Low-Code Development

transformify

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What is Low-Code Development?

Low-code is a software development approach that enables the delivery of applications faster and with minimal hand-coding. Low-Code platforms include a set of tools that allow visual development of applications via modeling and a graphic interface, allowing developers to avoid hand-coding and speeds up the process of getting applications to production.

Low-Code will account for more than 65% in application development activity by 2024, and the pressure to develop digital solutions to combat the COVID-19 pandemic, according to Gartner has only increased this adoption.

It is important to understand the concepts of Low-Code, its trending popularity, and the capabilities of low-code platforms in order to see the full benefits of this new development approach.

So, what problem does Low-Code solve?

IT organizations are under increasing pressure to provide innovative solutions with rapid pace. Only a few top-tier IT companies have the human and financial resources to respond to the market's demand for traditional development speed. Many companies have huge backlogs, struggle to find qualified staff and are constantly being asked to do more with less. Furthermore, the pandemic has also shown us that adapting to the unpredictable, as well as new customer demands is essential for survival of each company and its business.

Low-Code significantly reduces the complexity and time required to develop software solutions, offering companies of all sizes an opportunity to adopt this approach to improve the productivity of their IT experts. This approach elevates the value and ability of developers, thus allowing agile interdisciplinary teams to draw from their knowledge of how to build and maintain high-quality software solutions and applications, while using new cloud native technology and inno vative concepts.

Low-Code, in other words, represents an approach for developers to code less and do more. They can spend more time on real professional development and engineering tasks, and less time coding business logic and execute repetit ive work. Have in mind that, it's great to play with and learn other latest frameworks or concepts, but while you're spending time doing it, your competitor has an MVP in front of customers.

Low-Code Development Principles

Low-Code solutions will produce the best results if they are based on sound business principles and technology. In your the process of Low-Code platforms' evaluation, have in mind the following:

1. Model driven development
2. Cloud infrastructure
3. Interdisciplinary and multi-user team collaboration
4. Agnostic development
5. Agility in design
6. Platform for innovation
7. Effective government and risk management

1. Model driven development

The biggest obstacle to collaboration in every enterprise is the existence of team silos and different ways of approach in communication. As if, the business and IT simply don't speak the same language when working on development of new application or solution. Model-driven development overcomes this language barrier and gap. The model gives everyone a common language.

Model-driven development motivates collaboration and communication between business domain experts and software developers, accelerates the process of creating applications, while also enhancing app relevance and quality. Together, now they can manage all the technical aspects of the application — the business logic, data model, user interface, security, integrations, architecture. In this way, you can eliminate the situation where they don't speak much at all until the solution is delivered, which by default means wasting valuable time (months or even years).

So, what are models? Instead of complex languages with syntaxes, you have what we call "building blocks" to visually understand, create and set database models, models for settings, models for program logic or Pure C# models within your solution.

Working with visual building blocks, Business Experts can show the IT Experts what the business need is, and the developer can understand it. The IT Experts in turn, can show the domain expert what is possible and perhaps some innovative ways to solve the problem. Furthermore, the idea for using Platforms for Digital Transformation is to include and turn the Business Experts into No-Code developers and do much more beyond just prototyping. With zero knowledge of code, they can drag-and-drop their way into a developing and testing the software solution. This was the starting point of the new wave called "BizDevOps" where Business Experts become integral part to the DevOps process because of the intuitive, understandable visual modeling tools.

These "building blocks" can be described as the common language that all members of the team understand (from business domain experts to hardcore developers). No matter if they are working on new innovative solutions or just experimenting on better way to solve certain business problem, they can "see" each other's thoughts and together design and re-design the properties, models, relationships and logic, as well as quickly test the application.

Automation is another key aspect of model-driven software development. All of the processes beneath that layer of drag-and drop visual development, including configuration, testing, QA, integrations and other housekeeping chores, are seamlessly automated. This allows the pro-developer to eliminate a lot of the tedious tasks and improves productivity.

2. Cloud Infrastructure

We can see that there are two types of enterprises today: those who have adopted the cloud and those who plan to in near future. Without the cloud, it's impossible to implement any serious digitalization strategy. Any kind of digital transformation that improves customer engagement, increases operational efficiency, introduces new innovations to the market or generates new revenue streams is simply impossible.

The cloud is such a big deal that both Gartner and Forrester consider full cloud support to be a requirement for any low-code platform. The Cloud supports and enables:

- Agile and microservices-based architecture
- All kinds of resources, instantly available
- Automation and using CI/CD pipelines

Enriching your software solution with machine learning (ML), artificial intelligence (AI), augmented reality (AR) and the internet of things (IoT). This requires utilizing enormous amount of data and processing power, which by default means only one thing - using cloud services.

The low-code platform opens the gateway to all the resources and power the cloud has to offer to build smart applications. More modest enterprises (and all-size organizations, truly) can amplify their capabilities by "standing on the shoulders of giants" like Microsoft to access and leverage the resources they need to build functionality they could never build on their own.

Low-code platforms open the door to all the resources and power that the cloud can offer for building and developing innovative applications. Smaller companies and all-size businesses can increase their capabilities by "standing on the shoulders of giants" like Microsoft to access the resources they need.

The cloud offers the flexibility and scalability to provide all the resources an application needs, when and where it needs them. Applying the core low-code principles of abstraction and automation to the cloud makes deployment easy and fast and infuses agility into this phase of the application lifecycle.

The cloud provides the flexibility and scalability necessary to offer all resources required by the solution, whenever and wherever they are needed. The Low-Code's core principles of abstraction, automation to the cloud makes the deployment easy and quick and injects agility in the solution's lifecycle.

By nature, every Low-Code application must be cloud-native, as at Transformify we take this to the next level by offering Single-tenant architecture for each solution/project with:

- Dedicated cloud native infrastructure and reliable performance
- Development and integration freedom high flexibility and customization on all technology layers
- Integrations with various private and public cloud infrastructures to meet specific hybrid cloud requirements
- Logical environment isolation for each project with integrated DevSecOps practice and smooth transitioning between development, testing and production environments
- Dynamic and predictive capacity scaling - adjust every cloud infrastructure layer to meet even the highest project demand

3. Interdisciplinary and multi-user team collaboration

Businesspeople and developers can communicate in the same language, as explained in the before mentioned model-driven development. No translation is necessary. Everyone understands the problems and the solutions. Iterations are quick and everyone remains invested in the entire process, from the initial idea to the final deployment. Collaboration allows the right solution to be quickly built and reduces rework.

This enables turning more people into developers as Citizen developers using No-Code/Low-Code technologies and platforms are crucial for every successful digital transformation strategy.

Platforms for digital transformation supporting both No and Low-Code allow you to break down team silos by creating unique opportunity for interdisciplinary collaboration between true IT and non-IT employees.

You can simplify collaboration and work sharing between your professional developers and all other roles in your development process by including team members with different domain expertise from:

- Management/Leadership (Product Owner, Project Leader, Project Manager, Tech Leader, Software/Cloud/Solution Architect, Team Lead). At Transformify, we name this role as Project Admin
- Business (Business Analyst, Business System Analyst, Business Process Engineer, Business Rule Engineer, No-Code (Citizen) developer). At Transformify, we name this role as Business Expert.
- Information Technology (Software developer/Engineer: full-stack, backend or frontend; DevOps Engineer, UI/UX Designer, System Administrator/Engineer, Cloud Administrator/Engineer, Network Administrator/Engineer, Database Administrator/Engineer). At Transformify, we name this role as IT Expert.
- Quality Assurance (QA Lead, QA Engineer, Tester). At Transformify, we name this role as QA Expert.
- Privacy, Security, Compliance (Data Protection Officer, Security Analyst, Security Administrator/Engineer, Regulatory Engineer/Auditor, Compliance Engineer/Auditor, Internal Auditor). At Transformify, we name this role as Trust Expert.
- Machine Learning (Data Scientist, ML Engineer). At Transformify, we name this role as ML/AI Expert.

Successfully implement the principle of collaboration, and you immediately move to an exponentially more effective application development process.

4. Agnostic development

Every Platform for digital transformation needs to be agnostic so you can create any kind of enterprise grade software. That includes integration of anything without limitations. Transformify represent all-in-one platform that enables developing solutions from any industry, any type, any relationship, and any complexity. No Limits whatsoever!

5. Agility in design

Each company or enterprise has its own philosophy of software development, methodology and way how they manage and control the entire development lifecycle.

Low-Code platforms emphasize and prefer Agile and Rapid Application Development (RAD) methodologies as they incorporate BizDevOps processes which ultimately deliver the ultimate goals: Speed (support iterative delivery and achieve shortest time-to-value), collaboration and control.

Agility and Rapid Development is not just about speed. Of course, they embrace collaboration at all stages of the process, apply best practices in the processes and microflows, automate testing and feedback in the platform, enable each team member (or teams) to own piece of the software, allow fast and easy deployment thanks to the cloud native architecture.

Nevertheless, if your enterprise still utilizes the more conservative Waterfall development methodology, there are platforms (like Transformify) that support your philosophy.

6. Platform for innovation

Experimentation is the key to discovery and innovation. This is the beauty and art behind all development. Model-based platforms allow visualization of pathways and solutions in a way writing code cannot. They are the fastest path to bring one idea to a working prototype and, correspondingly, the most rapid route to bringing business value to the market.

Low-code is a developer's paradise. It's easy to reach the stars with its visual drag-and drop development environment, process and rule engines, connectors, automation, testing and easy deployment to the cloud. By adding ML, AI, AR and IoT for your solution, powered by the limitless cloud resources, you can do miracles.

Experimentation does not mean pushing the limits of technology or creating the perfect interface. It involves testing new ideas in the market, engaging customers, creating innovative ways to engage them, and trying out new product ideas. You can test whether your idea works by building it quickly and putting it on the market. If not, you can try another one.

When it comes to business innovation, those who are first, or close to it, gain the greatest rewards.

“The true sign of intelligence is not knowledge but imagination.” — Albert Einstein

So go ahead, try out your ideas. Don’t hesitate. You might just create "the next big thing".

7. Effective Governance and Risk Management

Low-Code development makes it easy to keep up with ever-changing regulations, quickly adapt, change, and globally scale to meet deadlines or any type of legal, regulatory and compliance requirements.

Benefits of Low-Code Development?

Achieve great time-to-value

With your existing human resources, rapidly deliver the solutions your business requires. Low-Code attributes, such as a developer toolkit, visual user interface, reusable components, and other Low-Code features can help developers increase productivity. With built-in collaboration tools, you can speed up decision-making between cross-functional teams.

You can build more at scale

Without increasing costs, you can develop a range of solutions, from process automation to modernization of critical systems. Cloud-native architecture allows you to keep your mind off the infrastructure and server-side worries, licenses, or maintenance issues, as you can create and build maintainable solutions that can be scaled easily.

Create a new way of developing

To foster a strong partnership between IT and business, it is important to break down the team silos. Get a big boost in the rapid application development process by empowering business experts and turni ng them into active solution developers and contributors.

Reduced costs

Costs drop when you can build more solutions in a shorter time. But that's not the only driver. Low-Code development decreases the need for IT developers thus reducing the hiring expenses and their salaries. The right Low-Code platform makes everyone in the organization more productive — not just IT representatives.

Higher Productivity

Low-Code development rapidly reduces the time it takes to build a solution from months, to just a few weeks, thus making it possible to innovate without wasting valuable time.

Improved Customer Experience

Low-Code development has a greater impact than the IT department. A better customer experience and satisfaction is one of the downstream effects of faster development. Organizations can adapt quickly to market changes and customer needs with Low-Code development.

Change is easy

Low-Code development allows easy adaptation and modification of existing solutions to meet new business requirements. Low-Code development enables immediate changes without the need to dive into complicated coding.

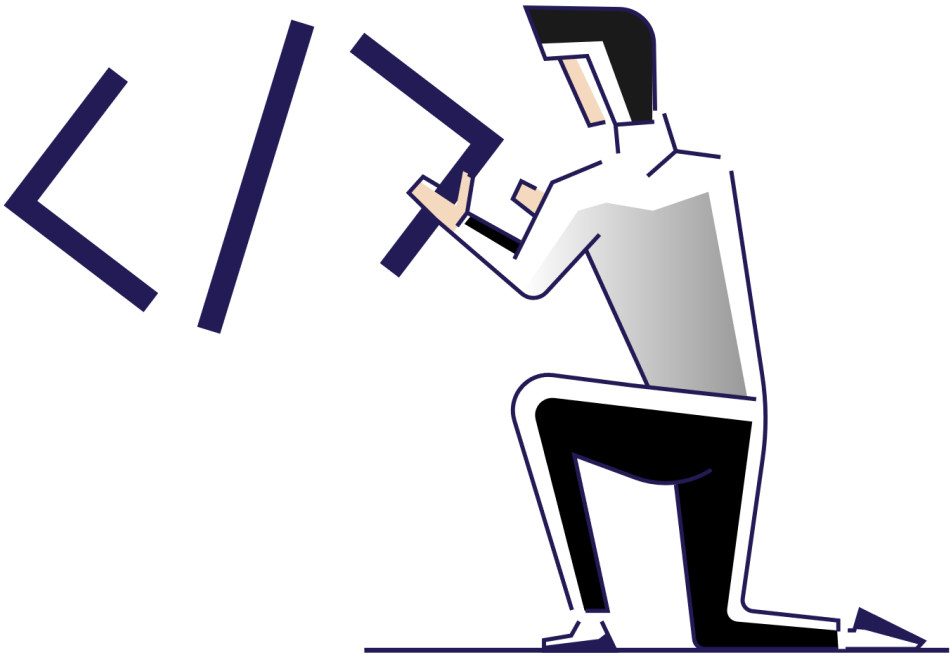
Rapid Transformation

A transformation is essential in today's digital age. Low-Code development makes it easier to create great and modern business solutions, adapt quickly to the new business conditions and be more responsive.

Who can build on Low-Code Platforms?

Professional Software Developers

According to a Gartner survey, 66% of Low-Code platform users are enterprise IT professionals.
Professional software developers are driven by the desire to create innovative software solutions that solve complex problems. Low-Code provides developers with a dedicated integrated development environment (IDE) and state-of-the-art platform that is designed to meet their development needs.



Chris

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Myths about Low-Code

Many companies have misperceptions about Low-Code development and the benefits it offers. These are the top myths surrounding Low-Code development:

1. Low-Code means no programming.

Low-Code platforms allow business professionals and developers to collaborate quickly and design solutions that meet their business needs. Drag-and-drop capabilities and visual designers cover common use cases, accelerating development and freeing the technical team to focus on the customization and more complex engineering tasks that makes their solutions unique.

This no-programming interface is so appealing—and so powerful—that some people think that's all there is to a low-code platform.

But this is just the beginning. Low-Code platforms allow you to go beyond their visual design capabilities. You can easily extend any portion of a solution that you create with them. You can seamlessly combine some parts of the solution created with the UI builder and other parts built using custom code.

2. Low-Code can only be used for simple solutions.

This myth is partially true, as you can use Low-Code platforms for simple solutions. But you can do much more. Low-Code platforms can also be used to create highly scalable solutions that allow complex logic. These are the kind of custom solutions that will enable your digital transformation.

Developing more complex solution surely requires a team with solid coding skills, but at the end they will tell you that using Low-Code platform allowed them to create robust, unique, and complex solutions much faster than traditional development tools.

3. Low-Code is for "citizen developers".

You might hear a lot about Low-Code platforms. This could lead you to believe that your business analysts will be able to use the latest Low-Code tools to create solutions that meet your specific needs. This scenario would allow you to drive digital transformation without waiting for expert development resources that are insufficient. This is false, unfortunately.

Some platforms that require low code allow business users to create simple solutions. However, digital transformation requires complex solutions. They're high-visibility, enterprise-wide and enterprise-grade solutions that need to be built rapidly and integrated with the enterprise information systems—by IT experts and professional software developers.

A good platform that uses low code can help professional software developers and business experts collaborate on project requirements and interfaces to create a solution that is both functional and user-friendly.

Low-Code is the key of unlocking Digital Transformation

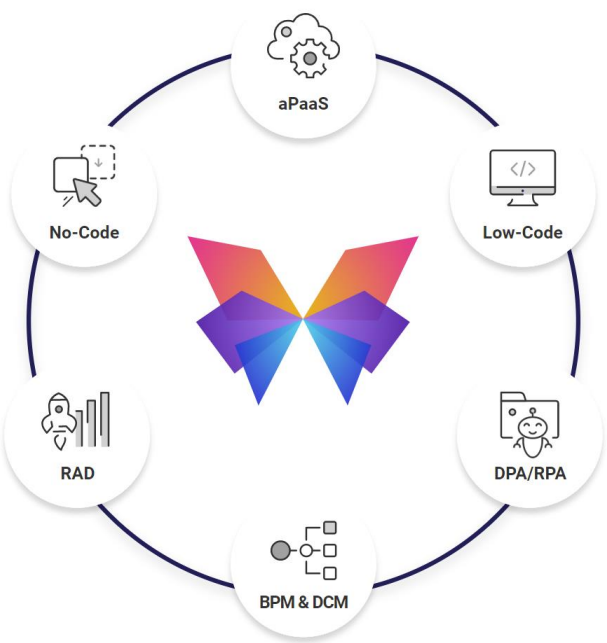
Cloud computing and agile methods are crucial to digital transformation projects. However, Low-Code is what powers these undertakings as it reduces the time and costs associated with traditional development.

This is more important than ever as organizations are forced to respond quickly to changing social and commercial landscapes due to the coronavirus pandemic. This includes systems like company onboarding, order provisioning, and field services (including customer service cases or site surveys) without the need to upgrade hardware and software.

Low-Code is also ideal for customer-facing solutions. It offers a better user experience without having to compromise security or update legacy systems.

Low-Code is key to unlocking customers' doors by providing unique digital experiences that are different from others as more and more people do business online.

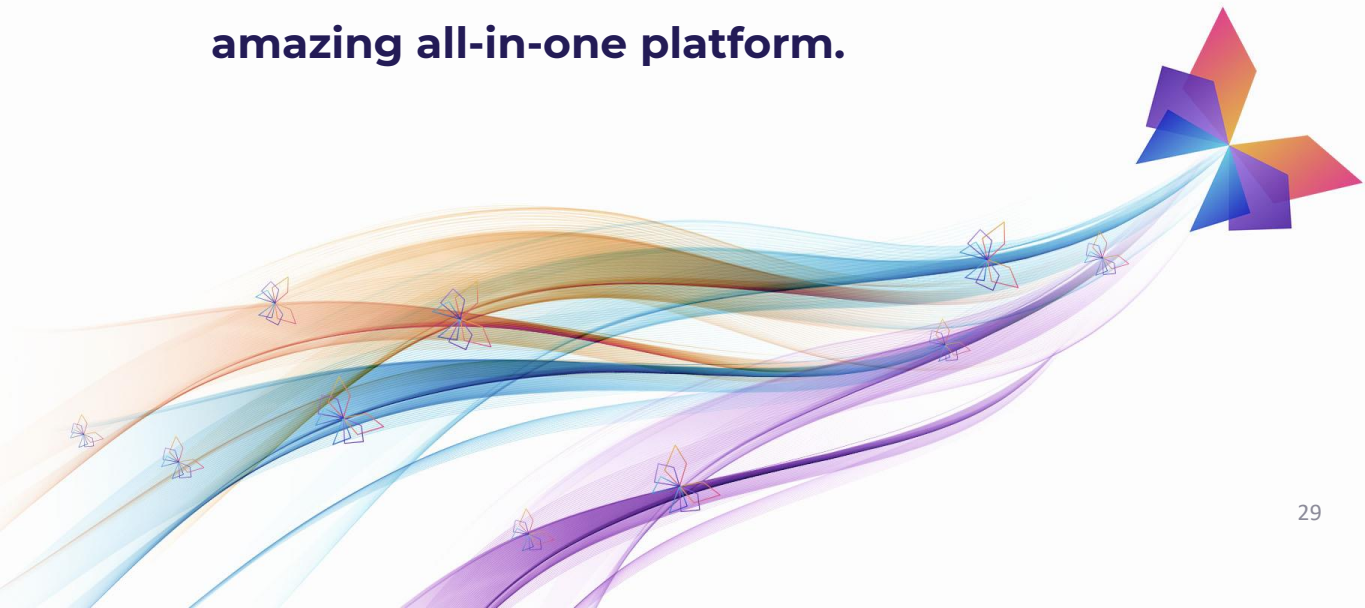
Low-Code Development the Transformify way



Our Transformify platform provides a unique opportunity for professional software developers to make the most out of their advanced coding skills and bring out your C#, .NET, Blazor, HTML5, CSS3 and Java Script knowledge and expertise to expand platform functionalities and amplify your true software development power.

No matter if you will develop in our web **Transformify Studio** or in any other IDE
(**Visual Studio**, **VS Code**, **Rider**) on any platform (Windows, Mac, Linux),
you will get complete DevOps experience driven by the powerful C# programming language and
.NET as the best cross platform application framework in the world, together with **integrated Git versioning control** and **automated CI/CD pipelines**.

With Low-Code approach in our Transformify platform your business can:

- Reveal the true power of the latest .NET framework, the best enterprise solution framework in the world.
- Provide strong technology stack to empower your complete development and minimize the development effort of your professional software developers.
- Enable professional software developers to use their expertise and coding skills to handle any kind of application complexity or limitation.
- Simplify collaboration and work sharing between your professional developers and all other roles in your development.

Ready to start with our Low-Code platform? Request an invite for Transformify private preview (limited availability) to try out our amazing all-in-one platform.