IT Bootcamp

Introduction to Software Testing

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Beograd, septembar 2018

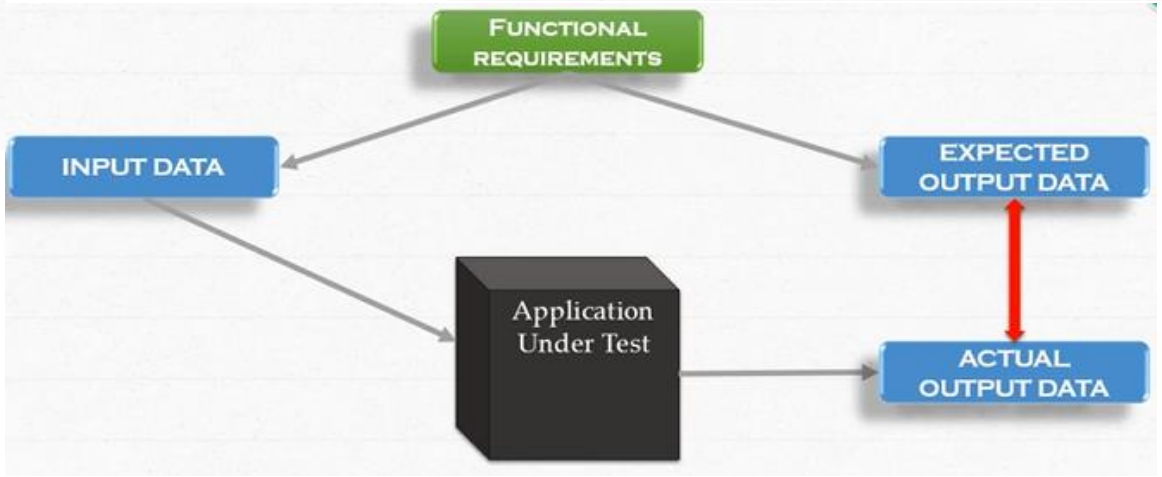
Testing types

FUNCTIONAL TESTING

- Program Behavior versus Requirement Specification
- Test Suite Execution
- Black Box Testing
- Testing Functionality, not Functions (or Modules)

TYPES OF FUNCTIONAL TESTING

- Smoke Testing
- Sanity Testing
- Regression Testing
- Usability Testing



Testing types

NON-FUNCTIONAL TESTING

- Test for non-functional requirements
- Quality characteristics
- Not related to specific function or user action

LOAD TESTING

- System's behavior under expected load conditions
- Identify the maximum operating capacity and bottlenecks

PERFORMANCE TESTING

- Metrics
  - Speed
  - Scalability
  - Stability
- Testing and tuning
  - Response time
  - Throughput
  - Resource utilization

STRESS TESTING

- Deliberate intense testing
- Test the system up to breaking point
- Some bugs surface only under high load
- Spike testing

SECURITY TESTING

- Reveal flaws in security mechanisms
- Security requirements
  - Confidentiality
  - Integrity
  - Authentication
  - Non-repudiation

Testing types

SMOKE TESTING

- Smoke test originates from Hardware testing
- Hardware is connected to mains and is turned on.
  - If there is no smoke then the test is successful
  - If there is smoke then the test fails
- Smoke testing is very basic and simple test

- Also known as build verification testing(BVT)
- Build - new version of software created
  - After making changes to code, fixing bugs, adding new functionalities etc
- If the build is stable, test further
- Cost effective method
- If smoke-test fails then the build is rejected

Testing types

SANITY TESTING

- Sanity means rationality or soundness
- Rules out some definitely false results
- Rule of thumb is used
  - Principle that helps to identify incorrect results
- Performed after build is deployed
  - QA environment – QA team
  - Production environment - Operations team
- Advantage - Speed

Select test-cases from
-Unit Tests
-Component Tests

- Sanity check for Development environment
- Saves time and effort in the STLC

Testing types

REGRESSION TESTING

- Form of Functional Testing
- Regress - Return to previous, usually to a worse state
- Performed whenever changes are made to the code
  - Changes - enhancements, patches or configuration.
- It is also conducted when there is a new version of existing software
- Select a subset of existing test cases
- Goal is to ensure changes don't break something else in the application
- Automated or manual regression testing?
  - Depends on the software & number of test-cases

Software Testing Life Cycle

TEST PLANNING

- First phase in STLC
- Testing is a complex process
- Make sure testing identifies as many errors as possible
- Quality software
- Efficiency

TEST PLAN ELEMENTS

1. Plan Identifier
2. Test Items
3. Features to be tested
4. Features not to be tested
5. Test Approach
6. Pass/Fail Criteria
7. Suspension Criteria
8. Test Deliverables
9. Environmental Needs
10. Staffing & Training Needs
11. Scheduling
12. Risks and Contingencies
13. Approvals

TEST PLAN

- Managerial Document
- Maps the tests to requirements
- Entry and Exit Criteria
- Strategy
- Schedule
- Resources & Environment

Software Testing Life Cycle

TEST DESIGN

- Creating and Writing Test Suites
- Test Case – Basic unit of Testing
- Test Results – Provide Basic Measure of Quality
- Defects are raised for failed tests

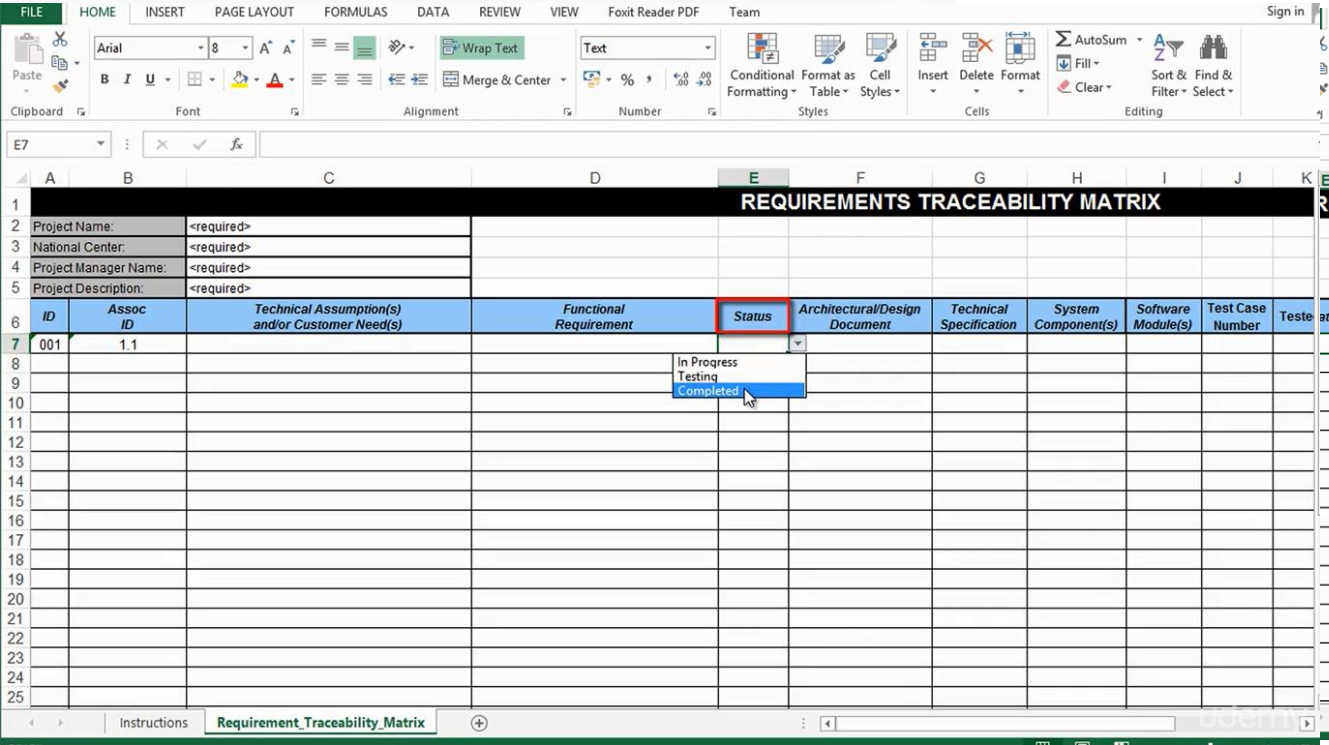
TEST DESIGN REQUIREMENTS

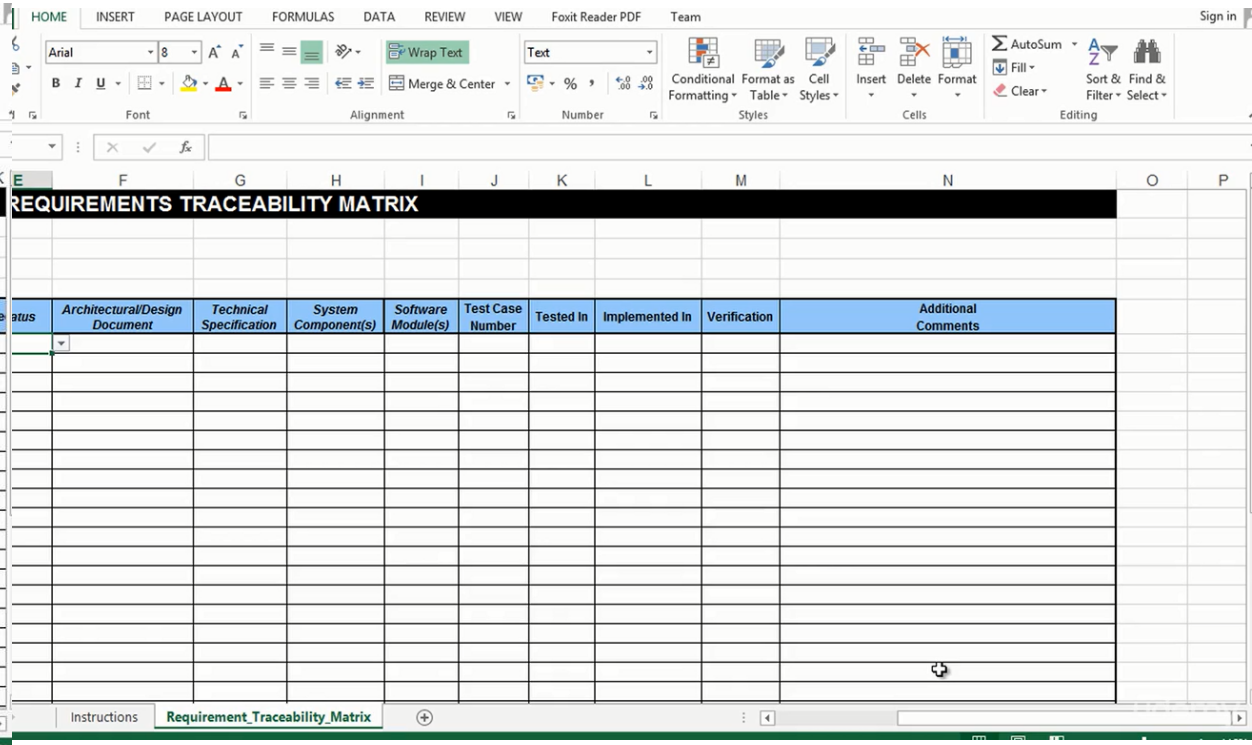
- Software and Business Area
- Functionality being tested
- Testing techniques and Heuristics
- Planning skills

Software Testing Life Cycle

Requirements Traceability Matrix (RTM)

- A key-tool in software testing project management
- Every customer requirement and every test-case are mapped to each other
- Tracks and validates all the requirements

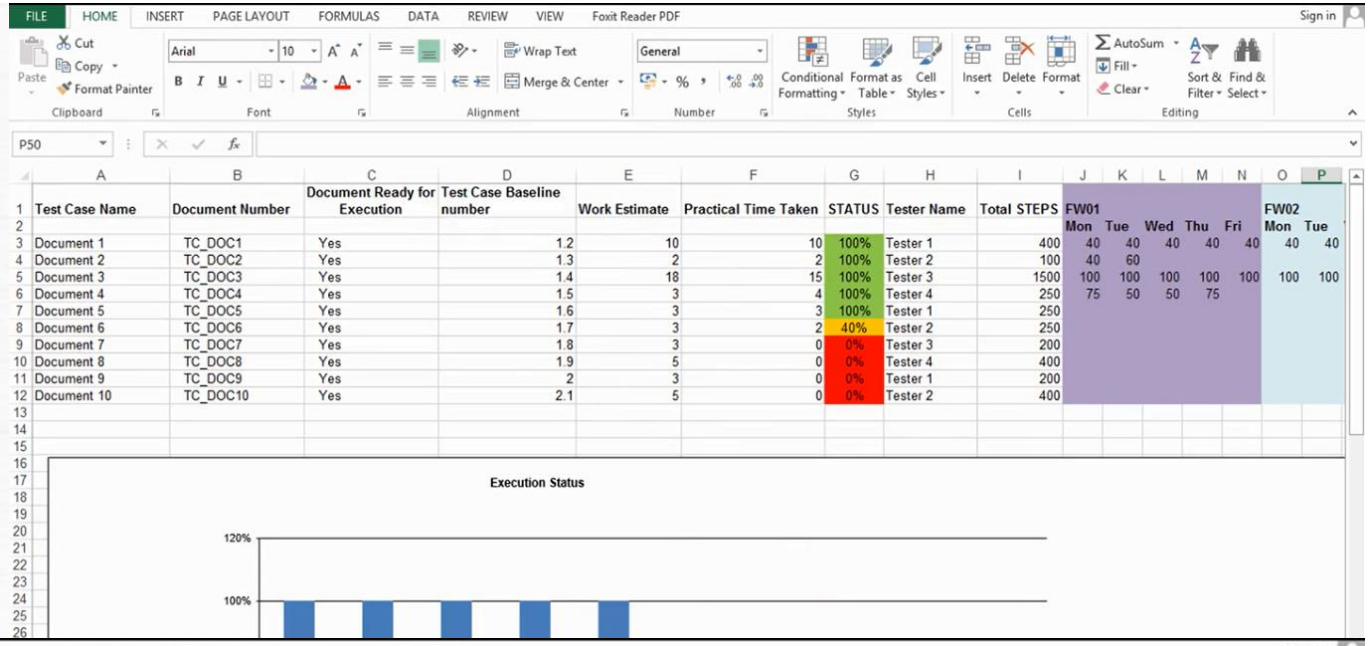




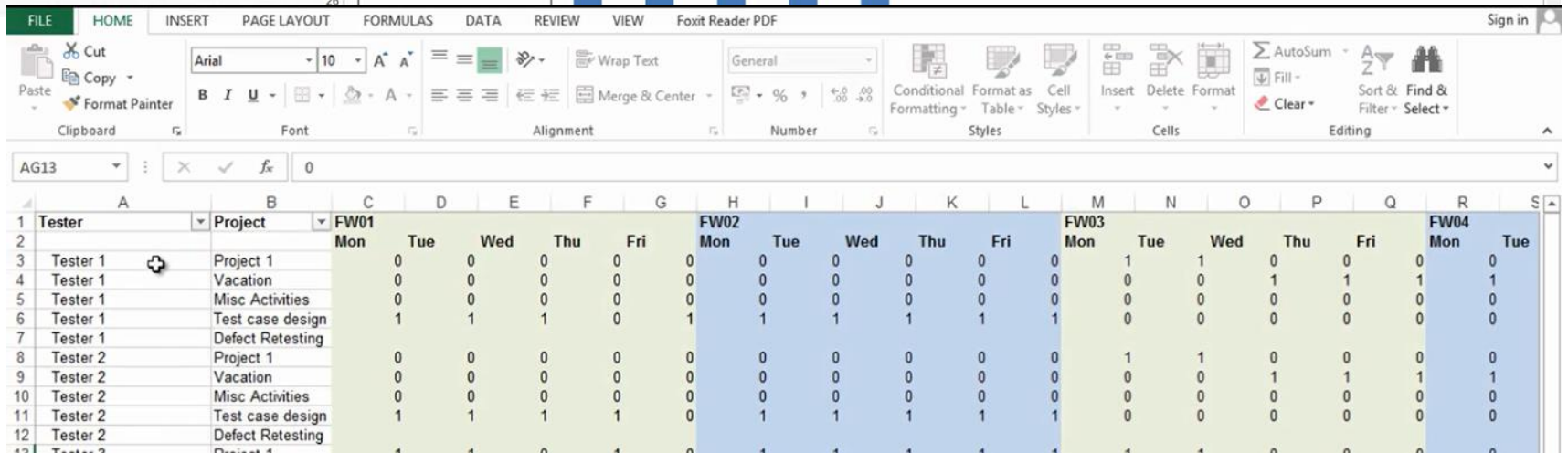
Software Testing Life Cycle

Test Execution

- Execute the code using the test-cases as reference
- Actual v/s Expected Results
- Test environment should be configured correctly
- Select a subset of test-cases for current cycle
- Assign the test-cases to testers & monitor the progress



Test Case Name	Document Number	Document Ready for Execution	Test Case Baseline number	Work Estimate	Practical Time Taken	STATUS	Tester Name	Total STEPS	FW01 Mon	FW01 Tue	FW01 Wed	FW01 Thu	FW01 Fri	FW02 Mon	FW02 Tue
Document 1	TC_DOC1	Yes	1.2	10	10	100%	Tester 1	400	40	40	40	40	40	40	40
Document 2	TC_DOC2	Yes	1.3	2	2	100%	Tester 2	100	40	60					
Document 3	TC_DOC3	Yes	1.4	18	15	100%	Tester 3	1500	100	100	100	100	100	100	100
Document 4	TC_DOC4	Yes	1.5	3	4	100%	Tester 4	250	75	50	50	75			
Document 5	TC_DOC5	Yes	1.6	3	3	100%	Tester 1	250							
Document 6	TC_DOC6	Yes	1.7	3	2	40%	Tester 2	250							
Document 7	TC_DOC7	Yes	1.8	3	0	0%	Tester 3	200							
Document 8	TC_DOC8	Yes	1.9	5	0	0%	Tester 4	400							
Document 9	TC_DOC9	Yes	2	3	0	0%	Tester 1	200							
Document 10	TC_DOC10	Yes	2.1	5	0	0%	Tester 2	400							



Tester	Project	FW01 Mon	FW01 Tue	FW01 Wed	FW01 Thu	FW01 Fri	FW02 Mon	FW02 Tue	FW02 Wed	FW02 Thu	FW02 Fri	FW03 Mon	FW03 Tue	FW03 Wed	FW03 Thu	FW03 Fri	FW04 Mon	FW04 Tue
Tester 1	Project 1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	
Tester 1	Vacation	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	
Tester 1	Misc Activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tester 1	Test case design	1	1	1	0	1	1	1	1	1	1	0	0	0	0	0	0	
Tester 1	Defect Retesting																	
Tester 2	Project 1	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	
Tester 2	Vacation	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1	
Tester 2	Misc Activities	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Tester 2	Test case design	1	1	1	1	0	1	1	1	1	1	0	0	0	0	0	0	
Tester 2	Defect Retesting																	

Software Testing Life Cycle

Test Result Reporting

- Maintains transparency of the testing process
- State of the product from different perspectives
- Format depends on
  - Stage of the testing
  - Type of testing approach

Format of Test Result Report

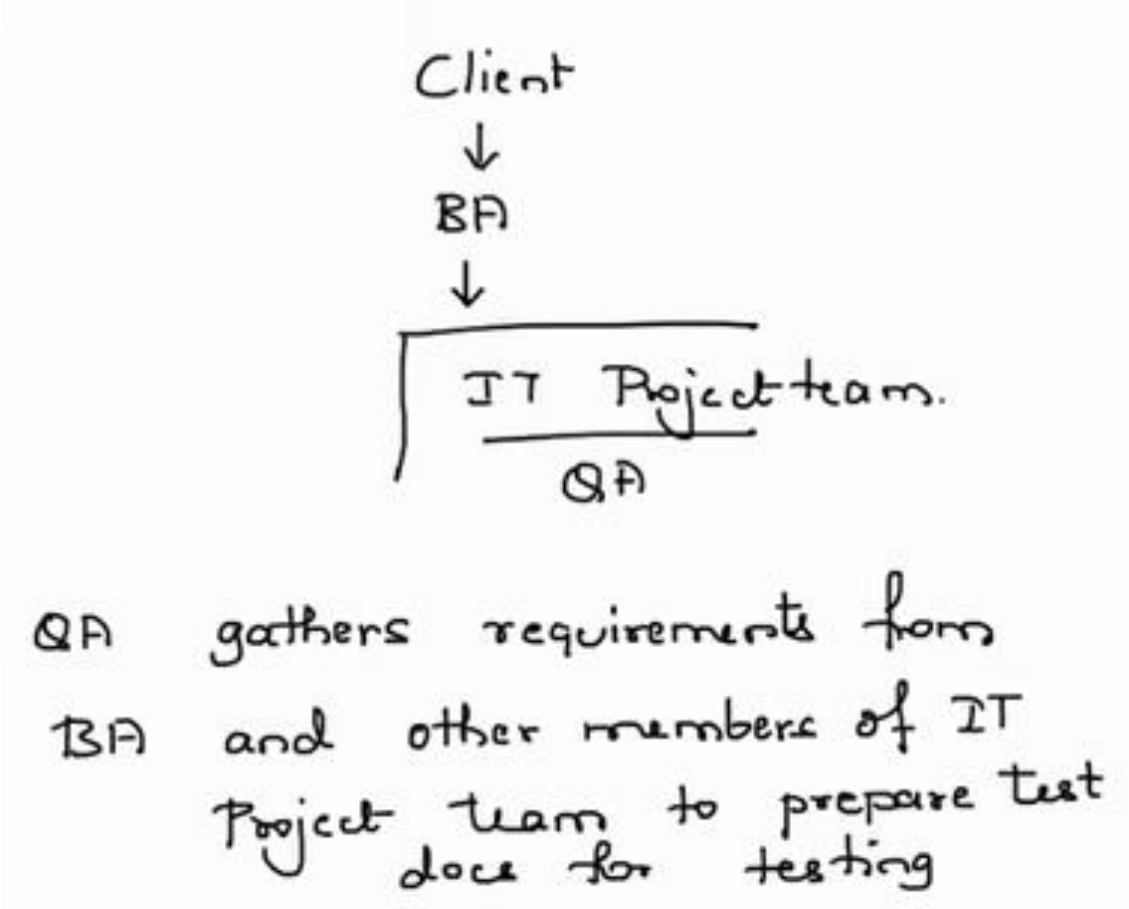
- Provide high level picture of the product
- People at all levels should be able to understand
- Project Manager
  - Performance, Limitations
- Team Lead
  - Number and types of defects

Importance of Test Result Reporting

- Insight into reasons for failure(if any)
- Performance of the software product
- Unbiased opinion about the product
- Reveals strengths & limitations
  - *Whether to release the product?*

Manual Testing

Test requirement gathering
Test plan and analysis
Test design
Test implementation & execution
Test execution
Defect reporting & tracking
Test closure



Manual Testing – Test Plan

<Project Name/Module Name>
Software Test Plan

V1.0

	Name	Role	Date
Prepared By		Test Lead	
Reviewed By		Test Manager	
Approved By		Project Manager	

A-Added, M-Modified, D-Deleted

list of changes

Sno	Date	Version No	Page No	Change Mode (A/ M/D)	Brief Description of Change
. .	. .	. .			

Contents

Manual Testing – Test Plan

1. Introduction

The Software Test Plan (STP) is designed to prescribe the scope, approach, resources, and schedule of all testing activities. The plan must identify the items to be tested, the features not to be tested, the types to be performed, the personnel responsible for testing, the resources and schedule required to complete testing, and the risks associated with the plan.

Objectives

The objective of the Test Plan is:

a) To identify the components or modules to be tested.
b) To identify and determine the resources required performing the testing process.
c) To identify and estimate the task schedules for each level of testing process.
d) To define the test deliverables.

Scope

Testing will be performed in several points in the life cycle as the product is constructed. Testing is a very "dependent" activity. As a result, test planning is a continuing activity performed throughout the system development life cycle. Test plans must be developed for each level of testing.

The scope of this Test Plan document is the testing process for entire <name of the project> Software.

Referential Material

a) FRS Documents, Descriptions, Proto Type, Page Elements and Test Data Documents, Data Flow Diagrams.

2. Test Items

Program Modules

This section outlines testing to be performed by the developer for each module being built.(UNIT TESTING INTEGRATION TESTING)

User Procedures

This section describes the testing to be performed on all user documentation to ensure that it is correct, complete, and comprehensive.

3. Features to Be Tested

The features to be tested within <project Name>Software are classified under the following modules as:
<module1>
<module2>
<module3>

4. Features Not To Be Tested

<Module 4>
<Module 5>

5. Approach

Smoke Testing

Initial testing done to check and ensure the availability of the major functionalities in the AUT which is done by Test lead or Test Manager.

Manual Testing – Test Plan

6. Pass/Fail Criteria

Suspension Criteria

a) When the AUT is failed in the Build Acceptance Testing.
b) Whenever there is a Change Request.
c) Delay in publishing the input documents.
d) Based on the input validations.

Approval Criteria

When the status of the bugs in the Defect profile is "Closed" and result column in the TCD (test Case Document) is "Pass". This ensures the proposed functionalities are justified in the System.

7. Testing Process

Test Deliverables

a) Test Case Documents.
b) Test Execution Reports.
c) Prepare defect report using Concern Tool.

Testing Tasks

a) Review of Functional specification document and preparation of Review Report.
b) Preparation of Test Case documents.
c) Execution of the TCD's.
d) Result Analysis based on Actual Behavior and Expected Behavior.
e) Defect Tracking.
f) Bug Reporting.
g) Ensuring bug-fixing process.

Responsibilities

a) abcd – Project Manager
b) abcd1 – Project Coordinator
c) abcd2 – Business Analyst
d) abcd3 – Sr qa
e) abcd4 - Test Lead
f) abcd5 - Tester

Resources

a) Members of QA1 Team-A
b) Members of QA1 Team-B

Schedule

Sno	Task	Schedule (in Days)	From Date	To Date
1	a) Project Description b) Plan and FRS Review	3 days		
2.	a) Review Meeting b) Work on Built	1 day		
3.	a) TCD Preparation	2 Days		
4.	a) TCD review (Peer Review) b) TCD Modification	1 days		
5.	a) Test Case Execution b) DR Preparation	4.days		

Manual Testing – Test Plan

8. Environmental Requirements

Software

Description	*Software Requirements*
Operating System	
Technology	
RDBMS	

9. Risks and Contingencies

Schedule

The schedule for each phase is very aggressive and could affect testing. A slip in the schedule in one of the other phases could result in a subsequent slip in the test phase. Close project management is crucial to meeting the forecasted completion date.

Personnel

Due to the aggressive schedule, it is very important to have experienced testers on this project. Unexpected turnovers can impact the schedule. If attrition does happen, all efforts must be made to replace the experienced individual.

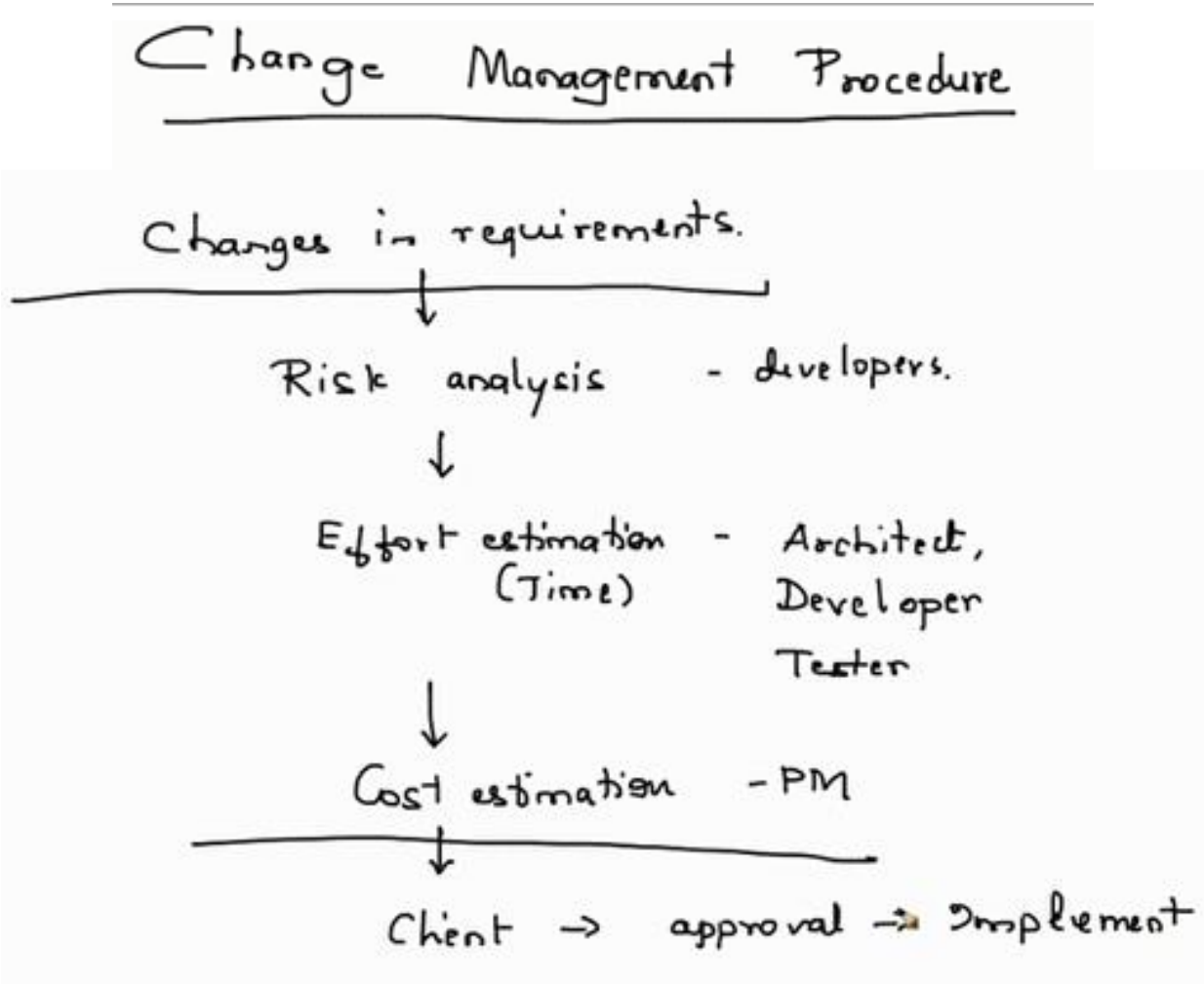
Requirements

The test plan and test schedule are based on the current Requirements Document. Any changes to the requirements could affect the test schedule and will need to be approved by the CCB (change control board).

9. Change Management Procedures

10. Plan Approvals

<Project Manager Name>.

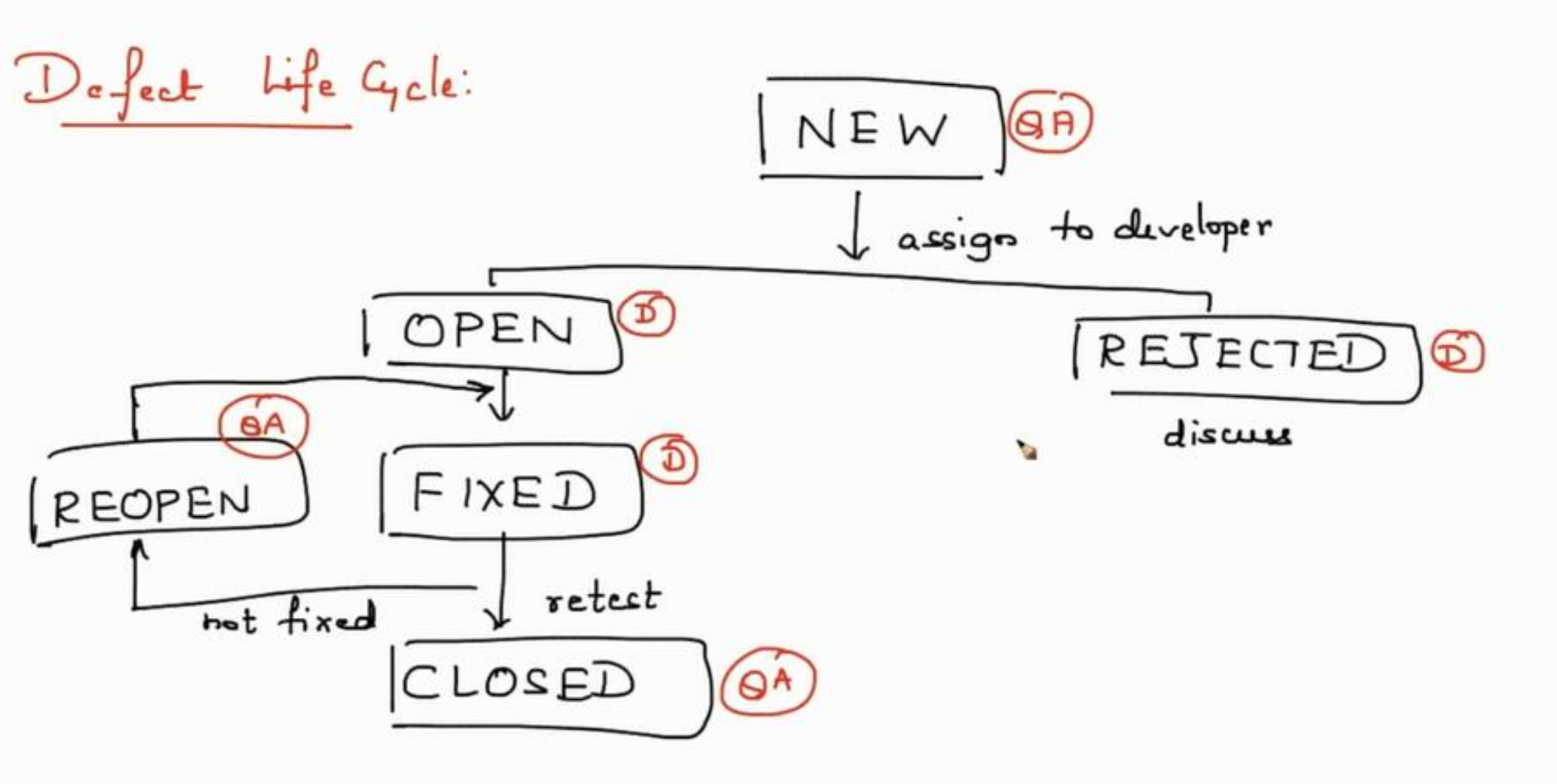


Manual Testing – Test design

TEST CASE DOCUMENT

PROJECT	verizon wireless				PREPARED BY	PRIYA	QA	25 JAN, 2013	
VERSION	VERSION4				REVIEWED BY	ISHANI	SR QA		
ENVIRONMENT	WIN7, GOOGLECHROME/IE8				APPROVED BY	SONALI	TEAM LEAD		
SCENARIO	TEST CASE ID	PERCONDITION	TEST CASE NAME	DESCRIPTION	STEPS	TEST DATA	EXPECTED	ACTUAL	RESULT	COMMENTS
Verizon wireless home page	VW_HomePage		VW Home Page Load	Test the verizon wireless home page load	1. Open the verizon wireless home page with the url in the browser	url: www.verizonwireless.com	The verizon wireless home page loa The "Store locator" functionality ap on the top menu of home page.			
STORE LOCATOR	VW_SL	VW_HomePage	VW Store Locator Link	Test the Store link	1. Click on Store locator link		The Store locator feature opens wit Zipcode textbox, Choose a State list Find stores button			
	VW_SL_Zipvalid	VW_SL	VW Store locator Zipcode Valid	Test Zipcode valid	1. Enter valid zipcode. 2. Clcik on Find Store button	zipcode: 30005	the results in below format: Address, Work Hours, Featured Serv workshop link			
	VW_SL_ZipInvalid	VW_SL	VW Store locator Zipcode invalid	Test Zipcode invalid	1. Enter invalid zipcode 2. Clcik on Find Store button	zipcode: 125**	The fields are reset. No results are dsipalyed			
	VW_SL_State	VW_SL	VW Store locator Choose A State	Test the Choose A State list box	1. Select the state from Choose a State list box 2. Clcik on Find Store button	Choose A State: any	the results in below format: Address, Work Hours, Featured Serv workshop link			
	VW_SL_Blank	VW_SL	VW Store locator Blank fields	Test with both fields blank	1. Let the zipcode & Choose state be blank 2. Clcik on Find Store button	zipcode: Choose a State:	The fields are reset. No results are dsipalyed			

Manual Testing – Defect Life Cycle



Manual Testing – RTM

❖ **RTM: Requirement Traceability Matrix:**

list of requirements to be tested
do not miss any requirements to be tested
bi directional traceability
track coverage

REQUIREMENT TRACEABILITY MATRIX

PROJECT				
REQUIREMENTS		TEST CASES		
ID	DESCRIPTION	ID	test case name	DESCRIPTION
				LOGIN

Manual Testing - FSD

Example1: Gmail Login

Lets consider a practical example of Gmail login page:

As per the Functional specification document:

Reqt ID: fr001

Username: Alpha-numeric in lower case between 4 to 8 characters

Password: Alphabet in lower case between 4 to 8 characters

REQUIREMENT TRACEAB

PROJECT REQUIREMENTS			
ID	**DESCRIPTION**	**ID**	te
FR001	GMAIL LOGIN		
	Open the gmail login page with url: www.gmail.com. The Login opens with **Username, Password** textboxes & **Sign in** button.		
FR001-a	**Login- Valid**		
	Enter valid **Username** & **Password.** Click on **Sign in** button. The user account opens with Inbox and latest emails on top.		
FR001-b	**Login- Invalid**		
	Enter invalid **Username** &/or **Password.** Click on **Sign in** button. The user account does not open. Error message is displayed.		
FR001-c	**Login- Blank**		
	Let **Username** &/or **Password** be blank. Click on **Sign in** button. The user account does not open. Error message is displayed.		
Input fields	**Username:** Alpha-numeric in lower case between 4 to 8 characters		
	Password: Alphabet in lower case between 4 to 8 characters		

Manual Testing - FSD

Project: Verizon Wireless: Telecom project

Application: www.verizonwireless.com

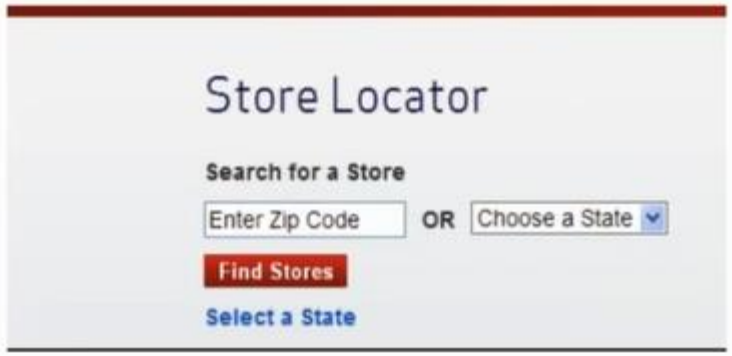
Requirement: Store locator

Requirement ID : FR001

The "Store locator" functionality appears on the top menu of home page of Verizon wireless.com

Store locator locates the various Verizon wireless stores across US, based on the city/state chosen. Search is based on the two fields below:

1. Enter zip-code: accepts 5 digit zip-code
2. Choose a state: gives the list of states



PROJECT REQUIREMENTS		
ID	**DESCRIPTION**	**ID**
FR001	Store locator	
	The "Store locator" functionality appears on the top menu of home page of Verizon wireless.com Store locator locates the various Verizon wireless stores across US, based on the city/state chosen. Search is based on the two fields below: zip code & choose state	
FR001-a	**Zipcode- invalid**	
	Enter invalid Zipcode. Click on Find Stores button. the store details are not displayed and the all the fields are reset	
FR001-b	**Zipcode or Choose A State - Valid**	
	Enter zipcode or select a state . Click on FIND STORES to display the results in below format: Address, Work Hours, Featured Services, workshop link	
FR001-c	**Zipcode & Choose A State- Blank**	
	Zipcode & Choose A State are blank. Click on Find Stores button. The fields are reset. No results are dsipalyed	
Input fields	Zipcode: Accepts5 digit	
	Choose A State: Displays the list of states in US	

Manual Testing – Test Data Document

TEST DATA DOCUMENT				
PROJECT	GMAIL APPLICATION			
PREPARED BY	PRIYA	QA	6 DEC, 2012	
REVIEWED BY	APRANA	SR QA		
APPROVED BY	JEANETTE	TEAMLEAD		
LOGIN				
Username: Alphanumeric lowercase: 4 to 8 chars				
equivalence class partition		boundary value analysis		
valid	invalid	Max/min	size	result
a-z	A-Z	Min	4	pass
numeric	Special chars	Max	8	pass
	blank	Min-1	3	fail
		Max-1	7	pass
		Min+1	5	pass
		Max+1	9	fail
Password: Alpha lowercase: 4 to 8 chars				
equivalence class partition		boundary value analysis		
valid	invalid	Max/min	size	result
a-z	A-Z	Min	4	pass
	Special chars	Max	8	pass
	blank	Min-1	3	fail
	numeric	Max-1	7	pass
		Min+1	5	pass

zipcode- 5 digits				
equivalence class partition		boundary value analysis		
valid	invalid	Max/min	size	result
numeric	alpha	Min		pass
	Special chars	Max	5	pass
	blank	Min-1		fail
		Max-1	4	FAIL
		Min+1		FAIL
		Max+1	6	fail

Manual Testing – Test Case

TEST CASE DOCUMENT										
PROJECT										
ENVIRONMENT										
VERSION										
SCENARIO	TEST CASE ID	PRECONDITION	TEST CASE NAME	DESCRIPTION	TEST STEPS	TEST DATA	EXPECTED	ACTUAL	RESULTS	COMMENTS

Manual Testing – Test Case

TEST CASE DOCUMENT								
PROJECT	Gmail Application							
ENVIRONMENT								
VERSION								
SCENARIO	TEST CASE ID	PRECONDITION	TEST CASE NAME	DESCRIPTION	TEST STEPS	TEST DATA	EXPECTED	ACT
Gmail login	G_L_Pg		Gmail login Page	test gmail login page	1. Open gmail login page with url in browser	url: www.gmail.com	The gmail login page opens with username, password textbox and sign in button	
	G_L_V	G_L_Pg & user account is active	gmail login valid	test gmail login valid	1. Enter valid username 2. Enter valid password 3. Click on sign in button	username: priyah2k password: priya	The account opens with inbox	
	G_L_I	G_L_PG user account is active	gmail login invalid	test gmail login invalid	1. Enter invalid username 2. Enter invalid password 3. Click on sign in button	username: priyah2k! password: pr)	The account does not open and error message is displayed	
	G_L_B	G_L_PG	gmail login blank	test gmail login blank	1. username is blank 2. password is blank 3. Click on sign in button	username: password:	The account does not open and error message is displayed	

Manual Testing – Test Case

SCENARIO	TEST CASE ID	PRECONDITION	TEST CASE NAME	DESCRIPTION	TEST STEPS	TEST DATA	EXPECTED
VW Main Page	VW_M_Pg		VW Main Page	test VW Main Page	1. Open the VW Main page with url in browser	url: www.verizonwireless.com	The VW main page opens with store locator link
Store locator	VW_SL_L	VW_M_Pg	store locator link	test store locator link	1. Click on store locator link		The store locator page opens with zip code textbox, choose state list box, find stores button
	VW_SL_ZV	VW_SL_L	zipcode valid	test zipcode valid	1. Enter valid zip code 2. Click on find stores button	zipcode: 07306	display the results in below format: Address, Work Hours, Featured Services, workshop link
	VW_SL_ZI	VW_SL_L	zipcode invalid	test zipcode invalid	1. Enter invalid zip code 2. Click on find stores button	zipcode: xyz	the store details are not displayed and the all the fields are reset
	VW_SL_CS	VW_SL_L	choose state	test choose state	1. Select state from choose state list box 2. Click on find stores button	choose state: CA	display the results in below format: Address, Work Hours, Featured Services, workshop link
	VW_SL_B	VW_SL_L	zipcode & choose state blank	test zipcode & state blank	1. zip code & choose state blank 2. Click on find stores button	zipcode: choose state:	the store details are not displayed and the all the fields are reset

Phases of Testing

Different Stages of Testing:

Test Planning
Analysis and Design
Implementation and Execution
Evaluating exit criteria and Reporting
Test Closure activities

Test Planning Activities:

Defining the Scope of Project
Determine Test Approach
Defining Test Strategy
Determine Test Resources
Define Exit Criteria

Analysis and Design

Analysis of Business requirements
Designing Test Scenarios
Creating Test Data
Designing Test cases based on Scenarios
Test Environment Setup

Implementation and Execution

Executing the Test cases in given Timeline
Prioritizing the Test cases
Writing Automation scripts if necessary
Defect Logging and Tracking
Test Case Status Reporting

Evaluating exit criteria and Reporting

To check the test Status against the exit criteria specified in test planning.
To assess if more test are needed or if the exit criteria specified should be changed.

To write a test summary report for stakeholders.

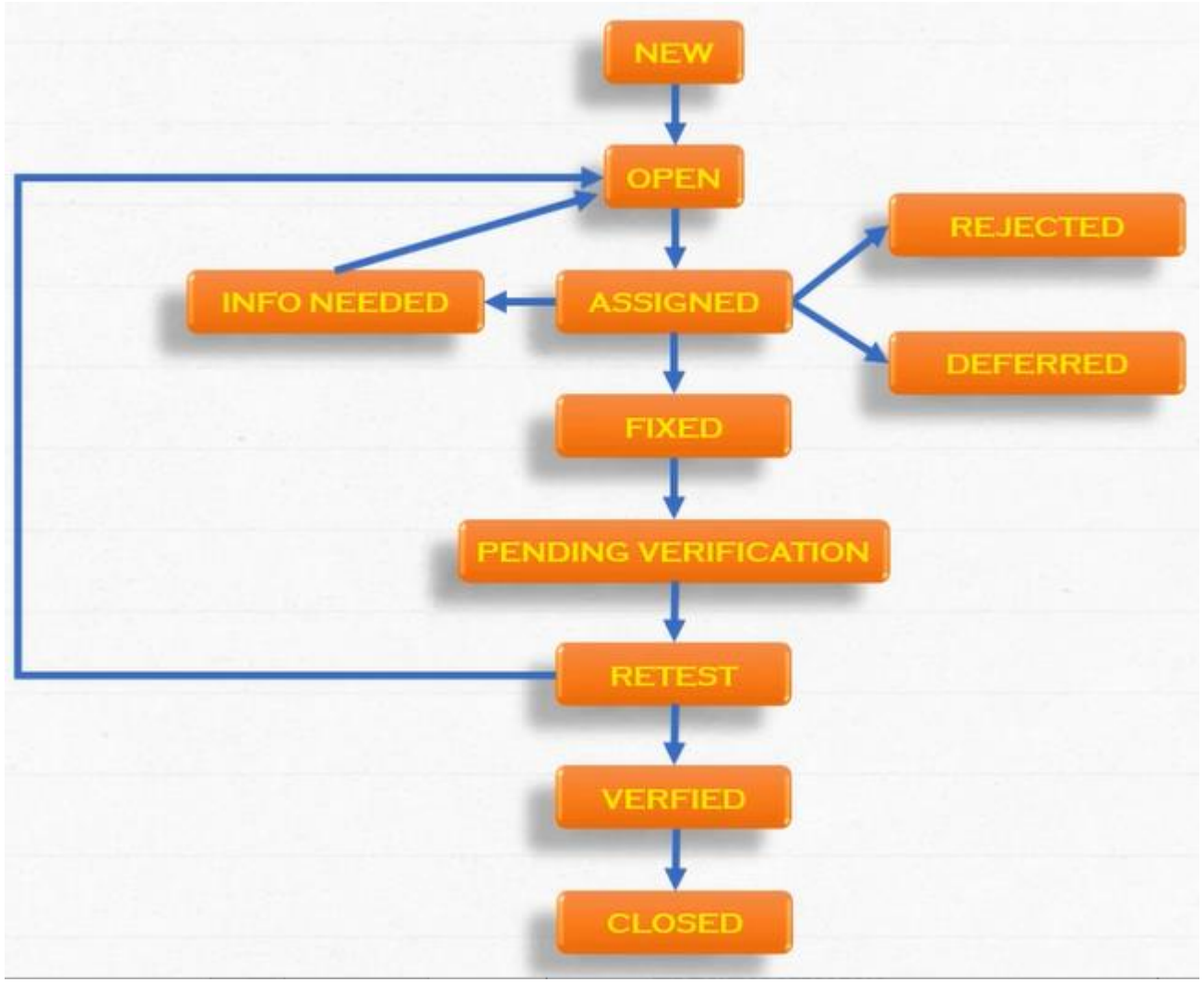
Test closure activities

To finalize and archive test ware such as scripts, test environments, etc. for later reuse.
To handover the test ware to the maintenance organization. They will give support to the software.
To evaluate how the testing went and learn lessons for future releases and projects.

Defects Life Cycle

DEFECTS

- Deviation from Expected Results
- Reasons:
  - Ambiguous Requirements
  - Design Errors
  - Coding Mistakes
  - Environmental Issues
  - Enhancements



Defect report template

- Description :
- Steps to Reproduce:
- Test Data :
- Expected Result:
- Actual Result :
- Screenshot :
- Time Stamp :
- Assigned to :
- Severity :
- Priority:

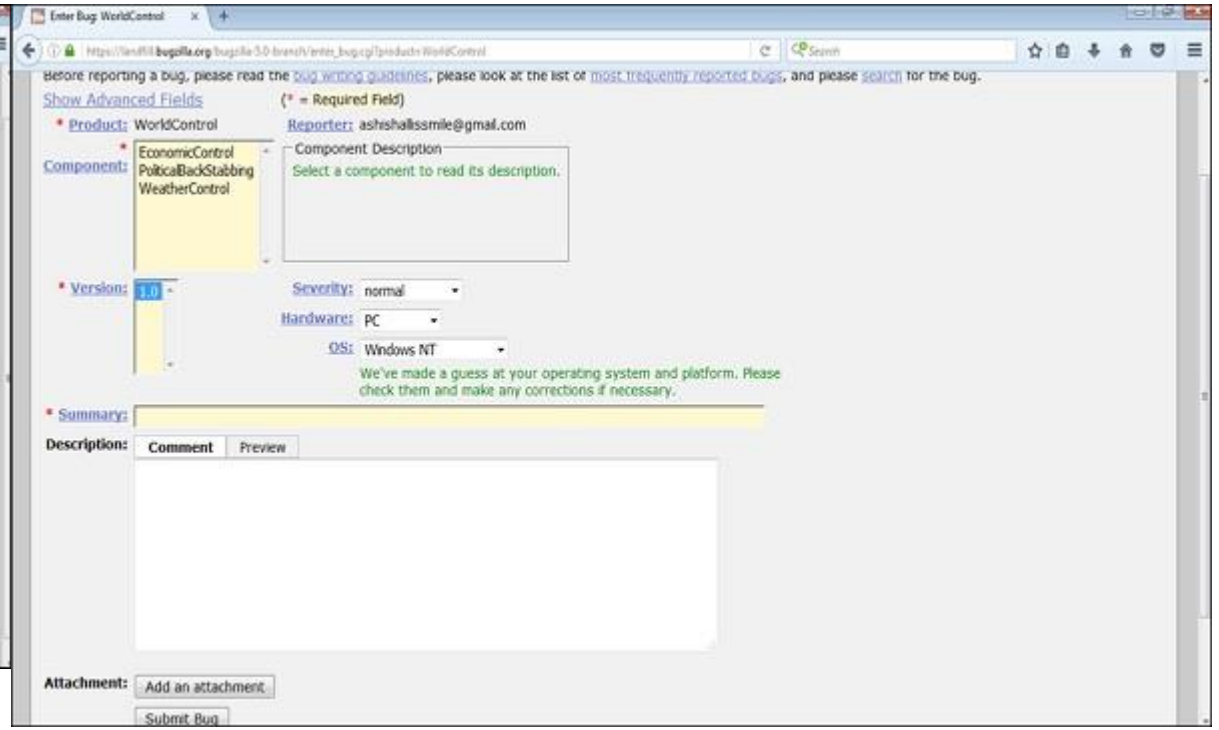
Issue and project tracking tool

- Issue-tracking systems fulfill different functions:
  - Entering of dysfunctions, errors and requests
  - Distribution and assignment of issues to persons in charge
  - Monitoring of handling, time spent and quality of work
  - Ensuring the observation of internal processes by forced control with help of workflows
  - Statistical analysis of the number of tickets
  - Systematic collection of questions and answers for FAQs
  - Assignment of a priority to each issue based on the overall importance of that issue, date of submission
  - Containing a detailed descriptions of the problem being experienced, attempted solutions or workarounds, and other relevant information
  - Maintaining of a history of each change

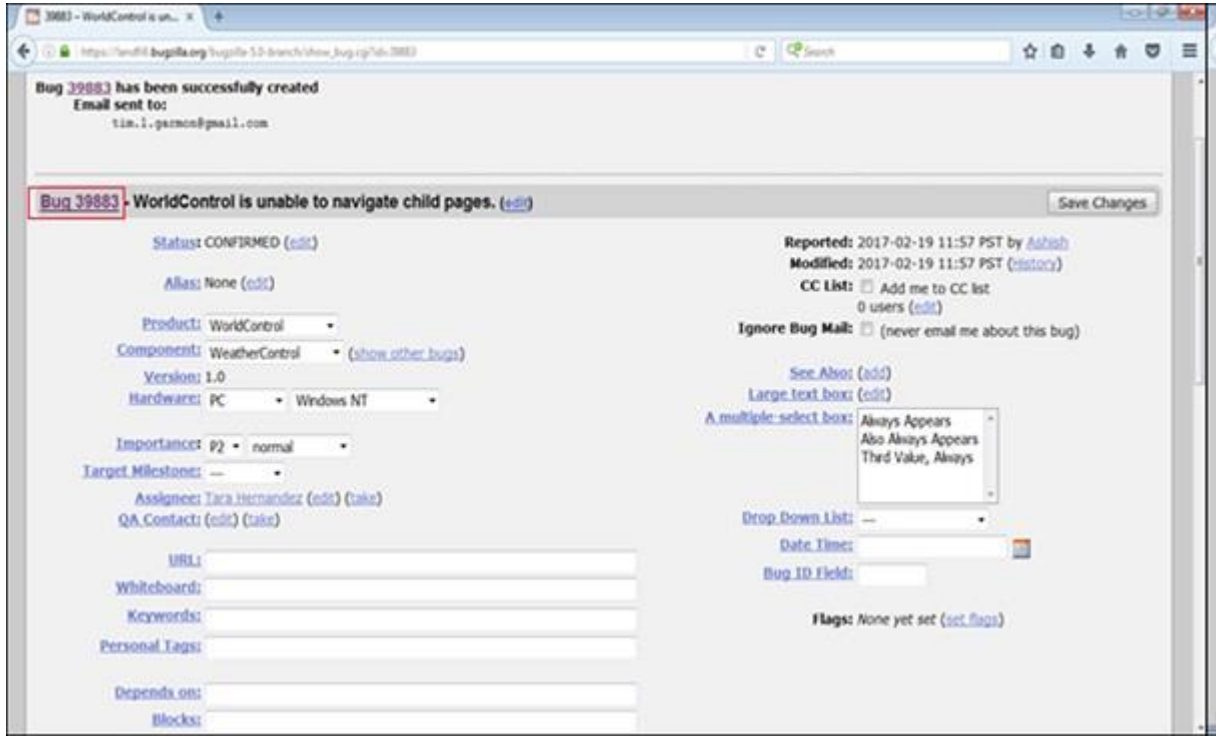
Project management software has the capacity to help plan, organize, and manage resource tools and develop resource estimates, it can manage estimation and planning, scheduling, resource allocation, collaboration software, communication, decision-making, quality management and documentation or administration systems.

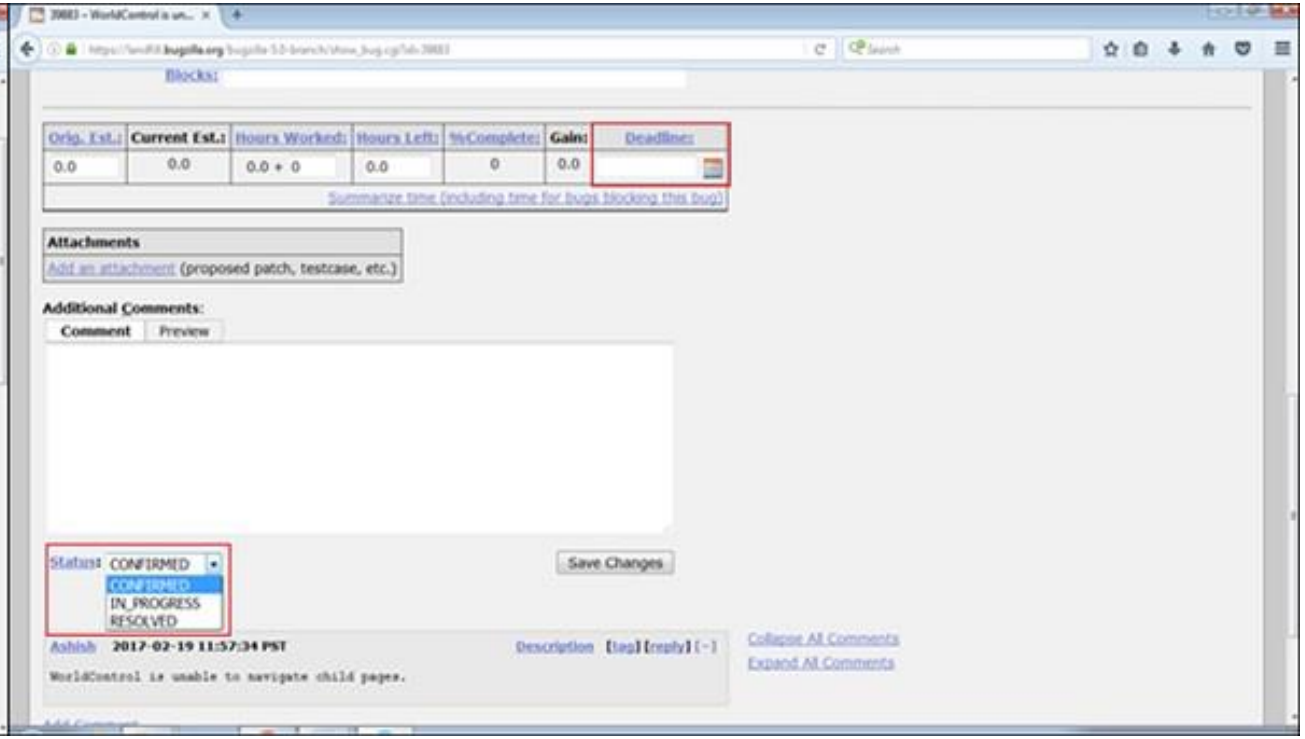
Bugzilla

Bugzilla is a web-based general-purpose bug tracker and testing tool. Bugzilla is both free as in freedom and free as in price. Bugzilla is under active development. Installable on Windows, Mac and Linux.



Bugzilla


Bug 39883 has been successfully created
Email sent to:
tim.l.garmon@gmail.com
Bug 39883 - WorldControl is unable to navigate child pages. (edit)
Save Changes
Status: CONFIRMED (edit)
Alias: None (edit)
Product: WorldControl
Component: WeatherControl (show other bugs)
Version: 1.0
Hardware: PC Windows NT
Importance: P2 normal
Target Milestone: ---
Assignee: Tara Hernandez (edit) (take)
QA Contact: (edit) (take)
URL:
Whiteboard:
Keywords:
Personal Tags:
Depends on:
Blocks:
Reported: 2017-02-19 11:57 PST by Ashish
Modified: 2017-02-19 11:57 PST (history)
CC List: Add me to CC list
0 users (edit)
Ignore Bug Mail: (never email me about this bug)
See Also: (add)
Large text box: (edit)
A multiple-select box:
Always Appears
Also Always Appears
Third Value, Always
Drop Down List: ---
Date Time:
Bug ID Field:
Flags: None yet set (set flags)


Blocks:
Orig. Est.: Current Est.: Hours Worked: Hours Left: %Complete: Gain: Deadline:
0.0 0.0 0.0 + 0 0.0 0 0.0
Summarize time (including time for bugs blocking this bug)
Attachments
Add an attachment (proposed patch, testcase, etc.)
Additional Comments:
Comment Preview
Status: CONFIRMED
CONFIRMED
IN_PROGRESS
RESOLVED
Save Changes
Ashish 2017-02-19 11:57:34 PST
Description [tag] [reply] [-]
WorldControl is unable to navigate child pages.
Collapse All Comments
Expand All Comments

JIRA

JIRA is Atlassian's popular project- and issue-tracking platform used by development and technical support teams to get more work done and faster. It's available on the cloud or it can be deployed on your own servers.

It combines:

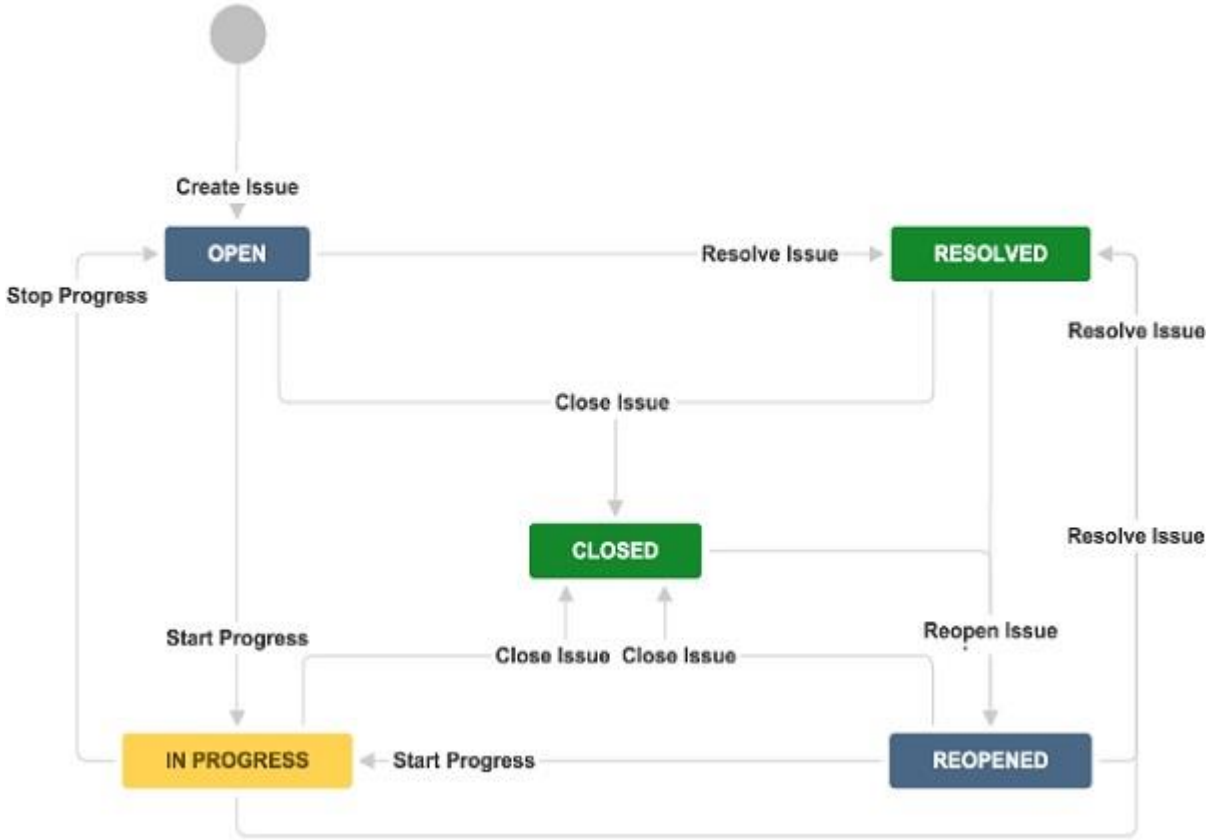
- *issue tracking*
- *agile project management*
- *customizable workflow, and a pluggable integration* - integrates with GitHub...
- *the kanban board to increase the velocity*

Following are some of the most significant uses of JIRA.

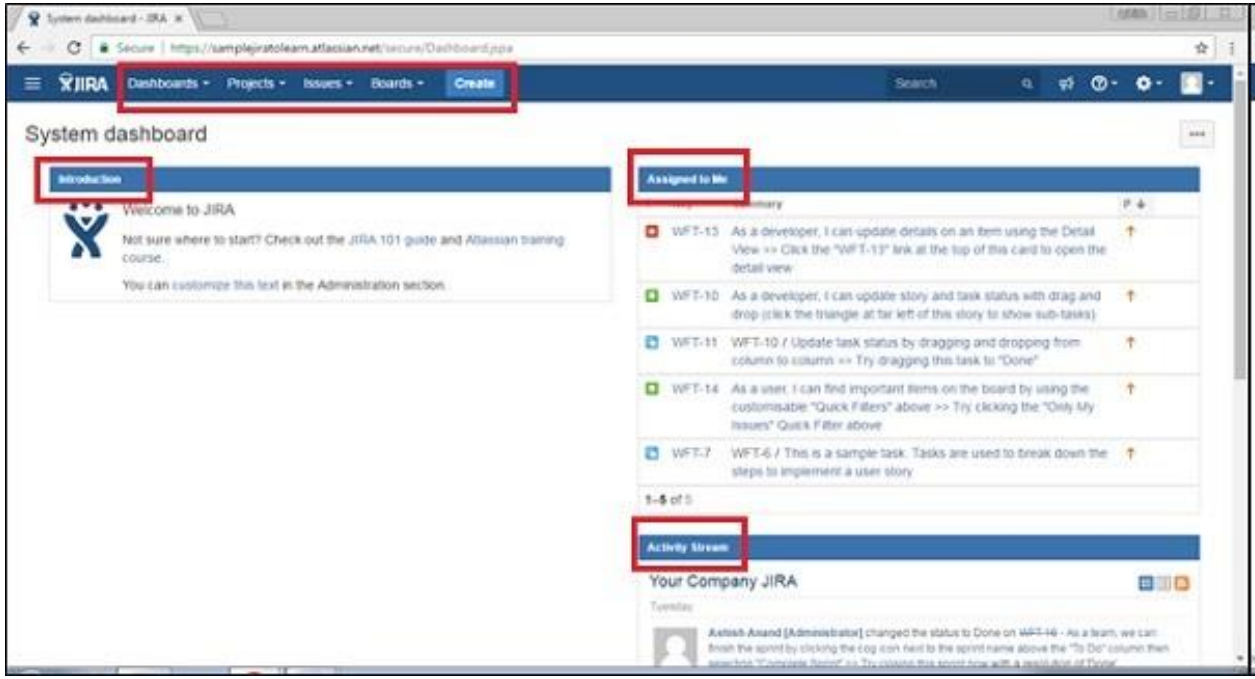
- JIRA is used in Bugs, Issues and Change Request Tracking.
- JIRA can be used in Help desk, Support and Customer Services to create tickets and track the resolution and status of the created tickets.
- JIRA is useful in Project Management, Task Tracking and Requirement Management.
- JIRA is very useful in Workflow and Process management.

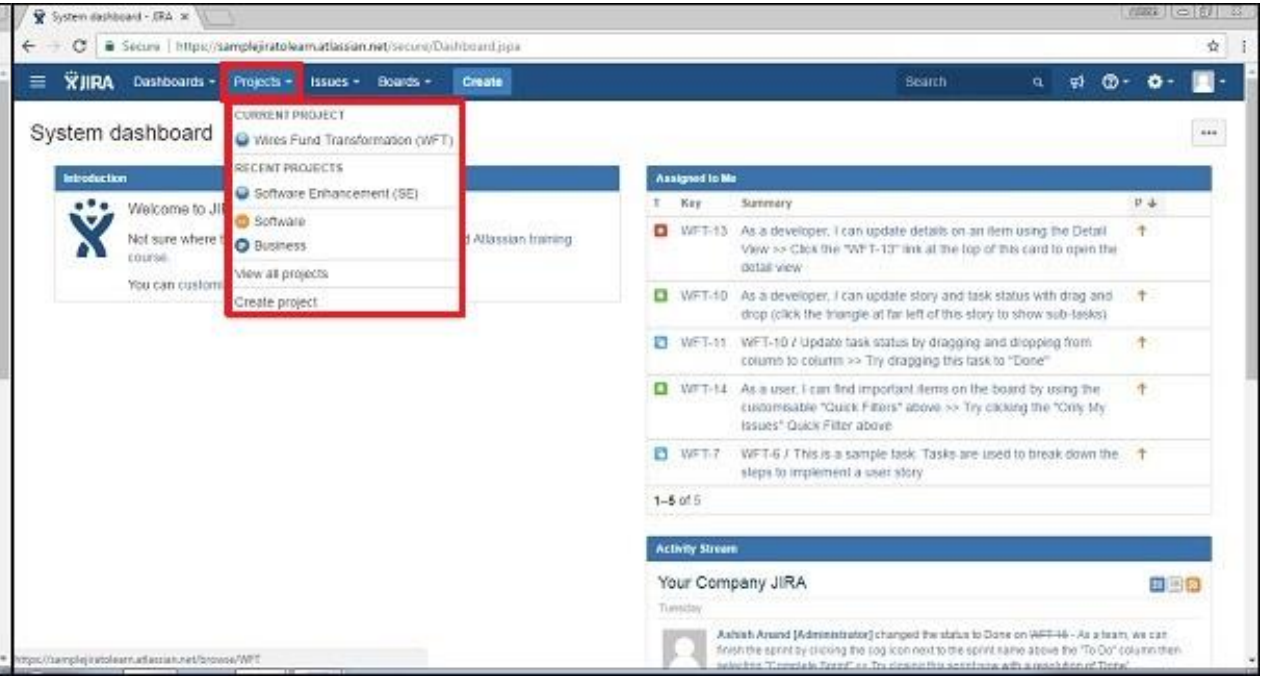
JIRA

- Terminology in Jira:
  - Project - can be called as a collection of issues and can be of several types
  - Issue:
    - Epic
    - Story
    - Task and Sub-task
    - Bug
    - Improvement
    - New Feature
- JIRA workflow is used to track the lifecycle of an Issue:
  - Open Issue
  - In Progress Issue
  - Resolved Issue
  - Reopened Issue
  - Close Issue



JIRA


JIRA
Dashboards
Projects
Issues
Boards
Create
Search
System dashboard
Introduction
Welcome to JIRA
Not sure where to start? Check out the JIRA 101 guide and Atlassian training course.
You can customize this text in the Administration section.
Assigned to Me
WFT-13 As a developer, I can update details on an item using the Detail View >> Click the "WFT-13" link at the top of this card to open the detail view
WFT-10 As a developer, I can update story and task status with drag and drop (click the triangle at far left of this story to show sub-tasks)
WFT-11 WFT-10 / Update task status by dragging and dropping from column to column >> Try dragging this task to "Done"
WFT-14 As a user, I can find important items on the board by using the customisable "Quick Filters" above >> Try clicking the "Only My Issues" Quick Filter above
WFT-7 WFT-6 / This is a sample task. Tasks are used to break down the steps to implement a user story
1–5 of 5
Activity Stream
Your Company JIRA


JIRA
Dashboards
Projects
Issues
Boards
Create
Search
System dashboard
CURRENT PROJECT
Wires Fund Transformation (WFT)
RECENT PROJECTS
Software Enhancement (SE)
Software
Business
View all projects
Create project
Introduction
Assigned to Me
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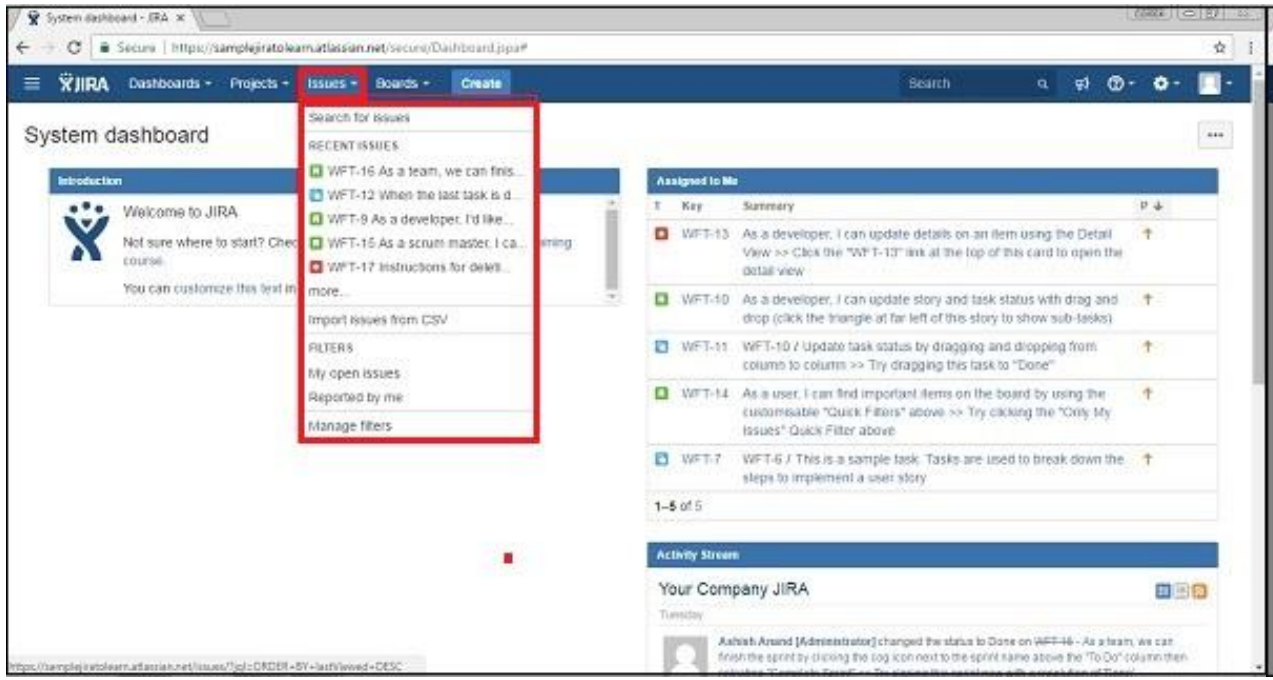
1–5 of 5
Activity Stream
Your Company JIRA

JIRA


System dashboard - JIRA
JIRA
Dashboards
Projects
Issues
Boards
Create
Search
System dashboard
Search for issues
RECENT ISSUES
WFT-16 As a team, we can finis...
WFT-12 When the last task is d...
WFT-9 As a developer, I'd like...
WFT-15 As a scrum master, I ca...
WFT-17 Instructions for delet...
more...
Import issues from CSV
FILTERS
My open issues
Reported by me
Manage filters
Introduction
Welcome to JIRA
Assigned to Me
T
Key
Summary
P
WFT-13 As a developer, I can update details on an item using the Detail View >> Click the "WFT-13" link at the top of this card to open the detail view
WFT-10 As a developer, I can update story and task status with drag and drop (click the triangle at far left of this story to show sub-tasks)
WFT-11 WFT-10 / Update task status by dragging and dropping from column to column >> Try dragging this task to "Done"
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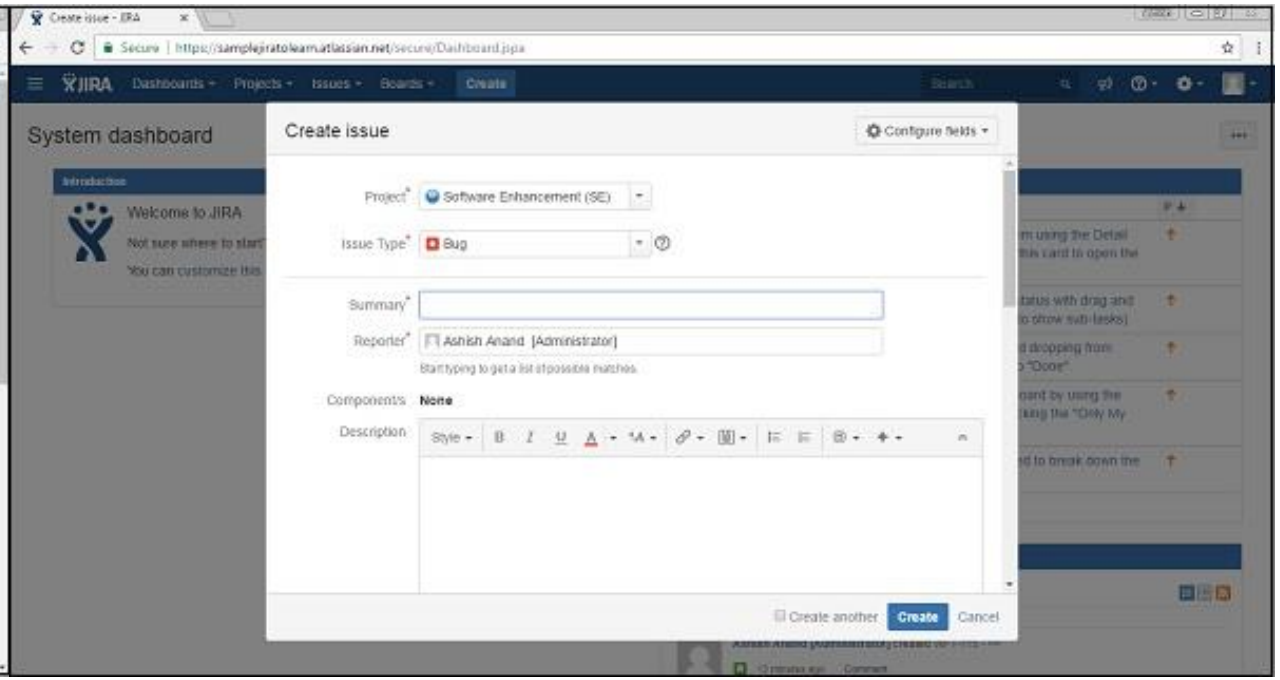
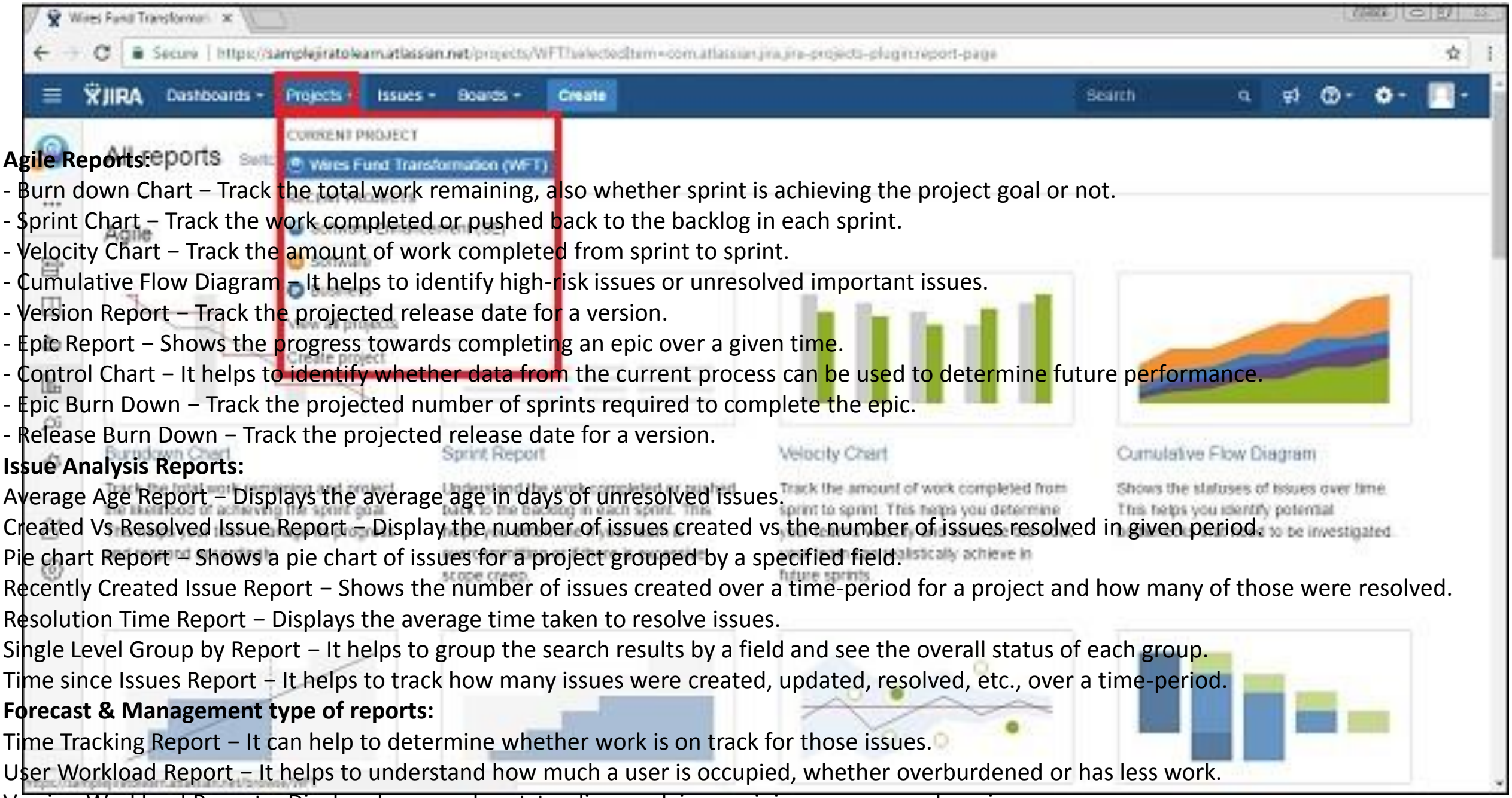
WFT-7 WFT-6 / This is a sample task. Tasks are used to break down the steps to implement a user story
1–5 of 5
Activity Stream
Your Company JIRA
Tuesday


Create issue - JIRA
JIRA
Dashboards
Projects
Issues
Boards
Create
System dashboard
Create issue
Configure fields
Project*
Software Enhancement (SE)
Issue Type*
Bug
Summary*
Reporter*
Ashish Anand [Administrator]
Components
None
Description
Style
Create another
Create
Cancel



Agile Reports:

- Burn down Chart – Track the total work remaining, also whether sprint is achieving the project goal or not.
- Sprint Chart – Track the work completed or pushed back to the backlog in each sprint.
- Velocity Chart – Track the amount of work completed from sprint to sprint.
- Cumulative Flow Diagram – It helps to identify high-risk issues or unresolved important issues.
- Version Report – Track the projected release date for a version.
- Epic Report – Shows the progress towards completing an epic over a given time.
- Control Chart – It helps to identify whether data from the current process can be used to determine future performance.
- Epic Burn Down – Track the projected number of sprints required to complete the epic.
- Release Burn Down – Track the projected release date for a version.

Issue Analysis Reports:

Average Age Report – Displays the average age in days of unresolved issues.

Created Vs Resolved Issue Report – Display the number of issues created vs the number of issues resolved in given period.

Pie chart Report – Shows a pie chart of issues for a project grouped by a specified field.

Recently Created Issue Report – Shows the number of issues created over a time-period for a project and how many of those were resolved.

Resolution Time Report – Displays the average time taken to resolve issues.

Single Level Group by Report – It helps to group the search results by a field and see the overall status of each group.

Time since Issues Report – It helps to track how many issues were created, updated, resolved, etc., over a time-period.

Forecast & Management type of reports:

Time Tracking Report – It can help to determine whether work is on track for those issues.

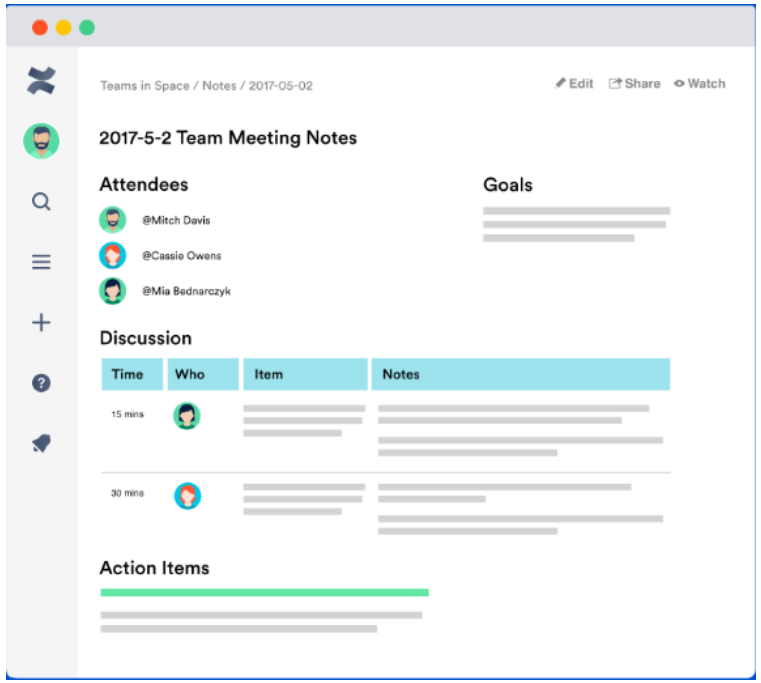
User Workload Report – It helps to understand how much a user is occupied, whether overburdened or has less work.

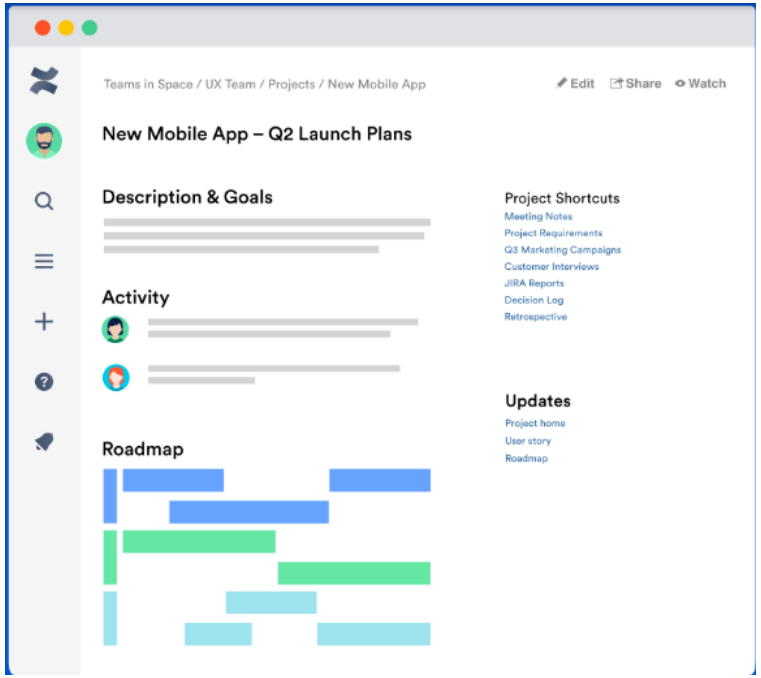
Version Workload Report – Displays how much outstanding work is remaining per user and per issue.

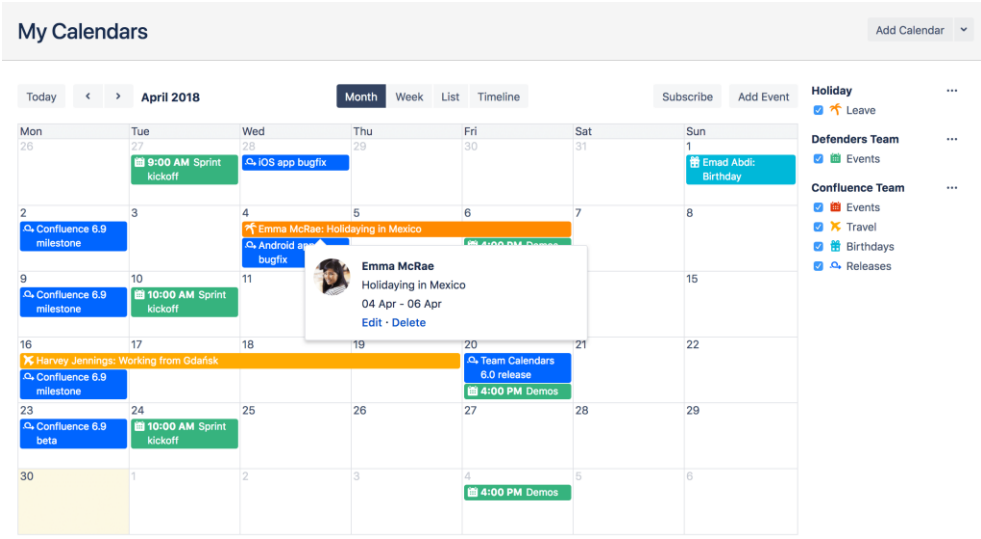
Confluence

Confluence is content collaboration software

- Create, share, and collaborate on projects all in one place
- Easily publish, organize, and access company information in one central location
- Capture, store, and grow your team's knowledge so you can stay up to date and on the same page







MTM

MTM is a tool introduced along with Visual Studio 2010 and TFS 2010. It is used to create and organize test plans and test cases, and execute manual tests. MTM is built specifically for testers to be able to interact with other members of the team.