Database Design - getting it right with automation

A correct database design is your key to a successful project. The easier and faster it is to test and adjust your database design the more likely it is that you'll be able to get it right – really right. Building on a database structure that isn't quite right, slows you down. It takes longer to develop a solution. And, as you get deeper into your application development, the prospect of a course correction may become less and less appealing. The bright hope of achieving maximum potential can fade.

More Effective Planning - Database design and application development are interdependent. That's one reason why we put so much emphasis on planning. We're trying to get the design right before we invest money, time and effort doing development. That's good. But, as most of us know, even with careful planning, we do sometimes find ourselves out on the proverbial limb.

Entire branches (pardon the pun) of software engineering tools are aimed at keeping us from painting ourselves into a corner. There are modeling languages, collaboration and prototyping tools, and on and on. If you've got access to them and experience with them, that's good too. But, wouldn't it be nice to get your underlying database design up and running to see how it truly does fit together? What if you could do it without any investment of development time? Could there really be such a thing as zero-time development? Management often seems to think so.

Ok, let's come back down to earth. You might think we're talking about finding the lost city of Atlantis or losing weight without worrying about exercise or what we eat.

Actually, everything takes time, but in the case of database design, you can use automation to get more for your planning buck. With virtually no extra effort, you could end up with significantly more than diagrams and a slide show – very early in the game. Being able to actively test and iterate on your database design is valuable. Quickly having a working model to demonstrate – even deploy – can really make a splash. Putting something into your clients' hands, while they're still excited and enthusiastic about having a solution crafted, can have a wonderfully positive impact for everyone involved.

Progress and Value - Your project timeline can affect your chances of success. Long timelines, especially ones where the functional deliverables are slated to appear near the far end, run the risk of becoming a boondoggle. Going active early, while the stakeholders are still on the same page, and have the business goals clearly in mind, can mean the difference between crisp sweet success and just shuffling along toward muddled milestones. Database design automation helps you move your project along quickly and smoothly. If everyone sees your project rolling down the road to success, delivering value – early on, you'll build credibility and trust. That can justify the time and resources you may need to round out your project to its very best.

Business problems drive database designs. When your database design reflects real world information relationships you're in good shape. If the real world relationships prove to be awkward, that might indicate a business process problem. If you're able to show that, you may be able to get buy-in to change the process, rather than building old kinks into your new project. Automation can help you illustrate concerns and pose working alternatives to study. That can help grease the skids of change.

It's quite remarkable how much information can be extracted from a database definition comprised of normalized entity relationships that are designed to accurately model a business process. With automation, you can drive your application development directly off of your database definition. You can get useful application program elements to just fall out of your business process model. That can put you ahead of the game. It's very possible, and the results can be strikingly reflective and familiar with regard to the business process you're addressing. You can clearly see things taking shape.

Confident Closure - Getting your database design right is the key to getting your overall solution right. The freedom to iterate can help your database design. With automation, you can get more than enough application program wrapped around your design to see how well it meets your objectives. You can even develop the business reports. If you see the need for a design change, you can painlessly throw all or some of the application pieces away, and do another turn. When exactly the right design drops into place, everyone will know it. You can actually feel it happen.

Change is inevitable. The cost of change to your projects depends on where your investments lie. Automation can help you make the most of change by helping you to be and stay nimble. If you've put your time into getting the database design right, reasonable changes will probably be straightforward to make, even if your database has grown large. If you don't find yourself feeling compelled to protect a significant body of basic infrastructural application code, you'll be happier, more willing and able to be responsive. It will be easier to accommodate new situations and requirements, as they arise.

The more you find you can use and rely on application code generated by automation, the more you can shed some of your testing and support burdens. When you're confident of your database design and have faith that your automation can create application infrastructure that works, pressure and stress are reduced. The risks and the time it takes to roll out enhancements can go way down.

Takeaway - Database design automation helps make your projects successful, your sponsors and clients happy, while reducing risk, pressure and stress. Who doesn't want that?

Automation for database design and web application development is coming on fast. Now is the time to get your feet wet.

Database design automation has been an essential element of my work. Please visit SynApp2.org for more information and free open-source software: SynApp2 – Web Application Generator

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