Deliverables: Test Plans and Test Cases

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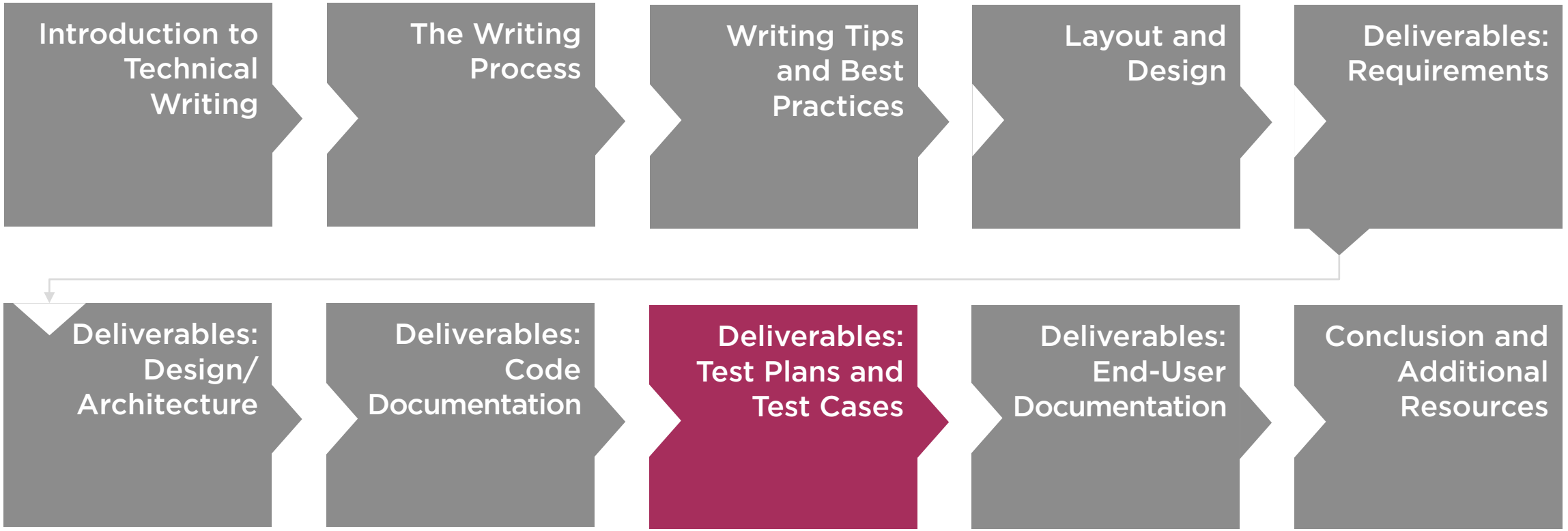
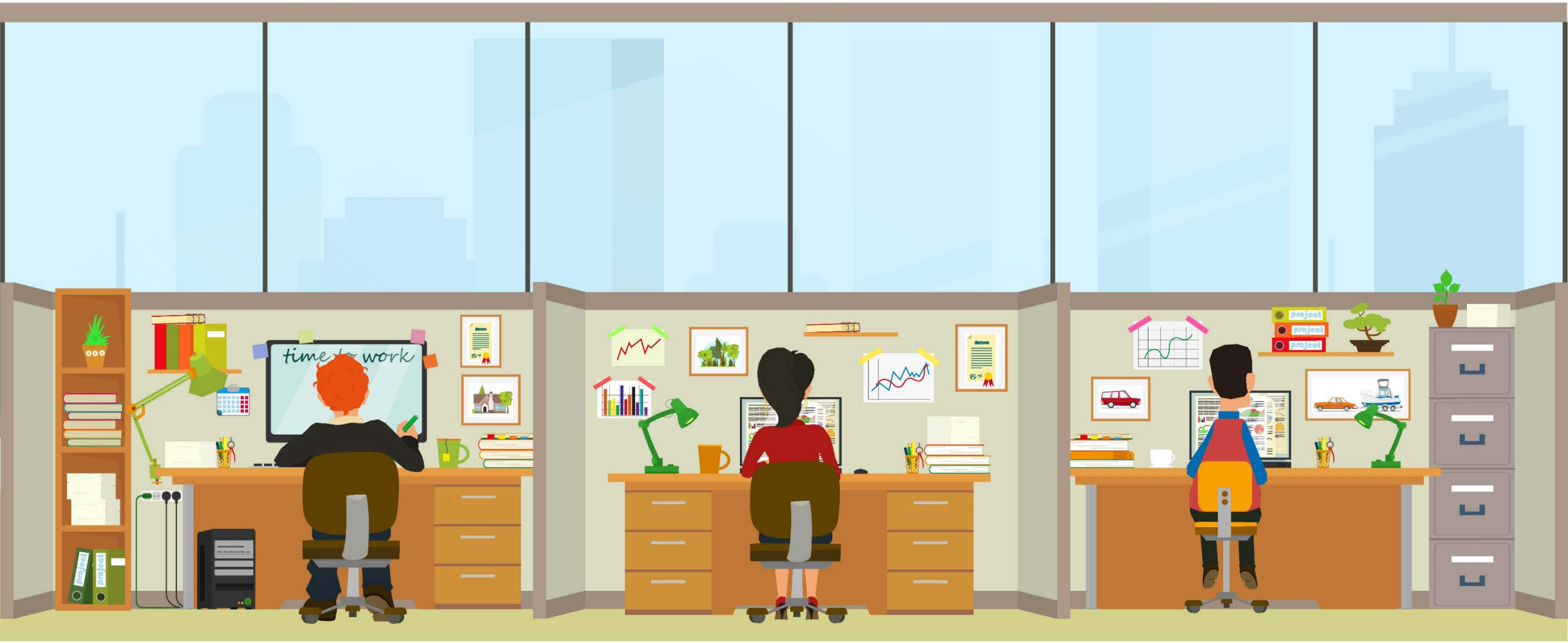
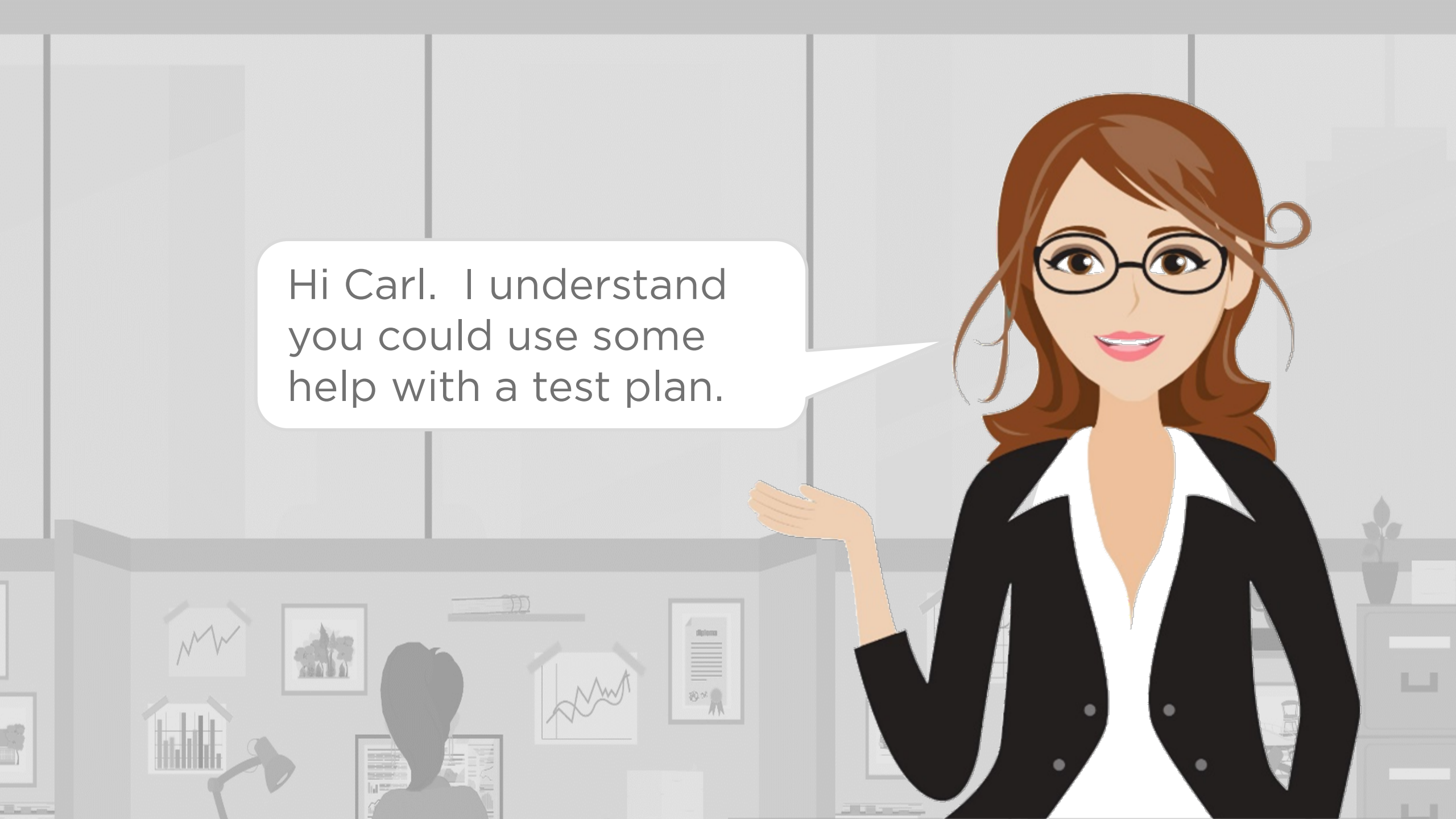
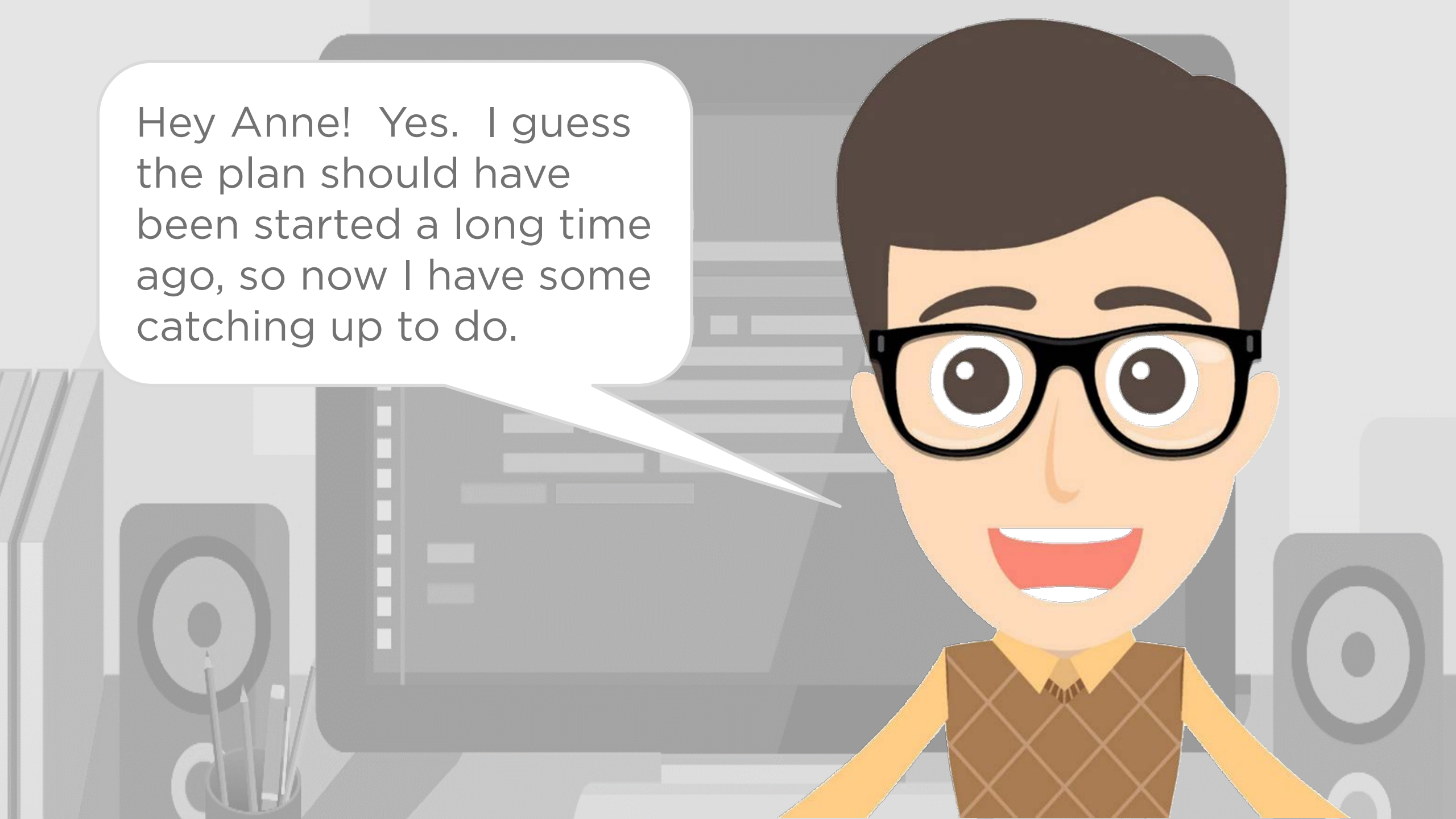
Course Outline



Somewhere towards the end of the development phase...



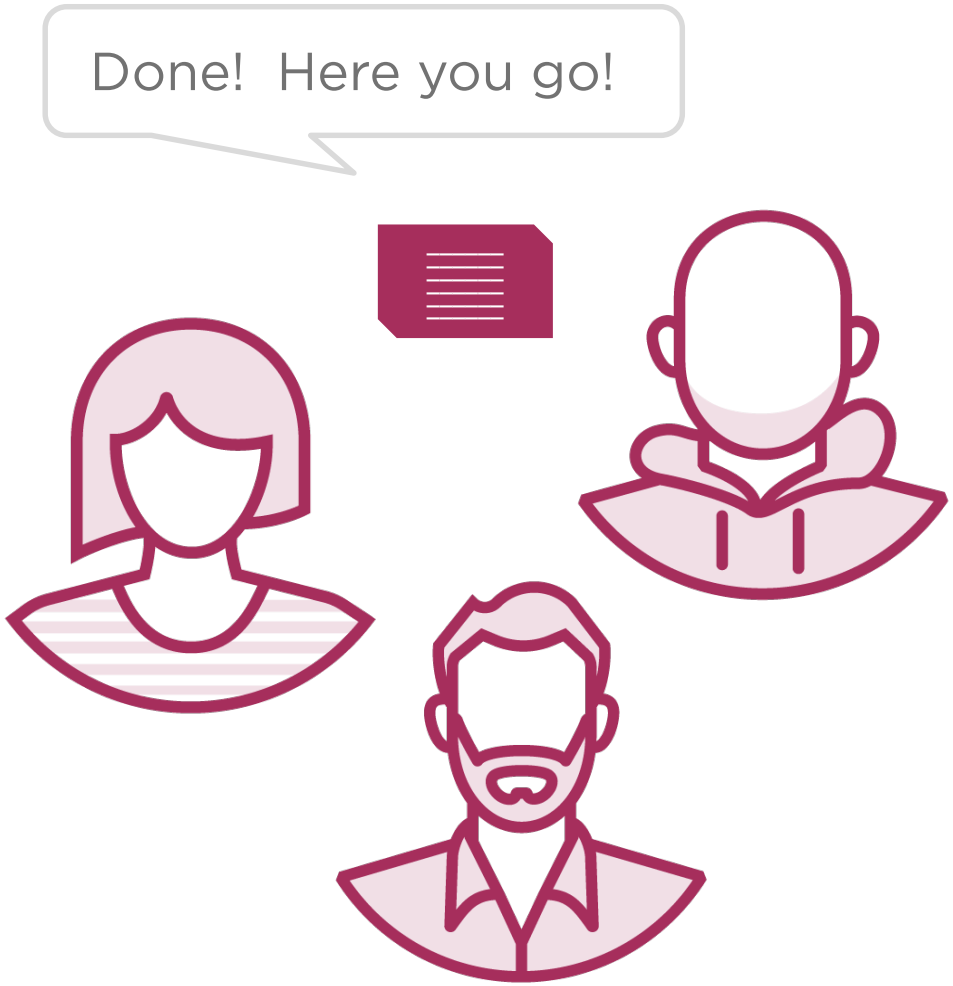

Hi Carl. I understand you could use some help with a test plan.


Hey Anne! Yes. I guess the plan should have been started a long time ago, so now I have some catching up to do.


Okay. Then
let's get going.

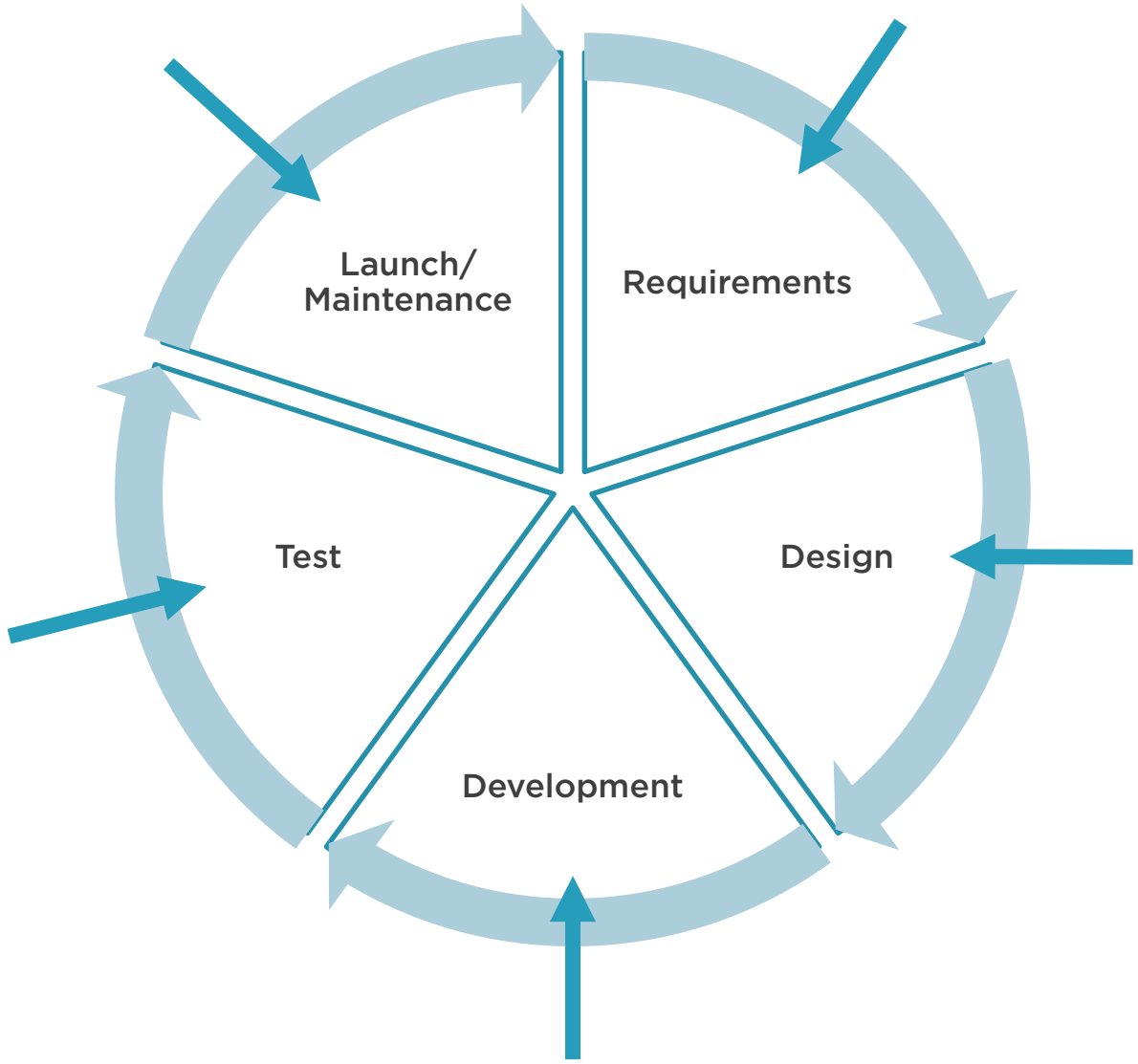
Test Plan

Outlines the strategy of testing software to ensure it meets the design specifications and requirements



Developers

Testers


Launch/
Maintenance
Requirements
Design
Development
Test

Introduction

- Purpose
- Project overview
- Intended audience

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- Test objectives
- Test assumptions
- Test principles
- Data approach
- Scope and levels of testing
- Estimated effort and resources

Execution Strategy

- Entry and exit criteria
- Test cycles
- Defect management
- Metrics
- Defect tracking and reporting

Test Management Process

- Test management tool
- Test design process
- Test execution process
- Test risks and mitigation factors
- Communications plan
- Roles

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- Location of software to be tested
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A brief “executive summary” of the test plan, including goals, scope and schedule

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May also include:

- **Methods to be used**
- **Brief description of out-of-scope items**
- **Related documents, such as Requirements**

- Roles

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Purpose of the document and short summary of the main sections

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Briefly describe the project and software being tested

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- Who is the intended audience for the document?
- What is their role in the testing process?

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- **What will you test and why?**
- **What is in scope and out of scope?**
- **Common test types:**
  - **Module testing**
  - **Integration testing**
  - **Acceptance testing**
  - **Beta testing**

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List conditions that must be true in order to be successful in testing

Examples:

- **Realistic test data is available**
- **Knowledge and skills of testing resources are adequate**

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Foundational characteristics of the testing approach and process

Examples:

- **Test processes will be well defined, yet flexible enough to change if needed**
- **Testing environment and data will match a production environment as closely as possible**
- **Testing will be divided into phases, each building on the previous**

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Describe the data that will be loaded (or not loaded) for test activities

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At a high level, describe the types of testing to be performed, along with the scope and timing of each

Example:

- User Acceptance Testing (UAT)
  - Validates the business logic
  - Performed by end users
  - The test team will write tests based on input from the business analyst and end users
  - Testing will be performed after all other testing is complete

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testers

- Contact information for support

List all activities to be performed by the QA team, along with estimated effort hours

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Entry criteria: the conditions that must exist in order to start testing

- **Example: All test data is loaded into the environment**

Exit criteria: the conditions that must be met to proceed with the next cycle/release

- **Example: Pass rate of 95% of test scripts**

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Test Management Process

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For each type of testing (e.g., Functional testing, UAT, etc.), describe how many cycles will be executed, along with the objective for each

Example:

- **Functional testing will occur in two cycles**
- **The first cycle is intended to identify critical defects**
- **The second cycle is intended identify medium and low defects, and to validate correction of defects found in the first cycle**

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Describe the approach to identifying and managing defects

- **Labeling (e.g., critical, high, medium, etc.)**
- **Tracking tools (e.g., TFS, JIRA)**
- **Information required to be documented when opening a defect**
- **Roles and responsibilities**

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Outline metrics to be reported on the project, along with frequency

- **Weekly: % complete, % pass, % fail**
- **Weekly: Status report**
- **Daily: Critical defects**

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Define the process/flow for tracking and reporting defects

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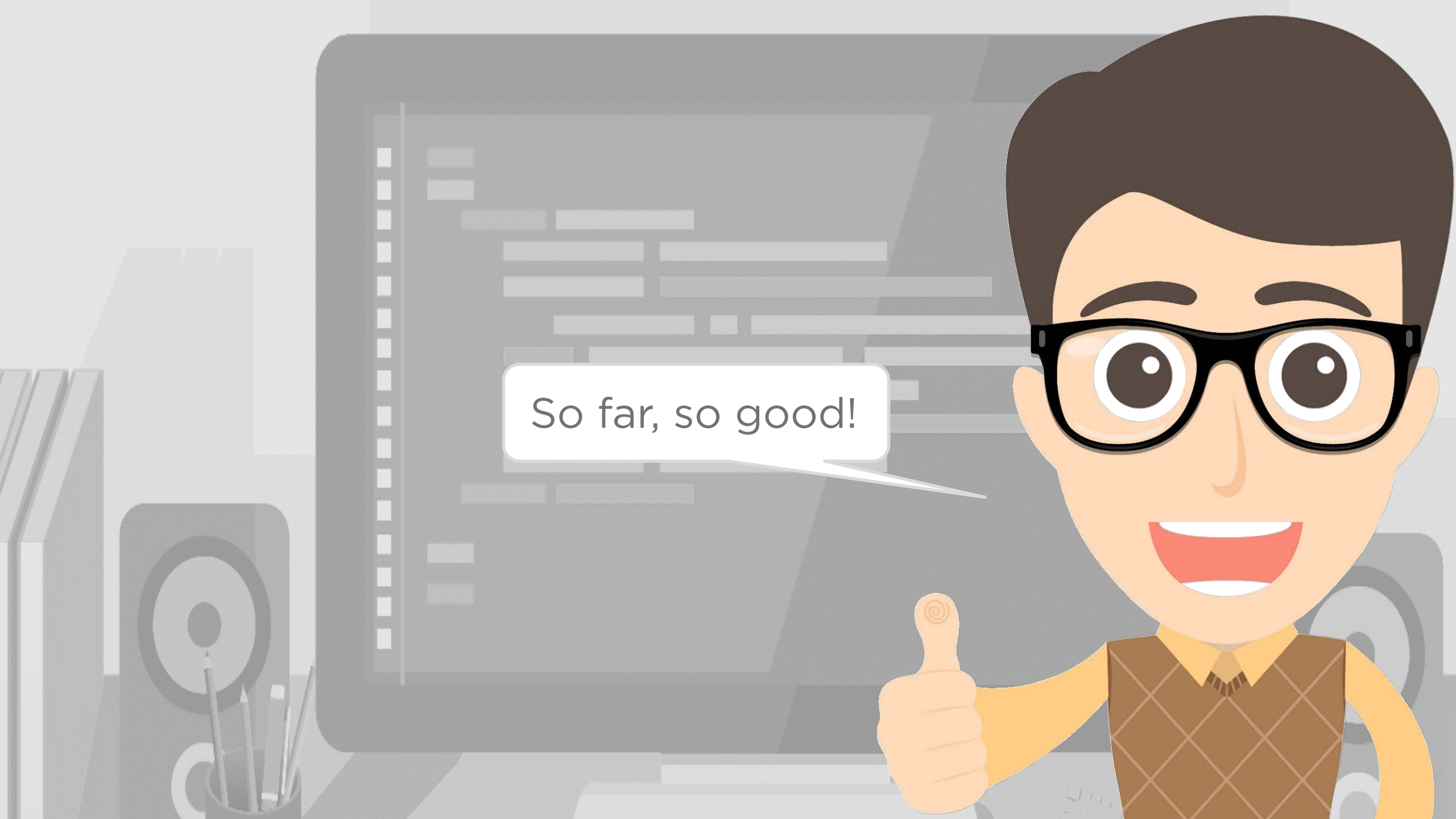
Still with me?


So far, so good!

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Introduction

Provide details about the tool(s) used for managing tests (e.g., Excel, TFS)

- **Location of tool**
- **Permissions required**
- **Reports**

- Scope and levels of testing
- Estimated effort and resources

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Introduction

How will tests be designed and written?

Example:

- Tester reviews requirements
- Map test case to requirements in traceability matrix
- Tester and BA create test cases
- SME reviews the test cases and provides sign-off

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Introduction

What's the process for executing tests?

Example:

- Tester executes each step in the test case
- Mark status as Pass or Fail
- Raise defects as needed
- Participate in Triage meetings to help route defects as appropriate

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Introduction

Call out risks and mitigation plans

- **Resources (people and money)**
- **Schedule**
- **Scope**
- **Defects**

- Data approach
- Scope and levels of testing
- Estimated effort and resources

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Introduction

How will communication happen on the project and who should be involved?

- Meetings
- Emails
- Status reports
- In-tool communications

Execution Strategy

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Introduction

Identify roles on the project, along with the name and contact information of the person filling that role

- Project manager
- QA lead
- QA team
- Business analyst
- Development lead
- Development team
- Other stakeholders

- Metrics
- Defect tracking and reporting

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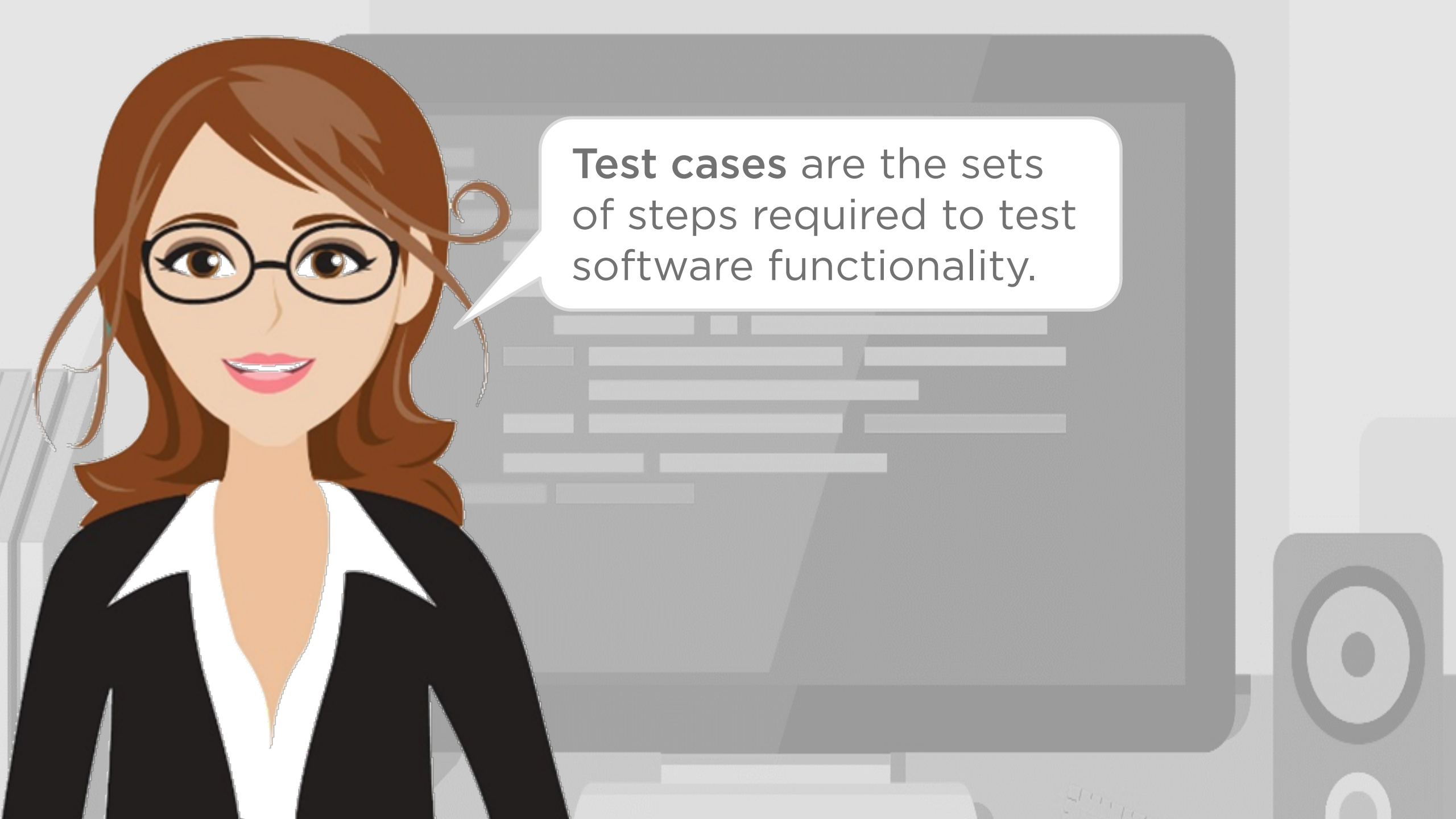
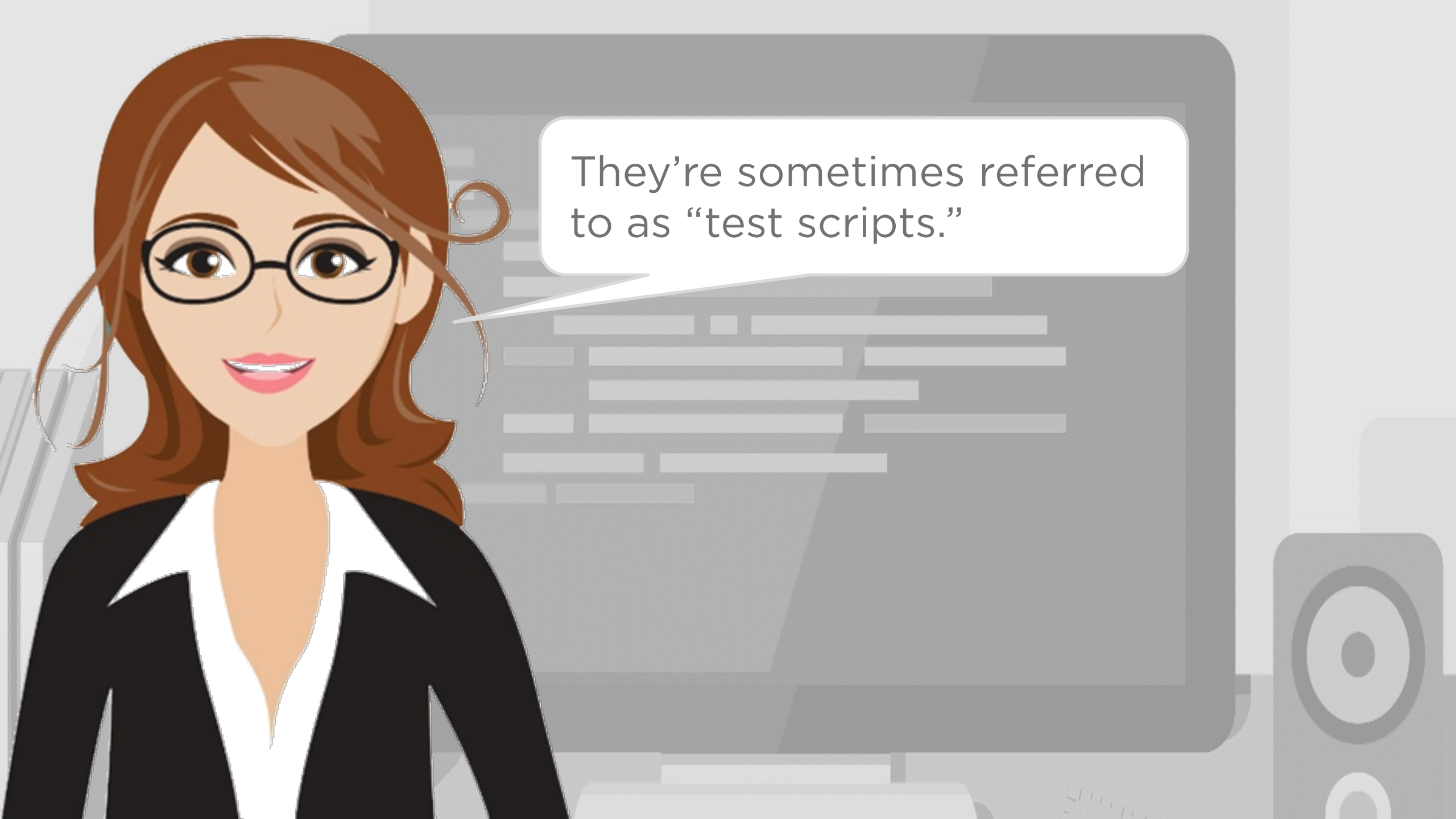
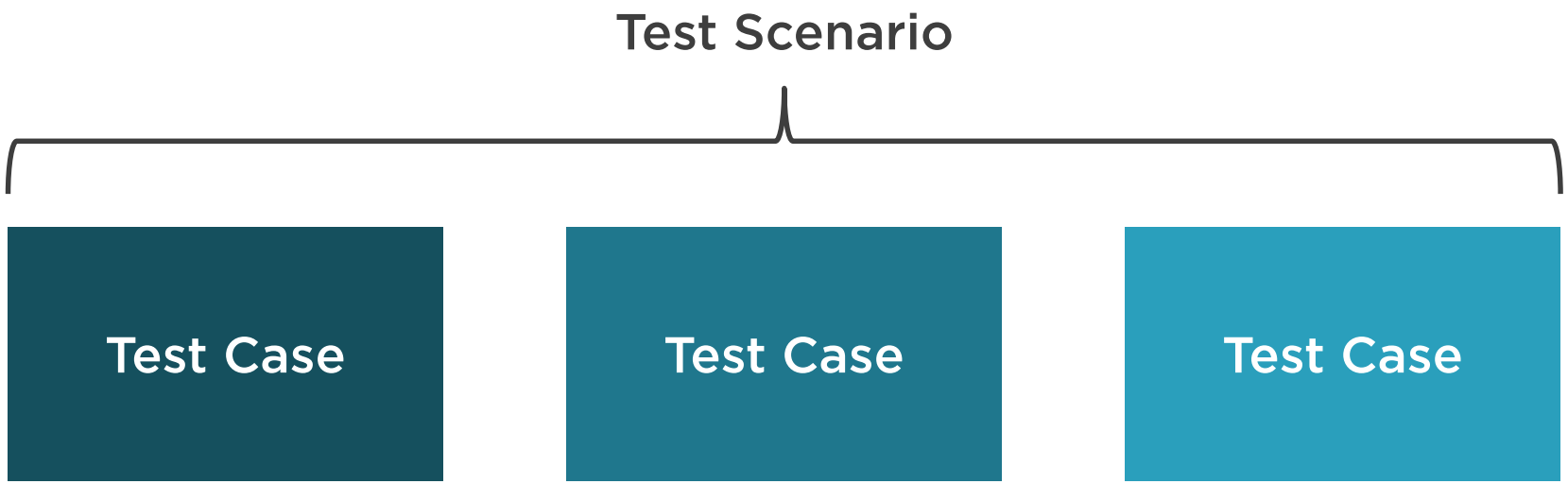
Now that we have the “big picture” for how to test, we need to drill down into the details.


Test cases are the sets of steps required to test software functionality.


They’re sometimes referred to as “test scripts.”


Test Scenario
Test Case
Test Case
Test Case

Test Scenario: Validate the login page

Test Case 1:
Log in with valid credentials

Test Case 2:
Log in with invalid credentials

Test Case 3:
Reset password

Writing Test Cases

Characteristics of a Good Test Case

Anyone can execute it	All necessary details are included	Strong, descriptive title
Consistent naming conventions	Legible and easy to understand	Reusable

Format

Test Case Number:	A unique identifier for this test case
Title:	A strong, descriptive title that makes it easy to identify what is being tested
Related Requirement:	Title or ID for the requirement being validated by this test
Assumptions/Preconditions:	Any conditions that must be true before testing can be started
Test Steps:	Steps and information required to execute this test case
Expected Result:	The expected outcome from executing this test
Actual Result:	The actual outcome from executing the test
Pass/Fail:	Pass/fail
Comments:	Additional notes or outcome information related to the test

Example

Test Case Number:	TC-3.3.1
Title:	Create a New Prescription Without Quantity
Related Requirement:	REQ-3.3 – Create a New Prescription
Assumptions/Preconditions:	• Test data for the patient, medication and pharmacy are available in the system • The patient Adam Carville has been selected from the **Patient Search** page • The medication FixIt has been selected from the **Medication** dropdown
Test Steps:	• Leave the **Quantity** textbox blank • Click **Save**
Expected Result:	An error message should appear next to the **Quantity** textbox asking the user to enter a quantity
Actual Result:	A message appears by the **Quantity** textbox prompting the user to enter a quantity
Pass/Fail:	Pass
Comments:	NA

Summary and Additional Resources

Additional Resources

softwaretestinghelp.com

en.wikipedia.org/wiki/Software_test_documentation

standards.ieee.org/findstds/standard/829-2008.html

app.pluralsight.com (search for “testing”)

Summary

The Test Plan outlines the overall approach to testing on a project

- Should be started early in the SDLC

A test scenario consists of multiple test cases

Test cases detail the steps required to test a piece of functionality

Up next >>