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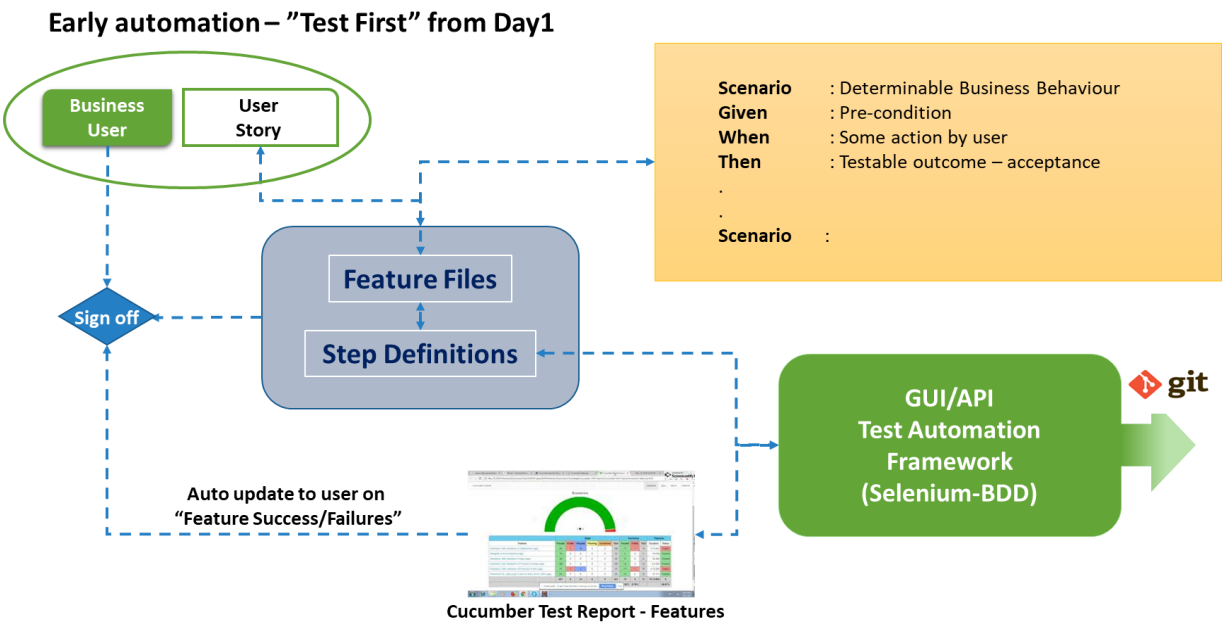
# Behavior Driven Development

**50%** Get a 50% reduction in test activities as a result of increased use of **Automated Test**

**30%** Get a 30% reduction in time spent on **Definition of Requirements**

**16%** Get a 16% savings from the **integration of CI/CD**




**In total get a 20-30% reduction in development costs as well as a higher end-to-end quality**

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# The Traditional Challenges

## Customer

- Long time from identification of the needs until actual implementation is completed
- The quality team is normally involved late in the process leading to defect leakage
- Traditional agile development requires many internal resources to do manual testing

## Supplier

- Frequent changes in requirements leads to
  - Uncertainty
  - Reduced quality in sprint planning
  - Reduced access to right resources
  - Interlock dependency problems

## Consequences

- Change requests
- Contract discussions
- Cost overrun
- Time overrun
- Quality reduction
- Integration problems

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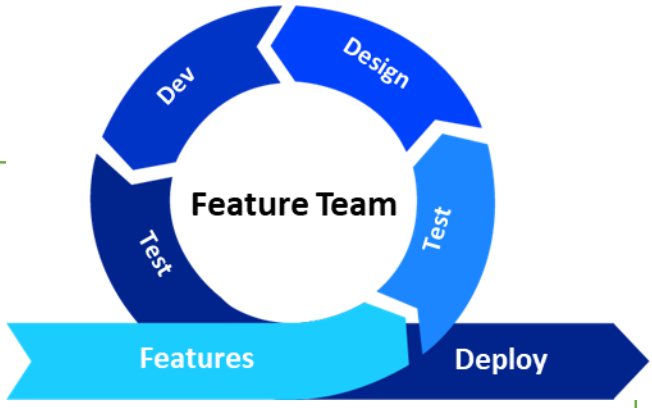
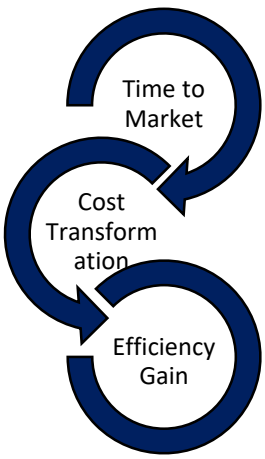
# What is BDD?




- Behavior Driven Development (BDD) and testing is a **methodology** to decrease the gap between the end user and the actual application built
- BDD **uses natural language** in a structured way (Gherkin language) to describe the 'future actual behavior' of an application in a common notation that can be understood by domain experts, developers, testers, and end users, leading to an increased stability of requirements
- BDD helps to **reduce the end-to-end costs**, mainly in automation of testing, but also by reducing defect leakages, and prepare for reuse

# Benefits




### Minimized Time–to-Market

- High degree of test automation,
- Early life cycle validation (re-confirmation of req'ts)
- Easy to trace script failures and implement quick fixes

### Minimized Cost

- 40-60% reduction in test efforts (automated vs. manual testing)
- 20-30% reduction in automated script development and maintenance efforts

### Enhanced Quality

- Increased user satisfaction due to enhanced business user participation and due to the live documentation of features and user stories available.
- High test coverage will lead to high defect detection rates (>90%)

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# How to Transition to BDD

- BDD is a methodology introduced only four years ago and it has been adapted mainly with customers in the financial industry and in only in few geographies
- Since most companies are aware of BDD; and since they have not yet implemented BDD partially or entirely, companies both on the customer side and on the supplier side need to take a number of strategic decisions:
  - Is the customer able to and willing to invest the resources to present the requirements in a ”Feature File” format?
  - Is the supplier willing to replace the majority of manual testing with automated testing based on the Feature Files?
  - Are both parties willing to target the 25% potential savings by committing to a joint BDD process?

## Implementing BDD with Promantus

- Make a 5-day workshop arranged by Promantus
- Get Promantus’ support to develop ”Feature Files” for the customer – either by working directly for the customer or to work for the supplier to translate requirments received from the cutomer into ”Feature Files”. Both partiess shall subsequently approve the ”Feature Files” to be a full replacement of the original requirement specifications
- Promantus recommends to start with a medium sized project in order not to provide excess stress to any of the organizations
- Promantus recommends that we subsequently participate in ”Lessons Learned Sessions” and also to build repositories for reuse of specifications

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# Promantus' Value Propositions

### Promantus Help Clients to Identify and Document Requirements

Bridge the gap between business and technology by defining acceptance criteria using shared business terminology. Help building the "Feature Files" (Requirements)

### Development of Automation Testing Scripts

Participating in the process Promantus can help to eliminate manual tests in order to support multiple deployments build verification with test automation

### Document Reusable Steps

As advisors Promantus can ensure that developers and testers are able to reuse step definitions with 'action words'

### Refactoring of Test

Promantus can help to establish and maintain business terminology scenarios

### CI/CD Pipeline Integration

Promantus can do continuous integration (CI) support helping the client to use tools like Jenkins, Bamboo and more

### Feature History Tracking

Promantus delivers project oversight in order to track the requirements life cycle of features, from creation to the latest release

### Native BDD support

Promantus can help to align the client's teams to streamline workflow with Behavior Driven Development

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# Workshops

## Purpose

- Promantus is offering workshops to companies both on the customer side and on the supplier side in order to prepare for a smooth transition to use BDD either as a supplement to or as a replacement to the traditional TDD methodologies
- The workshop for suppliers also includes how to support a client in developing “Feature Files”
- Max 10 participants per workshop to maintain efficiency

## Workshop for Customers

- A 5-day workshop
- 5-10 key people from customer
- 2 facilitators + one admin from Promantus
- Based on Promantus real cases – ”Feature File” focus
- Based on Feature File Scenarios – ”BDD Test Automation Script” focus , Workshop held on customer’s premises

## Workshop for Suppliers

- A 5-day workshop
- 5-10 key people from customer
- 2 facilitators + one admin from Promantus
- Based on Promantus real cases. ”Testing” focus
- Based on Feature File Scenarios – ”BDD Test Automation Script” focus , Workshop held on customer’s premises