GeneXus:

Overcoming "The Legacy Trap" and Promoting Sustainability in Software Development
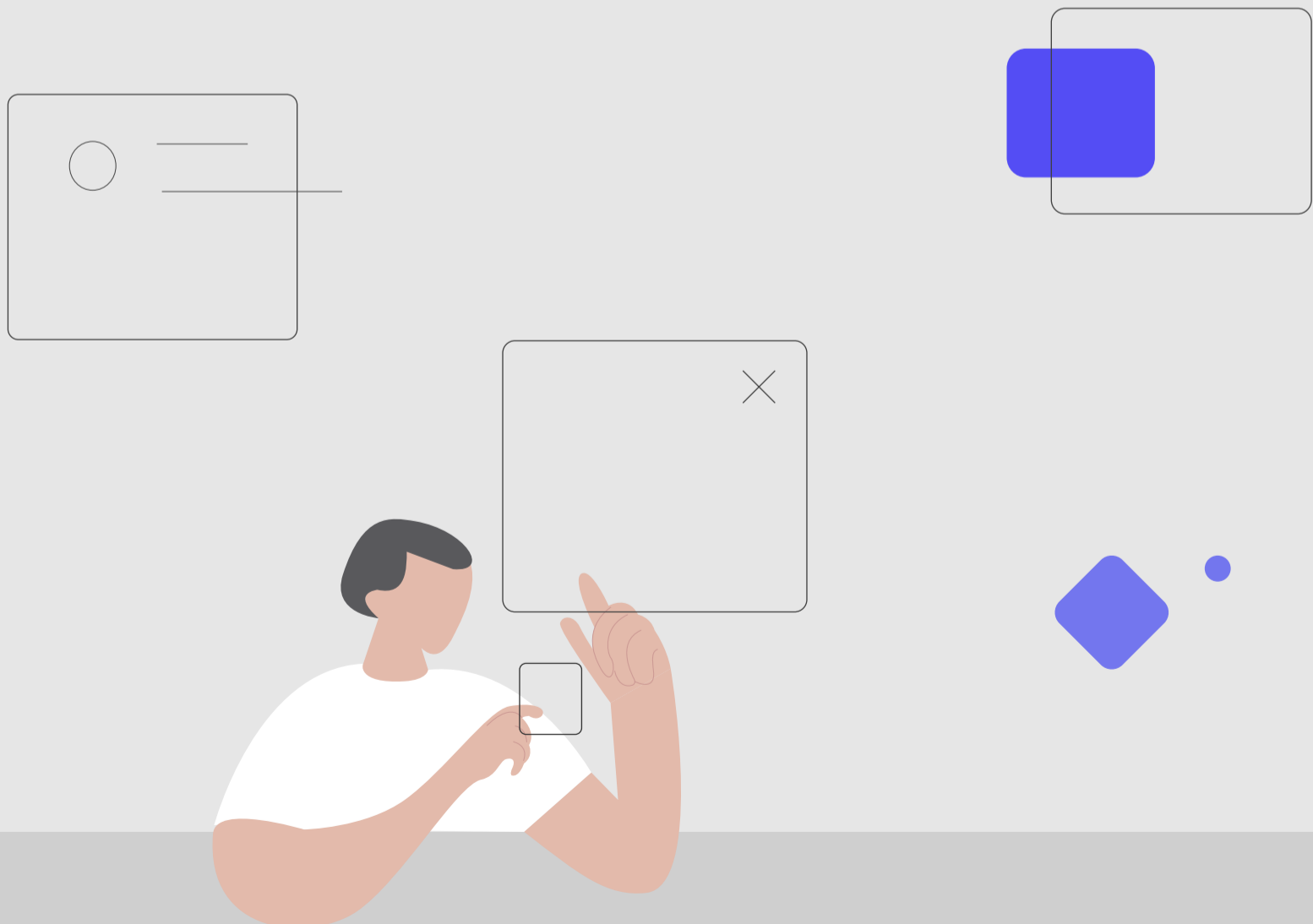
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In today's world, software has become the backbone of virtually every business.

Whether it's managing internal operations, interacting with customers, or driving innovation, software is one of the key drivers that keeps organizations of all sizes and sectors up and running.

However, this constant technological advancement comes at a price.

As technologies and platforms evolve at breakneck speed, software code that was once brilliant and efficient begins its inevitable path towards obsolescence.

This is at the heart of the problem known as "**The Legacy Trap**."

What is
"The Legacy Trap"?

"The Legacy Trap" describes the situation in which existing software code becomes outdated and challenging to maintain.

It may sound like a common issue in the software industry, but its scope and impact are much deeper.

When code becomes legacy, companies face a series of common challenges:

1. Decreased Efficiency

Outdated code is often less efficient and can slow down business operations. What used to work seamlessly may now require more time and resources to perform simple tasks.

2. Rising Maintenance Costs

Maintaining legacy software can be costly. Patches, security updates, and bug fixes become increasingly expensive over time.

3. Loss of Competitiveness

In a marketplace that demands agility and adaptability, companies caught in "The Legacy Trap" struggle to stay competitive. The inability to quickly adapt to new technologies and trends can result in a significant loss of market share.

4. Developer Frustration

Developers responsible for maintaining and updating legacy software often feel stuck in a routine of fixes and patches rather than having the opportunity to work on innovative projects. This can lead to demotivation and loss of talent.

5. Lack of Experts in Outdated Technologies

Many of the systems used by companies and governments world-wide still rely on COBOL, a widely used programming language from the 1960s and 1970s, but is now completely obsolete.

The problem is that this language is no longer taught in universities and institutions that offer computer science programs, making it difficult and expensive to find qualified personnel to maintain and update these systems.

According to a report published in June 2022 by the International Journal of Advanced Research in Science, Communication, and Technology (IJARSCT), the average age of COBOL programmers is 55 years. Many of them are retired or in the process of retiring.

"In this report, they point out that there are 220 trillion lines of code written in COBOL, that 43% of the core of banking systems is written in COBOL, and that 70% of the world's business transactions, estimated at $3 trillion per day, are conducted using these types of systems. This is astonishing. COBOL systems require constant maintenance, which can be very costly. The lack of experienced COBOL programmers also increases the risk of introducing errors when making changes to the existing code, errors that can have serious financial consequences," explains Luis Murillo, Technical Country Manager at GeneXus in the webinar: "Unlocking the Future: Transforming Legacy Systems Once and for All."

Many companies and developers face this challenging landscape today.
The question is, is there a way out of this trap?

GeneXus: A Strategy to Escape "The Legacy Trap"

GeneXus is much more than a software development platform; it is a strategy to escape "The Legacy Trap."

Over the years, GeneXus has innovatively addressed the problem of code obsolescence by offering a solution that enables companies to remain agile, competitive, and sustainable in a rapidly evolving technology-driven world.

But beyond the focus on companies, and before delving into why GeneXus is a way out of this problem, we invite you to consider some aspects related to software obsolescence that are often overlooked: the impact of this on the people who create software.

The Human Cost of Obsolescence

In the world of software development, where innovation and advanced technology are commonplace, there is an aspect of the "Legacy Trap" problem that is often overshadowed by its business implications: the human impact.

Software developers, the creative minds behind coding and implementing technological solutions face a dilemma in this ever-evolving environment.

As code becomes legacy, their work increasingly shifts towards constant maintenance and updates, pulling them away from exciting and challenging projects that drive innovation.

Developer Demotivation

Imagine being a passionate and creative developer, eager to take on new challenges and explore the latest technological trends. However, you are stuck in a rut of security updates and bug fixes to code that has fallen behind the times.

This demotivation not only affects the morale of developers but can also lead to decreased productivity and the loss of valuable talent.

Endangered Careers

In addition to demotivation, code obsolescence also endangers developers' careers. As the technological world advances, skills and knowledge become obsolete. Developers who spend most of their time maintaining legacy software may see their skills stagnate, and their value in the job market diminish.

GeneXus:
Fostering Sustainable Development

Here is where GeneXus comes into play. This platform not only addresses the business challenges of "The Legacy Trap" but also cares about the well-being and growth of developers.

With GeneXus, developers have the opportunity to break free from the cycle of code obsolescence and redirect their energy toward projects that promote their professional growth.

GeneXus as a Solution

In the complex world of software development, where technological changes are the norm and companies struggle to remain agile and competitive, <u>GeneXus stands as a visionary solution to overcome "The Legacy Trap."</u>

This platform, more than just a development tool, represents a different approach that tackles both business challenges and developers' aspirations.

An Emphasis on Business Sustainability

GeneXus stands out by focusing on storing business knowledge in what is called "knowledge bases."

Instead of relying too heavily on specific code, this platform allows companies to capture the essential knowledge of their operations and processes in a centralized knowledge base. This knowledge base becomes the heart of software development, acting as the engine that generates applications in specific technologies.

As technologies evolve, GeneXus adjusts its code generators to adapt to the latest trends, ensuring that the generated applications remain "future-proof."

Rapid and Flexible Development

One of the highlights of GeneXus is its ability to accelerate software development and simplify its maintenance and evolution.

By focusing on the reuse of business knowledge and leveraging code generators, <u>GeneXus enables companies to create applications in a faster and more flexible way</u>.

Instead of starting from scratch with each project, developers can leverage existing knowledge bases, non-GeneXus systems, and/or databases, and generate applications across a variety of technologies and platforms with minimal effort. This not only shortens development times but also drastically reduces the costs associated with creating and maintaining software.

Benefits for Companies

For companies, GeneXus is a software development strategy that has a significant impact on sustainability.

By reducing development and maintenance costs, companies can allocate resources to innovation and growth instead of spending them on the constant struggle against legacy software. The resulting agility and adaptability keep them competitive in an ever-changing market.

Benefits for Developers

However, GeneXus not only benefits companies; it also supports developers' careers.

By freeing developers from routine maintenance and constant updates, GeneXus gives them the opportunity to focus on exciting and innovative projects.

Developers can expand their skills and use their creativity to create cutting-edge solutions, enriching their careers and keeping them in demand in a highly competitive job market.

GeneXus even helps bridge the gap between older developers, who are typically the ones maintaining legacy systems, and the younger ones.

GeneXus represents a paradigm shift in software development, where business sustainability and the professional growth of developers converge in a comprehensive solution.

"It's very challenging for a seasoned developer to easily transition to new technologies. The same goes for younger developers dealing with older technologies. This creates internal conflicts. GeneXus levels the playing field for both profiles to work in a common language, significantly reducing that resistance"

Aníbal Gonda, GeneXus Technological Evangelist

In the following sections, we will delve into how GeneXus translates into a sustainable reality for both companies and programmers, freeing them from "The Legacy Trap" and opening a world of innovative opportunities.

A Sustainability Strategy
in Software Development

Sustainability in software development is a concept that is often overlooked but plays a crucial role in the economy of both companies and developers.

Why is it important? Because software, as we all know, is constantly evolving. Technologies change, trends emerge, and amidst this constant change, code obsolescence becomes a significant obstacle.

Adaptation Instead of Recoding

Here is where GeneXus shines and stands out.

GeneXus offers a solid response to one of the major challenges faced by companies and developers: the need to recode functions simply because technology has changed.

GeneXus addresses this issue in an ingenious way by allowing constant adaptation to <u>new technologies</u> without the need to rewrite the code completely. How does it achieve this? By focusing on the creation and maintenance of a "knowledge base," which serves as the core of all software development.

GeneXus Knowledge Base: Clarity and Sustainability

The knowledge base is a centralized repository where essential software knowledge and processes are stored.

Unlike typical "spaghetti code," which is often difficult for new developers to understand, GeneXus' knowledge base offers a logical and understandable structure. This means that when a new member joins the development team, they don't need to decipher a chaotic code tangle; instead, they can access the knowledge base and quickly understand how everything works.

This clarity not only facilitates collaboration and the onboarding of new talents but is also crucial for long-term sustainability.

Every investment made in creating and maintaining the knowledge base lasts over time and maintains its value for the company. Instead of seeing their investment disappear because the underlying programming language has become obsolete, companies that use GeneXus can maintain and adapt their knowledge base to meet changing demands.

Sustainable Investment in the Future

This sustainable investment in the knowledge base translates into a more reasonable economy for companies. Instead of devoting significant resources to recoding functions every time technologies change, they can invest in strengthening their knowledge base, allowing for continuous adaptation and increased application longevity.

In summary, GeneXus not only addresses unnecessary recoding and adaptation to new technologies but also promotes sustainability through smart and lasting investment in the knowledge base. This strategy is not only economically reasonable but also ensures that a company's software remains valuable and relevant in a constantly changing world.

Avoiding the Legacy Trap:
The Example of Bantotal

In the world of software development, avoiding the "Legacy Trap" is essential to ensure that technological solutions remain effective as time progresses and technologies change.

A compelling example of how GeneXus becomes a powerful tool to avoid this trap is the case of <u>Bantotal</u>, a set of Mission-Critical Systems for Financial Institutions that has conquered Latin America.

Bantotal and De Larrobla & Asociados: A Lasting Relationship with GeneXus

For over 30 years, De Larrobla & Asociados has been developing and implementing Bantotal, a comprehensive technological platform for financial institutions. What makes this case exceptional is that Bantotal has been built with GeneXus from its inception, and its constant evolution is a living testimony of how GeneXus avoids the "Legacy Trap."

From the very beginning, Bantotal set out to improve technological support for day-to-day banking operations by bringing together two worlds of <u>Mission Critical Systems</u>: those that support the daily operations of banking customers and the accounting record-keeping systems.

Continuous Evolution of Bantotal with GeneXus

As technologies and market needs evolved, Bantotal also evolved with them, thanks to GeneXus' versatility.

From the first green screens generated on IBM AS/400 systems to its transformation into microservices-based solutions, GeneXus has always enabled Bantotal to adapt to new technologies without falling into obsolescence.

This approach has been crucial in avoiding the "Legacy Trap," since at critical junctures such as the Argentine economic crisis of 2002 or the rapid response to the pandemic in 2020, Bantotal could swiftly adapt without having to rewrite its code from scratch.

The Value of Adaptability with GeneXus

Bantotal has not only avoided the "Legacy Trap" but has also thrived and expanded to 14 countries in the Americas.

This is largely due to GeneXus' ability to maintain adaptability and relevance over time, even in a constantly changing world.

The case of Bantotal is an outstanding example of how GeneXus becomes a powerful ally to prevent software from falling into the "Legacy Trap," allowing technological solutions to remain agile and relevant as technologies advance, providing sustainability and longevity to the companies that rely on it.

What can you achieve with GeneXus?
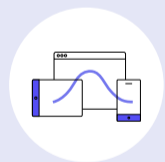
Forget about obsolete platforms.

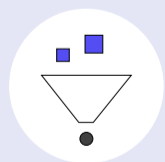Give eternal youth to code and knowledge.

Create native mobile apps that work online and offline.

Develop new features and migrate existing ones.

Provide a superb multi-experience to the user.

Reduce maintenance costs for older equipment.

Conclusions

In an increasingly software-dependent world, it is essential to understand and avoid the "Legacy Trap" in software development.

This trap, which leads to outdated code and unnecessary recoding, can paralyze companies and erode developers' careers.

In this white paper, we explored how GeneXus becomes a key ally in overcoming this trap and promoting sustainability in software development.

GeneXus, with its agile development approach and ability to adapt to changing technologies, enables companies to keep their software relevant over time.

By storing business knowledge in knowledge bases and generating code in specific technologies, GeneXus eliminates the need for recoding due to technological changes. This is not only sustainable but also a reasonable investment for companies.

Final Thoughts

The importance of adopting sustainable approaches in the soft-ware development industry cannot be underestimated.

"The Legacy Trap" and code obsolescence are real challenges faced by companies and developers worldwide. In this context, GeneXus stands as a powerful solution that not only overcomes these challenges but also promotes a sustainable future.

In a constantly changing world, it is vital for companies to embrace technologies like GeneXus to stay agile and competitive. Additionally, developers can find in GeneXus an ally that safeguards their careers and allows them to focus on innovation rather than constant recoding.

The call to action is clear: adopting sustainable approaches in software development is essential for the long-term success of companies and the satisfaction of developers. GeneXus shows us the path to a future where the "Legacy Trap" is no longer an obstacle but an opportunity for continuous evolution.

Ultimately, GeneXus reminds us that in the world of software development, sustainability is not just an option but a choice. It is time to decide what we want and build a stronger and more enduring future for all involved.

It's time to take the leap into the future!
Don't fall behind. Discover how GeneXus can transform your legacy systems into agile and updated solutions.

GeneXus™
by **Globant**