

# How AI Changes SDLC and Improves Customer Experience

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Artificial Intelligence crops up more and more often in [technology predictions](#). One of the current usages of AI is Machine learning (ML) that even today transforms many industries and, inter alia, the software development.

By Katrine Spirina

ML permeates into all related business processes to bring them to a qualitatively new level. To keep abreast with the times, any [software development services](#) provider seeks for the ways to accelerate software development lifecycle (SDLC) through using AI-driven approach.

Customers can be confused by the way modern technologies reshape common processes. What are those fundamental changes ML brings into engineering custom software? How can the development process be accelerated? Does it mean any negative impact on the project budget? The list of concerns goes on and on.

 help services consumers revise changes in standard processes, gain a better understanding of the use of ML in application development and uncover the transformational potential of Machine Learning.

## Where does the importance of SDLC lie?

SDLC includes 5 main phases that can overlap: requirements definition and analysis, design, development and testing, implementation, support and maintenance. It is a great way to ensure an end product fully answers the client's business needs. Furthermore, it facilitates maintaining and updating an app once it is published in the App Store or Play Market.

It is always vital to reduce time to market of a customer business app. For instance, with the Agile SDLC model chosen, the development team can prepare the [MVP](#) as early as possible. Prompt market entry of a viable product can draw much attention of early adopters to the application. Meanwhile, the development team will be able to proceed with updating and adding functionalities.

The software development lifecycle also allows business analysts to foresee the market tendencies and embed a bunch of cutting-edge functionalities in a would-be app during the development process.

## AI can revamp the concept and accelerate the development

Learning algorithms go through continuous improvements and new training processes to enable carrying out tasks in a most "smart" way. An ML-based development process presupposes a different role for a developer. It means an engineering team, unlike today, will be to a greater extent engaged in controlling and data-analyzing activities than in programming. There is a great hype around [AI replacing software developers](#). In fact, AI will eliminate simple but strenuous programming, which will allow prioritizing more complex project tasks.

An SDLC powered by ML differs from the one familiar these days. Let's spell out all the details of SDLC phases with ML algorithms applied.

### 1. The birth of idea and requirements definition

It is still a far-reaching perspective when it comes to working with humans. The [homogeneous thinking of AI](#) creates certain obstacles in analyzing customer requirements. An [ML algorithm analyzes](#) more general and explicit patterns, i.e., what basic functionalities a custom solution would require based on the data about customer's business processes and end-users' preferences. But the devil is in the details.

Be it a business automation project, e-commerce software solution or a mobile web app, data scientists will leverage their vast domain expertise and will much better tackle the analyses and technical specification drawing-up. Human professionals will scrutinize the specifics of a customer's business and prioritize the tasks employing some output of an ML algorithm.

### 2. n and MVP

Once the requirements are specified, they should be translated into a viable product. Before, a thorough planning is required, which can take months or years depending on a project scale. AI

can significantly accelerate the process. The visual interface can be developed by applying ML algorithms for [generating code from a graphical user interface screenshot](#). Automated code generation based on some given modules is not a new concept, and it can be used for process automation quite successfully.

### 3. Development and testing

Programmers waste a great deal of time debugging and examining project documentation. With AI-powered smart tools these tasks will be redundant. Such assistants as [Kite](#) (Python) or [Codota](#) (Java) significantly facilitate developers' life – they find and suggest relevant documents, provide code completions based on fed modules, and more. The algorithm is steadily learning from millions of programs.

No doubt, software testing, whatever the type, can benefit from the ML-based approach. Trained on some historical data, i.e., customer requirements, previous test cases, the algorithm can predict the nature and the source of bugs and defects throughout the SDLC. In the hands of skilled [software development specialists](#), "smart" bug detection tools can be effectively applied for code refactoring and optimization.

### 4. Implementation

Even when it comes to application release to end users, ML remains relevant. [The research proves](#) it can impact the automation of the deployment pipelines, analyze traffic issues to provide further optimization, decrease the number of defects. As ML helps level-up the whole SDLC and increase the productivity of developers' work, the price of the end product will be reduced respectively.

### 5. Support and maintenance

A cornerstone of every successful business is ensuring a first-rate customer experience. In the light of the current technology ramp-up, custom software solutions require constant updates and supplementing functionalities. On this point, predicting failures before they occur, i.e. anticipating customers' needs, is the best possible way.

AI fuels [predictive maintenance](#) for software solutions, and thus cut the maintenance time and costs. The process is based on predictive analytics, which presupposes the involvement of experienced data scientists. The advanced maintenance and support can come at a price as it relies on complex ML technologies and the vast knowledge of experts. However, customer loyalty and increased conversions will be the reward.

## Client's business certainly reaps perks

Improving and delivering custom applications faster, providers enhance customer experience to retain clients and convert new prospects. The AI-powered approach brings the following advantages:


- ML-based analytics enable automated decision-making
- The algorithms optimize development processes
- Benefits both customers and the software provider in terms of saving time and money
- Ensures the highest level of further maintenance and updates

Whether a startup or an established corporation, customers' businesses strive to keep pace with the times. Artificial Intelligence and Machine Learning are on the way to reshape the software development field. As for now, using technology potential to the utmost, business owners can uncover new opportunities and effective strategies.

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