In this issue:

We're delighted to deliver Issue #4, with a strong focus on the intersection of Analytics and the teaching of Analytics. Our authors have studied Tableau as a supplement to Excel, LinkedIn Learning in Analytics courses, and Excel vs. Google Sheets. And our teaching tips and case studies include predictive analytics to predict acquittals at trial, and to predict the risk of falling in knee replacement patients, as well as a case using the timely topic of taxes.

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Editors

Teaching Case

Robotic Process Automation
Overdue Collections Case

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Abstract

Organizations are keenly interested in employees trained in business analysis and robotic process automation. This is because those methods are growing in demand for improving efficiency in business processes. Business students exiting college must understand how to map out business processes and implement automation fundamentals to be competitive in the job market. In this hands-on project, students will analyze a real-world situation and utilize NICE Automation Studios to automate the process.

Keywords: Robotic Process Automation, RPA, Automation, Business Process Improvement, Business Process Reengineering

1. INTRODUCTION

Imagine you are on your way to your first job after college; you are not looking forward to the day because it is the day you have to send emails to customers who are overdue with their payments to your company. This is one of the mundane tasks you wish you did not have to do, which is why they give it to the new employee. But today, you will automate that task using RPA (Robotic Process Automation). RPA will complete the tasks with a few clicks, savings hours to be allocated on other essential activities.

The world is full of problems to be solved with technology. The future is full of opportunities for those with the right skills. According to *Deloitte Insights – Automation with Intelligence* (Watson, Schaefer, Wright, Witherick, Horton, Polner, & Telford, T.W, 2020), the leading skills needed within industry are uniquely human skills such as business process analysis, complex problem-solving, and cognitive abilities. These skills ranked significantly higher than traditional technology skills, such as system, content, and technical skills.

Startlingly, many technology implementations do not yield benefits. According to Forbes, 90% fail to achieve quantifiable returns. The top reason cited for these alarming statistics was the lack of talent available within an organization (Andriole, 2021).

This case study will allow you to practice those uniquely human skills: problem-solving and critical thinking. As with most business challenges, there are many possible solutions. You will be limited only by your available technology (NICE Automation Studio and Microsoft Office), your ability to analyze and understand the problem, and your creativity.

Consistent with real-world technology problems, you will find that this case requires process and data analysis work. These skills are critical to the success of any implementation.

Since automation solutions are typically delivered using an agile methodology, this case will expose you to the variety of skills needed for a successful implementation through rapid development cycles. On a personal note, you will find that this case provides you with specific insights into two different careers: automation development and business analysis. Both roles offer strong salaries and excellent career paths and are in high demand. In the United States, RPA developers and business analysis roles, as of June 2022, had average annual salaries of $99,096 (*Glassdoor,* 2021b) and $84,125 (*Glassdoor*, 2021a), respectively.

2. LEARNING OUTCOMES

Before starting this project, you should be familiar with the following: first, you should have a basic knowledge of Microsoft Excel and Outlook, and second, if you are new to the world of RPA, then you are encouraged to scan through and review some of these resources:

- Everest Group Blogs (*Everest Group Reports - View*, n.d.)
- NICE YouTube Channel (*NICE - YouTube*, n.d.)

Finally, if you have not used NICE Automation Studio before, complete the 10 practice modules found in Appendix C, Practice Modules. Pay particular attention to *Project 9: Generate Emails from Excel Data,* as it is similar to this case.

After completing this project, you will be able to:

- Demonstrate a basic understanding of business analysis as evidenced by creating:
    - A problem summary
    - A basic flowchart
    - A data dictionary
    - Instructions for developing an automation
- Solve a business problem using automation by:
    - Automating data collection across multiple Excel files
    - Automating sending customized email
    - Utilizing various rules and procedures to interpret data

3. PROJECT DESCRIPTION

In this project, you will utilize an RPA software, NICE Automation Studios, to automate the Overdue Collections process. You will analyze the case study, identify necessary data by compiling it into a data dictionary, create a flowchart of the To-Be state of the process, create instructions, and execute the solution. At the conclusion of this case, you will walk through your project to demonstrate your automation, highlighting your understanding of the entire business process and your automation of that process.

Deliverables
Each step of the project will have a specific deliverable, which will help advance you to the next step of the project. In addition, these deliverables represent realistic outcomes that could be expected of you performing this role within industry. The deliverables are as follows:

Step 1: One-page problem summary
Step 2: Data dictionary
Step 3: Flowchart of the future state
Step 4: Solution instructions
Step 5: Automation
Step 6: Video presentation of automated solution

As projects become more complex, the steps are even more critical, as incomplete or skipped steps can lead to significant downstream problems in solution development. While everyone is tempted to skip straight to problem-solving and automation development, avoid this temptation as it can lead to significant debugging challenges and missed requirements.

Discussion Questions

Each project step ends with questions for you to consider. Discuss the questions with your group, prepare responses for class discussion, or share your responses in a format as specified by your instructor. You will likely find the discussions an interesting and valuable exercise to help with overall comprehension. You will learn significantly from your peers while getting the opportunity to test new vocabulary and budding insights. This case doesn't have one "right" answer, and you will have the flexibility to customize your solution. Sharing ideas with your peers can lead to ideation resulting in a better end product.
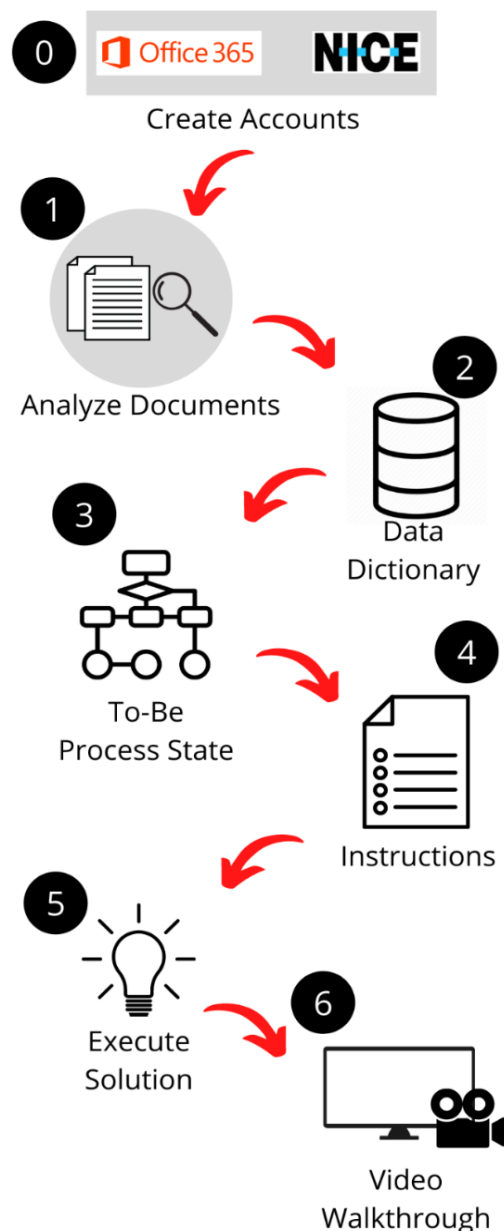
Figure 1. Workflow

Begin by familiarizing yourself with Figure 1. This provides an overview of the workflow and data flow for this project. Your solution will follow these steps:

Setup step (Step 0): Create applicable accounts if needed.

Step 1: Analyze the problem which, in this example, is the case document in Appendix A. Understand the client's current process and automation requests. Examine the Excel documents to gain familiarity with the data.

Step 2: Identify necessary data and compile it into a data dictionary.

Step 3: Document the high-level future state of the process.

Step 4: Create instructions on the proposed solution for the case.

Step 5: Execute the solution.

Step 6: Create a video walkthrough to demonstrate understanding of the project.

Now let us walk through each step in more detail.

Setup Step (Step 0 on Figure 1). Create Accounts
NICE Automation Studios primarily uses Office 365 applications in its functions. In this project, you will be extracting data from Excel, analyzing it, and using Outlook to send emails automatically. Both applications must be installed on the computer before building the automation.

NICE Automation Studios has a free trial version of its software. Rather than using an application on your desktop, open it through your web browser. Follow the steps on the website: https://info.nice.com/RPA_Free-Trial.html to begin your trial.

Things to watch out for
When this case was developed, Automation Studios did not support Mac or Chromebooks. If this is still the case and you use one of those devices, then you will need to set up a virtual desktop or use another device. If you do not have another device, talk with your instructor about whether there are suitable labs on your campus.

Discussion Questions
1. Looking at Automation Studios' free trial webpage, what useful features does this tool offer?

Name	Excel Sheet Name	Column Location	Description	Data Type	Variable Type
Customer Address	Customer Data	D	Where the customer lives	string	List of text
Customer Account Balance	Unpaid Account Data	A	The amount a customer still owes the business	number	List of numbers

Table 1. Data Dictionary Example

2. What steps or processes in your daily life, or current/past jobs, could this tool automate? In other words, how might it be used?

Step 1. Analyze the Problem (Appendix A RPA Overdue Collection Case)
Begin this step by reading through the case description (See Appendix A). When reading through the case description, note the company's current process. After reading the automation request, determine how you plan to meet each feature.

Next, examine the Excel workbook (Appendix B). Explore the columns and make sure you understand the data titles and what each column represents. Identify the data that will need to be extracted from each report (hint: you will need data from both reports to complete this case).

After reviewing the case and supporting documentation, write a concise summary of the business problem. Include the key details needed to solve the problem and a high-level assessment of the benefits to the stakeholders. This may feel a little redundant as much of what is necessary is already included in the case, but typically you will not be given such documentation. Instead, you would generate the documentation after talking with the business users. Take the time to highlight precisely what data and documents are needed.

The following is a recommended outline to help organize your problem summary.
   I.   Problem statement
   II. Stakeholders
   III. Benefits/Opportunities
   IV. Risks/Challenges
   V.   Data/Documentation needed.

Deliverable
Create and submit your completed problem summary.

Discussion Questions

1. What are the benefits and disadvantages of a business such as GE Appliances utilizing RPA?
2. What other stakeholders could be impacted that are not mentioned in the case? What might be the impact on them?
3. What risks exist to automating the process as requested? In what situation may these risks outweigh the benefits?

Step 2. Identify necessary data and compile it into a data dictionary.
A data dictionary (see Table 1 above) is a table that captures the critical data and describes it in a fashion that is useful when evaluating a process and designing an automation. After examining the RPA overdue collections case document and Excel workbook, explore the data in more detail to identify the format and type of data. For data type, determine whether the data is a string (i.e., alphanumeric data) or numeric (i.e., numbers only). Using the variable types from NICE Automation Studio, select the variable type you believe best matches your data.

Create a data dictionary similar to Table 1. Recommended column headers include, but are not limited to, Name, Excel Sheet Name, Column Location, Description, Data Type, and Variable type.

Things to watch out for
Not all of the data is necessary, but some data will enhance the quality of your solution. Data type matters in variable selection, so have a clear idea of each needed data type.

Deliverable
Create and submit your data dictionary. Ensure it includes only the data needed for the automation (Hint – not all the fields in both sheets are required for this case).

Discussion Questions
1. What data points may not be necessary for this particular solution but could be

helpful to solve other potential problems or create other valuable automations?

2. What is the impact of incorrectly capturing data in your process?

3. What could be done within the process that would result in a change to the data dictionary?

Step 3. Document future process state
A future process state is a flowchart showing the steps to solve a business problem or implement a new technology solution. In this step, you will create a flow chart that documents the future process state. It will often require that you start with an understanding of the current process and then add, change and/or delete steps to design a new process. A strong future state process should have all the steps needed for the solution but nothing extra. It will provide the organization with a roadmap for implementing the change and a guide for the developer on how best to create the automation instructions.

A variety of applications are available to create flow charts. Some high-quality applications include Microsoft Visio and Lucid Charts, but this can also be done by hand if you don't have access to either of those tools.

Before you begin, you must know the standard process flow notations.

Notations
Notations showcase steps within a flowchart. Different shapes represent different types of steps. Figure 2 illustrates some of the most common notations recommended for this project.
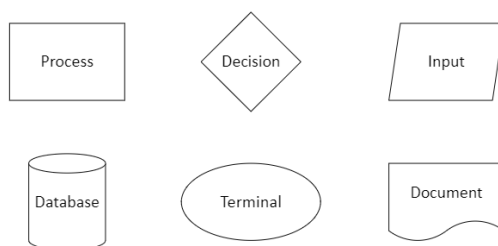
Figure 2. Standard Flowchart Notations

Organization
Flows should run left to right and top to bottom of the page. This ensures that another person can easily read and understand the flowchart. See Figure 3 for a sample flowchart.
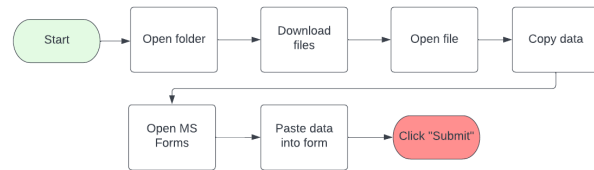
Figure 3. Flowchart Example

Labeling
When labeling each step, the best practice is to use the "verb-noun" format. For example, a step about moving data out of the original database and into Excel could be labeled "Export Data" or "Export Data to Excel". Labels should be as short as possible without losing the meaning of the step. See figure 3 for more label examples.

Process vs. Task Level Steps
A task is a piece of work needed to be completed, while a process is a group of tasks done for a particular purpose.

When choosing steps to include in your flowchart, it may help to begin by analyzing the task-level steps. Make a note of any instances where data moves or changes. Then summarize these instances from the process level in your flowchart.

For example, assume you copy columns A, B, and C from one Excel sheet. These are all instances where data is moved in the same manner. You can summarize these instances in one step rather than including three steps in your flowchart.

When unsure whether a step should be included in your flowchart, ask yourself, does someone reading my flowchart need this information to understand the flow? And then only include those that are necessary for comprehension.

Stakeholders
Stakeholders are often defined in terms of interest in, impact on, and influence over the change requested. They are grouped based on their relationship to the needs, changes, and solutions. Identifying stakeholders helps demonstrate value, context, and understanding.

Key questions to ask:
1. Whom is the stakeholder involved?
2. How are they involved?
3. What is their engagement going to be?
4. How are they needed to support this initiative?
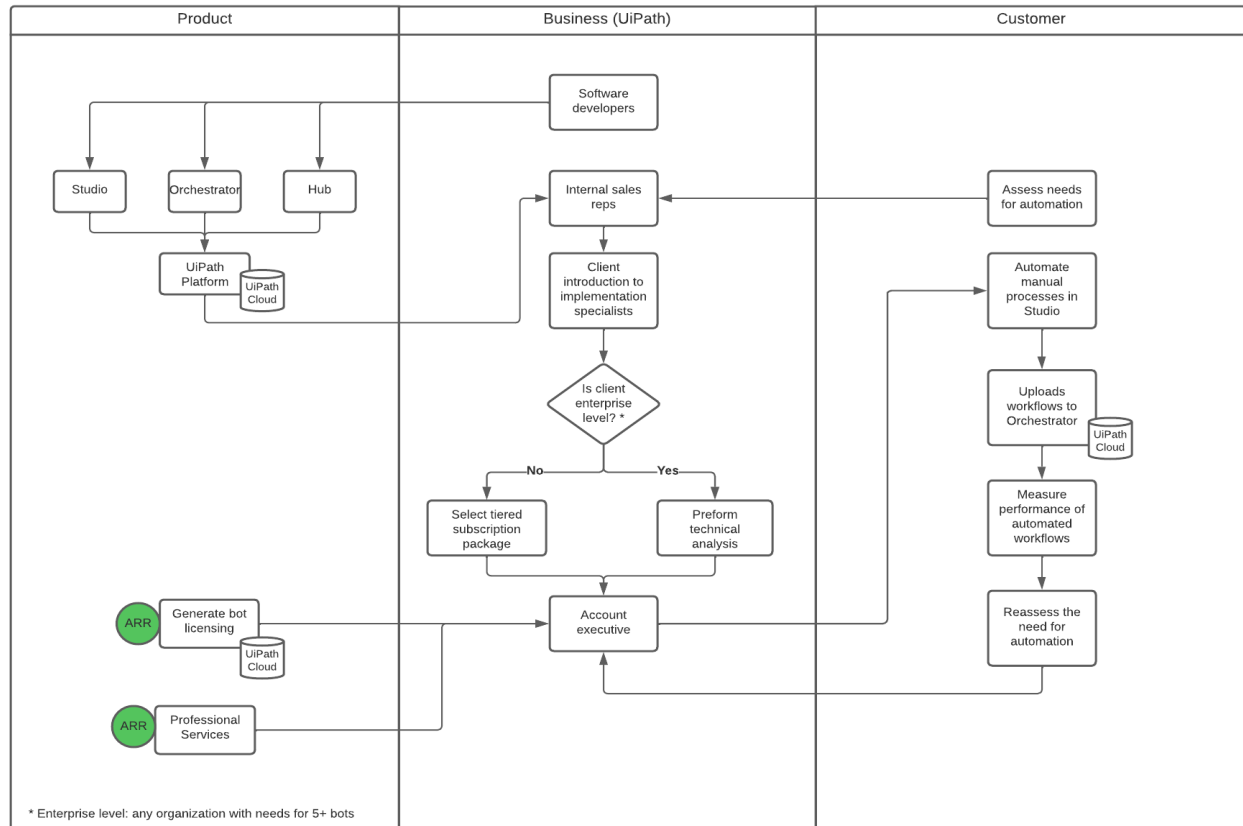
Figure 4. Swim Lanes

Swim Lanes
Swim lanes refers to cross-functional flowcharts. Swim lanes divide the flowchart into horizontal or vertical lanes, representing the tasks done by one role, function, or department; after identifying your stakeholders, label each swim lane column with the appropriate stakeholder. You will find many ways to do this effectively, depending on the process you are documenting.

They help provide more information on who is involved in the process. Their drawback is that they require more space in your charting application.

Things to watch out for
Figure 4 is an example of a completed solution. When documenting the future process state, ensure you analyze it from a high-level overview. You may feel tempted to add extra details, but more detailed information will be required for Step 4.

The flowchart is a tool to help explain your ideas to someone unfamiliar with the process. Be sure to keep your audience in mind.

Students unfamiliar with business process modeling notation (BPMN) including flowcharts and swimlanes should refer to White (2004).

Deliverable
Create and submit a future state flowchart.

Discussion Questions
1. There are multiple solutions to this case. Can you recommend one improvement to include in your solution? Why do you think your new solution is better than your first one?
2. What implementation challenges could arise from different solutions?

Step 4. Create solution instructions
Based on your flowchart, create a list of instructions. The flowchart focuses on the high-level overview of the process, while the instructions help capture the more intricate details.

One way to approach this step is to write the instructions thoroughly enough so another student can build the automation using your instructions.

An example set of solution instructions may look like the following, which are the first 6 steps of instructions for an automation to collect the price of Tesla's stock (TSLA) and chart the changes:

1. Start by creating a blank Excel file with pre-defined fields 'highest price' and 'lowest price.'
2. Open the stock market website (finance.yahoo.com)
3. Enter TSLA in the Quote Search field
4. The automation extracts the High and Low Value from the "Day's Range" and updates the Excel
5. The automation extracts values from the website after the market close and compares them with the values present in the existing values within Excel.

Things to watch out for
Remember to go back and modify your flowchart if you realize a step was incorrect or missing. Flowcharting is often an iterative process.

Deliverable
Create and submit the automation instructions. Submit a revised flowchart if changes were made to the flowchart.

Discussion Questions
1. What about creating your instructions helped you shape your solution?
2. Do your automation instructions tie perfectly to your future state flowchart? Why or why not? Which has more detail?
3. If you were hiring someone to automate something for you, would you want them to have more or less detail in their automation instructions? Why?

Step 5. Execute solution
Using your flowchart and instructions as a guide, create your automation within NICE Automation Studio. One method to approach this step is to develop and test your automation in small pieces. This methodology is a best practice as it minimizes the debugging process.

The Automation Studio Help Center can significantly help a new developer. Use the link below to access helpful resources.

http://help.nice-automation.com/content/home.htm

Things to watch out for
You may find that you must deviate from your instructions to build the automation successfully.

Be sure to note any changes you make and evaluate the implications to the rest of your automation before completing your design. As mentioned, frequent testing along the way will save you from more prolonged and more complex debugging later.

Also, you may find that your automation does not work completely. Imperfect automations can provide equally valuable learning experiences. Demonstrating the working components and isolating the issue(s) can help showcase the strength of your automation and deepen your understanding of the process.

Deliverable
Create and submit the automation files (both files .dproj and .resx). If changes were made to any of the other documents, then submit those revised documents as well.

Discussion Questions
1. What challenges did you encounter during the development of your automation? How did you handle these challenges?
2. What would you do differently to make your automation development easier?

Step 6. Video Walkthrough
Create a 5-8 minute video walkthrough of the automation following the outline below:
1. Introduction: Introduce yourself and your project
2. Problem description: Describe the problem that you intend to solve. Think back to your one-page summary.
3. Data: Show your data dictionary and talk about the data you needed from the process and where it was stored.
4. Process change: Using your future state flowchart, describe how your automation changed the process.
5. Instructions: Walk through the automation instructions to explain your design. Extra points for those who can do this while walking through the automation within the design panel of the Automation Studio.
6. Demonstration: Press run and record the automation working. Show the automation results, including the emails and any changes to the data.

When creating and submitting a video, use a software program that is compatible with your learning management system (LMS). Many programs work very well. Below are the steps if

using the Studio function, which is an option in Canvas. Many free screen capture tools are available if you do not have Canvas as an LMS including OBS Studio, Wondershare, and Screen-O-Matic. Before starting the steps below, make sure to have all screens open that you want to show.

1. Access the Canvas dashboard and find the TV-shaped icon. Placing your cursor over it will show you the "Studio" label (see Figure 5).
2. On the top right, you will see the record button (see Figure 6). Click once to begin.
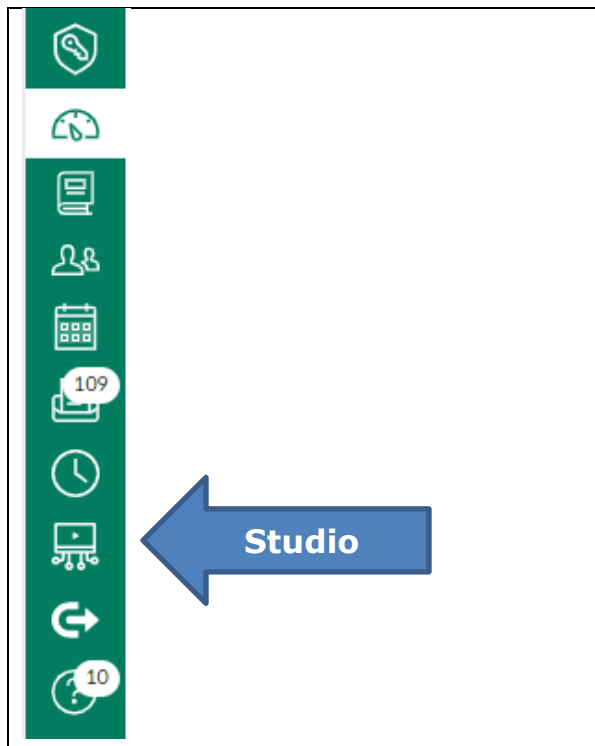
Figure 5. Canvas Studio
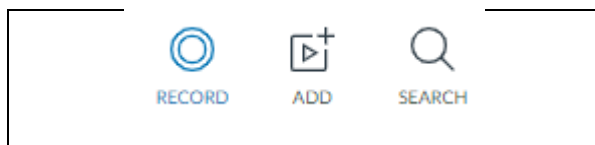
Figure 6. Canvas Studio Record

3. Once clicked, the Record button will offer you the choice of "Screen Capture" or "Webcam Capture." Select "Screen Capture" (see Figure 7).
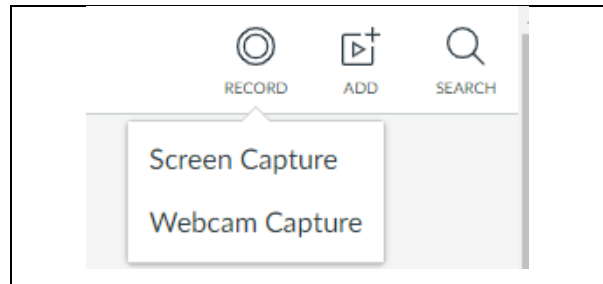
Figure 7. Canvas Studio Capture

4. Studio will open up a dashed box that you can adjust to your screen size. Make sure to start on the first screen you want to record.
5. Press Record (see Figure 8). Press the pause button when finished. Press the done button to complete the upload.
6. Your video can be uploaded in an assignment or shared from "My Library," which is the original screen you see when you first enter Studio in step 1.

Figure 8. Canvas Studio Record

Things to watch out for
Keep your audience in mind. In your explanations, imagine you are talking to the client of the case study. Expect that they will not have a deep knowledge of Automation Studio.

Deliverable
Create and submit your video walkthrough recording.

Discussion Questions
1. Upon reflection, which steps were the most challenging during the project? Why?
2. Which steps are most important for convincing the company that your automation would solve their problem? Why? Given more time, what could you have done differently to make your presentation more compelling?

4. CONCLUSIONS AND NEXT STEPS

By completing this exercise, you have demonstrated readiness for a future role in automation. Your accomplishments, listed below, are worthy of discussion in job interviews and inclusion in your resume, as many employers are looking for this type of employee experience.

- Demonstrated a basic understanding of business analysis as evidenced by creating:
  - A problem summary
  - A basic flowchart
  - A data dictionary
  - Instructions for developing an automation
- Solved a business problem using automation by:
  - Automating data collection across multiple Excel files
  - Automating sending customized email
  - Utilizing various rules and procedures to interpret data

A solid foundation in business analysis and automation development can prepare you for roles specific to each or provide a deeper understanding of technology deployment challenges within industry.

For those looking to explore a deeper learning experience, there are three valuable areas to consider: 1) deeper analysis and development, 2) broader applicability of solutions, and 3) analysis of benefits.

Deeper analysis and development allow you to explore more levels of reality within the case by anticipating the needs of typical stakeholders and providing solutions. As you can imagine, this scenario is not realistic and is just the first step in fleshing out the entire collections process.

Considering that the case requirements stop short in many ways, which is often common within industry, careful evaluation of business processes will allow you to flush out many more potential requirements and solutions. For example, you could go into more depth with the email solution of the automation by anticipating the best frequency (hourly, daily, weekly, etc.), the most stakeholder-friendly text within the emails, and what reporting could be helpful to develop and include in each email.

Broader applicability will allow you to explore different applications given what you know about the company and what other possible processes could benefit from the solution (or portions of the solution) developed in this case study. Companies are filled with processes that require data collection, rules-based comparison, or organization and dissemination via email.

Benefits analysis is helpful in understanding and communicating the value of technology solutions. The case provides little information that makes this easy for you to perform. However, simulating steps and estimating times will offer you baseline time studies. In addition, careful consideration of typical customer and employee behaviors will help you identify other key benefits of your solution. Some questions you might consider are as follows:

- Do employees like this task? Do they always perform it perfectly? What happens if an employee is out sick?
- Will customers be more likely to pay if reminded regularly?
- What benefits will the company receive by having a better collection process? Will they have less bad debt? Will the CFO make better decisions?

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APPENDIX A

Case Description

Case study description: RPA Overdue Collections

Background: GE Appliances is an American home appliance manufacturer based in Louisville, Kentucky. The company has been struggling to get customers to pay their unpaid balances in recent years. GE's current process to track customers is manually intensive. GE believes automation will solve their issues to save time and improve employee morale.

Current Process: The process begins when a customer purchases an appliance on credit. A sales representative logs the customer's contact and balance information in separate Excel files. Periodically, a sales representative checks the customer balance Excel file to look for unpaid accounts. Paid accounts are removed from the file. Suppose the account is unpaid and overdue by LESS than 90 days. In that case, the sales representative must get their contact information from the customer contact information Excel sheet, then send the customer an email regarding the unpaid account. Suppose the account is unpaid and overdue by OVER 90 days. In that case, the customer's account information is emailed to the Chief Financial Officer (CFO) to write the balance off as an allowance for doubtful accounts.

Automation: GE Appliances would like you to automate many of the following features.

- Extract data from Excel sheets into a UDT (User Defined Type)

- Determine if payment is overdue and by how many days (ex. payment due 7 days ago)

- Send customized emails to account holders based on how many days until payment is due/how many days payment is past due. (The more customized the email is, the better!)

- Forward the account information 90 days overdue to the Chief Financial Officer to write the account off as an allowance for doubtful accounts.

APPENDIX B

Excel Spreadsheets

Unpaid Balance Report
It contains information relating to customers with unpaid balances.

customer_name	balance_owed	Payment_Due_Date	Todays_Date	Days_Between_Dates
Benton, John B Jr	391	4/30/2022	4/29/2022	1
Sport En Art	432	3/30/2022	4/29/2022	-30
Professional Image Inc	587	5/6/2022	4/29/2022	7
Rangoni Of Florence	678	4/11/2022	4/29/2022	-18
Post Box Services Plus	682	4/28/2022	4/29/2022	-1
Century Communications	959	1/28/2022	4/29/2022	-91
Feiner Bros	1673	5/21/2022	4/29/2022	22

Customer Contact Report (Simulated Data)

It contains the contact information of all of GE Appliances' customers.

first_name	last_name	Full_Name	company_name	address	city	county	state	zip	City_ST_Zip	phone 1	phone 2	email	web
James	Butt	James Butt	Benton, John B Jr	6649 N Blue Gum St	New Orleans	Orleans	LA	70116	New Orleans, LA 70116	504-621-8927	504-845-1427	jbutt@gmail.com	http://www.bentonjohnbjr.com
Josephine	Darakjy	Josephine Darakjy	Chanay, Jeffrey A Esq	4 B Blue Ridge Blvd	Brighton	Livingston	MI	48116	Brighton, MI 48116	810-292-9388	810-374-9840	josephine_darakjy@darakjy.org	http://www.chanayjeffreyaesq.com
Art	Venere	Art Venere	Chemel, James L Cpa	8 W Cerritos Ave #54	Bridgeport	Gloucester	NJ	8014	Bridgeport, NJ 8014	856-636-8749	856-264-4130	art@venere.org	http://www.chemeljameslcpa.com
Lenna	Paprocki	Lenna Paprocki	Feltz Printing Service	639 Main St	Anchorage	Anchorage	AK	99501	Anchorage, AK 99501	907-385-4412	907-921-2010	lpaprocki@hotmail.com	http://www.feltzprintingservice.com
Donette	Foller	Donette Foller	Printing Dimensions	34 Center St	Hamilton	Butler	OH	45011	Hamilton, OH 45011	513-570-1893	513-549-4561	donette.foller@cox.net	http://www.printingdimensions.com
Simona	Morasca	Simona Morasca	Chapman, Ross E Esq	3 Mcauley Dr	Ashland	Ashland	OH	44805	Ashland, OH 44805	419-503-2484	419-800-6759	simona@morasca.com	http://www.chapmanrosseesq.com
Mitsue	Tollner	Mitsue Tollner	Morlong Associates	7 Eads St	Chicago	Cook	IL	60632	Chicago, IL 60632	773-573-6914	773-924-8565	mitsue_tollner@yahoo.com	http://www.morlongassociates.com
Leota	Dilliard	Leota Dilliard	Commercial Press	7 W Jackson Blvd	San Jose	Santa Clara	CA	95111	San Jose, CA 95111	408-752-3500	408-813-1105	leota@hotmail.com	http://www.commercialpress.com
Sage	Wieser	Sage Wieser	Truhlar And Truhlar Attys	5 Boston Ave #88	Sioux Falls	Minnehaha	SD	57105	Sioux Falls, SD 57105	605-414-2147	605-794-4895	sage_wieser@cox.net	http://www.truhlarandtruhlarattys.com
Kris	Marrier	Kris Marrier	King, Christopher A Esq	228 Runamuck Pl #2808	Baltimore	Baltimore City	MD	21224	Baltimore, MD 21224	410-655-8723	410-804-4694	kris@gmail.com	http://www.kingchristopheraesq.com
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APPENDIX C

Practice Modules

Completing each automation helps develop confidence and capability with NICE Automation Studio. Sample Project 9 is the one automation that could be most easily and directly applied to this case for creating a possible solution. Practice modules take between 15 minutes to 2 hours for most students to complete, with the average development time of about an hour per automation.

Module	Description	Link
Workflows and Variables	Manipulates the values of variables.	http://help.nice-automation.com/content/topics/gettingstarted.htm
Callouts and Event Handlers	Teaches you the basics around callouts and event handlers.	http://help.nice-automation.com/content/topics/gettingstarted.htm
Soccer Statistics	Copies and pastes soccer players' statistics from an internet browser and inputs the data into Excel. This automation teaches callouts and data entry to Excel. Creates macros within Excel that will organize the data and sorts the data alphabetically by the player's name. This automation teaches macro usage in Excel and how to run the macros in NICE Automation Studio.	https://www.youtube.com/watch?v=qLx2s2urGuU https://www.youtube.com/watch?v=R01krYJJKMo
Football Statistics	Collects NFL player statistics from an internet browser and inputs the data into Excel. Formats the data you collected from the NFL player statistics. The macros involved with this automation will involve conditional formatting, highlighting the data for any statistics over 10%, and creating graphs for each statistic.	https://www.youtube.com/watch?v=8dN8jBVmLjQ https://www.youtube.com/watch?v=q6I_sLmLXvE
YouTube Analytics	Allow you to track YouTube likes and views for 5 videos you choose based on personal preference. This automation will teach you to capture YouTube likes and views and append the data to the Excel file. Allow you to convert your text data into numbers and create graphs that will be updated each time you run the automation through macros within Excel. After the macros are created, you will run the macros within NICE Automation Studios.	https://www.youtube.com/watch?v=d_Xf4YqNF3I https://www.youtube.com/watch?v=k5AzuOwMGjY
Sample Project 1 - Save new email contents to a text file	The automation will continuously check the Outlook inbox until a new email is received. After the new email is received, the contents of the email are stored in a text file.	http://help.nice-automation.com/content/topics/howtoscenario-listofscenarios.htm

Sample Project 5 - Write Data from PDF Forms into Excel	First, it will collect all PDF forms located in a specific folder. Next, data will be extracted from each form by capturing the data found in specific fields (ex., Firstname, Lastname, phone, etc.). Lastly, this data is outputted to an Excel sheet.	http://help.nice-automation.com/content/topics/howtoscenario-listofscenarios.htm
Sample Project 9 - Generate Emails from Excel Data	Extracts data from columns in multiple Excel sheets. Next, this data is compiled into a User Defined Type (UDT). Lastly, the data in the UDT is used to compose individualized emails.	http://help.nice-automation.com/content/topics/howtoscenario-listofscenarios.htm
Sample Project 10 - Read Data from an XML File	First load an XML file into an XML document variable. The file is put here to extract all the contents from the file. Next, data from the XML file is separated into a list of nodes that hold our data in an unstructured or "messy" form. Lastly, these nodes are parsed/separated into a User Defined Type (UDT) or a list of lists to clean up the data.	http://help.nice-automation.com/content/topics/howtoscenario-listofscenarios.htm
Sample Project 11 - Extract Text Data Using Regular Expressions	The automation extracts data from a text file. This data looks messy, but there is a consistent pattern, so we'll parse through it using a regular expression. After the data is organized, we want to input it into a callout. Lastly, the callout buttons are linked to a user-defined function to make the callout interactive.	http://help.nice-automation.com/content/topics/howtoscenario-listofscenarios.htm