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Patented software robot self generates custom software code

robocoder corporation s software robot handles complex tasks, gives organizations the opportunity to keep up with changing business needs, and eliminates bugs and errors because they are rare to begin with

Vancouver, B.C. - robocoder corporation today announced that it was awarded a patent by the U.S. Patent and Trademark Office for its proprietary software robot, RoboCoder® , which has the ability to generate code for itself. This critical differentiating feature allows mid-sized companies, the ability to adapt to changing business needs literally at the touch of a button. RoboCoder also eliminates bugs and errors at the outset because it starts by building one perfect piece of code which it then multiplies to write additional code.

The brainchild of Nelson Lin who spent over twenty years devising and perfecting the concept, RoboCoder allows companies currently using Microsoft, Linux, SQL and Sybase platforms the ability to customize and adapt their databases by using an almost error free code generator that can manage and handle complex tasks, and by rewriting code continuously, allows companies the ability to indefinitely keep abreast of technological advances. Existing code generators can only generate code within defined parameters and cannot be reused if a company s needs change and are outside the scope of the code generator.

I compare our software robot to the way in which the robots were created in the movie, I-Robot, said Nelson Lin, founder of robocoder corporation. The robot creates a perfect self and then replicates itself as needed, giving it the ability to handle highly complex tasks and significantly reduce and compress the time it takes for companies to adapt their databases to business, technique and technological changes.

This technological advancement not only saves business to business companies hundreds of thousands of dollars that they would otherwise have spent getting the code generator to learn how to rewrite code each and every time their needs changed, it also saves them an almost equal amount on human hours in the process, all the while ensuring quality and consistency.

A great and talented human programmer can write close to a thousand lines of code per day, which may or may not be perfect, said Lin. robocoder s software robot has the capacity to write more than twenty thousand lines of code a day and does not need meal breaks or does not have to deal with exhaustion, emotion and other such human issues.

Furthermore, in those rare cases when companies take the time and effort to reuse an existing code generator, there is no assurance that the outcome will meet their needs something that companies painfully become aware of after they have invested their efforts in changing the database.

robocoder offers clients two main approaches a customized offering that is created from scratch to meet a client s needs or, in the near future, to offer robocoder s software robot so that companies may build custom software applications themselves.

Nelson and his team built us a database called SPARTAN through which we have seen our business grow 500 to 600 per cent in three years, said Brian Rodd, President & CEO of Securcor Financial Group, a company involved in the customized securitization and structured financing products for mid-sized firms, where the systems required are highly complex and constantly changing and where time delays small errors can be very costly.

They took the guess work out of this. Until we had our customized SPARTAN database, we didn t realize what we could

have.

Now, we have the ability to produce documents and reports at the touch of the button. Everything is 100 per cent accurate. They have taken away the margin of error and tasks that would normally have needed many hours to complete can now be accurately done in a matter of a few minutes.

Another important client for robocoder is National Leasing One of Canada's 50 Best Managed Companies for ten consecutive years. This national leader in providing equipment financing for virtually every business sector, has seen its business become fully automated via robocoder s software and has seen its efficiency ratio increase by 20 per cent.

We work with clients whose business is in excess of 100 million dollars and if we took hours to process their transactions, they could send their business elsewhere, said Nick Loggan, President & CEO of National Leasing. Using robocoder s software, we now have the fastest transaction processing capability in the industry and this has helped us increase our presence and our profile because we are nimble, flexible and adaptable to changing business needs.

The U.S. Patent and Trademark Office was so impressed with the technological advances made by Nelson and his team, that RoboCoder s patent was approved in a matter of nine months as opposed to the three to four years it would normally take to have it cleared, said Kory D. Christensen, the patent lawyer working on the project.

While Nelson and his team offer clients follow through service that goes beyond the initial set-up and development of an enterprise application that meets their needs, the maintenance has proven to be remarkably low which is a testament to the success of the self generating software robot.

About robocoder corporation
robocoder corporation provides business-to-business web-based software development services and off-the-shelf enterprise applications. RoboCoder is the corporation s patented self-generating software robot that enables business professionals to customize and manage complex enterprise applications. Not only are such applications developed in as little as one-fifth the time normally required for such projects, but their ongoing maintenance requirements have proven to be remarkably low, due to their continuous reuse of code generation, automatic self testing and self healing properties.

robocoder corporation offers full support services, including customization and consulting, project management, business analysis, systems engineering, technical support, and training.

robocoder corporation is a privately-held national software company with its head office in Vancouver, British Columbia, Canada. Its services are marketed globally through a direct sales force. robocoder is building a global network of independent software vendors, value-added resellers and consulting partners.

Befriending the Software Robot —
How This New Technology May Affect You
By Nelson Lin

Abstract

The leasing industry is noted for its creative financing solutions and ability to customize offerings to lessee's needs. Product and industry changes, however, often outpace the software infrastructure required to manage them, and the cost of upgrading or replacing such software is frequently prohibitive. A recent technological advance in programming is causing a redefinition of the software application marketplace by dramatically reducing the time and money required for both upgrades and fully customized applications, with enormous implications for the leasing industry. In entertaining layman's terms, Nelson Lin explains how this innovative new technology, dubbed a "software robot," differs from preceding application development methodology, why it is so surprisingly affordable, and how its users gain significant competitive edge. Lessors taking advantage of this new technology will break out of the old mold to benefit from the next level of technological superiority.

Befriending the Software Robot —
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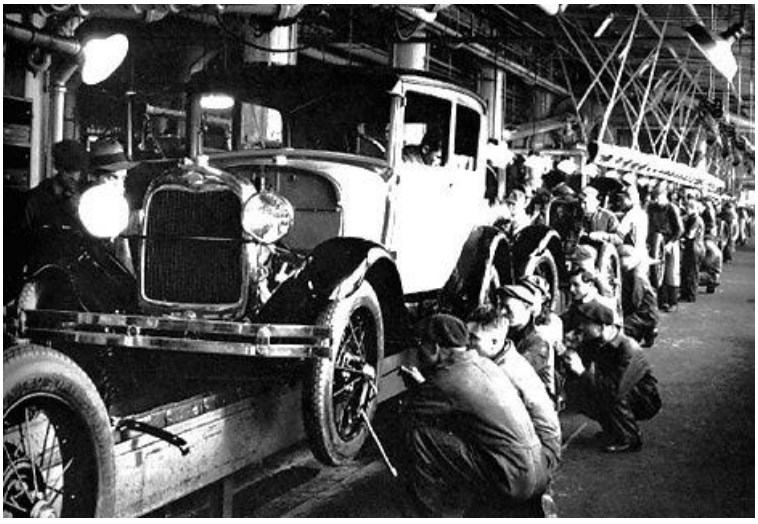
The leasing industry is noted for its creative financing solutions and ability to customize offerings to lessee's needs. Product and industry changes, however, often outpace the software infrastructure required to manage them, and the cost of upgrading or replacing such software is frequently prohibitive. A recent technological advance in programming is causing a re-definition of the software application marketplace by dramatically reducing the time and cost of both fully customized applications and upgrades, with enormous implications for the leasing industry.

In this article, I explain how significantly the new technology differs from conventional programming methodology and how it will affect the leasing industry. First, here's a little background to help you understand why this new technology is so powerful.

Conventional Software Development

Computer programming began with handwritten code that automated simple repetitive tasks. Programmers' writing of code varied with their approach and style, leading to inconsistencies in the finished product, especially as that product became more and more complicated, involving multiple programmers. Such handwritten code is analogous to the old-style assembly line, where all the elements of a car were made and put together by hand. Humans being human, mistakes were common and time consuming to repair.



Code Generation

It didn't take long for computer programmers to figure out that, rather than writing all the code themselves, they could reduce their workload by writing programs that would generate code. Such code generators are written from scratch using conventional development tools and methodology.

If a bug needs to be fixed, a new feature added, or the method of programming changed in the code generator, the laborious process of modifying, testing, and debugging by many programmers is exactly the same as for any other conventionally developed program. Consequently, code generators tend to be used only once, with programmers adding handwritten code as needed to accomplish subsequent modifications. Sometimes such changes have unexpected side effects, some even serious enough to cause malfunction.

Often it is cheaper and quicker to make modifications directly to the completed application (though the risk of unwanted side effects remains) rather than to the code generator, which then becomes obsolete.

Code generators function similarly to the robotic arms used in modern car manufacturing, which are programmed to do the bulk of the labour with precision and speed. Like a code generator, each robotic arm assembles one specific part (or specific code in the case of code generation), and any change to that task may require significant reworking of the machine. Once completed, the part (or the code) is considered done.

Changes to the finished product generally require a new slate of materials and methods, and in the case of enterprise software development, generally introduce inconsistencies that can require months, even years of testing and debugging.

And here our analogy to car manufacturing must end, for the stage is set for the next step in innovation: the software robot.

The Software Robot

A robot may be defined as "any automatically operated machine that replaces human effort, though it may not resemble human beings in appearance or perform functions in a humanlike manner."* True to its name, the software robot allows enterprise applications to be developed without computer programmers.

The software robot is actually a code generator that can automatically regenerate itself.

Using the software robot, code can be automatically generated in any computer language on any platform according to the rules set by the application developer. In fact, the developer may not even know the application's underlying computer language.

What's more, the codes are consistently written and improved over time, and the software robot can cross check for inconsistencies, fix a bug, add a new feature, change the look and feel, or change the programming method within seconds.

Effects on the Leasing Business

What does this mean for lessors?

It means much cheaper, better, faster programs that are more flexible than you ever thought possible. Suddenly custom software becomes available at "off the shelf" prices and speed of delivery.

The leasing industry has been slowed by low demand, a flat economy, less than responsive capital markets, and on top of all that, inhibited by technological constraints.

The thought of having a multi-billion dollar company's major knowledge embedded in obsolete computer code is, quite simply, scary. When conventional programming languages are used, the useful life of an application is as much dependent on the technology as on the quality of the development standards and their enforcement. For example, some organizations develop and maintain applications with a waterfall approach, which requires that all design specifications be frozen prior to coding and testing. The business itself cannot be frozen, though, and by the time the

* Encyclopedia Britannica web site, May 2004
http://www.britannica.com/eb/article?eu=65580&tocid=0&query=robot&ct=

application is written the business may already have evolved to the point where the application is unusable.

Lessors need innovative technology to enable them to break into new territory; to provide more responsive and personalized service to their lessees at reasonable speed and cost. This need is met in applications developed by the software robot, particularly in two key aspects: speed of development and maintenance, and life span. Let's take a closer look at them.

Speed of Development and Maintenance

The focus here is on your business, not on the technological complexities that dominate conventional software development. To develop an application using the software robot, your business needs are analyzed, breaking them down into workflow and business rules that the robot will use to generate millions of lines of code within seconds. Once the business analysis is completed, the actual development of the program is extremely fast because it is all automated, and the internal consistency of the code makes the debugging and testing phase very, very short.

Since business analysts can design the application with little or no help from technical people, communication errors between technical and business people are dramatically minimized, as are training needs.

The same applies to maintenance. Modify the workflow and business rules as little or as much as you need, and the entire enterprise application can be rejuvenated within seconds.

It all adds up to an impressively quick return on your investment.

Life Span

The life span of an application is directly related to the ease with which it can be modified and maintained. In applications developed with the software robot, the separation of workflow, design, and business rules (together called blueprint) from data and underlying programming code means that changes can be made quickly and easily and targeted toward specific areas of the application without unwanted side effects. The software robot can be simply instructed to generate (or regenerate) the appropriate code—and here's the key—without affecting other areas unnecessarily. The probability of error is very low because all codes have been well tested ahead of time, and the application has built-in self-testing and self-healing capabilities.

Furthermore, should the programming architecture or language become obsolete, the software robot can be instructed to regenerate the application with the latest programming architecture and language, using the existing blueprint.

In other words, such software may never be obsolete again.

Conclusion

This new generation of software development embodied in the software robot offers lessors, at long last, an infrastructure capable of meeting their demands for efficiency and flexibility. Those lessors who take early advantage of its benefits may gain significant competitive advantage.

about ... NELSON LIN

Nelson Lin has been developing enterprise software solutions for more than eighteen years and was winner/finalist of three awards from Microsoft, including the most prestigious "Best ISV application world-wide" award. He graduated from the University of Western Ontario with both MBA and B.Sc. Computer Science degrees. He was also one of the first few professionals to achieve both Microsoft Certified Systems Engineer and Microsoft Certified Solution Developer qualifications. He is well trained in Microsoft Solution Framework and had been invited to lecture project management professionals.

In the mid-90's, he was the pioneer in combining rule-based credit scoring and message queuing with on-line credit bureau integration to provide on-line end-to-end fully automated consumer term lending systems. He has design and programming experience in all three computing paradigms – Host Based computing e.g. COBOL/RPG, Client-Server computing e.g. PowerBuilder/VB, Web based computing e.g. Java/C#.

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