

From: kaz@vision.crest.nt.com (Kaz Kylheku)
 Subject: **Re: Software Engineering is not a hoax...**
 Date: 1997/05/27
 Date: 1997-05-27T00:00:00+00:00 [thread overview]
 Message-ID: <5mfkfq\$297@bcrkh13.bnr.ca> (raw)
 In-Reply-To: 338B2118.41C67EA6@metaware.com

In article <338B2118.41C67EA6@metaware.com>,
 Scott Stanchfield <scotts@metaware.com> wrote:

>> I am pretty sure that in 15 years from now, a programmer looking at code will
 >> immediatly complain if the module is not following the principles of OO or is
 >> not designed as an Abstract Data Type.

>
 >I'd say this is more akin to "using acceptable grammar" than applying
 >engineering techniques.

I'd say that it's more, because the technique has a definite impact on the
 verifiability and maintainability of the program. Abstract data types and OO
 are more than just mere terms. I would agree with that they aren't
 engineering techniques.

>Think about "Ugh! Me Kronk" versus "Hello, my name is Scott." Did I
 >engineer that sentence? I applied grammatical rules, but I wouldn't say
 >that it was engineered.

I see what you are getting at. Since a program is an utterance in a programming
 language, it's not a product of engineering but of abstract symbol
 manipulation. Good point!

>The problem I have with the notion of Software "Engineering" is when
 >people say software development is just like building cars.
 >That's just a plain bad analogy. Think about car production. Cars do
 >one thing -- transport. Sure, some can be more fun than others, some
 >may be better at towing, some may carry more people, but they are all
 >basically the same. The parts used to make them are basically the same.

But we can have reusable components. Different models of car are similar in the
 same kinds of ways as two different red-black tree implementations. Their
 parts are not interchangeable, yet they are basically the same.

I would not go as far as saying that there are no useful similarities between
 engineering and software development, or that some of the rigorous techniques
 in engineering can be applied to software, in particular, the technique of
 formal verification. In engineering, designs are verified. For example, a truss
 will undergo analysis in which the tensile or compressive stresses in each
 member are determined under given load conditions. Nobody will build the bridge
 without having done such an analysis. To apply this principle of verification
 to software, every component of a software project should be formally verified
 for correctness.

>Car production is basically doing the same thing over and over and over
 >and over. Things get a bit better and specialized sometimes, but it's
 >still building something to do the same task.

>
 >I've never written more than one program to do exactly the same task
 >(unless I'm rewriting it to improve it.) Each time I sit down to code
 >something the goal is different. This, in turn, implies the combination
 >of parts needed to construct it, and the order in which those parts are
 >put together is different. (These "parts" I refer to are language
 >constructs, known algorithms and simple reusable objects like
 >containers. Nothing too big, or you're getting into doing the same task
 >again.)

>
 >Sure, we can use common algorithms and objects such as containers and
 >math packages. But the overall product is not something that has been
 >done before, and therefore, there is no proven, repeatable method to
 >"engineer" that work.

Then again, many engineering designs are also unique. Think of unique
 structures in the world: dams, buildings, bridges and so on. There are proven,
 repeatable ways to locally verify the designs, one component at a time.
 E.g. there are methods to analyze any truss network to see whether it will
 hold up, but you can still be very creative in designing the truss.
 In engineering, the creativity is checked by applying laws derived
 from natural science. <insert some Robert Pirsig quote here about motorcycle
 gears having buddha nature :) >

next prev parent reply other threads: [~1997-05-27 0:00 UTC|newest]

Thread overview: 185+ messages / expand[flat|nested] mbox.gz Atom feed top

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1997-05-15 0:00 Any research putting c above ada? Jon S Anthony
1997-05-15 0:00   Kaz Kylheku
1997-05-15 0:00   Jon S Anthony
1997-05-15 0:00   [not found] <01bc6189$b074f500$LocalHost@xhv46.dial.pipex.com>
1997-05-16 0:00   Kaz Kylheku
1997-05-16 0:00   Jon S Anthony
1997-05-18 0:00   Nick Roberts
1997-05-19 0:00   NOT about "c above ada" W. Wesley Groleau (Wes)
1997-05-19 0:00   Any research putting c above ada? Michael Norrish
1997-05-20 0:00   Jon S Anthony
1997-05-20 0:00   Michael Norrish
1997-05-20 0:00   Jon S Anthony
1997-05-20 0:00   Kaz Kylheku
1997-05-20 0:00   Jon S Anthony
1997-05-21 0:00   Kaz Kylheku

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1997-05-21 0:00 ` Craig Franck
1997-05-22 0:00 ` Software Engineering is not a hoax... (was Re: Any research putting c above ada?) Robert I. Eachus
1997-05-22 0:00 ` Software Engineering and Dreamers Nick Roberts
1997-05-22 0:00 ` Tom Moran
1997-05-25 0:00 ` Robert Dewar
1997-05-26 0:00 ` David Ray
1997-05-23 0:00 ` Mark Allen Framness
1997-05-23 0:00 ` Kaz Kylheku
1997-05-23 0:00 ` Mark Allen Framness
1997-05-23 0:00 ` Robert I. Eachus
1997-05-23 0:00 ` Kaz Kylheku
1997-05-24 0:00 ` jason hummel
1997-05-24 0:00 ` Robert Dewar
1997-05-25 0:00 ` Craig Franck
1997-05-26 0:00 ` Kaz Kylheku
1997-05-26 0:00 ` Craig Franck
1997-05-27 0:00 ` Kaz Kylheku
1997-05-28 0:00 ` Fritz W Feuerbacher
1997-05-29 0:00 ` Craig Franck
1997-05-29 0:00 ` Robert Dewar
1997-05-26 0:00 ` Robert Dewar
1997-05-27 0:00 ` Jon S Anthony
1997-05-27 0:00 ` Dann Corbit
1997-05-26 0:00 ` Fritz W Feuerbacher
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1997-05-27 0:00 ` Kaz Kylheku
1997-05-28 0:00 ` Robert Dewar
1997-05-31 0:00 ` Nick Roberts
1997-06-02 0:00 ` Jon S Anthony
1997-06-09 0:00 ` Ralph Silverman
1997-05-27 0:00 ` Jon S Anthony
1997-05-28 0:00 ` Robert I. Eachus
1997-05-27 0:00 ` system
1997-05-27 0:00 ` Kaz Kylheku
1997-05-28 0:00 ` Rich Miller
1997-05-28 0:00 ` Bryce Bardin
1997-05-28 0:00 ` Kaz Kylheku
1997-05-28 0:00 ` Lawrence Kirby
1997-05-29 0:00 ` Matthew S. Whiting
1997-05-29 0:00 ` Nick Leaton
1997-05-28 0:00 ` Fritz W Feuerbacher
1997-05-29 0:00 ` Robert Dewar
1997-05-29 0:00 ` Kaz Kylheku
1997-05-30 0:00 ` Vibrating Bum-Faced Goats
1997-05-30 0:00 ` Robert Dewar
1997-06-02 0:00 ` Mathew Hendry
1997-06-03 0:00 ` John Winters
1997-06-02 0:00 ` Mathew Hendry
1997-06-03 0:00 ` Martin C. Carlisle
1997-06-08 0:00 ` Joe Charlier
1997-06-09 0:00 ` Robert Dewar
1997-06-17 0:00 ` Nick Roberts
1997-06-04 0:00 ` John Winters
1997-06-06 0:00 ` Volker Hetzer
1997-06-06 0:00 ` Mathew Hendry
1997-06-08 0:00 ` Robert Dewar
1997-06-09 0:00 ` Jonathan Guthrie
1997-06-09 0:00 ` Mathew Hendry
1997-06-11 0:00 ` Crocodiles [was: Re: Software Engineering and Dreamers] Anonymous
1997-06-11 0:00 ` Spam Hater
1997-06-12 0:00 ` Anonymous
1997-06-11 0:00 ` Off topic: Crocodiles Mukesh Prasad
1997-06-11 0:00 ` Robert Dewar
1997-06-11 0:00 ` Mukesh Prasad
1997-06-12 0:00 ` Jon S Anthony
1997-06-11 0:00 ` Software Engineering and Dreamers Jonathan Guthrie
1997-06-11 0:00 ` Mathew Hendry
1997-06-17 0:00 ` Nick Roberts
1997-06-09 0:00 ` Craig Franck
1997-06-08 0:00 ` Jason Shankel
1997-06-09 0:00 ` Robert Dewar
1997-06-08 0:00 ` John G. Volan
1997-06-09 0:00 ` Robert Dewar
1997-06-09 0:00 ` SE, Dreamers, and on and on and on W. Wesley Groleau (Wes)
1997-06-09 0:00 ` Software Engineering and Dreamers John G. Volan
1997-06-10 0:00 ` Robert Dewar
1997-06-10 0:00 [not found]
1997-06-07 0:00 ` <01bc7042$609289e0$cb61e426@DCorbit.solutionsiq.com>
1997-06-09 0:00 ` Lawrence Kirby
1997-06-10 0:00 ` W. Wesley Groleau (Wes)
1997-06-10 0:00 ` Robert Dewar
1997-06-10 0:00 ` W. Wesley Groleau (Wes)
1997-06-07 0:00 ` Robert Dewar
1997-06-08 0:00 ` Mathew Hendry
1997-06-03 0:00 ` Ed Prochak - Woodland Consultants
1997-06-03 0:00 ` Matthew S. Whiting
1997-06-03 0:00 ` Spaceman Spiff
1997-06-03 0:00 ` Craig Franck
1997-06-02 0:00 ` Jon S Anthony
1997-06-02 0:00 ` Nick Roberts
1997-06-07 0:00 ` Robert Dewar
1997-06-02 0:00 ` Jon S Anthony
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1997-06-04 0:00 ` Off topic response to an off topic message--> was:Re: " H. Blakely Williford
1997-06-03 0:00 ` Craig Franck
1997-06-03 0:00 ` Spaceman Spiff
1997-06-09 0:00 ` Ceri Stagg
1997-06-12 0:00 ` Philip Brashear
1997-07-21 0:00 ` Shmuel (Seymour J.) Metz
1997-06-09 0:00 ` Robert Dewar
1997-06-09 0:00 ` Kaz Kylheku
1997-06-10 0:00 ` Vibrating Bum-Faced Goats
1997-06-04 0:00 ` Vibrating Bum-Faced Goats

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1997-06-04 0:00      \ Stephen!
1997-06-05 0:00      \ Kaz Kylheku
1997-06-06 0:00      \ Volker Hetzer
[not found]      \ <01bc7a5b$9ccdd900$21320f9b@mindlin>
[not found]      \ <5o7ahj$ooos$1@news12.gte.net>
1997-06-18 0:00      \ Spam Hater
1997-06-18 0:00      \ Spaceman Spiff
1997-06-19 0:00      \ Stephan Wilms
1997-06-20 0:00      \ Spam Hater
1997-06-19 0:00      \ Mukesh Prasad
1997-06-18 0:00      \ Philip Hindman
1997-06-19 0:00      \ Craig Franck
1997-06-18 0:00      \ Spaceman Spiff
1997-06-19 0:00      \ Steve Howard
1997-06-19 0:00      \ Anonymous
1997-06-20 0:00      \ Spam Hater
1997-06-21 0:00      \ Spaceman Spiff
1997-06-23 0:00      \ root
1997-06-22 0:00      \ Alicia Carla Longstreet
1997-06-19 0:00      \ Stephan Wilms
1997-06-24 0:00      \ David Thornley
1997-06-06 0:00      \ Fritz W Feuerbacher
1997-06-06 0:00      \ Joe Charlier
1997-06-04 0:00      \ S. Norby
1997-05-30 0:00      \ Vibrating Bum-Faced Goats
1997-05-24 0:00      \ Bill Anderson
1997-05-23 0:00      \ Software Engineering is not a hoax... (was Re: Any research putting c above ada?) Jeff Carter
1997-05-23 0:00      \ William M.Gordon
1997-05-23 0:00      \ Kaz Kylheku
1997-05-23 0:00      \ John Bode
1997-05-25 0:00      \ Robert Dewar
1997-05-25 0:00      \ Jon S Anthony
1997-05-25 0:00      \ Craig Franck
1997-05-26 0:00      \ Software Engineering is not a hoax Laurent Gasser
1997-05-26 0:00      \ Kaz Kylheku
1997-05-27 0:00      \ Scott Stanchfield
1997-05-27 0:00      \ Kaz Kylheku [this message]
1997-05-27 0:00      \ Scott Stanchfield
1997-05-29 0:00      \ Dean Runzel
1997-05-29 0:00      \ Scott Stanchfield
1997-05-29 0:00      \ Kaz Kylheku
1997-05-30 0:00      \ Robert Dewar
1997-05-30 0:00      \ John G. Volan
1997-05-30 0:00      \ Lord Shaman
1997-05-27 0:00      \ Dan Evens
1997-05-27 0:00      \ Scott Stanchfield
1997-05-28 0:00      \ Alan Bowler
1997-05-29 0:00      \ Jon S Anthony
1997-05-23 0:00      \ Software Engineering is not a hoax... (was Re: Any research putting c above ada?) Robert I. Ea
1997-05-25 0:00      \ Jon S Anthony
1997-05-24 0:00      \ Fritz W Feuerbacher
1997-05-24 0:00      \ W. Wesley Groleau (Wes)
1997-05-24 0:00      \ Robert Dewar
1997-06-12 0:00      \ Software Engineering is not a hoax Keith Shillington
1997-06-12 0:00      \ Kaz Kylheku
1997-06-17 0:00      \ brucemo
1997-06-17 0:00      \ Richard Turner
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1997-06-12 0:00      \ Ralph Silverman
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1997-06-13 0:00      \ Michael Tippach
1997-06-13 0:00      \ Paul Mesken
1997-05-20 0:00      \ Any research putting c above ada? Kaz Kylheku
1997-05-20 0:00      \ Jon S Anthony
1997-05-20 0:00      \ Les Hazlewood
1997-05-20 0:00      \ Newsthread integrity Nick Roberts
1997-05-20 0:00      \ Any research putting c above ada? Jason A Cunningham
1997-05-21 0:00      \ Stephan Wilms
1997-05-21 0:00      \ Jason A Cunningham
1997-05-16 0:00      \ T Wheeley
1997-05-16 0:00      \ Jon S Anthony

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