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MetricViews

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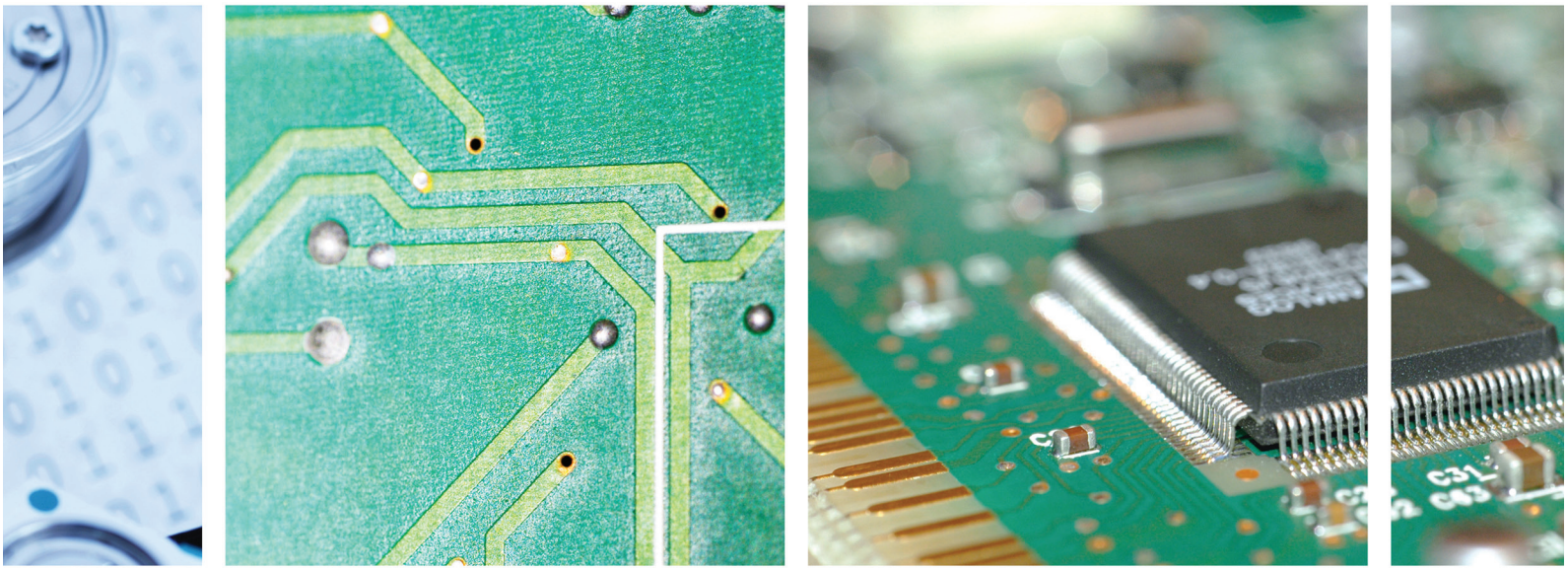
WHERE WE WERE, WHERE WE ARE, WHERE WE'RE GOING.



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Where we were, where we are, where we're going.

Seems like only yesterday we were trying to work out just how function points should work…..wait, that was yesterday.

Yes, function points – and how to use them - are still a work in progress. However, an enormous amount has been achieved – and learnt – in those thirty years, so we take a moment to ponder them in this issue.

But just a moment.

IFPUG is very much looking forward, as you can really feel if you read the message from our new President below.

And this issue of MetricViews bristles with new ideas. And updates on new initiatives and experiences.

Some experiences with SNAP have been documented – and they do make interesting reading. Certainly interesting enough to make it worth closer investigation.

Some variations on how to use and even think about function points have been aired within. Are they too complex? Are they taking function points too far? Not all uses of function points are for all – but there are many ways of taking advantage of the core knowledge and understanding of size.

One way is to keep it simple – and we talk about that.

We also have some in-depth not-so-simple discussions on some important technical issues related to sizing. And some more on automation – what does automation of sizing really imply?

Thirty years of existence is a small achievement – but 30 years of building a base that can propel software measurement into the next 30 years, that is a large achievement.

Message from the President

Kriste Lawrence

IFPUG - Where We Have Been, Where We Are, and Where We Are Going.

I want to start my first President's Message by thanking some people who are moving on to new positions.

Over the past two years, Joe Schofield has been a fabulous President, leading IFPUG with a strong, steady hand and level head. Joe will continue to serve on the Board as Past President for the next two years and continue to serve IFPUG on the Past Presidents' Council (PPC).

Tom Cagley has been elected Vice President and will serve in that role for the next two years. Most recently, Tom has held the role of Secretary and Director of Communications and Marketing, and is a former IFPUG President. Tom has encouraged us to use the creative commons method of publishing the rules for SNAP which accounted for over two thousand free downloads in the first calendar year. In the future, we hope to have additional publications available with this license.

Lori Holmes has been elected Secretary in addition to her role as Director of Counting Standards. Lori's Counting Standards committee has been extremely busy supporting the membership this year by developing the Certified SNAP Practitioner (CSP) exam, iTips and uTips among other items. Debra Maschino was re-elected to the Treasurer position and is taking a proactive view in growing IFPUG's capital so that we can invest in new products and services.

Mauricio Aguiar is continuing as Director of International & Organizational Affairs. Mauricio was instrumental in the success of the recent ISMA8 in Rio de Janeiro, Brazil. Christine Green continues as the Director of Applied Programs as well as continuing her involvement in additional development of materials related to SNAP.

I would like to warmly welcome Dácil Castelo to the Board position of Director of Communications & Marketing and Luigi Buglione as Director of Education and Conferences. Dácil has been a member of the Membership Committee. Luigi has previously been a member of the Education and Conferences Committee as well as a member of the ITMAC Committee. Both Dácil and Luigi are helping us to grow in Europe through supporting the upcoming ISMA9 Europe conference (coming in March of 2014).

While I have mentioned the 2013-2014 Board, I cannot fail to mention our two Board members who have recently left. Bruce Rogora, who has served as Director of Counting Standards, Vice President, President and Past President, is leaving the Board where he has served since 1997. Bruce's time on the Board follows a long period of volunteering on the Certification Committee. I wish Bruce well on his future endeavors and need to publicly thank him for his service. Steve Woodward has also left the Board and the position of Director of Education and Conferences. Under Steve's leadership, we have held conferences in Richmond, Phoenix, Ottawa and Rio de Janeiro. I would also like to thank Steve for his service on both the Board and the New Environments Committee.

And now, I'd like to talk about the rest of us and our future with IFPUG. IFPUG is driven by all of us - IFPUG members, IFPUG volunteers, IFPUG committee members, IFPUG partners (formerly referred to as vendors), and the IFPUG Board. We are what make it all happen. To show some of what we have done in 2013, here is a partial list of our accomplishments:

- Added many past conference presentations to the Resources section of ISMA Insights for review and use by our members
- Developed several uTips and iTips
- Developed the CSP exam
- Certified more than 20 Certified SNAP Practitioners (CSPs)
- Recognized six (6) individuals as CFPS Fellows (showing a minimum of 20 concurrent years as CFPS)
- Held a CIO Symposium in Ottawa, Canada
- Held ISMA8 in Rio de Janeiro, Brazil
- Held SNAP Train-the-Trainer classes
- Presented several SNAP workshops
- Changed our IFPUG graphic

Where are we going in the future? We are all ultimately involved in IFPUG in order to provide value to our end customers – those who use and find value in Size and other Measurements. Our mission is to be the world-wide leader in software measurement products and services. Our customers depend on IFPUG to create quality products and services. Our customers depend on our certifications. Our customers depend on the results of our counts and measurement for accurate billing and for productivity analysis among other things. Our customers need us to be innovative and creative.

The Board has recently updated a backlog list of ideas and initiatives to take us into the future. We are requesting your help in developing additional ideas and initiatives to add to this backlog list. During my presentation at ISMA8 in Rio, I asked for ideas from the membership. I was handed several ideas that day and have collected a few more since then. For those who were not in the audience that day or did not yet have a chance to respond, please send your ideas to president@ifpug.org. The Board is in the process of adding to the backlog and evaluating the priorities of the items on the list. Your ideas and input will help us make certain that the priorities are aligned with our current and future needs.

In short, WE all need to work together to make IFPUG's future as bright and innovative as it can be. Let's increase our value by providing relevant, industry-shaping products and services to our customers!

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From the Editor's Desk

Paul Radford

Thirty years of IFPUG is definitely a cause for celebration.

Yet it has also been a period of great frustration. The Holy Grail has not yet been grasped. The demand and interest in software measurement is less today than it was 30 years ago.

When I first started in metrics – straight from a Project Management/ Business perspective – I thought that, once we had provided the "perfect" counting tool, the use of metrics and function points would naturally spread across the market place. The capabilities to analyse, forecast and compare were exactly what business and IT management had been requesting for decades. And I had found a thriving international industry organization (IFPUG) and, with it, people with data and experience to share.

All over the world, we found a ready market for the vastly improved estimating concepts that function points could offer. Performance benchmarking followed quickly and successfully. Then we found ourselves doing scope management, asset valuation, dollar per function point calculations and consequent "refereeing" – and then conflict. Long term contracts based on function points have changed the game further, in that consistency and economy have become the driving forces. IFPUG's response to these multiple masters has been to attempt to create one measure for all, and that has manifested itself in a complex suite of too-many rules. In turn, this has often discouraged both those who seek consistent perfection and those who seek a pragmatic and useful measure.

Like most things, this outcome reflects both the strengths and weaknesses of IFPUG and IFPUG function points. An analysis technique, by definition, does not lend itself to easy definition. And whilst the basics of measurement in software, as in many things, can be used for many purposes, one measurement process for all situations is a two edged sword. Attempts to increase consistency in IFPUG rules have sometimes led to a lessening in utility, accuracy and simplicity. We still argue about interpretation of the rules, yet we consistently and successfully settle cost disputes between stakeholders with transparency and fairness.

But success breeds failure, and many of the large and complex metrics programs initiated in those heady early days failed in their grandiose purpose and were ended as expensive and, to a large degree, irrelevant failures. Some fulfilled a temporary purpose; others survive, sometimes with little change, and have provided substantial business benefits over a lengthy and valuable period. New programs with more practical terms of reference arise every day; our success rate is climbing.

Yet many of the questions and most of the answers remain the same. Much of it is about communication with business. For the IT marketplace we have a valuable message, but we have to make people understand its value to them.

And the opportunities still lie in front of us.

Reducing the Costs of Benchmarking: Simple Function Points

By Robyn Lawrie, CHARISMATEK Software Metrics

Introduction

The benchmarking of software delivery processes is a standard activity for good governance of ICT. For this, an organisation may make use of external benchmarking specialists, benchmark in-house or take a hybrid approach. However it is done, there is usually a significant cost associated with the benchmarking.

A key contributor to the cost is the activity of measuring the output produced by the software delivery processes – the size of the software. The dominant method used for sizing is Functional Sizing and, more specifically, International Function Point Users Group (IFPUG) Function Point Analysis. The IFPUG method has been in use for several decades, and associated benchmarking databases, both public and private, are well established.

The method, however, is somewhat difficult to learn and apply. The complexity of the rules often leads to different interpretations and confusion and means that specialized skills are needed for successful application. All of these issues contribute to the cost of sizing.

Recently, two new but very different initiatives have sought to address some of these difficulties, Automated Function Points and Simple Function Points. There has already been some industry discussion about Automated Function Points but the research which has produced Simple Function Points has flown quietly under the radar.

This research seeks to reduce benchmarking costs by simplifying the IFPUG method for sizing the software product. The outcome of this research is discussed in this article.

Simple Function Points – The Impetus

Why try to simplify the Function Point sizing method?

The use of Function Point Analysis has waxed and waned over the years, for a variety of reasons.

Anecdotally, those organisations who have implemented the method often find it just too hard to build and retain the knowledge needed for the successful implementation of the technique and even where they do, find the cost of sizing more than they wish to spend.

In more formal research, the Forrester Group released a report in 2009 entitled *Function Points: A Critical Analysis of the Pros and Cons of Adoption.* While this report is a few years old now, in my opinion, its content is still true today. One of its findings pointed to the 600 pages of rules for the IFPUG sizing method rules as a significant barrier to take up.

Organisations want easy, fast and agile measurement methods while still achieving reliable results.

There are publicly-available as well as proprietary methods, which have sought to address these issues. An example is the David Consulting Group's FP Lite™ method (see http://www.davidconsultinggroup.com/insights/publications/fp-lite-an-alternative-approach-to-sizing/). Typically, these alternative methods adapt or simplify existing approaches and measure their success by assessing the size produced against the size from the more detailed traditional method.

The research behind Simple Function Points takes a different approach.

Simple Function Points – The Research

Data Processing Organisation (DPO) is a long-time established company in Italy specializing in software measurement and related services and innovative products such as the Early and Quick Function Points for IFPUG Function Point Analysis. Roberto Meli is DPO's CEO.

In late 2010, DPO initiated a research project with the objective of simplifying the sizing process. It specifically sought to:

"Define a new functional measurement consistent with the framework of the ISO 14143 family of standards, totally compatible with the IFPUG (method) when applied on the same object of measurement, but...

1. ***Easier to apply***
2. ***Easier to learn***
3. ***Less susceptible to different interpretations***
4. ***Less susceptible to "manipulation" of measurements***
5. ***Designed to allow an easier update of existing measurement assets***
6. ***Designed to allow an immediate conversion of existing assets counted with the IFUG method"***

The first two points are very important in addressing the issue of cost. Complicated rules take time to learn and are so very easy to misinterpret or to completely forget.

The last point, that of compatibility with the IFPUG method, ensures that existing organisation and industry assets in the form of benchmarking databases are preserved and can continue to be used. An issue with newer sizing methods, function points or otherwise, is that these database assets are essentially lost as there is no compatibility or conversion between sizing methods and collection of benchmark data must start anew.

For those who may not be familiar with the ISO-certified functional size measurement methods, there are two principal steps in the sizing.

- The first step analyses the software product and breaks it down into the functionality delivered. These functions are formally referred to as the Base Functional Components (BFC) and are more or less equivalent to functions as users of the software would see them.

- The second step assigns a weight or score to each function where the score attempts to express the complexity of the function. Both steps are governed by the rules for the specific sizing method. The scores for each function are then totaled to give the overall size.

The starting point in DPO's research was to question whether the second step, that is, assigning the complexity weighting, was actually making the resultant size measure any 'better' for its primary intended purposes of benchmarking and estimation.

DPO's initial research was conducted using a sample of about 800 projects from the International Software Benchmarking Standards Group (ISBSG) database. This study showed that:

"The accuracy of a model of correlation between actual effort and the software functional size does not decrease when considering only the number of BFC."

In other words, the extra precision of the further classification and detailed sizing of complexity was not delivering a better correlation of size to project effort. The effort of detailed sizing with its attendant cost was not increasing the usefulness of the resultant size obtained.

However, the size as simply a count of numbers of functions does not allow continued use of benchmarking data based on function points.

Thus the next part of DPO's research was to find a structured way of converting the simple count of functions for a software product to the Function Point size as would be obtained using the detailed IFPUG method. This 'same' size is in a statistical sense, of course.

The result is a conversion method which identifies two generic function types equivalent to the Transactional Function Type class and the Data Function Type class of the IFPUG method. Each generic function type is then assigned a constant single generic weighting, 4.6 for Transactional Function Type and 7.0 for Data Function Types. This simple assignment of weights is in marked contrast to the other tedious and lengthy processes required under the most prominent sizing methods.

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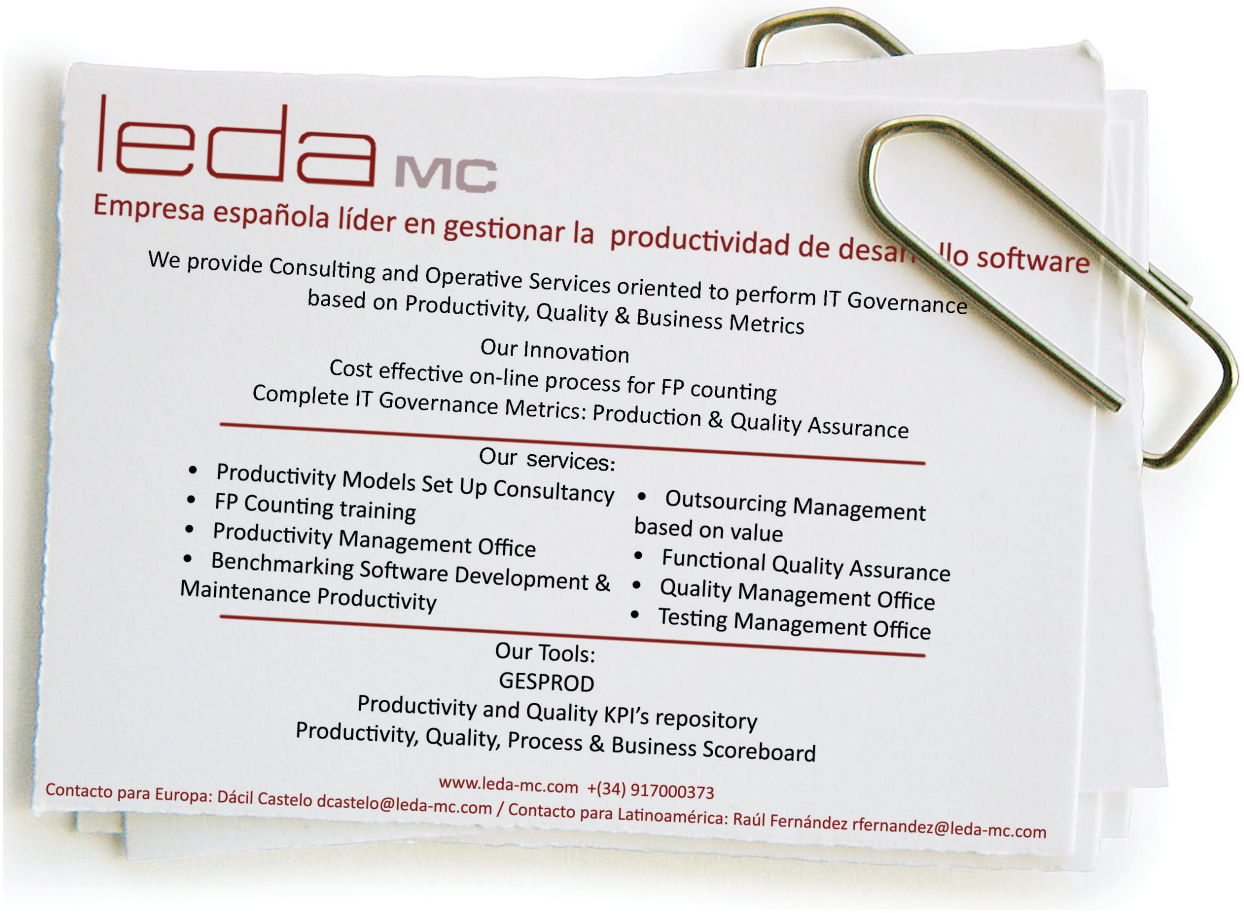

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As an observation, these values are very close to the IFPUG Average weightings.

Simple Function Points – The Outcome

The method has been named Simple Function Point.

The research findings were first presented by Roberto Meli to the United Kingdom Software Metrics Conference (UKSMA) in 2010. A copy of this presentation can be found at http://www.uksma.co.uk/conferences/conference2011/presentations/07RobertoMeliSimpleFunctionPointDescriptionV2.pdf. The method continues to be well received. Additional research by DPO in a small number of their client organisations has confirmed the same findings.

In June 2011, the Simple Function Point Association (SiFPA) was formed with Robert Meli as President. The SiFPA website, www.sifpa.org, has a lot of good information about both the association and the method. The website is in Italian but Google does a great job of translation, at least into English. A Measurement Manual is now available. Since the technique is compliant with the ISO 14143 framework, it is their intention, in time, to be ISO certified.

Simple Function Points – The Benefits

The key attraction of this method is the simplicity.

- The method can be easily learned in a day, rather than the 2-3 days of full IFPUG training. This immediately is a cost saving. Where there is less to learn, there is less to forget.
- The method is easy to apply. It uses the same rules for identification of functions as the IFPUG method but allows the complicated, often arcane, rules for complexity to be simply ignored.
- Sizing activity is 2-5 times faster than doing a complete detailed IFPUG count. This represents a significant cost reduction for benchmarking.

Importantly, it supports continued use of IFPUG benchmarking data so these assets are preserved.

My own organisation has long held the view that the additional effort of the detailed count was not delivering additional value and so we welcome this research supporting our observation and experience. The simple discipline of identifying all the functionality in a piece of software delivers immense value to an organisation or project, whether for benchmarking, estimating, or managing project scope.

Of course, there may be some push-back from some Software Metrics professionals who may see their skills as being devalued.

However, failure to listen to what the market actually wants usually ends in tears. In this regard, the Simple Function Point solution is worthy of serious consideration.

Robyn Lawrie is a director and principal consultant for CHARISMATEK Software Metrics, www.charismatek.com. She is the Vice Chair – Metrics for QESP and Vice Chair – International Function Point Users Group (IFPUG) Membership Committee. Robyn has more than 40 years of IT Industry experience. A major focus of her career has been the improvement of the software process in general and, in particular, the use of metrics in Software Requirements Management, Scope Management and Estimation.

Differences Between IFPUG and NESMA Function Points

By Pablo Soneira García, PMP, CFPS

Editor's note: *the author here is referring to NESMA guidelines for Software Enhancements, which are not actually part of the ISO approved NESMA method.*

Many times I have been asked about differences between IFPUG Function Points and NESMA Function Points. Many people mix up these concepts. Are IFPUG Function Points and NESMA Function Points the same? Without going into details, in this article I try to explain the similarities and differences between IFPUG and NESMA through a simple example.

History

We can say that the IFPUG Function Points and NESMA Function Points are cousins because they have the same grandfather, which is Allan Albrecht Function Points (Measuring Application Development Productivity, 1979).

The NESMA was founded in 1989 as the NEFPUG (Netherlands Function Point Users Group (Nowadays, NESMA). The NESMA manual focused on the application of function point analysis to software enhancement and maintenance.

Present situation

Despite this divorce between IFPUG Function Points and NESMA Function Points, the counting guidelines of NESMA and IFPUG continuously came closer and closer. With the publication of IFPUG CPM 4.2 (2004), the last major differences between IFPUG and NESMA disappeared. Both NESMA and IFPUG now use the same concepts and terms and the same rules and guidelines for Function Point Analysis. Their close relationship is demonstrated in the latest version of the IFPUG Function Point Counting Practices Manual (4.3.1, 2010).