**California Community Colleges San Diego – Imperial Region**

**Information & Communication Technologies (ITC) / Digital Media Sector**

**Minutes**

**Friday, December 12, 2014, 4:00 p.m. – 7:00 p.m.**

**San Diego City College, Room MS 140**

**Faculty Industry in Attendance**

Rose LaMuraglia, Michelle Gray, Sally Deaton, Kathleen Lopez, Richard Gholson, Pat Newman,

Carol Burton, Charlene Atkins, Evan Donaldson, Tom Luibel, Gregory Differding, Vicki Maheu, Rick Cassoni, Theresa Savarese, Walter Wesley, Clifton Quinn, Larry Forman, Paul Margolin, Jamal Rogers, Judith Hicks, Elizabeth Norvell, Chuck Phillips, Alfonso Saballet, Jodi Reed, Gary Hayslip, Rand Green, Leroy Brady, Sudabeh Phillips, and Lisa Rodriguez.

## CALL TO ORDER

The meeting was called to order by Rose LaMuraglia at 4:00 p.m. Introductions were made.

## GENERAL INFORMATION:

Rose LaMuraglia gave background on *Doing What Matters* Initiative and the purpose and goals of the panel discussion with regards to perspective, programs, demand, and LMI.

The outcome of the grant after one year and four month were: ten people went to the Mid- Pacific ITC Conference last winter, learned about and brought back information and knowledge; five meetings were held; Qualcomm had a Community College Day which eight people attended; groups went to different colleges to talk with students to tell them what jobs are in demand.

She discussed where the program is going now. The Quick start company will do IT training, and deans from the colleges need to let her know who going to which course.

Phil Blair of Manpower agreed to do a presentation to faculty and counselors at San Diego City College.

Certificates are fast way into jobs, and degrees can take time because of remedial and other requirements. Colleges need to quantify that certificates have value. She emphasized that certificates are the beginning, not the end; but also need to be good for people coming back and retooling for career change, too.

She offered the factoid that says San Diego has highest percentage of four year degree graduates working as bartenders and baristas.

## Introduction of Panel

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|  | Evan Donaldson: | Infosystems Managing Director |
|  | Ben Molten: | Conner Network President |
|  | Jamal Rogers: | US Navy/SPAWAR Program Manager, Software Development |
|  | Chuck Phillips: | Digitaria Chief Technology Officer |
|  | Gary Hayslip: | City of San Diego Deputy Director, Chief Information Security Officer |
|  | Paul Margolin: | Booz Allen Sr. Software Analyst |
|  | Jennifer Pniak | Digitaria Human Resources Manager |
|  | Judy Hicks | Solar Turbines Human Resources Sr. Administrative Assistant |

**GENERAL DISCUSSION**

Chuck reiterated the sentiment that employees who worked their way through school thrive and are more willing to push their limits

Gary spoke of the difficulties of hiring candidates with no degree, including pushback from executive management and proving acquired knowledge, but said such candidates can be great assets, also.

Jamal generally agreed, but stated that a degree is better to have due to the breadth it gives an employee. Technology can be taught, but they need people who can excel when there are no rules or guidelines to follow.

Evan recognized that there are people who have shown creativity and advanced without degrees. In the end, companies hire to solve problems, and people who have made their way through school have a leg up in problem solving.

Paul agreed, and expressed that they look for people who can keep up with the ever changing technologies, as well as have the ability to work well with others and maintain lines of communication with supervisors.

Evan joked that what Paul meant to say is the person needs to be able to solve problems without creating problems.

An audience member noted that the panel has mentioned problem solving several times, and asks if they could give an example of what they mean.

Jamal offered an example involving cloud synchronization problems, which are not easily solvable, and require incredible creativity, collaboration, communication, and the ability to create something from nothing.

Evan offered example questions that employees might be asked, such as, “How do you make a user interface that someone really loves using? How do you delight a customer? How do you make a software program that someone enjoys using and won’t abandon halfway through?” Some of these are technical problems, some are marketing, and some are problems with creativity. He added that his clients would be thrilled to find people that could solve these types of problems.

Jamal agreed, and asked the audience what type of path instructors are taking students down when they talk about creativity.

An audience member responded that he puts students in groups, and lets them compete against each other. He also gave examples of some ideas students have explored, such as an app that can turn into a charger, or a red box type machine in the airport.

Rose asked the panel to give their insight on whether or not they felt that just learning the exercises in the book is sufficient enough, or do they feel that there could be an added benefit to have students create a project using the knowledge that they just learned.

Evan stated that he felt the textbooks “are tools that teach you the words, and the projects allow you to use those words to write poetry.”

Rose replied that these textbooks are project based books, and clarified that she’s asking if it would be beneficial for the students to do projects “outside” the books.

Gary stated that between all the departments his company handles, be it, fire, police, etc., the biggest thing his two security groups look for is the ability to troubleshoot. He has seen people that have a master’s degree in cyber, but do not have the contextual knowledge they learned from the book and be able to apply it when their network is being hacked.

Evan equated Gary’s statement with an example from the movie “Apollo 13,” in which the astronauts had to make a square filter fit a round hole using only what they had onboard the craft.

Gary gave more examples of how client’s problems and demands are ever changing and emphasized the ability to adapt and provide solutions at every change. He is looking for people that may not know all the answers, but immediately work hard to find solutions.

Paul acknowledges a question from Rose about standardized curriculum. Standardized curriculum is good because students can learn it top-down, bottom-up. Creative projects are great because students can expand their own creativeness and observe how other students think.

Judy stated that she found that what she learned in the standardized curriculum did not help her at all in the field. She needed to re-teach herself how to use programs and all their features in order to be able to perform her job effectively. She added that people coming into the job market need to pay attention to how their company wants things done, correctly

use grammar and punctuation, and know what professional forms of communication should look like.

Gary spoke to Judy’s point and gave examples of how bad some of the email correspondence he has seen has been. He has no idea how someone can write an executive letter asking for a million dollars, and write that letter like they were posting on Twitter.

Jamal also agreed with Judy’s point on professionalism in emails. He pointed out that people need to be able to speak with potential clients in laymen’s terms, and assume that they need to explain everything in detail in order to effectively communicate ideas.

Evan stated that communication is really the flip side of problem solving. If you can’t communicate a solution to someone, then it’s as good as not having a solution.

Michele asked Jennifer if she has any advice on what to tell faculty, since her company hires both programmers and administrators.

Jennifer talks about the importance of correct spelling and punctuation on a resume, and advises that candidates should have multiple people look it over, because mistakes will cost them jobs.

Gary reiterates the importance of the resume, offering an example where a first applicant was much preferred, but the contact information for his references didn’t work, so the second applicant got the job.

Michele asked Gary in terms of levels in the IT field, such as entry, intermediate and advanced, where he sees implementing the communication skills and the resume piece?

Gary explained how he built a tract for veterans that would guide them on how to advance in the field, showing networking sites, certificates needed, and all the experience needed over the course of a 20 year period. He stated that people need to understand that getting a position in IT is more than just taking a couple classes, and stressed that an IT resume is very different than a regular resume, because employers are looking for specific certifications and continued growth in the industry.

An audience member asked Gary to explain what exactly does an entry level applicant really need to have?

Gary replied that they will be union, mostly hired as ISA’s 1,2,3,4, and should have a BA or education/experience. You don’t have to have a degree if you can show experience and certifications. He stated that there are specific certifications candidates may need depending on where they are hired, such as SCADA networks for public utilities, or Network+, Windows 2008 or 20012, and Linux for libraries.

An audience member asked the rest of the panel to give their input on what it is to be a qualified entry level candidate.

Jamal stated that the military is looking for college degrees, BA preferred certifications, or experience if someone does not have a degree. They have a robotics program for high school students, and are mainly working with open source and looking for engineers.

Rose asked the panel what kinds of jobs would be offered to people with City College associate’s degrees and/or certificates.

Evan stated that his company is probably looking more at associate’s degrees, but new hires with either will likely start out doing technical support, working towards the administrative side, website design, data analysis, and coding.

Rose asked Gary what certificates from a junior college he will pay attention to and which ones he will not.

Gary stated that he does not even look at CH, and CISSP, because candidates may have the certificate but still have no context to go with it. He may try someone who has taken Cisco courses, Network +, Security+, windows, or any of the more remedial to mid-level certifications. He also acknowledged that some junior college level students are above the norm and really know Cisco, and he will occasionally hire and cross train them for his securities team.

Rose listed all the classes that City College requires students to take in order to achieve an associate’s degree or certificate: A+, Network+, Security+, Client for Windows, Server for Windows, Active Directory Services, Business Communications, Customer Service and Human Relations, crash course in Office, a speech class, Linux+, and Project+. She then asked Gary if he felt that those were adequate for an entry level position.

Gary suggested eliminating the Project + class and implementing something virtual, like cloud security.

Rose stated that City College was adding classes in VMware.

Gary stated that he probably would want to look into the application side of VMware training.

Jamal agreed that his company would be interested as well, or if the candidate had knowledge in virtual box or Hyper V.

An audience member asked the panel what some of the more important apps are and the kinds of languages people will need to learn for them.

Chuck answered that people with knowledge of cross compilers or accelerators for native mobile experience would interest him. He added that they are always looking for people who have a deep passion, and go above and beyond what is asked of them in the classroom.

Evan offered his belief that the industry is moving towards areas like securities, big data, open source, and cloud technology. He felt that those are areas that many companies are hiring for, but there is a lack of qualified candidates.

An audience member asked the panel what they felt an applicant will need to be hired into the big data or analytics side of the field, as well as how they felt about students completing a two year program and then being brought on board with a company in a two year internship.

Another audience member asked how the panel would advise a two year student to get the needed experience which employers are looking for.

Paul noted that it depends on which tract that person takes. For example, a BA will not suffice for hardcore analytics because the people doing those jobs have PhDs.

An audience member asked the panel to suggest three to four core classes that would have to be taken before the student starts going down new tracts.

Gary suggested looking at Coursera’s core program for data.

An audience member asked what the members of the panel specifically need to see.

Jamal stated that big data is born from Google and Yahoo types, and is really more trend analysis. The problem with a junior college student getting there is that there are too many working parts that make up data analytics to narrow it down to a few core classes. The amount of data is massive and unstructured.

An audience member asked if there are any jobs in the data field for a two year college student.

Gary replied that there might be if those people were working behind the scenes, with the cloud, or VMware.

Rose explained that the various IT departments are trying to put together programs which will at least be able to get students a foot in the door in big data, and mentioned a study indicating that focusing on one language was better than basic knowledge of several languages.

Chuck agreed that learning programs like R, Java, and Python are needed, but still may not be enough to work in big data.

Evan stated that it would be much more beneficial for students to master in C, then learn a year of one language, move on to the next language, and so on.

Paul disagreed slightly, and stated that mastering C is not easy and learning some of the smaller language and programs allows students to step up to higher levels. He added that it’s really about knowing programs and algorithms.

Jamal talked about a master’s program that UCSD offers for engineering that is 50% business and 50% learning the harder languages.

An audience member asked what classes, as in course names, the panel could suggest that would be good enough to graduate junior college, and allow people to continue at a university concurrently with a two year internship.

Jamal stated that such a question is difficult to narrow down, because the security issues around big data breaks into multiple tracts again.

Gary discussed how public entities require different kinds of compliances to be met for different types of data.

Paul stated that there is a need for junior programming support in the data analytics field, but is not sure that a two year curriculum is enough to really get students into the field.

An audience member remarked that he felt students who learn Java would not necessarily be the people who learn other languages. He saw a separation between admin, securities, and analysis positions.

Paul agreed that having a very good basic knowledge of Java is a must in order to communicate with senior level employees.

Gary noted that his company’s junior and mid-level employees have master’s degrees.

Evan remarked that Gary and Paul are representing larger companies, and that he felt there are entry level positions in San Diego for the small companies.

An audience member asked if the panel could draw up a list of languages and then rate them in order of “need to know” to help school administrators develop curriculums for the fields.

Evan stressed that there are differences between data and big data. Someone could get into the data field and get experience as a “data analyst,” which is where it would be good to have the basics of a language.

Jamal stated that, when he speaks of big data, he is thinking about what is trending, and from there decides what kind of analysis to use.

Rose talked about how it’s important to work with what we have on the backend, which is basic programming. She discussed some research showing that in San Diego the most needed positions are in business and office support. She spoke about a certificate in business that was created with classes in Word, Excel, Outlook, etc., because these are things someone would need to know well. Rose asked the panel how they felt about knowledge in social media, such as Facebook or Linked In.

The panel agreed that it is not valuable, and would not be considered in an IT position. The panel also agreed that Access is obsolete, and that SharePoint is much preferred. A good candidate will know how to build SharePoint pages and directories in collaboration with teams. Evan added there are still some positions for candidates who can build websites and maintain them in the smaller business sector.

Rose clarified that the curriculum the colleges are trying to develop is not just for one college, but for the entire region.

Jamal offered that students should have at least one class in critical thinking, problem solving, and art.

Rose asked Judy and Jennifer to describe their positions and to elaborate on software they need to know.

Judy summarized what Solar Turbines does, and noted that she has eight managers to report to. They have a large IT department, where entry level is desktop deployment, moving on to print cartridges, and then to helpdesk.

Paul stated that confidentiality and responsibility are important in potential candidates.

Jennifer suggested a class in project management, as candidates should expect to handle projects that range from fairly small to quite large. She added that students should have full knowledge of the Microsoft Suite.

Gary expanded would expect a junior college student to have a VCA, along with Network+, Security+, etc. The VCP test is extremely difficult, and designed for someone at a more advanced level. He added that professionalism, responsibility, and top notch customer service are key factors for candidates to have.

Rose asked if offering classes in Cisco is still a smart choice for the district.

Chuck commented that more and more companies, large and small, are switching to the cloud.

Gary felt learning Cisco is a big step in understanding how networks work, and can be an advantage when people start working with the cloud. Getting certifications in CCNA and CCDA is a very good idea. Also, prospective candidates need to be aware that staying current with rapidly changing technology requires passion and a willingness to use and learn from resources outside of school, including networking.

Chuck suggested that students learn full step JavaScript, which is currently in great demand but short supply. Community colleges could get their students to a midlevel JavaScript position within two years.

Rose asked if a “programming boot camp” might be something that could work to get students in the programming field sooner.

Chuck and Gary both said no. There are no shortcuts to learning programming, only time and experience.

Evan stated that some foundations could be built in 9 months with a boot camp design, but it wouldn’t be enough time to get someone into the field.

Michele suggested that colleges should change the expectations for such a grant, because industry is indicating that it isn’t a sufficient time frame. If students were not starting from zero, there might be better results, but boot camps might only benefit people who already have certain skill sets.

## ADJOURNMENT

Rose concluded adjourned the meeting at 7:30 p.m.

*Patricia Pugnier*