

# Introduction to BDD with Cucumber

Nibu baby



# BDD?

*Behavior Driven Development*

# An Evolution



# BDD

BDD is a second-generation, outside-in, pull-based, multiple-stakeholder, multiple-scale, high-automation, agile methodology.

It describes a cycle of interactions with well-defined outputs, resulting in the delivery of working, tested software that matters.

BDD was developed by Dan North as a response to the issues encountered teaching TDD

Using examples to create a shared understanding and surface uncertainty to deliver software that matters

# BDD

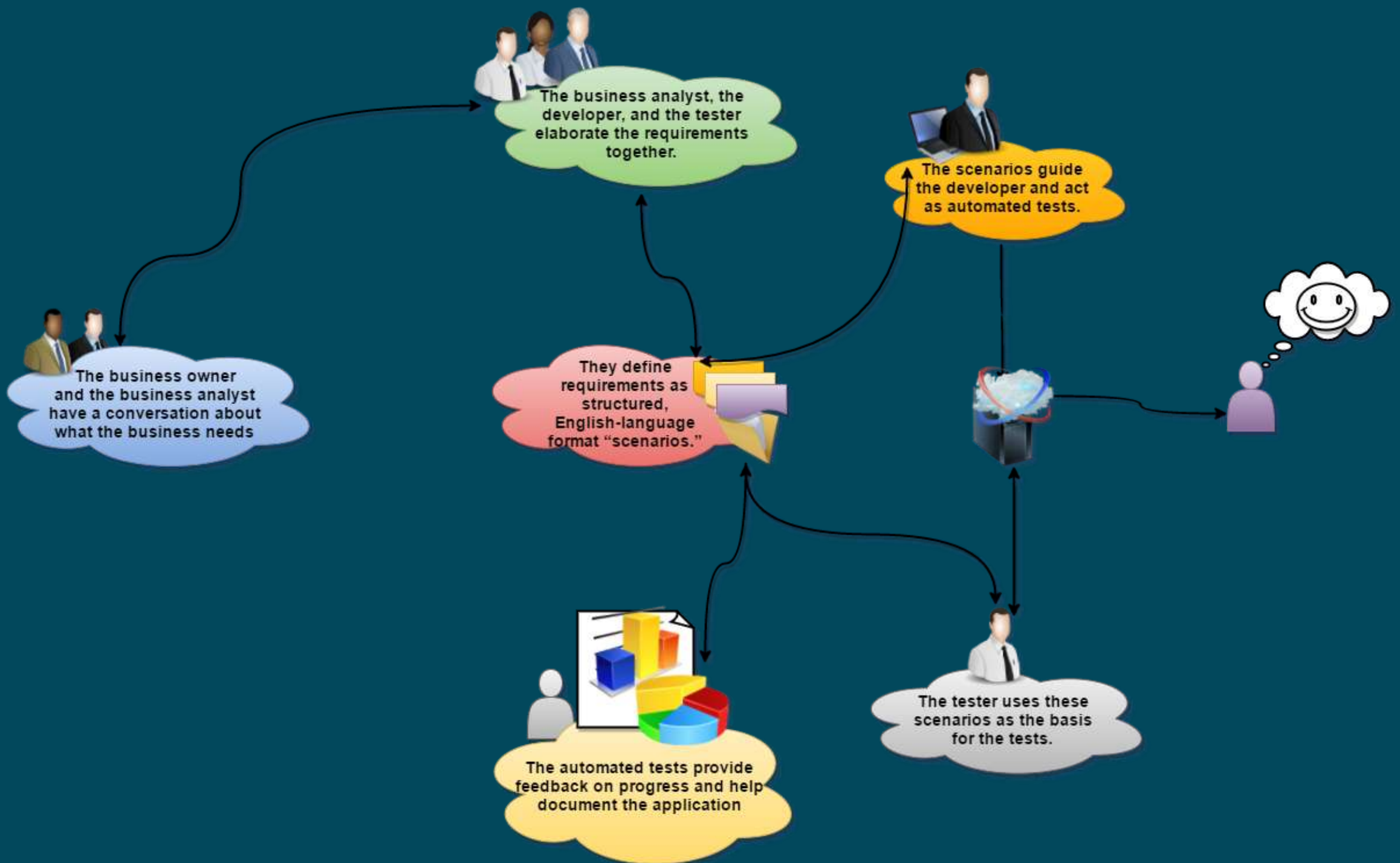
- Uses examples to illustrate behavior
- Core is around conversations and requirements discovery
- Uses conversations around examples, expressed in a form that can be easily automated, to reduce lost information and misunderstandings
- Starting with the business outcome, and working through high level functional areas to drill into specific stories with acceptance criteria.
- When writing examples, regression tests are a by-product

# Examples

Given a context

When an event happens

Then an outcome should occur





**Vision**

**Goal**

**Capability**

**Feature**

**Story**

**Scenario**

**Code**

Have enough conversation to get started.  
Find out where the riskiest bits are and  
where the system behaves unusually .

Chat, Discuss, Discover, Work out how and  
when , you are going to get feedback on the  
work you are about to do . Then and only  
then , reach for tools

[ Liz Keogh]

# Story

- What are we really trying to build ?
- It has to be a description of a requirement and its business benefit, and a set of criteria by which we all agree that it is “done” [Dann North]
- Written in business language
- Stories are the result of conversations between the project stakeholders, business analysts, testers and developers

## Example

As a user

I want to publish a tweet

So that share information with my followers

# Scenario

- Is set of conditions that story must meet for it to be accepted as complete
- Can be used to help discover the scope of the story or the feature
- Is not replacement for conversation
- Is the outcome of conversations with all players
- Scenario title should say what's different
- The scenario should be described in terms of Givens, Events and Outcomes

*Given [some context]*

*When [I do something]*

*Then [this happens]*

# BDD tools

Few of them ....

cucumber



Jasmine

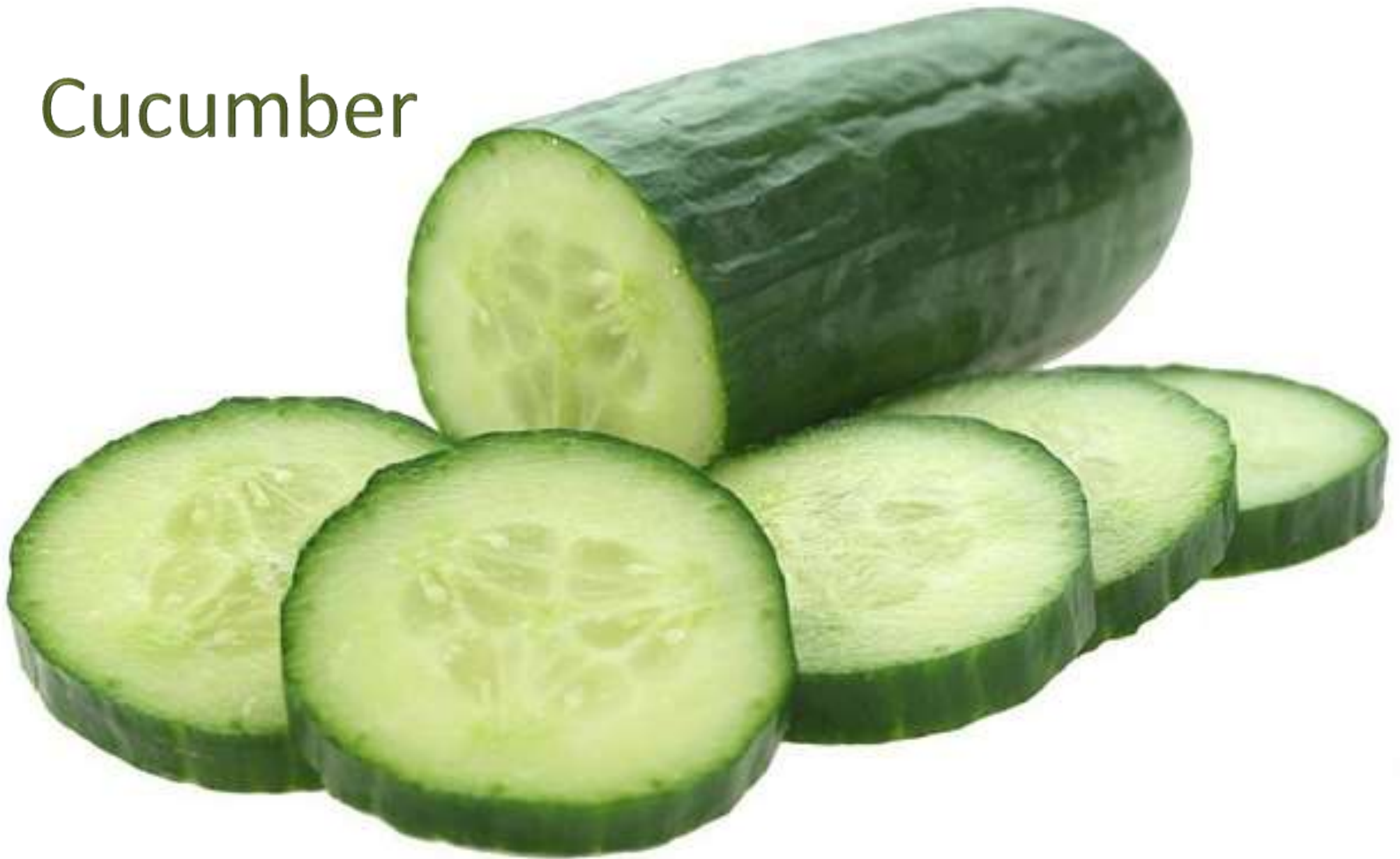
*jbehave*



Concordion



# Cucumber



# Cucumber

- Collaboration tool
- ~~It's Testing tool~~
- Outside-In approach , where programmers incrementally write code and run the scenarios using Cucumber until the feature passes all the tests
- Supports about 60+ languages
- Helps to execute plain text functional descriptions as automated tests
- Automation can be written in own favorite language ( Ruby, Java, c#.net , JavaScript, Scala, Groovy, Jython, Python, Perl, Go, C++ etc)
- writing scenarios before code enables programmers to be guided by an unambiguous specification

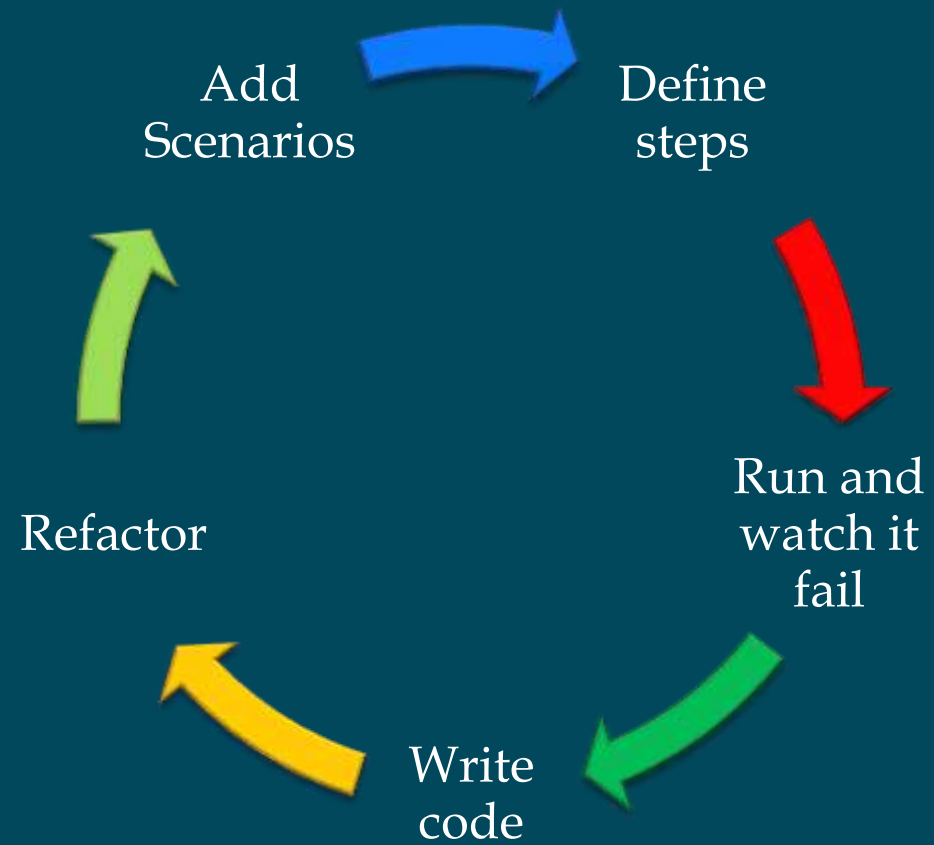


# Collaboration is essential





# Life cycle



# Gherkin

Means : “a small variety of cucumber, or a young green cucumber used for pickling.” [google]

Cucumber executes **.feature** files, and those files contain **executable specifications** written in a language called Gherkin.

Gherkin supports 60+ languages.

Gherkin is designed to be easy to learn by non-programmers, yet structured enough to allow concise description of examples to illustrate business rules in most real-world domains. [www.cucumber.io]

1 @Wip @Facebook

2 Feature: Login

3 In order to access secure Facebook account

4 As a registered paid user

5 I need to authenticate myself

6  
7 @GHT-1234 @Smoke

8 Scenario: Login with invalid credentials

9  
10 Given I am not logged in

11 When I try to login with "test" and "Secret"

12 Then I should be logged in

13  
14 @GHT-1234 @Smoke

15 Scenario: Login with valid credentials

16  
17 Given I am not logged in

18 When I try to login with "test" and "RandomPassword"

19 Then I should not be logged in

20 And I should be shown error message "Invalid credentials"

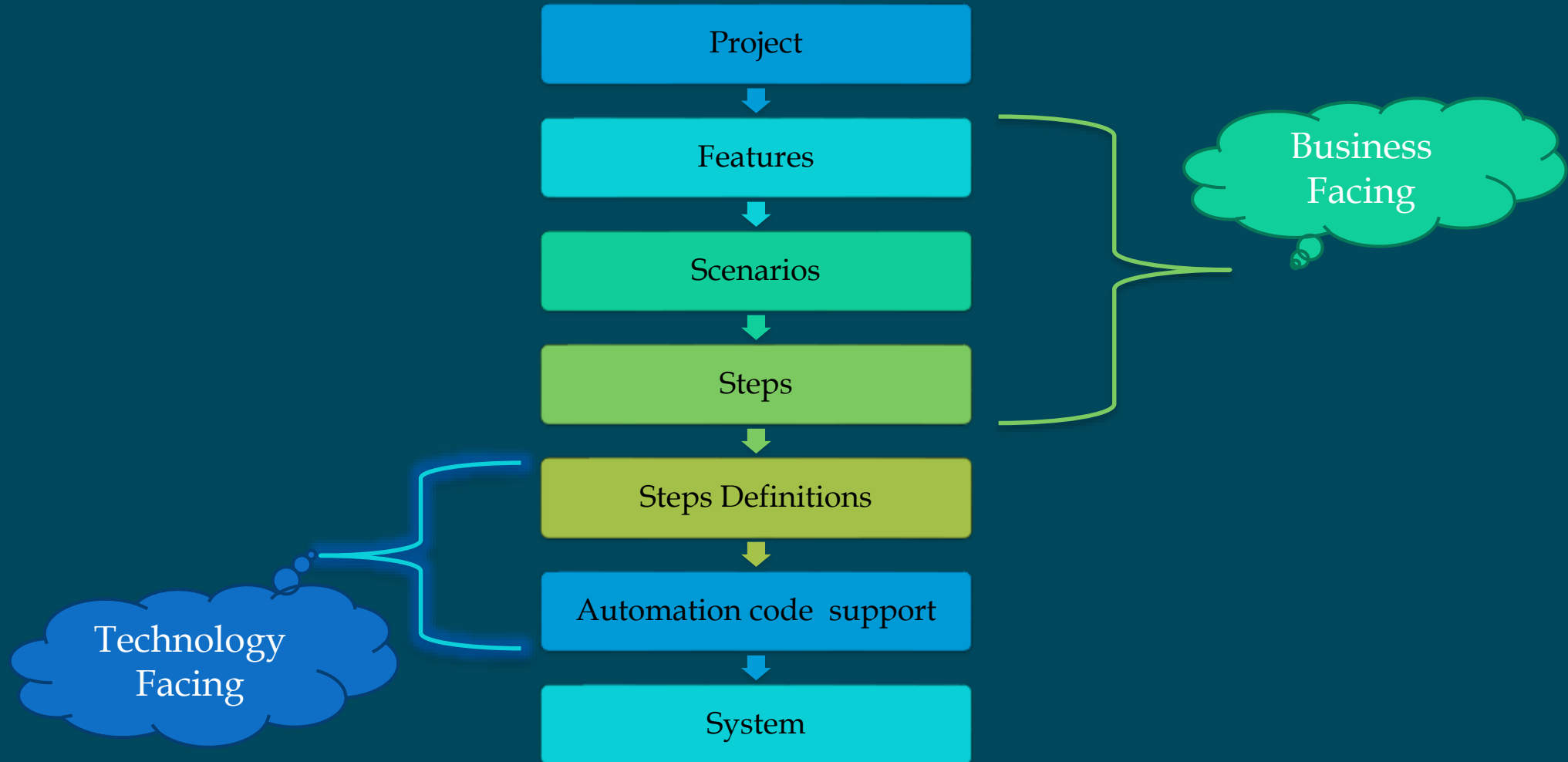
# Gherkin Keywords

- Feature
- Scenario
- **Given**, **When**, **Then**, **And**, **But**
- Background
- Scenario Outline
- Examples

## More helpful keywords

- `"""` (Doc Strings)
- `|` (Data Tables)
- `@` (Tags)
- `#` (Comments)

# Cucumber testing stack



Let's explore

# Benefits

- Better communication
- Ubiquitous language ( Same/being present everywhere )
- Better collaboration between stakeholders, BA, QA and Developers
- Formal documentation is not required
- Living Documentation (Single source of truth)
- Quick feedback (If the automated tests are included in the CI)
- Right Focus, Right Product, Product Right

# Disadvantages

- It requires high level of business engagement and collaborations
- May not work well in silos
- Poorly written tests can lead to higher test-maintenance costs



# References

- <http://dannorth.net>
- <http://lizkeogh.com>
- <http://behaviour-driven.org>
- <https://cucumber.io>
- BDD in action [John Ferguson]
- The cucumber book [Matt wynne and Aslak Hellesoy]

# Thank you

Happy Testing