

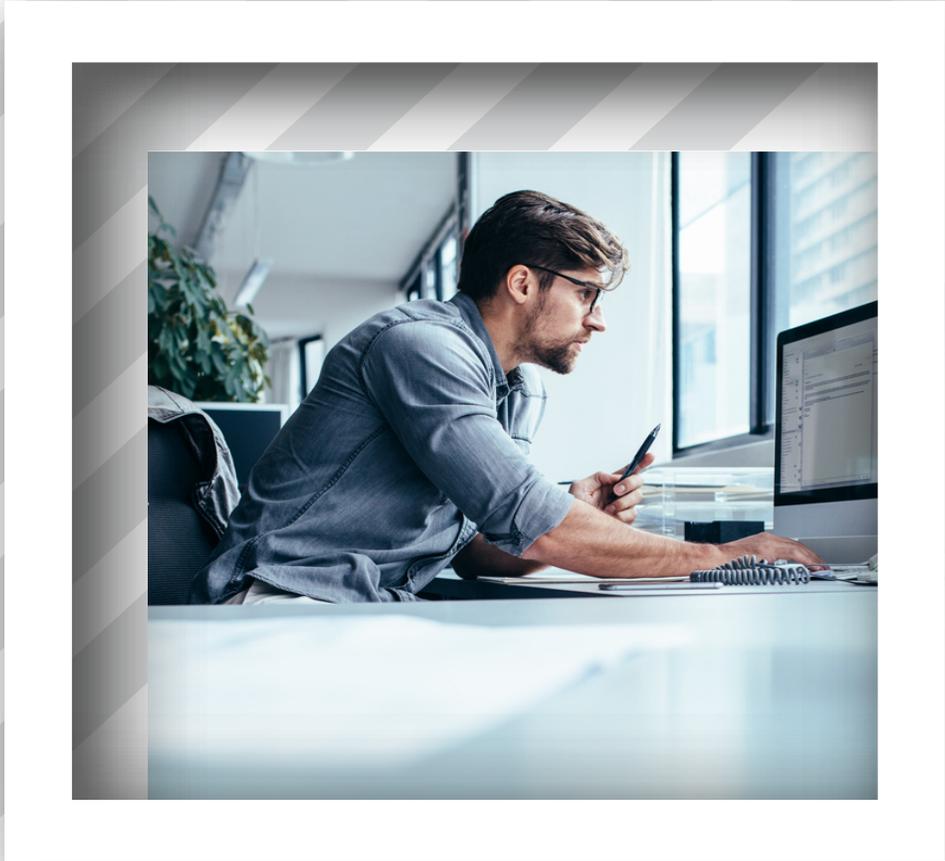


An Introduction to RPA

Getting Back to Business



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My little cousin Liam is a very picky eater, and when I'm on babysitting duty, he always wants me to make him his favorite meal. A peanut butter jelly sandwich. Liam has a very particular way he likes his lunch prepared (Liam Style, he calls it). First, the bread. It must be toasted to his exact specifications. Not too brown, but just crispy enough to have that satisfying crunch when bitten into. Next, we need to apply 2 tablespoons of jelly to the top slice, and 3 tablespoons of peanut butter on the bottom slice. Now extract the crust. This takes surgical precision because if you cut too much off the sides, he'll still be hungry and want seconds. Finally, partition the sandwich square into two halves so he doesn't get grape jelly all over his face. Then and only then, is the sandwich complete and Liam will be satisfied.

As I stand there with vacant eyes, watching toast toast, I daydream of how awesome it would be to have a sandwich making robot that carry out all of these tasks for me in quick succession and deliver the perfect sandwich that meets all expectations at the push of a button. Liam agrees with me on this sentiment. Not so lucky for me but lucky for the businesses around the world who are stuck doing tedious, time-consuming, error prone tasks, there exists RPA.

Robotic Process Automation, or RPA, may be joining the ranks of tech industry buzzwords like "cloud computing" and "big data," but it is trending for good reason. Where there is smoke, there is fire after all. Businesses of all shapes and sizes across the globe have taken up RPA in order to cut down the time and manpower spent doing mind-numbing tasks that could easily be automated.

Reading about my sandwich woes may have stirred up some hatred towards the boring tasks that you yourself, or your associates, carry out every day. Find yourself copying and pasting information, one field at a time, between multiple applications? Tired of making the same



types of edits to the same types of documents, saving them and emailing them out to the same people? Have you clicked the same sequence of buttons so many times you could do it in your sleep? Before you go off fantasizing about sipping cocktails with your feet up on the desk while a robot does all your work, let's first go into more detail about how exactly RPA works.

Getting to Know RPA

If you're familiar with programming or IT, you have probably heard of the term "scripting." Not too dissimilar from a Hollywood movie script, the concept is that, in a script, you have a sequence of events that when combined together, tell a story or contribute to a larger purpose. In isolation or out of order, the events don't make much sense. Each event has a purpose in taking in information from the previous event, building upon that information, establishing new information, and sending the information along for when the next event takes place.

A script also has characters. Characters interact with each other using dialog and by taking actions. The script dictates what character will take an action, what the action will be, and when the action will be taken. Through the interaction of characters and the impacts their actions have on other characters and the environment, we have events transpiring.

The same concept can be used to describe RPA, but whereas the traditional idea of scripting can apply to many things in the tech space, in the context of RPA, this will be limited to the types of actions that a human would take when working with User interfaces, input/output devices, and the manual transferring of data between business endpoints.

Furthermore, where traditional scripting would normally require literacy in a scripting language (Python, Bash, etc), building RPA modules can be accomplished in a user-friendly graphical interface. Using our movie script analogy above, let's take a generalized example of a task that would normally take someone 15 minutes to complete and break it down to be automated. Our task could be summarized as "updating an account balance" and its events would be the things you would tell your friend when they ask what you do at work all day:

1. Well first I log on to the sales portal.
2. Then I take the account number in the email that was sent to me by our automated confirmation service and search for that account number in the portal.
3. Once I find the account and make sure it's the right one, I update the balance owed and document the date and amount changes in the account notes.
4. Then, I copy and paste the new notes along with the account number and name of the account to a spreadsheet which gets verified at the end of the day.

At this point, you may want to wake your friend up. Each of these steps can be considered an event for our RPA bot to process. Looking at our first event. "I log on to the sales portal," we can identify each character and the actions they take to move the story along. The characters here are our mouse cursor, the Operating System, our keyboard input, and our sales portal application.

Using our mouse, we double click the app on the desktop to open it up. Then we type in our username and password at the login screen of the sales portal using the keyboard. Finally, we click enter to move to the next screen. The mouse talked to the OS, which told the application to open. The keyboard then tells the application who you are and the application shows you the next screen. End scene.

There's just one problem. You are essentially filling the role of movie director by executing on the script and bossing the characters around, making sure everyone is doing their job. And this is just one event! Our script could contain dozens of these events, but now I, ambassador of RPA knowledge, officially promote you to movie studio executive, which means you can dump your old role of director onto RPA. Robotic process automation will click your buttons, paste your copies, and log your -in's all day long and never complain or take bathroom breaks. When we extend this automation across your entire task workflow, you can start to see how powerful of a tool it can be.



How Are Businesses Using RPA?

Our hypothetical sales portal task was only one example of how RPA can be integrated into a typical workday. Businesses all over the globe are using RPA in different ways to free up bottlenecks and increase the amount of time their employees spend on more engaging work. Not all businesses have tasks that are well suited to be adopted by RPA, but the tasks that are automated will usually have one or more characteristics in common that make them a good fit. While businesses will have differing systems and data at play when integrating RPA, they are generally working to deal with the following problems:

- 1. The task is repetitive.** This one is a no brainer. Think checking numbers on a spreadsheet that's hundreds of rows long or manually entering the data found in each one of those rows into a database.
- 2. The frequency of the task is high.** Repeating the same task multiple times a day may not seem like a huge deal, but over a period of months and years, that adds up to hours and even days logged to that task. Multiply this time by the number of employees that have to perform this task and you could have a huge problem with wasted man hours and poor ROI from valuable employees. Businesses are recognizing this problem and turning to RPA to remove the burden from these employees so that they can focus on more valuable tasks like customer service, communication, and critical thinking. This leads to the next item.



- 3. The task requires little critical thinking.** Most businesses will opt to only automate simple tasks that don't require much thought or hefty decision making, however many RPA vendors offer Cognitive Robotic Process Automation, or CRPA for short. It is usually used in conjunction with RPA and boasts the added benefit of artificial intelligence. CRPA has already made its way into several industries. One example is the CRPA bot called Amelia which answers customer phone calls and handles their issues using speech recognition and natural language processing. If it can't handle a customer's problem, a human takes over while Amelia, using machine learning, studies the remainder of the interaction to be better prepared if a similar situation arises later on. To learn more about Amelia, CRPA and the industries that have adopted it, give [this article](#) a read.
- 4. The task deals with legacy systems or applications.** It's ok, we've all been there. Forced to use the same ancient program that's been in your company since, well, nobody really knows for sure. Nobody knows why it hasn't been replaced or updated. Some people may not even know what it does. At your orientation, they may have well just told you, "Every 108 minutes you need to type in this line of numbers and hit enter or else the company will go bankrupt and the building will burst into flames." Whatever purpose it serves, no matter how much you gripe, you are stuck with it for the foreseeable future. This is a good opportunity to employ an RPA bot to work with these dinosaur programs. However, this point comes with asterisk. If there is a possibility that your surly program will change in the future, ie changes to the user interface, changes in application flow, or changes in how data is handled, then this could prove to be highly disruptive to your RPA since it has been established with certain expectations of how the application will behave. More on this later.
- 5. The task is business critical.** Ok, maybe your office building won't light on fire, but if the task is an important part of keeping your business running smoothly or your customers happy, then automation is worth considering. Companies often deal with account numbers that need to be correct or transaction amounts that need to be exact down to the penny. It's unfortunate that this sensitive data is often transferred manually by copying and pasting



the values from one place to another. In these cases, a simple copy-paste error could do some serious damage. RPA can take the monotony and risk away from situations like this and let fat fingered typers (such as myself) breathe a sigh of relief. If you're curious about how human error can impact your business, take a lesson from this [leading technology company](#).

Is RPA Right for My Business?

You knew this question was coming, and you also probably already knew the answer. It depends. It depends on many factors, including company size and scale of automation needed, how much you're willing to spend, and how you plan to deploy. As we have discussed above, RPA can benefit in many scenarios, but it does not make sense in all situations.

One in particular is if the workflow your RPA is operating under is planned to change at any point. In this aspect, RPA becomes very fragile, this is because any differences with how applications behave and what the automation expects can cause things to fall apart very quickly. Changes around RPA should ideally be known ahead of time so that ample effort can be committed to adjust and test your RPA bot.

In addition to this, you'll want to have a clear idea of what tasks your RPA bot would handle. This is to get a clear grasp of the work, time, and costs associated with getting the automation up and running. This includes verifying that the RPA vendor you choose to do business with

offers a specific feature needed for the workflow. While most RPA solutions competing on the market are comparable in terms of basic features, they all have advantages over the others as well as blemishes. For example, Blue Prism is touted as one of the most user-friendly solutions on the market, but lacks the cognitive abilities that Automation Anywhere offers.

Whether or not RPA belongs in your business is not a simple question to answer, but the good news is, there are many resources devoted to comparing and learning about all of the different RPA offerings. If you're unsure of how RPA can fit into your workflow or just want to do some experimenting, UiPath is one of the most popular solutions on the market and offers a free [community edition](#) of their solution to play around with.

Good luck my friends, and happy automating!