

Summary of COFES 2006



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First a bit of introduction. COFES or the Congress on the Future of Engineering software was founded by Cyon Research and is a annual meeting of software vendors, users, and analysts where a free flow of ideas and concepts is encouraged. Guards really are let down at this event and it's not odd to see two major competitors discussing market problems.

I did not have a tape recorder so in many cases I am paraphrasing a speakers' words. In these cases I have indicated the "quote" by *italics*. My apologies if I got anything wrong.

Like [my report back in 2004](#), I have written up my thoughts and experiences at COFES 2006. I find that this no only allows others to benefit from the discussions but it makes me think about them a bit harder.

So often we do not really bring back anything useful from a discussion until we stop and think about what had transpired (usually because we are busing talking instead of listening). Writing these reports allows be to review the events and really get a better understand of what happened and what was said.

I hope you enjoy the article and feel free to continue the discussions in this thread.

<http://www.mcadforums.com/forums/viewtopic.php?p=36085>

Thursday

I arrived at the Phoenix airport Thursday around noon. Words of warning, if you are flying into Phoenix, do not check your bags. This is the second time I have had to wait over an hour to get my bag. At Tampa International Airport (my home airport) the bags are often on the carousel before you arrive.

That afternoon Peter Marks had a good discussion about the future of collaboration and “community”. He felt that currently the web was in a “me” mode. People post things that either they are interested in or through which they can make money. Perfect examples are just about any major corporate website and from a private perspective MySpace. His observation *that these kids on MySpace feel that they are described by this finite collection of hyperlinks* was very thought provoking. Peter asserts that the next phase of the web will be “community” based. He used an example of a (personally) disturbing site called SecondLife.com. In this community you create a virtual life, house, land, family etc. and can hold down a job and work. I’m not sure what motivation people might have to spend their time free time living a “second life” but to each their own.

Several audience members pointed out that there have been communities on the internet for year in the form of usenet (newsgroups). A gentleman from Microsoft comments that with all of the usenet groups he had observed that a clique of several members formed and that eventually they drove off most of the others. This electronic form of a bullying gang was the demise of many of the newsgroup. Up to this point I agreed. He then conclude that he had NEVER seen a group not fall to this type of behavior.

At this point I told the group that the Autodesk Inventor newsgroup was a perfect example of a community that worked and had not fallen victim to this. I explained that I, and a band of other early adopters had spent out time helping others on the NG in the early days. As time has passed I observed that a “new guard” of experts had sprung up and allowed us “old guard” users to not have to be as active. There were no cliques and no bullying. While I did not make this statement publicly I also feel that mCADForums.com is an excellent example of a site without these detriments.

Later that evening they had a reception where I got a chance refresh several friendships with attendees I had meet at COFES 2004 or at other events throughout the year. It was a beautiful evening (unlike 2004 when it POURED all weekend) and a good time was had by all.

Friday

The next day kicked off with the keynote speech by Alan Cooper, the father of Visual Basic and author of “the inmates are Running the Asylum”. Alan spoke on how Stop the Death March. By this he meant the relentless pursuit of shipping a product by a deadline or to meet certain parameters at the expense of everything else. I found Alan to be a very black and white sort of guy. In person as well as in his book he often places people or situations into one of two camps. People are either super technical (programmers) or are not (everyone else). The “techies” enjoy technology for technologies sake and forgive the defects in said technology without question, while the non technical people tolerate it.

Now what I find amusing is that just about everyone reading this article is probably a “techie” but I also feel that most of you also *tolerate* poorly designed technology. Most of us are in the middle. I, for one, love to experiment with new programming languages.

However I find the fact that I have to reset the video input on my VCR every time the power goes out (which it does frequently during Florida thunderstorms).

After the keynote we had an opportunity to visit a number of tech suites where vendors had set up demos of their software. I visited Adobe's suite where they were discussing their new 3D PDF technology. It allows orbiting, pan, zoom, hiding of parts, isolation, measure and markup. Unfortunately it does not yet support 3D motion controller support but the Direction of Engineering told me that if the customers thought it was needed, that they would add it. He interested in speaking to users about this so, send me a note if you would like to be included.

While this was interesting by itself I was even more excited about their LiveServer technology. With this technology all PDFs have to ping back to your server to get permission to be opened.

Furthermore you can suspend a user's privileges at any time. So if you send a vendor a PDF and then sever ties with that vendor you can revoke their PDFs and they will not be able to open them any longer. You can also restrict the recipient's ability to print, measure, markup and section. It seems that like eDrawings that Adobe (unlike Autodesk) has gotten this correct. The control, cost and management of the PDF is controlled by the publisher, not by the recipient. All the recipient needs is a copy of the latest, and free, Acrobat reader.

Now for the coolest part. When that PDF pings back to the server (which you can set to ping the server from every open to only once a month) if you have updated the PDF the recipient will see the latest revision. So in theory you could send all of your drawings to your machine shop and when you revise them the shop will see the revision the next time they open them. I was amazed at the forethought and planning. I really think that Adobe is poised to give DWF a real run for its money. I plan to test a demo of the software when I get back to town.

I sat in on one of the analyst briefings later that day, but honestly did not get much from it. I found the speaker to be a bit full of himself.

The second briefing, hosted by Steven Wolfe, was a bit more interesting. It was titled "Why Is 3D So Hard To Use?" The speaker began the debate by listing a few reasons why. After the rest of the group joined in there were 2 entire pages of reasons. Some of them include:

- instability
- nonstandard workflows
- hidden defects (that little sliver of a surface that does not connect)
- constraints
- bad manuals
- data sharing (between teams)
- parent/child relationships can go bad

- slow operation
- slow start up
- inflexibility
- deployment problems (licensing)
- hardware
- GUIs

This lively debate went on for over an hour. The rest of the conversation (which we had to cram into only 10 mins) focused on what can be done from both the users' and vendors' sides. The customer can:

- tell vendors specifically what is wrong
- share your processes and workflows
- buy wisely (and vote with your dollars)
- be careful (don't be lulled in by a fancy demo)

Personally I found these items to be pretty common sense. Also I did not feel that any one of them in particular had any real "power". As you know users have been sharing bugs and workflows with CAD vendors for years only to have the same bug show up in release after release.

What the CAD vendors can do:

- provide better manuals
- involve customers
- have more fault tolerance in their applications
- workbenches of tools (most already have this concept of "grouping" tools by task)
- better data flow (get rid of tabs and multiple screens)
- more complete API (so we can program what is not built in)
- design for workteams (collaboration)

While this was a great discussion I'm not sure how this information translates into action. We all agreed (even the CAD vendors in the room) that these are valid points. However, to me it felt like a political discussion, you might yell and scream about your candidate, but in the end I doubt you'll convince the other guy to vote your way.

Friday afternoon was the first Congress for COFES. They split up the AEC and MECH people and held two conferences. As I walked in the MECH Congress I was asked if I was a Vendor or User. I answered "User" and was handed three yellow dots. Vendors were handed one dot.

Peter Marks hosted the Congress and began by telling us that in this session we'd get a real chance to change things. He really focused on the users in this session. He asked us each what our business was and who our customers were.

Then he got to the nitty-gritty. The topic was “What Do CAD Vendors Need To Focus On”. As the crowd took turns speaking, the suggestions were written on an easel board.

There were some really great ideas discussed that day. Of my favorites were:

- more engineering, less modeling. Some called this Functional Design.
- reduce the CAD overhead (less admin, more using the product)
- make CAD fun
- make collaboration transparent

and many, many others. By the end of the session we had over 50 ideas on the board. At the end we all were asked to place our dots next to those that we felt important. The results would be tallied and announced at Saturday’s Congress.

That evening we were bused out to a ranch in the middle of the desert for dinner and a night under the stars. I had dinner with John McEleney, CEO of Solidworks. He and I had a chance to catch up and discuss some of the things SWX is doing in the world. I also got a chance to talk for a while with Buzz Kross from Autodesk.

The ranch had two large Newtonian telescopes set up to view the night sky. I had a chance to see Saturn (extremely detailed) and Jupiter. Amazing...

Saturday

Saturday’s events began with two keynotes. The first was by Allan Behrens of Cambashi. Allan’s topic was the development of world markets. It was a graphical and data intensive look at who the world markets are grown and in what sectors. As one might expect China and Indian are huge growth markets. However in many isolated sectors there are countries with much higher growth.

The second presentation was by Mike Tanner of Adexta. He spoke about innovation. I got a phone call however and had to miss much of his presentation.

Next for the roundtables. The first was the Usergroup Roundtable where the representatives from the major usergroups (AUGI, PTC User, Solidworks User Group Network, PLM World etc..) all got to discuss issues. Lynn Allen joined us and we both kept giggling at the shortened name of the Solidworks usergroup (SWUGN, pronounced swug-in). Say it to yourself three times... swug-in, swug-in, swug-in. See you laughed didn’t you. (Sorry Richard.)

After lunch I joined another roundtable. This one was “Resistance to the Move to 3D”. Both AE and MECH participants were there. By sheer chance all of the AEC guys were on one side of the room while the MECH people were on the other.

We quickly found that each group had it’s own very distinct reasons why they might not adopt 3D. It seems that the AEC side had much more difficult hurdles to jump.

On the MECH side it was agreed, and supported by studies, that 3D was MUCH faster than 2D designs. It also provides you with freedom and creativity to explore “what if” scenarios. Richard Doyle, the SWUGN coordinator suggested that for the next meeting that the MECH and AEC groups should address their issues separately. I would tend to agree with him.

The second Congress was one of the events I was most excited about. We would have a chance to see how the voting went and discuss the topics that won. I came in a few minutes late but quickly realized that the winning topic was Functional Design (more engineering and less modeling).

Unfortunately what progressed was a 1-hour estrogenic discussion on what Functional Design was. I realize that this is the Congress on the FUTURE of Engineering Software but some of the ideas being discussed were just OUT there; discussions of a language to describe mechanical functions, how to have the computer think FOR you, an invention engine. There were all great topics but not really applicable to the topic at hand.

I was gritting my teeth when someone asked why were still worrying about geometry (form) when function is more important. Before I could speak up John McEleny stated *because the geometry is still broken. We're all still working on fixing geometry.* Thank you John! Halleluia! Some one gets it.

That was the point of functional design. Not to have the software think for you but to have the software quickly produce the geometry you need based on the function of the device. Geometry is still important!

In the end I got the final word, literally. I expressed my concern about how esoteric the conversation had become and how that there is a lot of low-hanging fruit that could be fix in CAD software that would produce dramatic gains within the next few years. I told them I was pretty disappointed that the conversation had gone the way it did considering the collective intelligence in the room. Problems could be solved but instead I think we just raised more questions. As I left I think here was more than one PhD scowling my way.

Oh and we never got to topics voted #2 or #3. By looking at some of the dots my best guess would be that “Reduce CAD Overhead” would be up there.

That evening at diner I sat with Greg Milliken, CEO of Alibre (I guess I scored the CAD hat-trick). He and I had wanted to meet each other for a long time. He is a very energetic man with a passion for CAD. I have always thought that on a dollar per feature basis Alibre is one of the better packages out there. They are looking at some exciting new developments as well. I'd keep an eye on them.

Sunday

As my taxi pulled up to the SkyHarbor airport I suddenly realized that the NASCAR race in Phoenix was on Saturday, not on Sunday as they usually are. The airport was PACKED with NASCAR fans. Normally this would be my type of crowd but I just wanted to get home. I took one look at the baggage check line (1.5 hours long) and decided to risk carrying on. I finally got home several hours later and took a long, long nap.

I'm looking forward to COFES 2007 and the great discussions that it brings. Thank you to Cyon Research for the opportunity to attend.