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ISMA⁷ was Sunny, but not too “Sandy”

Natural events and disasters have been known to lurk around ISMA conference dates and this year we had “Sandy”. Our thoughts remain for the safety and comfort of our many members residing in Hurricane Sandy’s path.

The conference started by welcoming everyone to sunny Phoenix and introducing the authors of the *IFPUG Guide to IT and Software Measurement*, Board of Directors and wrapped up with Mauricio Aguiar inviting everyone to meet in Rio de Janeiro for ISMA⁸ in 2013!

This year’s conference showcased featured presentations including the CIO from Caesars Entertainment, Charly Paelinck; Senior VP of US Sales at Insight, Dave Woodward; Associate Professor, Department of Systems & Industrial Engineering University of Arizona, Dr. Ricardo Valerdi; and Performance Based Studies Research Group – Program Manager, Arizona State University, Jacob Kashiwagi. The featured speakers provided glimpses into the future of Information Technology and the critical valuable perspectives that measurement provides. There were also many presentations which covered Measurement, Technology, and Innovations which are sure to Shape the Future. ISMA⁷ in Phoenix was an extremely diverse software measurement event, with presentations covering cultural perspectives, mobile, gaming, estimation, advanced technologies and of course, functional and non-functional sizing. The panel discussion with Systems Integrators and Function Point experts was very energetic, demonstrating the need for, and commitment to, software measurement in the Information Technology industry.

The Non-Functional Sizing measures were a popular presentation and networking topic of interest in Phoenix, demonstrating the expansion of knowledge in the ISMA-IFPUG community.

Along with the five workshops which preceded the conference, the educational possibilities were plentiful. As always, networking opportunities coupled with good food abounded. Those who joined us at the Special Event, held at the Phoenix Zoo, will attest to an enjoyable, relaxing evening of good food and good company. The venue and preferred hotels were centrally located and close to a variety of great restaurants, where our members took advantage to share some great meals.

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Conference Update, continued from page 1

The ISMA⁷ attendees came from 11 different countries and I personally enjoyed the conversations with the many IFPUG international members. The Conference ended with the IFPUG Annual Meeting where Linda Hughes was honored with the 2011 Outstanding Contribution Award. In addition, members of the Information Technology Performance Committee were honored with the 2011 Outstanding Achievement Award. The Innovations Works! Award sponsored by David Consulting Group was awarded to Lionel Perrot.

The ISMA⁷ event partnered with the Project Management Institute (PMI) community in Arizona and was an accredited Professional Development Units (PDU) activity. We plan to continue cooperation with organizations such as PMI to expand awareness and encourage collaboration opportunities. In this context, the 2013 International Software Benchmarking Standards Group (ISBSG) meetings will also be in Rio de Janeiro in the same timeframe as ISMA⁸, where coordinated efforts will provide an energetic collaborative atmosphere.

The Conference and Education Committee and the Board will further discuss the idea of moving from fall to spring events in an attempt to avoid the potential fall hurricane risks.

Let us know your thoughts, both positive and negative, regarding spring events at: isma@ifpug.org.

As director of the Conference and Education Committee, I want to express my sincere appreciation for the conference planning and execution by the committee members. Also, many thanks to our extra on-site helpers this year, Tammy Preuss and Abinash Sahoo, who really stepped in and helped the event run smoothly.

Special thanks to our ISMA⁷ sponsors and exhibitors: ti Métricas, Q/P Management Group, David Consulting Group, Galorath Systems, Cloud Perspectives and CRC Press.

So start planning now to join us late September or early October 2013 for ISMA⁸ in Rio De Janeiro, Brazil. You won't want to miss out! More details will be provided in the next few weeks.

Steve Woodward
ISMA⁷ Conference & Education Director

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Joe Schofield

Message from the President

I might be in a good mood today...

I thought I was in a good mood today; at least for a little while. My alma mater's football team, the Arizona Wildcats, scored 14 points in 24 seconds to win the first "bowl" game of the "bowl season" here in the US. In addition, it was the team's largest comeback ever, having been down 21 points and later after tying the score, 20 more.

But wait, the Arizona basketball team plays tonight—two top ten teams in a big "showdown." Can I really enjoy being in a good mood with so much at stake? (This game was also decided in the final seconds with the Wildcats getting the win.) Seems like the next "big game" or "big thing" is always around the corner. Who can rest with such an unrelenting pace? Heck, I hadn't even considered how my kids were doing, or my friends, or my work. Life really is just one big roller coaster. Sometimes we don't remember if we enjoyed any of it because there's always more to do, soon!

In this issue of *MetricViews* you will find a tribute to the accomplishments of you, our members. We don't celebrate those successes often enough and I am at fault as much as anyone. Most of us feel under-appreciated or under-valued at some point. Let's snap that streak right here and now. Thank you to each of you who are contributing to IFPUG and the measurement community at large. Thank you. No raise, no promotion, and no gold medal; a mere and simple thanks.

I could write a lengthy column on the personal and professional accomplishments of your IFPUG Board members too (I'm including CMA in this group): the long hours, the frustrations and victories, their contributions beyond the IFPUG border, their ethical behaviors, their personal dedication, and their sacrifices. I won't take that space here but I will at least mention it; deservedly so.

As a result of these and other contributions, Function Point Analysis continues to help organizations excel at functional sizing in particular for estimating and product value. Several nations require function point sizing for bidding on government contracts. IFPUG is taking the industry lead in non-functional sizing. IFPUG members are actively engaged in industry standards organizations. As an organization we've enjoyed another year "in the black." I suppose I should be in a good mood today.

But wait. Will SNAP be accepted outside IFPUG as well as we believe it will? Will ISMA Rio be a success for our international membership? Will memberships hold steady or be subject to swings in world economies and the "fiscal cliff"? Will capable and competent volunteers continue to offer to move IFPUG forward despite their own careers, families, and obligations? I suppose each of those is some of our next "big things."

I suspect some if not most of these opportunities will be a success. When they are, remind me once again to celebrate with you. I expect my next year to be predictably unpredictable. I don't know if I should be lugubrious or elated. I know if I'm too happy, I don't like it; if I'm too grumpy, others don't like me. All of this self-inflicted psycho-therapy I encourage you to avoid, but many of you are probably not too different.

Find something you enjoy and spend your time doing it. If you're lucky, your work will fall into this realm. The same applies with IFPUG—find somewhere to plug in and try to enjoy most of it. In the end you won't be swayed by the next big thing as much as I think I am. Which reminds me – I turned 60 today. I should be in a good mood but how can I in the face of constant uncertainty? As is my life, so are yours. Own them. Own the future. It awaits you.

Thanks to all of you that make IFPUG what it is today and what it can be tomorrow,

Take care,

Joe Schofield

President, IFPUG

From the Editor's Desk



Paul Radford

As always, some food for thought in this edition of *MetricViews*.

The President of IFPUG, Joe Schofield, provides us with a timely reminder of the intrinsic importance of functional sizing as a core platform to any serious management of IT performance or forecasting. Whilst we know that building analogies are never perfect, Joe uses this approach to effectively isolate issues directly relevant to effective software management.

At the other end of the scale, we have an introduction to the new and esoteric concepts behind SNAP (Software Non-functional Assessment Practices). This is an attempt to define, categorise and weight non-functional characteristics of software in much the same way that function point analysis measures functional size. Whilst this seems a wide reaching and ambitious goal for an IFPUG committee, the studies quoted

in this paper indicate a remarkably positive relationship between estimates based on SNAP and actual costs. Is SNAP just an interesting exercise – or is it a key part of the future of measurement? We would be interested in your opinion.

Some non-functional characteristics and requirements are handled in projects within Sogeti in The Netherlands, but functional size appears to be the key driver of cost. Harold Van Heeringen describes the basics of an internal software delivery cost estimating tool and compares results to those achieved by panels of “experts”. The key element of costing within the tool is the size of the project expressed in function points. It is not clear whether the “experts” either requested or had access to functional sizing information. However, results from the tool – based primarily on software functional size – appear more accurate and reliable and, at least, avoid the “optimism” bias prevalent in so many software budgets.

Which brings us once again to the age old question: if all rational thought and examination lead to a similar, if not definitive conclusion, why are the practical and demonstrably effective solutions not applied?

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We continue to see massive waste on software applications where the scope has simply run completely out of control; we continue to see unreliable estimates lead to poorly budgeted, late and disappointing software applications.

We have the means, the knowledge, the tools to manage these processes right now. We can talk again and again about new successes and best ways of applying measurement in new technologies and the relatively obvious benefits of being able to measure and compare – but much of the market simply has no time to listen.

We need to address some fairly basic issues about simplification and relevance. Perhaps we need to re-visit and review the volume and direction of our counting practices; we definitely need to remind people of the bottom line benefits of good estimation and effective scope control. And we just need to make it easy for them.

Paul Radford
Communications & Marketing

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Members Make It Happen!

Did you know that over the past year?

- Membership has experienced modest increases
- An alternative membership structure was developed and proposed
- A pilot pricing structure was piloted in India for the CFPS exam
- A new version of SNAP was created
- SNAP APM Part I was released under Creative Commons License
- The Certified Function Point Practitioner was implemented
- The CFPS Fellow was approved for those with 20 years of continuous certification
- Approximately 500 certifications were granted or renewed
- An IFPUG library was collected and is awaiting its new home
- The Member Fuse website was implemented including a new discussion board
- The former website was sustained until Avectra was released
- Avectra was implemented allowing self-updates and purchases through the site
- IFPUG helped to sponsor the ISBSG workshops
- Mauricio Aguiar was elected as Vice President of the ISBSG organization
- ISMA⁷ and workshops were held in Phoenix, AZ
- Rio de Janeiro was selected as the location of ISMA⁸
- *The IFPUG Guide to IT and Software Measurement* was published
- The new ITMAC developed a mission and vision statements
- The winter edition of *MetricViews* was developed and mailed
- A number of committees were restructured to align with emerging membership needs

Each IFPUG committee and CMA staff contributed to this list of accomplishments. Each committee is composed of IFPUG volunteers whose efforts are recognized and appreciated through a number of forums, this being but one. To re-iterate... **Members Make It Happen – THANK YOU** – your efforts make for a stronger and more industry-relevant organization!

– *Joe Schofield on behalf of the IFPUG Board*



Why You Need a CFPS

Joe Schofield

Do you manage your software development project costs?

How about their durations? Most organizations implement management practices for cost and schedule, or at least they think they do. How do you respond to questions about “fitness for use” of the product; that is, how good and defect free is it? And how confident are you that you are right? [1]

One more question: What is the size of those products that you “manage”?

Most software managers have no idea whatsoever regarding the size of the products they deliver. That’s not to say they don’t have answers, it’s just to suggest, they have no idea of a meaningful size. Many software managers and developers size their products by counting the lines of code associated with the product; unfortunately, even if all of their projects use the same language (and they usually don’t), use the same method for counting lines of code (and they typically don’t) [2], the same definition for a line of code (and at best they occasionally might), the same person or group verifies the counting methods (and they most frequently don’t), the software developers are highly trained and educated (and they rarely are) - the line of code measure is statistically unreliable. [3]

Capers Jones simply states it this way: using lines of code to measure software size is “professional malpractice.”

Application of Use Case Points is growing in popularity for estimating project resources. The standard definition and use of a Use Case across industry, however, is still unsettled. So while a more “local” definition might reduce variation in project estimates, a “global” definition is necessary for benchmarking productivity levels across organizations and industry. The granularity of what constitutes a Use Case is itself a sufficient challenge to usage in benchmarking and productivity studies. And despite the recent enthusiasm for Story Points, the concept virtually precludes any potential for consistency and/or comparison.

The purpose of this article is not to explore all of the possible solutions for sizing software products and their apparent limitations. Instead, the purpose is to explore even further what answers you may never get sans an ISO-standard method [4] with certified analysts [5].

Let’s examine two dimensions of software project management: schedule and cost.

Is your project on time; is it early, or late? Often referenced data from, for instance, the Standish Group, are quick to stress the percent of software projects that are delivered late or have some other “deficiency” related to expectations. The

2009 report, like so many that precede it, paints a discouraging trend in timely project completion [5]. Classification of projects as “late” must be based on an expected delivery date, whether it’s negotiated or inherited. I challenge you to define “late” without a context for the size or features of the product. How can a delivery date be established or estimated when the developer of that product is deprived of the benefit of the knowledge of the size of the product? Worse yet, how does the project team rationalize delivery dates and size when using unreliable product sizes collected in the past?

Let’s examine the second dimension—cost. Is your project on budget, it is over or under spent? The same arguments regarding schedule apply to expenditures. Without a consistent, repeatable, and meaningful measure of product size, the customer may have received a great bargain or have reason for litigation (is it the latter that motivates the software project managers to persist in the use of minimal, meaningless, or obscure measures?) The oft used example of comparing the engineering of software to the building of a house is appropriate here. Here are a few scenarios to consider:

- **Scenario 1:** A home is originally estimated to cost \$300,000 and contain 3,000 square feet of some level of materials and features. The builder adds \$30,000 to the cost (increased cost of scheduling out-of-state subcontractors that were in short supply locally.) The home owner receives a 3,000 square foot house of expected quality. Would you prefer to be “in” or “out” of this contract?
- **Scenario 2:** A home is originally estimated to cost \$300,000 and contain 3,000 square feet of some level of materials and features. The builder delivers a home of 2,800 square feet contending that the patio or garage space was included in the original drawings. The home owner receives a 2,800 square foot house of expected quality. Would you prefer to be “in” or “out” of this contract?
- **Scenario 3:** A home is originally estimated to cost \$300,000 and contain 3,000 square feet of some level of materials and features. The builder delivers a home of 3,000 square feet but 45 days later than promised citing unfavorable weather conditions. The home owner receives a 3,000 square foot house of expected quality. Would you prefer to be “in” or “out” of this contract?
- **Scenario 4:** A home is originally estimated to cost \$300,000 and contain 3,000 square feet of some level of materials and features. The builder delivers a home of 3,200 square feet but 45 days later than promised due to unexpected delays in receipt of materials. The home owner receives a 3,200 square foot house of expected quality. Would you prefer to be “in” or “out” of this contract?
- **Scenario 5:** A home is originally estimated to cost \$300,000 and contain 3,000 square feet of some level of materials and features. The builder delivers a home of 3,200 square feet by the contracted delivery date. The

home owner receives a 3,200 square foot house of expected quality. Would you prefer to be “in” or “out” of this contract?

Table – 1: Summary of Scenario Data

Scenario	Estimated Cost	Actual Cost	Estimated Size (sq. ft.)	Actual Size (sq. ft.)	Estimated Delivery (days)	Actual Delivery (days)
1	300,000	330,000	3000	3000		
2	300,000	300,000	3000	2800		
3	300,000	300,000			120	165
4	300,000	300,000	3000	3200	120	165
5	300,000	300,000	3000	3200		

Table – 2: Summary of Scenario Variances and Outcomes

Scenario	Cost Variance	Size Variance	Schedule Variance	You win or lose?
1	30000			Lose
2		(200)		Lose
3			45	Lose
4		200	45	Toss-up
5		200		Likely win

be unacceptable (it raises property taxes to a new threshold, the buyer cannot afford to heat and cool the extra space (perhaps a stretch but nonetheless possible)).

Note that in no scenario did the buyer get what they contracted, at the price they negotiated, within the scheduled timeframe they expected. Similarly, most software productivity survey results cast a doubt on the likelihood of a project being completed on time, within budget, and of expected feature richness and quality. Nonetheless, assessing the success or the lack thereof based on reported variations without a quantitative understanding of the size of the product should be left in the hands of a fabulist. Further limiting the credibility of this confabulation is the realization that a small number of products are ever sized, let alone consistently, to make this an informed determination.

If we re-set the above scenarios with software as the product context, the following conclusions would be phrased as:

In Scenario 1 the cost of the software was more than expected. In most software projects we have no way to determine if the baseline requirements were delivered since we can't translate requirements to lines of code because a line of code measurement is statistically unpredictable. [3]

In Scenario 2 the size of the software was not as “understood by the buyer”; but in this case, the customer may not be able to recognize or confirm the loss of functional capability. When's the last time you confirmed the size of that engine “under the hood” of your car?

In Scenario 3 the product was late. Here's an example of a difference between building a house and building a software product; late arrival of a house could be acceptable whereas late arrival of software is often a detrimental impact to the business: software is needed for deployment on a fiscal year boundary, the software is embedded on a tracking component which is installed on a satellite that has a narrow launch window, or the supplier's reputation suffers from late delivery.

Some of my peers would be quick to point out that the permutations above in Table 1 are not exhaustive; for instance, the quality of the materials and product were not altered. I yield to the thoroughness of their thinking, but unlike them, don't overlook the following points.

In Scenario 1 the cost was more than expected; I trust you did not choose to be “in” this contract unless you are an attorney desiring to increase your caseload.

In Scenario 2 the size of the house was not as “understood by the buyer”; again I trust you chose not to be “in” this contract.

In Scenario 3 the product was late; I can imagine circumstances when this might be acceptable (financing is not finalized and interest rates are falling, the buyer hasn't closed on selling their current home, the buyer is anticipating the receipt of funds from some source). However, consider that the buyer needed the home by a specific date and in most cases this delay would not be desirable to a buyer.

In Scenario 4 the product was late but the buyer received a bonus in square footage. This trade-off may well be in favor of the buyer; of course, it may be unacceptable.

In Scenario 5, the buyer received more than what they had negotiated. Most of us would prefer to be “in” this contract although reasons may persist why the additional space would

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Why You Need a CFPS, continued from page 9

In Scenario 4 the product was late but the buyer received a bonus in size. Regrettably, many software deliveries fall into this category, but not related to size since we've already established that we don't size most software in meaningful terms. Instead, the software team often adds features to offset other features they were unable to deliver or to "make up" for the postponed delivery. Most software development teams won't admit that this strategy is employed to "keep customers happy" but most software users will recognize this attempt to appease.

In Scenario 5, the buyer received more than what they had negotiated. Similar to Scenario 4 directly above, this may be perceived in features, but is unlikely to be quantified in most organizations.

In lieu of a measure of software features that quantify what capability was delivered to the customer the most credible response to whether projects were early or late, over or under budget is – "I don't know." The need to measure software based upon what the customer receives, only what the customer receives, and with independence of the technology (after all, design decisions shouldn't be determined before requirements are established—so predicting languages and operational environments during planning is premature) is as requisite to planning today as it was in 1979 when Alan Albrecht introduced the notion of Function Points.

Function Points quantify the business functionality provided to the customer. Due to the focus on business functionality, a reasonable estimate of a product's size can be developed as requirements are engineered early and often in the project. These estimates can be refined as business features are added or eliminated by the customer. "Scope creep" can be quantified and updates to the project plan related to cost and schedule can potentially be fact-based. Cost and schedule variations can be understood based on changes to the product size. Planning and performance credibility with the customer is more likely and outcomes more predictable. With defensible insight into product size, historically challenging topics can now be considered.

Cost and schedule variances are easily masked, for instance: Did the development team meet estimates by fudging other variables related to size, cost, or schedule? Did we undercharge labor (by not recording some time) to meet budget? Did we work overtime to meet schedule, but neglect to record it for future estimating activities? I realize that these practices are illegal in some environments; confessions are not solicited. How accurate were the schedule estimates? Did the team deliver on time but postpone the delivery of some of the requirements into a future release? Did the customer accept a "later than expected" product in exchange for additional features or the inclusion of some late change requests? In cases where requirements were either reduced or added-on (similar changes have been found to be 40 times more likely to

introduce defects [7]), how are tradeoffs negotiated without an accurate and meaningful size measure?

Charette [8] provided insight into why projects fail. Accurate sizing could help to address a number of these including: unrealistic goals, inaccurate estimates, badly defined requirements, poor communication, and poor project management. Not less than ½ of all the reasons listed in the Standish Chaos Report for challenged and cancelled projects could be at least partially addressed with an accurate size measure. Some of these include resourcing, expectations, changing requirements, incomplete requirements, lack of planning, and lack of management.

Perhaps cost and schedule aren't critical to the success of your organization. Perhaps your profit margins are large enough that variations are easily absorbed as a cost of doing business. The sustainment of this business model in the long term is suspect. Perhaps some of the following questions are still relevant to the organization.

Am I receiving value from my software engineering teams? What teams are truly performing superior to other teams? How do we measure productivity and how do we collect untainted data for improved future decision-making and estimating? Do we have a cost per unit of work, a baseline time needed for a unit of work, or defects per unit of work? If not, how do we position ourselves to improve performance, cost, schedule, or quality in the future? How can we possibly benchmark our performance with our "peers"? And while we're on the topic, what confidence do we have that the benchmark data that we receive from our consultants and professional affiliations was untainted and meaningful? One of the techniques used by many organizations that benchmark using function points is to derive those function points using "backfiring." In essence, backfiring derives a function point count by summing the (meaningless) line of code data, and applying an average of lines of code per function point by language. When a derivation starts with a meaningless value (line of code), how much integrity exists in the subsequent derivation?

Are our projects staffed appropriately and rewarded fairly? Again, a size measure is necessary to determine an appropriate staffing level. Without a useful size measure management is befuddled as to whether too many or too few resources are being applied. For estimated versus actual resource comparisons at the end of the project, once again, a repeatable quantified measurement is needed to adjudicate diverse claims of project success. Until these fundamental measurement elements are institutionalized, how can management have any confidence in performance rewards granted or withheld from teams? And just one more caution: If teams are being rewarded by the size of the product they produce, the only possible metric one could apply is lines of code per available staff hour. Unexpectedly, for completed activities or

projects that deliver similar functional capability and size to the customer, the project with the fewest lines of code is the project that deserves accolades. Those prolific programmers that generate more lines of code (for the same functional capability) generate more defects (the defect injection rate is unlikely to be reduced with additional lines of code), and increase the overall maintenance cost of the product.

The title of this article advocates the need for a certified function point specialist that enables organizations to establish consistent and repeatable product sizes. As a result, critical questions regarding productivity and performance metrics can be identified, improved, and rewarded. Isn't it about time to establish a capability to measure consistently and earn confidence in your performance data? But then again, maybe you can afford to be a "late adopter" in today's competitive business environment. After all, who really needs insight into how well they are performing, or production costs, or responsiveness?

[1] *Beyond Defect Removal: Latent Defect Estimation with Capture Recapture Method*; CrossTalk, August, 2007

[2] *Capers Jones has reported on a survey of organizations that used lines of code as a size for software; one-third of the participants counted comments as lines of code, one-third did not include lines of code in their counts, and the other one-third didn't know if they counted comments or not*

[3] *The Statistically Unreliable Nature of Lines of Code*; CrossTalk, April, 2005

[4] *ISO / IEC 20926:2009*

[5] <http://www.ifpug.org/certification/cfps.htm>

[6] *Chaos Summary 2009*; Standish Group, 2009

[7] *A Discipline for Software Engineering*; Watts Humphrey; Addison-Wesley; 1995 pg. 84

[8] *Why Software Fails*; Robert N. Charette; IEEE Spectrum; September, 2005

Can Parametric Estimates Beat the Experts?

H.S. van Heeringen

Sogeti Nederland B.V., department of Sizing Estimating & Control

Introduction

In this article, the differences in estimation accuracy between expert estimates and parametric estimates in Sogeti Nederland B.V. are measured, as well as the time that it takes to perform the estimation tasks. The expert estimates are carried out by some of the experts in the Sogeti Center of Excellences (Java, Microsoft and Oracle). They are all experienced experts in the technology. The parametric estimate is carried out by measuring the functional size of the software system to be developed in function points. This is done in the department of Sizing, Estimating and Control of Sogeti, which is a separate Center of Excellence as well. The size is the main input for the parametric tool that is used in Sogeti, which is called the Sogeti Estimating Wizard. In Sogeti Nederland, the bid process dictates that for every project bid, both an expert estimate and a parametric estimate has to be carried out, after which the final estimate has to be agreed on by both parties.

Parametric Estimates: The Estimating Wizard (EW)

The Estimating Wizard (EW) is a tool that was built by Sogeti Nederland B.V. to estimate new projects faster, cheaper and better. It combines some of the well-known metrics models from literature with the experience project data of Sogeti. The Estimating Wizard is used to estimate new development projects for software that resides in the business application software domain. Completed projects from this domain are used to calibrate the wizard periodically.

Since its first version in 2006, the wizard has evolved into a sophisticated estimation tool. First there is a selection screen on which the most relevant variables have to be entered (Figure 1).

Functional design parameters	
Functional Design	Yes
Overlap	Yes, manually 4
Language	Dutch
Availability key users	Normal
Location	Sogeti office
Build and test parameters	
Development tool	Java
Construction	Onshore 100% Offshore 0%
Translation FD required	No
System test approach	TMap Heavy
System test strategy	100% NL
Tools/methodologies	Unknown
Complexity	Unknown
Development team	Unknown
Reuse	Unknown
General parameters	
Size	682 FP
Start date	01/01/12
Project control	2 hrs/week
Risk surcharge (%)	10 %
Warranty (%)	4 %
Organization type	Banking
Quality documentation	8
Non functional req.	More then average (+)
Scenario interval	2.0 weeks

Figure 1: Current input screen

continued on page 12

Parametric Estimates, continued from page 11

Sogeti experience shows that these are the input criteria that are considered to be of interest in the Sogeti bidding process and these factors will possibly also be applicable to other ICT suppliers. First of all it has to be clear whether the functional design phase is in scope of the estimate or not. Based on the input of a large number of Sogeti professionals in the functional design area, the estimation parameters were defined. The main parameters are size, language, location and the availability of the key users.

In the development tools list box, it is possible to choose from Java, MS.Net (web client or windows client) and a number of Oracle variants. This corresponds with the Sogeti Centers of Excellence, which are software factories specialized in the use of these development tools.

Next, we have to estimate the amount of work that is carried out in one of the offshore delivery centers. Most of the times a project is 100% onshore, or 100% offshore (which of course is not really 100% offshore, but only the technical realization activities are). However, there are occasions when it is considered to be wise to develop certain parts of the project onshore, while off shoring the remainder, for instance when requirements are not completely clear yet and it takes a lot of interaction with the client to make things clear. There are a number of different system testing variants: all, or part of the intake, design and execution of the test scripts is carried out either onshore or offshore.

Then, the appropriate TMap test strategy has to be chosen, which is dependent on the complexity of the system and the importance of the system to be bug-free after delivery. There are three test strategies available in the Estimating Wizard: TMap Light, TMap Medium and TMap Heavy. TMap is one of the world standards in testing methodologies, and is developed by Sogeti.

Then there are a number of parameters that are used to tune the project based on the actual characteristics, like the availability of tools and methodologies, the technical/functional complexity of the system (high, medium, low), the skills and experience of the development team and the amount of software reuse that is relevant. This is a rather subjective choice, but for experienced contract managers it is often not really a problem to make the right choice.

The size in function points is about the most important factor of the wizard. All employees in the department of Sizing, Estimating & Control are certified function point analysts

(NESMA, which is almost the same as IFPUG nowadays), and every size measurement is reviewed intensively by a certified function point analyst before the size measurement can be used.

The start date of the project is the moment the first team member is going to work on one of the project deliverables. After entering the input variables, the Estimating Wizard calculates the solutions and returns the following screen:

Figure 2: Current output scenario screen.

Functional design phase	
Duration in weeks	10.2
Duration in months	2.3
Design complete	12/03/12
Total effort	692
Effort per FP	1.64
Effort cost	\$ 73,012
Additional cost	\$ 5,187
Totaal cost	\$ 78,199
Cost per FP	\$ 185
Average team size	2.03

Build and test phase	29.6	31.6	33.6	35.6	37.6	39.6	41.6
Duration in weeks	29.6	31.6	33.6	35.6	37.6	39.6	41.6
Duration in months	6.8	7.3	7.7	8.2	8.6	9.1	9.6
Start phase	3/04/12	3/04/12	3/04/12	3/04/12	3/04/12	3/04/12	3/04/12
Effort	20,066	15,454	12,095	9,600	7,717	6,274	5,153
Effort per FP	17.87	13.76	10.77	8.55	6.87	5.59	4.59
Effort cost	\$ 1,886,073	\$ 1,452,606	\$ 1,136,814	\$ 902,360	\$ 725,350	\$ 589,693	\$ 484,317
Additional cost	\$ 174,560	\$ 135,361	\$ 106,803	\$ 85,602	\$ 69,594	\$ 57,327	\$ 47,797
Totaal cost	\$ 2,060,633	\$ 1,587,967	\$ 1,243,617	\$ 987,962	\$ 794,945	\$ 647,019	\$ 532,115
Cost per FP	\$ 1,835	\$ 1,414	\$ 1,107	\$ 880	\$ 708	\$ 576	\$ 474
Average team size	20.19	14.56	10.72	8.03	6.11	4.72	3.69
Risk, warranty and Sizing, Estimating & Control (SEC)							
Risk hours	2,229	1,768	1,432	1,183	994	850	738
Risk cost	\$ 231,240	\$ 183,973	\$ 149,538	\$ 123,972	\$ 104,671	\$ 89,878	\$ 78,388
Warranty hours	892	707	573	473	398	340	295
Warranty cost	\$ 92,496	\$ 73,589	\$ 59,815	\$ 49,589	\$ 41,868	\$ 35,951	\$ 31,355
SEC hours	67	71	75	79	83	87	91
SEC cost	\$ 7,416	\$ 7,856	\$ 8,297	\$ 8,738	\$ 9,179	\$ 9,620	\$ 10,060
Total							
Duration in weeks	43.0	45.0	47.0	49.0	51.0	53.0	55.0
Duration in months	9.9	10.3	10.8	11.2	11.7	12.2	12.6
Delivery for acceptance	27/10/12	10/11/12	24/11/12	8/12/12	22/12/12	5/01/13	19/01/13
Total effort	25,481	20,228	16,401	13,562	11,419	9,778	8,504
Effort per FP	22.69	18.01	14.61	12.08	10.17	8.71	7.57
Totaal cost	\$ 2,643,546	\$ 2,105,147	\$ 1,713,030	\$ 1,422,023	\$ 1,202,424	\$ 1,034,230	\$ 903,680
Cost per FP	\$ 2,354	\$ 1,875	\$ 1,525	\$ 1,266	\$ 1,071	\$ 921	\$ 805
Average team size	17.68	13.41	10.41	8.26	6.68	5.50	4.61
Average hourly rate	\$ 104	\$ 104	\$ 104	\$ 105	\$ 105	\$ 106	\$ 106

The optimal duration is calculated and in this case it is 49 weeks. The estimation of the delivery date (for customer acceptance test) is on December 8, 2012. The total number of effort hours estimated is 13,562 hours. The productivity rate, the total price and the price per function point are calculated. The total price is built up by multiplying all the effort hours by the appropriate hour rate and adding the total amount of costs (workstation use, translation costs and other costs).

Furthermore, these figures are also calculated for six scenarios: in this case 2, 4 and 6 weeks shorter duration and 2, 4 and 6 weeks longer duration because the scenario interval in the input screen is set to a 2 week interval. The client can then decide if the project should be faster or slower than optimal and he can base his business case on this. It might be

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Value from IT?

...MORE with DCG



Software Sizing Classes:

- Function Point Analysis
- CFPS Exam Prep
- Function Point Boot Camp
- Quick and Early Function Points
- Software Metrics
- Software Estimation

Consulting Services:

- Function Points
- Agile Sizing
- Agile
- Metrics & Estimation
- CMMI
- CIO Handbook: IT-CMF



david consulting group

very reasonable, for instance, to go for the 6 weeks earlier scenario, when the time-to-market of the system is fixed by political decisions.

Expert estimates

For every bid, the most qualified experts that are available in the specific Center of Excellence are asked to study the documentation and come up with an estimate. This estimate is called the 'expert estimate', but in reality the estimate is often broken down into pieces, for which different experts are responsible:

- Functional designer – hours needed to make or complete the functional design
- Technical architect – hours needed to make the technical design, to code and to perform the programmers test of the system;
- Test professional – hours needed to make the test cases, execute the systems test and possible other tests;
- Project manager – hours needed for overhead and risk management.

After all the experts have completed the estimate of their part of the work, the estimate is aggregated and the overall expert estimate is completed.

Results

The last few years a large number of bids have been estimated with the Estimating Wizard. In this paragraph the results of ten representative estimates are compared to the results of the expert estimation (usually carried out by technical architects and engineers) in relation to the final results of the projects after realization. In order to analyze the results, three metrics have been used for both the Expert estimate and the Estimating Wizard estimate (including functional size measurement):

- Effort Accuracy (Effort Estimate / Actual Effort)
- Duration Accuracy (Duration Estimate / Actual Duration)
- Cost Accuracy (Cost Estimate / Actual Cost)

The results are given in Table 1.

Table 1: Estimate accuracy results

Project	Size (FP)	Expert				Estimating Wizard			
		Effort Accuracy	Duration Accuracy	Cost Accuracy	Time Spent	Effort Accuracy	Duration Accuracy	Cost Accuracy	Time spent
Project 1	277	0.675	1.545	0.467	30	0.477	1.204	0.501	17
Project 2	359	0.579	0.951	1.139	35	0.707	0.775	1.170	26
Project 3	347	0.589	0.142	0.615	40	1.067	0.996	1.283	14
Project 4	1,178	0.414	0.557	0.312	60	0.774	0.590	0.862	55
Project 5	951	1.430	0.997	0.946	34	1.067	0.877	1.718	24
Project 6	295	0.763	0.857	0.619	26	0.881	1.200	0.845	6
Project 7	790	0.717	0.850	0.976	34	0.926	0.865	1.132	27
Project 8	350	1.258	0.800	1.309	28	1.203	1.096	1.318	20
Project 9	746	0.586	0.296	0.545	34	0.826	0.385	1.953	22
Project 10	2,293	0.766	0.421	0.797	40	0.931	0.632	1.058	14
Average	759	0.778	0.742	0.772	36	0.886	0.862	1.184	23
Standard dev	625	0.319	0.405	0.316	10	0.207	0.272	0.423	13
Median	553	0.696	0.825	0.708	34	0.904	0.871	1.151	21

The closer the accuracy value is to 1, the better the estimate was compared to the actual result. In Table 2 the overall metrics are given.

Table 2: Estimate accuracy results

	Expert Estimate	Est. Wizard Estimate
Effort Accuracy		
Average	0.778	0.886
St.Dev.	0.319	0.207
Median	0.696	0.904
Duration Accuracy		
Average	0.742	0.862
St.Dev.	0.405	0.272
Median	0.825	0.871
Cost Accuracy		
Average	0.772	1.184
St.Dev.	0.316	0.423
Median	0.708	1.151

It's evident that the average and median Accuracy results of the Estimating Wizard estimates are closer to 1 than the Expert Estimates. McConnell states that expert estimates are usually optimistic (up to 30%). This statement is clearly supported by the data in this sample, showing expert underestimation for effort, duration and cost. The Estimating Wizard also underestimates effort and duration in most cases, but

overestimates costs. This could for instance be explained by a larger percentage of actual offshore work than estimated. Additional analysis is necessary to see whether this is really the case.

Another observation that can be made on the results in Table 1 is that the Estimating Wizard estimates are actually carried out in fewer hours spent than expert estimates. This contradicts one of the most heard argument against using functional size measurement and parametric estimation, that it costs a lot of effort to do the analysis. Apparently expert estimates also take some time, at least within Sogeti this is the fact. The main reason is probably that the expert estimates are usually carried out by more than one person. The technical architect estimates part of the work, but also the lead engineer and the test manager may do their own estimates. Later these estimates are then aggregated by the contract manager. In fact, all these people have to read the documentation, analyze it and then estimate it. The contract manager then has to puzzle and fit the different estimates into one quotation while being cautious that no activities are forgotten. Therefore, the more people are involved, the higher the number of hours spent on the expert estimate.

Conclusion

The results of the accuracy analysis of the estimates show that the tool is actually more accurate in most of the cases for effort, duration and costs. The results have to be analyzed into more detail to see why the duration and effort are underestimated and costs are overestimated by the tool.

Editors Note: As with many estimating support tools, size (best expressed in function points) is the key input. This paper outlines the considered results from the use of an internally devised tool using functional sizing as a core basis against “expert” opinion based estimating, within an environment where reliable estimation is considered important. We would be interested in publishing similar studies or stories from different environments.

Introduction to SNAP: Software Non-Functional Assessment Practices 2.0

Abinash Sahoo, Amdocs
Member of IFPUG NFSS Committee

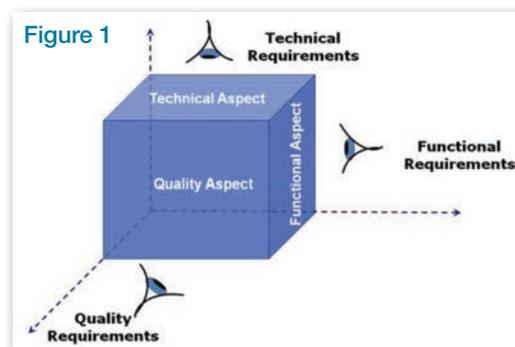
What is SNAP?

If software is viewed from a three dimensional perspective, there are three different aspects associated with it, as shown in Figure 1.

The Functional aspect covers the Functional Requirements or the ‘what’ part of the software. It is usually measured in Function Points (FP).

However, there is no accepted industry standard for sizing and measuring the Technical and Quality aspects of the software.

Recognizing this gap, the IFPUG community developed a process—the Software Non-Functional Assessment Practices (SNAP).



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Introduction to SNAP, continued from page 15

SNAP Objectives & Benefits:

Objectives	Benefits
<p>SNAP measures software by quantifying the size of the non-functional requirements (NFRs). With this in mind, the objective of SNAP is:</p> <ul style="list-style-type: none"> • Measure non-functional size of the software that the user requests and receives • Measure software development and maintenance based on NFRs 	<p>Organizations can use SNAP along with FP to measure the complete size of the software to be delivered and hence:</p> <ul style="list-style-type: none"> • Better plan and estimate projects • Efficient scope management • Better communication with stakeholders on NFRs • Build better benchmark

Foundation of SNAP Model:

The big question the SNAP team faced when it started working on this model was if we have a non-functional requirement (NFR) to address, can there be a single unique solution in the world to solve it? How can we classify the different non-functional requirements we come across?

After a lot of research in different projects and organizations, we have found that there is no agreement on a single unique solution to address a non-functional requirement. Some measuring techniques propose factors that are applied on the functional size (such as IFPUG's General System Characteristics (GSCs)). However, the non-functional requirements may take anything between 0% and 100% of the project's effort. Their size is very often independent of the functional size.

An example to demonstrate the difficulty is a performance improvement requirement. Such a requirement can be met by either upgrading the hardware or by database tuning or tuning the database access queries in the application. It can also be a combination of one or more of the options.

How can this requirement be sized? Can one "performance size" fit all possible solutions, and be used to estimate effort?

SNAP has an answer.

SNAP categories and sub-categories are defined to measure the way that the non-functional requirements are met. They are orthogonal to the requirements. Users can map any non-functional requirement to the relevant sub-categories, and size the sub-categories. The size of such a requirement is the sum of the sizes of its sub-categories.

Figure 2 shows the non-functional definition as proposed by ISO/IEC 25010. Figure 3 demonstrates the mapping.



Figure 2



Figure 3

What are Categories & Sub-categories?

The heart of the SNAP framework is comprised of four Categories, which include 14 detailed Sub-categories. (These Sub-categories bear no relation to the 14 General System Characteristics and the consequent generation of a Value Adjustment Factor). Non-functional requirements can exist even when there is no specifically relevant functional size. We can have an entire project which would deliver only quality aspects, such as Performance, Maintainability, Usability, Security etc. without directly impacting any basic functionality of the software. SNAP can be used to measure the quality and technical requirements for such a situation.

A Category is defined as a group of components, processes or activities that are used in order to meet the non-functional requirements (NFR).

A Sub-category is defined as a component, a process or an activity executed within the SNAP Counting Unit (SCU), to meet the project's NFR.

Categories do not replace or redefine NFRs; they define how these NFRs are met.

The Categories and Sub-categories are listed in Figure 4.

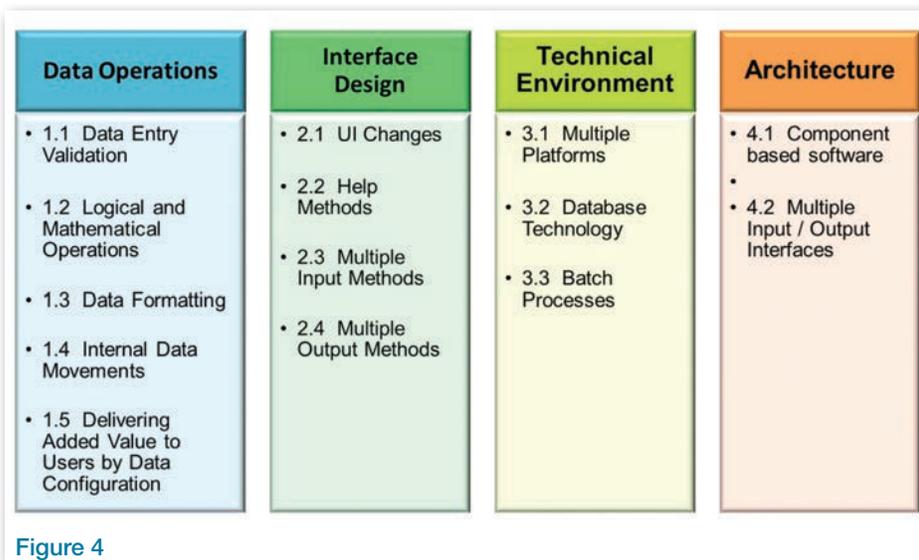


Figure 4

Example: Sizing performance

Hardware changes that do not impact the software will not be measured, although they certainly add cost to the project.

Database tuning (adding indices, changing primary keys, adding views) will be measured and sized by SNAP. Improving the queries and the access to and from the database will also be measured and sized by SNAP.

SNAP Calculation Process

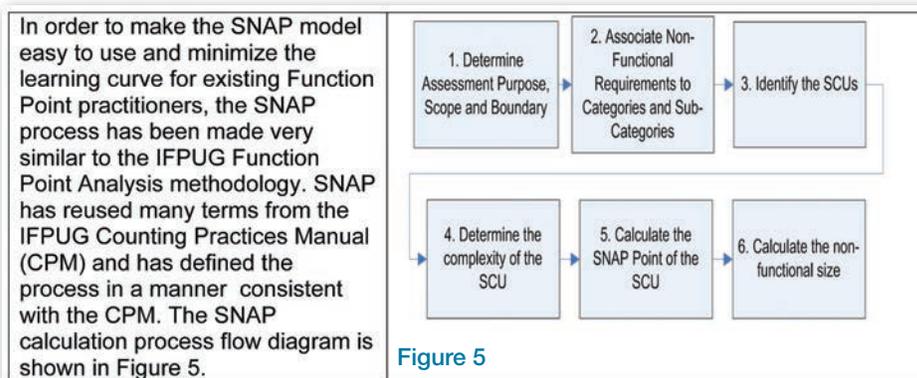


Figure 5

SNAP and FPA

A requirement may contain both functional and non-functional aspects. Functional size is measured in Function Points (FP); Non-functional size can be measured in SNAP Points (SP). A Requirement should be broken into its functional and non-functional components. The segregation of functional and non-functional requirements should be agreed by both the users and developers. Projects can use FP for Functionality measurement and SP for measurement and consequent estimation of Non Functional related tasks.

FP and SP are designed to be complementary. Together, they size all types of requirements.

SNAP Beta Test

After the SNAP framework was ready, the model was put out for beta testing by organizations around the world. The objective of the beta test was to test the usability and strength of the model and to calibrate the framework based on the test results. 14 different companies from 10 countries across the globe participated in the beta test. A total of 75 projects were submitted out of which 58 were used for statistical analysis.

Beta participants received the APM (SNAP Assessment Practices Manual), a data collection tool, and presentations to explain how SNAP is used. During the Beta test, a SNAP mailbox was established to log questions and issues and to provide quick replies by

the SNAP team. The issues and questions were also used to improve the APM.

The purpose of the SNAP beta test was to repeat the spirit of Dr. Allan Albrecht's test of the initial version of the function point methodology, as documented in his 1977 paper "Measuring Application Development Productivity." Our beta test, in a way

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Introduction to SNAP, continued from page 17

similar to Dr. Albrecht's function point test, found a statistically significant correlation between SNAP count size and work effort using a statistically large sample size of 48 applications containing over 500 data entries. The r^2 for the correlation between SNAP count and work effort was .89, the Spearman rank correlation was .85, the corresponding p-values for both tests was below .0001, and the test for randomness in the regression model passed the runs test.

These statistics mean that for this beta test, SNAP size was 89% of the reason for the work effort expended (the other 11% may result from different software languages, teams skills, counting errors, etc.)

The results demonstrate the robust, logical, statistical and scientific significance of the SNAP framework.

The Road Ahead

The IFPUG SNAP team encourages organizations to start implementing SNAP in various projects. The SNAP team will continue to collect data & feedback from organizations for future research and improvement of the model.

We encourage organizations to use the IFPUG bulletin board for SNAP to discuss SNAP issues, ask and answer SNAP queries and watch out for latest updates and announcements.

<http://ifpug.mymemberfuse.com/groups/profile/view/groupid/4533>

Write to nfssc@ifpug.org for more information.

Committee Reports

Communications and Marketing Committee

By Melinda White, Chair

CMC Provides multi-language support for IFPUG.ORG

Since the last issue of *MetricViews* was published back in July, the Communications and Marketing Committee (CMC) has been busy looking for ways to improve the member experience on www.ifpug.org. Because we provide testing materials in multiple languages, it only made sense to improve our 'global footprint' by offering our primary website content in multiple languages as well.

Through the use of Google Translate, a button has been placed on all static pages of the website that will allow the user to select from over 40 languages. Translations are then dynamically generated, and while we understand that these types of translations are by no means perfect, they offer our organization a cost effective method (the service is currently free while it's in beta) for providing content in multiple languages to our members.

At ISMA⁷, members of the CMC met with the other committees present to determine how we can best serve our members and support other committees. Based on that feedback, it was decided that we will undertake another revamping of the website in 2013.

In 2012, we focused on moving our platform to a member-maintained solution for making website updates. We slashed

our hosting/programming costs by several hundred dollars each month. This came at the expense of losing some flexibility in design and the move did not include updates to the actual content of the website.

Now that we're stable, we're focusing on bringing you more updated content, and making the design a little more user friendly. We'll be sending out a survey later this year requesting feedback on the website and ideas that you have that would improve your member experience.

So visit us at www.ifpug.org and see what's changing.

IT Measurement Analysis Committee

By Dawn Coley, Chair

The IFPUG Board of Directors is proud to announce a new committee, the IT Measurement and Analysis Committee (ITMAC). The ITMAC was formed as evolution of the IT Performance Committee (ITPC) and Management Reporting Committee (MRC). Since the Non-Functional Sizing Standards Committee had already been spun off from the ITPC after the publication of APM 1.0, it left only the Benchmarking activities on the ITPC. At the same time, the MRC was wrapping up the editing activities on the IFPUG book that was published in the spring of 2012. The MRC was preparing to define the next phase of its existence. This provided a unique opportunity to capitalize on the strengths of the ITPC and the MRC. The

decision was made to merge the remaining portion of the ITPC with the MRC to form a new committee that would focus on measurement and analysis. Consequently, the IT Measurement and Analysis Committee (ITMAC) was formed. The ITMAC has been defining its mission and goals, and setting the directions for the next focus area.

The ITMAC mission is:

“The ITMAC is responsible for providing guidance, based on a sound collection of software measurement data that assists IFPUG members in understanding, planning, collecting, managing, reporting and improving software engineering processes and practices, such as estimating processes.”

The Board would like to thank all current and past members of both the ITPC and MRC for their hard work and dedication and looks forward to working with the ITMAC in providing valuable deliverables to the IFPUG membership.

The ITMAC currently consist of the following resources:

Chair: Dawn J. Coley

Vice Chair: Joanna Soles

Members: Pierre Almen, Sivasubramanyam Balasubramanyam, Dr. Luigi Buglione, Heidi L. Malkiewicz, Jalaja Venkat.

Membership Committee

By Roger Heller, Chair

The Membership Committee has broadened our reach by adding Dácil Castelo (Spain) to our team to represent our European members' interests. With the addition of Dácil to our team we hope to not only better represent Europe but to also extend IFPUG's influence into other South American countries. The IFPUG archive currently contains over 300 presentations and papers that have been delivered at IFPUG conferences going back to 1999. We are anxious to make this information available to the membership and are working to determine the best delivery mechanism. We will continue to add to the repository once this initial installment of the archive has been implemented. Our long term goal is to have the complete history of IFPUG available for both members and non-members to research and reference. We are working with other committees and have undertaken several activities all designed to make membership to IFPUG more accessible and useful. The success of our committee is tied to how well IFPUG supports your needs. Please don't hesitate to let us know if there is anything we can do on your behalf to help make your participation in IFPUG more valuable. Please feel free to contact us through the Membership Committee group on IFPUG ISMA Insights or through the IFPUG office.

Non-Functional Sizing Standards Committee

By Talmon Ben-Cnaan, Chair

Greetings to the IFPUG Membership from the newly formed Non-Functional Sizing Standards Committee (NFSSC).

After two years of working on the creation and refinement of the non-functional sizing standard, also known as SNAP, IFPUG is ready with Release 2.0 of the APM. For future development of the APM and other SNAP related assets, the Non-Functional Sizing Standards Committee has been created.

Prior to release 2.0, a Beta test was conducted. The purpose of the SNAP beta test was to repeat the spirit of Dr. Allan Albrecht's test of the initial version of the function point methodology, as documented in his 1977 paper "Measuring Application Development Productivity." Users from 10 countries in the Americas, Europe and Asia, and 11 different industries, were trained on SNAP, used it and sent us their results. Our beta test, similar to Dr. Albrecht's function point test, found a statistically significant correlation between SNAP count size and work effort using a statistically large sample size of 48 applications containing over 500 data entries. The r^2 for the correlation between SNAP count and work effort was .89, the Spearman rank correlation was .85, the corresponding p-values for both tests was below .0001, and the test for randomness in the regression model passed the runs test.

The NFSS Committee is responsible for the oversight and maintenance of the IFPUG SNAP Assessment Practices Manual, serving as a forum for sizing and estimating software non-functional requirements. The committee will also resolve issues in SNAP counting methodology; provide periodic guidance content for the members such as Case Studies, White Papers, Webinars, Helpful Hints and activity support and ensure promotion of SNAP and its assets.

Our Goals:

- Rollout SNAP to IFPUG members
- Train and mentor IFPUG members
- Support and ensure promotion of SNAP
- Resolve issues in SNAP methodology and its implementation and bring the APM to maturity by being attentive and responsive to the APM users.

Many thanks to the team members who worked on defining the SNAP framework and the creation of the APM. Special thanks to all the individuals and organizations that participated in the reviews and the beta test, and provided us useful feedback.

Functional Sizing Standards Committee

By Tammy Preuss, Chair

The Functional Sizing Standards Committee did its 2013 strategic planning at ISMA⁷ in October. This was the first opportunity the newly formed committee was able to meet in person. After reviewing many suggestions for research topics from membership, other IFPUG committees & FSSC members, the following 4 areas were selected to work on in 2013:

- 1) Sizing projects that are not identified in the Counting Practices Manual. These would be projects that aren't new development, enhancements or application counts. Examples would include testing only projects, configuration projects, etc. There are many possibilities with this broad topic.
- 2) Data Analytics (Business Objects)
- 3) Counting Practices Manual mentoring (tips and ways to use the CPM)
- 4) Using Function Points in Agile

Look for iTips (tips on counting), uTips (FP usage tips), white papers, and YouTube videos in 2013 from the FSSC.

Certification Committee

By Greg Allen, Chair

The Certification Committee has been busy lately with several activities:

- The CFPS Exam version 4.3 has been translated into Italian
- Regional exams have been administered in two countries
- Certification Extension Program has been enhanced
- Certified Function Point Practitioner certification has been added
- Changes to the Certification Committee team members

As the Counting Practices Manual 4.3 is translated into more languages the Automated and Regional Certified Function Point Specialist exams need to be translated so the candidates are tested against the most current version of the CPM. In August the Italian Automated CFPS exam was published thanks to the hard work of has been updated to test against the CPM version 4.3. A special thanks to Massimo Beretta, Daniele Zottarel and Nicoletta Lucchetti who were the reviewers and testers for the new automated CFPS Italian 4.3 Exam.

The Spanish and Japanese CFPS exams are not available in the automated exam format but they are available as Regional exams. We have had Regional CFPS exams administered in

Madrid, Spain and Tokyo, Japan this year. The automated exams are currently available in English, Italian, Korean and Portuguese. The regional exams are available in Japanese, Mandarin and Spanish.

The Certification Extension Program was enhanced this year. The ability to attain a 1, 2 or a 3 year extension is now available. There have also been changes on the rules applying Certification Extension Activities. The CFPS Certification Extension Overview can be found on the IFPUG web site at www.ifpug.org/?page_id=312. The number of CFPS that have been taking advantage of the CEP has increased significantly in the last few years.

Another addition to the Certification program this year is the Certified Function Point Practitioner designation. This is a recognition of the certification candidates who attain at least an 80% overall score on the CFPS exam and at least 70% in each section of the exam. The requirements for the CFPS exam continue to be the high standard of 90% overall and 80% in each section. Only one certification can be earned even though all candidates who earn the CFPS have also met the CFPP standard.

We have had some changes to the members on the Certification Committee. Mahesh Ananthkrishnan is the Vice Chair, Jim McCauley the former Vice Chair will continue to be a Certification Committee member. Huge thanks to Jim for his service as Vice Chair and a thanks to Mahesh for taking on the additional responsibility. I would also like to introduce our newest committee member, Prashanth CM. He joined the Certification Committee in October.

International Standards (ISO) Committee

by Carol Dekkers, CFPS, PMP, CMC – Vice Chair

2012 was a year of continued activity with the ISO community both in the U.S. and internationally. IFPUG participates in the development of functional size measurement (FSM) and benchmarking standards through our Category "C" liaison with the ISO/IEC JTC1 SC7 Information Engineering (internationally) which gives us input through comments but we are not considered a national body. We also participate on a national level as part of the U.S. formal delegation to the same ISO body. What this means is that IFPUG wears two hats – one as a recognized liaison body with stature as a measurement organization at the international level, and as a member body as part of the U.S. (where we assist in formulating the U.S. position on ballots).

Our IFPUG participation included two international trips including the SC7 plenary (Jeju Island, South Korea in May 2012) and the SC7 interim meetings (Buenos Aires, Argentina in November 2012); and two domestic U.S. meetings (a requirement as a member of the U.S. Technical Advisory Group/TAG to SC7).

Behind the Scenes

By *Connie Holden, Executive Director*

Welcome to the first of the “Behind the Scenes” articles for *MetricViews*. The headquarters office works towards providing the members of IFPUG with the services they require, enrollment assistance, answers to questions on membership and certification, conferences, workshops and purchases of publications. Recent changes to the website, database and the addition of an online store show the direction we are headed. In upcoming issues of *MetricViews* we will continue to update you as to how to make the most of your membership. We have been fortunate to have Liz Bertolotti join the IFPUG team and many of you have had email contact with her regarding the ISMA⁷ Conference and CFPS certification. We would like to remind examinees that electronic certificates take 5 – 10 business days to be sent out. Results from Prometric are provided to the Certification Committee once a week for their review prior to the Headquarters Office receiving the results. The certificates are then created as well as the member’s profile being updated. This new procedure means you no longer need to wait until the end of the month for your certification to be viewable on the website.

We are continually working towards providing the membership services as easily and quickly as possible. The new website and Member Services Area continue to be updated and enhanced. If you have any comments or suggestions, please let us know.

The IFPUG Bulletin Board has been greatly missed and the new replacement is beginning to take its place. IFPUG ISMA Insights is the new bulletin board that is accessible to all IFPUG members as well as visitors. It is the perfect place to ask questions and have conversations with other IFPUG members. A video explaining the process for visitors to sign up for access has been posted on the IFPUG website. Members can access this area from the Member Services Area. Invite your friends and colleagues to get involved.

The ISMA⁷ Conference was held in Phoenix and the response from the attendees was very positive. With success under our belt, the planning for ISMA⁸ will begin shortly. Please check the IFPUG ISMA Insights area for a discussion where you can let us know what you would like at a conference.

As always, we look forward to hearing from you at info@ifpug.org.

WEBSITE TIP: If you check the box at the bottom of your personal information that says DO NOT PUBLISH none of your information will be viewable on the Individual/CFPS Listing search.



Functional Size Measurement standards activity

This year there was maintenance of several standards in the suite related directly to function points. This resulted in the revision (through corrigendum) of several International Standards and affirmation of two 5-year old technical reports:

- ISO/IEC 14143-1: Information technology — Software measurement — Functional size measurement- Part 1: Concepts and Definitions (the main set of requirements for FSM)
- ISO/IEC 14143-2: ... Part 2: Conformity evaluation of software size measurement methods to ISO/IEC 14143-1
- ISO/IEC 14143-3: (Technical Report) ... Part 3: Verification of functional size measurement methods
- ISO/IEC 14143-4: (Technical Report) ... Part 4: Reference model
- ISO/IEC 14143-6: ...Part 6: Guide for use of ISO/IEC 14143 series and related International Standards

Note: the Technical Report for ISO/IEC 14143-5: Part 5: Determination of Functional Domains was not up for revision in 2012.

IT Project Performance Benchmarking standards development

Development of the IT Project Performance Benchmarking suite of standards (ISO/IEC 29155) has progressed – the framework standard (ISO/IEC 29155-1: Concepts and Definitions) was published as an international standard in 2012, and an additional two parts (29155-2 and 29155-3) are progressing through the international standards development process. We will continue to involve the IT Performance Committee and the International Software Benchmarking Standards Group (ISBSG) to provide comments and guidance in this development work.

Other Emerging Standards of Interest to IFPUG

IFPUG is also involved either directly or indirectly in ongoing work being carried out by NIST (Steve Woodward is participating on committees related to cloud computing standards), IEEE (we do not participate directly here), and our efforts are making headway with the Project Management Institute (PMI) and other industry recognized groups that publish standards.

If you or your company knows of industrial or corporate standards to which function points or IFPUG related input could contribute, please contact me and we can find a way to ensure that IFPUG function points are included. (Send an email to dekkers@qualityplustech.com.)

Upcoming ISO/IEC JTC1 SC7 meetings

2013 will feature the SC7 plenary meeting in Montreal, Canada in May 2013 with the WG10 (benchmarking subgroup) and WG6 (FSM subgroup) interim meetings yet to be determined for November 2013. The U.S. domestic meetings (March and September approximately) are still being finalized. Our work in 2013 will concentrate on the ISO/IEC 29155-2 and -3 standards with potential involvement in the new standard to replace ISO/IEC 12182 Categorization of Software (a WG6 project.)

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CRC Press is proud to be the publisher of *The IFPUG Guide to IT and Software Measurement*. This book brings together 52 leading software measurement experts from 13 different countries who share their insights and expertise. Covering measurement programs, function points in measurement, new technologies, and metrics analysis, this volume:

- Illustrates software measurement's role in new and emerging technologies
- Addresses the impact of agile development on software measurement
- Presents measurement as a powerful tool for auditing and accountability
- Includes metrics for the CIO

Edited by IFPUG's Management and Reporting Committee, the text is useful for IT project managers, process improvement specialists, measurement professionals, and business professionals who need to interact with IT professionals and participate in IT decision-making. It includes coverage of cloud computing, agile development, quantitative project management, process improvement, measurement as a tool in accountability, project ROI measurement, metrics for the CIO, value stream mapping, and benchmarking.

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The data is also used for estimating software development projects' productivity, cost, schedule, and staffing. Q/P has incorporated the benchmark database and our industry accepted project estimating methods into the only FP based project estimating tool available via the Internet.

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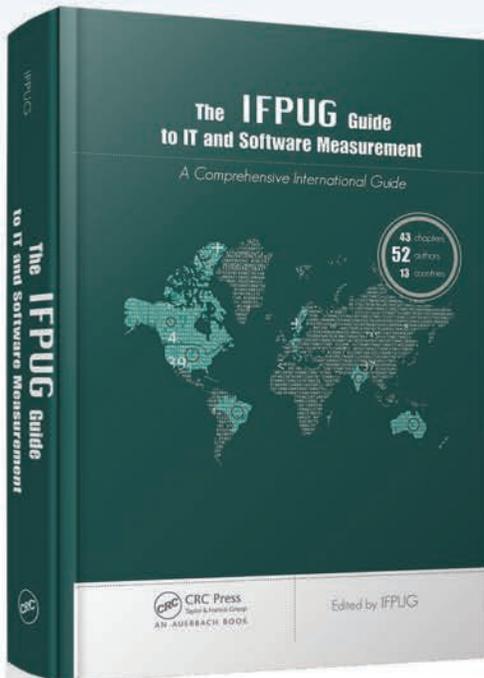
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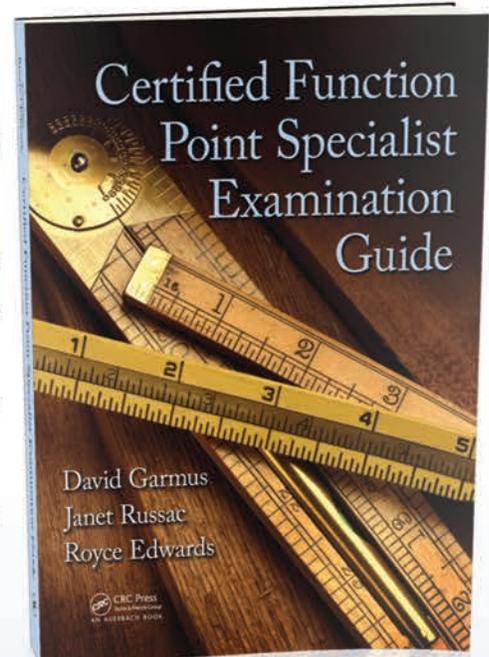
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Peace and Prosperity.*



*From the IFPUG Board of Directors
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