BDD with Cucumber

Cucumber

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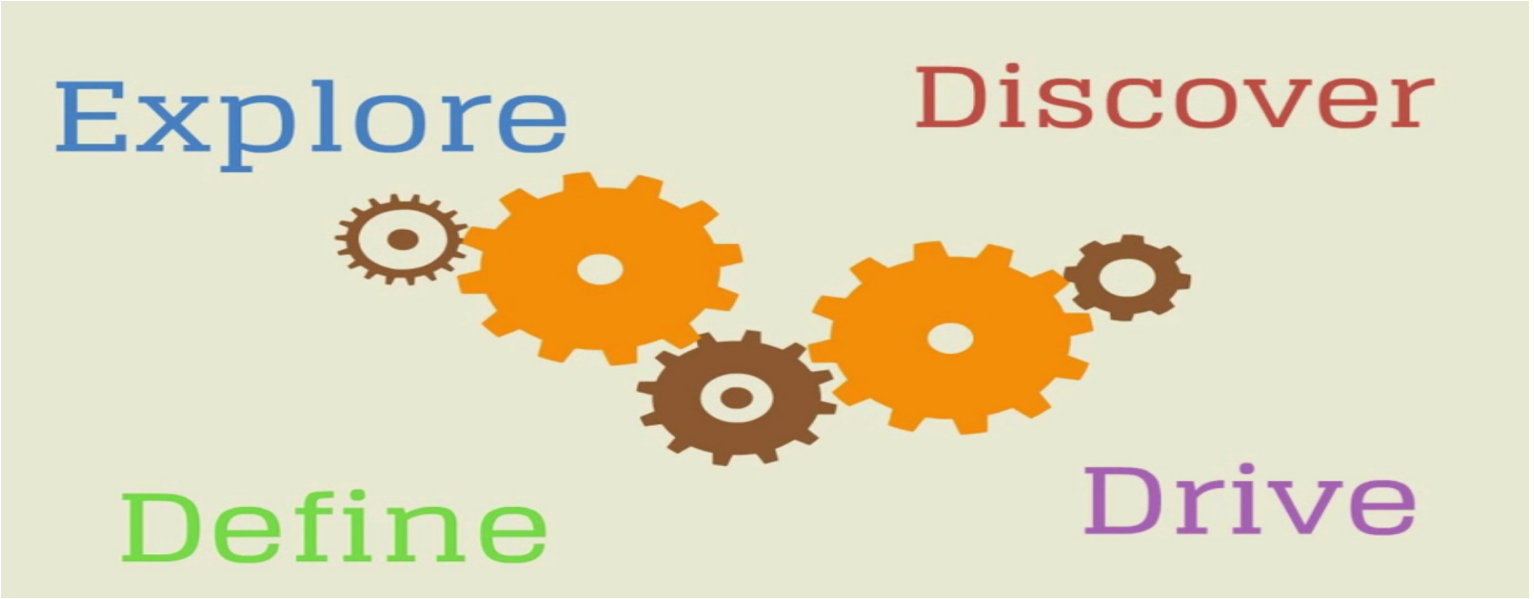
Agenda

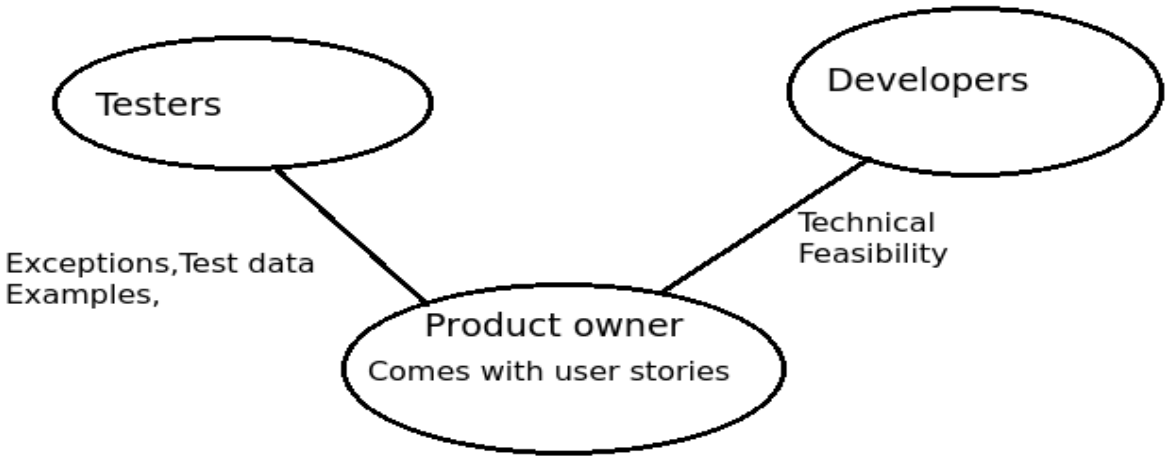
- Behavior Driven Development
- 3 Amigos
- What is cucumber
- Feature file
- What is gherkins
- Cucumber installation
- Framework Integration
- Cucumber reports

What is Behavior-Driven Development

- Behavior Driven development is the process of exploring, discovering, defining and driving the desired behavior of software system by using conversation, concrete examples and automated tests.
  - Using conversation and concrete examples to explore, discover and illustrate a shared understanding of the problem we need to solve for the stakeholders Then we refine those examples in automated tests, to describe the desired behavior of our solution to drive the development of the system.



3 Amigos



Product Owner : Comes with user story with acceptance criteria at their own understanding.

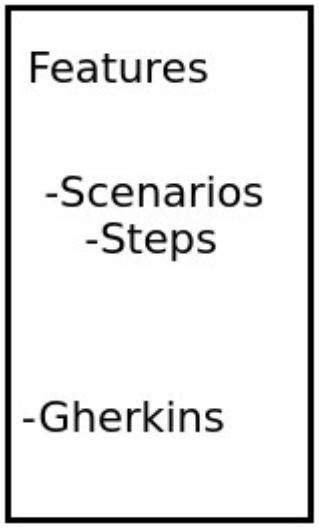
Testers, QA, Bussiness Analyst : Ask questions with some exmaples to get better understanding about user story.

Developers : DIscuss the technichal feasilbilty, and challenges about user stories

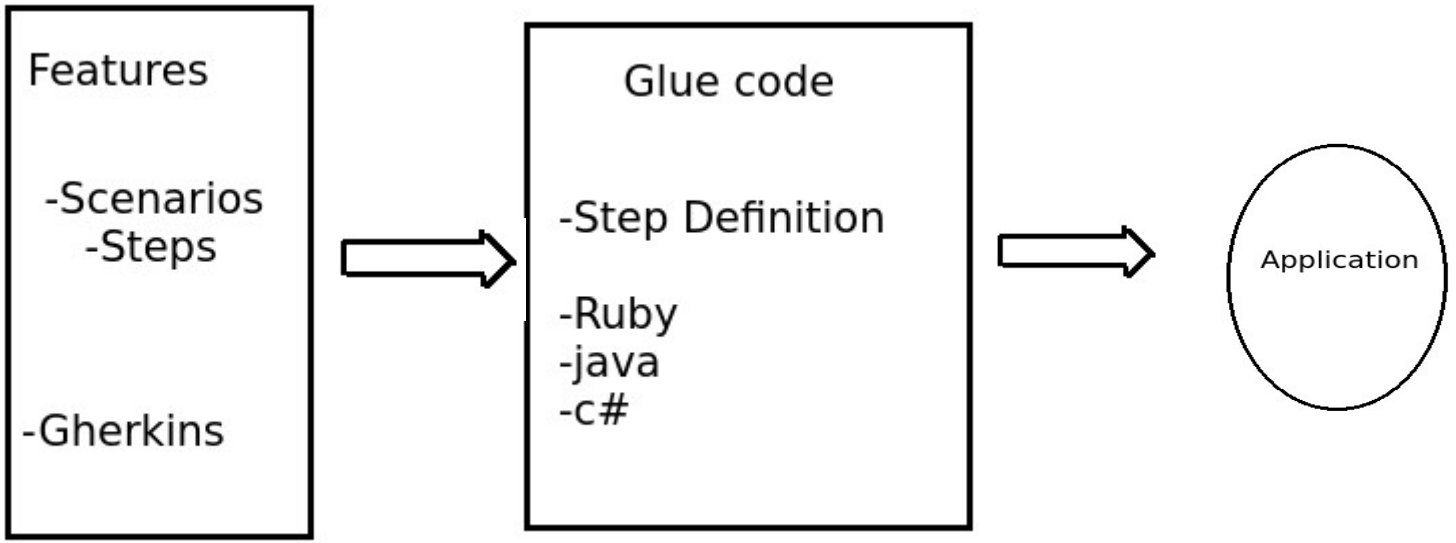
What is Cucumber

- Cucumber is a most widely open source tool for executable specifications.
- A single source of truth, merges specification and test documentation into one cohesive whole.
- Living documentation, All the specifications always up to date with cucumber automated acceptance tests.
- Product owner and IT don't always understand each other, so cucumber automated specification help to keep business value in mind all the time and encourage teams for closer collaboration with shared understanding of the system.
- Cucumber automated tests protect the teams from costly regressions.

- Cucumber is a way of taking features, which is the combination of scenarios written in plain English language using a simple grammar defined by a language called gherkins.
- Cucumber itself written in Ruby but supports other languages as well like java, scala, C# and many more.



- This feature is share with all the amigos involve in development, developers, tester, business analyst, product owner.



- Glue code : glue code works as a bridge between ubiquitous language into your application that you want to develop, it translate English in your code.
  - The feature is made up with scenarios and steps, and each steps essentially map to the step definition.
  - These step could be written in your language of your choice.

Feature file

```
Feature: Team scoring
    Teams start with zero score
    correct answer gets points depending on


  Scenario: New team should not have scored yet
    Given i register a team
    Then my score is 0


  Scenario: New team should not have scored yet
    Given i register a team
    When i submit a correct answer
    Then my score is 10


  Scenario: New team should not have scored yet
    Given i register a team
    When i submit a wrong answer
    Then my score is 0
```

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- What is Gherkins

  - Gherkins is the language that cucumber understands, it is a bussiness Readable, domain specific language that lets you describe software behavior with out detailing its implementation.
  - Gherkins serves two purposes- Documentation and automated testes.
  - Gherkin’s grammar is defined in the Treetop grammar that is part of the Cucumber codebase.
  - It exist in different flavors for many spoken language. (60+)
  - Single Gherkin source file contains a description of a single feature.
  - Source files have .feature extension.

- Gherkins source File format

```
Feature: feature Name
  Description of feature wants by the product owner


  Scenario: scenario name
   description of the scenarios


    Given a certain context
    When something happens
    Then an outcome
    And something else
    But not this tough


  Scenario: Another scenario name
```

Cucumber Installation

- Add following library dependencies in build.sbt,

```
"org.scalatest" %% "scalatest" % "3.0.0",
"info.cukes" % "cucumber-core" % "1.2.4",
"info.cukes" % "cucumber-junit" % "1.2.4",
"info.cukes" %% "cucumber-scala" % "1.2.4",
"info.cukes" % "cucumber-jvm" % "1.2.4",
```

- Enable cucumber plugin by adding in plugins.sbt

```
addSbtPlugin("com.waioeka.sbt" % "cucumber-plugin" % "0.1.0")
```

Framework Integration

- Cucumber works with various frameworks available in the market.
  - Selenium (Web browser automation)
  - Ruby On Rails (Web application framework)
  - Spring (Application framework for java platform)
  - Watir (Web application testing in Ruby)
  - Serenity (An open source library for automated acceptance tests.)

- Cucumber Reports
  - Cucumber can report results in several different formats, using formatter plugins. The available formatters plugins are:

    - Pretty : prints the gerkin source with additional colours and stack traces for errors
    - HTML: Generates a HTML file, suitable for publishing.
    - JSON : Generates a JSON file, suitable for post-processing to generate custom reports.
    - Junit : Generates XML files just like Apache Ant's junitreport task. This XML format is understood by most Continuous Integration servers, who will use it to generate visual reports.

Reference

- https://github.com/cucumber/cucumber/wiki/Gherkin
- https://cucumber.io/
- http://toolsqa.com/cucumber/cucumber-options/
- https://www.youtube.com/watch?v=MCaXumfckmQ&t=1791s

Thank You