

Test Strategy

Vivo Product

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1. Test Strategy Identifier

The unique identifier for this Test Strategy is “Test_Startegy_001”

2. Introduction

Vivo meeting

Vivo Meeting is a tool devised with the intention of providing variety of features like web conferencing, online meetings, whiteboard, VoIP, telephony and desktop sharing features within the market at lower cost. As we all know that there is a wide scope of such tools into the market and almost all the organizations require such kind of solution. These kinds of tool provide flexibility of not only conducting seminars but are also a good medium of providing satisfaction to client to interact with each other. So, there is an urge for such kind of solutions but they are available at very high cost. The main intention for devising such tools is the market needs and reliable solution at lower cost. Although, there are several other competitors existing in the market like gotomeeting, webex too but the cost of such kind of solutions is much higher. This solution would provide low cost solution to its users without compromising on quality and features.

Wizdom Web Learning Management System

WIZDOM Web is a fully featured, SCORM complaint LMS that provides the infrastructure for enterprise training and management needs. Whether managing CBT courses, WBT courses, document-based training, ILT, or a mixture of the above, WIZDOM provides a centralized location to manage all varieties of training content.

SunBrand Technologies

SBT is the market leading specialist in Brand Lifecycle Management (BLM) and Product Lifecycle Management (PLM) solutions. Our sophisticated ODIN system is an essential online application for global brands. We are working in partnership with brands and retailers on a global basis to deliver reduced costs, removal of duplication and increase their speed to market. SBT can help you gain and maintain that vital competitive edge.

2.1. Purpose

The purpose of this Test Strategy is to define the overall approach that will be taken by the Test Team when delivering testing services to all of the projects within the business.

The document helps to clarify the testing activities, roles and responsibilities, processes and practice to be used across successive projects.

Where a project's testing needs deviate from what is covered by this Test Strategy the exceptions will be detailed in the Test Plan.

2.2. Test Plan

Functional Testing

Objective

- Test against system requirements.
- To confirm all the requirements are covered.

Approach

- Equivalence Class Partitioning
- Boundary Value Analysis
- Error Guessing

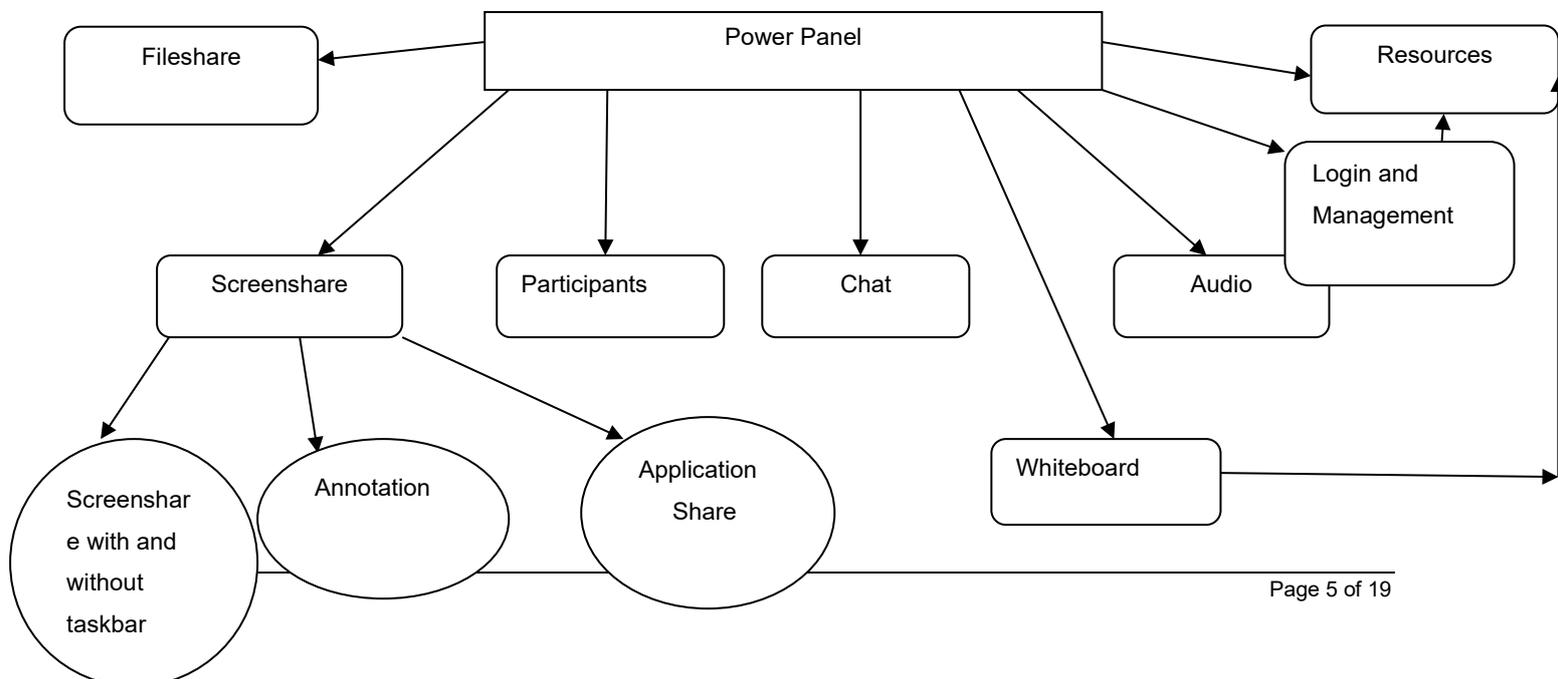
Entry Criteria for Functional Testing

Functional Entry Criteria	Owner
Unit tested Packages along with defects fixed	Development
Software release Note	Project Lead
Build Release Note	QA
Approved Test Plan	QA
Approved Functional Test Cases	QA
Test Environments established and built to specifications with all appropriate access	QA

Exit Criteria for Functional Testing

Functional Exit Criteria	Owner
Tested Software Build	QA
Test Report	QA
Updated Traceability Matrix	QA
Closure of reported defects	Project Lead

Integration Testing



Objective

- Test all integration points in the application to verify that data properly flows from one module to another

Approach

- Understand all integration points of the application
- Prepare integration test cases
- Execute integration test cases
- Report defects

Entry Criteria for Integration Testing

Integration Entry Criteria	Owner
Integrated tested Packages along with defects fixed	Development
Software release Note	Project Lead
Build Release Note	QA
Approved Test Plan	QA
Approved Integration Test Cases	QA
Test Environments established and built to specifications with all appropriate access	QA

Exit Criteria for Integration Testing

Integration Exit Criteria	Owner
Tested Software Build	QA
Test Report	QA
Updated Traceability Matrix	QA
Closure of reported defects	Project Lead

Regression Testing

Test Objective	To validate all functionalities are correctly working even after a major/minor enhancement has been introduced or a bug has been fixed
Technique	Functional/Regression/System Testing: 1) Retest the bug fixes 2) Test the functionality of any new enhancement that has been introduced 3) Execute the regression test cases for that module in which bug fixes have been made or enhancement has been introduced 4) Execute the regression test suite to test the stability of the application

Completion Criteria	<ol style="list-style-type: none"> 1) All bug fixes have been done correctly 2) All open bugs have been closed with special focus on critical and major severity bugs 3) All regression test cases specific to a particular module have been executed and no new bugs are left open with special focus on critical and major severity bugs 4) Regression test suite has been executed and no new bugs are left open with special focus on critical and major severity bugs <p>All planned tests have been executed.</p> <p>All identified defects have been addressed.</p>
Special Considerations	None

Approach

- Understand the functionality
- Prepare test cases for that functionality
- Execute the test cases
- Report defects
- Retest fixed defects and close them accordingly

Entry Criteria for Regression Testing

Regression Entry Criteria	Owner
Functional tested Packages along with defects fixed	Development
Software release Note	Project Lead
Build Release Note	QA
Approved Test Plan	QA
Approved Regression Test Cases	QA
Test Environments established and built to specifications with all appropriate access	QA

Exit Criteria for Regression Testing

Regression Exit Criteria	Owner
Tested Software Build	QA
Test Report	QA
Updated Traceability Matrix	QA
Closure of reported defects	Project Lead

System Testing

Objective

- Test the whole application along with its integration with other applications like Arkadin's audio over telephone for Vivo Meeting

Approach

- Understand the end to end functioning of the application
- Understand the integration points of the application with other applications
- Prepare system test cases and get those approved
- Execute system test cases
- Report defects

Entry Criteria for System Testing

System Test Entry Criteria	Owner
Integration tested Packages along with defects fixed	Development
Software release Note	Project Lead
Build Release Note	QA
Approved Test Plan	QA
Approved System Test Cases	QA
Test Environments established and built to specifications with all appropriate access	QA

Exit Criteria for System Testing

System Test Exit Criteria	Owner
Tested Software Build	QA
Test Report	QA
Updated Traceability Matrix	QA
Closure of reported defects	Project Lead

Performance Testing

Objective

- To test the performance of the product

Approach

- Define the Performance criteria for the application
- Prepare Performance test cases and get those approved
- Create scripts and scenarios on Performance testing tool on the basis of test cases
- Execute Performance test cases
- Report defects

Entry Criteria for Performance Testing

System Test Entry Criteria	Owner
System tested Packages along with defects fixed	Development
Software release Note	Project Lead
Build Release Note	QA
Approved Test Plan	QA
Approved Performance Test Cases	QA
Test Environments established and built to specifications with all appropriate access	QA

Exit Criteria for Performance Testing

System Test Exit Criteria	Owner
Tested Software Build	QA
Test Report	QA
Updated Traceability Matrix	QA
Closure of reported defects	Project Lead

User Acceptance Testing

Objective

Final testing of application before its live deployment

Approach

- Understand the end to end functioning of Vivo application
- Preparation of real time test data for execution of User Acceptance test cases
- Prepare User Acceptance test cases and get those approved
- Execute User Acceptance test cases first at the development end before final delivery to the client and then at client's end after delivery
- Report defects

Entry Criteria for User Acceptance Testing

User Acceptance Test Entry Criteria	Owner
System tested Packages along with defects fixed	Development
Software release Note	Project Lead
Build Release Note	QA
Approved Test Plan	QA
Approved User Acceptance Test Cases	QA
Test Environments established and built to specifications with all appropriate access	QA

Exit Criteria for User Acceptance Testing

User Acceptance Test Exit Criteria	Owner
Tested Software Build	QA
Test Report	QA
Updated Traceability Matrix	QA
Closure of reported defects	Project Lead

3. Test Items

For each Release the Test Engineer will create a table of Test Items that will be in scope of the testing being planned. These will be identified from the Scope Items in a given Release and include interrelated modules and components of the service that will be affected by the Scope Items.

In addition the Test Engineer will record any Test Items that cannot be tested by the test team. The Test Plan will contain Test Items that are In-Scope and Out-of-Scope.

Phase / Activity	Phase Scope	Deliverables
Testing & Validation	Functional testing	Functional Test Result and Report
	Integration testing	Integration Test Result and Report
	Regression testing	Regression Test Result and Report
	System testing	System Test Result and Report
	User acceptance testing	User Acceptance Test Result and Report
	Performance testing	Performance Test Result and Report

4. Features to be tested

The Test Engineer will use the Test Breakdown worksheet ([ref# Vivo_Test_Scenarios](#)) to record all of the features to be tested for each of the Test Items in scope.

The Test Breakdowns will include details of the Test Scenarios from which the Test Cases will be derived.

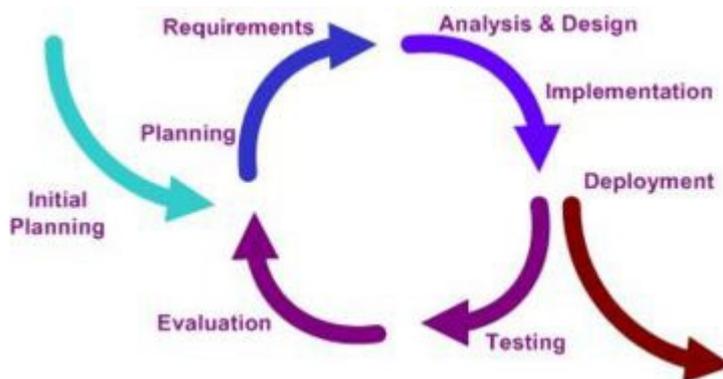
5. Features not to be tested

NIL

6. Approach

6.1 Life Cycle Model

This product follows the iterative and incremental life cycle model.



6.2 Risk Management Plan

Product related risks are being maintained in risk register.

6.3 Analysis & Planning Phase Entry Criteria

For all projects the following criteria need to be met before the Test Items are accepted into the Analysis & Planning Phase:

- Release scope item list is locked and prioritised
- Documentation defining the scope items are approved and at release status
- All documents are under change control processes

6.4 Analysis & Planning Phase Exit Criteria

For the Analysis & Planning phase to be completed and allow items to move into the Test Phase the following criteria need to be achieved:

- Test Breakdowns and Test Cases are written and peer reviewed
- Knowledge Share document has been completed and reviewed by the Test Engineers
- Walkthrough and sign-off completed for the Test Plan and Test Breakdowns
- Defined Test Estimate has been published and agreed
- The list of features in the Test Breakdown have been prioritised.

6.5 Test Phase Entry Criteria

Before Test Items are made available for the Test Team to test it's expected that:

- Unit tested packages along with defects fixed
- Software release note
- Build release note
- Approved test plan
- Approved test cases
- Test environments established and build to specifications with all appropriate access

6.6 Test Phase Exit Criteria

For the Test Items to exit testing the following conditions will have to be met:

- Tested software build
- Test report
- Updated traceability matrix
- Closure of reported defects

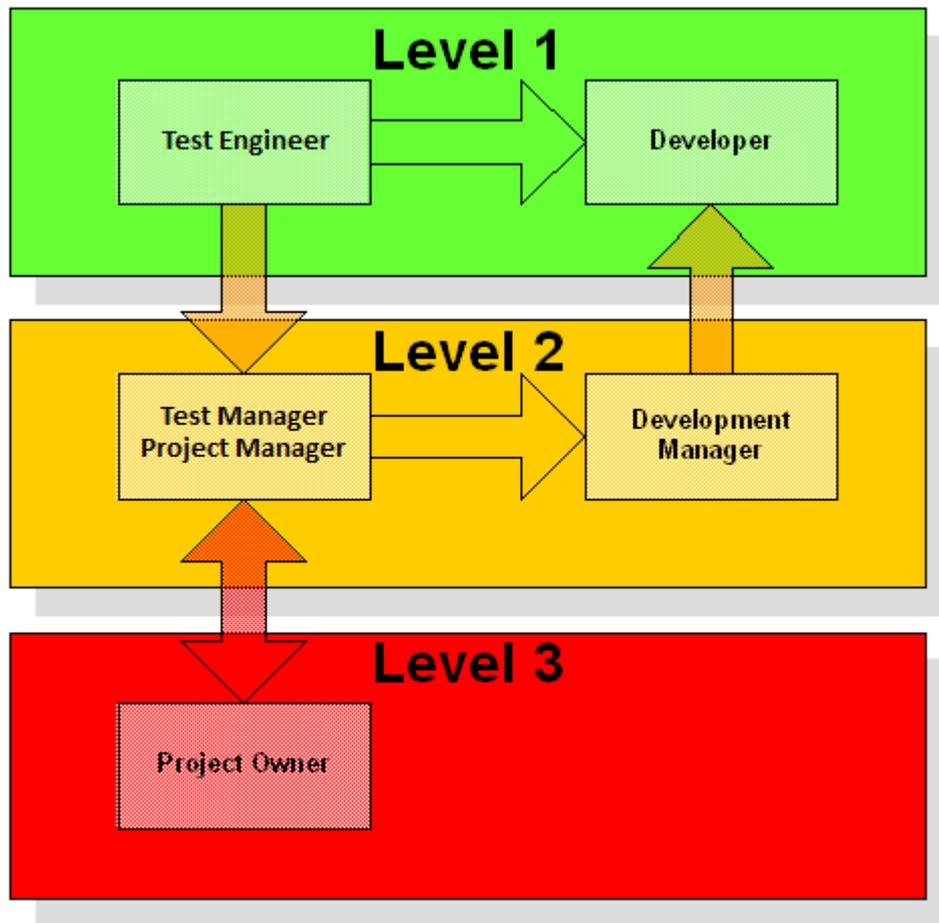
6.7 Change Management

The Build Manager will ensure that once testing begins no changes or modifications are made to the code used to create the build of the product under test. The Project lead will inform the test team against which version testing will begin and confirm the location within [VSS/Progress /Perforce/ Subversion] the build is to be taken from.

If changes or modifications are necessary through bug resolution or for any other reason the Project manager will inform the test team prior to the changes being made.

6.8 Notification / Escalation Procedures

The following diagram shows the notification and escalation paths to be followed for the duration of the project Test Phase.



6.9 Measures and Metrics

At the Initiation phase of the project the test team will publish a set of measures and metrics related to the test activities of their Planning & Analysis and Execution phases. The Test Plan also defines the milestone dates for key deliverables such as the Test Plan and these are metrics captured for on-going statistical process analysis across successive projects.

Test Preparation

- Number of Test Scenarios versus Number of Test Cases
- Number of Test Cases Planned versus Ready for Execution
- Total time spent on Preparation versus Planned time
-

Test Execution and Progress

- Number of Tests Cases Executed versus Test Cases Planned
- Number of Test Cases Passed, Failed and Blocked
- Total Number of Test Cases Passed by Test Item / Test Requirements
- Total Time Spent on Execution versus Planned Time

Bug Analysis

- Total Number of Bugs Raised and Closed per Test Run
- Total Number of Bugs Closed versus Total Number of Bugs Re-Opened
- Bug Distribution Totals by Severity per Test Run
- Bug Distribution Totals by Test Item by Severity per Test Run

7 'Pass/Fail' Criteria

Each Test Item will be assigned a Pass or Fail state dependant on two criteria:

- Total number and severity of Bugs in an Open & Unresolved state within Bug Tracker.
- The level of successfully executed test requirements.

The combination of both criteria will be used to recognise the Test Item can be declared Test Complete. However as this is a minimum level of quality that is believed achievable it's recommended that where project timescales allow further testing and development should be conducted to raise the overall quality level.

Table of Issue Severity

Severity	Definition	Maximum Allowable
S1	Crash/Legal – System crash, data loss, no workaround, legal, Ship Killer	0
S2	Major – Operational error, wrong result	<Set by PM>
S3	Minor – Minor problems/Cosmetic problems	<Set by PM>
S4	Suggestions	<Set by PM>
S5	N/A – Not Applicable; used for feature requests and Development Tasks	Reference Only

The total MAXIMUM number of issues recorded in Bug Tracker that can remain in an Open & Unresolved state for the Test Item and be acceptable for release.

Table of Test Scenario Priority

Test Scenario	Definition	Minimum Pass Rate
P1 – Critical	Essential to the Product	100%
P2 – Important	Necessary to the Product	<Set by PM>
P3 – Desirable	Preferred, but not essential to the Product	<Set by PM>

The MINIMUM set of Test Scenarios that must pass before the Test Item can be considered for release.

Unforeseen issues arising during the Test Phase may impact the agreed 'Pass/Fail' Criteria for the Test Item. Issues can be managed through review with the Test Team and the project authorities.

8 Suspension Criteria & Resumption Requirements

Testing of Test Items will be suspended if:

1 a) Suspension criteria:

A Severity 1 issue is logged and requires fixing before further testing can take place (a Blocking Issue)

1 b) Resumption requirement:

The issue will need to be fixed before the Test Item is returned to the Test Team for testing.

2 a) Suspension criteria:

Significant differences exist between observed behaviour of the Test Item and that shown in Test Scenario, Test Case or as expected from the previous version of the technology.

2 b) Resumption requirement:

Development Team, Test Team and Project Manager must come to a conclusion on resolving the issue and agreeing a definition of the expected behaviour.

3 a) Suspension criteria:

A Test Item sent for testing fails more than 20% of Developer Unit Tests.

3 b) Resumption requirement:

The Test Item must be fixed or Unit Tests refactored if out of date and then demonstrated to pass with <20% failure rate.

9 Test Deliverables

The following artefacts will be produced during the testing phase:

- **Test Plan**

Used to prescribe the scope, approach, resources, and schedule of the testing activities. To identify the items being tested, the features to be tested, the testing tasks to be performed, the personnel responsible for each task, and the risks associated with this plan.

- **Test Schedule**

Which describes the tasks, time, sequence, duration and assigned staff.

- **Test Breakdown**

Which includes the Test Scenarios, their priority and related number of Test Cases along with the defined estimates for time to write and execute the Test Cases.

- **Test Cases**

Detail the pre-conditions, test steps and expected and actual outcome of the tests. There will be positive and negative test cases.

- **Periodic progress and metric update reports**

- **Bug Reporting**

- **Test Summary Reports**

10 Testing Tasks

The Testing Tasks that the Test Team will deliver cover the following scope:

- **Fully In Scope:** Functional, Integration testing, Regression Testing, System testing and User Acceptance testing
- **Partially in Scope:** Performance testing
- **Out of Scope:** Functional automation testing

11 Environmental and Infrastructure Needs

The following detail the environmental and infrastructure needs required for the testing of Vivo Meeting test items and execution of Regression Testing.

Technology plan

Client Configuration	
Software	Hardware

Microsoft Windows XP Professional SP 2 and above	Intel Pentium 4 Processor 3.06 GHz, 1 GB RAM or above, 80 GB HDD or above
Development Environment	
Tools <ul style="list-style-type: none"> • Development Tool: Visual Studio 2008 SP 1. • Configuration Management Tool: Tortoise SVN • Project management Tool: Microsoft Project Plan 2003 • Defect Tracking Tool: Oracle Test Manager 	
Others (Please Specify)	

Platform	CPU	RAM	Hard disk	Testing tool	Any Other Tool
Windows XP Professional	Pentium IV	1 GB or above	80 GB or above	Oracle Test Manager (OTM)	Collabtive Project management tool
Windows Vista	Pentium IV	1 GB or above	80 GB or above	Oracle Test Manager (OTM)	Collabtive Project management tool
Windows 7	Pentium IV	1 GB or above	80 GB or above	Oracle Test Manager (OTM)	Collabtive Project management tool
Windows 2008	Pentium IV	1 GB or above	80 GB or above	Oracle Test Manager (OTM)	Collabtive Project management tool
MAC	Pentium IV	1 GB or above	80 GB or above	Oracle Test Manager (OTM)	Collabtive Project management tool
Android	-	-	-	-	-

Windows compatibility

The application is compatible with all windows versions that are equivalent or later than Windows XP.

MAC compatibility

The application is compatible with MAC.

Android compatibility

The application is compatible with Android.

Infrastructure

- Network connections are available on all test systems as required. Bandwidth requirement is as follows:

Test Repository

- <http://oats.gc-solutions.net:8088/otm>

12 Responsibility Matrix

The table below outlines the main responsibilities in brief for test activities:

Activity	Project Manager	Project Lead	QA Lead	Test Engineer/Senior Test Engineer
Provision of Technical Documents	X	X		
Test Planning and Estimation			X	X
Review and Sign off Test Plan	X	X	X	
Testing Documentation			X	X
Test Preparation and Execution				X
Test Environment Set-up			X	
Change Control of Test Environments			X	
Provision of Unit Tested Test Items		X		
Bug fixes and return to the Test Team for re-test		X		
Product Change Control	X	X	X	
Ongoing Test Reporting			X	X
Test Summary Reporting			X	

13 Staffing and Training Needs

Training Requirements

Kindly refer to training requirements in the excel sheet maintained for training.

Staffing

Staffing levels for the test activities will be:

- 1 x QA Lead for the duration of test planning at 50% effort against plan.
- The required number of Test Engineers for the duration of test execution at 100% effort against plan.

Training

For each project the training needs will be assessed and defined in the excel sheet maintained for training.

14 Schedules and Resource Plans

Team Plan

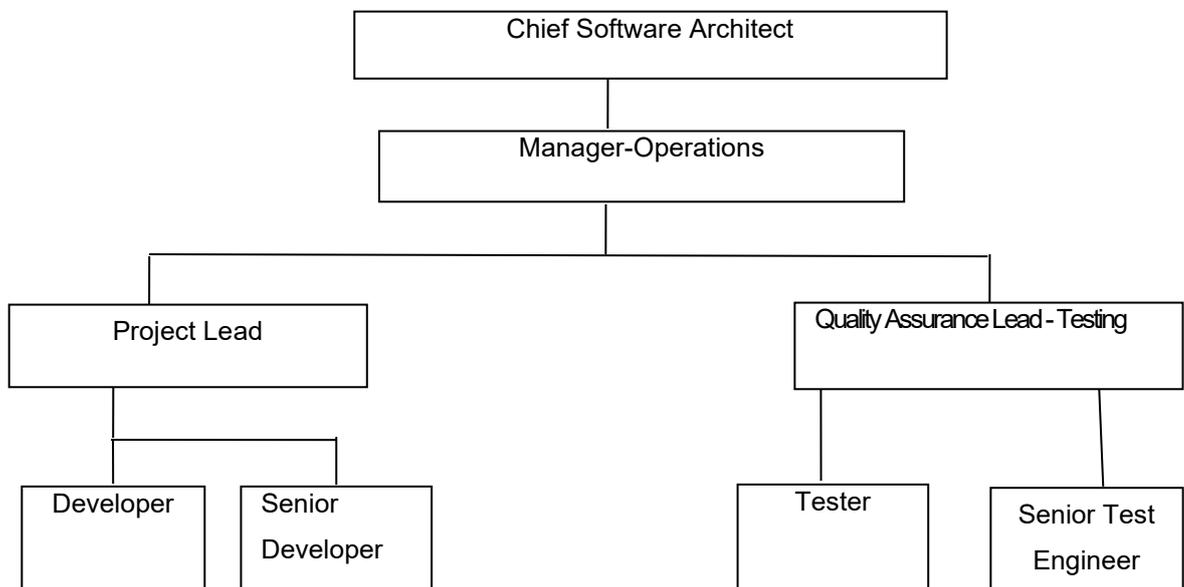
The Test Team will maintain a Team Plan which records individual assignment to testing tasks against assignable days. This will also record time planned and delivered against the tasks which will be used to update relevant Project Schedules and be used in periodic reporting.

Test Schedule

The Test Schedule for the Release will be located within <tasks> at: <http://192.168.2.10/collabtive>

Resource plan

Internal Reporting Structure



Roles and Responsibilities

Roles	No. of Resources	Responsibilities
Quality Assurance Lead - Testing	1	<ul style="list-style-type: none"> • Creating Test Plan • QC Resource Allocation and Management • Supervising Development of Test Cases and Scenarios • Responsible for reviewing test cases • Responsible for finding out the new methodologies of testing the product • Responsible for conducting usability test. • Establishing Bug Reporting Mechanism • Status Reporting to PM and CSA •
Test Engineer/Senior Test Engineer	2	<ul style="list-style-type: none"> • Responsible for creation of Test Scenarios • Creating Test Cases • Executing Test Cases • Bug Reporting • Status Reporting to QA Lead • Preparation of test result
SQA	1	<ul style="list-style-type: none"> • Monitoring and improving the software development process • Making sure that any agreed-upon standards and procedures are followed • Ensuring that problems are found and dealt with

15 Risks and Contingencies

Product related risks are being maintained in risk register. Risk register for Vivo Meeting can be found at //dumper/sandeep

16 Approvals

The following people are required to approve the Test Strategy

Approval By	Approval
Project Manager	
Chief Software Architect	