Bracketologists, let’s do the math!

Mathematics and “March Madness”:
Generation(X) + Generation(Y) = ⭐⭐ — Cover Story & Page 13

Regional HSCC & IT Showcase:
Chapter News and Events — Page 18

Generation Next: Where is our “M” in STEM?
Bracketologists, Meteorologists, and Defense Contractors understand, embrace, and are mastering MATHEMATICS to “out-innovate” for the win, and know how to win big!

March Madness & The Math in Bracketology 101

The NCAA’s Rating Percentage Index (RPI) was created in 1981 to provide supplemental data for NCAA Division I Men’s Basketball Committees to evaluate the best teams for at-large selections and seedings within regional ‘pods’ in quests of championship brackets. Today, very complex algorithms and sophisticated computer models may not accurately evaluate qualitative factors such as games missed by coaches, games missed by key players, adverse weather conditions, and cross country travel difficulties—or can they?

See BRACKETOLOGY and my “M” in STEM on page 13

Industry Braces for the new Tableau Digerati
Apple, HP, and Motorola Introduce New Devices and Social Media Gaming Apps

New York—WSJ.com reports consumer demand for Apple’s iPad and new tablet personal computers (PCs) is crushing demand for traditional laptop and netbook computers. At press time, research firm Gartner said it has reduced its forecast for global PC shipments and revised this PC industry subsector’s double digit growth to 15% down from 25%. Consumer laptops and netbook sales are projected to plummet amid reports 102 new tablets from 64 different companies recently have been announced. These firms include consumer electronics manufacturers, television makers, and traditional PC makers.

Apple to Debut iPad 2 for Retail this Month

At press time, Apple formally introduced iPad 2, featuring an entirely new design that is 33 percent thinner and up to 15 percent lighter than the original iPad while maintaining the same 9.7-inch LED-backlit LCD screen and up to 10 hours of battery life.

See Digerati on page 6
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Patrick, IT Analyst Global Web QA, began with Johnson & Johnson in a leadership development program. Now a mentor himself, Patrick passes his experience and insights on to others.

Teamwork is part of the culture at Johnson & Johnson, and I have always felt like an important member of my team. The people I work with have helped shape my career, but have also promoted a good balance between my work and home life. I volunteer in the community, take part in formal and on-the-job training opportunities, and attend conferences, all of which enable me to grow both personally and professionally. It's a good feeling to know that my personal development and interests are supported by my company.
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iPad 2 also features Apple’s new dual-core A5 processor for peak performances with stunning graphics and now includes two cameras — a front-facing VGA camera for FaceTime or Photo Booth and a rear-facing camera that captures 720p HD video. With two powerful cores in one A5 chip, iPad 2 can do twice the work at once. Users should notice the difference when surfing the web, watching movies, making FaceTime video calls, gaming, and going from app to app. For BDPA Members, one will find multitasking to be smoother, apps load faster, and every interface should prove to work better.

iPad 2 is available in black or white, featuring models that run on AT&T’s or Verizon’s 3G networks. This month, Apple introduces the innovative iPad 2 Smart Cover in a range of colors. iPad 2 will be available on March 11, 2011 in the US through the Apple Online Store, Apple Retail Stores, and select Apple Authorized Resellers. Check local BDPA Chapter calendars for related events and announcements.

**HP Unveils TouchPad**

Last month, **HP**, National BDPA’s 2010 Corporation of the Year, unveiled its long-anticipated tablet; a 9.7-inch device HP is calling the **TouchPad**, along with breaking news that its WebOS is headed to its line of desktop and notebook PCs.

CNET reports the TouchPad will run the company’s WebOS, which it acquired along with Palm as part of a $1.2 billion deal last April. Among its list of popular features are: a 1024x768 pixel display, a weight of 1.5 pounds, 13mm thickness, front-facing cameras for video chat, 16GB or 32GB of built-in memory, support for Adobe’s Flash application, Beats by Dre speakers, and a 1.2GHz dual-core Snapdragon processor.

Initially the TouchPad will be offered by HP as a Wi-Fi only device; though HP said it plans to release a version with 3G/4G mobile connectivity later. No timeline had been expressed by press time.

**Motorola XOOM™—Best in Show**

Motorola Mobility, Inc. recently announced it won the “Best of CES” award for its Motorola XOOM™ - the first device on Google’s new Android 3.0 Honeycomb operating system designed from the ground up for tablets. Produced and judged by editors from CNET, the winners of the “BEST of CES” awards were announced in January in Las Vegas during the 2011 Consumer Electronics Show (CES.)

According to CNET, “Within the tablet category, the Motorola XOOM rose to the top by promising what we felt was the most anticipated mobile OS (Android Honeycomb), on impressively spec’d hardware (dual-core, 4G-compatible, HDMI out, front- and back-facing cameras), in a 10-inch format.

Selected by CNET’s unbiased expert editors, winners are recognized as being the most buzz-worthy, category-defining, innovative, and promising products at the show. CNET editors scoured the CES show floor for products to consider for the prestigious award. In addition there were awards given for the Best in Show product and People’s Voice, given by the thousands of online viewers who cast their vote.

Motorola XOOM redefines the tablet device category by providing more ways to have fun, connect with other BDPA members or chapters and stay productive while on the go. Boasting a best-in-class dual core processor, the stylishly thin Motorola XOOM offers a ground-breaking mobile computing experience. It is the first tablet to connect to the new Google Mobile Innovation service offering books, music and movies – anytime, anywhere – and all in HD optimized for Motorola XOOM’s 10.1-inch widescreens.

At press time, Motorola Mobility Ventures announced an equity investment in Moblyng, a leading developer and publisher of cross-platform, HTML5-based games for mobile devices and social networks. Find out more during local monthly program meetings and our annual conference workshops. National BDPA will host its 33rd National Technology Conference and Career Fair in Chicago, IL from August 3-6, 2011. NBDPA’s Technology Conferences will launch in Baltimore, MD and Washington, D.C. in 2012 and 2013 respectively in direct support of industry’s emerging mobile device, cloud computing, and cybersecurity marketplace. Call **1.800.727.BDPA (2372)** for registration, marketing, speaking, and advertising engagements or visit NBDPA’s home page: [www.bdpa.org](http://www.bdpa.org).
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What people are saying:

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David Adefwami, contributing writer, Venturebeat

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For Sponsorship Opportunities, please review the National BDPA Golf Sponsorship Portfolio at
Greetings Chapter Presidents and SITES Coordinators!

We are now actively recruiting high school and college students to participate in our upcoming 2011 National IT Showcase this August in Chicago, IL.

This year’s goal is to recruit 20 high school students and 20 college students. We would like to encourage each chapter to identify qualified students. Begin registering your students today, online at:

- http://www.bdpa.org/?IT_Showcase

About BDPA National IT Showcase

The Annual BDPA National Information Technology (IT) Showcase allows student presenters from educational institutions all over the United States to showcase their research papers by presenting and demonstrating their research. The presentations will represent advanced computing topics presented by highly motivated high school and college students to an audience of students and IT professionals.

Student Criteria

High School
- Must actively participate in program throughout the year
- Dedicated and committed

College
- Major: Preferably IT, CIS/IS, or Engineering
- Must actively participate in program throughout the year
- Dedicated and committed

Student Research

The focus of this event includes, but is not limited to, intelligent technologies (i.e., smart toys, machine learning, and genetic algorithms, etc.), wearable computing technologies, web technologies, parallel computing technologies, computing curricula, computer graphics technologies, etc.

The National IT Showcase Coordinators will work with chapter volunteer and students to help them develop their research project. Dr. Jesse Bemley will make the final recommendation on the student’s participation after the research paper is completed.

Event Days

College and high school students have the opportunity to participate in this 2 day event held in conjunction with the Annual National BDPA Technology Conference held in Chicago, August 3-6, 2011.

See Showcase on page 13

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2011 Semester enrollment periods are now open for BDPA IT Institute

Competitively priced for BDPA Members and BDPA Corporate Sponsors, courses that are scheduled for the Spring and Fall terms are the PMP Exam Prep modules taught by Gregory Brown, PMP. The course has been updated to align with the 4th edition of the PMBOK Guide and awards all *35 PDUs* required to sit for the PMP Certification Exam.

Key Benefits of PMP Certification:

- Career advancement, progression and promotion from sponsoring corporations/employers
- Increased technology business acumen and leadership skills
- Respect and prestige of being "certified"
- Publication opportunities in field
- Leadership, management and project management skill development

Gregory Brown, PMP, MCSE, MCSA, ITIL. Gregory is an adjunct professor with Auburn University.

Contact the BDPA IT Institute Leadership by phone at 800.727-BDPA (2372).
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At the Office of Naval Research (ONR), science springs to life. Our diverse team of scientists, researchers and engineers turn academic principles into actual technologies that give our military the edge against an ever-changing threat.

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It’s the same spirit that has earned the U.S. Navy honors as one of the nation’s Best Diversity Companies (Diversity/Careers in Engineering and Information Technology Magazine, 2008) and the Work Life Legacy Award from the Families and Work Institute. And it’s also why the U.S. Navy is on par with the top 50 companies to work for in the United States.

“I am committed to ensuring that we, as a Navy, are going to be one of the best places for a young person to start their career. We must all think and work as an organization to attract, recruit and retain our nation’s best and brightest now and in the future.”

-- ADM Gary Roughead, Chief of Naval Operations

Consider a career with the Office of Naval Research. For more information about ONR, visit www.onr.navy.mil
SHOWCASE from page 11

The student’s Presentations/Research Projects will be judged in two categories, college and high school by a panel of 3 Judges. Three awards will be made in each category for 1st, 2nd, and 3rd place. The awards will be presented at the IT Showcase Awards Presentation at the end of the IT Showcase session. Each participant will be recognized with a Certificate of Appreciation.

Chapter Volunteer(s) – We Need You!
Persons desiring to volunteer for this event must be highly motivated and willing to venture into computing areas that quite possibly are new to them. The National IT Showcase Coordinators will provide training materials and support. Students must be trained by April 1, 2011.

Volunteers will:
Work with high school and/or college students(s) in advance computing areas such as intelligent technologies (i.e. smart toys, machine learning, genetic algorithms, gaming, wearable computing, web technologies, parallel computing, cloud computing, computing curricula, etc.)

- Identify the student that may be assigned to volunteer and register students at:
  - http://www.bdpa.org/?ITShowcaseReg
- Closely monitor the student’s progress in preparation for the event
- Provide assistance in the event problems or issues arise
- Tutor students in oral and written communication skills, technical and graphic design skills
- Meet with the Conference Delivery Manager of IT Showcase on the afternoon of Wednesday, August 3rd, to conduct a practice session on polish the event.
- Provides onsite support of the event on Thursday and Friday, August 4th – 5th, 2011.

Volunteer names and email address should be sent to: itshowcasecoordinator@yahoo.com. Volunteers are granted access to the National IT Showcase Project Groupsite for training, posting materials and communication. Let’s make this another successful National IT Showcase… Chicago style!

Sincerely,

Dr. Jesse Bemley
Founder, National IT Showcase Coordinator
itshowcasecoordinator@yahoo.com

BRACKETOLOGY and my “M” in STEM from Cover Page

Our SAMPLE bracketology calculus produces each team’s Rating Percentage Index (RPI) based upon four primary factors. Using the following formulas with your children (grandchildren) or students, work with them to create a spreadsheet online using a Google Docs Spreadsheet which can be shared or simply work with them at the desktop using Microsoft Excel to simulate your brackets for 2011:

1. Your team’s Division-1 winning percentage
   a. Take your team’s won-lost percentage against Division-1 teams only
   b. Deduct 100 points from your team’s four-digit Division-1 percentage for each non-Division-1 opponent played (regardless of who won)
   Example: An 18 and 8 team’s W-L% against Division-1 opponents would be: 0.6923; they would deduct 0.0300 points for playing three (3) non-Division-1 teams. Factor (1) would be 0.6623

2. Your team’s opponents’ success
   a. Take the average of your team’s opponents’ won-lost percentages against their Division-1 opponents only (excluding all games played against your team)

3. Your team’s opponents’ strength of schedule
   a. Compute the Factor(2) percentage (Opponents’ Success) for each opponent
   b. Then average these percentages to get Factor (3)

4. Finally, calculate your team’s road success
   a. Take your team’s won-lost percentage only against Division-1 opponents played on the road
   b. Take the averages of those road opponents’ successes—average each of their Factor (2’s)
   c. Then calculate the average of the two percentages for your team’s Factor(4)

Factor (1) has a weight of 40% and Factors (2, 3, and 4) each have weights of 20% each. For “The Madness,” each of the Division-I schools will be analyzed and a final list presented to the NCAA Selection Committee for this year’s brackets. For the extra “M” in STEM, have students create their own lists, add new teams, or create new “factors” for their spreadsheets. Blog about the results on any one of BDPA’s Groupsites.

MATH in METEOROLOGY & The Lives it Could Save:

During early spring, people notice changes in temperature, the amount of rain, some snow, and the newer hours of daylight. In this issue’s STEM feature, we can connect math to different weather measurements. Advanced mathematical models are used to forecast weather and violent storm probabilities—such as the cone of uncertainty.

See METEOROLOGY and my “M” in STEM on page 16
THINKERS ARE GREAT. BUT DOERS CHANGE THE WORLD.

LET'S DO AMAZING

HP IS THE PROUD SPONSOR OF THE NATIONAL BDPA HIGH SCHOOL COMPUTER COMPETITION
IGNITE, INSPIRE & EMPOWER: The GPS of Future Technologists
In the 1700s, G. Daniel Fahrenheit developed a scale used by meteorologists for measuring surface temperature. The scale was named for the developer, and the unit of measure has become known as degree Fahrenheit (°F). Also in the eighteenth century, a second scale was developed for measuring surface temperature; it became known as the Celsius scale. The unit of measure in the Celsius scale is the degree Celsius (°C). A third scale later developed for use by scientists became known as the Kelvin scale.

This scale begins at absolute zero and is sometimes more convenient to use because it does not involve negative temperatures. (The word degree is not used in Kevin measure.)

Citizens of the United States primarily use the Fahrenheit scale; the rest of the world uses the Celsius scale, and scientist use either the Celsius or Kelvin scale. Since we can use three different scales used to measure temperature, it seems reasonable to have formulas for changing or converting from one scale to the other. The following are useful conversion formulas.

\[
\begin{align*}
C° &= (F° - 32°) \div 1.8 \\
F° &= 1.8 \times C° + 32 \\
K &= C° + 273
\end{align*}
\]

For additional weather-related STEM exercises for math, visit: Mathline® http://www.pbs.org/teachers © PBS Teachers.

MATH in Aerospace & Defense—For the Big Win:

Chicago, IL—The Boeing Company wins a new contract from the Air Force to build America’s next generation tankers—flying gas stations for the warfighter. It is one of the Pentagon’s largest awards in history. At press time, CNBC reported European Aeronautic Defence and Space, Co. (EADS) will not protest Boeing’s award.

Inside the numbers—here are the “M’s” fueling new STEM careers at Boeing, United Technologies, and their suppliers:

- Estimated Total Contract Value (TCV): $30 Billion
- Initial Contract: $3.5 Billion to design, build and deliver
- Initial Delivery: 18 planes by 2017
- Estimated full time U.S. Jobs: 50,000
- Suppliers and Subcontractors: 800
- Proposal’s number of mandatory requirements: 372
- Number of planes: Boeing to build 200 tankers
- Number of U.S. states involved: 40
- Lower costs with smaller margins captured the win. Smaller planes use less fuel to fly, little or no air-base construction for larger tankers; difference between both bids: greater than 1%
- “K” Street: Very successful government relations campaigns pertaining to 25-year vs. 40-year life-cycle analyses for projected fuel costs and savings
- Wall Street: Boeing’s share price closed @ $73.20 up 2.5% upon the news during after hour trading.

Industry Sources: AFX, AP, CNBC.com, Reuters
Many Sounds.

One Song.

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DONCIO Discusses Future IT Initiatives at WEST COAST 2011

DONCIO Invited to Keynote BDPA’s Regional Cyber/STEM Luncheon, Friday June 17th, 2011
Washington Navy Yard Conference Center

Arlington, VA—Recordings and transcripts of three West Coast 2011 sessions hosted by the Department of the Navy Chief Information Officer (DONCIO), Terry Halvorsen, during last month’s Department of the Navy Information Technology Conference in San Diego, are now available to industry.

The sessions include: the Cyber/IT Workforce Town Hall, the DON IT Way Ahead Discussion, and the Functional Area Managers Command Information Officers session.

During the town hall and way ahead discussions, Halvorsen and members of the leadership team discussed the role of the DON CIO and what they believe are their key priorities and challenges. During their FAM/Command IO session, discussions centered on the Functional Area Managers and the application rationalization process, specifically its challenges and future steps.

Mr. Terry Halvorsen was selected to serve as the Department of the Navy Chief Information Officer by Secretary of the Navy Ray Mabus last quarter. As the DON CIO, Mr. Halvorsen heads the Office of the DON CIO and is the DON’s senior official and advisor on matters related to Information Management (IM), Information Technology (IT)/cyberspace (including national security systems) and Information Resources Management (IRM).

The DON CIO is the Community Leader for the DON Cyber/Information Technology workforce and has attended recent National BDPA Technology Conferences. For more information, AFCEA, BDPA, HITEC, ITSMF, LISTA, and NDIA members are encouraged to visit: www.doncio.navy.mil.

BDPA Hosts Cloud Computing Panel at BEYA

Above, BDPA Members win new friendships and very popular door prizes

Washington, D.C.—Career Communications Group (CCG) hosted their 25th Anniversary Black Engineer of the Year Awards (BEYA) STEM Conference in Washington, D.C. last month during Black Family Technology Awareness Week (BFTAW). BDPA’s Washington, D.C. Chapter co-hosted an exhibit booth with BDPA’s Baltimore Chapter at BEYA’s Tech Expo and Career Fair for their BFTAW events. BDPA members from Hampton Roads, Northern Delaware, Northern Virginia, and Philadelphia chapters also participated in BDPA’s Cloud Computing panel discussion for members, HBCU/MI students, and event attendees. Mr. Kevin Apperson, CIO Allegis Group, provided the panel’s keynote address. Mr. Naaman Cephas of BDPA Northern Delaware (pictured, above center) won a new Apple iPad from BDPA. Other BDPA door prizes included two BEYA 25th Anniversary Tickets, complimentary Regional BDPA Conference Registrations for 2011 at Bowie State University, and one complimentary 2011 National BDPA Conference registration.

Information Dominance
Cultivating America’s Cyber/IT Workforce

BDPA Regional Cyber/STEM Conference
June 17-18, 2011 • Bowie State University
Cyber/STEM Career Workshops
Regional High School Computer Competition
Regional IT Showcase
Advanced Program Briefing for Interns (APBI 2012)
1911 to 2011
The Centennial of U.S. Naval Aviation

BDPA is proud to honor the men and women of the United States Navy, Marine Corps, and Coast Guard during their centennial celebration year of U.S. Naval Aviation.
Launching your next decade with our next-generation edition of bdpatoday!

Next issue: Robotics Earth Day 2011

NBDPA’s SITES (Student Information Technology Education and Scholarship) initiatives are designed to introduce students grades K-12 in underserved communities to the field of Information Technology (IT) and CS-STEM (Computer Science | Science, Technology, Engineering, Mathematics) disciplines through computer training by encouraging them to seek higher levels of education and grooming many of them to become our next generation of Cyber and IT Professionals. NBDPA’s programs and BETF Grants are offered to students across the country at no cost to interested or academically qualified students.

Contact NBDPA at 1.800.727.BDPA (2372) for participating BDPA Chapters near you or visit our national Web Sites at www.bdpa.org and www.betf.org.