



**DMS Renovation**  
**Software Requirement Specification**

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# 1. DEFECT MANAGEMENT

Defect management is the heart of DMS. It contains following functionalities:

- Add Defect
- Attachment
- Defect List
- Defect View Or Edit
- Batch Update Defect
- Export Defect

## 1.1. Add Defect

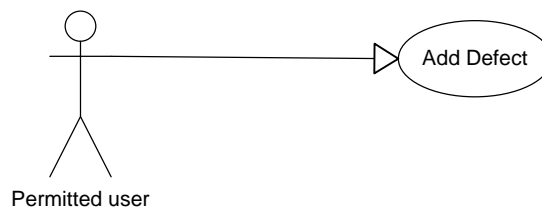
### 1.1.1. Overview

This screen is used to add new defect to DMS

### 1.1.2. Actors

All project members can add defect to DMS

### 1.1.3. Use-case diagrams



#### 1.1.3.1. Pre-condition

User must be logged in

#### 1.1.3.2. Post-condition

New defect was added into database.

#### 1.1.3.3. Triggers

- ✓ Clicks on the “Add New” button on the Defect View or Edit screen

- ✓ Go to menu Manage Defect from page header of any page, click on the hyper-link “New Defect”

#### 1.1.4. Workflows

Scenario	Actor	System
1. User successfully add new defect	1.1. Go to this screen	1.2. Display “Add defect” screen.
	1.3 At any time, user can attach file by clicking “Attach file” button  Attachment is optional	1.4 Submit to “Attach file” screen.  After user attached file, return to “Add new defect” screen with current status and values of all fields and control except change in attachment area.
	1.5 Fill in mandatory fields and optional fields (not required) and click “Save” button	1.6 Validate mandatory fields and valid format.  All fields are valid, new defect will be saved into database and continue to display “Add defect” screen for the next new defect
2. User inputs invalid data	2.1 Refer to step 1.1	2.2 Refer to step 1.2
	2.3 Refer to step 1.3	2.4 Validate mandatory fields and valid format  If there are still errors, dialog error messages of invalid fields will be displayed at the center of screen

#### 1.1.5. External interfaces

##### 1.1.5.1. Prototype:

Add Defect

**DMS** Defect management system

Project Environment | Manage Defect | Logout | Help

Defect management system Defect Addnew — [View DefectListing](#)

User: Le Thi Diem Trinh Login Date: 05/05/14 Project: Campulink  
 Group: CLC Position: Tester Status: On-going

**Main**

Status: Error Created user: TRINHLTD

Title \*

Description \*

QC activity \* 10-Unit test

Type of activity \* Test

Stage detected \*

Work product \* Software package

Module \*

Defect owner \*

Assigned To \*

Cause analysis

Corrective action

Created date \* 05/05/14 (mm/dd/yy)

Project Origin

Reference

Defect origin \* Coding

Stage injected \*

Priority 2-High

Severity \* 1-Fatal

Type \*

Due date 05/06/14 (mm/dd/yy)

Test Case ID

### Button

Save Defect List Attach file

### Attachment

File 1 Choose File No file chosen

File 2 Choose File No file chosen

File 3 Choose File No file chosen

File 4 Choose File No file chosen

(\*) Save images as JPG/JPEG or PNG format to reduce attachment size

Attach Cancel

Total files 0/4  
 Total size 0 Kb  
 Available size 1024 Kb  
 Max file size (\*) 256 Kb

### 1.1.5.2. Screen description

No	Field name	Control type	Required	Data type	Default value	Description
<b>Defect detail</b>						
1	Status	Label	Yes	Text	Error	Status of the defect.
2	Created user	Label	Yes	Text	Logged-in user	Member who created the defect and all other members of project

3	Created Date	Text field	Yes	Date	Today	Date when the defect was recorded in DMS Date format mm/dd/yy
4	Title	Text field	Yes	Text	Blank	A short & brief description of the defect for quick recognition Maximal 150 characters
5	Project Origin	Text field	No	Text	Blank	Maximal 50 characters
6	Description	Text area	Yes	Text	Blank	Full description of the defect, often the steps to reproduce the defect
7	Reference	Text field	No	Text	Blank	Maximal 30 characters
8	QC Activity	Combo box	Yes	Text	10-Unit test	QC activity in which the defect is found
9	Defect Origin	Combo box	Yes	Text	Coding	Process of defect
10	Type of activity	Combo box	Yes	Text	Test	Defect type of current project
11	Stage Injected	Combo box	No	Text	Blank	Stage injected of current project
12	Stage Detected	Combo box	No	Text	Blank	Stage detected of current project
13	Priority	Combo box	No	Text	2-High	Indicate how urgent the defect needs to be fixed
14	Work Product	Combo box	Yes	Text	Software package	Work product in which the defect is found. It is high level CI



15	Severity	Combo box	Yes	Text	1-Fatal	Severity of defects in current project
16	Module	Combo box	No	Text	Blank	Module of defect in current project
17	Type	Combo box	Yes	Text	Blank	Type of defect
18	Defect Owner	Combo box	No	Text	Blank	List all members of the project.
19	Assigned To	Combo box	No	Text	Blank	List all members of the project.
20	Due Date	Text field	No	Date	Today+1	Deadline of defect fixing. Date format mm/dd/yy
21	Cause Analysis	Text area	No	Text	Blank	Description of the cause of defect
22	Test Case ID	Text field	No	Text	Blank	ID of test case in which the defect was found Maximal 50 characters
23	Corrective Action	Text area	No	Text	Blank	Actions/steps to correct the defect
<b>Button</b>						
24	Save	Button	Yes	N/A	N/A	Save new defect to database and go to “Add Defect” screen
25	Defect List	Button	Yes	N/A	N/A	Return to “Defect List” screen corresponding to previous selected query (All defects / All Open Defects / All Leakage

						Defects / Public or Private Query)
26	Attach file	Button	Yes	N/A	N/A	Go to “Attach file” screen

#### 1.1.6. Business descriptions

No	Name	Control Type	Description
<b>Defect detail</b>			
1	QC Activity	Combo box	When “QC Activity” changes, appropriate values of “Type of Activity” will be automatically generated
2	Type of Activity	Combo box	This information won’t be inputted by user. System will add Type of Activity information according to QC Activity
3	Stage Detected - Injected	Combo box	Information of 2 stages will come from FI accordant to “today”
4	Priority	Combo box	Priority of defect
5	Work Product	Combo box	Work product in project
6	Severity	Combo box	Severity of defect
7	Module	Combo box	Available values are automatically got from another Project management tool  From this available values, list all appropriate “Modules” of “Work Product”
8	Type	Combo	List all defect types of system

		box	
9	Created user	Combo box	User can choose any member of project
10	Assigned to	Combo box	User can choose any member of project
11	Defect Owner	Combo box	User can choose any member of project
12	Defect ID	Text	This number is automatically generated whenever a new defect is added. Defect ID counter will not be reset.
13	Re-opened	N/A	This property is not displayed in screen. It will be automatically set to 0 each time a new defect is created.
14	Translation status	Hidden	Available values are: Not translated, Translated, Reviewed  This field is automatically set to “Not translated” whenever a new defect is created
15	Due Date	Text	Default value is today + 1
16	Defect Title	Text	Focus on Defect Title item at the first load
<b>Button</b>			
17	Defect list	Button	Return to “List Defect” screen of previous chosen query (All Defects, All Open Defects, ...)
18	Attach file	Button	Go to attachment screen

#### 1.1.7. User-validation rules

No	Validation rule	Message Code
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1	Combo box is required	ERR_REQUIRED_QC_ACTIVITY ERR_REQUIRED_ORIGIN ERR_REQUIRED_TYPE_ACTIVITY ERR_REQUIRED_WP ERR_REQUIRED_SEVERITY ERR_REQUIRED_TYPE
2	Date format mm/dd/yy	ERR_FORMAT_DATE_CREATED ERR_FORMAT_DATE_DUE
3	Text field/text area is required	ERR_REQUIRED_CREATED_DATE ERR_REQUIRED_TITLE ERR_REQUIRED_DESCRIPTION
4	Created date is greater than current date	ERR_CONSTRAINT_DATE_CREATED_TODAY
5	Created date is greater than Due Date	ERR_CONSTRAINT_DATE_CREATED_DUE
6	Length of input fields are over limitation	No message, auto trim string

#### 1.1.8. Related use-cases

- ✓ List defect
- ✓ Attach file

## 1.2. Attachment screen

### 1.2.1. Overview

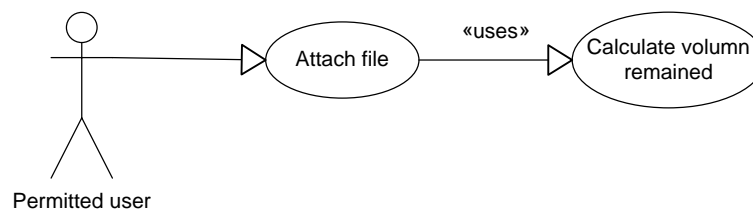
This function is described for the updating/attaching some files to a defect while user creates a new defect or updates an existing defect. In this screen, user will

have information on attachments of the defect, including: total number of attached file(s), total size of attached file(s) and available size for next attachment.

### 1.2.2. Actors

All users who have permission to attach files to a defect.

### 1.2.3. Use – case diagram



#### 1.2.3.1. Pre-condition

- The actor has successfully logged into the system.
- There's enough available space for attachment

#### 1.2.3.2. Post-condition

N/A

#### 1.2.3.3. Triggers

From Add Defect, Defect View Or Edit screen, user clicks on the Attach file button to view Attach files screen.

### 1.2.4. Workflows

#### 1.2.4.1. Scenario 1 – Valid Attachment

Actor	System
1. From Add Defect, Defect View Or Edit screen, user clicks on the <b>Attach File</b> button	2. Display Attach files screen
3. User choose some files by clicking on the Choose file button to open Choose File dialog	
4. After choosing file, User clicks on <b>Attach</b> button	5. Validate all inputs - If all inputs are valid ➔ Upload files to server and display Upload Attachment Result screen with successful message
6. On Upload Attachment result screen, user clicks on <b>Done</b> button.	7. Return to the Add Defect, Defect View Or Edit screen

#### 1.2.4.2. Scenario 2 – Invalid Attachment

Actor	System
Step 1, 2, 3 – refer to scenario 1	
Step 4 – refer to scenario 1	5. Validate all inputs - If any input is invalid ➔ Go to Upload Attachment Result screen with fail message
6. On Upload Attachment result screen, user clicks on <b>Done</b> button.	7. Return to the Add Defect, Defect View Or Edit screen

### 1.2.5. External interfaces

#### 1.2.5.1. Prototype

Figure: Attach file screen

Figure: Upload attachment result screen

#### 1.2.5.2. Screen Description

This function uses two screens: Upload Attachment screen, Upload Attachment result screen

##### 1.2.5.2.1. Attach file screen

No	Field name	Control type	Data type	Default Value	Require	Functional Description/(*) Tool tip
1	File X	Label Area	Text	Blank	Yes	There are always 4 file browsing item in this screen
2	Total files, Total size, Available Size, Max file size (*)	Label Area	Text	N/A	Yes	Information includes: - Total uploaded files, - Total size of attached files - Available size for next attachment - Maximum uploaded file

						size
3	Attach	Button	Control	N/A	Yes	Upload the chosen file(s) to server.
4	Cancel	Button	Control	N/A	Yes	Reset and close the dialog to return to Add Defect, Defect View Or Edit screen

#### 1.2.5.2.2. Upload Attachment result screen

No	Field name	Control type	Data type	Functional Description/(*) Tool tip
1	File(s) attached successfully	Label Area	Text	Incase success when attaching file <ul style="list-style-type: none"> <li>- New files = number of attached file</li> <li>- New size = Total size of attached files</li> <li>- Total files = &lt;number attached file&gt;/4</li> <li>- Total size = Total size (old &amp; new) Kb</li> <li>- Available size = &lt;1024 – Total size&gt; Kb</li> </ul>
1	Attach failed due to error	Label Area	Text	Incase fail when attaching file <ul style="list-style-type: none"> <li>- New files = 0</li> <li>- New size = 0 Kb</li> <li>- Total files = 0/4</li> <li>- Total size = 0 Kb</li> <li>- Available size = 1024 Kb</li> </ul>
2	Done	Button	Control	Return to Add Defect, Defect View Or Edit screen with the new attachment list

### 1.2.6. Business Description

#### 1.2.6.1. Upload Attachment screen

No	Name	Business rules
1	Upload/ Attachment screen <b>General constraints</b>	<ul style="list-style-type: none"> <li>- Limitation for file size = 256 Kb</li> <li>- Limitation for number of file = 4</li> <li>- Total size of all attachments doesn't exceed 1024 Kb</li> <li>- To reduce size of attachment, save images as JPG, JPEG or PNG format</li> <li>- In addition, attachment can be any format such as .doc, .xls, .txt, .zip, .rar...</li> </ul>

No	Name	Business rules
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No	Name	Business rules
1	From Add Defect, Defect View Or Edit screen, user clicks on <b>Attach File</b> button.	Display Upload Attachment screen → open Choose file dialog to browse the required file to attach
2	In Upload Attachment screen: User clicks on <b>Cancel</b> button	Reset and close the dialog to return to Add Defect, Defect View Or Edit screen
3	- User clicks on <b>Attach</b> button - If all the file paths are valid, the file size is not bigger than the limitation of attachment for a defect and the available space is enough → The chosen file(s) uploaded to server. If upload run successfully → Display <b>Upload Attachment screen – result</b>	
4	File name	File name of the attachment must be different to old attachments' name

#### 1.2.6.2. Upload Attachment result screen

- Control area

No	Name	Business rules
1	User clicks on <b>Done</b> button	Return to Add Defect, Defect View Or Edit screen with the new attachment list

#### 1.2.7. User validation rules

No	Error type	Message Code
1	user did not select any file for attachment when clicking Attach button	ERR_REQUIRED_ATTACHMENT_FILE
2	Total size is over the limitation (1024 Kb)	ERR_FILE_OVER_AVAILABLE_SIZE
3	file size is over the limitation (256 Kb)	ERR_FILE_OVER_MAX_FILE_SIZE
4	File name is same to old attachment's name in the project	ERR_EXISTED_FILE_NAME

#### 1.2.8. Related use-cases

- ✓ Defect View Or Edit



✓ Add new Defect

## 1.3. Defect List screen

### 1.3.1. Overview

This screen displays a list of defects matching a previously chosen query and specific search criteria if filter was applied.

### 1.3.2. Actors

All users can view defect list

### 1.3.3. Use-case diagram



#### 1.3.3.1. Pre-condition

User must be logged-in.

#### 1.3.3.2. Post-condition

List of suitable defects was displayed.

#### 1.3.3.3. Triggers

- User selects a query of listing in homepage
- User clicks Defect List button in Add Defect and Update Defect screens

### 1.3.4. Workflows

#### 1.3.4.1. Scenario 1 (Fixed Query - Filter)

Actor	System
1. User click on a fixed query (All Defects, All Open Defects, All Leakage Defects)	2. The corresponding list defect is displayed with the set of criteria as follows: <ul style="list-style-type: none"> <li>- Defect Owner</li> <li>- Status</li> </ul>

	<ul style="list-style-type: none"> <li>- Module Code</li> <li>- Assigned To</li> <li>- Severity</li> <li>- Type</li> <li>- Created By</li> <li>- Reference</li> <li>- Defect Origin</li> <li>- Stage Detected</li> <li>- Stage Injected</li> <li>- QC Activity</li> <li>- Created From</li> <li>- Created To</li> <li>- Work Product</li> <li>- Fixed From</li> <li>- Fixed To</li> <li>- Priority</li> <li>- DefectID</li> <li>- Test Case ID</li> <li>- Title</li> </ul>
3. User enters information related to searching defects in the <b>Filter</b> section.	
4. User click on the button “Search”	5. The corresponding list defect is displayed on a table

### 1.3.5. GUI

#### 1.3.5.1. Prototype

Filter:

Defect Owner	(All) ▾	Status	(All) ▾	Module Code	(All) ▾
Assigned To	(All) ▾	Severity	(All) ▾	Type	(All) ▾
Created By	(All) ▾	Reference	(All) ▾	Defect Origin	(All) ▾
Stage Detected	(All) ▾	Stage Injected	(All) ▾	QC Activity	(All) ▾
Created From	<input type="text"/>	Created To	<input type="text"/>	Work Product	(All) ▾
Fixed From	<input type="text"/>	Fixed To	<input type="text"/>	Priority	(All) ▾
DefectID	<input type="text"/>	Test Case ID	<input type="text"/>	Title	<input type="text"/>
Date format: mm/dd/yy					<input type="button" value="Search"/>

List defects:

Result 1 - 20 of 254 defects in 13 pages

	DefectID	Title	Test Case ID	Severity	Priority	Status	Defect Owner	Assigned To	Created By	Fixed Date	Date
<input type="checkbox"/>	522750	[RD]Restriction field doesn't exist on "Add Defect" screen after logging with internal account.	21	3-Medium	3-Normal	2-Assigned	LANHTT	LANHTT	VUONGCO	04/17/14	04/18/14
<input type="checkbox"/>	522749	[RD]System doesn't automatically generated appropriate values of "Work Product" after selecting any value in "Defect Origin" and "QC Activity".		3-Medium	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522748	[RD]System doesn't automatically generate appropriate values of "Work Product" after selecting any value in "Defect Origin" Combo box.		3-Medium	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522747	[RD]System doesn't automatically generate appropriate values of "Type of Activity" and "Work Product" after selecting any value in "QC Activity".		3-Medium	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522746	[RD]User can copy a passage >1200 characters from another document and paste it up "Description", "Cause Analysis", "Corrective Action" field.		4-Cosmetic	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522745	[RD]User can fill more than 1200 characters in "Description", "Cause Analysis", "Corrective Action" field on "Add Defect" screen.		4-Cosmetic	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522744	[RD]Max length of "Test Case ID" on "Add Defect" is not the same as designed in SRS.		4-Cosmetic	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522743	[RD]"Assigned To", "Defect Owner" field on "Add Defect" screen doesn't list all member of project.		4-Cosmetic	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522742	[RD]Default value of "Work Product" on "Add Defect" screen is not the same as designed in SRS.		4-Cosmetic	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522741	[RD]UI of "Created by" field is not the same as designed in SRS.		3-Medium	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522740	[RD]Default value of "Defect Origin" on "Add Defect" screen is not the same as designed in SRS.		4-Cosmetic	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522739	[RD]Default value of "Severity" on "Add Defect" screen is not the same as designed in SRS.		4-Cosmetic	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522738	[RD]Default value of "QC Activity" on "Add Defect" screen is not the same as designed in SRS.		4-Cosmetic	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522737	[RD]Default value of "Deadline" on "Add Defect" screen is not the same as designed in SRS.		4-Cosmetic	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522736	[RD]Format of "Created Date", "Deadline" on "Add Defect" screen is not the same as designed in SRS.		4-Cosmetic	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522735	[RD]The max length of "Test Case ID" is not correct with SRS when saving a new defect has "Test Case ID" field with length >90 characters.		3-Medium	3-Normal	1-Error			VUONGCO		04/18/14
<input type="checkbox"/>	522715	[RD] User can not attach file on "Attach File" screen.	DMS2_TC_UD-166	3-Medium	2-High	1-Error			MINHLPN		04/12/14
<input type="checkbox"/>	522714	[RD] Content, color of content, position of error messages are difference from requirement.	DMS2_TC_UD-108,112,120,138,140,142	4-Cosmetic	3-Normal	1-Error			MINHLPN		04/12/14
<input type="checkbox"/>	522713	[RD] Defect Detail screen doesn't display when clicking on [Save] button on "Update Defect" screen.	DMS2_TC_UD-103	3-Medium	1-Immediately	1-Error			MINHLPN		04/12/14
<input type="checkbox"/>	522712	[RD] Focus isn't moved from up to down, left to right by pressing [Tab] key.	DMS2_TC_UD-101	4-Cosmetic	4-Low	1-Error			MINHLPN		04/20/14

Control area:

Move defect(s) to project

### 1.3.5.2. Screen Description

#### 1.3.5.2.1. Zone 1 - filter

No	Field Name	Control Type	Data Type	Default Value	Required	Functional Description/(*)ToolTip
1	Defect Owner	Combo box	Text	All	No	Owner of defects searching. List all members of the project. Besides, it has 2 more items: (All) and None
2	Status	Combo box	Text	All	No	Status of defect. Depend on project model. Besides, it has 1 more item: (All)
3	Module Code	Combo box	Text	All	No	Module which contain defects user wants to search. Besides, it has 2 more items: (All) and (None)
4	Assigned To	Combo box	Text	All	No	List of all members of the project. Besides, it has 2 more items: (All) and (None)
5	Severity	Combo box	Text	All	No	Severity of defects in current project, similar to current DMS values. Besides, it has 1 more

						item: (All)
6	Type	Combo box	Text	All	No	Defect type of the defects searching, similar to current DMS values. Besides, it has 1 more item: (All)
7	Created By	Combo box	Text	All	No	Member who creates the defect is selected in the list of all members of the project... Besides, it has 2 more items: (All)
8	Reference	Combo box	Text	All	No	
9	Defect Origin	Combo box	Text	All	No	Indicates the actual process that caused the defect, similar to current DMS values. Besides, it has 1 more item: (All)
10	Stage Detected	Combo box	Text	All	No	Stage of project when defect is detected
11	Stage Injected	Combo box	Text	All	No	Stage of project when defect is resolved
12	QC Activity	Combo box	Text	All	No	QC Activity of defects searching, similar to current DMS values. Besides, it has 1 more item: (All)
13	Created From	Text field	Date	Blank	No	Minimal creation date of the defects searching Current date format of project
14	Created To	Text field	Date	Blank	No	Maximal creation date of the defects searching Current date format of project
15	Work Product	Combo box	Text	All	No	Work Product in which found the defects, similar to current DMS values. Besides, it has 1 more item: (All)
16	Fixed From	Text field	Date	Blank	No	Minimal fixed date of the defects searching Current date format of project
17	Fixed To	Text field	Date	Blank	No	Maximal fixed date of the defects searching Current date format of project

18	Priority	Combo box	Text	All	No	List priority that the defect need to be resolved. Besides, it has 2 more items: (All) and None
19	Defect ID	Text field	Text	Blank	No	The beginning value that the defects searching contains
20	Test Case ID	Text field	Text	Blank	No	The Test Case ID which found the defects
21	Title	Text field	Text	Blank	No	The title that defects searching contains
22	Search	Button	Control		No	Button allows user to search defects by selected criteria
23	Date format	Text	Text	mm/dd/yy	Yes	Date format of displayed date value

#### 1.3.5.2.2. Zone 2 - Paging area

No	Field name	Control Type	Data Type	Default Value	Required	Functional Description/ (*)ToolTip
1	Go	Button				Go to selected page in paging mode
2	Selected page	Text field	Text	1	Yes	Selected page value in paging mode
3	Prev	Link	Image			Go to previous page in paging
4	Next	Link	Image			Go to next page in paging

#### 1.3.5.2.3. Zone 3 – Defects listing area

No	Field Name	Control Type	Data Type	Default Value	Required	Functional Description/ (*)ToolTip
1	Check	Check box	Boolean	False	No	Selected defects will be used for batch update functionality
2	Defect ID	Link	Text		No	Link to “Defect View Or Edit” page
3	Title	Text	Text		No	Short description of content of defect
4	Test Case ID	Text	Text		No	ID of test case that found the defect
5	Severity	Text	Text		No	Severity of defect
6	Priority	Text	Text		No	Priority of defect

7	Status	Text	Text		No	Status of defect
8	Defect owner	Text	Text		No	Owner of defect
9	Assigned To	Text	Text		No	Who is assigned to fix defect
10	Created By	Text	Text		No	Who created defect
11	Fixed Date	Text	Date		No	Date when defect was fixed Current date format of project
12	Due Date	Text	Date		No	Deadline for defect fixing Current date format of project

#### 1.3.5.2.4. Zone 4 – Control area

No	Field Name	Control Type	Data Type	Default Value	Required	Functional Description/(*)ToolTip
1	Add New	Button	Text	N/A	N/A	Link to create new defect page
2	Batch Update	Button	Text	N/A	N/A	Submit selected defects to batch update page
3	Refresh	Button	Text	N/A	N/A	Refresh the page
4	Export	Button	Text	N/A	N/A	Permit user to export defects to excel file
5	Move defect(s) to project	Combo box	Text	N/A	N/A	Destination projects for moving defects
6	Move Defect	Button	Text	N/A	N/A	Permit QA to move defects to selected project (visible with QA only)

### 1.3.6. Business description

#### 1.3.6.1. Zone 1 - Filter

No	Field Name	Business Rules
1	Assigned To, Created By, Defect Owner	- Combo box contains all users assigned to the project
2	Status	- Combo box contains a list of defect status

3	Severity	- Combo box contains a list of defect severity values
4	Module Code	- Combo box “Module Code” contains a list of module code values - At the first load, Module code combo box contains all modules
5	QC Activity	- Combo box contains a list of QC Activity values
7	Priority	- Combo box Priority contains a list of Priority values
9	Type	- Combo box contains a list of defect type values
10	Defect Origin	- Combo box contains a list of Origin values
12	Work Product	- Combo box contains a list of Work Product values
13	DefectID	- Search all defects that begin with inputted value
14	Defect Owner	- Combo box contains all members of the selected project
16	Title	Search all defects which have relative value with inputted value
17	Test Case ID	Search relative value

#### 1.3.6.2. Zone 2 – Defects listing area

No	Field Name	Business Rules
1	Check	- Used for “Batch Update” - If user clicks the check icon on the header row, all check boxes will be checked
2	DefectID	- Link to “Defect View Or Edit” page - Refer to use-case “Defect View Or Edit” - If user clicks the icon “DefectID” on the header row , all values of the result table will be sorted by this field
3	Title	- If user clicks the icon “Title” on the header row , all values of the result table will be sorted by this field
4	Test Case ID	- If user clicks the icon “Test Case ID” on the header row , all values of the result table will be sorted by this field
5	Severity	- If user clicks the icon of this field on the header row , all values of the result table will be sorted by this field
6	Priority	
7	Status	
8	Defect Owner	
9	Assigned To	
10	Created By	
11	Fixed Date	
12	Due Date	

#### 1.3.7. User – validation rules

No	Validation rule	Message Code
1	Date format mm/dd/yy	ERR_FORMAT_DATE_CREATED_FROM ERR_FORMAT_DATE_CREATED_TO ERR_FORMAT_DATE_FIXED_FROM ERR_FORMAT_DATE_FIXED_TO
2	Created From Date > Created To Date	ERR_CONSTRAINT_DATE_CREATED_FROMTO
3	Fixed From Date > Fixed To Date	ERR_CONSTRAINT_DATE_FIXED_FROMTO
4	Input data that is characters/specific characters/negative number is filled in "DefectID"	ERR_DEFECT_ID_INVALID
5	Selected page is out of range or not a positive number	ALT_PAGE_INVALID
6	No defect is checked to batch update	ALT_REQUIRED_DEFECT

#### 1.3.8. Related use-cases

- ✓ Add defect
- ✓ Defect View Or Edit
- ✓ Batch update
- ✓ Export defect

### 1.4. Defect View Or Edit screen

#### 1.4.1. Overview

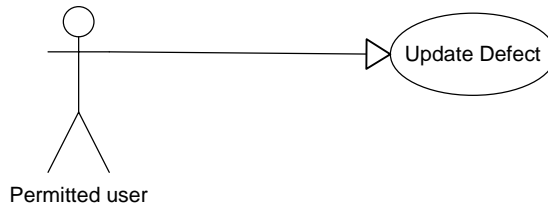
With this function, user can update existed defect and save the modification. All members of project can update the defect.

#### 1.4.2. Actors

All project members can update defect.

#### 1.4.3. Use-case diagram



**1.4.3.1. Pre-condition**

User must be logged-in the system.

**1.4.3.2. Post-condition**

N/A

**1.4.3.3. Triggers**

- User clicks on Defect ID in defects list screen

**1.4.4. Workflows**

Actor	System
1. Go to “Defect View Or Edit” screen	2. Display “Defect View Or Edit” screen with all available data fields related to a specific actor  Display current values of defect for user to update
3. Update value of data fields & click “Save” button	4. Validate data fields  If all fields are valid, defect will be updated in database and go to the page “Defect List”

**1.4.5. External interfaces****1.4.5.1. Prototype**

Defect View Or Edit

The screenshot shows the DMS Defect Management system interface. At the top, there's a navigation bar with 'Project Environment', 'Manage Defect', 'Logout', and 'Help'. Below this is a header section with 'View History' and 'View Defect Listing' links. The main form area is titled 'Main' and contains a defect entry for ID 522775, created by TRINHLD. The defect status is '1-Error'. The title is 'User can enter out of 1200 characters in [Description] field'. The description includes actual and expected results, and a step to reproduce the issue. The form includes various fields for QC Activity, Type of Activity, Stage detected, Work Product, Module Code, Defect owner, Assigned To, Cause analysis, and Corrective Action. On the right, there are fields for Fixed Date, Created Date, Project Origin, Reference, Defect Origin, Stage injected, Priority, Severity, Type, Due Date, and Test Case ID. At the bottom, there are buttons for 'Save', 'Delete', 'Defect List', and 'Attach File'.

#### 1.4.5.2. Screen descriptions

No	Field name	Control Type	Required	Data type	Default value	Description
<b>Defect detail</b>						
1	Status	Label	Yes	Text	Current Value	Status of the defect.
2	Fixed Date	Text field	No	Date	Blank	Date when the defect was fixed Date format mm/dd/yy
3	Title	Text field	Yes	Text	Current Value	A short & brief description of the defect for quick recognition
4	Created Date	Text field	Yes	Date	Current Value	Date when the defect was recorded in DMS Date format mm/dd/yy

5	Description	Text area	Yes	Text	Current Value	Full description of the defect, often the steps to reproduce the defect
6	Project Origin	Text field	No	Text	Current Value	
7	Reference	Text field	No	Text	Current Value	
8	QC Activity	Combo box	Yes	Text	Current Value	QC activity in which the defect is found
9	Defect Origin	Combo box	Yes	Text	Current Value	Process of defect
10	Type of activity	Combo box	Yes	Text	Current Value	Defect type of current project
11	Stage Injected	Combo box	No	Text	Current Value	Stage injected of current project
12	Stage Detected	Combo box	No	Text	Current Value	Stage detected of current project
13	Priority	Combo box	No	Text	Current Value	Indicate how urgent the defect needs to be fixed
14	Work Product	Combo box	Yes	Text	Current Value	Work product in which the defect is found. It is high level CI
15	Severity	Combo box	Yes	Text	Current Value	Severity of defects in current project
16	Module Code	Combo box	No	Text	Current Value	Module of defect in current project

17	Type	Combo box	Yes	Text	Current Value	Type of defect
18	Defect Owner	Combo box	No	Text	Current Value	List all members of the project.
19	Assigned To	Combo box	No	Text	Current Value	List all members of the project. If combo box “Assigned To” is chosen, status will be changed to Assigned by system
20	Due Date	Text field	No	Date	Current Value	Deadline of defect fixing. Date format mm/dd/yy
21	Cause Analysis	Text area	No	Text	Current Value	Description of the cause of defect
22	Test Case ID	Text field	No	Text	Current Value	ID of test case in which the defect was found Maximal 50 characters
23	Corrective Action	Text area	No	Text	Current Value	Actions/steps to correct the defect
<b>Button</b>						
24	Save	Button	N/A	N/A	N/A	Save current defect to database and return to “List defect” screen
25	Delete	Button	N/A	N/A	N/A	Delete current defect
26	Defect list	Button	N/A	N/A	N/A	Return to “Defect List” screen corresponding to previous selected query (All defects / All Open Defects / All Leakage Defects / Public or Private

						Query)
27	Attach file	Button	N/A	N/A	N/A	Submit the defect to “Attach file” screen

#### 1.4.6. Business descriptions

No	Name	Description
<b>Defect detail</b>		
1	Assigned To	User can choose any member of project
2	Module Code	Available values are automatically got from another Project management tool From this available values, list all appropriated “Modules” of “Work Product”
3	Type	List all defect types of system
4	Title	Can be updated by all members of project
5	Description	Can be updated by all members of project
6	Defect Owner	List all members of team that are assigned to project
7	Due Date	Default value is today+1 if there is no value for this field
8	Title	Focus on Defect Title item at the first load
9	Corrective Action	If Status is changed to “3-Pending”, “4-Tested”, “5-Accepted” or “6-Cancelled” then “Corrective Action” must be filled.
<b>Button</b>		

10	Save	<p>Validate all fields</p> <p>If all fields are valid, save the defect in database and go to “Add Defect” screen. Save all information in Update screen including comment (if any)</p>
11	Delete	Delete the defect from database and go to “Defect List” screen.
12	Defect List	Move to “Defect List” screen
13	Attach file	<p>Only Created user, Assignee and full-right users (PM, PTL, QA) can use this functionality</p> <p>Submit the defect to “Attach file” screen</p>

#### 1.4.7. User-Validation rules

No	Validation rule	Error message ID
1	Combo box is required	<p>ERR_REQUIRED_STATUS</p> <p>ERR_REQUIRED_QC_ACTIVITY</p> <p>ERR_REQUIRED_DEFECT_ORIGIN</p> <p>ERR_REQUIRED_TYPE_ACTIVITY</p> <p>ERR_REQUIRED_WP</p> <p>ERR_REQUIRED_SEVERITY</p> <p>ERR_REQUIRED_TYPE</p>
2	Date format mm/dd/yy	<p>ERR_FORMAT_DATE_CREATED</p> <p>ERR_FORMAT_DATE_FIXED</p> <p>ERR_FORMAT_DATE_DUE</p>
3	Text field/text area is required	<p>ERR_REQUIRED_TITLE</p> <p>ERR_REQUIRED_CREATED_DATE</p>

		ERR_REQUIRED_DESCRIPTION
4	Created date is greater than current date	ERR_CONSTRAINT_DATE_CREATED_TODAY
5	Fixed date is greater than current date	ERR_CONSTRAINT_DATE_FIXED_TODAY
6	Created date is greater than fixed date	ERR_CONSTRAINT_DATE_CREATED_FIXED

#### 1.4.8. Related use-cases

- ✓ List defect
- ✓ Attach file

### 1.5. Batch Update Defect screen

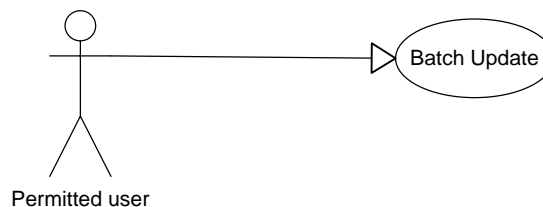
#### 1.5.1. Overview

This function permit user to update concurrently some defects of the same batch. User must select defects from List Defect screen before using Batch Update.

#### 1.5.2. Actors

All users who have permission on Batch update functionality (defined in RMS)

#### 1.5.3. Use - case diagram



##### 1.5.3.1. Pre-condition

- The actor has successfully logged into the system.
- User has selected at least one defect to update

##### 1.5.3.2. Post-condition

N/A

### 1.5.3.3. Triggers

From List Defect screen, user selects some necessary defects for updating and clicks on Batch Update button.

### 1.5.4. Workflows

#### 1.5.4.1. Scenario – Batch update

Actor	System
1. From List Defect screen, user selects some necessary defects for updating	
2. User clicks on <b>Batch Update</b> button.	3. Display Batch Update screen
4. User change some necessary fields of the selected defects	
5. User clicks on <b>Save</b> button	6. Save all modifications and return to List Defect screen.

### 1.5.5. External interfaces

#### 1.5.5.1. Prototype

#### 1.5.5.2. Screen Description

Each defect is listed here with following information:

No	Field name	Control type	Data type	Default value	Require	Functional Description/(*) Tool tips
1	Defect ID	Label	Text	Copy from previous	N/A	ID number of defect Cannot be edited
2	Defect Title	Label	Text	Copy from previous	N/A	This is a brief description about defect Cannot be edited



3	Due Date	Text box	Text	Copy from previous	No	This is the date on which the defect should be fixed - Associated with a date picker calendar - format dd/mm/yy
4	Severity	Combo box	Text	Copy from previous	Yes	Severity of defect
5	Priority	Combo box	Text	Copy from previous	No	Priority of defect
6	Defect Owner	Combo box	Text	Copy from previous	No	This field indicates who is owner of the defect List all members of the project
7	Assigned to	Combo box	Text	Copy from previous	No	This field indicates who will be responsible for fixing the defect List all members of the project

### 1.5.6. Business Description

#### 1.5.6.1. Data fields

No	Name	Business rules
1	Defect Owner	User can assign owner for defect to any member of project
2	Assigned To	User can assign defect to any member of project

#### 1.5.6.2. Control area

No	Name	Business rules
1	From List Defect screen, user clicks on <b>Batch Update</b> button	Go to Batch Update screen with the list of selected defects
2	At Batch Update screen, user clicks on <b>Defect List</b> button	Return to List Defect screen without saving any thing
3	User clicks on <b>Save</b> button	Save all changes and return to List Defect screen

### 1.5.7. User validation rules

No	Error type	Message Code
----	------------	--------------

1	Due date is in invalid format	ERR_FORMAT_DATE_DUE
---	-------------------------------	---------------------

#### 1.5.8. Related use-cases

- ✓ Defect List

### 1.6. Export Defect

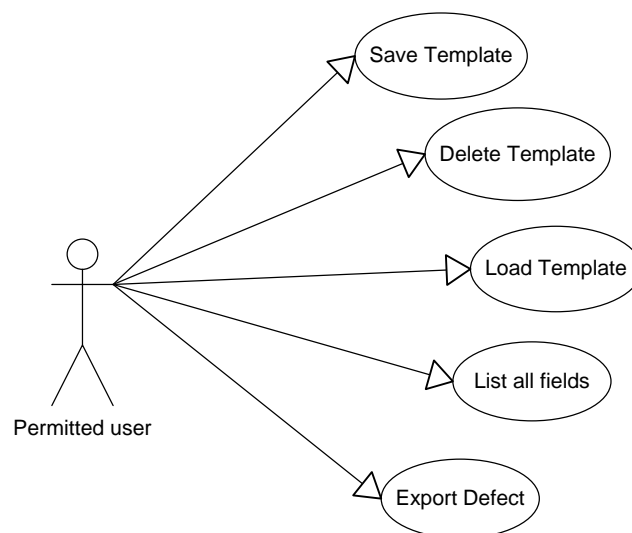
#### 1.6.1. Overview

This screen allows user to export defects list retrieved from “Defect List” screen.

#### 1.6.2. Actors

All users who has permission on Export functionality

#### 1.6.3. Use-case diagram



##### 1.6.3.1. Pre-condition

User must be logged-in.

##### 1.6.3.2. Post-condition

Defects were exported to a file.

##### 1.6.3.3. Triggers

In “Defect List” screen, user click “Export” button.

#### 1.6.4. Workflow

Actor	System
1/ Click “Export” button from “Defect List” screen	2/ Defect which are being displayed in “Defect List” is exported  The exported file is saved in download link of browser.  Type of file: excel

### 1.6.5. External interfaces

#### 1.6.5.1. Prototype

Defect is exported to excel file

#### 1.6.5.2. File description

No	Field name	Description
1	#	
2	DefectID	
3	Title	
4	Test Case ID	
5	Severity	
6	Priority	
7	Status	
8	Defect Owner	
9	Assign To	

10	Created By	
11	Create Date	
12	Fixed Date	
13	Due Date	
14	Description	-
15	Project Origin	
16	Reference	
17	QC Activity	
18	Defect Origin	
19	Activity Type	
20	Stage Injected	
21	Stage Detected	
22	Work Product	
23	Module	
24	Defect Type	
25	Corrective Action	
26	Closed Date	

27	Cause Analysis	
----	----------------	--

#### 1.6.6. User – validation rules

No	Name	Message Code
1	Export list is empty	ALT_REQUIRED_EXPORT_LIST

#### 1.6.7. Related use-cases

✓ Defect List

### 1.7. Defect lifecycle

Defect lifecycle:

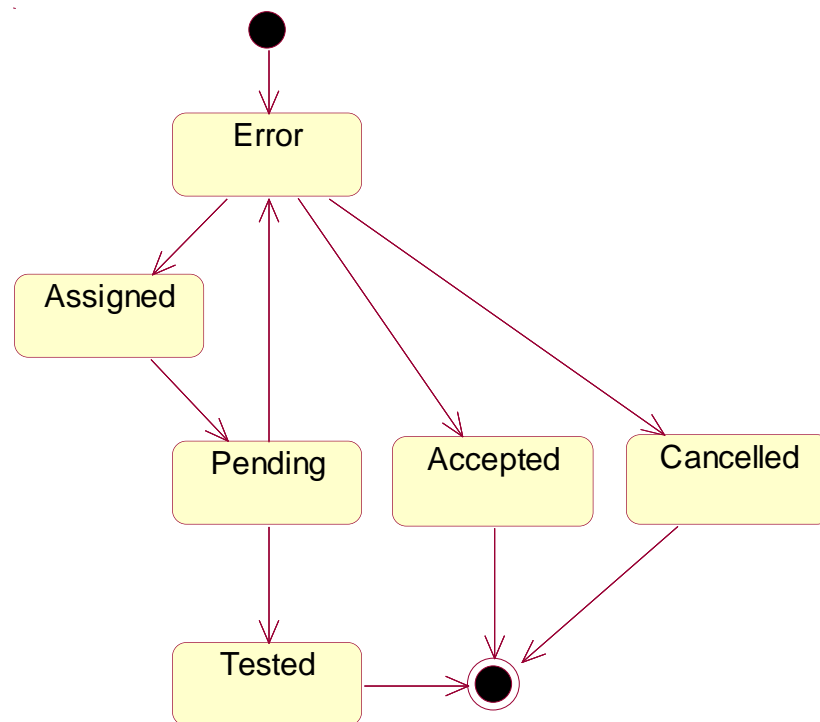


Figure 2.1.1: Defect life cycle

#### Description:

- 1) A problem is logged into DMS -> status = Error
- 2) PM/PTL verify the logged problem

- 2.1) It's really a bug - assign to Developer fix -> change status = Assigned
- 2.2) It's NOT a bug -> change status = Cancelled
- 2.3) It's really a bug but no need fix at this project (by any reason) -> change status = Accepted
- 3) Developer fix bug -> change status = Pending
- 4) Tester verify bug again
  - 4.1) Bug is really fixed -> change status = Tested
  - 4.2) Bug is NOT fixed yet -> change status = Error again

Current status	Next status						
Relationship	1-Error	2-Assigned	3-Pending	4-Tested	5-Accepted	6-Canceled	End
1-Error		x			x	x	
2-Assigned			x				
3-Pending	x			x			
4-Tested							x
5-Accepted							x
6-Cancelled							x

## 2. OTHERS REQUIREMENT

### 2.1. Header of page

#### 2.1.1. Overview

Always display Header in all screens.

#### 2.1.2. External interfaces

##### 2.1.2.1. Prototype:



##### 2.1.2.2. Screen description

No	Field name	Control type	Data type	Description
1	Project Environment	Menu	Text	
2	Assign User	Menu	Text	Submenu of "Project Environment" menu
3	Work Product	Menu	Text	Submenu of "Project Environment" menu
4	Module	Menu	Text	Submenu of "Project Environment" menu
5	Setup Environment	Menu	Text	Submenu of "Project Environment" menu
6	Mange Defect	Menu	Text	
7	Manage Views	Menu	Text	Submenu of "Mange Defect" menu

				Go to Home page
8	New Defect	Menu	Text	Submenu of “Mange Defect” menu Go to Add New defect screen
9	Manage Planned Defect	Menu	Text	Submenu of “Mange Defect” menu
10	Project Summary	Menu	Text	Submenu of “Mange Defect” menu
11	Import Defect	Menu	Text	Submenu of “Mange Defect” menu
12	Logout	Menu	Text	Logout system, go to Login screen
13	Help	Menu	Text	Download & open file “Guideline_Defect Management System.doc”
14	Defect management system <screen name>	Label	Text	
15	User	Label	Text	Value = type of login user
16	Group	Label	Text	Value = group of login user
17	Login Date	Label	Text	Value = today Date format = mm/dd/yy
18	Position	Label	Text	Role of login user
19	Project	Combo box	Text	List of project which login user is assigned Default value = the current project



20	Status	Combo box	Text	Status of project  Default value = the current status of project
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## 2.2. Data Format

### 2.2.1. Date/Time Format

Default date format is mm/dd/yy

For example: 05/29/14

Default time format is hh:mm:ss

For example: 07:23:55

### 2.2.2. Number Format

No zero at prefix

File size: xx.x KB

For example: 192.3 KB

Available size: xx KB

For example: 456 KB

Order number has no comma separated

For example: 12345

Decimal places of % is 1

For example: 25.7%

## 2.3. Order of reference data

### 2.3.1. QC Activity

10-Unit test

(Type of Activity = Test)

11-Integration test

(Type of Activity = Test)

12-System test

(Type of Activity = Test)

13-Acceptance test

(Type of Activity = Test)

14-Regression test

(Type of Activity = Test)

15-After release test

(Type of Activity = Test)

16-Other test

(Type of Activity = Test)

17-Prototype test

(Type of Activity = Test)

20-Document review	(Type of Activity = Review)
21-Code review	(Type of Activity = Review)
22-After release review	(Type of Activity = Review)
23-Prototype review	(Type of Activity = Review)
24-Other review	(Type of Activity = Review)
30-Quality gate inspection	(Type of Activity = Inspection)
31-Final inspection	(Type of Activity = Inspection)
32-Other inspection	(Type of Activity = Inspection)
33-UT inspection	(Type of Activity = Inspection)
40-Baseline audit	(Type of Activity = Audit)
41-Other audit	(Type of Activity = Audit)

### **2.3.2. Defect Origin**

Administration

Coding

Collaborator Management

Configuration Management

Contract Management

Correction

Customer Support

Deployment

Design

Document Control

Facility Management

IS Management

Internal Audit

Management Review

Other  
Prevention  
Process Improvement  
Project Management  
Quality Control  
Quality Planning  
Recruitment  
Requirement  
Retirement  
Staff Management  
Student Management  
Subcontract Management  
Technology management  
Test  
Training

**2.3.3. Type of Activity**

1. Review
2. Test
3. Inspection
4. Audit

**2.3.4. Stage Injected / Stage Detected**

<blank>

- 1-Initiation
- 2-Definition
- 3-Solution
- 4-Construction

5-Transition

6-Termination

Definition&Solution

Initiation&Definition

Release 1

Release 2

Release 3

Release 4

Release 5

Release 6

Solution&Construction

#### **2.3.5. Priority**

<blank>

1-Immediately

2-High

3-Normal

4-Low

#### **2.3.6. Work product**

Acceptance note

Architectural design

Audit program

Audit record

Audit report

Baseline Audit

Baseline report

CM Plan

Change request

Coding convention

Configuration Status Report

Contract

Customer Satisfaction Survey

DAR Report

DP Plan

DP report

Database  
Deployment package  
Design prototype  
Detailed design  
Final inspection  
Handover note  
IP  
IP database  
Installation manual  
Integration test case  
Integration test plan  
Integration test report  
Meeting minutes  
Others  
PCB  
PQA report  
Pilot plan  
Pilot record  
Pilot report  
Plan  
Process assets  
Process database  
Program  
Project assests  
Project database  
Project plan  
Project record  
Project report  
Proposal  
Prototype  
QA report  
QA review record  
QDS  
Quality control report  
Quality gate record  
Record  
Release note  
Report  
Requirement prototype  
Resource and environment  
Review TestCase  
Review record  
SQA report  
SRS  
Service Level Agreement  
Software module  
Software package  
Support Diary  
System description  
System test case  
System test plan

System test report  
Test data  
Test plan  
Test script  
Traceability matrix  
Training course  
Training material  
Training records  
URD  
Unit test case  
Unit test plan  
Unit test report  
Use case  
User manual and WO

#### **2.3.7. Severity**

1-Fatal  
  
2-Serious  
  
3-Medium  
  
4-Cosmetic

#### **2.3.8. Module / Module Code**

<Blank>  
  
<List of module which got from another Project management tool>

#### **2.3.9. Type**

01-Functionality (Other)  
011-Req misunderstanding  
012-Feature missing  
013-Coding logic  
014-Business logic  
02-User Interface  
03-Performance  
04-Design issue  
05-Coding standard  
06-Document  
07-Data & Database integrity  
08-Security & Access Control  
09-Portability  
10-Other  
11-Tools

#### **2.3.10. Defect owner, Assigned To,**

All member of project are ordered by alphabet :

<Blank>

<Member 1>

.....

<Member n>

### 2.3.11. Status

1-Error

2-Assigned

3-Pending

4-Tested

5-Accepted

6-Canceled

## 2.4. Timeout requirement

All screens have timeout of 1 hour

After timeout, user has to re-login, and does his/her previous step by step once again.

## 2.5. Message list

Message Code	English Content
ERR_FORMAT_DATE_CREATED	Created Date is invalid
ERR_FORMAT_DATE_CREATED_FROM	"From Created Date" is invalid.
ERR_FORMAT_DATE_CREATED_TO	"To Created Date" is invalid.
ERR_FORMAT_DATE_FIXED	"Fixed Date" is invalid.
ERR_FORMAT_DATE_FIXED_FROM	"From Fixed Date" is invalid.
ERR_FORMAT_DATE_FIXED_TO	"To Fixed Date" is invalid.
ERR_FORMAT_DATE_DUE	"Deadline" is invalid.
ERR_REQUIRED_SEVERITY	"Severity" is required
ERR_REQUIRED_TYPE	"Type" is required
ERR_REQUIRED_TYPE_ACTIVITY	"Type of Activity" is required
ERR_REQUIRED_QC_ACTIVITY	"QC Activity" is required
ERR_REQUIRED_ORIGIN	"Defect Origin" is required
ERR_REQUIRED_WP	"Work Product" is required
ERR_REQUIRED_CREATED_DATE	"Created Date" is required

ERR_REQUIRED_TITLE	"Title" is required
ERR_REQUIRED_DESCRIPTION	"Description" is required
ERR_REQUIRED_STATUS	Ignore this message because status cannot be blank
ERR_REQUIRED_DEFECT_ORIGIN	Ignore this message because defect origin cannot be blank
ERR_DEFECT_ID_INVALID	Defect ID must be positive number
ERR_REQUIRED_ATTACHMENT_FILE	Please select at least one file to attach
ERR_FILE_OVER_AVAILABLE_SIZE	Attachment size exceeds available space
ERR_FILE_OVER_MAX_FILE_SIZE	Attach size exceeded
ERR_EXISTED_FILE_NAME	The attached file already exists!
ERR_CONSTRAINT_DATE_CREATED_FROMTO	"From Created Date" cannot be later than "To Created Date"
ERR_CONSTRAINT_DATE_FIXED_FROMTO	"From Fixed Date" cannot be later than "To Fixed Date"
ERR_CONSTRAINT_DATE_CREATED_TODAY	"Created Date" cannot be later than today
ERR_CONSTRAINT_DATE_CREATED_DUE	"Created Date" cannot be later than "Deadline"
ERR_CONSTRAINT_DATE_CREATED_FIXED	"Created Date" cannot be later than fixed date
ERR_CONSTRAINT_DATE_FIXED_TODAY	"Fixed Date" cannot be later than today
ALT_PAGE_INVALID	Your number is out of range
ALT_REQUIRED_DEFECT	Defect(s) is required
ALT_REQUIRED_EXPORT_LIST	Some items must be selected