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# Stages of Modern Technological Development of Automation of Robotization Processes

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**Abstract:** Creator of the technology scheme of robotic automation of technological processes organizations are now widespread. Common use cases involve automating repetitive manual tasks (or processes) currently performed by enterprise employees. Robotization processes are attached to technological processes through some information system. The life cycle of any Robotization process automation project begins with process analysis and creates wide opportunities for automation. This is a very time-consuming step in practice settings often rely on studying process documentation. Such documents are usually incomplete or inaccurate, for example, some are documented cases never occur, cases that do occur are not documented, or circumstances differ from reality. Robots will need to be deployed in a production environment. Things developed on such a confusing basis pose a high risk. This is paper describes and evaluates a new proposal for the early stages of robotic process automation technology. Analysis of the technological process and its subsequent design stages are carried out. The idea is that use the knowledge of the company's employees, starting with monitoring are considered at the stage of receiving them in a non-invasive way. on a computer, it is done through mouse movements and basic movements. This stored along with timestamps. Received journal this method is converted into U log by image analysis technique and (such as a fingerprint or a block diagram) and then converted into a process model. Technological a technological system is created by using process identification algorithms. We evaluated this method we have created two real-life improved technological systems, observed the period of technological adaptation of industrial enterprises. The assessment is clear and shows importance. We looked at the benefits in terms of accuracy and speed. This article presents a method, along with a number of limitations that need to be addressed can be applied in wider contexts and we have looked at the safe steps in several process automation processes.

**Keywords:** Robotic process automation, Technological process determination, outsourcing processes in enterprises, technological objects, automatic changes in robotization, technological system scheme.

## Introduction

One of the most difficult industries to automate is training the technology system to employees. For example, we need to show students automation processes in the education system. Effective learning is not just about copying. teachers are required to provide complete information to students. Modern education requires social interaction and adaptation to the individual learning of the student, their based on the needs and possibilities, the database is created on the basis of the technological system. Meaningful human interactions are essential in education and are nearly impossible to automate. Fast reception and the number of smartphones/smart gadgets for educational purposes and the availability of high-speed Internet are considered to be one of the main factors that increase smart capacity. In addition, the adoption of e-learning (now known as smart learning) will help increase overall smart learning. Smart education is a more cost-effective and convenient way of learning because it provides training and tutorials from experts, advanced courses, certification programs, etc. Despite the great

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leaps such systems have made, automation alone cannot solve all problems on a global scale andmeans that the educational system cannot be maintained at a full technological level. Harnessing the power of automation will improve educational content, strategy, and policy. Pay attentionautomating the learning process can lead to an entirely digital learning experience that promotes outdated skills and lacks training.The learning potential of students is important for the future.The education sector is all set to witness a revolution with this new age technology. Existing technologies are capable of automaticprocess computing technologies such as grading and student feedback are available. Automating tasks in education may require artificial intelligence and machine learning. In general, the project of technological automation of robotic processes follows the following life cycle:

- Analyzing the context to determine which technological processes or their parts and proper operation of the robotic system circuit, taking into account the previously mentioned criteria.
- Design of selected technological processes, which includes specification and actions to be developed, data flow, etc.
- Development of each designed technological automation process.
- Placing robots in their own environments (for example, virtual machines) to form their memory to perform their tasks.
- A test or control phase where the performance of each robot is analyzed and errors are detected. It is noted that traditional software development life cycle testing is performed before implementation, Robotization is characterized by the lack of technological automation of processes. test environment; only used on a system with a production environment.
- Operation and maintenance of a process that considers each the performance of the robot and the error conditions and the results of this step allow to create news and several technological testing steps are created, such as the analysis and design cycle, to improve the robots.

**Creating a smart education system**

Nowadays, there is a significant increase in technology and the development of the education system. Their introduction smart devices/gadgets such as computers, smartphones, laptops and other electronic devices play an important role in the classroom. The introduction of such technologies for smart education opens the door to several possibilities. These smart devices are gradually replacing textbooks. With these smart devices, students can access knowledge can be shared anytime, anywhere and with anyone. Some of the smart learning features are smart classroom, AR/VR, gamification, learning. Application, biometric attendance and facial recognition, digital transformation, application maintenance and custom development. Azizbek Utelbaev's smart classroom solution overcomes the above problem in the traditional teaching system. Smart class is at high level study materials and emphasizes online research for those who can't imagine anything else. A smart classroom has an interactive a whiteboard that allows students and learning materials to be edited. It connects with accessible smart devices used in the rendering process. Smart classrooms can achieve distance learning and provide an interface between teachers and students to interact, communicates, cooperates and expresses his opinions on various topics. It can be used in seminars for presentations on rural development ideas.

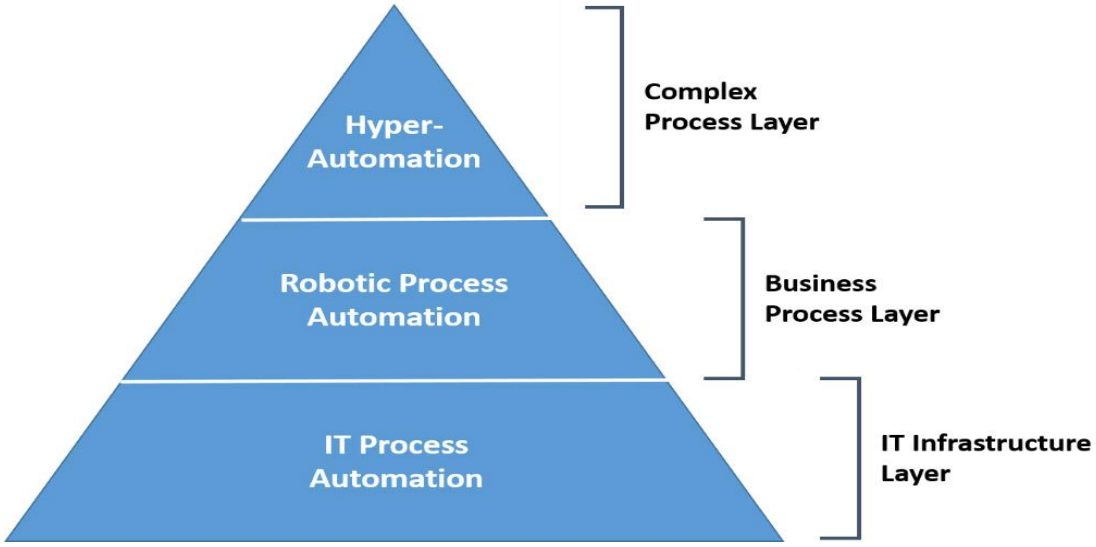
There are many areas in the education system that deal with manual tasks that are better suited for robots. As the next generation most students have a practical understanding of technology, they can access familiar things in the consumer technology they already use. Some of the areas that are suitable for robots in the education system are listed below:

# Self-checkout in Search Portals and Libraries is becoming more common. This frees librarians from such repetitive and low-value tasks, so they help students with more learning inquiries while giving students more autonomy. several processes are facilitated by technology.

# There are many places in the classroom where automation can improve the student and teacher experience. From starting a new one student in the classroom, these processes can be easily simplified

to help people understand how and where to access school resources and streamlined through automation to free up faculty time to work more efficiently.

# Spending such resources on operational management makes sense where the goal is to attract and educate more students more efficient results through automation. Today, technological automation of robotics processes can transform education into a more personalized learning experience, with less assessment bias and customization. Robotic technology will ultimately reduce the pressure on students and create a more accessible learning experience for all. For example, Robotics technology processes use intelligent algorithms to determine which teaching methods are likely to work for each student. Technological advances such as these allow lecturers to help students with disabilities or other educational backgrounds understand the subject. with higher accuracy the concepts of their classes increase. This ultimately leads to better grades and the development of real-life skills. The world and the opportunity to find career paths that suit each student greatly increases.




**Picture 1. Stages of automation of robotization processes**

**Results and Conclusions**

The increase in process behavior covered in the final models is significant and correspondingly increasing technological processes. In addition, some new paths may not be relevant only outsourcing processes (that is, interaction with external IS), but to the company's internal computer ecosystem, for example, the process of solving common problems. causing a network connectivity issue unrelated to the outsourcing process. Therefore, the proposal may also identify ways in which it may not occur it is necessary to form any a priori model based on documents. The tools that are part of our method appear to be useful for refining early models as well as from the noise and it will be necessary to decide which paths are relevant. When this happens some relevant paths correspond to small repeating patterns such as exceptions, this can happen in a variety of longer ways (such as closing an unexpected popup and then proceed in the normal way), which means that the analyst needs and deciding between dropping the full path or making a stronger cognitive we need to work to distinguish such patterns and gain this knowledge. When the final models contain additional, relevant information about the process paths compared to a priori models (e.g. road frequency, mouse movements, time, etc.). In our evaluation, we focused only on the use of the frequency of paths as it is recognized to be most relevant to the analyst. This article describes the steps and tools included in the suggested parts method. It is applied to two real-life processes that form its basis our assessment is cited. The results show that the proposed method is suitable for av includes the issues addressed. Basically, it increases the accuracy of the process analysis is followed. Additional benefits include indications of this method Robotization also significantly speeds up the initial stages of process analysis. Nevertheless, the approach presents some limitations that are planned, mitigated as future work. First, the proposed method takes into account the log a single user interaction is considered. If multiple back-office computers are monitored, there may be different solutions, but each should be evaluated. For example, a procedure might be to define

a process model for each user first, then there are opportunities to combine them into a single process model. Although not timed in this assessment, discovering the final the model by the analyst turned out to be a matter of time between several hours the first configuration is done before the final process model is created. To whom Compare: analyst opinion, conventional, document-based Analyzing and designing an a priori model is a matter of days or even weeks. This provides a first indication that the proposed method is indeed feasible helps speed up the analysis and design phases. In summary, this evaluation clearly demonstrates the improved accuracy of process analysis using our instrumentation-assisted method compared to mining. knowledge process knowledge from documents. We have also received estimates of additional benefits, most importantly time reduction required to identify relevant parts of processes that can be robotized. We can develop these processes through technology in the education system. Currently, IT technologies are widely developing in the Republic of Uzbekistan. Otelbayev Azizbek, a student of the Nukus Mining Institute under the Navoi State University of Mining and Technologies, is currently conducting scientific research on the optimization and automation of technological processes in mining processes, and the use of robotization processes in mining enterprises. Azizbek's interest in the technological activities of mining enterprises is very high. Otelbayev Azizbek's many articles about processes in mining enterprises were published in international magazines. Currently, Azizbek is promoting the use of the development stages of technologies in mining enterprises. which can further increase performance indicators. I wish Otelbayev Azizbek, a student of the Nukus Mining Institute, good luck in his work and scientific research. Azizbek's articles on technologies and technological processes in mining enterprises were published in international magazines. He is very interested in technological processes, currently studying computer systems management, applications used in mining enterprises. Azizbek is a 4th year student and has been following the processes in mining enterprises for a long time. He is interested in mining and loading processes, flotation and beneficiation processes, and the structure of metal melting furnaces in mining enterprises.

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