

INTENDED LEARNING OBJECTIVES

After the course the student should be able to...


- ... identify the complexities of software design and development

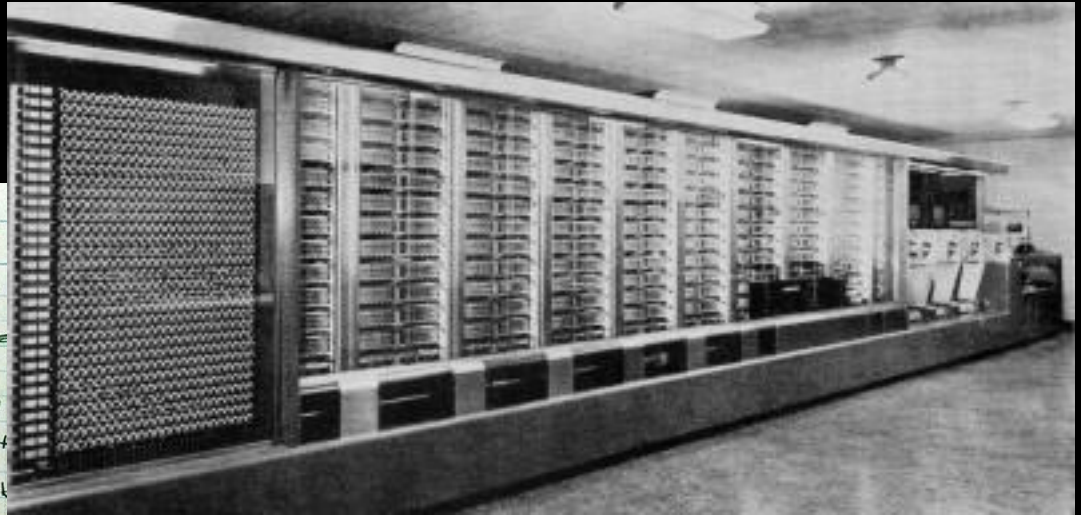
- ... describe the fundamentals of software engineering, such as stakeholders and requirements

- ... reflect on the choice of software engineering methods used in the project

SOFTWARE QUALITY

9/9

0800 Antism started
 1000 " stopped - antism ✓ { 1.2700
 1300 (032) MP-MC 1.98260000
 (033) PRO 2 2.13047645
 correct 2.13067645
 Relays 6-2 in 033 failed signal
 in relay 12.000 +
 Relays changed
 1100 Started Cosine Tapc (Sine check
 1525 Started Multy Adder Test.
 1545  Relay #70 Panel F
 (moth) in relay.
 First actual case of bug being found.
 1630 Antism started.
 1700 closed down.



ISO/IEC 25010 Software Quality

Functional suitability

Compatibility

Performance efficiency

Usability

Reliability

Security

Maintainability

Portability



Requirement

A feature or function that satisfies a stakeholder expectation or a contract, standard, specification, or other formally imposed document



Defect

When software has erroneous or unexpected behaviour ***in relation*** to requirements



TESTING

Verification

Are we building the software right?

Static

Inspect

- Loop conditions

- Indices

- Names

- Types

- Argument order

Validation

Are we building the right software?

Dynamic

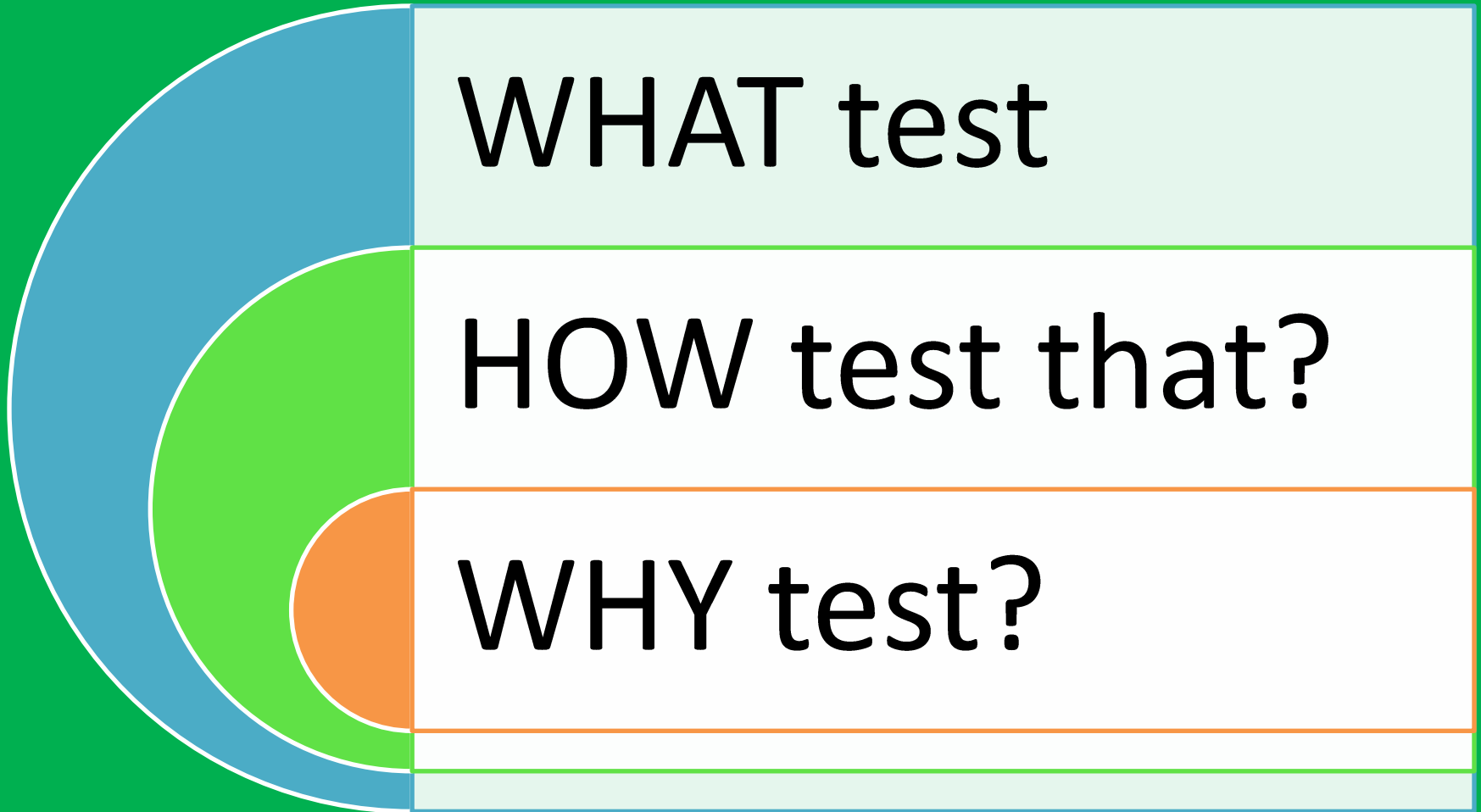
Build & Run

Test-to-pass / Test-to-fail

White / Grey / Black

Automatic / Manual

TESTING



Testing

Unit testing

System / Integration testing

Acceptance testing



Files Services

JavaXpath

Midterm7343

Source Packages

<default package>

agileJUnit

MyAgileTest.java

Test1.java

deadlock

midterm7343

regex

RegexTest1Strings.java

RegexTest2StringMa

RegexTest3BGroupsE

RegexTest3GroupsBz

RegexTest3PatternM

RegexTest5Greedy.j

Test Packages

Libraries

Mid - Navigator

s View

MyAgileTestTest

MyAgileTestTest()

setUp()

setUpClass()

tearDown()

tearDownClass()

testAdd()

...ava RegexTest3BGroupsBackref.java Test1.java Test1Test.java MyAgileTest.java MyAgileTestTest.java



```
37     }
38
39     /**
40      * Test of add method, of class MyAgileTest.
41      */
42     @Test
43     public void testAdd() {
44         System.out.println("add");
45         String s1 = "2";
46         String s2 = "2";
47         MyAgileTest instance = new MyAgileTest();
48         int expResult = 4;
49         int result = instance.add(s1, s2);
50         assertEquals(expResult, result);
51     }
52 }
53
```

Test Results

Output - Midterm7343 (test)

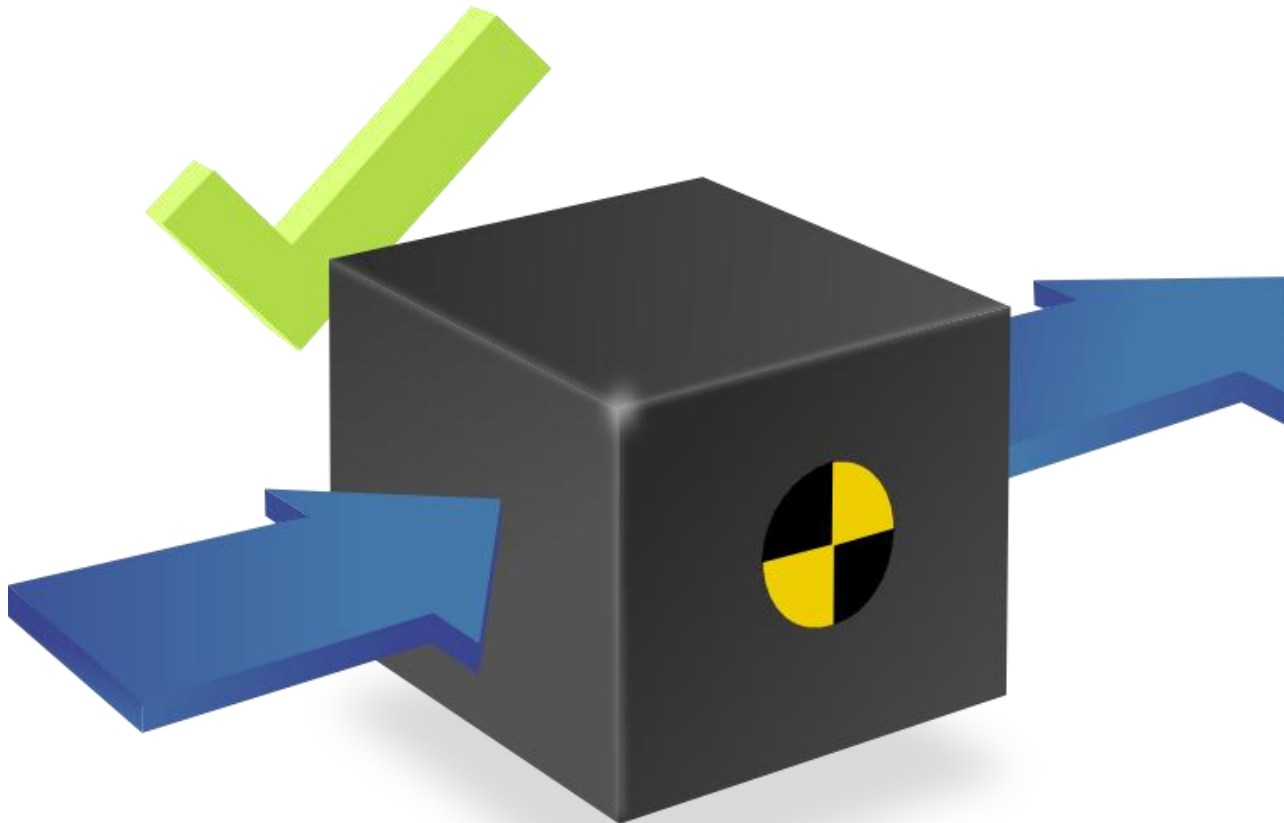
Tasks

agileJUnit.Test1Test x

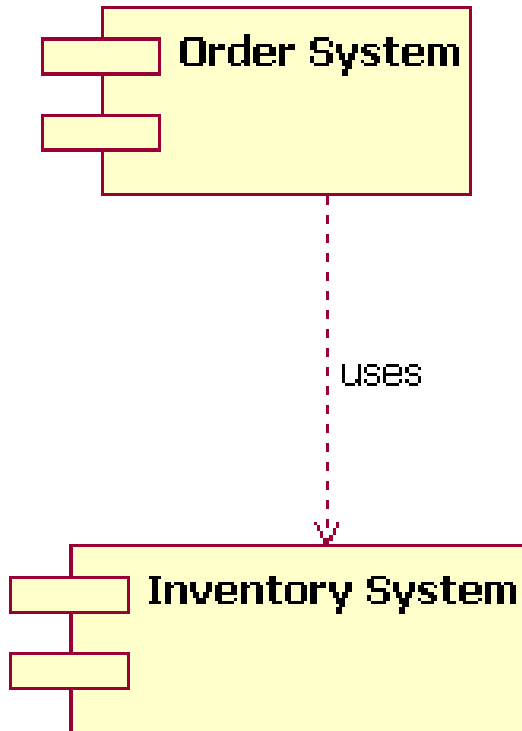
agileJUnit.MyAgileTestTest x



System testing



Integration testing



Will Order System and Inventory System behave in an erroneous or unexpected way when working together?

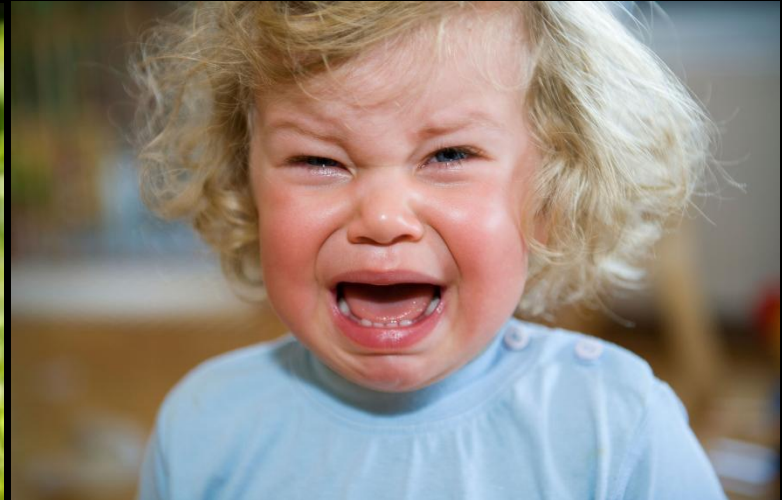
Acceptance Test

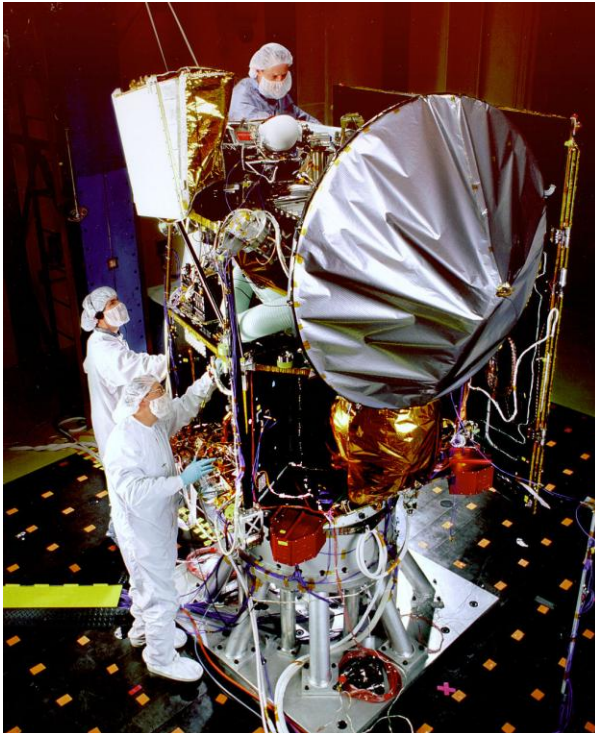
USER EXPERIENCE

A / B TESTS

MULTI-VARIATE

BETA-RELEASE





Google



The Making of a Fly: The Genetics of Animal Design (Paperback) by Peter A. Lawrence

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New 1-2 of 2 offers		
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REMEMBER

THE SPECIFICATIONS WILL CHANGE OVER TIME

IT'S IMPOSSIBLE TO COMPLETELY TEST A PROGRAM

TESTING CAN'T SHOW THAT A PROGRAM IS BUG-FREE

ALL FOUND BUGS CAN'T BE FIXED

DIFFICULT TO DECIDE IF IT'S A BUG OR NOT

Agile & Requirements

Individuals and interactions over
processes and tools

Working software over
comprehensive documentation

Customer collaboration over
contract negotiation

Responding to change over
following a plan

Agile & Testing

Acceptance criteria

DoD

Customer collaboration over ...

Working software over ...

Continuous integration

Continuous deployment

Test-driven development

...

TEST-DRIVEN DEVELOPMENT

ADD A NEW TEST

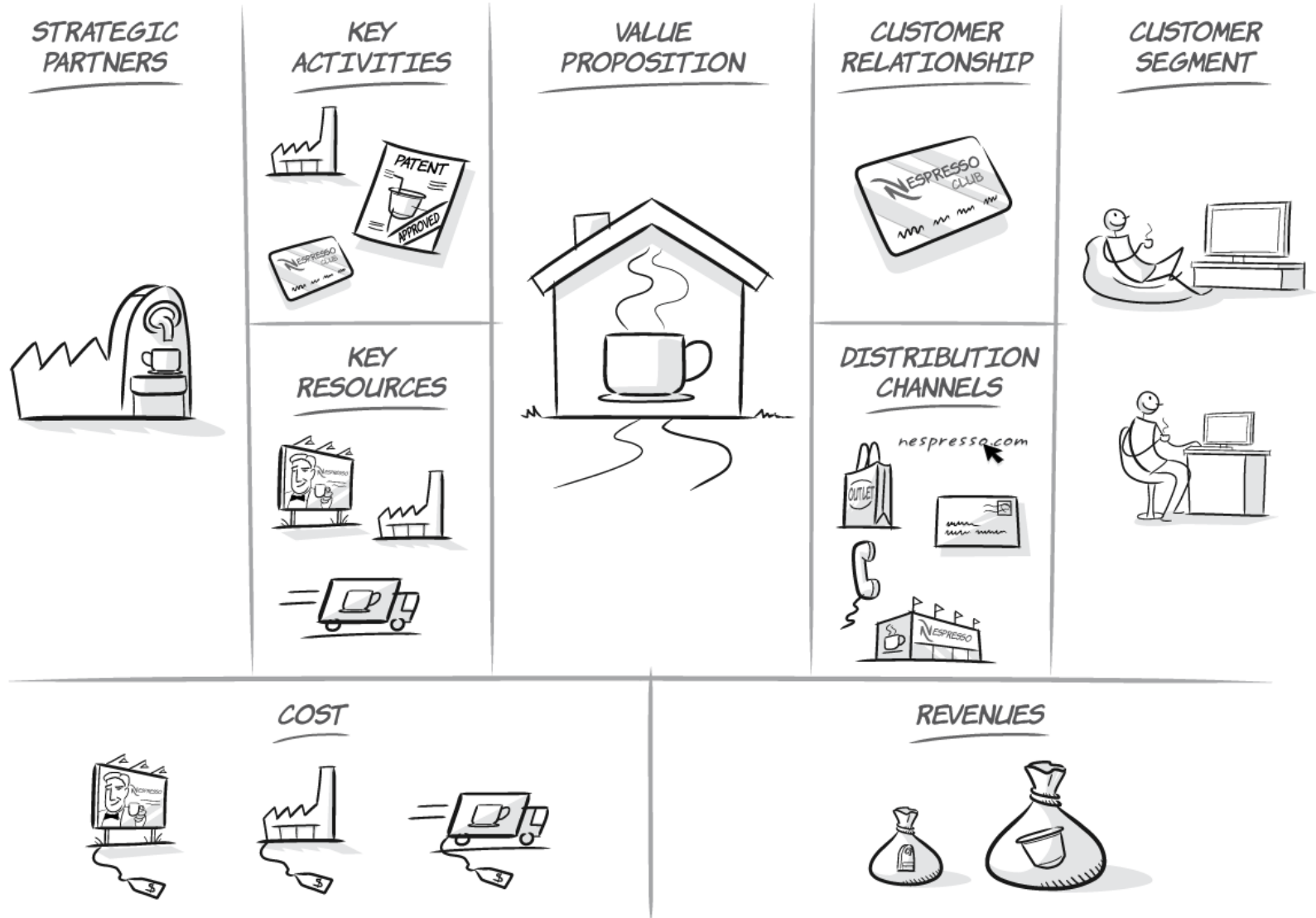
RUN ALL TESTS

ADD SOME CODE

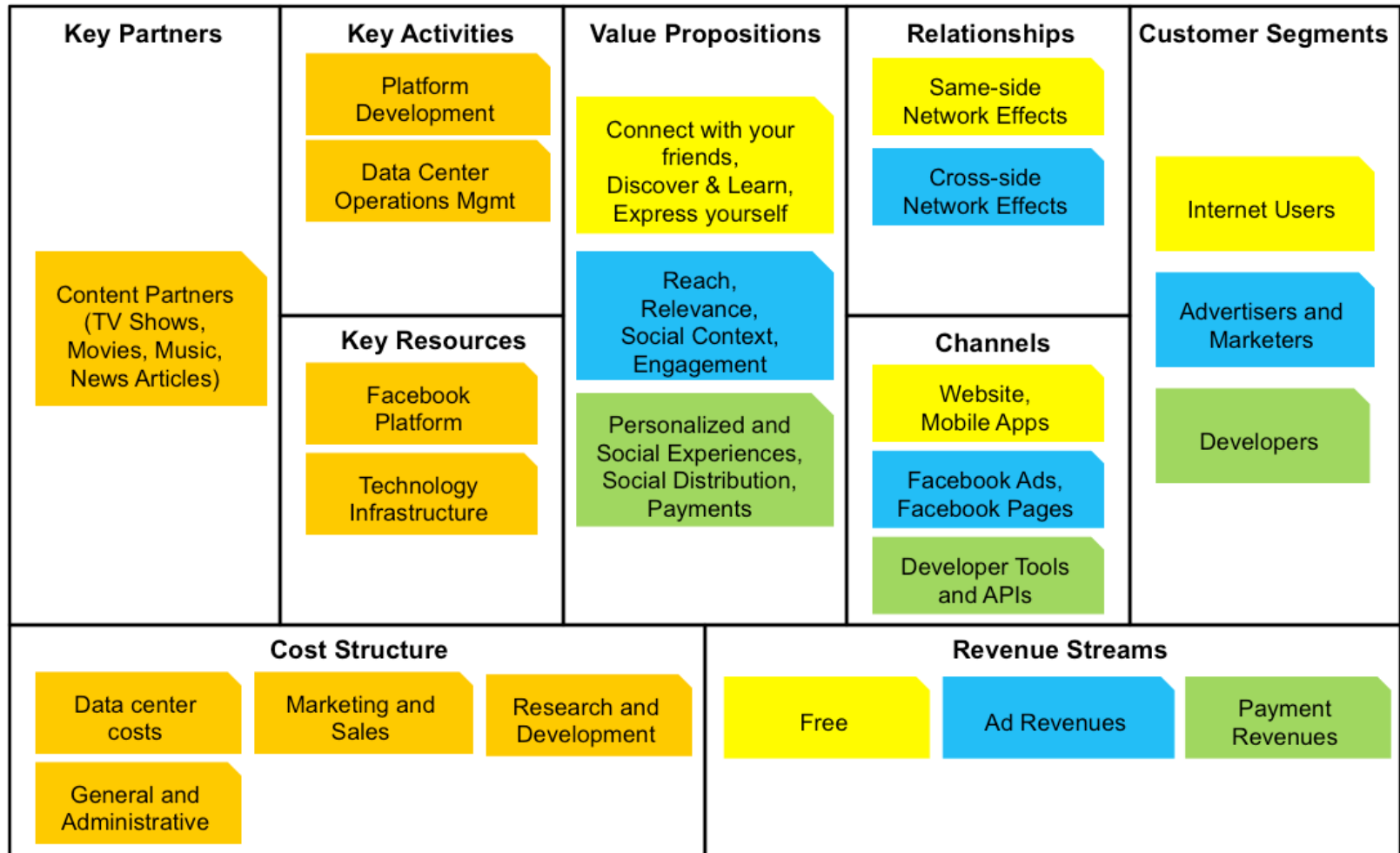
RUN ALL TESTS

REFACTOR

Business Model Canvas

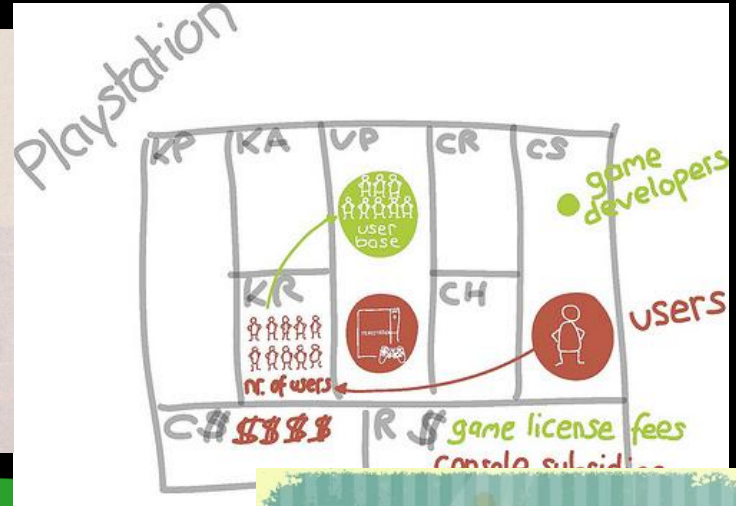
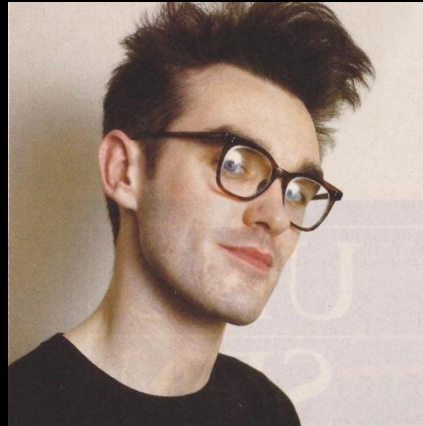


Facebook – World's leading Social Networking Site (SNS)



RISKS & MITIGATION STRATEGIES

Business
Technical
Feedback
Organisational
Dependency



SOME ADVICE

MERGE-MERGE-MERGE

CHALLENGE YOUR ASSUMPTIONS

SELF-ORGANISATION & RESPONSIBILITY

USE ME AND JAN-PHILIPP AS COACHES

THE P.O. \neq THE GRADER

More Advice

“It’s not the plan that is important,
it is the act of planning”

G. Edwards

“I'm not planning to jump off a bridge with no
bungee”

Norah Jones

REFLECTION

What have you learnt?

Did that map to the learning goals?

What was helpful?

What can I improve?

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