ISMA Conference in Chicago

By Deborah Harris, Chair

Come to Chicago and join us at the Fourth Annual International Software Measurement & Analysis (ISMA) Conference, September 13-16, 2009. ISMA is the premiere conference for software measurement practitioners. Sponsored by the International Function Point Users Group (IFPUG), ISMA features industry experts speaking on topics including executive management, process improvement, and metrics. This year’s Conference introduces a new format, featuring a Vendor Fair Luncheon on Tuesday, September 15.

Author and inspirational Life Coach, Kevin Touhey, will be this year’s Keynote Speaker. Touhey’s, The Miracle of Optimism, debuted at #2 on the “Amazon.com Hot New Releases” book chart January 2008. This unprecedented accomplishment from a previously unknown author mirrors his life of achievement in the face of difficult challenges. You’re sure to be motivated by this basketball coach turned Life Coach!

Added benefits of attending the Conference include the opportunity for Certified Function Point Specialists to earn CFPS certification extension credits and the possibility of earning CSMS education credits. Professional Development Units (PDUs) toward maintaining the Project Management Professional (PMP) designation have been earned by attending ISMA. Note that non-IFPUG related extension credit opportunities available by attending ISMA should be confirmed with the governing organization.

Who will get the last laugh? You will, if you come to ISMA 4! This year’s Special Event will be an evening at Chicago’s infamous The Second City Comedy Club on Wednesday, September 16. This is a Chicago landmark, where many comic greats, such as John Belushi, Bill Murray, Gilda Radner, and Mike Myers, launched their careers.

Think of it. Autumn in Chicago. The “Windy City” will be mild and temperate – great for a stroll down the Magnificent Mile to shop in several upscale stores, sample some signature deep-dish pizza from any of the thousands of restaurants, and view Chicago’s eminent architecture. Post summer-season presents great touring opportunities to visit the Museum Campus – a 10-acre lakefront park surrounding three of the city’s main museums: the Adler Planetarium, the Field Museum of Natural History, and the Shedd Aquarium. Other museums and

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A Message from the IFPUG Office

In light of these critical economic times, IFPUG continues to move forward in a positive direction. We here at the Office continue to do our best in providing everyone involved in the IFPUG organization the information they need in order to promote success! That success is in large part due to the effort that comes with taking on initiatives and achieving goals for the association.

With that being said, we are very pleased to announce this year’s annual ISMA Conference in September 2009 will be held in the “Windy City” of Chicago! This year will provide a different venue in the historic downtown Palmer House Hilton, and a revamped Conference agenda. Be sure to check the IFPUG website for all information regarding the Conference. We look forward to seeing you in Chicago!

In other exciting news, CFPS exam automation has been fully implemented and translations continue to be developed. The automated exam is now offered in Portuguese, Italian, and English; with plans underway for adding Korean and Chinese translations in the future. We urge those of you with upcoming CFPS expiration dates to sign up for the automated exam to keep your certification current. Automation truly offers an amazing opportunity and convenience, and every CFPS should take full advantage of its benefits.

Finally, it’s Dues renewal time! At this point each year, annual dues notices are sent out to IFPUG members, as annual memberships renew every July 1st. Do your part and continue to help support the organization and the industry. It is urgent that you maintain your membership in these critical economic times. Nowhere, other than IFPUG, can you receive these types of resources, professional support and non-competitive networking opportunities.

From all of us at the Office, we thank you for your support and dedication to the organization, and look forward to growing with you!

Barbara Swanda
IFPUG Executive Director
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Aligning the Software Development Process with Your Business Imperatives
In these difficult economic conditions, almost every organization is searching for a path to increased effectiveness and efficiency. Software measurement is an integral part of the improvement process. I would suggest that functional metrics in general, and IFPUG Function Points specifically, are critical tools for improving effectiveness and efficiency. Now is the time to apply everything you have learned about how work is done in your organization. Learning you collected by counting and analyzing function points. IFPUG is here to support you with knowledge, manuals and community.

IFPUG is weathering a storm. I am not deluded into thinking we are unaffected, but the impact will not be as severe as the overall economy. Why? Because IFPUG provides a community that few other organizations can provide from groups in LinkedIn and Facebook, to the IFPUG bulletin boards. There is no barrier to involvement. Secondly, we are an international organization and can draw on membership across the globe for ideas and energy. IFPUG will grow and evolve for years to come. IFPUG is a platform for you to grow and you have access to that platform but you need to reach out and get involved. Stephen Covey said in his seminal book, *Seven Habits of Highly Effective People*, “Act or be acted upon.” IFPUG is a tool to help you take control of your career and the environment around you. Membership and involvement are the only price of admission.

Thomas M. Cagley, Jr.
IFPUG President
The automation of the CFPS exam has been a huge success! Since the original launch of the automated English language CFPS exam in the summer of 2008, two additional languages have been introduced. The fall of 2008 saw the incorporation of Brazilian Portuguese, and this spring the launch of our Italian language offering. As a result, the CFPS exam is readily available to an increased number of people around the world.

The Certification Committee’s once dreaded and tedious task of reviewing, marking and tallying results of our paper-based exam is rapidly becoming a thing of the past. Freeing up more time for us to sit back, relax and … take on offering even more languages.

The translation of the CFPS exam into another language is no small task. Countless hours are spent translating the exam reference materials, such as the Quick Reference Guide and Weights and Complexity matrix … translating exam question charts and diagrams … preparing our new reviewers with an install of the testing software and exam questions … reviewing all the exam questions … following up on issues, changes and questions from the review … and communicating to the IFPUG membership on the status of the translations.

The Certification Committee wishes to thank our language reviewers for their hard work and perseverance in completing critical work going on behind the scenes.

Our Brazilian Portuguese reviewers: Miriam Ikenoto, Márcio Silveira

Our Italian reviewers: Nicoletta Lucchetti, Massimo Beretta, David Porcella

Our work has not stopped, and teams are working on the Korean exam as we speak. The “go live” date is anticipated this summer. The value of a CFPS certification has never been more convenient to attain. We urge you to schedule your CFPS exam today and continue promoting the value of certification.

The internationally recognized IFPUG CFPS certification exam is offered worldwide through Prometric test centres. Visit the updated IFPUG-Prometric site for the locations, availability and registration - www.prometric.com/ifpug/.

Consult the “IFPUG Rules and Hints for Success” document for membership requirements, registration guidance and exam day hints. Visit www.ifpug.org/certification.

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Committee Reports

Certification Committee, continued from page 5

The Certification Committee is best known for the Certified Function Point Specialist exam & certification, but we also manage three other kinds of certifications.

Certification of training materials: The initial FPA training offered at the ISMA Conference is conducted with certified training materials. Certification ensures that training materials conform to the current version of the Counting Practices Manual and the published criteria for training materials certification.

Certification of software: Software that supports the counting of Function Points may be certified. Contact the Certification Committee for details on the three types of software certification. In some rare cases we are involved when software companies claim their software is certified when it has not been.

Certification Extension Program: the Certification Extension Program allows individuals to extend their current CFPS certification for three (3) years by accumulating extension credits.

For more information on certification, visit the IFPUG website www.ifpug.org/certification.

Communications & Marketing Committee (CMC)

By Ian Brown, Co-Chair

The CMC has had a busy spring, getting the word out. We have been working closely with the Conference Committee to plan marketing activities around ISMA 4 in Chicago. You will be hearing a lot from us in the coming months as we make sure everyone knows the fantastic events, presentations, training courses, and networking opportunities that will be featured at the Conference. We’ve also worked some teaming arrangements with other organizations (ITMPI, SQE, and PSM) to cross-market our events with theirs. And, we are sponsoring a Trivia Contest in conjunction with ISMA 4 and our host city, Chicago. We’ll have monthly prizes and an overall Grand Prize (two free nights at the Palmer House Hilton), so keep an eye out for the contest – coming to your Inbox soon!

Other activities the CMC will be working on will be designed to enhance your experience with IFPUG as an organization. Last year we upgraded the e-mail system with a new vendor to allow most effective communications. This year we are hoping to start an overhaul of the organization’s key interface with the public: the ifpug.com website. The website is in dire need of an overhaul graphically, as well as a serious improvement in information organization and functionality. We’re hoping to see a serious increase in the amount of “self help” that the IFPUG community will have at its fingertips, as well as an updated design and an easier way to navigate to the information you need.

We’re always looking for people with good marketing ideas to help out, so let us know if you are interested in joining us on the CMC!

Counting Practices Committee (CPC)

by Janet Russac

The IFPUG Counting Practices Committee (CPC) just completed a six-day meeting in Atlanta, Georgia.

The CPC is preparing to release the IFPUG Counting Practices Manual (CPM 4.3) in third quarter 2009, to become effective January 2010. The revisions for CPM 4.3 result primarily from creation of the new version of the IFPUG ISO Functional Size Measurement (FSM) Method.

The CPC reviewed and analyzed results of the CPM 4.3 Impact Study. The Impact Study was performed by 44 Certified Function Point Specialists, who had no direct connection with the CPC. The impact study participants were asked to count was a case study using both CPM 4.2.1 and CPM 4.3. In addition to the case study, over 100 counts including a mix of development, application, enhancement and conversion were performed. The Impact Study results confirmed there is no difference between counts completed in CPM 4.3 and CPM 4.2.1; therefore, the conversion factor will be 1.0. The CPC extends special thanks to all those who participated in this study.

The CPC has begun the update of Case Study 1 to align with CPM 4.3.

Current plans are to publish it in early 2010.

During our meeting, the CPC also reviewed results of the IFPUG Membership Survey for required action by the CPC. As a result of this, together with a review of the CPC’s internal issue list, the CPC has begun work on several white papers.

The CPC invites you to attend the Fourth Annual ISMA Conference General Session on Wednesday, September 16, 2009 at 8 am, at which time the CPC will present an update on CPM 4.3.
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As you may already know, in 2008 the IFPUG ISO task force became a full-fledged IFPUG committee and has continued to play a pivotal role in two ISO/IEC JTC1 SC7 Software and systems engineering working groups:

- WG6: Quality Metrics, which assumed the custodianship of all Functional Size Measurement standards (the ISO/IEC 14143 suite and the five ISO/IEC FSM Method Standards). WG6 assumed this role when the original WG12: Functional Size Measurement disbanded on the completion of its program of work in 2007;


Your ISO representatives: Mary Bradley, Frank Mazzucco, and I, work through two paths to provide IFPUG influence in ISO/IEC standards:

- As an active Category “c” liaison organization, IFPUG can submit our member comments on any SC7 standard out for balloting, but cannot officially cast a vote. Only national body standards groups (i.e., Primary or “P” countries) can vote on SC7 standards; and

- As a member of the U.S. national body to SC7 through the USA SC7 technical advisory group (TAG). It is this latter position that gives IFPUG members the opportunity to advise the entire US delegation about a recent ballot.

This week, May 25-29, 2009, I pen this update from Hyderabad, India where I am attending, on your behalf, the ISO/IEC JTC1 SC7 plenary sessions. I am providing leadership on two of the emerging ISO standards that may also be of particular interest to IFPUG members:

1. **The most important IFPUG related standard, ISO/IEC 20926:** IFPUG Functional size measurement method. ISO/IEC first published the IFPUG 4.1 unadjusted as ISO/IEC 20926:2003. For the past two years, the IFPUG Counting Practices Committee (CPC) has worked diligently to reformat and update the standard (an ISO requirement to review every five years). As a result of two separate ISO/IEC JTC1 ballots, and the comment disposition meeting I conducted this week, the newest IFPUG standard (to be called ISO/IEC 29026:2009 IFPUG functional size measurement method 2009) will hopefully be endorsed by ISO/IEC JTC1 and published in the coming months. It is anticipated that this same standard will also be officially released by IFPUG prior to or at ISMA 4 in Chicago, Illinois. Note that the basic counting rules of the IFPUG methodology remain unchanged, however, the ISO/IEC format is now consistent, and the core rules formulate the standard (which is different from the IFPUG 4.1 and IFPUG 4.2 where guidance was interspersed with the main IFPUG counting rules.)

2. **Approved new work item ISO/IEC 29551:** IT project performance benchmarking. This new work item, assigned to a subgroup of working group 10 (WG10) was initiated using the ISBSG (International Software Benchmarking Standards Group) Benchmarking Standard version 1.1 as the first draft. In Hyderabad, over 100 comments to this working draft were reviewed by the project editing group (consisting of Pekka Forselius, editor from Finland, Jacky Takahashi, co-editor from Japan, and me, Carol Dekkers, from USA). The goal of this new project is to create an IT project performance benchmarking framework including several parts. The eventual full suite of 29155 standards will include example benchmarking processes, recommended data collection rules, and document best practices for the international community in project performance benchmarking. From an IFPUG perspective, we have been liaising with the IFPUG IT Performance Committee to ensure that our work aligns with the direction and objectives of the IT Performance Committee (Dan Bradley, Chair).

Thank you to the CPC and IT Performance committees and my fellow committee members: Frank Mazzucco and Mary Bradley for your ongoing support of our IFPUG ISO-related activities. ISO is becoming more and more important as our world shrinks – and especially as competitiveness increases globally.

For further information on IFPUG’s ISO/IEC JTC1 SC7 activities or to get involved with reviewing our ISO standards drafts, please contact Carol Dekkers at dekkers@qualityplustech.com.

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**CURRENT CONTACT INFORMATION?**

To ensure you do not miss out on any IFPUG communications, please notify the IFPUG Office immediately of any changes to your email or postal address. You may do so in one of the following ways:

Email to ifpug@ifpug.org, call 609/ 799-4900, fax 609/ 799-7032

Write to: IFPUG, 191 Clarksville Road, Princeton Junction, NJ 08550
Membership Committee

By Márcio Silveira

Something Old and Something New!

In this edition of MetricViews, I would like to look back and look forward. Looking back, I would like to provide a brief overview of the results of the membership survey that we ran online in December 2008 and January 2009. Looking forward, I would like to introduce you to a development initiative that we have been working on in the Membership Committee to seek to provide more value to our corporate members: Organization Accreditation.

The 2008-09 Membership Survey

Wow! What a great response we had to the survey. It was exactly what we needed to drive our thought processes over the next couple of years.

Before I share some of the results, I need to make an important point. We asked a lot of questions and we received a lot of responses so we have a lot of data. Accordingly, you will see the impact of the survey trickling out over the next year either directly, in the form of survey data, or indirectly, in the form of decisions influenced by the feedback that you gave us in the survey.

We had three goals for the survey:

• To understand if our members are happy with IFPUG services
• To find out our members’ needs and desires for improvements
• To identify initiatives that require more or less focus by our committees.

We received 410 responses to the survey from 27 countries. We were very pleased that the respondents, based on the demographic data they gave, seem to be a very representative sample of IFPUG members. More than 82% represented by Individual (45%) and Regular Corporate Members. Sixty-four percent of respondents were IFPUG-certified. We had a fairly even distribution of lengths of membership.

At the end of each question, we asked for comments and we received 1,894 such comments with the average of seven comments per question somewhat skewed by the six questions that received over 50 comments each!

Overall, the major finding was the majority of members seem to be “satisfied” with IFPUG Services which is positive. Of course, “satisfied” is not “delighted” so there is plenty of room for improvement and we are not complacent about the need for change in some areas.

A presentation for members is being finalized that gives a tremendous amount of detail on the findings, so I have used some editorial license to pick out some of the ones that I find interesting in an effort to tempt you to read the full presentation when it is published:

• IFPUG Membership is considered good value (80%)
• In general, companies are paying the membership fees (70%)
• If companies will stop paying the fees some members will not pay (26%)
• Most people (around 70%) agree that certification is the most valuable part in membership and more than 50% people feel happy about the certification process.
• CFPS certification is considered to be valuable enough to make the members want to pay for their membership (44%); for CSMS certification, only a few members believe that it brings value (7%)
• Members are willing to participate in committees focused at their regions (60%)
• ISMA Conference is seen as having value to people (over 40%) but there were a high number of neutral responses (over 40%)
• Conference (Fall or Spring?) doesn’t matter for around 70% of people, but many comments tend towards Spring because it is easier to get an approved budget at that time.
• 30% of the people didn’t try to attend the Conference. Cost (primarily) and location are key factors preventing people from attending the Conference.

• Companies in general are not funding conference attendance (over 55%)
• Conference in US : 35% of respondents agreed, 26% didn’t agree, over 37% neutral
• Courses: 67% of respondents would like local courses and 78% would like to see courses on-line
• CFPS exams are perceived to be challenging by almost 90% of people. Main reasons for that: the exam time is too short to finish all the questions. They are frequently needlessly tricky with lots of negative logic.
• CFPS automated exam is seen of value by the people (over 70%). CSMS automated exam is also seen of value (over 50%).
• In contrast with the certification process, only about 33% of people feel happy about the recertification process.

For the first time, the survey provided an innovative option to the members to express their “Wishes” as desired from IFPUG. A free text form was provided as an open ended “Wish List” for the members to fill their expectations from IFPUG. The response to the “Wish List” option was overwhelmingly with 158 participants (out of 410) providing “wish lists” and a grand total of 505 “wishes.”

The top five wishes contributed to almost 53% of total numbers. The FP counting process and IFPUG conferences/seminars related wishes were the top in the mind of members. There were many issues/concerns regarding certification processes. Finally, serious improvements to the IFPUG web site seemed to be a strong desire from many.

As I have said, thinking through and, where appropriate, acting on, all this great data will take some time. While it is great to hear there is a general level of satisfaction with IFPUG today amongst members, the excellent feedback will help us to make IFPUG better in the future.

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The detailed results of the membership survey will be posted on the IFPUG website and communicated to our membership; stay tuned!

**Draft Organization Accreditation Program (OAP)**

The Membership Committee have been working for some time with regular input from the Board of Directors, on an initiative to see if we could implement a program to recognize our member organizations for their success with (and maturity in) the measurement of software development. The Organization Accreditation Program (OAP) initiative is far from finalized but I am writing about it now because we will soon be asking for input from member and non-member organizations on the progress we have made so far.

**Why are we considering an OAP?**

Our thinking about an OAP started before we launched the member survey results but it has been confirmed by the survey responses. Essentially, this is one possible answer to the challenge of providing more value to our corporate members.

**What is an OAP?**

Conceptually, an OAP is a way for IFPUG to recognize and promote the relative maturity of member organizations in their approach to the measurement of software development. We believe that having externally validation levels of measurement capability could benefit organizations of all shapes and sizes whether they are buying or selling services that depend on these capabilities.

Specifically, the current goals are:

- To provide a powerful accreditation yardstick that could greatly enhance the value that organizations place on:
  - The measurement of the TCO (Total Cost of Ownership) of their IT systems
  - Estimation and project execution skills of their IT managers
  - Benchmark their quality and productivity parameters and also compare with Industry standards
  - Evaluation of outsourcing vendors based on their estimating, pricing and delivery capabilities
  - Developing a repository of key estimation data about existing as well as new projects
- To provide a measurement system that could promote strategic decisions about shrinking IT budgets and the pressure to do “more with less”.
- To position IFPUG as an industry-leader in FP based measurement methods.
- To brand IFPUG accreditation as a benchmark for organizations to be positioned among peers.

**What are the goals of the development initiative for OAP?**

We need to find out if we can design and operate an accreditation program that is valuable to members, credible in the eyes of the industry, practical and cost effective for IFPUG and its members.

**What is the status of the development initiative for OAP?**

We have documented a high-level approach in sufficient detail that the IFPUG Board of Directors have given us approval to “go public” and seek input from organizations who might be beneficiaries of an OAP. We plan to provide details of the draft OAP to those organizations through a series of webinars in July and August of this year and to ask them for feedback on the idea including a sense of whether they might participate in such a program.

**What might an OAP look like?**

The OAP will consist of a FP-centric reference model to allow companies to improve their processes around sizing, estimating, project tracking and portfolio management. In addition to the reference model, processes will be created to assess and certify companies against the reference model.

A high-level view of the reference model can be seen in the picture below.
By Steven Woodward, Chair

The NEC has been busy finalizing several white papers in the past year, including:

• Component Based Development
• Middleware
• Accounting for Reuse
• Web FPA.

We hope to have these available to our members later this year. NEC members have also been busy developing several new white papers, including:

• Integrated Voice Response (IVR)
• URL models
• Telecommunication application boundary frameworks.

As a reminder, the Graphical User Interface (GUI) paper is available to our members as of fall 2008. So as you can see, the NEC has been busy trying to ensure that IFPUG is current and is providing its community with guidance on new technologies.

But technology continues to move extremely fast, so the NEC needs your help! We want to determine what IFPUG members want from the NEC, and consider alternatives to the way we operate today.

The New Environments Committee welcomes your participation, Monday September 14, 2009 at the ISMA Conference in Chicago, to help with the prioritization and future direction of the New Environments Committee through a pilot program – the “New Environment Interest / Business Groups.” These facilitated meetings will encourage open discussion, including interpretations and techniques successfully deployed. The objective is to foster open software measurement communication, around specific areas and lines of business which are most pertinent to them and their respective organizations.

Goals for the Day:
1. Obtain membership feedback on existing NEC white papers
2. Identify and prioritize new topics areas for NEC white papers
3. Discuss options to efficiently and effectively utilize NEC resources to meet or exceed the needs of IFPUG members
4. Discuss concerns with IFPUG participants leveraging the IFPUG technique in newer technologies
5. Discuss the visibility and awareness of IFPUG in software engineering
6. Determine “interest group” participation levels and direction for future consideration
   a. Explore scheduling recurring meetings as a group to discuss progress, opportunities and issues for the various groups
   b. Establish bulletin board areas for specific “interest groups:
   c. Determine the utilization of the “interest group model” for future conferences and NEC meetings
   d. Periodic news by “interest group” via eblast
   e. Identify other groups or alternatives methodologies to accelerate the IFPUG methods acceptance in counting new environment applications.

During the actual Special Interest Group Meetings, possible discussion topics include:

• Your local guidelines and interpretations of IFPUG rules
• IFPUG rules that are difficult to apply or rationalize
• How the IFPUG rules are applicable and are meaningful
• How measurement is leveraged and used
• Possible papers/examples generated by the interest group teams.

The early morning will consist of discussions regarding the NEC and future direction. The actual interest groups will meet afterwards, and in afternoon sessions, with a final summary session to close the end of the day.

Proposed Initial Interest Groups:

• Telecommunication
• Financial Banking
• Gaming (PC/Consoles (XBOX, Playstation, Wii), handheld (Nintendo DS, Playstation Portable), Mobile Gaming (iPhone, PDAs, cell phones)
• Software Measurement in a Changed World
• Plus an additional one based upon member feedback

Please register online at www.ifpug.org on the ISMA Conference registration form. Please be sure to communicate which interest group you prefer to participate in, and if you have an alternative “interest group” to propose.

There is no cost to participate in this program but an optional fee of $130 will be charged to include breakfast, lunch and breaks.

A more detailed agenda will be sent out prior to the 2009 ISMA Conference, although specific topics will be largely directed by participants during the day. Be sure to register for the Conference at: http://ifpug.org/conferences/.

If you won’t or can’t attend, but are interested in participating at a future “NEC interest group” (possibly by WebEx), please email ifpug@ifpug.org.

This program is a pilot for this year’s Conference in an effort to determine interest levels of IFPUG members to participate in an interactive forum around functional sizing for specific “interest or business groups.” If there is sufficient interest, we expect these groups will continue year-round completing white papers, proposing new white paper topics, addressing Bulletin Board questions dealing with their area of interest, and engaging in other related activities yet to be identified.

The NEC is looking forward to this day and to pilot a “new model” for interaction with membership.

The NEC will also be offering the class “Count What?” The class was very well received in the fall 2008 in Washington, DC, and will be offered again in Chicago on September 13, 2009. The IFPUG method provides meaningful analysis and data for any software domain. The objective is to get participants thinking about the IFPUG methodology differently, with a strategic focus of functional sizing … practically anything! Some highlights include: embedded systems, point of sale (self service), customization and integration of third party products, IVR (Integrated Voice Response), and more. The workshop is highly interactive. A combination of provided and participant “donated” examples will be used to encourage open and honest discussion. The functional analysis must be meaningful, intuitive and valuable to stakeholders, various situations and examples will be discussed and explored to further identify the direction that IFPUG members want the NEC to pursue.

“If you count it … they will come!”

See you in Chicago!
PSM 13th Annual Users’ Group Conference, 22-26 June 2009
Orlando, Florida

I want to invite each of you to attend our Practical Software and Systems Measurement (PSM) 13th Annual PSM Users’ Group Conference. We have a great set of speakers and workshops this year – it should be a terrific conference! The theme this year is “Measurement in a Dynamic Business and Government Environment”. We will discuss how measurement is keeping pace with the changing economic situation, changing goals and missions, new laws, policies, technologies, and changing information requirements at the enterprise, organization, and project levels. We will discuss implementing and using fact-based information in an uncertain world, using measures to improve efficiencies and drive performance improvement, measurement to support improved life cycle decision making in an evolving environment, increasing usage of measurement results, and the interfaces between enterprise and project measurement. The conference is being held at the J.W. Marriott in Orlando, Florida this year, a venue that provides great opportunities for networking in a relaxed and fun atmosphere. This is a fabulous resort, and all participants will receive a reduced hotel rate of $109 per night. There are many nearby attractions including Disney World, Discovery Cove, Sea World, and Universal Studios.

One of the two keynote presentations at the Users’ Group Conference this year is “The Importance of Measurement in the Development of Credible Cost Estimates,” by Mr. Rich Hartley, from the Air Force Cost Analysis Center. In addition, there will be a series of presentations by measurement practitioners and users, with a focus on actual implementations and lessons learned.

This includes presentations on process performance modeling, statistical analysis of software engineering data, affordability, measurement in decision-making, transparency through measurement and risk, parametric cost and schedule modeling, pitfalls of collecting measurement data from diverse environments, measurement experiences on large-scale systems, future challenges in estimation and measurement, assurance, peer review measurement lessons learned, and many others.

We will also host a series of interactive workshops to explore various measurement topics. Planned workshops include: Decision Making in Engineering Management, Systems Engineering Leading Indicators, Use of Measurement and Analytical Techniques in High Maturity Organizations, Organizational/Enterprise Measurement, COSYSMO 2.0 Reuse, Maintenance Measures, Definitions for Cost Metrics, Risk Expert Tool for SE (using COSYSMO cost drivers), Acquisition Measurement Case Study. The conference will begin with a 1-day training session, for those who are new to PSM, and a 1-day session for PSM trainers, to review the revised training course. A preliminary agenda with workshop descriptions will be posted on the PSM web site this week (www.psmsc.com/events.asp), and will be updated as plans are finalized.

The conference will be held at the J.W. Marriott in Orlando, Florida. Please refer to the Conference Hotel Information and Registration Form for more details. It is recommended that you make reservations as soon as possible. The hotel will honor the PSM block of rooms and rates through May 29th. After that, hotel rooms will be on a space available basis.

For more information, contact the PSM Support Center at psm@psmsc.com, Dave Morris at 703-405-2191, or Cheryl Jones at 973-724-2644.
A Way to Count Micro Function Points

By Charley Tichenor

Sometimes I get a question that goes like this: “Why does an EI having 1 DET and 0 FTRs get scored as 3 (unadjusted) function points, while an EI with 15 DETs and 1 FTR also is scored as 3 function points? Doesn’t the EI having 15 DETs and 1 FTR deliver more functionality than 1 DET with 0 FTRs?” My answer is, “In my opinion, I agree with you, but it usually does not matter. Function point counting is statistical and the overall count of the application fairly represents its size.” Here is an example of my reasoning.

Imagine a little kid at the beach one summer who wants to build a sand pile. Let’s go right up near the waterfront and clear off some sand to make a flat area onto which the sand pile will be built. Let’s also do this experiment making sure we are using dry sand for the sand pile. The kid then takes a plastic sand shovel, scoops it into the sand off to the side of the flat area, and drops the scooped sand into the middle of the flat area.

As the kid continues this process, we realize that the scoops on the plastic shovel might be of many different sizes and shapes, but something familiar is happening to the ever-increasing big pile. As it gets larger and larger, and after perhaps 25 to 30 scoops, the shape of the pile begins to look like a cone — except that the pile is a little rounded at the top and perhaps a little flared out at the bottom. After having had many beach vacations, I’ve seen many of these sand piles and they all look like rounded off cones.

Here’s how a hard-core statistician might describe this. “The ever-increasing big pile is really starting to take the shape of a 3-D bell curve. It does not matter much what the sizes and shapes of the individual plastic shovel scoops are, what matters is that when you pile them up, the overall shape of the pile begins to approach that of the 3D bell curve. This is an illustration of the central limit theorem.” I suppose that if we could build an infinitely big sand pile like this, then the shape would be a perfect 3D bell curve.

Function points are like this to me — one low EI could be 1 DET and 0 FTR, or it could be 15 DETs and 1 FTRs. Each scores as 3 function points although one could think that the EI with 15 DETs and 1 FTR has more functionality to it. The scoops can be of different sizes and shapes. However, as one counts an ever-increasing number of function types, the smaller and larger low EIs and other function types pile onto each other and the overall application count becomes the true amount of functionality. In my experience, this happens at about 30 different function types, say 9 EIs, 5 ILFs, 9 EOIs, 2 EIFs, and 5 EQs.

This being said, one might need to get a finer resolution for the count of an individual function type. This means needing to count an EI as having a value of, say, 3.2 function points, or maybe an ILF having a value of 12.7 function points. I almost never have had the need to look for and count micro function points, but I suggest that there is at least one way to measure these should the need arise.

Let’s examine the unadjusted function point count matrix for EIs from the Counting Practices Manual. Make a table having three columns using a spreadsheet. In columns A and B, list every combination of DET and FTR up to twice the values in the matrix. This means list every combination from 1 DET and 0 FTR to 30 DETs and 6 FTRs. Then in column 3, enter the corresponding function point counts. Using the spreadsheet’s multiple regression feature, derive the equation of the regression line where columns A and B are the x1 and x2 values, and the unadjusted function point count is the y value. When you do this for EIs, the resulting equation is about

$$2.19 + (.065 \times DET) + (.802 \times FTR).$$

Try it. This seems to be a good approximation formula for the EI, and it is statistically significant (F = 197).

Let’s try this for an EI having 10 DETs and 2 FTRs. The equation becomes

$$2.19 + .65 + 1.604,$$

or about 4.4 function points. This is pretty close the matrix value of 4, so we are at least on the right track. Following this line of reasoning, the EI with 1 DET and 0 FTRs has a micro function point count of about 2.26, and the EI with 15 DETs and 1 FTR would have a micro function point count of about 4.77.

Here are the approximate formulas for the other function types, with the corresponding F values if you are interested.

External Outputs: 3.12 + (.072DET) + (.405FTR), F = 236

External Inquiries: 2.16 + (.061DET) + (.580RET), F = 293

Internal Logical Files: 4.72 + (.084DET) + (.792RET), F = 760

External Interface Files: 3.66 + (.052DET) + (.490RET), F = 771

I don’t recommend using the micro function point count approach for counting applications that have at least 30 different functions, but it could be useful to size individual function types on an as-needed basis. This approach has the advantage of being statistically significant, easy to use, and the CPM size matrices can be derived from it.
Function Points or Use Case Points?

by Mauricio Aguiar

At some point in their careers many Software Measurement professionals will be asked a typical question: Do Function Points work with object-oriented software-intensive systems, or should one consider Use Case Points instead?

Software Size Measures

Software size measures first appeared as the main input to software development effort estimation. Software development effort, usually measured in staff-hours, is known to hold significant correlation with software size. The first leading size measure was SLOC – the number of Source Lines of Code. There are several different ways of counting SLOC, some of them line-oriented and some statement-oriented. SLOC is considered a physical size measure because it measures the physical volume of source code associated with a software system.

While the SLOC measure is useful in many contexts its limitations led to the appearance of other measures. Those new measures sought to measure the functionality delivered to the user by the software system as opposed to its physical size. They are therefore called functional size measures. Functional size is used to obtain early project estimates when it can be very difficult to estimate SLOC. The most important of those measures was introduced by Allan Albrecht in 1979 – Function Points. Later, other functional size measures were proposed such as Bang, Mark II, Full Function Points, and Cosmic-FFP. All those measures achieved some degree of industry use with the possible exception of Bang. In 1993 Gustav Karner created a function point variety specifically designed to measure functionality based on use cases. Use Case Points (UCPs) had been born.

Function Points


Function Points may be easily counted or estimated from use cases. Several organizations are successfully using that method as I write these lines. Pre-requisites to Function Point counting from use cases are: knowing how to read use cases and experience in Function Point counting.

Many organizations have invested significant time and money to collect data and compose large project databases containing function point data. No other functional measure has reached the same level of use and/or investment. For example, the Australia-based International Software Benchmarking Standards Group (ISBSG) keeps a database currently with over 4,000 projects, most of them measured in function points.

For a long time the U.S. Department of Defense and its suppliers used SLOC as the single measure of software size. That measure seemed to be adequate for a stable ADA-based environment (ADA is a language still used by the military). Around the turn of the century, research communities such as the U.S. Army PSM initiative and the USC COCOMO development group started to consider Function Points as an alternative since the appearance of new technologies made the old SLOC measure incapable of satisfying all measurement needs.

Use Case Points

Use Case Points were created by Gustav Karner in 1993 as a particular variety of function points specifically designed for use cases. Karner later went to work for Rational but that apparently did not help to make the method popular. A search for “use case points” was executed on the Rational website for the first version of this article in November 2002. It returned only one document, while a search for “use cases” on the same site retrieved 348 documents. The search was repeated in May 2009 on the IBM developerWorks website – this time 8 “use case points” documents were found while 1,619 were found for “use cases.”

Even though still not very widely known, UCPs have been studied by several researchers both in industry and academia. A 2001 paper by Professor Bente Anda from the University of Oslo reported results of the application of UCP to project effort estimation. While Anda concludes that UCP can be used for estimation, his report and others suggest that use case style variations can have an impact on the number of UCPs obtained through the method.

Function Points and Use Case Points

UCP counts may vary among organizations and individuals due to variations in use case styles. It is then reasonable to assume that the productivity associated with the development of one UCP (20 staff-hours according to Karner’s original work) will vary as well. Therefore to obtain reliable effort estimates one would need both to standardize use case writing styles and calibrate a local UCP-based estimation model.

The lack of universal standards for use case construction will limit comparison among projects from different organizations using UCP. There is no way to guarantee UCPs from different organizations will measure the same thing if use case writing styles are allowed to vary widely.

Furthermore, UCPs can only be used by organizations that adopt use cases to model functional requirements. That may limit comparison.
among companies using different requirements modeling techniques and artifacts, or even between projects from the same company before and after use case adoption.

Even though the software community has increased its UCP awareness, UCPs are still not very well known if compared to FPs. In November 2002 Google reported approximately 12,700 occurrences of “function points.” The same query for “use case points” returned only 213 occurrences. This means Function Points were approximately 60 times more cited than Use Case Points at the time. In May 2009 Google reported approximately 113,000 occurrences of “function points” as opposed to 11,400 of “use case points.” This means that six years later Function Points are still roughly 10 times as cited as Use Case Points.

Finally, there is scarcely any publicly available UCP data. That makes comparisons difficult or even impossible.

Recommendations

From an objective perspective one cannot safely recommend UCPs as the best choice for companies. Function Points are generally more convenient for the following reasons:

- Function points are maintained by a not-for-profit, international organization - The International Function Point Users Group – IFPUG, since 1986;
- Function points are supported by several consulting companies and user groups in various countries;
- IFPUG keeps a worldwide, automated certification program that ensures that certified specialists consistently apply the method;
- Function Points are an ISO standard (ISO/IEC 20926) – that helps to guarantee the uniform application of the technique;
- Function Points model requirements at a higher abstraction level than UCP. They are also artifact independent and may be used by organizations independently of the way they model requirements – they may utilize use cases or any other method;
- Studies and comparisons are made possible by the existence of a large volume of Function Point-based data kept by several organizations;
- Function Points are successfully used in contracts in government and industry in several countries.

There is nothing wrong with using UCPs as an alternative measure in addition to Function Points, perhaps to make comparisons or acquire additional knowledge. However, its lack of maturity severely limits UCP application to business relationships.

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Vendors’ World!, continued from page 17

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(January 2007)  
A CD containing 3,000+ projects from the ISBSG repository. Includes Reality Checker V3 and comparative Estimation Tool V4.

<table>
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<tr>
<th>CD-ROM</th>
<th>Initial Cost</th>
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<tr>
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ISBSG Benchmark Release 10  (March 2008)  
In this release provides the following analyses to assist with project planning.  
- The breakdown of effort by project phase  
- The breakdown of effort by role for projects  
- The Impact of Techniques & Tools  
- Web projects compared to non web projects  
- The impact of re-use in projects  

Please note that the first four of the analyses listed above have been previously released as Special Reports.

ISBSG Java & C# Project Data Subset

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Extensive data fields are provided for all projects plus a spreadsheet showing productivity ranges for each of the development environments.

Special Analysis Reports –various  
$25 $30

Special Analysis Reports (Corporate) –various  
$250 $285

Comparative Estimation Tool

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# CONFERENCE PROCEEDINGS - For Conference Proceedings before 2004, please contact the IFPUG Office.

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<th>2008</th>
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**New Environments Committee White Paper**
Paper/Diskette (Word for Windows) – English only

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**TOTAL**

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<tr>
<td>Princeton Junction, NJ 08550 USA</td>
</tr>
</tbody>
</table>

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5/09