# Automated class schedule upload to website

## Indoor Skydiving Experience Facility

Implemented an automated solution leveraging Python and UiPath RPA tools to efficiently generate and upload weekly scheduling files to a third-party portal

# Indoor skydiving experience facility company needs automated class schedule upload to website

**Picture this…**

You're looking for a process to generate these files automatically using Python. The solution would consider the inputs from Regional Directors and automate the subsequent push to third-party portal using UiPath

**You turn to Accordion.**

We partner with your team to Implement an automated solution leveraging Python and UiPath RPA tools to efficiently generate and upload weekly scheduling files to a third-party portal, including:

1) Designing and engineered Excel templates and instituted collaborative forums with client's regional heads, aggregating weekly override inputs

2) Developing a sophisticated Python model to automate the preparation of 200+ weekly schedule files, to ensure that overall operating hours and classes are broken down at a product and location granularity and slots are enabled based on specified business rules

3) Implementing a robust RPA solution using UiPath to seamlessly integrate these files into a third-party portal, significantly enhancing efficiency in updating product schedules and operating hours on the client's/third-party websites

**Your value is enhanced.**

You have gathered inputs from Regional Directors at a broad level (tunnel-day) and breaking them down to a granular level (tunnel-product-hour) made the schedule change process more flexible, enabling the client to be more responsive to customer demand. You also have automated processes for preparing and uploading schedules saved ~2 FTE days per week and reduced delays for updated schedules to reflect on the client's website, enabling a smooth booking experience for the customers. This resulted in an estimated annualized sales lift of $1.5 M (~2%).

## KEY RESULT

- ~$1.5mn increase in web sales
- ~100 person-hours reduction

## VALUE LEVERS PULLED

- Setup a process to gather stakeholders' inputs
- Automated creation/upload of schedules on the third-party portal

# Automated class schedule upload to website

**Situation**

- Client offers indoor skydiving experience to customers in 35 locations across with 8-9 product offerings. They had to manually update the available operating hours and slots weekly on a third-party portal involving upload of ~200 files.

- This time-consuming process caused delays of 2-3 days each week, leading to rescheduled customer bookings. Additionally, they faced complexity of allowing manual updates for last-minute changes.

- Merilytics partnered with the client to set up a process to generate these files automatically using Python. The solution would consider the inputs from Regional Directors and automate the subsequent push to third-party portal using UiPath
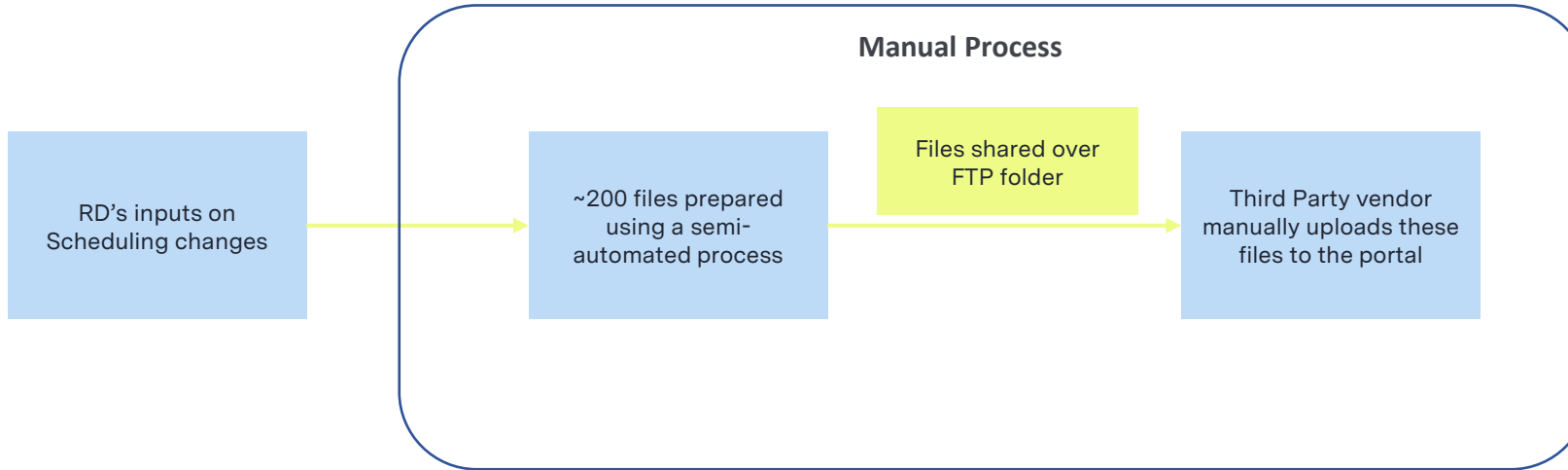
**Accordion Value Add**

- Designed and engineered Excel templates and instituted collaborative forums with client's regional heads, aggregating weekly override inputs

- Developed a sophisticated Python model to automate the preparation of 200+ weekly schedule files, to ensure that overall operating hours and classes are broken down at a product and location granularity and slots are enabled based on specified business rules

- Implemented a robust RPA solution using UiPath to seamlessly integrate these files into a third-party portal, significantly enhancing efficiency in updating product schedules and operating hours on the client's/third-party websites

**Impact**

- Gathering inputs from Regional Directors at a broad level (tunnel-day) and breaking them down to a granular level (tunnel-product-hour) made the schedule change process more flexible, enabling the client to be more responsive to customer demand

- Automated processes for preparing and uploading schedules saved ~2 FTE days per week and reduced delays for updated schedules to reflect on the client's website, enabling a smooth booking experience for the customers. This resulted in an estimated annualized sales lift of $1.5 M (~2%)

# Methodology/Approach

## Process Flowchart - Before

### Manual Process

RD's inputs on Scheduling changes → ~200 files prepared using a semi-automated process → Files shared over FTP folder → Third Party vendor manually uploads these files to the portal

## Process Flowchart - After

### Automated Process

RD's inputs on Scheduling changes → **Python Script** → ~200 files prepared using a semi-automated process → **UIPath Flows** → Automated upload to the portal and Third-party websites
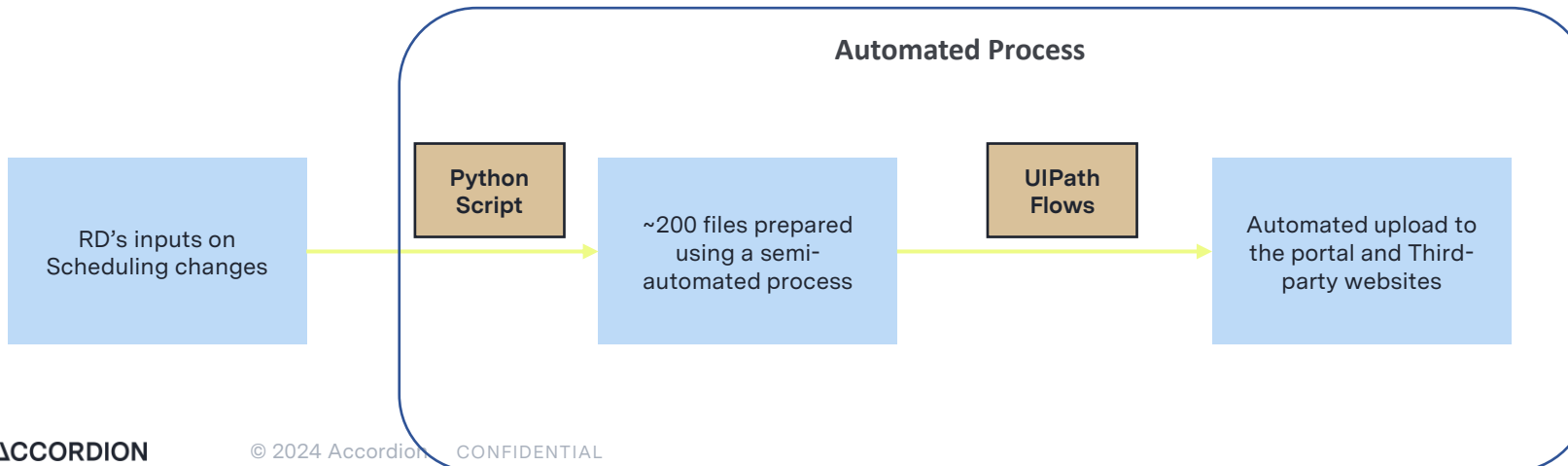
**Notes**

- Schedule generation and finalization process along with upload to Client's POS is **critical for the client to keep their website operational**

- Recently, the client planned to change their POS vendor due to which the legacy system leveraged to perform the **upload became outdated and the process became manual** (executed by the POS third-party vendor in ~2 working days each week)

- Merilytics team **created a framework to create the files at a product and location level leveraging Python/Excel,** following the business rules (~200 files weekly)

- Additionally, the team **deployed a weekly UiPath pipeline** to upload these files on the vendor's portal

- This process **reduced the turnaround time** for schedules to be updated **from ~2-3 business days to ~4 hours**

- Also, as the schedules were uploaded promptly, customers had a **smoother booking experience on the website**

# Schedules predicted by tool – Operations team to adjust as needed

Automated template based on demand trends to provide scheduling suggestions to RDs (#classes by day / location). It also provides the flexibility to override these suggestions based on operational constraints



| | << Classes suggested by model |
| --- | --- |
| | << Overridden classes/rosters |
| | << Rosters |
| | << Classes reviewed over last call |

**Discussed over last call**

| RD | Region | Tunnel | Schedule/Roster | 04-Mar Mon | 05-Mar Tue | 06-Mar Wed | 07-Mar Thu | 08-Mar Fri | 09-Mar Sat | 10-Mar Sun | Total | 11-Mar Mon | 12-Mar Tue | 13-Mar Wed | 14-Mar Thu | 15-Mar Fri | 16-Mar Sat | 17-Mar Sun | Total | 18-Mar Mon | 19-Mar Tue | 20-Mar Wed | 21-Mar Thu | 22-Mar Fri | 23-Mar Sat | 24-Mar Sun | Total | 25-Mar Mon | 26-Mar Tue |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| | | | | wk of 4Mar24 | | | | | | | | wk of 11Mar24 | | | | | | | | wk of 18Mar24 | | | | | | | | | |
| RD1 | Southeast | T1 | Schedule | 10 | 10 | 10 | 10 | 16 | 24 | 20 | 100 | 18 | 18 | 10 | 10 | 16 | 24 | 20 | 116 | 10 | 10 | 10 | 10 | 16 | 24 | 20 | 100 | 10 | 10 |
| | | | Roster | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D-1 | | D+0 | D+0 | D+1 | D+1 | D+1 | D+0 | D-1 | | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D-1 | | D+1 | D+1 |
| RD2 | Northeast | T2 | Schedule | 5 | 5 | 5 | 9 | 13 | 22 | 16 | 75 | 16 | 5 | 5 | 9 | 13 | 22 | 16 | 86 | 5 | 5 | 5 | 9 | 13 | 22 | 16 | 75 | 18 | 18 |
| | | | Roster | D+2 | D+2 | D+2 | D+2 | D+1 | D-1 | D-1 | | D-1 | D+2 | D+2 | D+2 | D+1 | D-1 | D-1 | | D+2 | D+2 | D+2 | D+2 | D+1 | D-1 | D-1 | | D+2 | D+2 |
| RD2 | Southeast | T3 | Schedule | 18 | 18 | 18 | 18 | 20 | 22 | 16 | 130 | 4 | 4 | 7 | 7 | 12 | 24 | 16 | 74 | 5 | 4 | 7 | 8 | 14 | 24 | 18 | 80 | 4 | 4 |
| | | | Roster | D+0 | D+0 | D+1 | D+1 | D+0 | D+0 | D-1 | | D+0 | D+0 | D+1 | D+1 | D+1 | D+0 | D-1 | | D+1 | D+0 | D+1 | D+1 | D+1 | D+0 | D+0 | | D+1 | D+1 |
| RD3 | Northeast | T4 | Schedule | 9 | 0 | 0 | 5 | 12 | 20 | 18 | 64 | 0 | 0 | 7 | 5 | 13 | 20 | 18 | 63 | 0 | 9 | 5 | 0 | 20 | 20 | 20 | 74 | 0 | 0 |
| | | | Roster | D+1 | D+0 | D+1 | D+1 | D+1 | D+0 | D+0 | | D+1 | D+0 | D+1 | D+1 | D+1 | D+0 | D+0 | | D+1 | D+0 | D+1 | D+1 | D+1 | D+0 | D+0 | | D+1 | D+0 |
| RD3 | Northeast | T5 | Schedule | 5 | 5 | 5 | 7 | 13 | 20 | 18 | 73 | 5 | 5 | 5 | 7 | 13 | 20 | 18 | 73 | 5 | 5 | 5 | 7 | 13 | 20 | 18 | 73 | 13 | 13 |
| | | | Roster | D+1 | D+1 | D+1 | D+0 | D+1 | D+0 | D+0 | | D+1 | D+1 | D+0 | D+1 | D+0 | D+0 | D+0 | | D+1 | D+1 | D+1 | D+0 | D+1 | D+0 | D+0 | | D+1 | D+1 |
| RD4 | Northeast | T6 | Schedule | 9 | 18 | 7 | 9 | 13 | 20 | 18 | 94 | 18 | 7 | 7 | 10 | 18 | 20 | 18 | 98 | 9 | 7 | 7 | 10 | 18 | 20 | 18 | 89 | 18 | 18 |
| | | | Roster | D+1 | D+1 | D+0 | D+1 | D+1 | D+0 | D+0 | | D+0 | D+0 | D+0 | D+0 | D+1 | D+0 | D+0 | | D+0 | D+0 | D+0 | D+0 | D+1 | D+0 | D+0 | | D+0 | D+0 |
| RD4 | Southeast | T7 | Schedule | 9 | 9 | 9 | 9 | 12 | 20 | 20 | 88 | 9 | 9 | 9 | 9 | 16 | 22 | 20 | 94 | 12 | 12 | 12 | 12 | 20 | 24 | 22 | 114 | 20 | 20 |
| | | | Roster | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D+0 | | D+1 | D+1 | D+1 | D+1 | D+0 | D+0 | D+0 | | D+1 | D+1 | D+1 | D+1 | D+0 | D+0 | D+0 | | D+0 | D+0 |
| RD5 | Northeast | T8 | Schedule | 5 | 5 | 9 | 9 | 13 | 22 | 20 | 83 | 5 | 5 | 9 | 9 | 13 | 20 | 22 | 83 | 5 | 5 | 9 | 9 | 13 | 24 | 24 | 89 | 9 | 9 |
| | | | Roster | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D+0 | | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D+0 | | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D+0 | | D+1 | D+1 |
| RD5 | Southeast | T9 | Schedule | 9 | 9 | 9 | 9 | 13 | 22 | 20 | 91 | 9 | 9 | 9 | 9 | 18 | 24 | 22 | 100 | 16 | 16 | 16 | 16 | 18 | 24 | 20 | 126 | 13 | 13 |
| | | | Roster | D+2 | D+2 | D+1 | D+1 | D+1 | D-1 | D-1 | | D+2 | D+2 | D+2 | D+2 | D+1 | D+0 | D-1 | | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D-1 | | D+1 | D+1 |
| RD6 | Northeast | T10 | Schedule | 9 | 9 | 9 | 9 | 13 | 22 | 18 | 89 | 9 | 9 | 9 | 9 | 13 | 22 | 18 | 89 | 9 | 9 | 9 | 9 | 13 | 22 | 18 | 89 | 9 | 9 |
| | | | Roster | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D-1 | | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D-1 | | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D-1 | | D+1 | D+1 |
| RD6 | Northeast | T11 | Schedule | 13 | 13 | 13 | 13 | 18 | 24 | 22 | 116 | 13 | 13 | 13 | 13 | 18 | 24 | 22 | 116 | 13 | 13 | 13 | 13 | 18 | 24 | 22 | 116 | 21 | 21 |
| | | | Roster | D+1 | D+1 | D+1 | D+1 | D+0 | D+0 | | | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D+0 | | D+1 | D+1 | D+1 | D+1 | D+1 | D+0 | D+0 | | D+0 | D+0 |
| RD7 | Northeast | T12 | Schedule | 5 | 9 | 9 | 9 | 13 | 22 | 20 | 87 | 5 | 5 | 5 | 9 | 13 | 20 | 20 | 77 | 5 | 9 | 9 | 9 | 13 | 22 | 20 | 87 | 9 | 9 |

# Automated quality checks on client's web portal

Updated third-party web portal, which is leveraged for Quality Checks and ensuring that schedules are reflecting correctly to customers on client's website

| Venue | Product | Session | Start | End | | Monday 3/11/2024 Action | Tuesday 3/12/2024 Action | Wednesday 3/13/2024 Action | Thursday 3/14/2024 Action | Friday 3/15/2024 Action | Saturday 3/16/2024 Action | Sunday 3/17/2024 Action |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| ▬ | ▬▬ | Reservation Start | 8:00 AM | 8:29 AM | Action | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 |
| ▬ | ▬▬ | Reservation Start | 8:30 AM | 8:59 AM | Action | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 |
| ▬ | ▬▬ | Reservation Start | 9:00 AM | 9:29 AM | Action | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 10 / 26 | 0 / 26 |
| ▬ | ▬▬ | Reservation Start | 9:30 AM | 9:59 AM | Action | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 18 / 26 | 0 / 26 |
| ▬ | ▬▬ | Reservation Start | 10:00 AM | 10:29 AM | Action | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 4 / 26 |
| ▬ | ▬▬ | Reservation Start | 10:30 AM | 10:59 AM | Action | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 4 / 26 | 16 / 26 |
| ▬ | ▬▬ | Reservation Start | 11:00 AM | 11:29 AM | Action | 0 / 26 | 26 / 26 | 0 / 26 | 26 / 26 | 26 / 26 | 18 / 26 | 0 / 26 |
| ▬ | ▬▬ | Reservation Start | 11:30 AM | 11:59 AM | Action | 0 / 26 | 26 / 26 | 26 / 26 | 0 / 26 | 0 / 26 | 0 / 26 | 0 / 26 |
| ▬ | ▬▬ | Reservation Start | 12:00 PM | 12:29 PM | Action | 26 / 26 | 26 / 26 | 26 / 26 | 26 / 26 | 26 / 26 | 24 / 26 | 0 / 26 |
| ▬ | ▬▬ | Reservation Start | 12:30 PM | 12:59 PM | Action | 8 / 26 | 26 / 26 | 26 / 26 | 12 / 26 | 24 / 26 | 14 / 26 | 0 / 26 |
| ▬ | ▬▬ | Reservation Start | 1:00 PM | 1:29 PM | Action | 0 / 26 | 26 / 26 | 10 / 26 | 0 / 26 | 18 / 26 | 26 / 26 | 0 / 26 |
| ▬ | ▬▬ | Reservation Start | 1:30 PM | 1:59 PM | Action | 18 / 26 | 26 / 26 | 0 / 26 | 12 / 26 | 12 / 26 | 12 / 26 | 0 / 26 |
| ▬ | ▬▬ | Reservation Start | 2:00 PM | 2:29 PM | Action | 0 / 26 | 0 / 26 | 14 / 26 | 4 / 26 | 16 / 26 | 26 / 26 | 0 / 26 |

# Learnings

1) Utilizing automation tools such as Python and UiPath enabled the team to streamline and automate repetitive tasks. This resulted in increased efficiency and accuracy in the scheduling process.

2) Understanding how to integrate UiPath Orchestrator with the scheduling process was valuable.

3) Configuring the UiPath flow to loop through schedule files using an input file and triggers/error handling/logging within UiPath flows

4) Developing a structured process and templates for partnering with Regional Directors and gathering scheduling inputs helped in optimizing the overall scheduling workflow. This approach ensured consistency and reliability in the data collection process

5) Ensuring compliance with regulatory requirements and maintaining data security standards were essential considerations throughout the project. Implementing measures to safeguard sensitive data and comply with relevant regulations mitigated potential risks and protected the client's interests