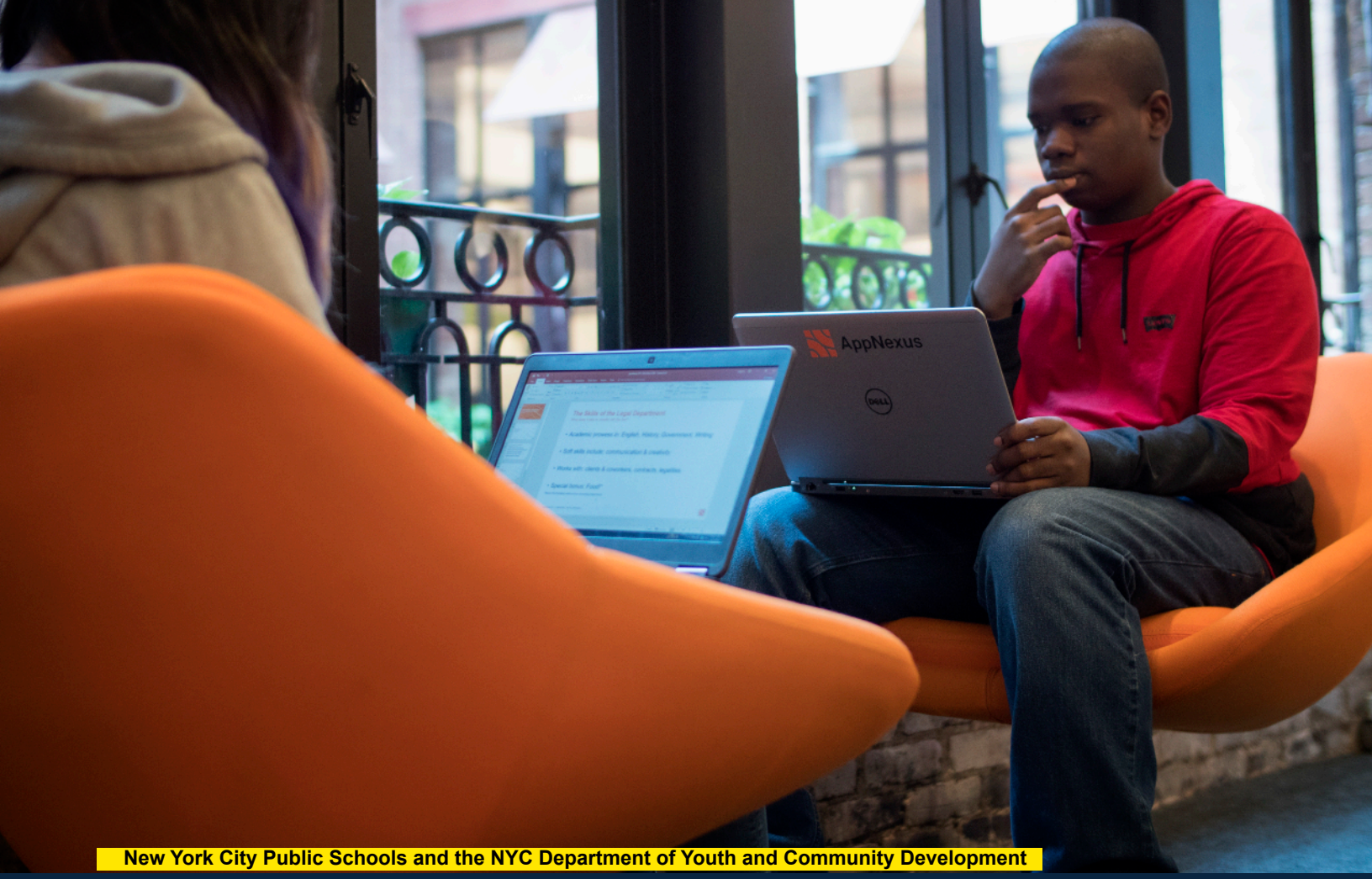


New York City Public Schools and the NYC Department of Youth and Community Development

High School Tech Internship Playbook

Summer Youth Employment Program (SYEP)

A comprehensive implementation guide for employers hosting high school interns in technology-focused internship experiences.

NYC Public Schools Student Pathways

- Provider Playbook
- 6-week Framework
- 4 Project Scenarios Included

DYCD | NYC
The Department of Youth & Community Development

What's Inside

This playbook equips host employers and supervisors with everything needed to run a high-quality, skills-driven tech internship experience for NYC high school students through SYEP.

Program Goal: Build transferable tech skills while giving NYC youth real-world professional experience in a supportive, structured environment.

Why Host a SYEP Tech Intern

Hosting a SYEP tech intern creates a mutually beneficial experience — interns gain real-world skills aligned to the Portrait of a Graduate, while employers gain fresh perspectives, expanded capacity, and a pipeline of diverse future talent.

6
Weeks of structured learning

25
Hours/week

Benefits to Your Organization

- Fresh perspectives and innovative ideas on real projects
- Expanded project capacity at no direct labor cost
- Early access to diverse NYC talent pipeline
- Strengthen community ties and corporate responsibility
- Mentor and support emerging talent

Impact Statement:
Each intern you host supports a NYC student in developing skills needed to think critically, communicate effectively, and grow as a future-ready contributor.

Portrait of a SYEP Tech Intern

Who They Are

- NYC high school students, ages 16-21
- Enrolled in SYEP through DYCD-funded programs curious, motivated, and eager to learn
- Bring varying levels of prior tech experience
- Supported by a DYCD-funded SYEP provider

What They Bring

- Curiosity and creativity in approaching new challenges
- Emerging critical thinking and problem-solving skills
- Developing communication skills across diverse environments Unique perspectives and lived experiences

What They Need

- Clear structure, expectations, and onboarding
- A dedicated supervisor/mentor (1:1 weekly check-ins)
- Authentic, meaningful project work
- Regular feedback and encouragement
- Safe, professional, and inclusive environment

The 6-week Journey

Phase 1 — Explore
Weeks 1–2

- Onboarding & company overview
- Meet the team & org culture
- Orientation to tools and systems
- Introduction to internship project
- Set goals & learning objectives
- Establish norms and expectations
- Tour facilities / shadow staff to observe day-to-day workplace operations
- Complete DYCD compliance docs

Phase 2 — Build
Weeks 3–4

- Deep dive into project work
- Research and prototyping
- Apply technical skills to real problem
- Collaborative team work sessions
- Receive and incorporate feedback
- Mid-program check-in with supervisor
- Skill-building workshops (as available)
- Iterate on tasks using feedback

Phase 3 — Apply
Week 5

- Finalize project deliverables
- Prepare final presentation
- Practice presenting to peers
- Refine based on feedback
- Document findings and process

Phase 4 — Reflect
Week 5 (cont.)

- Personal reflection journal
- What did I learn? What challenged me?
- How have my skills grown?
- What would I do differently?
- Career pathway exploration
- Identify mentors & next steps
- What tasks did I complete for the organization and what was the impact?

Phase 5 — Launch
Week 6

- Final presentation to employer leadership
- Demo or showcase deliverables
- Receive formal evaluation + feedback
- Celebrate accomplishments
- Receive letter of completion / reference
- Network with professionals
- Complete exit survey (DYCD)

Key Deliverables
All 6 weeks

- Weekly 1:1 check-in notes
- Timesheets (DYCD compliance) Mid-program reflection
- Final project + presentation
- Completed evaluation rubric Exit survey + certificate
- Reflection on tasks completed for the organization

Supervisor Tip: Each phase builds on the last. Interns who have a strong Explore phase are better prepared to Build confidently. Don't rush onboarding — it sets the foundation for everything.

Weekly Schedule

Interns work **25 hours per week**. Below is the recommended daily structure across the 6-week program. Supervisors should adjust based on project needs while maintaining the core learning structure.

Time Block	Monday	Tuesday	Wednesday	Thursday	Friday
9:00–9:30AM (30 MIN)	Morning Stand-up	Morning Stand-up	Morning Stand-up	Morning Stand-up	Morning Stand-up
9:30–11:30AM (2 HRS)	Skill Building / Training	Project Work Block	Collaborative Workshop	Project Work Block	Team Presentation Practice
11:30AM–12:30PM (1 HR)	Lunch Break	Lunch Break	Lunch Break	Lunch Break	Lunch Break
12:30–2:30PM (2 HRS)	Project Work / Research	1:1 Check-In (rotate)	Guest Speaker / Site Tour	Project Work / Research	Weekly Wrap-Up
2:30–3:00PM (30 MIN)	Documentation / Journal	Documentation / Journal	Documentation / Journal	Documentation / Journal	Goal-Setting for Next Week

Weekly Hours Breakdown

Activity category	Hours/week	% of time
Project Work (core deliverables)	**10 hrs**	40%
Skill Building & Training	**5 hrs**	20%
Team Collaboration & Meetings	**4 hrs**	16%
Professional Development	**3 hrs**	12%
Reflection & Documentation	**2 hrs**	8%
1:1 Check-In & Feedback	**1 hr**	4%

Note: The time allocations above are intended as a general guide. In the Explore phase (Weeks 1–2), interns may benefit from spending more time on learning, observation, and onboarding before taking on project work. In later phases (Build, Apply, and Launch), time can shift toward project execution, completion, and presentation as interns gain confidence and skills.
Supervisors are encouraged to adjust time allocations based on intern readiness and project needs.

6-week Hour total: 150 hrs

Key Requirement:
All interns must maintain 25 hours/week. Attendance and punctuality are tracked by DYCD as compliance requirements.

Timesheets must be signed by the supervisor weekly and submitted to the program coordinator by end of business Friday.

- Absences must be reported same day
- Maximum 3 absences before review
- Make-up hours require supervisor approval
- DYCD site visits may occur unannounced

Technical Skills Framework

Interns are introduced to foundational and applied technical skills across four core areas. Employers can use these as a guide to design tasks and projects aligned to their workplace.

Cybersecurity

Interns may explore:

- Threat analysis
- fundamentals
- Login/access data review
- Incident documentation Risk identification
- Data privacy concepts
- Tabletop exercise facilitation

Data Analytics

Interns may explore:

- Spreadsheet analysis
- (Excel/Sheets)
- Data cleaning & organization
- Chart and graph creation
- Dashboard building (Tableau/ Power BI)
- Data storytelling Insight presentation

Workflow Automation

Interns may explore:

- Process mapping
- Zapier / make.com
- basics
- Google Apps Script
- Automation trigger
- design
- Testing & debugging
- Efficiency measurement

Web & Coding

Interns may explore:

- HTML/CSS fundamentals
- Basic Python / JavaScript
- GitHub & version control
- No-code tool exploration
- UI/UX prototyping
- Technical writing

Example Project Tracks & Applications

Track A — Cybersecurity Investigation

Example project: Interns may analyze a simulated dataset for suspicious access patterns, document findings, and discuss potential incident response actions.

Track B — Data Insights Dashboard

Example project: Interns may clean, analyze, and visualize a business dataset to identify trends and communicate insights through a simple dashboard.

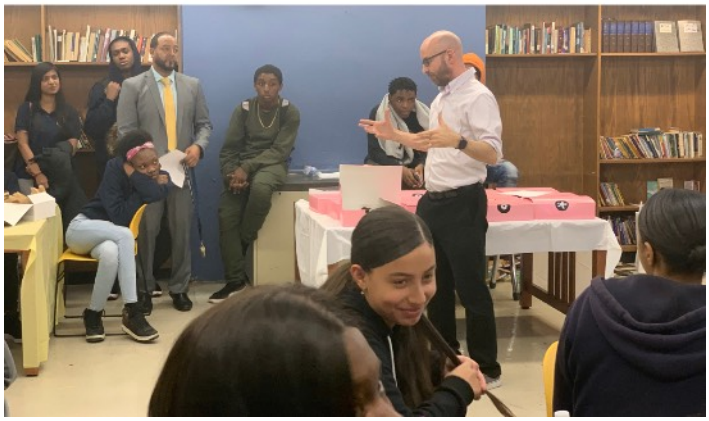
Track C — Workflow Automation Prototype

Example project: Interns may map a manual process, identify inefficiencies, and prototype a simple automation using accessible tools.

Track D — Workplace Problem Solving & App Concept Design

Example project: Interns may identify a real workplace challenge, conduct research with staff or customers, and design a technology-enabled solution (app, tool, or system) to improve how work gets done.

Project Selection: Employers are encouraged to design projects aligned to their organization's work, using these examples as a starting point.

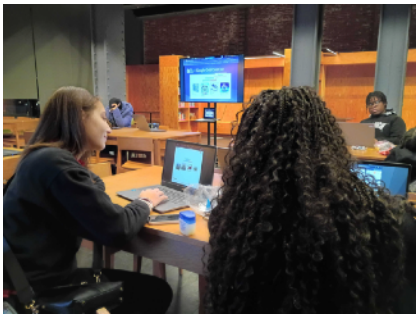


Workplace & Professional Skills

Beyond technical skills, SYEP interns develop essential professional competencies. Supervisors play a key role in modeling and reinforcing these behaviors.

Competency	How interns develop this
Effective Communicator	Stand-ups, presentations, written updates, email norms
Global Citizen	Team roles, collaboration, group problem-solving, etiquette
Critical Thinker	Project analysis, peer review, retrospectives, research
Creative Innovator	Adapting scope, prototyping, exploring new approaches
Reflective / Future Focused	Goal-setting, time tracking, documentation, reflection

Career Exploration: Dedicate at least 30 minutes per week for interns to reflect on their tasks and explore related career pathways, job titles, and salary data.



Supervision Best Practices

Before the Internship Starts

- Prepare a Week 1 onboarding plan — see resources
- Set up workstation, accounts, and tools for day-to-day tasks
- Identify a backup supervisor in case of absence
- Brief your team on hosting a high school intern
- Review DYCD guidelines and compliance requirements

During the Internship

- Conduct weekly 1:1 check-ins (use template)
- Provide specific, actionable feedback regularly
- Assign interns meaningful day-to-day tasks — not busy work
- Introduce interns to professionals and team workflows
- Track attendance and sign timesheets weekly
- Contact program coordinator if issues arise

Effective Feedback Framework

- **Strengths first:** Start with what's working well
- **Be specific:** "Your chart was clear because..." not "good job"
- **Growth-oriented:** Frame challenges from assigned tasks and projects as opportunities
- **Action-focused:** Always include a next step
- **Regular cadence:** Don·t save everything for Week 6

Implementation Tools

Recommended Digital Tools

Category	Tools
Productivity	Google Workspace (Docs, Sheets, Slides), Microsoft 365
Project Management	Trello, Notion, Asana (free tiers)
Communication	Slack, Email, Google Meet / Zoom
Data Analysis	Excel, Google Sheets, Tableau Public
Automation	Zapier (free), Make.com, Google Apps Script
Design & Presentation	Canva, Google Slides, PowerPoint
Version Control	GitHub (public repos, free)

Onboarding Checklist

- Review and sign DYCD participation agreement
- Complete safety orientation and emergency contact form
- Receive workstation / device assignment
- Set up company email and required accounts
- Tour the office and meet team members
- Review internship project brief and goals
- Sign technology use and confidentiality agreement
- Set Week 1 goals with supervisor

DYCD Compliance Requirements

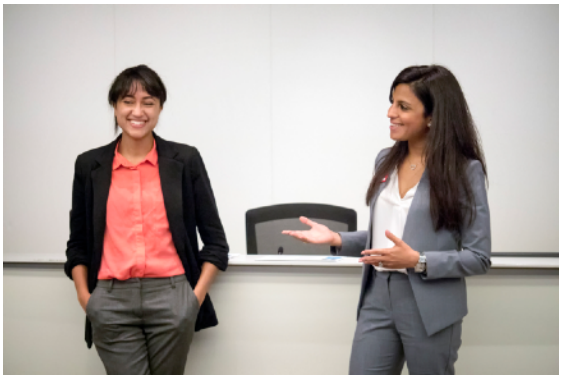
⚠ **All of the following are required** to remain in compliance with DYCD SYEP guidelines. Non-compliance may result in program removal.

Required Documentation

- Intern Learning Plan (use the Learning Plan Template)
- Weekly 1:1 Check-In Notes (use standalone template)
- Attendance Tracking (per SYEP requirements) Incident
- Reports (if applicable; submit within 24 hours)

Workplace Safety & Conduct

- Interns must not be left unsupervised at any time
- No task may put an intern's physical safety at risk
- Zero tolerance for harassment, bullying, or discrimination
- Interns may not handle sensitive client/financial data without oversight
- All incidents must be reported to DYCD within 24 hours



Project Scenario A - Track: Cybersecurity

Cybersecurity Tabletop Investigation + Friction Log

Host Company: NovaBank (Fintech Startup) | Duration: 6 Weeks | Team Size: 1–5 Interns

Company Background

NovaBank is a growing NYC-based fintech startup providing digital banking services to underserved communities. Growing usage has raised concerns about

unauthorized access and potential fraud. Your intern team will act as a junior cybersecurity task force,
supervised by employer staff.

The Challenge

NovaBank's security team has flagged an anomaly: a suspicious spike in failed login attempts over the past 30 days. The team needs to analyze login activity data, identify patterns of suspicious behavior, document findings, and recommend a response.

Intern Mission: Analyze the simulated login dataset, identify indicators of compromise (IOC), build a friction log documenting suspicious events, and present your findings and recommendations to NovaBank leadership.

Dataset Options

Use Google Sheets (recommended) or similar tools:

Option A — Kaggle Dataset: Use the "Login Attempts" dataset from Kaggle.com (free, publicly available). Contains 10,000+ rows of login data with fields: User ID, Timestamp, IP Address, Location, Login Status (Success/Failed), Device Type

Option B — Anonymized Internal Data: NovaBank will provide a sanitized, anonymized export from their test environment. Contains same fields as Option A, but context-matched to NYC-based users. Supervisor provides the CSV file.

Option C — Simulated Dataset: Program coordinator provides a purpose-built 500-row dataset pre-loaded with anomalies for educational purposes.

Team Roles

Role	Responsibilities
Security Analyst	Reviews login data to identify suspicious activity, flags anomalies, and documents potential security risks
Data Analyst	Cleans and organizes dataset; builds charts showing login trends over time
Research Lead	Researches common cyberattack types (brute force, credential stuffing); documents background
Documentation Lead	Maintains friction log; records all flagged events with timestamps and notes
Presentation Lead	Compiles team findings; creates and presents the final slide deck

Friction Log Template

	Timestamp	User	Address	Event	Severity	Notes
1	MM/DD HH:MM	USR-####	xxx.xxx.x.x	Failed Login	⚠ Medium	3x in 2 min
2						
3						

Severity levels: 🔴 *Critical = 10+ failed attempts / 5 min* | ⚠ *Medium = unusual IP* | 🟡 *Low = off-hours access*

Use the friction log to record events and identify patterns.

Consider:

- What were you expecting?
- What patterns or anomalies stand out?
- What would you flag or investigate next?

6-week Project Structure

Week	Phase	Activities	Deliverable
Week 1	Explore	Onboard to NovaBank; learn about digital banking security; watch intro to cybersecurity videos; meet team; review DYCD expectations; explore dataset structure	Team roles assigned; dataset downloaded; intro to cybersecurity 1-page summary
Week 2	Explore + Build	Deep-read the dataset; identify columns and data types; research brute force attacks and credential stuffing; begin flagging obvious anomalies (100+ failed attempts, single IP); create initial filters in spreadsheet	Annotated dataset with initial flags; research notes on attack types
Week 3	Build	Systematic anomaly detection: sort by IP, User ID, timestamp; identify top 10 suspicious accounts; build login trend charts (daily failed logins over 30 days); begin friction log with Documentation Lead	Top 10 suspicious accounts report; login trend chart; friction log (initial draft)
Week 4	Build + Apply	Complete friction log with all flagged events; research incident response best practices; draft 3–5 security recommendations; connect data findings to real-world breach scenarios; mid-program check-in with supervisor	Complete friction log; written recommendations draft; mid-program self-assessment
Week 5	Apply	Synthesize findings into presentation narrative; create visuals for final slide deck (charts, friction log summary, severity heatmap); practice presenting; incorporate supervisor feedback; write executive summary (1-page)	Final slide deck draft; executive summary; practice presentation completed
Week 6	Launch + Reflect	Final presentation to NovaBank leadership (15–20 min); Q&A with leadership panel; receive formal evaluation; team celebration; complete DYCD exit survey; write personal reflection	Final presentation delivered; evaluation form signed; exit survey completed; personal reflection

Expected final deliverables

✅ **Complete Friction Log — all suspicious events documented with timestamps, severity, and notes**

✅ **Anomaly Analysis Report — top 10 flagged accounts with evidence and reasoning**

✅ **Login Trend Visualizations — charts showing patterns over 30-day window**

✅ **3–5 Security Recommendations — specific, actionable steps for NovaBank**

✅ **Final Presentation Deck — 10–15 slides, presented to leadership**

✅ **1-Page Executive Summary — written for a non-technical audience**

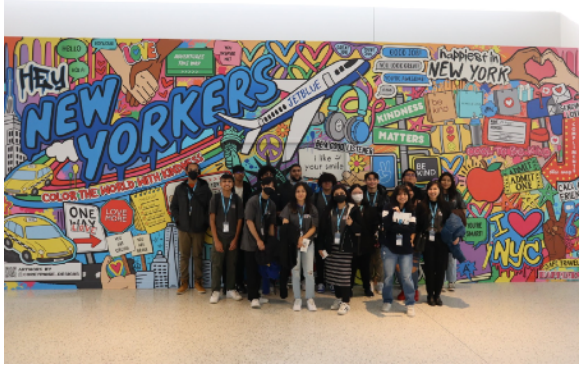
Supervisor Guidance: Interns are NOT expected to access real systems. All work uses the provided/downloaded dataset only. Emphasize ethical boundaries and data privacy throughout.

Key learning outcomes

Data Analysis | **Threat Identification** | **Teamwork**

Documentation | **Risk Assessment** | **Critical Thinking**

Presentation Skills | **Cybersecurity Concepts**



Project Scenario B - Track: Data Analytics

Data Insights Dashboard

Host Company: GreenCart (E-Commerce Grocery Startup) | Duration: 6 Weeks | Team Size: 1–5 Interns

Company Background

GreenCart is a fast-growing NYC-based e-commerce grocery startup focused on providing fresh, affordable produce to underserved neighborhoods. As the business scales, leadership needs better visibility into order trends, delivery performance, and customer satisfaction to make data-driven decisions.

The Challenge

GreenCart's operations team currently tracks orders in a spreadsheet but has no visual dashboard. Leadership can't quickly see which neighborhoods have the highest demand, which products are most popular, or how delivery times are trending. Your intern team will analyze their order data and build a visual dashboard to surface actionable insights.

Intern Mission: Clean and analyze GreenCart's order/delivery dataset (100–500 rows), identify 3–5 key business insights, and build an interactive visual dashboard that leadership can use to make better decisions.

The Dataset

File: GreenCart_Orders_Q2.csv (100–500 rows)

Column	Description	Example
Order ID	Unique order identifier	GC-2024-00234
Product Category	Type of product ordered	Vegetables, Fruits, Dairy
Order Date	Date order was placed	2024-04-15
Delivery Time (hrs)	Hours from order to delivery	3.5
City/Borough	Customer's borough	Bronx, Brooklyn, Queens
Order Status	Completion status	Delivered, Returned, Cancelled
Customer Rating	1–5 star rating from customer	4
Order Value ($)	Total order amount	$47.50

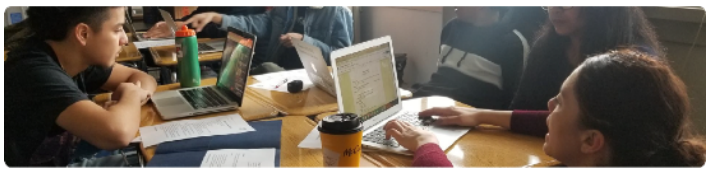
Team Roles

Role	Responsibilities
Data Analyst	Cleans dataset; removes duplicates and nulls; standardizes formatting; runs pivot tables
Visualization Lead	Creates charts and graphs; builds the visual dashboard in chosen tool (Excel/Tableau/Power BI)
Insights Analyst	Interprets charts; writes up 3–5 key findings in plain language; identifies trends and outliers
Research Lead	Benchmarks GreenCart's metrics against industry standards; researches e-commerce best practices
Presentation Lead	Compiles all findings; builds final presentation deck; leads the final delivery to GreenCart leadership

Recommended Tools

Microsoft Excel | Google Sheets | Tableau Public | Power BI (free) | Canva (charts)

Supervisors: Ensure interns have access to at least one of these tools before Week 1 begins.



6-week Project Structure

Week	Phase	Activities	Deliverable
Week 1	Explore	Onboard to GreenCart; understand e-commerce business model; explore the dataset structure; identify what each column means; ask questions about the business; discuss what leadership wants to know; assign team roles	Dataset exploration notes; 5 business questions the team wants to answer
Week 2	Explore + Build	Data cleaning: remove blanks, fix date formats, remove duplicate Order IDs; standardize borough names and product categories; document cleaning steps; run basic statistics (averages, counts, min/max); identify any data quality issues	Cleaned dataset (v1); data cleaning log; basic statistics summary
Week 3	Build	Build pivot tables and initial charts: orders by borough, top product categories, delivery time trends, order status breakdown; identify which borough has lowest satisfaction; find peak order days/times; start dashboard layout design	5+ charts created; dashboard wireframe/ sketch; initial insights notes
Week 4	Explore + Apply	Complete interactive dashboard; add filters (by date, borough, category); finalize 3–5 key insights with supporting data; write "so what" interpretation for each insight; mid-program check-in; draft recommendations for GreenCart	Dashboard v1 (complete); written insights; draft recommendations; mid-program self-assessment
Week 5	Apply	Build final presentation deck; use dashboard screenshots as visual evidence; practice presenting insights in non-technical language; present to peers; incorporate supervisor feedback; refine dashboard based on feedback	Final presentation deck; dashboard v2 (refined); practice presentation completed
Week 6	Explore + Reflect	Final presentation to GreenCart leadership (15–20 min); live demo of dashboard; answer leadership questions; receive formal evaluation; complete DYCD exit survey; write personal reflection; team celebration	Final presentation delivered; evaluation signed; exit survey; personal reflection

Expected final deliverables

✅ **Clean Dataset — documented cleaning process, no errors/blanks**

✅ **Visual Dashboard — 5+ charts/visualizations, filterable by borough & date**

✅ **3–5 Key Business Insights — written in plain language with data evidence**

✅ **Business Recommendations — actionable suggestions based on finding**

✅ **Final Presentation Deck — 10–15 slides, presented to leadership**

✅ **Industry Benchmarking — how does GreenCart compare to e-commerce averages?**

Sample Insight Example: "Brooklyn has the highest order volume but the lowest customer rating (avg 2.8/5). Delivery times in Brooklyn average 5.2 hrs vs. 2.8 hrs in Queens.

Recommendation: Investigate delivery routing in Brooklyn — this is your biggest opportunity for satisfaction improvement."

Key learning outcomes

Data Cleaning **Excel / Sheets** **Data Visualization**

Business Analysis **Storytelling with Data** **Dashboard Design**

Presentation Skills

Workflow Automation Prototype

Host Company: Brightpath (Tech Consulting Startup) | Duration: 6 Weeks | Team Size: 1–5 Interns

Company Background

BrightPath is a tech consulting firm that helps small businesses streamline their operations. Internally, BrightPath still relies on a manual form submission process for new client inquiries — a time-consuming bottleneck that causes delays and errors. Your intern team will analyze the current workflow and build an automation prototype to fix it.

The Challenge

When a new client submits an inquiry via BrightPath's website form, a staff member must manually: (1) copy the form data into a spreadsheet, (2) send a welcome email, (3) create a task in the project management system, (4) add the contact to the CRM, and (5) schedule a discovery call. This 5-step manual process takes 20–30 minutes per inquiry and is prone to errors and delays.

Intern Mission: Map the current manual workflow, identify bottlenecks and inefficiencies, design an automated alternative, build a working prototype using no-code/low-code tools, and measure time savings.

The Dataset

File: BrightPath_Inquiries_Sample.csv (30–100 rows)

Column	Description
Inquiry ID	Unique form submission ID
Client Name	Name of inquiring client
Email Address	Client contact email
Business Type	Type of business (retail, services, etc.)
Service Interest	Which BrightPath service they want
Submission Date	When the form was submitted
Response Date	When staff first responded
Response Time (hrs)	Calculated time to first response
Status	Pending / In Progress / Closed

Team Roles

Role	Responsibilities
Process Analyst	Documents current 5-step manual workflow in detail; interviews staff; creates process map
Data Analyst	Analyzes inquiry dataset to measure current performance (avg response time, error rate, volume)
Automation Builder	Builds the automation prototype using Zapier, Make.com, or Google Apps Script
QA / Tester	Tests the prototype with sample data; documents bugs and improvements
Presentation Lead	Compiles findings; builds final presentation showing before/after comparison

Current Manual Workflow (5 steps)

Step 1 — Copy form data to spreadsheet (5 min)

Step 2 — Send welcome email manually (5 min)

Step 3 — Create task in Asana/Trello (5 min)

Step 4 — Add contact to CRM (5 min)

Step 5 — Schedule discovery call (10 min)

Example Outcome:
Before automation, each inquiry required a 5-step manual process taking 20·30 minutes. After the intern team built the automation prototype, processing time dropped to under 5 minutes · with fewer errors and improved response consistency across all client inquiries.

6-week Project Structure

Week	Phase	Activities	Deliverable
Week 1	Explore	Onboard to BrightPath; shadow staff through the manual process at least once; interview 2–3 team members about pain points; document each step of the current workflow (who does it, how long it takes, tools used); assign team roles	Current workflow documentation (step-by-step); staff interview notes; roles assigned
Week 2	Explore + Build	Analyze the inquiry dataset: calculate average response time, identify peak inquiry days, find bottlenecks in the data; create a process map of the current workflow (flowchart); research automation tools (Zapier, Make, Apps Script); explore free tiers and capabilities	Dataset analysis summary; process map flowchart; automation tool comparison chart
Week 3	Build	Design the automated workflow: map out which steps can be automated and how; choose automation tool; build the first automated trigger (form submission → spreadsheet row); test with sample data; document build process with screenshots	Automation design diagram; Step 1 automation built and tested; build documentation
Week 4	Build + Apply	Build automation for steps 2–3 (welcome email + task creation); test full flow end-to-end; QA Lead documents any errors or edge cases; fix bugs; mid-program check-in; begin measuring time savings vs. manual process	Automation steps 1–3 complete; QA test log; time savings measurement (draft); mid-program self-assessment
Week 5	Apply	Complete full automation prototype (all 5 steps or maximum feasible); conduct final testing with full sample dataset; measure total time savings; build before/after comparison; create presentation deck; practice presenting; incorporate supervisor feedback	Complete automation prototype; before/after time comparison; final presentation deck; practice run completed
Week 6	Launch + Reflect	Final presentation to BrightPath leadership (15–20 min); live demo of automation prototype; present time savings data; answer leadership Q&A; receive formal evaluation; complete DYCD exit survey; team celebration; write personal reflection	Final presentation delivered; live demo completed; evaluation form signed; exit survey; personal reflection

Expected final deliverables

✅ **Current State Process Map — detailed flowchart of the 5-step manual workflow**

✅ **Automation Prototype — working automation built in Zapier/Make/Apps Script**

✅ **QA Test Log — documented test cases, results, and bug fixes**

✅ **Before/After Comparison — time saved, error reduction, efficiency metrics**

✅ **Implementation Recommendation — steps for BrightPath to adopt the solution**

✅ **Final Presentation Deck — 10–15 slides with live demo**

⚡ **Prototype Scope Note:** Interns are not expected to fully deploy the automation in production. A working proof-of-concept using sample/test accounts is sufficient and demonstrates the value of the solution.

Key learning outcomes

Process Mapping **Zapier / Make** **Google Apps Script**

QA Testing **Efficiency Analysis** **Problem Solving**

No-code Tools **Technical Documentation**

Workplace Problem Solving & App Concept Design

Host Company: Any Industry (Retail, Nonprofit, Operations, Services) | Duration: 6 Weeks | Team Size: 1–5 Interns

Company Background

Your organization operates in a fast-paced environment where staff face real challenges, from customer service issues to operational inefficiencies, that often go unaddressed.

Your intern team will identify a real problem, research its causes, and design a technology-enabled solution, supervised by employer staff.

Every workplace has problems better systems could address. Your intern team will:

- Identify a real workplace challenge
- Conduct structured research
- Design a solution (app/tool/system concept)
- Present a clear proposal

★ Intern Mission:
Research a real workplace challenge, gather input from staff or customers, and design a technology-based solution that improves how work gets done.

Research Approach

Interns should gather information using accessible methods:

- Staff interviews (2–5 employees)
- Customer observations or feedback (if appropriate)
- Simple surveys (paper or Google Forms)
- Observation of daily workflows

Example Problem Areas

- Long customer wait times (retail, service)
- Inefficient scheduling or communication
- Inventory tracking challenges
- Customer feedback not being captured
- Manual processes that could be streamlined

Team Roles

Role	Responsibilities
Project Manager	Coordinates timeline, assigns tasks, and tracks progress
Research Lead	Conducts interviews/surveys; documents findings
Process Analyst	Maps current workflow; identifies inefficiencies
Solution Designer	Designs app/tool concept;
Presentation Lead	Builds final deck and delivers pitch

Solution Output (no coding required)

Mobile app concept
- Digital workflow or tracking tool
- Communication or scheduling system
- Operations dashboard

Tools (no coding required):
- Paper
- Sketches
- Google Slides
- Canva
- Figma (optional)

Example Outcome:
Retail store interns found employees spent 15–20 min/shift tracking inventory manually. Their app concept cut this to under 5 minutes, improving accuracy across teams.

★
No Coding Required:
Interns are not expected to build a working app. A well-researched concept, wireframe, or prototype is sufficient to demonstrate the value of the solution.

6-week Project Structure

Week	Phase	Activities	Deliverable
Week 1	Explore	Observe company operations; identify potential challenges; assign team roles; set up project plan	List of 2–3 workplace challenges
Week 2	Explore + Build	Interview staff; conduct surveys; analyze findings; draft problem statement; select focus area	Problem statement + research summary
Week 3	Build	Map current workflow; identify inefficiencies; brainstorm solution ideas; select concept with supervisor	Workflow map + solution concept draft
Week 4	Explore + Apply	Design solution concept; define key features; gather staff feedback; mid program check-in	Draft solution design + feedback notes; mid-program self-assessment
Week 5	Apply	Refine solution; build before/after comparison; create presentation deck; practice with supervisor	Final solution concept + presentation draft
Week 6	Launch + Reflect	Present to employer (10–15 min); receive feedback; complete exit survey; team debrief; reflect on learning	Final presentation + Personal reflection

Expected Final Deliverables

- **Problem Statement** · clearly defined challenge with supporting evidence
- **Research Summary** · interviews, observations, insights
- **Workflow Map** · current process visualization
- **Solution Concept** · app / tool / system design
- **Before/After Comparison** · time saved or impact shown
- **Final Presentation** · 10-15 slides

Key Learning Outcomes

Problem Solving | **User Research** | **Process Analysis**

Critical Thinking | **Communication** | **Design Thinking**

Workplace Collaboration

Prototype Scope Note:
Interns are not expected to build a working app or deploy a live system. A researched concept or prototype is sufficient.

Program contacts
SYEP Provider — contact available via worksite portal
DYCD — nyc.gov/dycd | 1-800-246-4646
Employer Feedback Form: https://dycd.jotform.com/form/techfeedback