To solve this problem we would like to implement "Application Reviewer". "Application Reviewer" helps the user in selecting the appropriate app according to their requirements, provides honest, genuine reviews for that app from its previous users, and also recommends related apps to the user. This application helps the users in choosing the correct application for their required functionality. Our goal is to provide sophisticated, bug-free apps to the user from the category he/she requests with the user's own prior reviews from other users. The significant features of the proposed project are the following: when a user requests information in a certain category, then the application will pop up with a description of the application, its version history, developer information, size and number of users presently using it, along with honest reviews from other users. This allows the user to make a wise decision on selecting the appropriate app.

Design of User Interaction Framework to Encourage Information Sharing in the CrowdSourcing Web Library
Presenter: **Garima Dhakal, Northwest Missouri State University**   dhakal.gareema@gmail.com

"In regard to the higher education system (Bachelors, Masters and PhD levels) in Nepal, the universities utilize course curricula from foreign writers' books, giving advantage to the students with the global contents on the matter. However, students could gain least from non-familiar case studies available in the textbooks. This has led most of the teaching methodologies to limit on theoretical understanding of the subjects.

The research aims in designing a collaborative information sharing web portal in such a way that there is increased participation of users, in regard to content development and content impoverishment for shared benefits of the people. The goal of this project is to bring up local case studies into Nepalese education institutions so that the students and teachers could utilize the information about their country and their people in classroom discussions and teaching-learning activities. We aim to grow up learned individuals, who are aware about their nation and their possibilities via easy, reliable and free information availability.

We have developed a web portal that consists of case studies from various disciplines such as Science, Management, Education, Health, Environment, Engineering, and Arts from nook and corners of the country. It is thus beneficial to utilize "wisdom of crowd" so that we could collectively develop valid content about diverse sectors. This is a multimodal information sharing platform that facilitates users to share their case study in the form of text, or image, audio, video; or the combination of any of these modes.

There are two types of users in the system: 1) General public- They could view posts as well as enter their own posts so that everyone could read them, and 2) Administrator- They manage overall function of the system and protect it from malicious acts. In such crowdsourcing environment, we have come up with a user interaction framework that is designed to foster interaction between General Public so that they could help and encourage each other to publish trustworthy and effective content. The participants could also achieve honor of co-author and token of acknowledgements for their valuable inputs. Our study is based on the literature reviews and the web sites that practice crowdsourcing mechanisms to share knowledge from wide and dispersed populations. We aim to test the user interaction framework via online feedback that is available in the website for the users.

Such means of communication would address the 'information gap' so that there could be uniform participation of people in global activities, especially from the people in remote areas that are deprived of road links and other connections to the rest of the world. We expect this web library to benefit various domains, for e.g. 1) Education: To develop local content and bring up in classroom discussions, 2) Travel and Tourism: To promote local culture and lifestyle to internal and external tourists, 3) Entrepreneurship in Science, Technology, Social Services, and Business: To collaborate and come up together with demanding solutions to people, and 4) Market expansion: To advertise agricultural products and reach out to the customers."

Reliability and Scalability Issues in Software Defined Network Frameworks
Presenter: Xinjie Guan, University of Missouri – Kansas City   xgck9@mail.umkc.edu
Driven by the fast development of cloud computing, Software Defined Network (SDN) structure has been proposed for its flexibility in deployment and management. As an implementation of SDN structure, OpenFlow protocol decouples data plane and control plane so that flexible and programmable installation and management of forwarding rules are allowed. However, on the other hand, the decoupled structure raises additional computational and network resources consumption that even may lead to fatal disasters. In this study, we examine the issues of reliability and scalability of SDN under disaster scenarios on the GENI test-bed. Observations from our experiments show that more attention should be paid to improve the reliability and scalability of SDN and its frameworks.

Git and Github
Presenter: **Shruthi Gummadi. Northwest Missouri State University** s515783@mail.nwmissouri.edu
Git is a distributed version control system. Mainly Version control or source control is used for managing multiple programs and documents. Over the past few years Git has tremendous growth in usage in team projects and also individual projects. Git manages different versions of software releases, it has a feature to create new repository, to track the code, branching and merging with Git and work independently i.e., not dependent on any network or central servers. It is free software, and it has the following characteristic: Compatibility with existing systems/protocols, which means repositories (version control) can be published via HTTP, FTP, rsync, or plain socket. Github is incredibly easy to start open source projects and share them with more than one developer.

Traveler's Eye
Presenters: **Sindhu Koneru and Sujitha Onteru, University of Missouri – Kansas City**
skmtc@mail.umkc.edu, sovd6@mail.umkc.edu
Being international students, we all understand the intricacies involved in travel and the stress of keeping track of all the information about the destination. Traveler's eye is aimed to make a traveler's life easy by providing relevant useful information whenever the user needs it, at a simple button click or the touch of a finger. Once the destination has been selected, the app will be able to provide information regarding convenient places of stay, the traffic and weather related data so that the user can make an informed decisions on the modes of transport or the time of travel. The app also provides a lot of details about the destination, such as the currency used, language spoken, history of the location, crime rate, which areas are a must visit and which places to avoid. The overall objective is to provide the user a very safe and comfortable experience while he is travelling.

Implementation of Secure Quantum Protocol Using Multiple Photons for Communication
Presenter: **Sayonnha Mandal, University of Nebraska at Omaha** smandal@unomaha.edu
This poster presents the implementation of a quantum cryptography protocol for secure communication between servers in the cloud. As computing power increases, classical cryptography and key management schemes based on computational complexity become increasingly susceptible to brute force and cryptanalytic attacks. Current implementations of quantum cryptography are based on the BB84 protocol, which is susceptible to siphoning attacks on the multiple photons emitted by practical laser sources. The three-stage protocol, whose implementation is described in this paper, is a departure from conventional practice, and it obviates some of the known vulnerabilities of the current implementations of quantum cryptography. This poster presents an implementation of the three-stage quantum communication protocol in free-space. To the best of the author's knowledge, this is the first implementation of a quantum protocol where multiple photons can be used for secure communication.

Women in Technology
Presenter: **Soniya Mogre, Northwest Missouri State University** mogre.soniya@gmail.com
Women are outperforming men in many fields. Women today stand shoulder to shoulder with men in almost every stream, be it a top management team of a company or a development unit. But still there are comparatively fewer women in computer science and engineering. This field is more conquered by men, and hence needs greater gender diversity. If we talk about women in top positions, then we have a lot of them in industries other than technology. Women mostly concentrate on positions in Human Resources, Public Relations, and Advertisement and Marketing. There are not many who want to take

up computing as their career. In Asian countries girls comprise almost 50percent of the class population of computer science. But it's not the same in USA and in European countries. Young girls start with computer science or engineering but in mid-stream switch to some other area. Women need to understand there is vast opportunity in technology for them and there is a lot to explore. Today there are a number of female executives in the top management of technology companies like Yahoo, Facebook, Microsoft, IBM and Google: Chief Operating Officer of Facebook, Sheryl Sandberg; Amy Hood, Executive Vice President and Financial Officer of Microsoft, Lisa Brummel, Executive Vice President , Human Resources of Microsoft, Marissa Mayer- Chef Executive Officer, President and Director of Yahoo. These women in technology industries belong to a core part of management team and they contribute to making strategy for business and company. They stand as an inspiration for young girls to visualize themselves at top positions and explore opportunities in technology.

Inconsistencies in Location Dependent Queries
Presenter: Deepthi Paluri, University of Missouri – Kansas City   dp6kf@mail.umkc.edu
The use of current generation mobile devices and resulting network communication overhead has increased significantly over the past few years. The extensive research leading to the development of wireless networks and mobile computing technologies to cater to the continuous processing of queries and relay of responses has been reviewed and briefly discussed in this article. Location inconsistencies due to the continuous movement of the mobile devices and corresponding changes in the network topology are discussed. Out of a potential range of applications that can benefit from continuous location updates, development of a mobile application for real-time navigation based on global positioning system (GPS) coordinates was addressed in detail. Several simulations were conducted to understand network overhead due to user desired variables.

Energy Efficiency on Base Station in Software-defined Cellular Network
Presenter: Sunae Shin, University of Missouri – Kansas City   sshin@mail.umkc.edu
With increasing concerns on energy and exponentially growing data traffic, green cellular networks have been receiveing attention significantly. Current estimation indicates that the Information and Communication Technology (ICT) infrastructure causes 3% of the world wide electricity consumption and 2% of global CO_2 emissions. Particularly, our study is focused on the cellular networks, we investigated that 60% of the total power consumption of the cellular networks is caused by Base Station (BS). In order to improve management of BS and overcome the limitations, we introduce Software-Defined Network (SDN) to cellular networks. Software-defined network (SDN) can provide benefits on the current cellular network that suffers from inflexible management and complex control. We present architecture of cellular network with SDN which provides centralized control and flexible management on cellular network. Moreover, the method for BS sleep mode to maximize the number of sleeping BSs to reduce energy consumption with centralized control is suggested. Additionally, we consider reducing the known problem in cellular network, ping-pong effect, which may decrease the overall network performance with the global view of the network.

Undergraduate Posters

Girls of Color in Technology
Presenter: Allen, Rovine, No school identified   <u>enivor7@cox.net</u>
This poster will address the following ideas:
1. Focusing on girls of color in respect to the field of technology.
2. The problems seen within the age group from 12-17 years of age.
3. How to connect them into this vital field in spite of disadvantaged backgrounds.
4. Results I saw; my before and after experience working with students of color showing great deficiencies in the classroom pre-k through 8th grade compared to other students.
5. How to prepare them for the workforce and to be future leaders in technology.
6. Resources available today to all students have made the technology field more innovative and empowering to girls and young women.

Competing for STEM Jobs Using Social Networking – A Woman's Perspective
Presenter: Danyel Becker, **Missouri Western State University**
                <u>deb3209@missouriwestern.edu</u>
This poster will address how social networking impacts college students, affecting the overall graduation rate and success of career goals of women in STEM disciplines. In today's economy job-seekers must use electronic tools, networking and skills acquisition to set themselves apart from the crowd. Understanding the role that apps like LinkedIn, Facebook, Google+ and even Twitter play in the network maze of companies and job-seekers looking to connect, can mean the difference of getting a job and developing a career path to the job of your dreams.

Starting From Scratch
Presenter: Grace Horvath, Northwest Missouri State University
                <u>s511350@mail.nwmissouri.edu</u>
This poster presents the programming language Scratch. Scratch is a program developed at Massachusetts Institute of Technology and is supported by the National Science Foundation. Scratch is a fun and creative program that allows students of all ages to create stories, animations, games, and much more. These creations help teach the fundamentals of programming, as well as mathematical and computational ideas and the ability to think creatively and systematically. It is important for our youth to be exposed to this program and others of its like in order to spark an early interest in the technology field. My poster is meant to give a brief introduction to the programming language and explain the importance of Scratch in the classroom.

An Empirical Analysis of the Improved Metric for Measuring Remaining Anonymity
Presenter: Nafia Malik, Wichita State University   <u>ashley.olson@wichita.edu</u>
In this presentation we intend to present an empirical analysis of the metric and the heuristic for measuring the risk of disclosure of anonymized data sets. In practice, the decision makers of the companies have to release some form of database for knowledge discovery, so the risk of privacy breach remains. Our ongoing research for an improved metric provides a formula for measuring the anonymity remaining in the aftermath of an attack to assess the safety level of anonymized data. The ongoing research considers a realistic scenario where the hacker assigns a probability instead of binary decisions in existing metric to each link to measure how much the link belongs to the actual mapping of anonymized data set to the original data set. The improved metric computes the weighted expectation of the links being the actual link deployed by the data set owner. We present the heuristics to compute the metric with a reduced computational complexity and compare experimental results for both.

Decentralized collision Avoidance Framework for Unmanned Aerial Vehicles
Presenter: **Victoria Wu, University of Missouri – Kansas City**
victoria.chen.wu@gmail.com

Collision avoidance for unmanned aerial vehicles (UAV) is a vital issue with multiple UAVs. Decentralized collision avoidance allows for greater independence when compared to a centralized approach; however, it shifts the workload from a more powerful ground station onto individual agents, requiring an efficient supporting framework. We present a lightweight, modular decentralized collision avoidance framework that allows for testing of decentralized algorithms on readily available hardware.

Lightning Talks

Technology Tools of the 21st Century
Presenter: **Rovine Allen** enivor7@cox.net
What are 21st century tools? Are they necessary in the technology educational system?
I will present testimonials and discuss the integration and advantages of 21st Century technology tools.

A Recalibration and Length Based analysis of Sentiment in Street Harassment
Presenter: **April Corbet, University of Nebraska – Omaha** acorbet@unomaha.edu
Street harassment is a pervasive problem that disproportionately targets women and the LGBTQ community. Currently, there are no effective ways to deal with the harassers, as the acts of harassment happen randomly and are difficult, if not impossible, to prosecute. Hollaback! is an international movement aimed at stopping street harassment. Hollaback! servers collect street harassment stories from victims around the globe to share, gather statistics, and create awareness. In this paper, we present a study focused on developing a system to recalibrate the current sentiment analysis methodologies so that they will be effective on a dataset with skewed sentiment indicators. The system will present the text in a story format. We did this by training our analysis system on a combination of the Apriori Program and the LIWC sentiment wordsets and by developing rules for how sentiment interacts in a story setting and with longer text segments. This more accurate sentiment determination and included sentiment breakdown across the text can now be used in further studies to help determine both the severity of the harassment, as well as which stories describe successful protection against street harassment.

QRCode Ice Breaker Project
Presenter: **Anna Edwards, Laura Purcell, Missouri Western State University**
anataros@missouriwestern.edu
For our lightning talk, I would like to talk about "QR Hunt".   Laura Purcell and I developed an app that can be used as an ice breaker at social events. It has been used at several events already as a way to encourage people to get to know one another by scanning QR coded name tags. Scanning the tag will display a profile page for that person. Participants in our ice breaker game called "QR Hunt" were also encouraged to seek out and find specific QR coded locations around the event. Participants receive points for each code that they scanned.

Disinfection Day
Presenter: **Ellie Fjellman, Southwest Baptist University** s622883@sbuniv.edu
Southwest Baptist University's ACM chapter is active in their community. Every year, they host a Disinfection Day where the community is invited to bring their computers to SBU's campus to be "disinfected." Not only are viruses removed, but the "junk" files are also removed. SBU's Computer and Information Sciences Department has greatly benefited from this outreach, as the department has gained recognition through the community service. KY3, a local television station, covered this year's event. The event could be replicated at other universities and is an effective way to help the community recognize the value of Computer Science in a practical way.

Wireless Priority Service
Presenter: **Helen Gebre-Amlak, University of Missouri – Kansas City**
hhgc77@umkc.edu
After the September 11 attack, the cell phone network of New York City was rapidly overloaded as traffic doubled over normal levels. In the East Coast, cell phone traffic also overloaded, leading to crashes of the cell phone network. People in Washington, DC were lining up at the pay phone to make their phone calls. This required the need for Wireless Priority Service(WPS). This was one of my public sector projects when I was working at Sprint. I would like to present a lightning talk about Wireless Priority Service.

Social Good Through LDA
Presenter: **Susannah Go, University of Nebraska at Omaha** sgo@unomaha.edu
In 2012, a group of researchers used a generative topic model called Latent Dirichlet Allocation (LDA) to extract themes from stories posted on athinline.org, a website developed by MTV for distressed teenagers, to identify, respond to, and stop cyber-bullying and digital abuse. The themes were then used to match new stories to similar existing ones, so that teenagers who submit stories to the website could find like stories and gain emotional support by knowing that others share the same hardships. Our goal is to take these principles and apply them to stories taken from Hollaback blogs, where people share accounts of experienced or observed street harassment.

Schizophrenia Cure Through Programming and Technology
Presenter: **Aryani Suhitha Roy Gotoor, University of Nebraska at Omaha**
g.aryaniroy@gmail.com
Schizophrenia is a mental disorder that generally appears in late adolescence or early adulthood - however, it can emerge at any time in life. It is one of many brain diseases that may include delusions, loss of personality (flat affect), confusion, agitation, social withdrawal, psychosis, and bizarre behavior. I want to present my idea on how technology can cure schizophrenia and help victims come to terms with reality.

Computer Science 2: Serious Game
Presenter: **Elizabeth Jacobsohn, Southwest Baptist University** s645473@sbuniv.edu
In Computer Science II at Southwest Baptist University, students learn how to gather requirements and develop software for a computer game to teach elementary students basic mathematical principles.

Homomorphic Encryption in Cloud Computing
Presenter: **Deepthi Paluri, University of Missouri – Kansas City** dp6kf@mail.umkc.edu

This lightning talk will discuss the recent advances in cloud computing and its challenges specific to the multi-trillion sector of healthcare industry. The vulnerability of cloud computing will be compared against the requirements of the upcoming Affordable Care Act in terms of data encryption and security. Homomorphic encryption was researched as a potential solution as an alternate to few of the features that major commercial cloud providers offer. A hands-on demonstration will help the audience better understand the brilliance and limitations of Homomorphic encryption. Current and future research trends following Homomorphic encryption's introduction will be discussed.

ZigBee Wireless Network for Home Automation
Presenter: **Megha Sharma, University of Missouri – Kansas City** mszzf@mail.umkc.edu
Wireless sensors have become an active research area because of their wide applications in environmental monitoring, medical care, home automation and gaming etc. One of the most frequently used wireless devices in sensors networks are ZigBees due to their small size, low cost and low power consumption. Furthermore, some of the specialized ZigBee kits have sensors like temperature, light, humidity, accelerometer on-board, and can be deployed directly in sensor networks to monitor home conditions. The ZigBee network consists of a central Coordinator which configures the network and End devices which periodically send their sensor data, including temperature, humidity and light conditions of the room, to the coordinator. This sensor data can be used to analyze conditions at various locations within the house and thus take measures to avoid discomfort caused by excessive humidity, extremely low temperature or very bright light, and support energy efficient homes. The End devices, when interfaced with power meters, transmit the power consumed by different appliances and can be used in power monitoring and efficient use of appliances.

Why You Should Participate in a Hackathon
Presenter: **Sarah Withee, University of Missouri – Kansas City** sarah@sarahwithee.com
Hackathons are short (usually about 24 hour) programming competitions where the goal is to have a working product by the end of the competition to demo off to the other people there. I believe they are fun and have good benefits to computer science students (besides the free food and drink). During my talk, I will briefly mention what the competitions are and why I think the women computer science students will benefit by going to them.

Becoming an Undergraduate Teaching Assistant
Presenter: **Sarah Withee, University of Missouri – Kansas City** sarah@sarahwithee.com
Last year, I was recommended to fill a position for a teaching assistant for UMKC's CS 201 (Intro to Programming and Problem Solving II) lab section. Throughout the past year, I've taught over 55 students in 5 sections of the course, and I feel the experience has changed me for the better. As an undergraduate who is teaching undergraduates, it has also had its share of interesting stories. I plan to talk about my experiences with this teaching position and why other students should take this position if they also have the opportunity.

Panels

Dealing With the Boys' Club

Join industry leaders who will discuss how they have faced obstacles in advancement, in being accepted as a woman in a male-dominated industry, in gaining respect from their male co-workers, or felt excluded from groups of male peers.

Panelists

Yuvonise Thurmond (Moderator)
Sr. Applications Programmer/Analyst
Kansas City Power and Light Company

Jill Brungardt
Director of Information Security
Commerce Bank

Meilani Conley, M.I.S, Instructor
Computer and Information Sciences
Southwest Baptist University

Nicole Wosje
Vice President of Global Solutions
Perceptive Software

Thuy Copeland
Mobile Applications Developer
Uhlig, LLC

Imposter Syndrome

This panel addresses confidence problems that women often have upon entering the computing field. Many young women starting out in undergraduate computing majors and believe that they are not as qualified as men. At the 2011 conference, the Imposter's Panel was made up of technology female executives, who openly shared their confidence problems, especially their original belief that they were not as qualified as men.

Panelists

Gudrun Neumann (Moderator)
Chief Technology Officer and Senior Vice President
    of Information Technology
American Century

Tenley Metcalf
Manager of Technical Support Teams
Net App

Laura Los
College Recruiter
Microsoft Corporation

Angela Johnston
Knowledge Architect
Cerner Corporation

Lori Yancey
Team Leader, R&D
Monsanto

Work-Life Balance
Panelists will talk about what obstacles they have faced in trying to maintain a successful career while also fostering a healthy home life and, perhaps, even trying to complete a graduate degree.

Panelists

Alicia Dwyer Cianciolo (Moderator)
Aerospace Engineer in the Atmospheric Flight
    and Entry Systems Branch
NASA Langley Research Center

Michelle Miller
Senior Director of Engineering Operations
Cerner Corporation

Tish Best
Senior Firmware Developer
Net App

Lyndsey Padget
Software Architect and Team Lead
Perceptive Software

Brandy Vandiver
Director of ERP Applications
Garmin International

The Big Switch
Life in college consists of naps, flexible study hours, sleeping in until noon and late night runs for pizza. But when you start your first job there are expectations that you keep a schedule, set goals and meet deadlines. A new job takes time to get used to, from getting to know your boss and co-workers, and acclimating yourself to sitting at your desk for 8 hours a day to finding new activities outside of work. Each panelist has made the "big switch" from the academic life to working in industry in the last few years and is eager to share their experiences with the audience.

Panelists

Sarah Peters (Moderator)
Programmer/Analyst
American Century Investments

Abbey Trotta
Java Application Developer
Silpada Designs

Jasmine Black
Database Administrator
Garmin International

Elise Jones
Senior Software Analyst
Cerner Corporation

Special Session

Top 10 Tips to Building Your Resume and Acing Your Interviews!
    Laura Los, Technical Recruiter, Microsoft
    Jeanne Johnson, Senior Enterprise Strategist in Cloud Computing and Datacenter
        Transformation, Microsoft
Come learn the top things that tech recruiters look for in a resume! There will be some general guidelines on do's and don'ts as well as a few tips to prepare once you've landed the interview! This should give you plenty of time to make your resume polished before the career fair.