Software Development Internship/Virtual Consultancy Playbook (Level 1)

Occupation: Software Developer, Systems  
Industry: Digital Media/IT

Project Summary

Project Description/Overview
This internship provides an intern the opportunity to learn about and experience life at a software company. Through interviews with team-members, observations of technical meetings, participation in daily scrum, and contributions to critical stages of the software development lifecycle. The intern will complete the task of writing “User Stories” for features of the organization’s software, and will create a quality assurance report based on the findings within the “User Story”.

Key Skills and Knowledge:
- Analyzing information and evaluating results to choose the best solution and solve problems.
- Using computers and computer systems (including hardware and software) to program, write software, set up functions, enter data, or process information.
- Identifying the underlying principles, reasons, or facts of information by breaking down information or data into separate parts.
- Providing information to supervisors, co-workers, and subordinates by telephone, in written form, e-mail, or in person.
- Identifying information by categorizing, estimating, recognizing differences or similarities, and detecting changes in circumstances or events.
- Entering, transcribing, recording, storing, or maintaining information in written or electronic/magnetic form.

Key Deliverables:
- Introductory email to teammates to coordinate a 1-on-1 meeting time
- Completed list of goals for internship, aligned to stated expectations (after goal setting meeting with supervisor)
- One-on-one meetings/coffee/lunch with teammates to understand their roles
- Graphic Organizer detailing the roles and responsibilities of team members
- 3 User Stories for 1 feature OR 1 user story for 2-3 features
- QA: Written test-cases for a product feature including description of user interaction with the feature, inputs, and expected responses of the working product
- Capstone: "Life of a sprint at Company X" medium article
### Performance Evidence: What Does Success Look Like?

<table>
<thead>
<tr>
<th>Key Deliverable</th>
<th>Evidence of Mastery in Context/Project</th>
<th>When to Assess?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Send introductory email introducing themselves, summarizing background, interests and goals for the internship, and set a 1 on 1 meeting to discuss goals.</td>
<td>Given a template email format, the intern is able to send a concise email introducing themselves and requesting a time to schedule a 1-on-1 meeting. Intern is able to have a professional back-and-forth establishing meeting time.</td>
<td>✓ Checkpoint 1, ☐ Checkpoint 2, ☐ Checkpoint 3, ☐ Checkpoint 4, ☐ Final Project</td>
</tr>
<tr>
<td>Have 1-on-1 meetings with team-members to learn about their role in the company</td>
<td>Intern prepares for each meeting by rehearsing interview questions with supervisor. Intern shows up at the meeting on time. Intern actively participates in each meeting.</td>
<td>☐ Checkpoint 1, ✓ Checkpoint 2, ☐ Checkpoint 3, ☐ Checkpoint 4, ☐ Final Project</td>
</tr>
<tr>
<td>Graphic Organizer detailing the roles and responsibilities of team members and their work relationships</td>
<td>All components of the graphic organizer are completed in clear, concise language. Content should be tailored to prompts/categories delineated in the graphic organizer. As a whole, accurately summarizes each team member's roles and responsibilities as well as their interconnected relationships. Supervisors may use the attached template or create their own.</td>
<td>☐ Checkpoint 1, ✓ Checkpoint 2, ☐ Checkpoint 3, ☐ Checkpoint 4, ☐ Final Project</td>
</tr>
<tr>
<td>3 User Stories for 1 feature OR 1 user story for 2-3 features</td>
<td>Meets objective requirements for user stories for Company X. Intern is able to independently create User Stories based on exemplar user story created in collaboration with supervisor.</td>
<td>☐ Checkpoint 1, ☐ Checkpoint 2, ✓ Checkpoint 3, ☐ Checkpoint 4, ☐ Final Project</td>
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<tr>
<td>QA: Written test-cases for a product feature including description of user interaction with the feature, inputs, and expected responses of the working product</td>
<td>Meets objective requirements for QA test-cases for Company X.</td>
<td>☐ Checkpoint 1, ☐ Checkpoint 2, ☐ Checkpoint 3, ✓ Checkpoint 4, ☐ Final Project</td>
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<tr>
<td>Capstone: &quot;Life of a sprint at Company X&quot; medium article</td>
<td>See attached rubric</td>
<td>☐ Checkpoint 1, ☐ Checkpoint 2, ☐ Checkpoint 3, ☐ Checkpoint 4, ✓ Final Project</td>
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## Checkpoint Rubric

<table>
<thead>
<tr>
<th></th>
<th>Needs Improvement</th>
<th>Emerging</th>
<th>Proficient</th>
<th>Exemplary</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engagement with team</strong></td>
<td>Intern made a minimal attempt to set up and engage in one-on-one meetings, missed key team members; intern was late to or missed two or more scheduled meetings; graphic organizer reflects an incomplete or uneven understanding of project overview and roles.</td>
<td>Intern set up, was mostly on time to, and made a strong attempt to engage in some one-on-one meetings with team members; Graphic organizer reflects a limited or vague understanding of project overview and roles.</td>
<td>Intern set up, was on time to, and made a strong attempt to engage in all one-on-one meetings with team members; Graphic organizer reflects a basic understanding of project overview and roles.</td>
<td>Intern set up, was on time to, and actively engaged in all one-on-one meetings with team members; Graphic organizer reflects a thorough and nuanced understanding of project overview and roles.</td>
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<tr>
<td><strong>User Stories</strong></td>
<td>User stories do not meet Company X’s expectations/requirements for user stories.</td>
<td>User stories partially meet Company X’s expectations/requirements for user stories; work may be uneven in effort/quality.</td>
<td>User stories come close to meeting Company X’s expectations/requirements for user stories.</td>
<td>User stories meet or exceed Company X’s expectations/requirements for user stories.</td>
</tr>
<tr>
<td><strong>Test Cases</strong></td>
<td>Test cases do not meet Company X’s expectations/requirements for user stories.</td>
<td>Test cases partially meet Company X’s expectations/requirements for user stories; work may be uneven in effort/quality.</td>
<td>Test cases come close to meeting Company X’s expectations/requirements for user stories.</td>
<td>Test cases meet or exceed Company X’s expectations/requirements for user stories.</td>
</tr>
<tr>
<td>Capstone Project</td>
<td>Blog post reflects an incomplete, incorrect, or shallow understanding of Company X's product development cycle; blog post lacks organization and may be difficult to follow; writing is generally unclear, off-topic, and/or makes little attempt to engage with the audience.</td>
<td>Blog post reflects a partial understanding of Company X’s product development cycle; blog post lacks a clear, intentional structure; writing is sometimes engaging, clear, and on topic.</td>
<td>Blog post reflects a reasonably thorough understanding of Company X’s product development cycle; blog post has a clear structure, but structure doesn’t always align to the overall purpose of the post; writing is mostly engaging, clear, and on topic.</td>
<td>Blog post reflects a comprehensive understanding of Company X’s product development cycle; blog post is well-organized with a clear, cohesive structure; writing is highly engaging, clear, and on topic.</td>
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<tr>
<td></td>
<td>Unit 1</td>
<td>Unit 2</td>
<td>Unit 3</td>
<td>Unit 4</td>
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<tr>
<td><strong>Estimated Time</strong></td>
<td>~ 8 hrs</td>
<td>~ 12 hrs</td>
<td>~ 10 hrs</td>
<td>~ 10 hrs</td>
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<tr>
<td><strong>Objective/Desired Outcome(s)</strong></td>
<td>Intern is introduced to the team. Intern is introduced to scrum practices. Intern learns the team structure and team member roles.</td>
<td>Intern has a firm understanding of team roles, organization, and responsibilities. Intern is able to identify a project to shadow for Unit 3.</td>
<td>Intern learns about a product in development at Company X. Intern recognizes the importance of user stories in the software development lifecycle. Intern is able to create a useful work product in the form of user stories.</td>
<td>Intern learns about the QA process and its importance to the development lifecycle. Intern is able to assist on a useful work product in the form of written test-cases.</td>
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<tr>
<td><strong>Intern Activity/Task(s)</strong></td>
<td>Participate in daily scrum stand up. Intern sends introductory emails to all team members. Reflection with supervisor.</td>
<td>Participation in daily scrum standup. Intern meets with team members to learn their role on the team and how they are connected with other team members.</td>
<td>Participation in daily scrum standup. Intern works with supervisor to create a user story. Intern creates 2 more user stories on their own.</td>
<td>Participation in daily scrum standup. Intern shadows a QA engineer to learn the QA process.</td>
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Preparing for Your Intern:

1. Review this Playbook and determine how you will need to modify it to fit your context (ie. supervisor needs, company norms, technology available, etc).
   Take a look at the suggestions for modifying the project at the end of each unit as a starting point (and feel free to make up your own).

2. Identify key acronyms and vocabulary most frequently used by your team and build a reference sheet to share with your intern

3. Prework to be completed by supervisor to prepare for your intern
   - Prior to Day 1, the supervisor should inform team-members to make time in their schedules for a 30 minute intro meeting with the intern between Monday-Thursday during Unit 2 of internship. Each team member will be responsible for helping the intern understand their role as it relates to the team at-large.
   - Supervisor should share a brief profile of the intern and scope of the internship with anyone who will be working with the intern in any capacity.
   - Depending on the intern's prior level of experience, prepare a coding-interview to determine the intern's ability to contribute to coding assignments (see differentiation options for each Unit). This should be an opt-in opportunity for the intern to prevent demoralization for inexperienced interns.

First Day:

In addition to the to-do’s outlined in the Internship Supervisor Toolkit, be sure to also complete the following on day one:
- Interest Surveys (ex. ONet Interest Profiler, Work Style Inventory)
- Personality Tests (taken by both intern and supervisor)
- Big picture overview of Company X and it’s various departments and products

When you discuss the work plan, make sure you point out the following:
- Program Goals and Outcomes
- Key Deliverables and due dates
- Key Skills and Knowledge: (aka. Learning Objectives)

After discussing the work plan, we suggest kicking things off with an Engagement Activity to explicitly engage the intern in understanding your performance expectations at the beginning of the internship. Here are a few Suggested Engagement Strategies/Activities:
- Have interns complete a fun work style inventory, and have your team complete the same survey. Then share the results with each other at a kickoff meeting with the intern.
- Allow the intern to do some self guided searching of the organization’s mission, vision, and goals.
- Engage the intern in an informal interview with a colleague willing to share information about their career path and personal journey.
Unit 1: Learning company culture and inter-team communication  
Estimated Time Needed: 8 hours

Unit Goals and Desired Outcomes:
● Intern is introduced to the team
● Intern is introduced to scrum practices
● Intern learns the team structure and team member roles
● Intern is familiarized with office layout and daily coming-in-to-work logistics
● (If applicable) Intern should be comfortable using task-management software

Deliverable(s)
● The intern will craft an introductory email to be sent to all members of their assigned team (use discretion if the team is larger than 8 people). The email should include:
  ○ A brief summary of the intern's personal background
  ○ The intern's interests and goals for the internship.
  ○ A request to schedule a meeting with the recipient
● (If applicable) Intern should add and complete tasks using Jira (or similar task manager such as Asana, Trello, etc...)

Activities/tasks: The intern will...
● Participate in daily scrum stand up and make observations about the purpose of, and benefits that come from, daily scrum stand up meetings.
● Discuss these observations and takeaways with the supervisor
● Work with the supervisor to draft email and to follow company protocols for requesting a meeting.
● Have an end-of-unit reflection conversation with the supervisor

Supervisor Script for Introducing the Unit:
● The goal of this unit is to get you familiarized with work-life procedures and logistics, introduce yourself to the other team members, and actively participate in daily scrum.
● By the end of this unit you will
  ○ know when to arrive at work
  ○ how to enter the building and find your team's location in the office.
  ○ have a sense for what our team does at Company X
  ○ feel comfortable writing introductory emails to team-members
  ○ feel comfortable scheduling 1-on-1 meetings with individual team-members
  ○ be prepared to have 1-on-1 conversations with individual team-members

● Supervisor checklist:
  ○ Have intern participate in first scrum meeting; afterwards, supervisor and intern should reflect on the experience
  ○ supervisor should assist creating the introductory email template
  ○ supervisor should help prepare the intern for conversations with team-members (see Unit 2)
  ○ Don’t forget to complete everything on the Day 1 Checklist (see Employer Toolkit)
Assessment: Checkpoint 1

- Observe intern behavior in scrum meetings
  - Is the intern engaged and energetic?
  - Does the intern share? or mostly observe?
- Observe intern’s writing habits when crafting emails
  - Is their language professional?
  - Is their writing free of grammatical and spelling errors?
- Confirm delivery of emails to team-members
- Reflection questions (S indicates the question is intended for the supervisor, I indicates the question is intended for the Intern)
  - Day 1:
    - S & I: What was one unexpected thing each of you learned today?
    - I: How was this first day similar/different to your first day at school?
    - S: What was your first day at Company X like?
  - End of Unit:
    - I: What is something you learned about today that you are curious to learn more about?
    - S: From your observations, what do you think the intern is excited for? What might they be nervous about?
    - I: "what questions would you like to ask each team member during your 1-on-1 meetings?"

Feedback:

- If intern performed below expectations, here are some suggested feedback prompts:
  - Your emails were super-effective in [insert specific component]... One area that could use some more fleshing out is [insert specific component] so that the team knows a little bit more about [insert specific, observable action]. Ask the intern to send a brief follow-up email to address areas that were lacking.
  - I noticed you observing and taking it all in during scrum meetings. That’s great, and it’s completely normal to feel a bit intimidated. In the next meeting, one suggestion I have to actively participate is [insert specific, observable action].
- If intern performed at or above expectations, here are some suggested feedback prompts:
  - Your emails met all the requirements we discussed, and the team mentioned how effective they were. Nice work! One suggestion I have for the next time you send an introductory email is to [ex: share one of your biggest accomplishments as a high school student so that your teammates know something you’re really passionate about].
  - The observation you shared during the last scrum meeting showed you’re already making connections about what the team is working on. That’s awesome! If there’s something you’re a bit confused about, don’t be afraid to ask clarifying questions. Part of the Agile framework is sharing roadblocks so that your team can help you work past them.

Recognition:

- Interns likely feel intimidated to some degree at this checkpoint. The supervisor should over-emphasize anything positive they’ve seen in unit 1- examples of areas for recognition are:
  - asking about how organizational systems work
  - active listening during meetings
● Showing up to work and meetings early/on time
● Asking lots of questions or asking for assistance/clarification frequently when given a task

● Identify and share with intern specific qualities the intern is beginning to show that correlate with success on the team or in the organization. Ex: reliability, communication, asking for help/clarification, persistence, eagerness to take on new challenges, risk-taking, positive energy, etc.
  ○ These qualities may be just emerging at this point, or sporadically observable. Recognizing them will empower the intern to identify strengths and set goals to build on those strengths.

● Highlight internship on company social media.

**Meaning Making Strategy/Suggestions:**

● **What daily and weekly routines did you see happening in the department you’ve been assigned to? What do you think is the reasoning behind them?**

● **How did you have to push yourself socially during this unit? If Unit 1 made you leave your comfort zone, did taking that risk pay off?**

● **What did you notice about the importance of being on time during Unit 1? What happened when someone was late or otherwise didn’t meet an obligation to show up to something? How did it affect the team?**

● **What impact did your introductory emails have on individual team members? How did they react or respond?**

● **How comfortable do you feel as a new member of your team at Company X?**

**Additional Work Based Learning Strategies for this unit:**

**Ideas for Differentiation:**

Instead of emails, students comfortable with powerpoint/google slides may introduce themselves via presentation to the team.

**Ideas for Project Modifications:**

Instead of emails, utilize company-specific channels for communication like slack.
Unit 2: Having conversations with team-members, taking notes, mapping out the team roles and structure  
Estimated Time Needed: 12 hours

Unit Goals and Desired Outcomes:
- Intern has a firm understanding of team roles, organization, and responsibilities
- Intern is able to identify a project to shadow for Unit 3

Deliverable(s)
- Have 1-on-1 meetings with team-members to learn about their role in the company. Using the attached graphic organizer (also located in appendix), the intern should be able to report on the following for each team member:
  - Team Member Name:
  - What project are you currently working on?
  - What specific role/task do you have/do in that project?
  - Which other team members do you work with?
  - Personal Story / Fun Facts
- Complete team roles and responsibilities map based on provided graphic organizer.

Activities/tasks:
- Participation in daily scrum standup; continue (or begin) providing updates to team about internship progress
- Intern meets with team members to learn their role on the team and how they are connected with other team members
  - Supervisor should help practice these conversations with intern
  - Supervisor should encourage the intern to add their own personal touch to these conversations. The conversations, in addition to being pertinent for the Unit 2 deliverable, are meant to give the intern experience in making interpersonal work connections that will be invaluable to the development of their networking skills.
  - Intern can use provided graphic organizer or their own notes to keep track of information taken down during the meeting

Supervisor Script for Introducing the Unit:
- In this Unit you will be having your 1-on-1 meetings with the various members of the team. Having individual meetings and developing interpersonal relationships is one of the most fundamental parts about working with other people. You have to know who your team-members are if you are hoping to have a successful partnership with them in the future. In addition, when you first join a company, having a firm grasp of who does what will teach you another important lesson: who to ask for help when you need it. In many ways, scheduling a meeting is the first step when asking someone for help, and we've already done that!

Assessment: Checkpoint 2
- Review graphic organizer - see organizer template below; rubric on page 4.
- Debrief intern after 1-on-1 meetings. Reflect on highlights and lowlights. Discuss what can be improved and recognize the strengths the intern displayed.
Through conversations with the team, the intern and supervisor identifies the project the intern will shadow for the remainder of the internship. The team-member being shadowed should be a junior-level developer. If convenient, the intern may shadow another jr. developer, otherwise the supervisor should choose a single project they are working on.

<table>
<thead>
<tr>
<th>Team Member Name</th>
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<tbody>
<tr>
<td>Title and brief summary of role on team</td>
<td></td>
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<tr>
<td>Brief description of current project in progress</td>
<td></td>
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<tr>
<td>Team member’s specific role or contribution to project</td>
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<tr>
<td>Other team members regularly collaborate with</td>
<td></td>
</tr>
<tr>
<td>Personal Story/Fun Fact</td>
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Feedback:

- **If intern performed below expectations, here are some suggested feedback prompts:**
  - You were able to document a lot of the basics for most of the team members, but when I read this organizer, I’m a little hazy on how SPECIFICALLY each team member contributes to the team. Imagine someone with no knowledge of Company X reading this - what other information could you add to make the team roles more clear to that outside individual?
  - You did a great job with the first few, but it looks like the level of detail trailed off for these last couple of team members. What happened? How can I help you better manage your time next time you have a deadline?

- **If intern performed at or above expectations, here are some suggested feedback prompts:**
  - Great work making connections between each person’s role and the purpose of the organization as a whole. When an outsider who knows nothing about our organization reads this, they’ll get a solid sense of what our team does. Having completed this task, what are some questions you wish you could have asked your team members?
  - This is really thorough! I can tell that you really pushed the team members for real answers and asked for clarification when you weren’t quite sure what they meant. Next time you have a similar task assigned to you, how can you make your writing clearer and more concise? Can you find some places where you could have said the same thing with fewer words?

Recognition:

- In team meeting or other public forum, shout intern out for proactively reaching out to team members, both via email and through interview meetings.
• Explicitly recognize the positive impact of interns work. Ex. Your work helped me get a better sense of where the team is at. This will help me plan my own one-on-ones with the team.

• Acknowledge growth from the beginning to end of the unit. Ex. You were a bit shy in our first meeting, which is totally normal when you’re thrown into something new and unfamiliar. But our practice sessions clearly paid off—everyone on the team raved about how great it was to get to know you in their one-on-ones.

Meaning Making Strategy/Suggestions:

• The big soft skills covered in this unit were professional communication tailored to a specific objective, verbal communication in one-on-one settings, and the ability to synthesize information into a written report.

• Ask interns what the activities in the unit have taught them about the difference between casual and professional verbal communication. Once they have identified some differences, ask them what the reason is for those differences, both generally and in the deliverables they have just completed.

• Ask the intern what they noticed about each team member’s communication style, and how the intern adapted to these different styles and demeanors during their interviews.

Additional Work Based Learning Strategies for this unit:

Ideas for Differentiation:

• Interns prepared to go above and beyond in early stages can also create a role map identifying relationships between each role and the department/group’s productivity cycle.

• https://medium.com/awake-leadership-solutions/a-leaders-guide-to-role-mapping-2351fff9acc

Opportunities for Intern Voice/Choice:

Students may choose to format the final product (graphic organizer) in a format of their choice, with approval from their supervisor.

Ideas for Project Modifications:

Based on team member availability, interviews can be conducted over phone or video call.
Unit 3: User Stories

Estimated Time Needed: 10 hours

Unit Goals and Desired Outcomes:
- Intern learns about a product in development at Company X through conversations with the product manager
- Intern recognizes the importance of user stories in the software development lifecycle
- Intern is able to create a useful work product in the form of user stories
- Intern is given the opportunity to switch to a new team and learn about their product

Deliverable(s)
- Intern produces at least 3 User Stories to be presented at the end of the Unit to the product manager and the supervisor

Activities/tasks:
- Participate in daily scrum standup and continue to provide progress updates and roadblocks for assigned deliverables.
- Intern sits in on & takes notes on # meetings with assigned product team
  - See graphic organizer for meetings (objectives, key points, agenda, etc...)
  - The number of meetings should be appropriate and determined by the supervisor/the jr. developer being shadowed.
- Intern interviews the product manager to understand how user-stories are used in the software lifecycle and how to create an effective user-story
- The supervisor should guide the intern through user story examples on a popular project (what is a user story for Instagram filters, Spotify discover weekly, etc...). Use the following prompts to guide the creation of a User Story (or follow your Company’s protocol/standard procedures):
  - Start with sentence stems:
    - As a ROLE I want a FEATURE so that I get a BENEFIT
  - Who is the target user?
    - Name, demographic features, minor backstory
  - Setting:
    - When and where is the user?
    - How frequently do they use this feature?
    - Specifically, what steps are involved in using/interacting with this feature?
  - Why is this feature valuable/useful to the target user? What problem does this feature solve for the target user?
- Intern creates 2 more user stories on their own (either about the same project or 2 additional projects)

Supervisor Script for Introducing the Unit:
- **Note to supervisors:** this introduction should involve a high-level explanation of the working product including its various use cases. It will be up to the Supervisor to consider how the business context for this work product can be best explained to an individual with little-to-no background in this context.
- **User stories allow developers to better understand the end user’s perspective. It is easy for developers to take for granted that the end user will know how to use their products. Often, this is not the case. Taking time to consider the wide range of end users who may interact with a**
product and understand their background and needs can greatly improve the quality of the product provided. A user story is more than just the background information about an end user though. It truly is a story detailing precisely how that user will engage with each component of the end product. Are they a new user or a returning user? When and where do they use this product? How often? What pieces of the product do they use frequently, and which pieces do they only use on occasion? Leave no rock unturned. If you think there is a situation worth describing, describe it.

Assessment: Checkpoint 3


Feedback:

- If intern performed below expectations, here are some suggested feedback prompts:
  - There’s some good material here, but the most helpful user stories are super-specific and cover a vast variety of possible user situations. This is a tough project, and I probably should have checked in with you more often to give you more bite size pieces of feedback along the way. I’ll remember to be more proactive with our next deliverable, and I’m asking you to push yourself. User stories require a lot of creativity and empathy (you need to truly put yourself in the shoes of someone who may have little in common with you), so they really require you to push yourself out of your comfort zone, and think critically about all sorts of possibilities.

- If intern performed at or above expectations, here are some suggested feedback prompts:
  - I can tell that you really thought critically about how the end user would interact with this feature- this covers a lot of different scenarios and you brought up some scenarios that I had never considered. This time, you worked with the typical user in mind, but user stories for occasional users and first time users would be helpful for this feature, as well.

Recognition:

- Recognize the specificity, creativity, and/or thoroughness of the intern’s work product as indicators of strong user stories.

Meaning Making Strategy/Suggestions:

- All businesses offer/sell a product to a customer, so user stories are central to a wide variety of jobs, in and out of tech.
- Explore the value of putting one’s self in the shoes of a customer in a few different industries to help the intern understand that being able to think critically about what customers want and need is a highly marketable job skill across fields.

Additional Work Based Learning Strategies for this unit:

Ideas for Differentiation, Voice, and Modification:
User stories can be presented via presentation (prezi, google slides, producing a video, etc.)
Unit 4: Quality Assurance

Unit Goals and Desired Outcomes:
- Intern learns about the QA process and its importance to the development lifecycle
- Intern is able to assist on a useful work product in the form of written test-cases
- Intern is given the opportunity to switch to a new team and learn about their product

Deliverable(s):
- Written test-cases for a product feature including description of user interaction with the feature, inputs, and expected responses of the working product

Activities/tasks:
- Participate in daily scrum standup and continue to provide progress updates and roadblocks for assigned deliverables.
- Attend QA meetings and take notes
  - At the beginning of the unit, the supervisor should help prepare the intern by describing the role of a QA engineer and its importance to the software development lifecycle. Through this preparation, the intern should prepare to take observation notes in QA meetings.
- Shadow/interview a QA engineer
  - Ask insightful questions to better understand the steps involved in QA as it is practiced at Company X.
  - Intern should be seeking to understand what is required of a QA engineer and what the parameters of a written test-case are.
- Intern works with their supervisor to create written test-cases. Depending on how Company X incorporates QA testing into their pipeline, this may involve QA testing on the UI or unit tests on the functionality of the code. It will be up to the supervisor and QA engineer to determine which is most appropriate for the intern to contribute to.

Supervisor Script for Introducing the Unit:
- Delivering a quality product is essential to building a successful business. Ensuring that a product is delivered with high quality is the job of a Quality Assurance Engineer, or a QA Engineer, who does so by [doing x, y, and z]. Here, at Company X, QA is handled by [insert person or role] and is incorporated at the following stages of development: [insert development stages that receive QA attention]. Like User Stories, QA helps the company better understand its target users so that we can create a product that is designed with all of their needs in mind.
- I’d like to introduce you to the QA engineer that we have on our team. I would also like for you to attend some of the meetings that the QA engineer participates in. Through this, you’ll be able to get a taste for the ways a QA engineer is involved in the development lifecycle. The three of us can work together so that you can make a contribution to this process.
- Keep in mind, you will be thrown into a new situation. This is common in a software company where new features are constantly in the pipeline and you may be called to switch teams to help. Reflect on the areas of improvement from Unit 1 and be intentional about practicing the key skills we identified.
Assessment: Checkpoint 4

- Schedule a check in with the QA engineer and the intern to discuss the intern's performance while shadowing the QA engineer and participating in the QA meetings. Pay attention again to the ways in which the intern can develop and improve their interpersonal skills while recognizing and celebrating their strengths.
- Written test-cases adhere to Company X's protocols and standards for quality; review test-cases Stories comparing against the rubric/description of success on page 4.

Feedback:

- If intern performed below expectations, here are some suggested feedback prompts:
  - This was the first technical task we’ve assigned to you, so it’s understandable that you’d struggle. Let’s talk over inputs and expected responses again so that I know you’re clear on what they are in relation to a product feature. Then if you’d like, you can go back and add to your test cases.
  - You were assigned this task right after user stories, so I can see why it ended up very similar to your last deliverable. User stories, to be fair, are more fun to write. Test cases need to be more specific and follow the structure and formula I shared with you.

- If intern performed at or above expectations, here are some suggested feedback prompts:
  - This was the first real technical challenge we tasked you with, and you really rose to the challenge. Testing is a very important aspect of software development that many people don’t really think about. Feel free to add to this document if you think of other test cases for the same features.

Recognition:

- Recognize the intern’s ability to follow specific instructions—understanding often complex instructions is key to most tasks in software development, and this task is the first in the internship to really “test” the intern on this skill. This is a good place to let the intern know that success on this deliverable indicates that they should consider a career in tech.
- Recognize the intern’s growth from the first unit to the near-end of the internship, from writing introductory emails to creating a product that is directly impactful in the development cycle.

Meaning Making Strategy/Suggestions:

- This is a good checkpoint for interns to reflect on the progressively more technical nature of their deliverables. If they enjoyed user stories in particular, they may have a knack for the business/marketing side of product development. If the test cases deliverable was more their cup of tea, they may want to pursue a more structured, technical career.

Additional Work Based Learning Strategies for this unit:

Ideas for Differentiation, Voice, and Modification:

Your intern may come into the internship with prior programming experience. This unit provides an excellent opportunity for the intern to contribute to production code by writing unit tests with supervision from the supervisor / the QA engineer.
Unit 5: Development Lifecycle Blog

Estimated Time Needed: 10 Hours

Unit Goals and Desired Outcomes:
- Intern has a grasp of the full development lifecycle from user stories to QA and everything in between
- Intern demonstrates their ability to work under a deadline and present work to their time.

Deliverable(s)
- "Life of a sprint at Company X" presentation/blog post/vlog to be presented to their team on the final day of the internship.

Activities/tasks:
- Intern has additional interviews with team members to fill in the gaps of the development lifecycle
- Intern writes a medium article about the development lifecycle at Company X

Supervisor Script for Introducing the Unit:
- We often will be required to explain what our company does and, In particular, when speaking with non-technical folks, there are a lot of roles and responsibilities that can be difficult to manage and keep track of. Based on your experience during this internship, we need you to help us create a blog post/presentation/vlog outlining how software is built at our company. What the roles are and how those roles interact. Incorporate the work products you created, the user stories, and QA test cases to help add concrete details to this blog post/presentation/vlog. What we’re looking for is something that is in our company’s professional voice and reflects the company's values.

Assessment: Final Project & Hirability Assessment
- See rubric on page 4.
  - Supervisor should review rubric scores with the intern, making specific reference to academic skills and soft skills that the intern can work to improve in high school and college.
- Considering your company’s hireability standards, supervisors should evaluate their intern's strengths and growth areas to identify a path to future employment (full time, college intern, apprenticeship).
  - what skills are needed to get a job at your specific company
  - pathways that can lead to acquiring these skills (bootcamp, pursue a degree in X, etc…)

Feedback:
- If intern performed below expectations, here are some suggested feedback prompts:
  - Completed internship rubric (page 4) with extensive comments on how to improve the product, with suggested edits and deadline for resubmission with edits.
  - Review areas of growth with the intern and identify underlying reasons (time management, limitations due to life outside internship, lack of interest, etc.)
- If intern performed at or above expectations, here are some suggested feedback prompts:
  - Completed capstone project rubric with extensive comments on how to improve the product, with suggested edits and deadline for resubmission with edits.
Recognition:
- Team celebration at the office
- Thank you and spotlight on social media

Meaning Making Strategy/Suggestions:
- Review career pathways at Company X that the intern may be a good fit for, and identify experience and education required to pursue these pathways.

Additional Work Based Learning Strategies for this unit:
Ideas for Differentiation, Voice, and Modification:
If the intern demonstrated solid programming ability during Unit 4, consider if the intern could be assigned to complete a feature for a product-in-progress. If this applies to your intern, the final project should be a presentation of their feature.

Wrapping Up The Internship:
In addition to the to-do’s outlined in the Internship Supervisor Toolkit, be sure to also complete the following during the last few days of the internship:
- Collect any organization owned property
- Conduct an exit survey with the intern to gauge how well your organization hosted.
- Write a letter of recommendation for the intern in the event that one is requested down the line.
## Appendix

### Unit 2: Graphic Organizer

<table>
<thead>
<tr>
<th>Team Member Name</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Title and brief summary of role on team</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Brief description of current project in progress</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Team member’s specific role or contribution to project</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Other team members regularly collaborate with</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Personal Story/Fun Fact</strong></td>
<td></td>
</tr>
</tbody>
</table>