



# CS401

# Software Engineering

---

**Behaviour Driven Development**



# Outline

---

Behaviour Driven Development

# Behaviour Driven Development

---

Given the account balance is Rs 10000

And card is valid

And the machine contains enough money

When the account holder requests Rs 2000

Then the ATM should dispense Rs 2000

ANd the account balance should be RS 8000

ANd the card should be returned

# Behaviour Driven Development

---

*CONTEXT*

Given the account balance is Rs 10000

And card is valid

And the machine contains enough money

# Behaviour Driven Development

---

*CONTEXT*

Given the account balance is Rs 10000

And card is valid

And the machine contains enough money

*EVENTS*

When the account holder requests Rs 2000

# Behaviour Driven Development

---

*CONTEXT*

Given the account balance is Rs 10000

And card is valid

And the machine contains enough money

*EVENTS*

When the account holder requests Rs 2000

*OUTCOMES*

Then the ATM should dispense Rs 2000

And the account balance should be RS 8000

And the card should be returned

# Behaviour Driven Development

---

*CONTEXT*

*Starting State*

*EVENTS*

When the account holder requests Rs 2000

*OUTCOMES*

Then the ATM should dispense Rs 2000

And the account balance should be RS 8000

And the card should be returned

# Behaviour Driven Development

---

*CONTEXT*

*Starting State*

*EVENTS*

*What user does*

*OUTCOMES*

Then the ATM should dispense Rs 2000

And the account balance should be RS 8000

And the card should be returned



# Behaviour Driven Development

---

*CONTEXT*

*Starting State*

*EVENTS*

*What user does*

*OUTCOMES*

*The result*

# Behaviour Driven Development

---

SET of **Behaviours** that the user can expect from the system.

# Behaviour Driven Development

---

## Behaviours Test

Can be written at any time

Before      During      After

# Behaviour Driven Development

---

## After Development

**It is difficult to write unit test cases for existing system.**

# Behaviour Driven Development

---

## Before Development

The test cases written before development follows BDD

# Behaviour Driven Development

---

## Before Development

Helps to be focused

**NOTHING LESS**

# Behaviour Driven Development

---

## Before Development

Helps to be focused

**NOTHING LESS**

**NOTHING MORE**

**TDD**

**v/s**

**BDD**

**Unit Testing**



**TDD**

---

**v/s**

**BDD**

**Unit Test**

**Behaviour Test**

**TDD**

---

**v/s**

**BDD**

Write test

Code

Then another test

Code... so on

**TDD**

---

**v/s**

**BDD**

Testability of  
code is built in as  
that of quality

Desired behaviour  
describes at front.

**TDD**

---

**v/s**

**BDD**

Testability of  
code is built in as  
that of quality

Behaviours that  
end user  
experience

**TDD**

---

**v/s**

**BDD**

Testability of  
code is built in as  
that of quality

Development  
focus actual on  
development  
value.

**TDD**

**v/s**

**BDD**

Doing the thing  
right

**TDD**

---

**v/s**

**BDD**

Doing the thing  
right

Doing right thing

**TDD**

---

**v/s**

**BDD**

Developer writes  
the test



# TDD

---

## v/s

# BDD

Developer writes  
the test

Test are written  
by whoever  
understand the  
customer best

**TDD**

---

**v/s**

**BDD**

Developer writes  
the test

Product owner  
with Dev Team

# TDD

---

## v/s

# BDD

Developer

Tester

**TDD**

---

**v/s**

**BDD**

Developer

Tester

Developer

Tester

Product owner

stakeholders

**TDD**

**v/s**

**BDD**

Testing done  
Isolation

**TDD**

---

**v/s**

**BDD**

Testing done  
Isolation

Putting system in  
correct state

**TDD**

**v/s**

**BDD**

**Seconds**

**Minute**

# TDD

---

## v/s

# BDD

If it does not work  
.. Then something  
is wrong



# TDD

---

## v/s

# BDD

We need to check  
unit testing

Which unit **failed**

If it does not work  
.. Then something  
is wrong

**TDD**

---

**v/s**

**BDD**

Key advantage of  
unit testing

If it does not work  
.. Then something  
is wrong

# Major System

---

Unit Test

Behaviour Test

# Whether to release software system

---

Test case 1

Test case 2

Test case 3

Test case 1

Test case 2

Test case 3

# Whether to release software system

---

Test case 1

Test case 2

Test case 3

Test case 1

Test case 2

Test case 3

# *Video*

\*\*\*\*\*  
\*\*\*\*\*

*THANK YOU*

\*\*\*\*\*  
\*\*\*\*\*