

SDET

SOFTWARE DEVELOPER

ENGINEER IN TEST

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YOUR JOB TITLE

SOFTWARE TESTER

QA

QA TESTER

AUTOMATION QA

AUTOMATION ENGINEER IN TEST

QA ENGINEER

MANUAL TESTER

MANUAL QA

SDET

SENIOR AUTOMATION ENGINEER

BACKEND TESTER

API TESTER

MOBILE TESTER

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TEST TYPE

- **MANUAL TESTER - JIRA**
- **AUTOMATION TESTER - SELENIUM**
- **BACKEND TESTER -SQL**

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BEFORE MANUAL TESTING

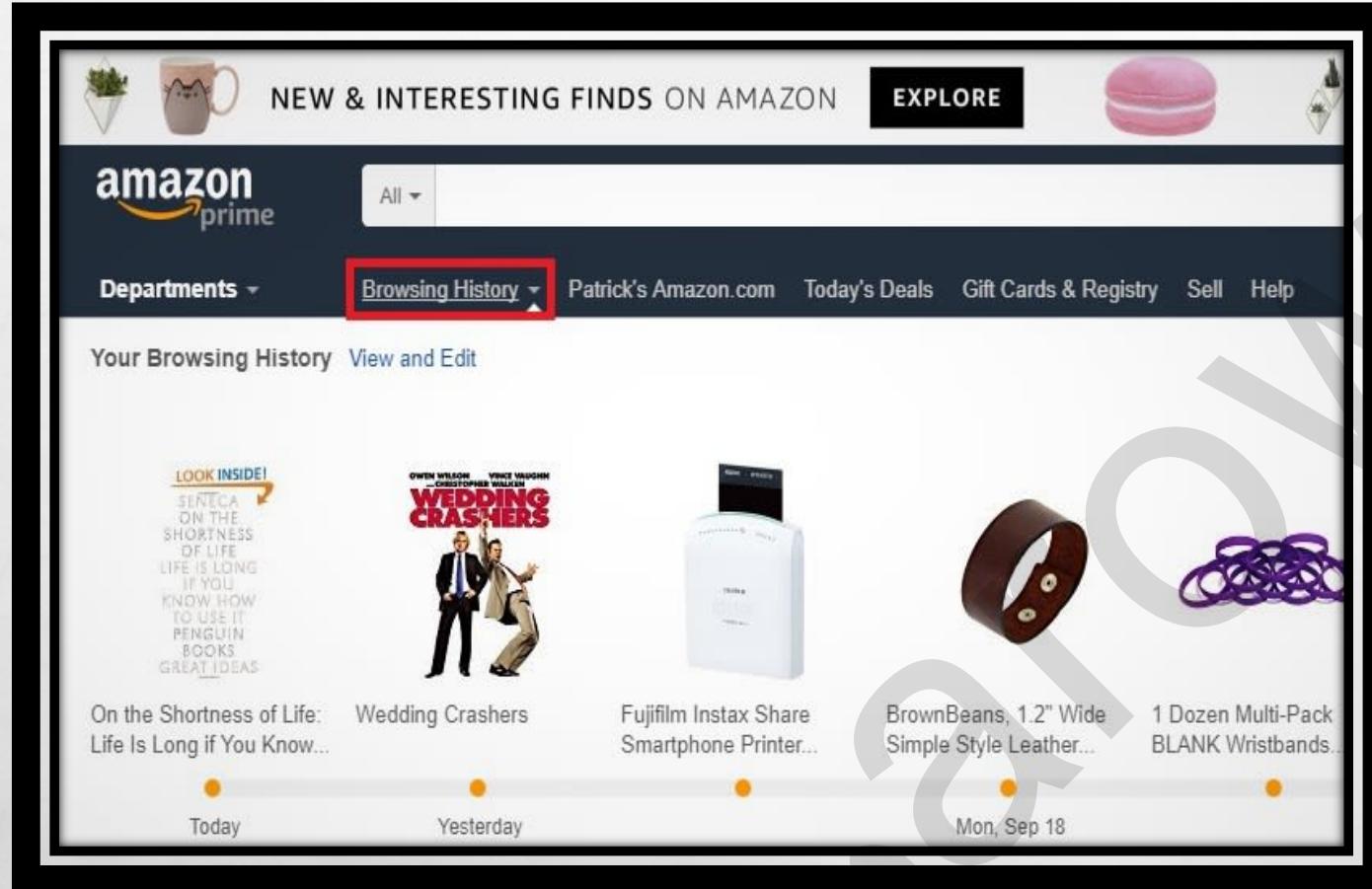
- **LIFECYCLE**
 - **SDLC – SOFTWARE DEVELOPMENT LIFE CYCLE**
 - **STLC – SOFTWARE TESTING LIFE CYCLE**
 - **DEFECT LIFE CYCLE**
- **METHODOLOGY –**
 - **AGILE , WATER FALL**
- **TESTING TYPES –**
 - **SMOKE , FUNCTIONAL, REGRESSION, SANITY, UNIT ,BLACK BOX , WHITE BOX, INTEGRATION**
- **TOOLS – IMPLEMENT ALL CONCEPT IN MANUAL TOOL**
 - **JIRA /ALM/TFS/RAIL**

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SDLC = SOFTWARE DEVELOPMENT LIFE CYCLE

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REAL WORLD UNDERSTANDING



- Need to create a web application → concept
- Document all the real world needs of the software → requirement

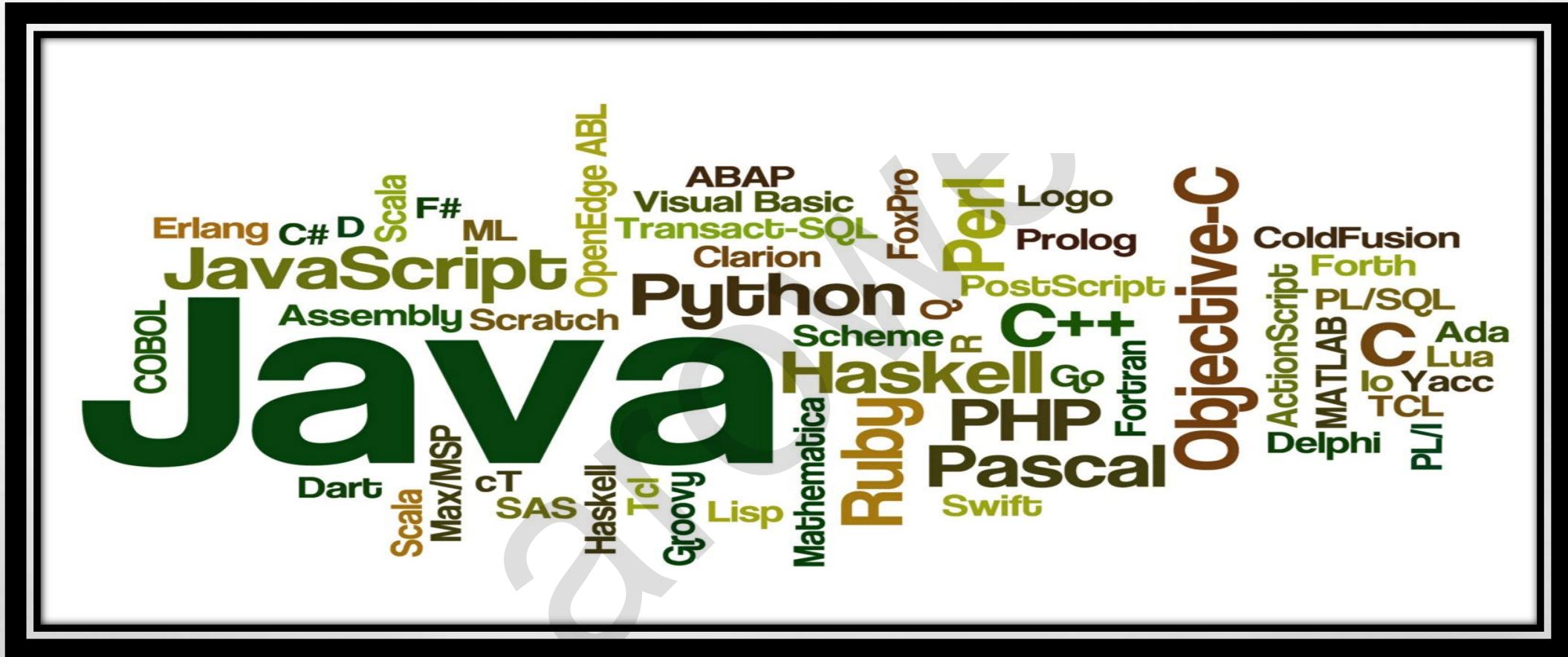
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NEED DESIGN FOR MY APP BY DESIGN TEAM

The screenshot displays the FOLIO application interface, specifically the 'Carolina' project. On the left, a sidebar provides navigation links such as 'New Project', 'Dashboard', 'Mood boards', 'Configure template', 'My Team', 'Sharing', 'Contacts', 'Project Editor', 'Recycle Bin', 'Tutorials', 'Web Clipper', 'Integrations', 'Blog', and 'Profile'. The main workspace is titled 'Organizer' and shows a grid of items. The columns include 'Drag & Drop', 'Category', 'Schedule', 'Folder', 'Tag', 'QTY', 'Product Type', 'Images', and 'Manufacturer'. The data grid lists several items under the 'Plumbing' category, such as 'Unassigned' (0 items), '1st Floor' (12 items), '2nd Floor' (13 items), 'Atrio' (5 items), and 'New Folder' (0 items). To the right, specific product details are shown for 'FAUCET' and 'VANITY' items from KOHLER Worldwide, including images and part numbers like 'K-1001-Master-Bath'. A large, semi-transparent watermark with the name 'SAROWER AHMED' is centered over the grid. At the bottom right of the grid, there is a green button labeled 'Edit'.

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DEVELOPER DEVELOP THE CODE



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**TEST THE APPLICATION
/SOFTWARE
WHEN IT READY**



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SDLC – SOFTWARE DEVELOPMENT LIFE CYCLE

STAGES:

- CONCEPT
- REQUIREMENT
- SYSTEM DESIGN
- CODING/ DEVELOPMENT
- TESTING
- IMPLEMENTATION & MAINTENANCE



PAPER
BASED



HANDS
ON

QA RESPONSIBILITY IN SDLC

Responsibility	Stages
No active involvement, But can Participate on meetings,	Concept
Read requirement document try to understand as requirement : Clear, Consistence and Testable	Requirement
Read design document, Writing test cases based on design prototype of application	Design Stage
Black box tester not active but White box tester do unit testing.	Development Stage
All testing need to do in this stage with manage Defect Life cycle	Testing Stage
Do regression test if any update version or defect fix	Implementation & Maintenance

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STLC= SOFTWARE TESTING LIFE CYCLE

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STLC STAGES:

- REQUIREMENT ANALYSIS
- TEST PROCESS
 - TEST PLAN
 - TEST CASE
 - TEST DATA
 - RTM
 - EXECUTED
 - DEFECT MANAGE
 - TEST REPORTING

SDLC STAGES

- Concept
- Req
- System design
- Code/ Development
- Testing
- Implementation & maintenance

On
PAPER

Pass
Fail

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Requirement

BA – BRD,FRD

QA

Design

Design team – proto type

QA

Developer

Dev team

QA

Test

Manual

Automation

backend

UTA Testing

UAT team/QA

Production release

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Environment at your office

Dev

- All dev team code and unit test

QA/Testing

- Manual
- Automation

STAGING

- UAT

Prod

- Release new app in the real world

REQUIREMENT & DESIGN

- WE WRITE ALL NEEDS AS REQUIREMENTS DOCUMENT IN JIRA CONFLUENCE
 - DOCUMENT LIKE –
 - BRD - BUSINESS REQUIREMENT DOCUMENT
 - FRD – FUNCTIONAL REQUIREMENT DOCUMENT
- ALL DOC CONTAINS - CLIENTS NEED
 - DETAILS FUNCTION OF THE APPLICATION
 - USE TEST CASES
 - ACCEPTANCE CRITERIA
 - UI CONFIGURATION

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MANUAL TESTING

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WHAT IS TESTING?

- MATCHING EXPECTED WITH ACTUAL
- IF MATCHED= TEST PASSED
- IF NOT MATCHED= TEST FAILED
- IF FAILED THEN OPEN DEFECT

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WHAT TO DO BEFORE WRITE MANUAL TEST CASE

- NEED TO UNDERSTAND REQUIREMENT IS – CLEAR ,CONSISTENCE AND TESTABLE
- READ DESIGN DOCUMENT
- AFTER CLEAR UNDERSTANDING OF BOTH
 - BASED ON USE TEST CASES &
 - ACCEPTANCE CRITERIA
- CREATE MANUAL TEST CASES IN EXCEL OR MANUAL TOOL

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WHEN TO WRITE MANUAL TEST CASE

- **WRITE MANUAL TEST CASE - AFTER THE DESIGN STATE**
- **RUN OR EXECUTE MANUAL TEST CASES (MEANS MATCH TEST STEPS WITH REAL APPLICATION)**
 - - WHEN APPLICATION BUILD IS READY AND STABLE
- **TEST PASS - REQ =MATCH = ACTUAL APPLICATION**
- **TEST FAIL - REQ = NOT MATCH = ACTUAL APPLICATION**

WHERE TO WRITE MANUAL TEST CASES OR DEFECT?

- **MANUAL TEST CASES -**

- EXCEL TABLE OR
- MANUAL TOOL – LIKE JIRA, ALM, TFS, RAIL

- **DEFECT OR BUG**

- NOT POSSIBLE TO USE EXCEL
- MUST USE MANUAL TOOLS LIKE JIRA, ALM, TFS, RAIL

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WHAT IS TEST CASES ?

- **DETAILED STEPS OF TESTING**
- **MINIMUM CONTAINS IN TEST CASES**
 - **TEST CASE ID**
 - **DESCRIPTION**
 - **EXPECTED**
 - **ACTUAL**
 - **TEST STATUS**

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Test Case ID	Description	Expected Result	Actual Result	Status
TC001	Open Browser Go https://www.facebook.com/	Browser open Facebook login page appear		
	Put valid name in username field	name field should editable and accept name		
	Put valid password in password field	password field should editable and accept password		
	Click OB button	OK button should be Enable		
	Validate login status	Home page appear		

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HOW TO WRITE TEST CASE IN BDD IN CUCUMBER AUTOMATION

- **BDD** IS BEHAVIOR DRIVEN DEVELOPMENT
 - **TDD** IS TEST DRIVEN DEVELOPMENT
 - **ATDD** IS ACCEPTANCE TEST DRIVEN DEVELOPMENT
-
- **BDD FOCUSED ON BEHAVIOR OR BUSINESS LOGIC OR REQUIREMENT**

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FEATURE : MEANS FUNCTIONALITY

- A SIMPLE FEATURE FILE CONSISTS OF THE FOLLOWING KEYWORDS/PARTS –
- **FEATURE** – NAME OF THE FEATURE UNDER TEST.
- **DESCRIPTION (OPTIONAL)** – DESCRIBE ABOUT FEATURE UNDER TEST/ REQUIREMENT
- **BACKGROUND:** ANY COMMON STEPS
- **SCENARIO** – WHAT IS THE TEST SCENARIO.
- **GIVEN** – PRE-ACTION(OPEN BROWSER OR PUT URL)
- **WHEN** – ALL ACTION(PUT USER NAME & PASS, OK BUTTON)
- **THEN** – AFTER ACTION OR VALIDATION(SUCCESSFULLY ENTER HOME PAGE)
- **AND /OR-** EXTRA STEPS

Cucumber with BDD- Gherkin Language

- **FEATURE:** LOGIN FUNCTIONALITY FEATURE
- **DESCRIPTION:**
 - IN ORDER TO ENSURE LOGIN FUNCTIONALITY WORKS- WANT TO RUN THE CUCUMBER TEST TO VERIFY IT IS WORKING.
 - PASSWORD MUST BE 8 CHAR WITH ONE NUMBER AND ONE SYMBOL
- **BACKGROUND:** USUALLY NOT USE IN NORMAL SCENARIO
- **SCENARIO:** VALIDATE LOGIN FUNCTIONALITY
 - **GIVEN** USER ABLE TO OPEN BROWSER
 - **AND** NAVIGATE TO APPLICATION
 - **WHEN** USER LOG IN USING <USERNAME> **AND** PUT <PASSWORD>
 - | USERNAME| PASSWORD |
- | SAROWER| PASSWORD2\$|
- **AND** CLICK OK BUTTON
- **THEN** LOGIN SHOULD BE SUCCESSFUL

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TESTING TERMINOLOGY

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TEST DATA ?

- ANY DATA RELATED TO TESTING
- LOGIN FUNCTION TESTING NEED
 - USER NAME & PASSWORD

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STORY ?

- DESCRIBE WHAT TO TEST LIKE A STORY
- **STORY :: AS A AMAZON USER , I CAN DO SUCCESSFUL LOGIN WITH VALID USER NAME AND PASSWORD**
- TEST STRATEGY – HOW TO TEST ? OR TEST APPROACH OR TEST OPTIONS

Use case, Test Scenario & Test Case

► Use Case:

- ▶ Use case describes the requirement.
- ▶ Use case contains THREE Items.
 - ▶ Actor
 - ▶ Action/Flow
 - ▶ Outcome

► Test Scenario:

- ▶ Possible area to be tested (What to test)

► Test Case:

- ▶ Describes test steps, expected result & actual result.

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WHAT IS WHAT??

Test Scenario VS Test Case

Test Scenario is “What to be tested”

Test Case is “How to be tested”.



Entry/ Exit Criteria in a Test Plan

Examples of Entry Criteria:

- Testing Environment Established
- Approved Business Requirements
- Adequate Test data is available
- Test plans are completed
- Documented Test Cases and Results from prior test phase
- Completed and reviewed Test cases / Test scripts
- Access rights for the Testers were established

Examples of Exit Criteria:

- All items in scope was tested
- All test cases (100%) are executed: failed cases have a satisfactory resolution
- Defects were documented and reported
- All severity 1 (critical) and 2 (Major) defects are resolved and implemented
- Applicable sign-off on testing was obtained

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Test Estimations

- ▶ Test estimations includes the following factors
 - Requirement analysis
 - Test case/ data developments
 - Test execution
 - Test reporting, and
 - Defect tracking
- ▶ Test estimations are the number of hours to perform testing to validate a requirements

TEST SUITE/REGRESSION SUITE

- **SUITE: COLLECTION OF TEST CASES OR TEST SCENARIOS**
- **REGRESSION SUITE: COLLECTION OF REGRESSION TEST CASES/REGRESSION SCENARIOS**
 - **WE RUN TEST SUITE OR REG SUITE –**
 - **IN EVERY RELEASE**
 - **IF ANY FEATURE UPDATE**
 - **IF ANY MAJOR DEFECT OR BUG FIXED**

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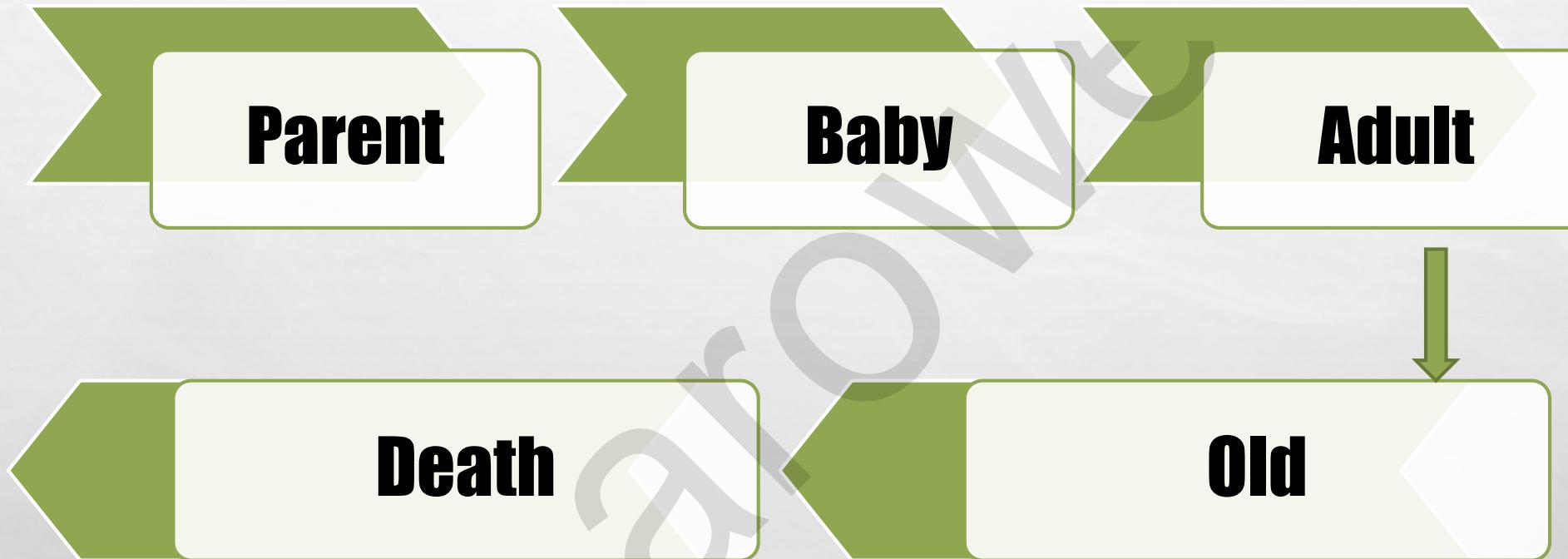
DEFECT

- TEST MEANING : **MATCHING EXPECTED TO ACTUAL RESULT**
- EXPECTED MEANING : **AS PER REQUIREMENT**
- ACTUAL MEANING : **WHAT IS IN APPLICATION**
- TEST PASS : **IF EXPECTED = ACTUAL**
- TEST FAIL : **IF EXPECTED != ACTUAL**
- DEFECT: **MEAN EXPECTED != ACTUAL >>> MEANS FAILED TEST**

Defect, Error and Bug

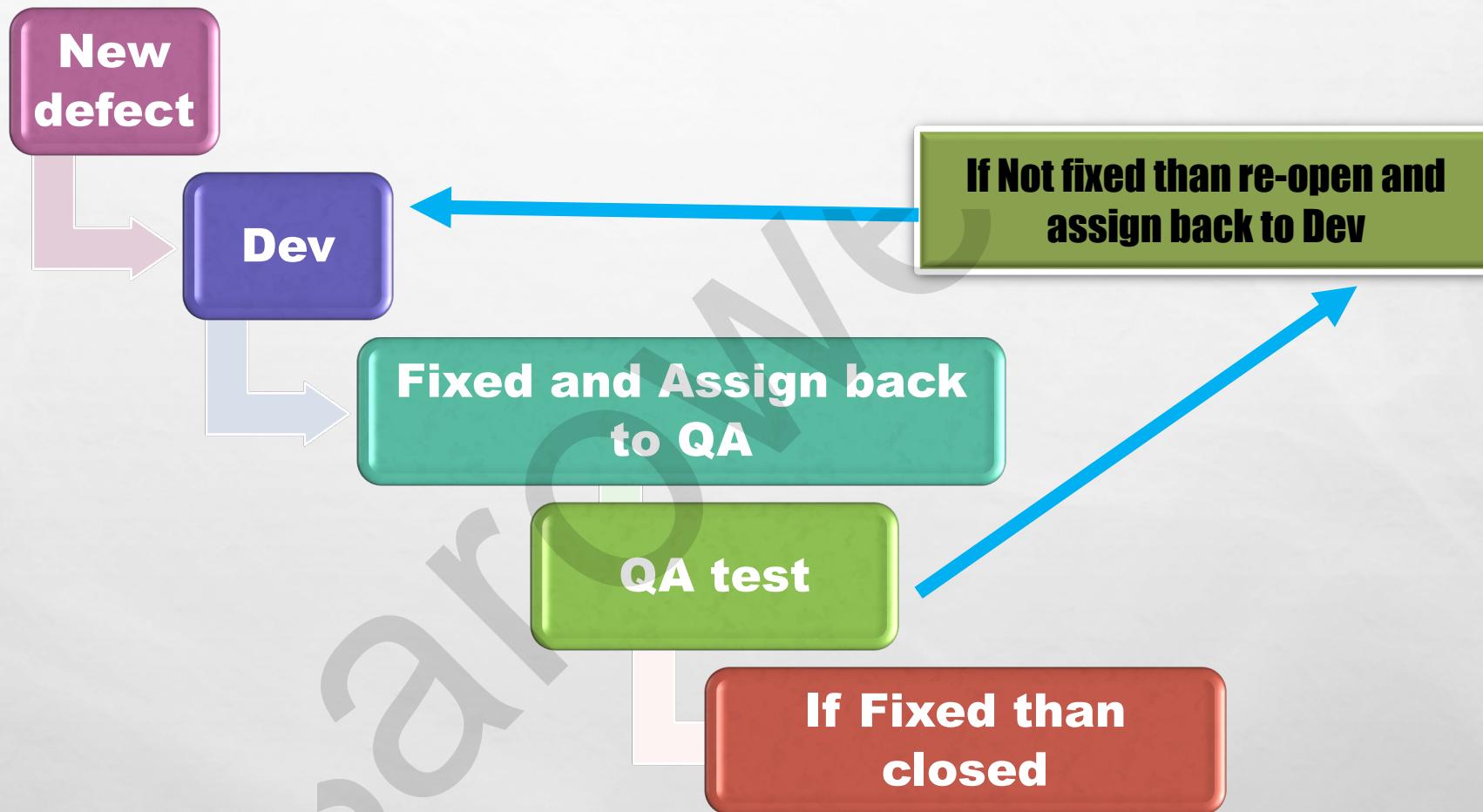
- **Defect-** It is the difference between expected and actual result in the context of testing. It is the deviation of the customer requirement.
- **Bug-** A programming error that causes a program to work poorly, produce incorrect results, or crash.
- **Error-** This is cause due to human actions like code is not following the standard, there is some mistake in syntax, or there is mistake in invocation of variable or might be there is some mistakes in which database connectivity code is faulty.

HUMAN LIFE CYCLE



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DEFECT LIFE CYCLE:



OPEN A DEFECT WITH

- **DESCRIPTION(SUBJECT/TITLE)-** SINGLE LINE IN SIMPLE ENGLISH LANGUAGE EXPLAIN WHAT IS THE DEFECT.
- **VERSION-** CURRENT VERSION OF THE APP
- **SEVERITY-** HOW SERIOUS?
- **PRIORITY:** WHICH ONE TO DO 1ST
- **ENVIRONMENT –** QA/DEV/PROD
- **STEPS TO REPRODUCIBLE/REPLICATE-** IF THE DEFECT CAN BE REPRODUCED
- **SCREEN SHOT**
- **ASSIGNED-** WHO SHOULD ASSIGNED TO NEXT?

Both together as priority in JIRA

SEVERITY VS PRIORITY

Severity	Priority
Condition /effect on Business	Which one urgent to do 1 st

Severity and Priority grading: High, Medium ,low

Q 01: Login function failed

Q 02: Company Name spelling wrong in Home page

Q 03: Company Logo color is wrong in web page

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METHODOLOGY

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METHODOLOGY:

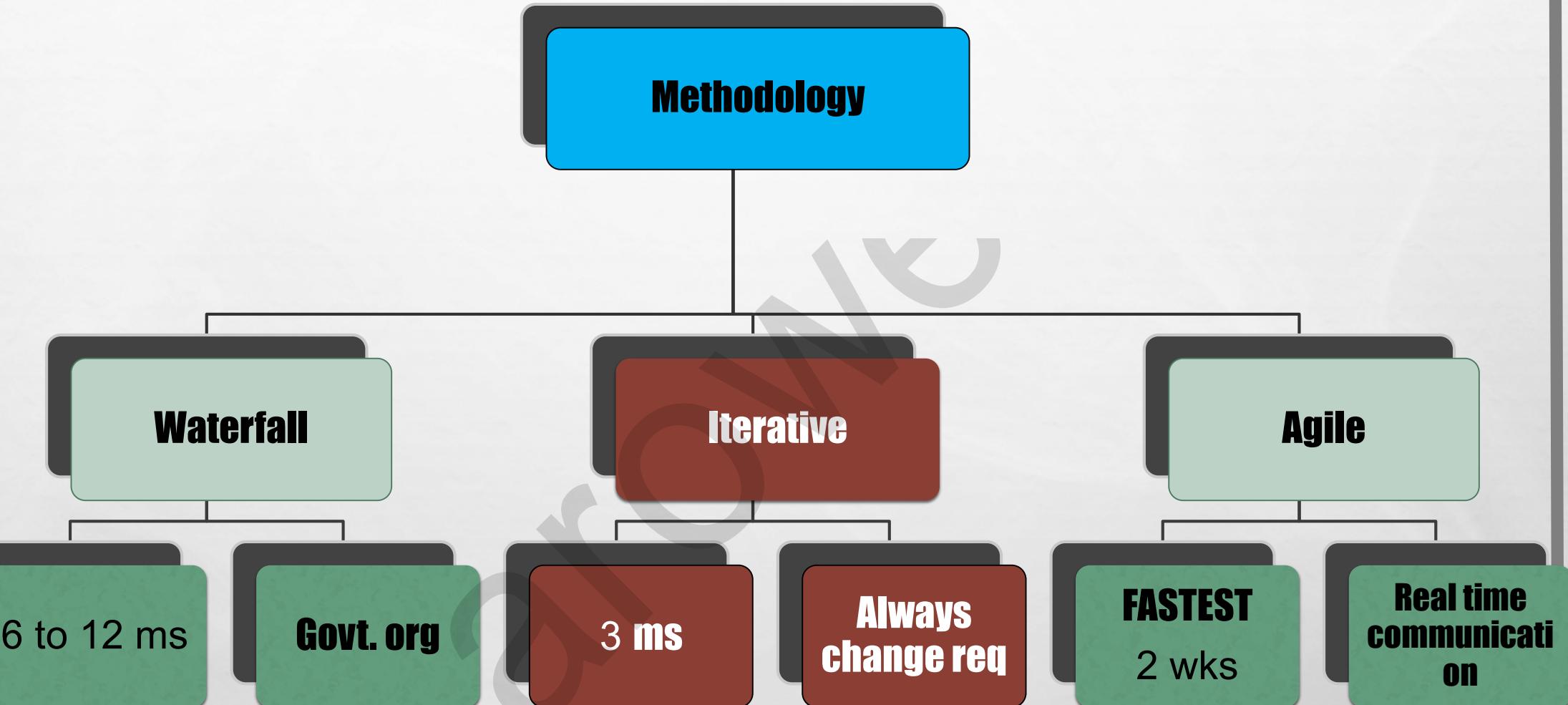
- A standard/guideline how to follow the all testing stages.

Types:

- Waterfall
- Iterative
- Agile

PURPOSE:

- FASTER**
- BETTER**
- CHEAPER**



WATERFALL

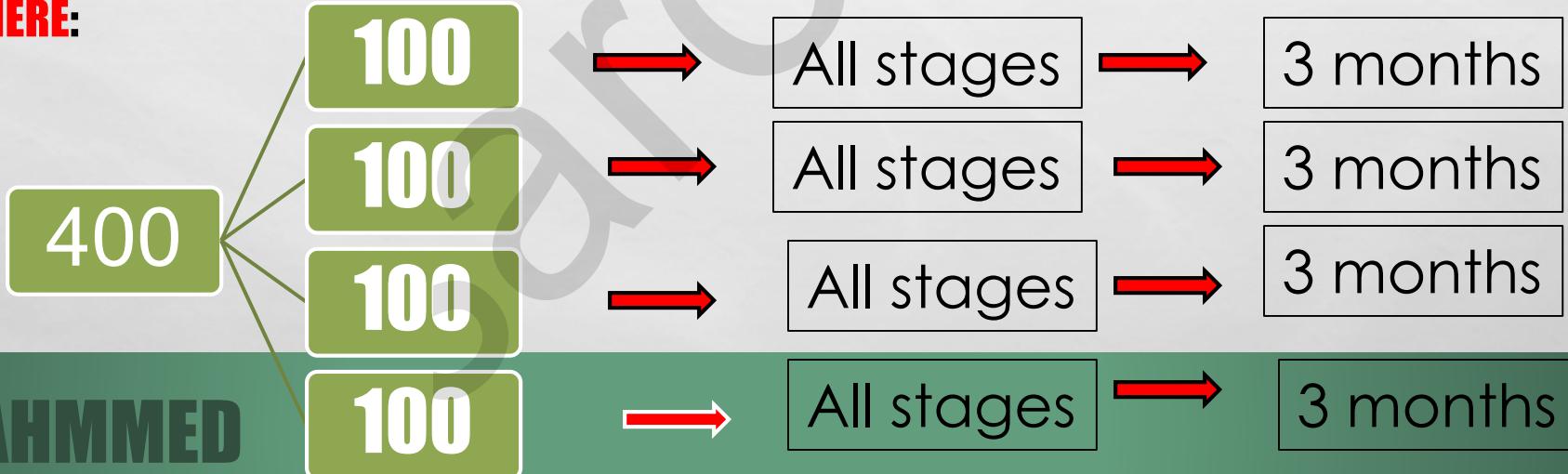
- THE OLDEST.
- MUST BE **SEQUENTIAL**-WATERFALL MODEL IS A **FLOW BASED MODEL**, IN WHICH WE PASS EVERY PHASE ONCE, AND CAN NOT GO BACK TO THAT PHASE AGAIN.
- TYPE:
- **FLEXIBLE WATERFALL:** REQUIREMENT  SYSTEM DESIGN.
- **STICK WATERFALL-**
 - CAN'T GO BACK AND FRONT,
 - CAN'T CHANGE THE REQUIREMENT.
- DISADVANTAGE:
- LONG WAIT TIME> 6 TO 12 MONTHS=> PRIVATE COMP NOT USE.
- ADVANTAGE: IF WE KNOW WHAT CUSTOMER REQUIREMENT>THEN ITS BEST TO USE.



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ITERATIVE

- **BUILD A SYSTEM WITH INCREMENT.**
- **WE CAN CHANGES THE REQUIREMENT-WE CAN ALWAYS COME BACK TO PREVIOUS PHASES, AND MAKE THE CHANGES ACCORDINGLY.**
- **EXAMPLE:**
- **SUPPOSED WE HAVE 400 REQUIREMENTS**
 - **WATERFALL=>> ALL 400 WILL BE DONE IN 1 YR**
- **HERE:**



AGILE METHODOLOGY:

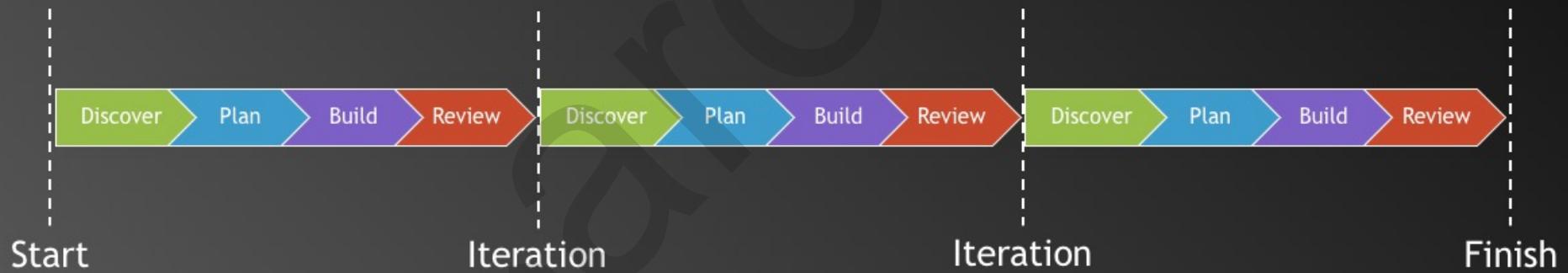
- MOSTLY USED.
- MORE **ATOMIC** BUT ITS A SIMILAR TYPE OF ITERATIVE
- IT CAN DELIVER WITHIN 2 WKS TO 4 WKS =>> SO ITS **FASTER**
- HANDLE LESS NUMBER OF REQUIREMENTS.
- **REAL-TIME COMMUNICATION:**
 - LESS DOCUMENTS
 - 1 DEVELOPER FOR 1 TESTER FOR 1 BUSINESS ANALYSIS

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WATERFALL



AGILE



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Agile	Water fall
Real time communication	No
Any time add or change requirements	No
Divide into short time frame – known as sprint	No
Agile ceremony – 4 agile meeting	No
Easily monitor team performance	No
Most private sectors	Most government sector
Good if requirement change frequently	Good if requirements are well-known and stable

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AGILE FRAMEWORK

- KANBAN
- SCRUM, OR
- YOUR OWN UNIQUE FLAVOR

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KANBAN CARDS

KANBAN BOARD

+ Add New

Filter by Tag: -- No Tag --

Show: User Stories Defects Agreements

Defined	In-Progress	Completed	Accepted
S82 Combine Orders Tom 0% 13h	S70 Purchase Your Items Sara 3 33% 14h 2 active	DE22 Recurring 'No Address' Warning Dave Gigi DE24 State drop down doesn't contain any items	S62 Mauna Loa Hardening Paul ✓
DE26 (Auto) Fitnesse Test Failed for GUI - Checkout Button Paul	S69 Recent Purchases View Sara Waiting on Ops build 0% 9h	DE21 Only one selected item is being added to the cart Dudley	DE29 Authentication Hyperlink is broken Dave
S81 Change Method of Payment Paul	S80 Change Billing Address Paul 2	S71 Persistent Shopping Cart Tom ✓	DE20 Login 404 Issue Dora
DE28 (Auto) Fitnesse Test Failed for Calculations Gigi			S68 Patch #1 - Mauna Loa Paul ✓
S83 Paul			

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SCRUM FRAMEWORK IN AGILE

- SCRUM IS THE MOST POPULAR FRAMEWORKS.
- SO POPULAR, IN FACT, THAT MANY PEOPLE THINK SCRUM AND AGILE ARE THE SAME THING. (THEY'RE NOT.)
- THE PRODUCT IS BUILT IN A SERIES OF FIXED-LENGTH ITERATIONS CALLED **SPRINTS** THAT GIVE TEAMS A FRAMEWORK FOR SHIPPING SOFTWARE ON A REGULARLY.

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Backlog



QUICK FILTERS:

Only My Issues

Recently Updated

VERSIONS

EPICS

All issues

Mission to Mars



TIS-9 (allthethings) getting to Mars

Issues

3

Completed

0

Unestimated

0

Estimate

26

Create issue in epic

▼ TIS Sprint 1 5 issues

22/Aug/16 8:25 PM - 05/Sep/16 8:25 PM



...

38 0 0

 TIS-1 Add support for teams larger than 20 people

4

 TIS-2 Plans for our Summer Saturn Sale

8

 TIS-3 Make working with our space travel partners easier

Mission to Mars



16

 TIS-4 500 Error when requesting a reservation

Mission to Mars



6

 TIS-5 Requesting available flights is now taking > 5 seconds

Mission to Mars



4

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Backlog

Board ▾



QUICK FILTERS:

Only My Issues

Recently Updated

VERSIONS

EPICS

All issues

Mission to Mars

TIS-9 (allthethings) getting to Mars

Issues 3

Completed 0

Unestimated 0

Estimate 26

Create issue in epic

TIS Sprint 1 5 issues

22/Aug/16 8:25 PM - 05/Sep/16 8:25 PM

38 0 0



TIS-1 Add support for teams larger than 20 people

4

TIS-2 Plans for our Summer Saturn Sale

8

TIS-3 Make working with our space travel partners easier

Mission to Mars

16

TIS-4 500 Error when requesting a reservation

Mission to Mars

6

TIS-5 Requesting available flights is now taking > 5 seconds

Mission to Mars

4

Team Kanban Board

QUICK FILTERS: Critical partners

Only my partners

Recently updated

1 To do

TIS-28
Research options to travel to Pluto



4 In progress

TIS-25
Engage Jupiter Express for travel

TIS-25
Add Deimos Tours as a travel partner

TIS-20
Engage Saturn Lines for group tours

TIS-24
Sign Contract for SunSpot Tours

3 Code review Max 2

TIS-27
Engage Saturn Resort as PTP

TIS-27
Engage Speedy SpaceCraft

TIS-26
Reach out to the Red Titan Hotel

1 Done

TIS-23
Engage JetShuttle SpaceWays for travel

Release



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SCRUM VS. KANBAN

	SCRUM	KANBAN
Cadence/sequence/time frame	Regular fixed length sprints (ie, 2 weeks)	Continuous flow
Release methodology	At the end of each sprint if approved by the product owner	Continuous delivery or at the team's discretion
Roles	Product owner, scrum master, development team	No existing roles. Some teams enlist the help of an agile coach.
Key metrics	Velocity	Cycle time
Change philosophy	Teams should strive to not make changes to the sprint forecast during the sprint. Doing so compromises learnings around estimation.	Change can happen at any time

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Scrum

Roles

- Product Owner
- ScrumMaster
- Development Team

Events

- Sprint
- Sprint Planning
- Daily Scrum
- Sprint Review
- Sprint Retrospective

Artifacts

- Product Backlog
- Sprint Backlog
- Product Increment

Principles

- Empirical Process Control
- Self-organization
- Collaboration
- Value-based Prioritization
- Time-boxing
- Iterative Development

THE PRODUCT OWNER(PO):

- OWNER OF THE PRODUCT ?
- BUILD AND MANAGE THE PRODUCT BACKLOG
- CLOSELY PARTNER WITH THE BUSINESS AND THE TEAM TO ENSURE EVERYONE UNDERSTANDS THE WORK ITEMS IN THE PRODUCT BACKLOG
- GIVE THE TEAM CLEAR GUIDANCE ON WHICH FEATURES TO DELIVER NEXT
- DECIDE WHEN TO SHIP THE PRODUCT WITH THE PREDISPOSITION TOWARDS MORE FREQUENT DELIVERY

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THE SCRUM MASTER

- **SCRUM MASTER - HEAD OF SPRINT**
- DEEPLY UNDERSTANDS THE WORK BEING DONE BY THE TEAM AND CAN HELP THE TEAM OPTIMIZE THEIR DELIVERY FLOW.
- AS THE FACILITATOR-IN-CHIEF, THEY SCHEDULE THE NEEDED RESOURCES (BOTH HUMAN AND LOGISTICAL) FOR SPRINT PLANNING, STAND-UP, SPRINT REVIEW, AND THE SPRINT RETROSPECTIVE.

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The scrum team

Dev: Tester= 2:1

Developer

Tester

- Manager
- Lead
- Automation Tester
- Manual Tester

Agile Team Members

Design

ETL/DBA

BA=1

Project manager

Product Owner=1

Head of Project

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Scrum Master=1

YOUR TEAM /QA TEAM STRUCTURE

- **ON SHORE TEAM**
 - **QA MANAGER**
 - **QA LEAD**
 - **2 AUTOMATION QA**
 - **1 MANUAL QA**
- **OFF SHORE TEAM**
 - **1 SDET**
 - **1 MANUAL**

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SPRINT= TIME FRAME TO COMPLETE CERTAIN PBI / REQUIREMENT / EPIC/ STRORY

- EACH ITERATION PERIOD OR TIME FRAME IS KNOWN AS SPRINT
- IT MAY BE RANGE FROM 2 WKS TO 4 WKS
- SPRINT STARTS WITH PLANNING MEETING AND
- ENDS WITH RETROSPECTIVE MEETING

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DAILY SCRUM MEETING



SPRINT PLANNING MEETING



SCRUM CEREMONIES

SPRINT REVIEW MEETING



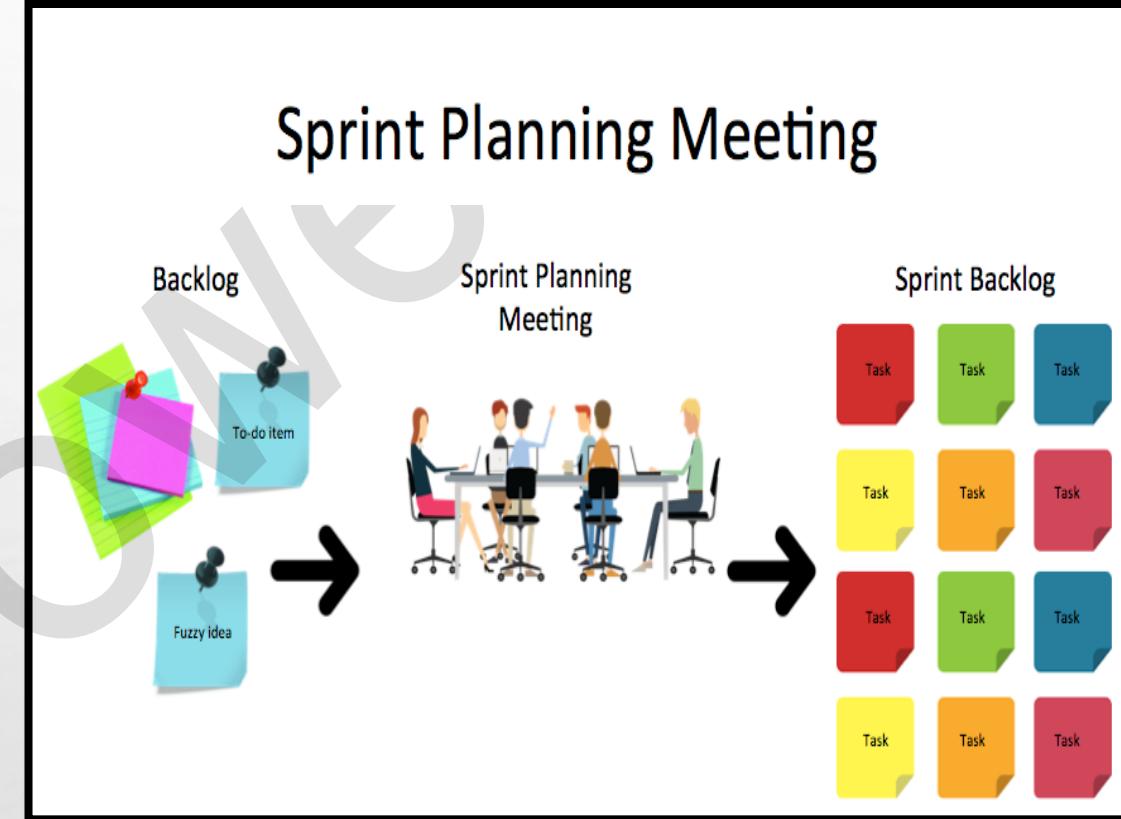
SPRINT RETROSPECTIVE MEETING



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SPRINT PLANNING

- ATTENDEES: DEVELOPMENT TEAM, SCRUM MASTER, PRODUCT OWNER
- WHEN: AT THE BEGINNING OF A SPRINT.
- DURATION:
 - USUALLY AN HOUR PER WEEK . A TWO-WEEK SPRINT KICKS OFF WITH A TWO-HOUR PLANNING MEETING.



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PLANNING MEETING = SETUP THE SPRINT GOAL AND DETERMINE WHAT THE TEAM CAN DO IN THE CURRENT SPRINT

The Planning Steps

1. The Product Owner describes the highest ranked product backlog item
2. The team determines the tasks necessary to complete that product backlog item
3. Team members volunteer to own the tasks
4. Task owners estimate the ideal hours they need to finish their task
5. Planning continues while the team can commit to delivery without exceeding capacity

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DAILY SCRUM

- **ATTENDEES:** DEVELOPMENT TEAM, SCRUM MASTER, PRODUCT OWNER
- **WHEN:** ONCE PER DAY, TYPICALLY IN THE MORNING.
- **DURATION:** NO MORE THAN 15 MINUTES.
- **AGILE FRAMEWORK:** SCRUM AND KANBAN.
- **PURPOSE:** STAND-UP IS DESIGNED TO QUICKLY INFORM EVERYONE OF WHAT'S GOING ON ACROSS THE TEAM.
- **QUESTION ASKED IN DAILY SCRUM**
 - WHAT DID I COMPLETE YESTERDAY?
 - WHAT WILL I WORK ON TODAY?
 - AM I BLOCKED BY ANYTHING?

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REVIEW OR DEMO

- ATTENDEES: DEVELOPMENT TEAM, SCRUM MASTER, PRODUCT OWNER
- OPTIONAL: PROJECT STAKEHOLDERS
- WHEN: AT THE END OF A SPRINT OR MILESTONE.
- DURATION: 30-60 MINUTES.
- AGILE FRAMEWORK: SCRUM AND KANBAN.
- PURPOSE:
 - DEMONSTRATE WORK FINISHED WITHIN THE ITERATION, AND GET IMMEDIATE FEEDBACK FROM PROJECT STAKEHOLDERS

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RETROSPECTIVE

- ATTENDEES: DEVELOPMENT TEAM, SCRUM MASTER, PRODUCT OWNER
- WHEN: AT THE END OF AN ITERATION.
- DURATION: 60 MINUTES.
- AGILE FRAMEWORK: SCRUM AND KANBAN.
- PURPOSE: THE TEAM UNDERSTAND WHAT WORKED WELL—AND WHAT DIDN'T.

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THE DIFFERENCE BETWEEN SPRINT REVIEW & SPRINT RETROSPECTIVE

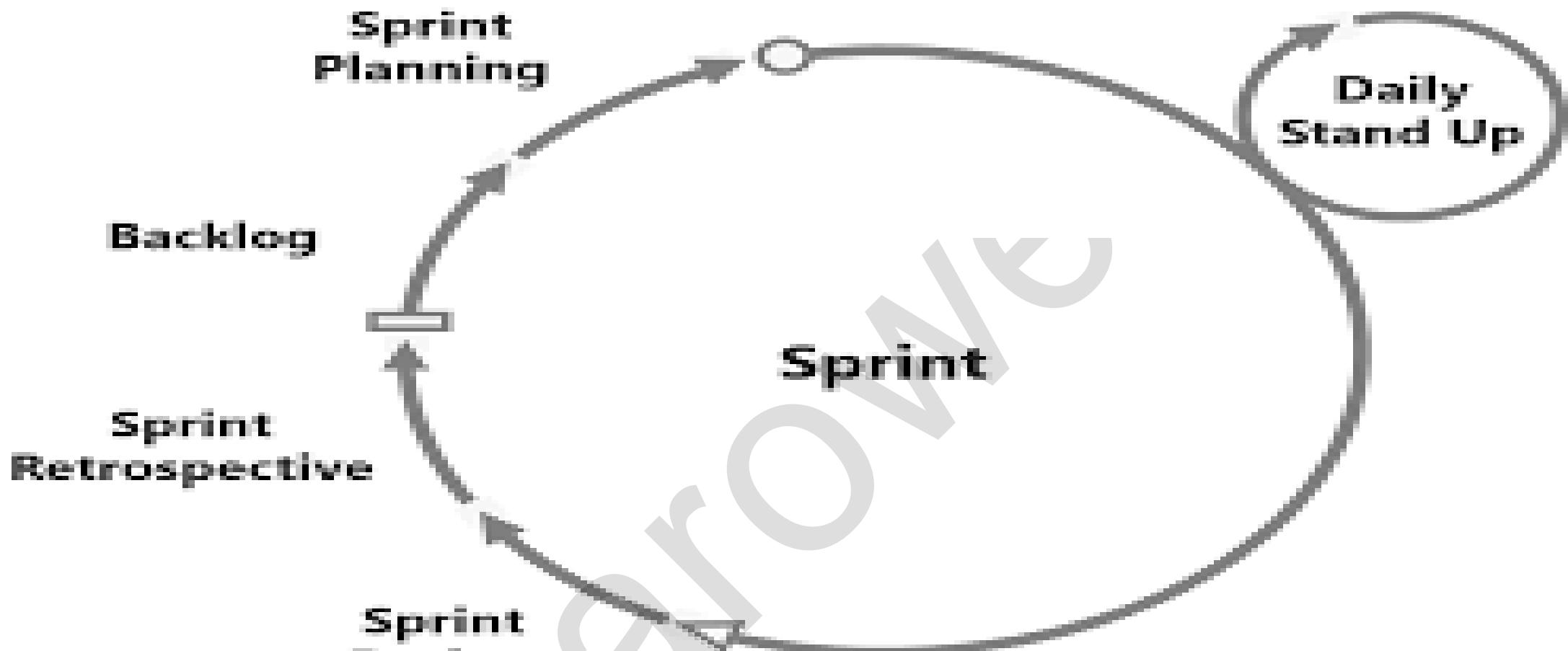
Sprint Review

Is about demoing the work that was just completed.

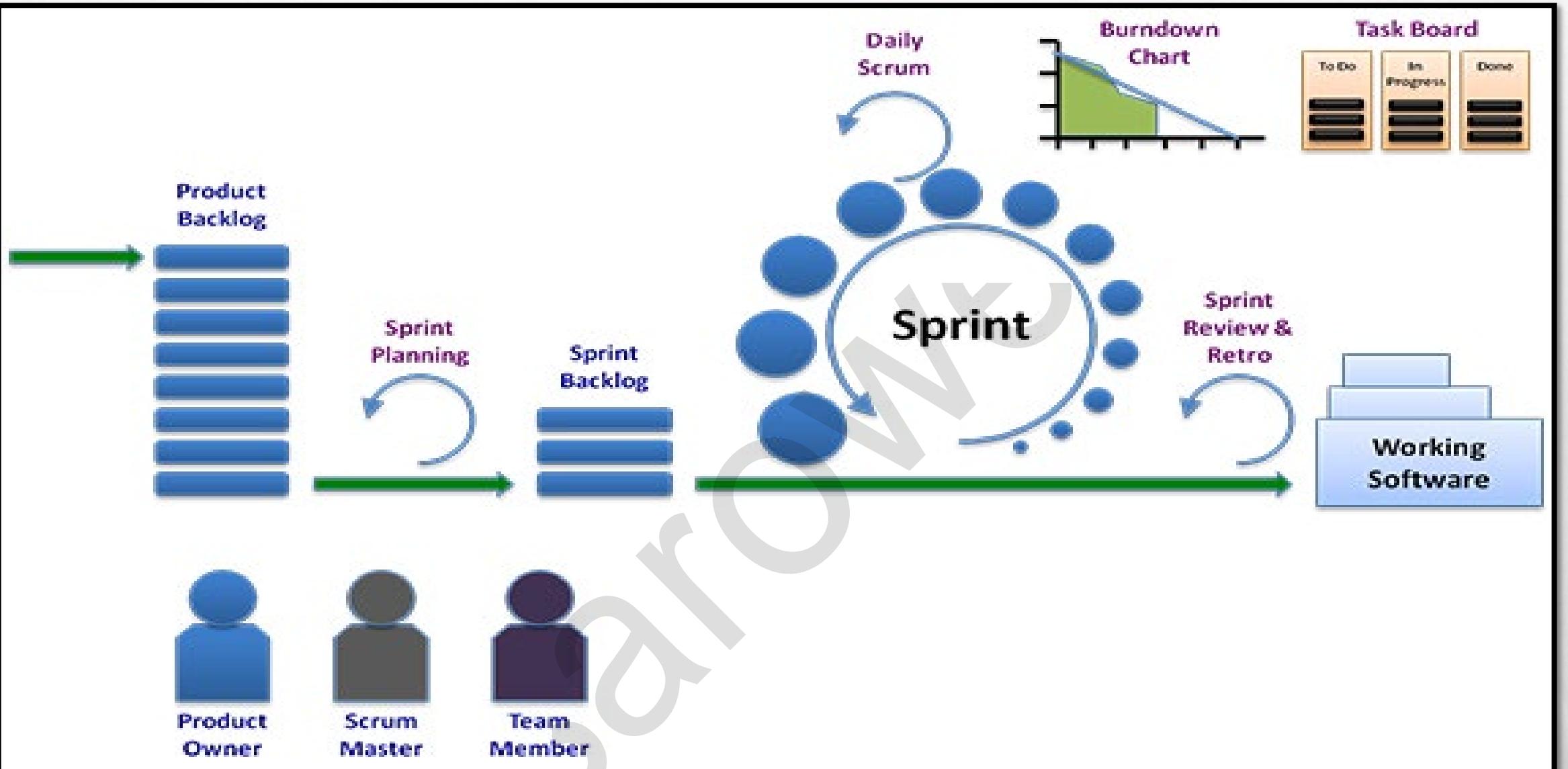
Sprint Retrospective

Is about identifying areas of improvement to make the next sprint better.

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Product Backlog

VS

Sprint Backlog

Product Backlog

- Userstory#1
- Userstory#2
- Userstory#3
- Userstory#4
- Userstory#5
- Userstory#6

DEEP

Technique

- * Detailed
- * Estimated
- * Emergent
- * Prioritized

Sprint Backlog

Sprint #1

- Userstory#1
- Userstory#2
- Userstory#3

Sprint #2

- Userstory#4

Sprint #3

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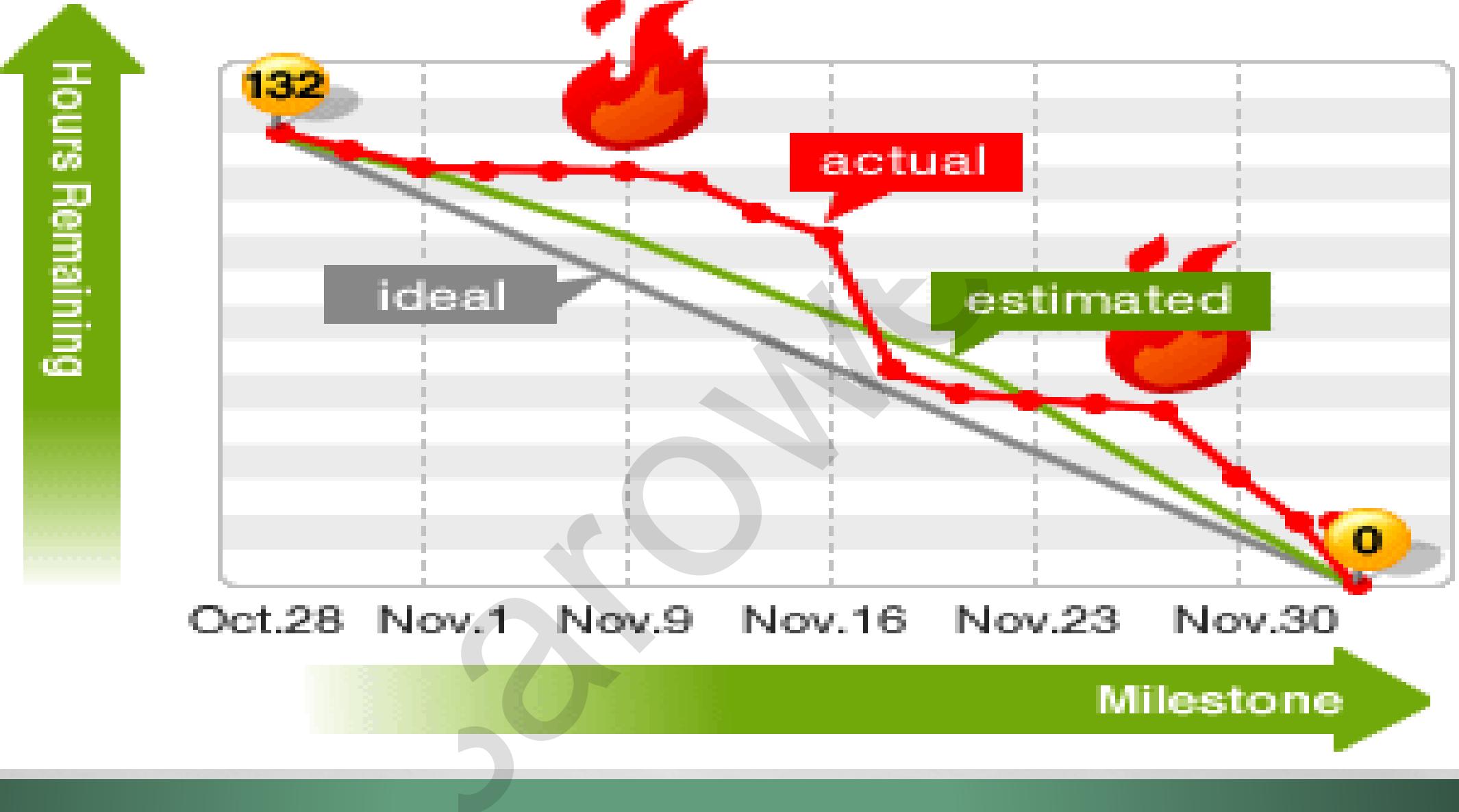
Story	To Do	In Progress	Done
Story A		Task	Task
Story B	Task	Task	Task
Story C		Task	Task

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HOW TO MEASURE PRODUCTIVITY OF TEAM MEMBERS WORKING IN AGILE SCRUM?

- **BURN DOWN CHART**
- **VELOCITY MATRIX**

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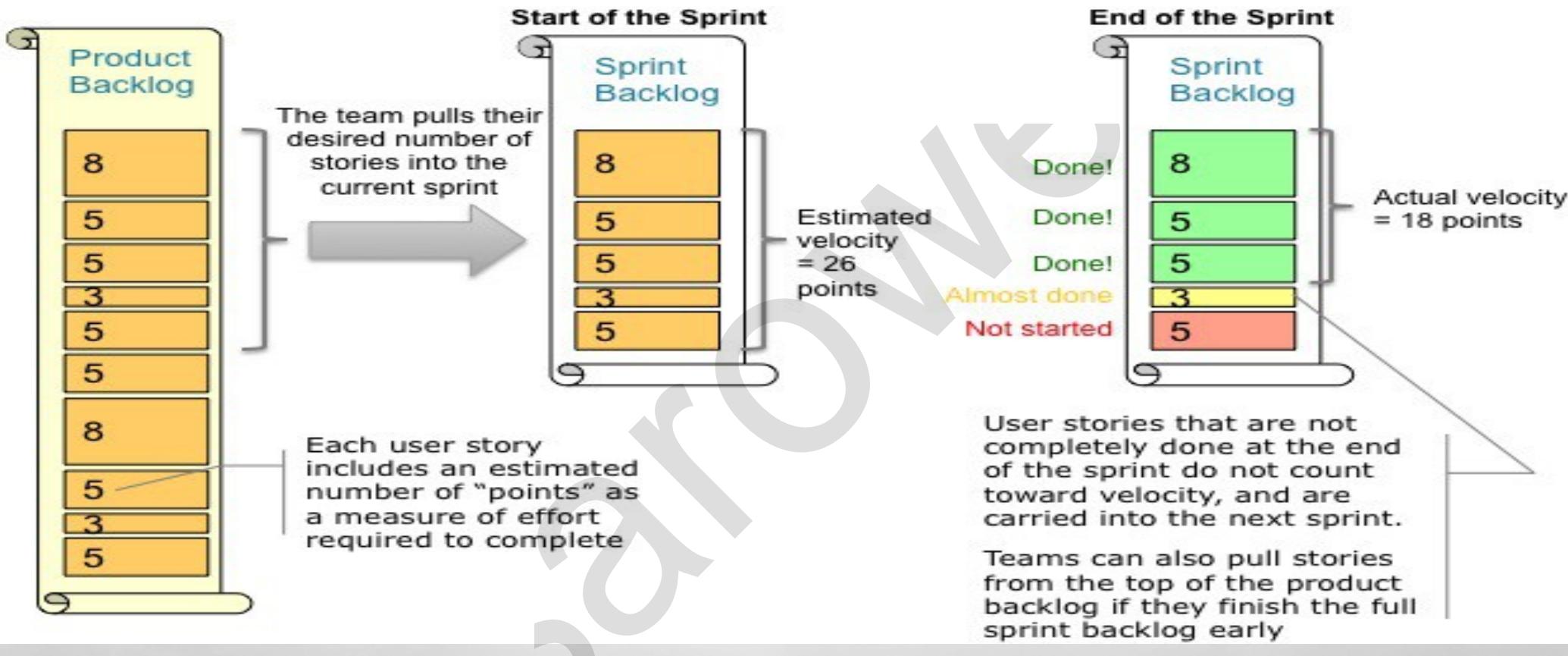
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HOW TO CALCULATE AGILE VELOCITY

- THE METRIC IS CALCULATED BY REVIEWING WORK THE TEAM SUCCESSFULLY COMPLETED DURING PREVIOUS SPRINTS;
- FOR EXAMPLE, IF THE TEAM COMPLETED 10 STORIES DURING A TWO-WEEK SPRINT AND EACH STORY WAS WORTH 3 STORY POINTS,
- THEN THE TEAM'S VELOCITY IS 30 STORY POINTS PER SPRINT.

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“Velocity” is the Key Metric in Scrum



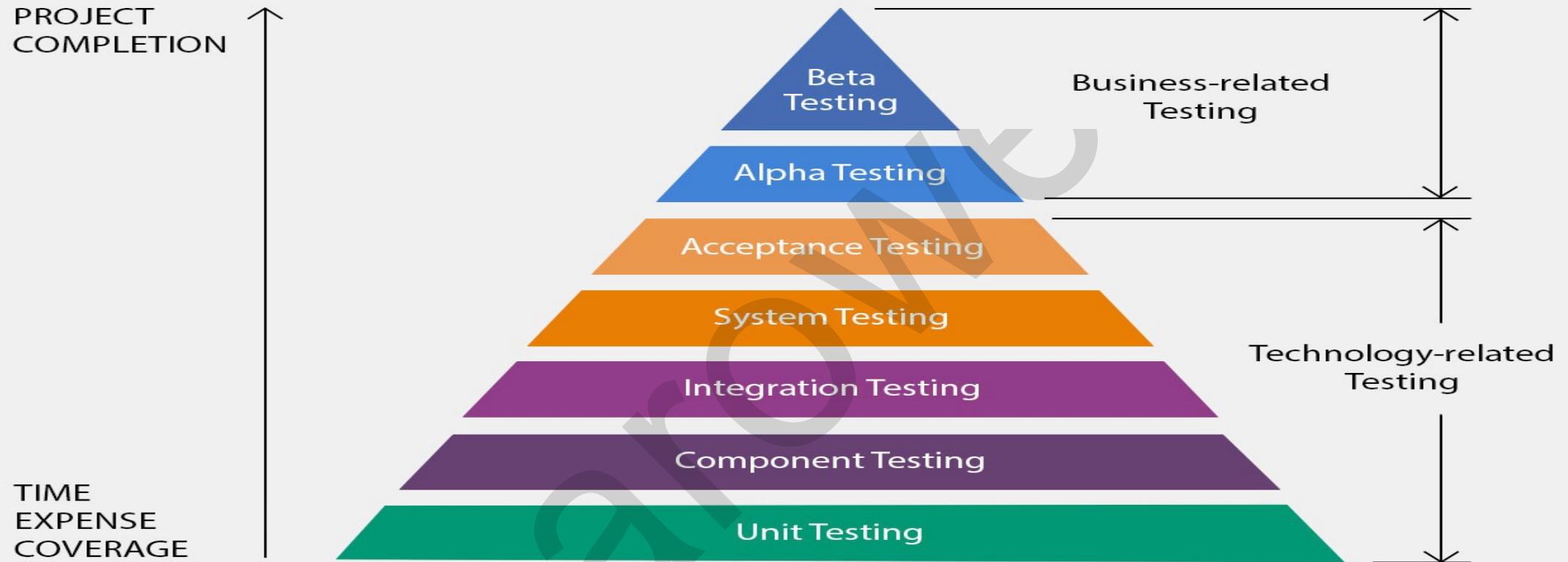
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TESTING TYPES

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AUTOMATED TESTING PYRAMID



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Alpha Test

Performed by developers

It is conducted for software application

Performed in Virtual Environment

Involve both black and white box testing

Beta Test

Performed by Customers

It is conducted for product

Performed in Real Environment

Involve both black box testing only



Unit Test

Levels of Testing

Test Individual Component

**Integration
Test**

Test Integrated Component

System Test

Test the entire System

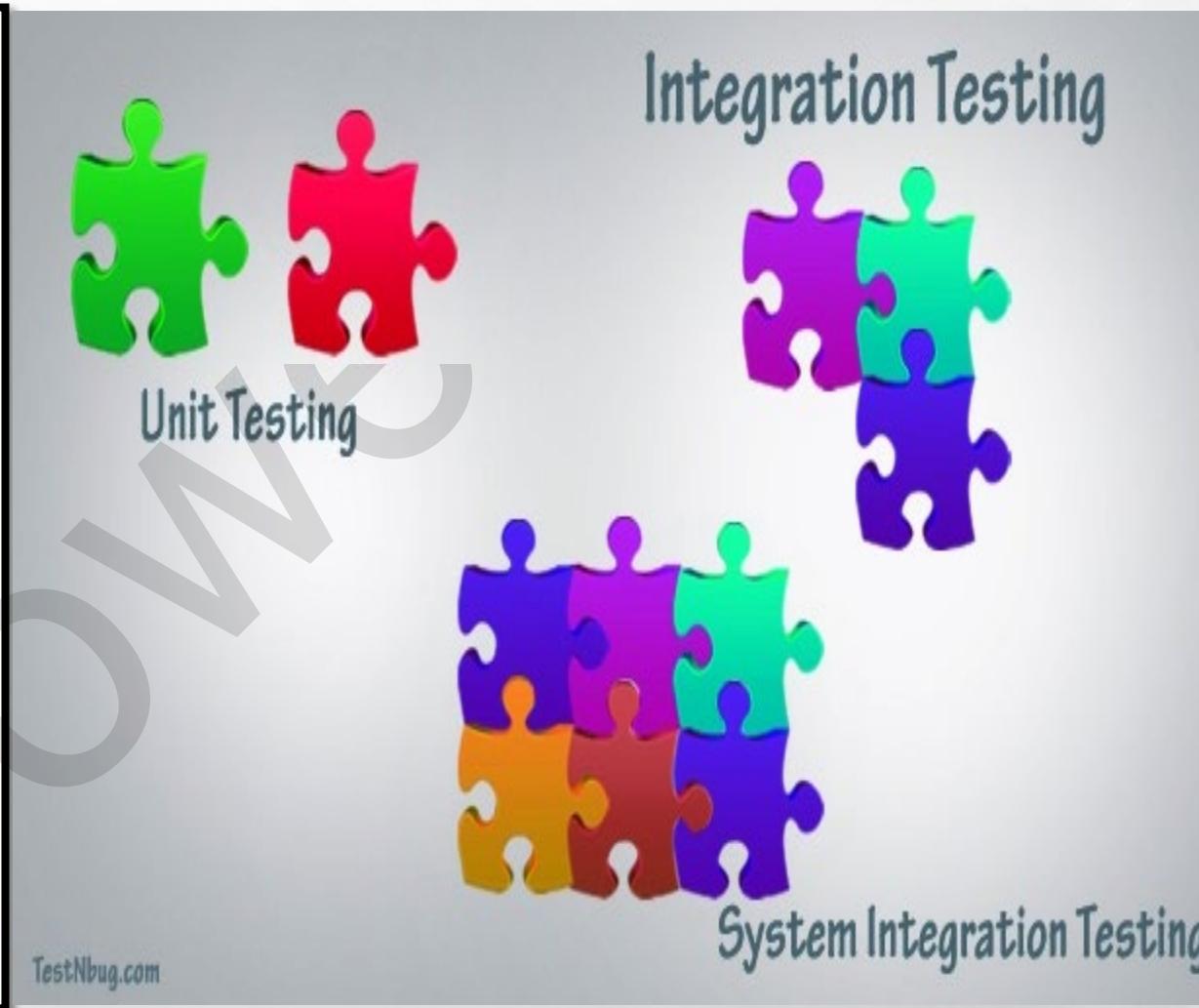
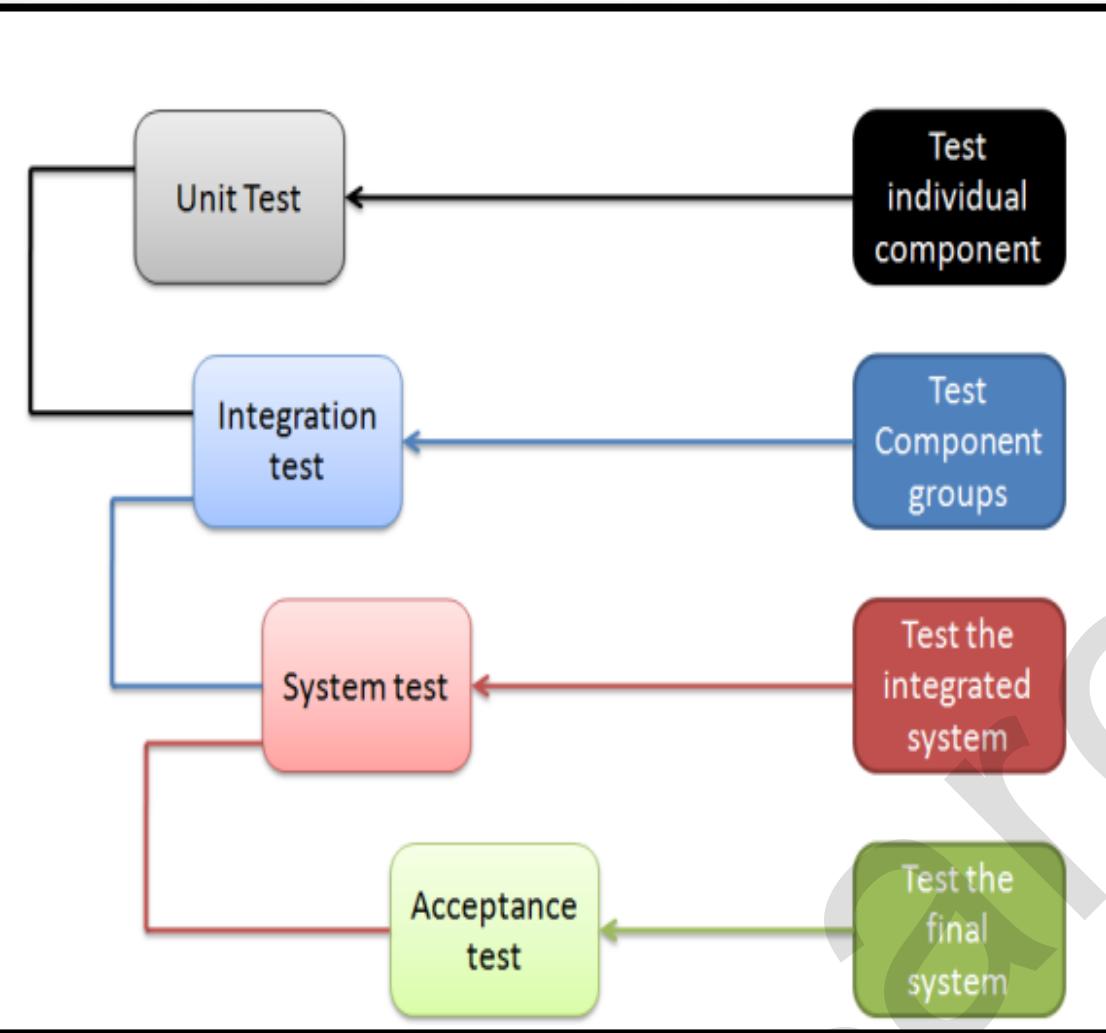
**Acceptance
Test**

Test the final System

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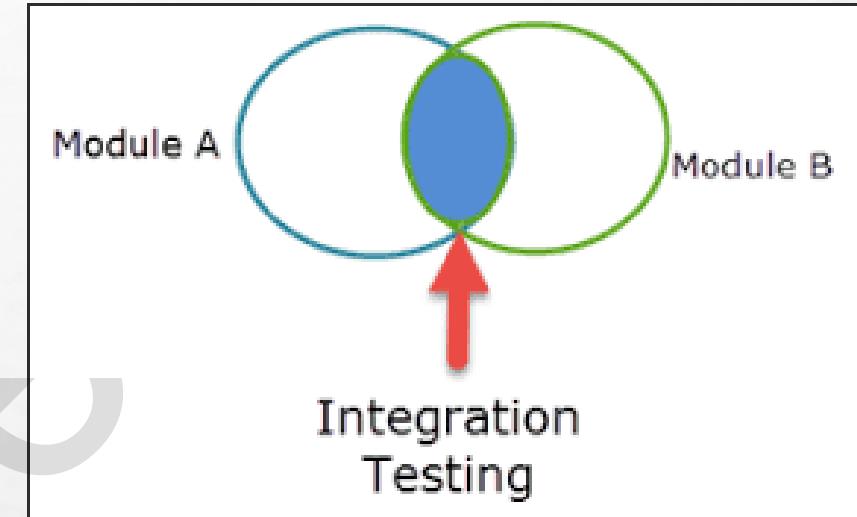
UNIT TESTING

- MEANS – TESTING EACH UNIT
- EXAMPLE - CURRENCY TESTING – 1\$/5\$/10\$/20\$..... EACH UNIT
- MANUAL UNIT TESTING – EACH TEST STEPS OR FUNCTION IS A UNIT
- AUTOMATION UNIT TESTING– EACH @TEST OR EACH LINE OF CODE IS A UNIT

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INTEGRATION TESTING

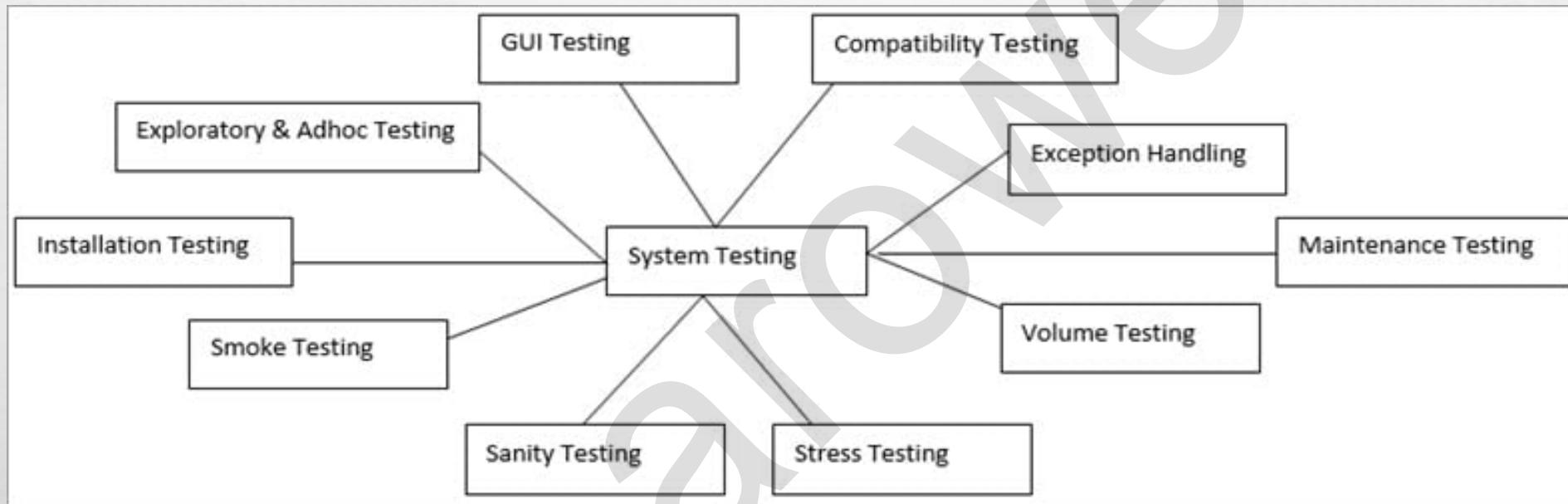
- INTEGRATION -TWO OR MORE THINGS TOGETHER TESTING
- SYSTEM INTEGRATION TESTING – TEST THE WHOLE APPLICATION OR ALL MODULE TOGETHER
- WHAT IS CONTENTIOUS INTEGRATION OR CI ?
 - IF WE INTEGRATE CONTENTIOUSLY BY A TOOL LIKE JENKINS



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SYSTEM TESTING/ SYSTEM INTEGRATION TESTING

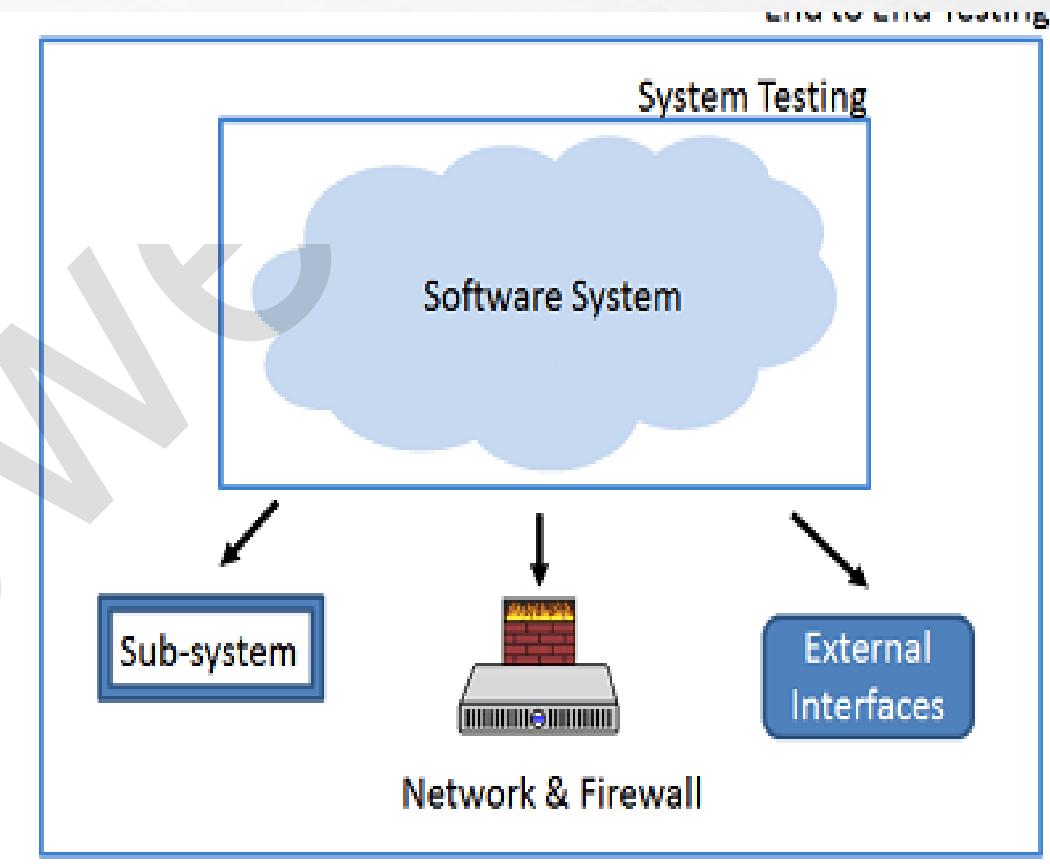
- **SYSTEM TESTING/SYSTEM INTEGRATION TESTING** -TESTING THE WHOLE APPLICATION / ALL MODULE TESTING TOGETHER



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END TO END TESTING

- **PRODUCT NEEDS TO BE A DISTRIBUTED SYSTEM - A 360-DEGREE CHECK IS REQUIRED TO ENSURE ACCURATE INTERACTION ACROSS DIFFERENT PLATFORMS & ENVIRONMENTS.**



FUNCTIONAL TESTING

- TESTING EACH AND EVERY FUNCTIONS OF APPLICATION
- WHEN – ANY FUNCTION OR FEATURE COME 1ST TIME
- APPROACH –
 - POSITIVE – ACCORDING TO REQUIREMENT
 - NEGATIVE- AGAINST THE REQUIREMENT
 - BOUNDARY – CHECKING ABOVE OR BELOW ANY NUMBER OR RANGE OF NUMBER

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Functional Testing

Unit
Testing

Integration
Testing

System
Testing

Acceptance
Testing

Non-Functional Testing

Performance
Testing

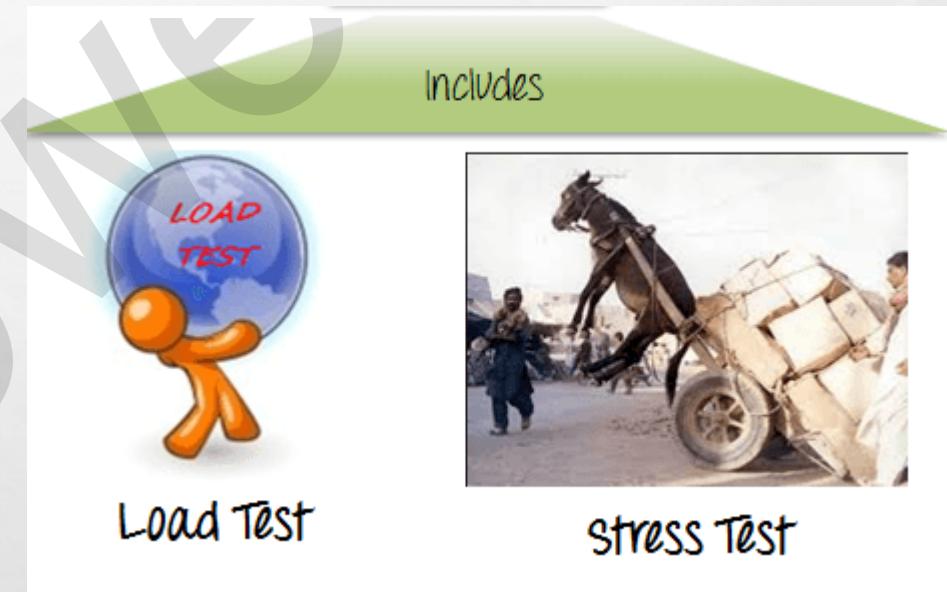
Security
Testing

Usability
Testing

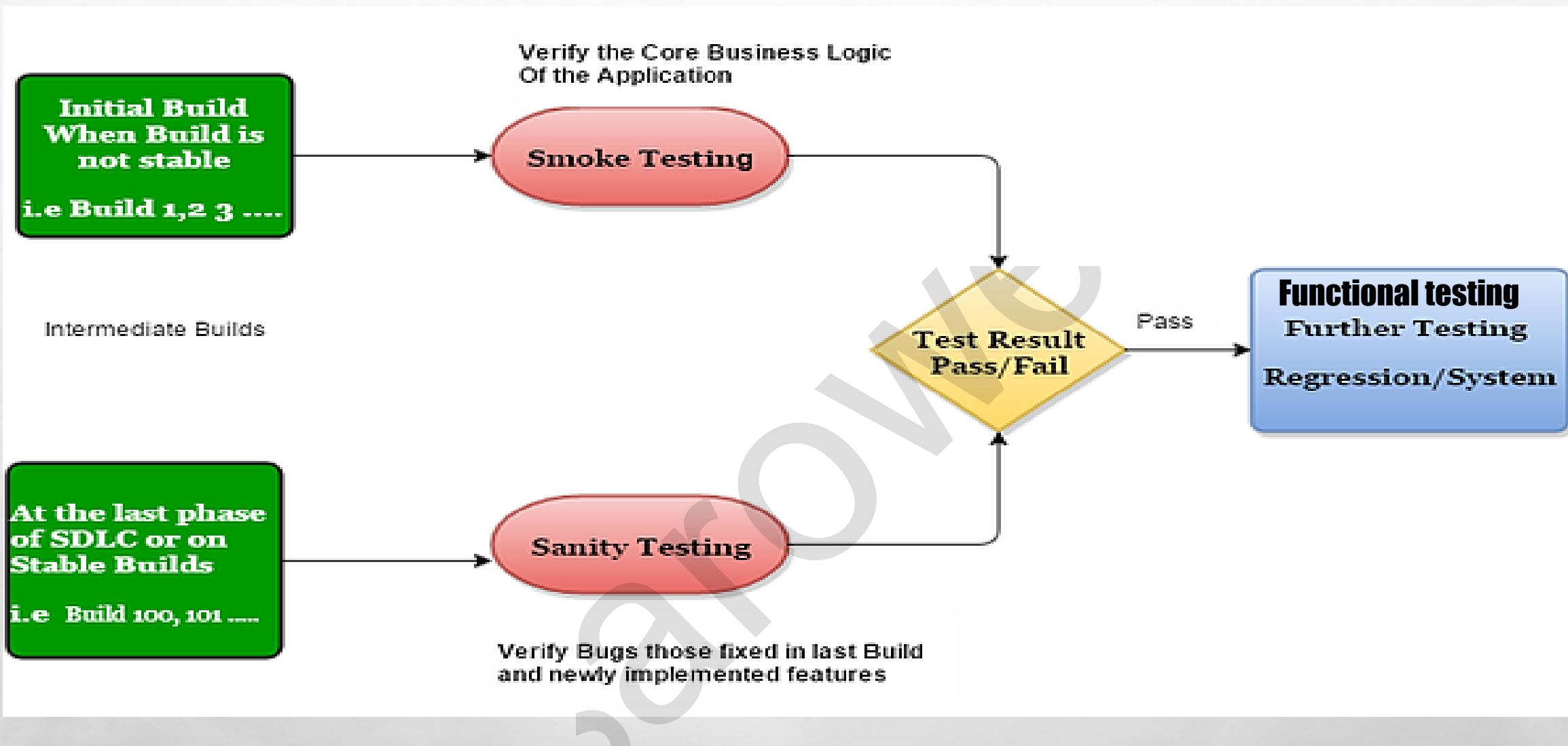
Compatibility
Testing

PERFORMANCE TESTING

- MAINLY CHECK PERFORMANCE TESTING LIKE
 - LOAD TESTING- MAX LOAD TESTING
 - STRESS TESTING- OVER THE MAX LOAD , SYSTEM BREAK POINT AND RECOVER
 - MEMORY LEAK – USE EXCESSIVE MEMORY



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SMOKE TESTING

- TESTING MOST IMPORTANT FUNCTIONALITIES LIKE LOG IN FUNCTION.
- IF LOGIN FAIL THAN CANT ENTER THE APPLICATION TO TEST OTHER PARTS OR FUNCTIONS.



- 1st test to do
- If smoke fail then no need other testing
- Usually do after any release

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SMOKE VS SANITY

Smoke Testing	Sanity Testing
It is like a general check up.	It is like a specialised check up.
NO	one kind of regression
It is usually performed by Developers and Testers.	It is usually performed by Testers.
A smoke test is usually scripted.	It is usually not scripted.
It is performed before any detail regression/functional testing.	This testing is done when developers modifies the build with minor change in code or functionality.
The objective is to discard any broken application.	The Objective is to check that the recommended functionality works as per the expectations.
This testing is shallow and wide.	This testing is narrow and deep.

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SANITY TESTING – SUBSET OF REGRESSION

REGRESSION TESTING

- Execution of Extensive list of Test Cases.
- Involves the use of scripts
- Requires sufficient and good amount of manpower.
- Regression test executions take considerable amount of time.
- Increases the Project Cost.

SANITY TESTING

- Involves limited number of test cases.
- No Scripts are required.
- Requires less manpower.
- Sanity tests take lesser time for the executions.
- No major impact on the Project cost.

REGRESSION TEST

- **TESTING ALL IMPORTANT FUNCTIONS –**
- WHEN
 - DEFECT FIXED: TEST THE DEFECT AND ALSO DEFECT RELATED ALL OTHER FUNCTION
 - NEW VERSION: TEST ALL NEW FEATURES IN NEW VERSION AND ALSO RELATED ALL MAJOR RISK AREA OR FUNCTIONS.
- TYPES:
 - REGRESSION FIX: AFTER DEFECT FIX
 - REGRESSION RISK: AFTER NEW VERSION OR NEW DATA OR EACH RELEASE IN PRODUCTION

WHAT IS RELEASE ? -

- IN EVERY 2 WKS SPRINT WE DEVELOP SMALL PART OF APPLICATION
 - WE SEND THOSE IN PRODUCTION/REAL WORLD/CLIENT ENVIRONMENT
 - USUALLY RELEASE HAPPENED IN EVER 1 TO 3 MONTHS
 - SOME COMPANY DO THE RELEASE AFTER EVERY SPRINT

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WHAT THINGS TO DO BEFORE PRODUCTION RELEASE?

- COMPLETE ALL TEST EITHER MANUAL/AUTOMATION/BACKEND AND GENERATE THE TEST REPORT
- ALL MAJOR BUG MUST BE MANAGED
- ALL (DEV, QA, UAT) NEED TO AGREE AND SIGN OFF FOR THE RELEASE

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WHAT IS YOUR RESPONSIBILITIES AFTER PROD RELEASE

- I DO SMOKE TEST – CHECK ALL IMPORTANT FUNCTIONS WITH MOUSE /KEYBOARD MEANS MANUALLY
- DO YOU RUN AUTOMATION IN PRODUCTION ENVIRONMENT ?
 - NO (MAINLY IN QA /TESTING)

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WHAT IS AD HOC TESTING?

- **AD HOC TESTING IS A COMMONLY USED TERM FOR SOFTWARE TESTING PERFORMED WITHOUT PLANNING AND DOCUMENTATION,**
- **USUALLY DO IF LESS TIME FOR DETAIL TESTING.**
- **ITS SAME AS MANUAL TESTING WITH MOUSE CLICK BUT NO TEST CASES**
- **QA NEED GOOD UNDERSTANDING OF THE APPLICATION TO PERFORMER THE TEST**
- **GOAL OF THE TEST – TO FIND BUG**

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WHEN TO RUN REGRESSION TEST

- IN EVERY NEW RELEASE
- ANY DATA REFRESH
- WHICH TEST TO DO AFTER BUG FIX?
 - RETEST (ITS LIKE REGRESSION FIX) – TEST ONLY THE DEFECT NOT OTHER AREA OR FUNCTIONS

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User Acceptance Testing (UAT)

- ▶ **User Acceptance Testing (UAT)** is a process to obtain confirmation that a system meets mutually agreed-upon requirements.



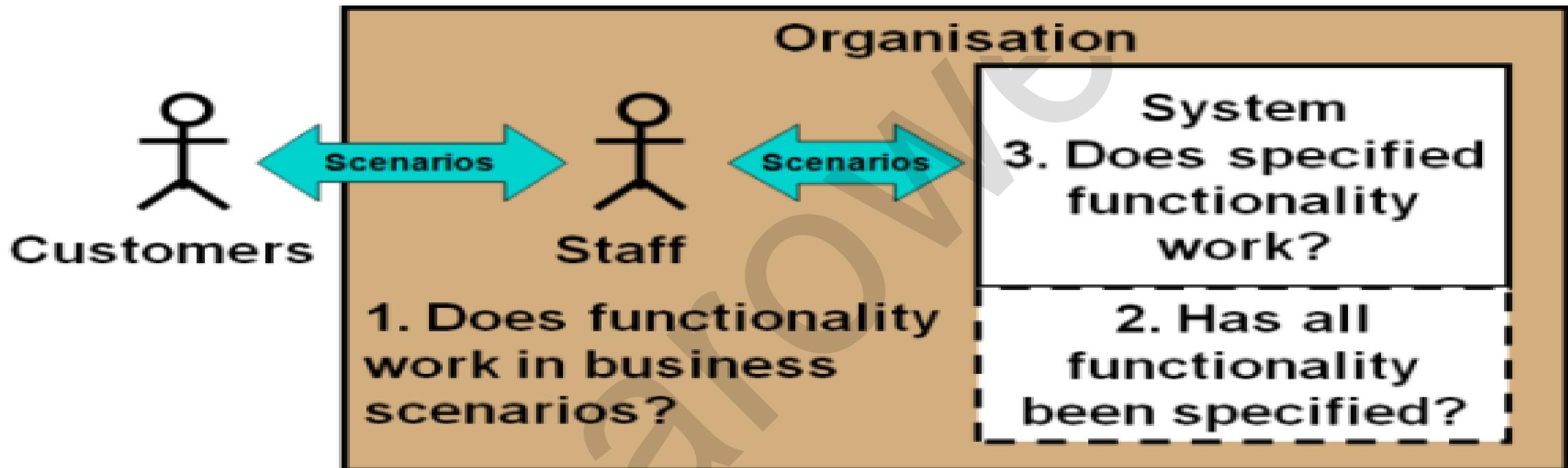
UAT TEST TEMPLATE

Number	Acceptance Requirement	Critical		Test Result		Comments
		Yes	No	Accept	Reject	
1	The system must execute to end of job.	✓				Payroll will not run in a production status until this requirement has been met.
2	The results of payroll must be correct.	✓				Payroll will not run in a production status until this requirement has been met.

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UAT Objectives

Outside World



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Other important testing types

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Evaluation Of Web Accessibility Under

Section



508 Testing

- ▶ Section 508 Compliance Testing ensures that the software meets 508 Compliance requirements.
- ▶ Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals.

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TESTING DIFFERENT ENDS

- FRONT END TESTER – TESTING GUI OR BROWSER SIDE
- MIDDLE END / WEB SERVICE (SOAP /REST) = TESTING WEB SERVER
- BACK END TESTER – TESTING DATA BASE DATA (SQL)

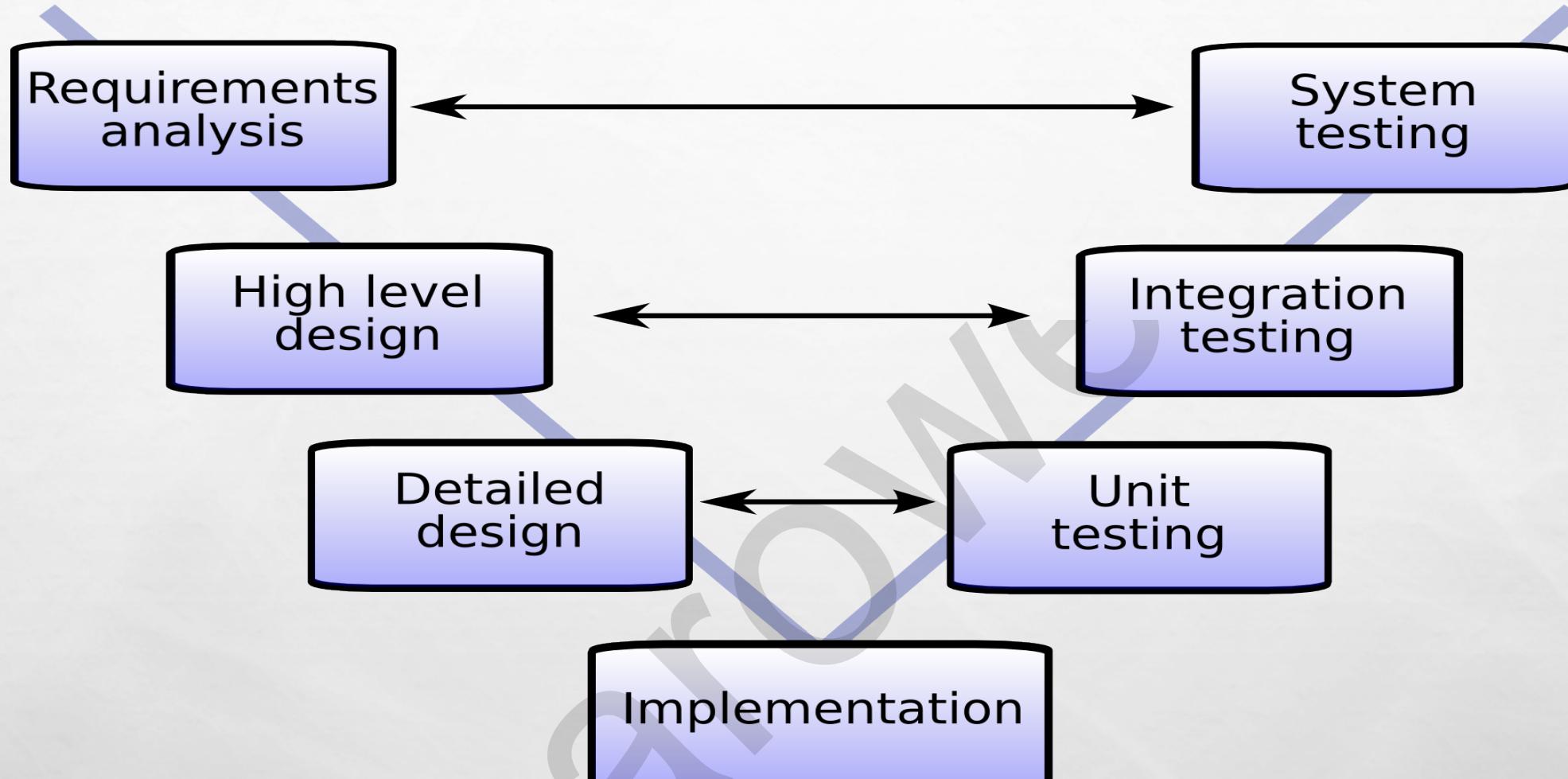
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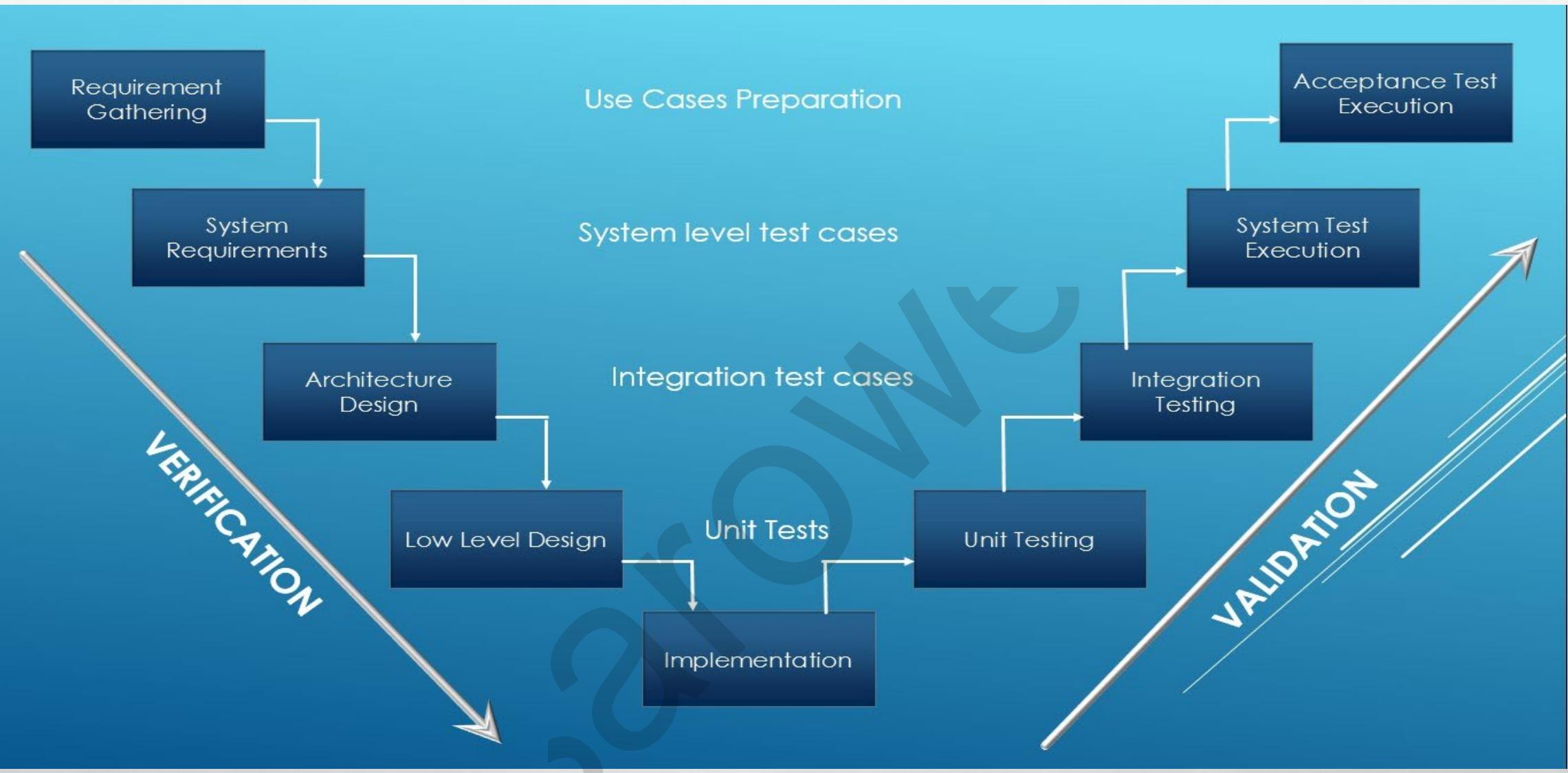
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VERIFICATION VS VALIDATION

- **VERIFICATION :**

- **MANUAL**

- MATCH REQUIREMENTS WITH THE NEW BUILD APPLICATION

- **AUTOMATION :**

- JAVA IF ELSE CONDITION

- SOFT ASSERT(TESTNG / JUNIT)

- **VALIDATION :**

- **MANUAL :** MATCH APPLICATION FUNCTIONS AS PER REQUIREMENTS

- **AUTOMATION:**

- HARD ASSERT OR ASSERT(TESTNG /JUNIT)

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JIRA

- **IT'S A MANUAL TOOL**
- **AGILE MANAGEMENT TOOL**
- **OPEN BUG FROM JIRA DASHBOARD + SIGN**
- **CONFLUENCE – ALL DOCUMENTS AND TEST CASES**

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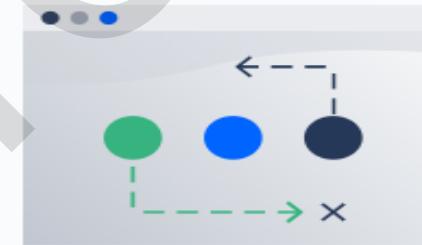
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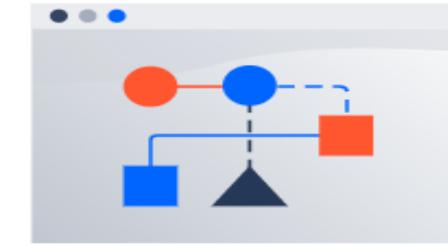
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Welcome!

Choose an option below to get started.



See a project in action

Create and explore a project that's pre-loaded with sample data.

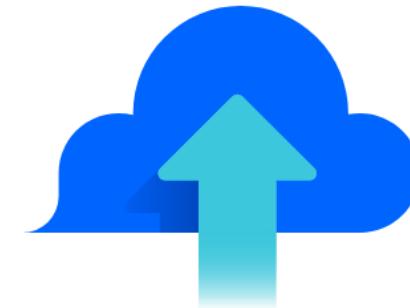
[Create sample project](#)



Create a new project

No time to waste! Get stuck in and create your first project in Jira.

[Create new project](#)



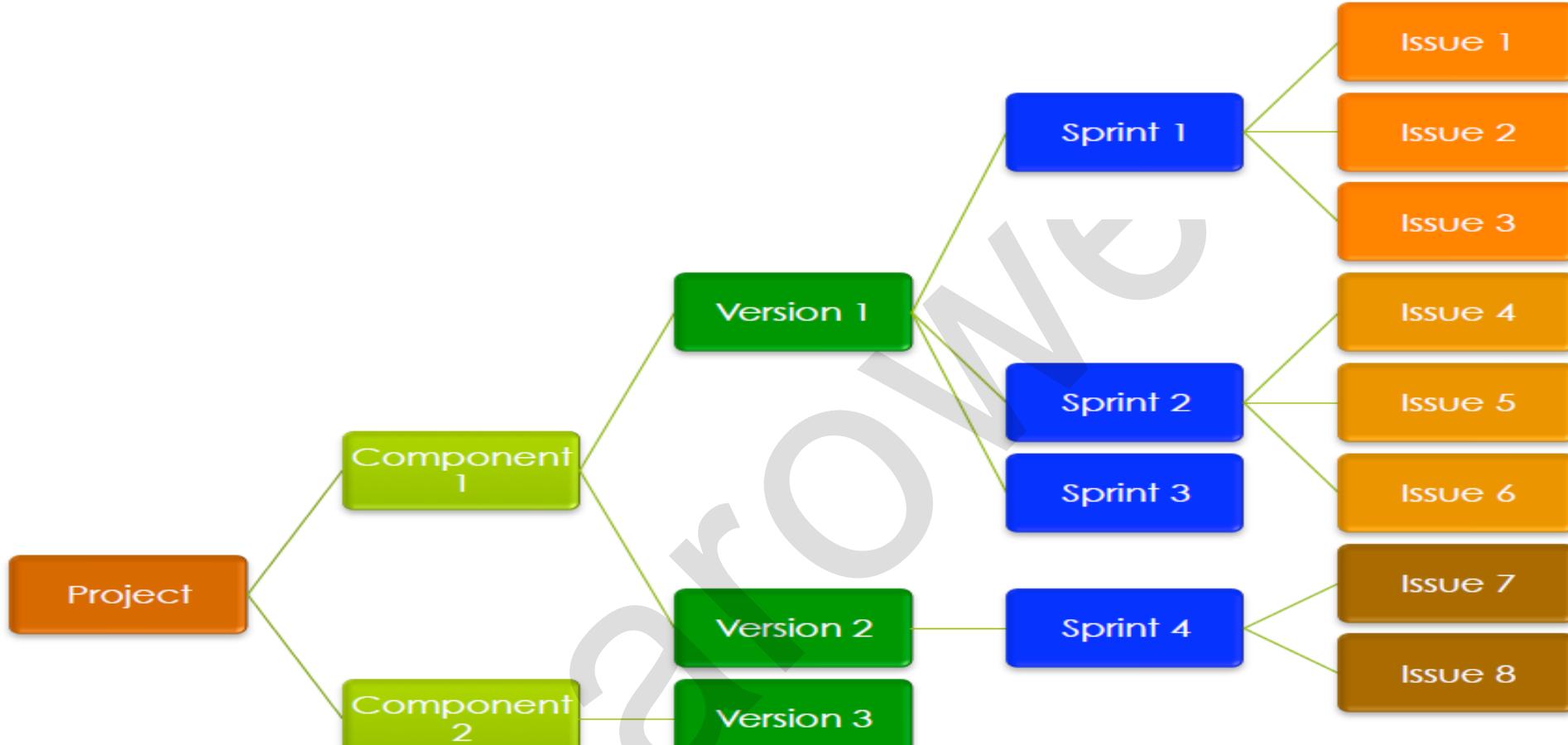
Import from another tool

Switching to Jira from another issue tracker? Quickly import your issues.

[Import issues](#)

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JIRA Structure



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COMPONENT: DIVIDED PROJECT INTO SMALL PART

The screenshot shows the 'Capture for JIRA' interface. On the left, there's a sidebar with icons for Issues, Reports, Releases, Components, and Test Sessions. The 'Components' icon is highlighted. The main area displays a table of components and their associated issues. A search bar at the top right says 'Contains text...'. The table has columns for Component, Issues, Lead, and Description.

Component	Issues	Lead	Description
Browser Extension	469 Issues		
Build System	8 Issues		
Create Issue	67 Issues		
Documentation	9 Issues		Anything relating /BONFIRE/
IE Installer	5 Issues		
Licensing	1 Issue		
Screenshots	85 Issues		
Server Plugin	170 Issues		
Templates	48 Issues		
Test Sessions	138 Issues		
Variables	25 Issues		

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Issue Types

● Issues

- Epic 
- Story 
- Bug 
- Improvement 
- Task 
- New Feature 
- Risk 

● Sub-Issues

- Technical Task 
- Sub-Bug 

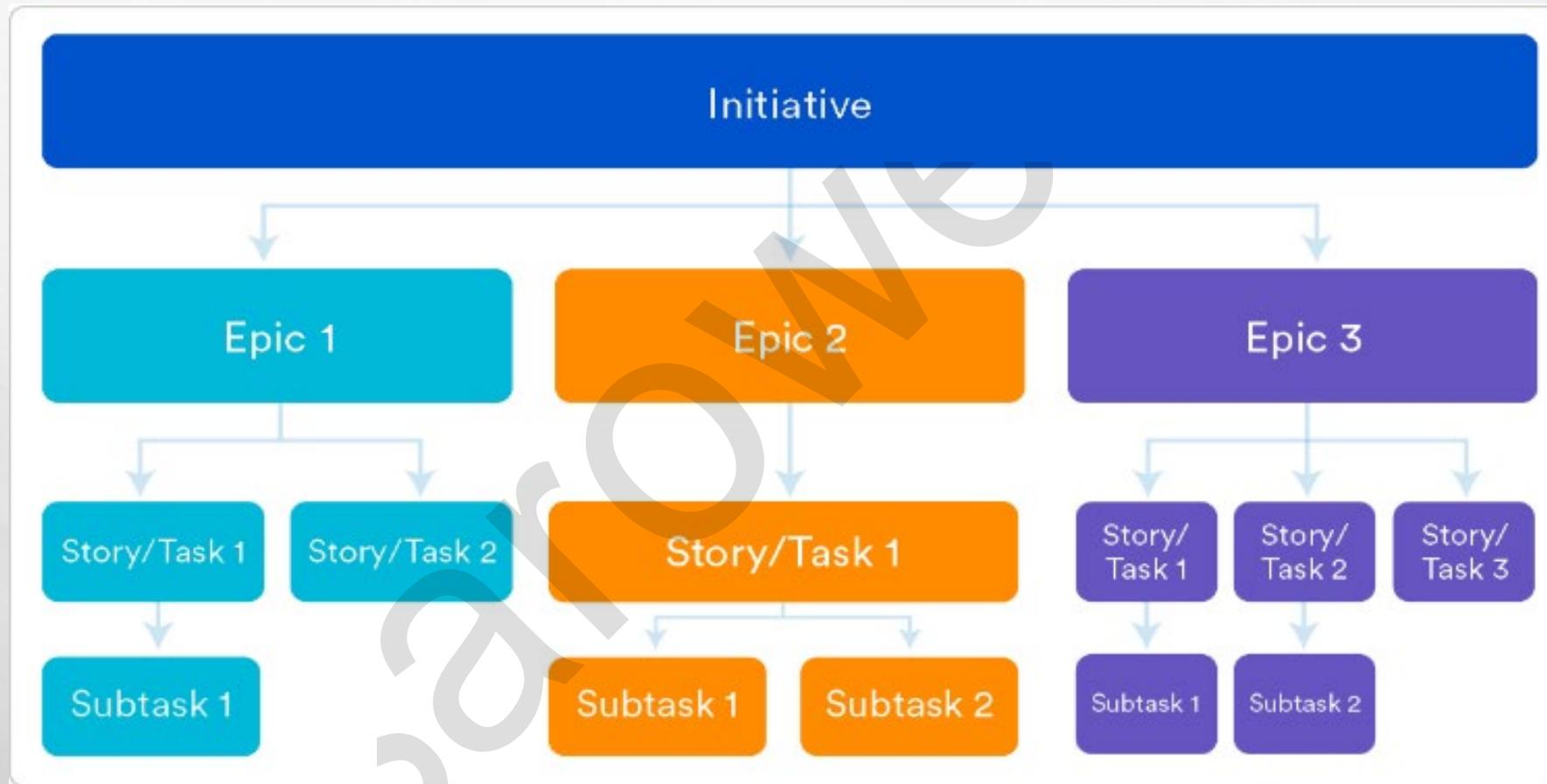


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EPIC>STORY/TASK/ITEM

Epic	Story	Version	Sprint
Large body of work, contains stories	Smallest unit of work, also known as a task	The release of software to the customer	Iteration where team does the work

EPIC VS STORY



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WHAT IS A USER STORY/STORY/TASK?

- THE USER STORY DESCRIBES THE TYPE OF USER,
 - WHAT THEY WANT AND
 - WHY.
-
- A USER STORY HELPS TO CREATE A SIMPLIFIED DESCRIPTION OF A REQUIREMENT.

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WHAT IS A VERSION?-IT'S A PIECE OF PRODUCT OR FUNCTIONS

- VERSIONS ARE THE ACTUAL RELEASES OF SOFTWARE OUT TO CUSTOMERS.
- WE CAN MAINTAIN RELEASE BUILD HISTORY WITH VERSION.
- **EXAMPLE OF A VERSION**
- A PRODUCT OWNER MAY STRUCTURE THE RELEASE STRATEGY AS FOLLOWS:
- V 1: LOGIN, LOGOUT, PASSWORD MANAGEMENT
- V1.2: PURCHASE HISTORY
- V 1.3: SAVING PREFERENCES
- V 2 : REFRESH DATA

HOW TO USE AGILE METRICS TO OPTIMIZE YOUR DELIVERY IN JIRA?

- DEFECT STATUS DASHBOARD – ALL MAJOR DEFECT MUST MANAGE 1ST
- SPRINT BURN DOWN
- EPIC AND RELEASE BURN DOWN
- VELOCITY
- CONTROL CHART
- CUMULATIVE FLOW DIAGRAM
- EVEN MORE METRICS!

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THANKS TO ALL

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