

BDD

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Introduction

Given-When-Then is a style of representing tests - or as its advocates would say - specifying a system's behavior using [SpecificationByExample](#). It's an approach developed by [Daniel Terhorst-North](#) and Chris Matts as part of [Behavior-Driven Development](#) (BDD). [1] It appears as a structuring approach for many testing frameworks such as Cucumber. You can also look at it as a reformulation of the [Four-Phase Test](#) pattern.

The essential idea is to break down writing a scenario (or test) into three sections:

- The **given** part describes the **state of the world before** you begin the behavior you're specifying in this scenario. You can think of it as the pre-conditions to the test.
- The **when** section is that **behavior** that you're specifying.
- Finally the **then** section **describes the changes you expect** due to the specified behavior.

Best Practice

Title should be short & descriptive

Good titles should be on 1 line. Anything longer likely means that either the author doesn't truly understand the behavior in focus, or that the scenario does not focus on one main behavior.

Format:

As [concrete user]
I want [take a concrete action]
for [result or benefit] (optional)
on/where/when [context] (optional)

BAD EXAMPLE	GOOD EXAMPLE
<i>The user can log into the app, navigate to the profile page, and see their full name, address, phone number, email, and username</i>	As user, I want to see my personal information on profile page

One scenario, one behavior

A scenario should focus on 1 behavior only, if we're running into a situation where there are multiples different behaviors but same result, we should break into **multiple scenarios** or a **scenario outline**.

BAD EXAMPLE	GODD EXAMPLE
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Feature: SNES Mario Controls

Scenario: Mario jumps
Given a level is started
When the player pushes the "A" button
Or the player pushes the "B" button
Then Mario jumps straight up

Feature: SNES Mario Controls

Scenario Outline: Mario jumps
Given a level is started
When the player pushes the "<letter>" button
Then Mario jumps straight up

Examples: Buttons

	letter	
	A	
	B	

Write all steps in third-person point of view

If first-person and third-person steps mix, scenarios become confusing. I even dedicated a whole blog post entirely to this point: [Should Gherkin Steps Use First-Person or Third-Person?](#) TL;DR: just use third-person at all times.

A step should have S + V properly

partial phrases make steps ambiguous and more likely to be reused improperly. For example, consider the following example:

BAD EXAMPLE! Do not copy.
Feature: Google Searching

Scenario: Google search result page elements
Given the user navigates to the Google home page
When the user entered "panda" at the search bar
Then the results page shows links related to "panda"
And image links for "panda"
And video links for "panda"

The final two And steps lack the subject-predicate phrase format. Are the links meant to be subjects, meaning that they perform some action? Or, are they meant to be direct objects, meaning that they receive some action? Are they meant to be on the results page or not? What if someone else wrote a scenario for a different page that also had image and video links – could they reuse these steps? Writing steps without a clear subject and predicate is not only poor English but poor communication.

Use proper tense for Given/When/Then

Given should always use **past tense**

When should always use **present tense**

Then should always use **present tense**

Feature: Google Searching

Scenario: Simple Google search

Given user was at the Google home page

When user enters "panda" into the search bar

Then links related to "panda" are shown on the results page

Reference

GivenWhenThen	https://martinfowler.com/bliki/GivenWhenThen.html	
	https://automationpanda.com/2017/01/30/bdd-101-writing-good-gherkin/	
	https://automationpanda.com/2018/01/31/good-gherkin-scenario-titles/	
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