



Paralinear Solutions

Team 7

Deliverable 06: Sytem Documentation

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System Name: Gohvan Construction system

Type of System: Complete Business Solution

In this deliverable we aim to ensure that all the system documentation (from Deliverable 00 up until Deliverable 04) is up to date, reconciled and complete. Deliverable 06 contains the System Requirements signed off by our client and the INF 370 module coordinator. This deliverable consists of the Final Validation of Requirements, a CRUD Matrix, Conversion Plan, Complexity Matrix, Project Related Issues as well as the Client and Team Sign off of the deliverable.

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Deliverable Introduction

This document contains the updated, reconciled and complete documentation done by the Paralinear Team. This document also contains the CRUD Matrix illustrating the relationship between the screens in the Gohvan Construction system and the database. The conversion plan to install the system is addressed. The document will conclude with the sign-off by both the client, Michael van der Walt, and all the members of the Paralinear team.

Overview of the Project from Deliverable 00 to 07

Deliverable 00: Team & Client Information:

Deliverable 00 provides an overview of who our client is and the team members in the Paralinear team. A brief paragraph of what the team will aim to provide for the team's client. The contact details of the client and the team members will be present.

Deliverable 01: Project Proposal:

In this deliverable, the Paralinear team provided the project proposal of the Gohvan Construction System. The team did a full analysis of the background and history of the company, conducted the initial requirements gathering and the feasibility analysis of developing and implementing a new system.

Deliverable 02: Functional Specification:

The Paralinear team provided the complete functional specifications of the Gohvan Construction system, by providing the complete set of functional level use case diagrams, data flow diagrams, activity diagrams, along with the functional Data Model.

Deliverable 03: Prototype:

In this deliverable, the Paralinear team provided a complete prototype of the proposed system to be developed for the Gohvan Construction system

Deliverable 04: Technical Specification:

In this deliverable, the Paralinear Team provided the complete technical specifications of the Gohvan Construction system, including a complete set of technical use case diagrams, narratives, and data flow diagrams. The team also provided the physical data model of the system.

Deliverable 05: Internally Tested System:

In the Deliverable, the team provided a functioning system that was tested internally by the Paralinear team.

Deliverable 06: System Documentation:

The team will present the updated and final documentation for the system as a whole. This will include the complete system documentation from Deliverables 1, 2, 3 and 4 along with deliverable 6's complete validation table, CRUD matrix, conversion plan and project related issue.

Deliverable 07: Website/Repository:

In this deliverable, we aim to provide a complete static website that contains all the information of each deliverable as well as a brief overview about the Our Team, Our Client and the Gohvan Construction System.

System Requirements

Introduction:

This section contains the final required amended changes of the requirements for the proposed Gohvan Construction system. It will contain the amended requirements list and use case description for each subsystem and their corresponding use cases. This document is signoff by the client and course coordinator that states that they agree and approve the amended changes.

1. Complete set of final, Signed-off system requirements:

Final System Requirements: Gohvan Construction System (1 File)

Conclusion

This section contained the complete, final signed off requirements of the Gohvan Construction System developed by the Paralineer Team, which was signed off by our client, Michael van der Walt and the INF370 coordinator.

Complete Documentation

Introduction:

This section includes all previous deliverables from deliverable 00 up until deliverable 07. It also includes the Final System Requirements. These documents were updated, reconciled and completed

2. Completed Validated Documentation:

Please refer to the accompanying files for all of the system documentation of the Gohvan Construction System:

- Final System Requirements: Gohvan Construction System (1 File)
- Deliverable 00: Team and Client Information (1 File)
- Deliverable 01: Project Proposal (1 File)
- Deliverable 02: Functional Specifications (1 Files)
- Deliverable 03: Prototype (1 File)
- Deliverable 04: Technical Specifications (2 Files)
- Deliverable 05: Internally Tested System (Gohvan Construction System)
- Deliverable 06: This current Document (1 File)
- Deliverable 07: Gohvan Construction System Website/Repository (Repository)

Conclusion:

This section covered the complete list of system documentation for the Gohvan Construction system from the beginning of the project up to this date (the due date for Deliverable 5,6 &7).

Validation

Introduction:

This section in the deliverable displays the validation tables which represent every use case requirement and the data flows within, and which entities are being interacted with.

3. Complete Validation Table:

3.1 Quotation Subsystem:

1. Quotation Subsystem					
Use Case No.	Use Case Title	Processes from Primitive Data Flow Diagram	Entities	Screens	Reports
1.1	Create Quote	1.1.1 Display Quote Screen Task (Angular)	None	Quote Screen	None
		1.1.2 Retrieve Line Item and Project Information Task (Angular .NET Core)	None	None	None
		1.1.3 Retrieve Company, VAT and Client Information (Angular .NET Core)	Company Information VAT Client	None	None
		1.1.4 Display Create Quote Screen Task (Angular)	None	Create Quote Screen	None
		1.1.5 Capture and Validate Details Task (Angular)	None		None
		1.1.5 ALT: Notification of Validation Error Task (Angular)	None	Validation Error Dialog	None
		1.1.6 Display Confirmation Modal Task (Angular)	None	Confirmation Modal	None
		1.1.7 Request confirmation of captured info Task (Angular)	None	None	None
		1.1.8 Save Quote Details Task (Angular .NET Core)	Client Quote	None	None
		1.1.9 Generate Excel Sheets Task (Angular)	None	None	None
		1.1.10 Notification of successful quote creation Task (Angular)	None	Successful Quote Creation Dialog	None
		1.1.10 ALT: Notification of unsuccessful quote creation Task (Angular)	None	Unexpected Error Dialog	None
		1.1.11 Create Excel Sheets Download Task (Angular)	None	None	Client Quote
1.2	Search Quote	1.2.1 Display Quote Screen Task (Angular)	None	None	None

		1.2.2 Capture Search Parameter Task (Angular)	None	None	None
		1.2.3 Validate Captured Details Task (Angular)	None	None	None
		1.2.3 ALT: Notification of Validation Error (Angular)	None	Validation Error Dialog	None
		1.2.4 Retrieve Search Results Task (Angular .NET Core)	Client Quote	None	None
		1.2.5 Populate Search Results Table Task (Angular)	None	None	None
		1.2.5 ALT: Notification of no quote found Task (Angular)	None	No quote found Dialog	None
		1.2.6 Display Selected Employee Task (Angular)	None	None	None
		1.2.6 ALT: Notification of display error encountered Task (Angular)	None	Unexpected Error Dialog	None
1..3	Delete Quote	1.3.1 Retrieve and Display Client Quote Task (Angular)	Client Quote	None	None
		1.3.2 Display Delete Confirmation Modal Task (Angular)	None	Delete Confirmation	None
		1.3.3 Delete Client Quote Task (Angular)	Client Quote	None	None
		1.3.4 Notification of Successful Deletion Task (Angular)	None	None	None
		1.3.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None	None	None
1.4	Capture Purchase Order	1.4.1 Display Upload Purchase Order Document Modal Task (Angular)	None	Quote Screen Upload Purchase Order Modal	None
		1.4.2 Capture Purchase Order Document Information Task (Angular)	None	None	None
		1.4.3 Validate Purchase Order Document Details Task (Angular)	None	None	None
		1.4.3 ALT: Notification of Validation Error Task (Angular)	None	Validation Error Dialog	None

		1.4.4 Display Confirmation Modal Task (Angular)	None	Confirmation Modal	None
		1.4.5 Save Changes to Client Purchase Order Table Task (Angular .NET Core)	Client Purchase Order	None	None
		1.4.6 Notification of successful upload Task (Angular)	None	Successful Purchase Order Upload Dialog	None
		1.4.6 ALT: Notification of unsuccessful upload Task (Angular)	None	Unexpected Error Dialog	None

3.2 Administration Subsystem:

2. Administrative Subsystem						
Requirement	Use Case No.	Use Case Title	Processes from Primitive Data Flow Diagram	Entities from ERD	Screen	Report
2.1 Create Health and Safety file	2.1	Create Health and Safety file	2.1.1 Display upload HS file screen task(Angular)	None	None	None
			2.1.2 Capture and validate inputted information task(Angular)	None	None	None
			ALT 2.1.3 Validation error message task(Angular)	None	Validation error message	None
			2.1.3 Display "Confirm upload HS file" modal task(Angular)	None	None	None
			2.1.4 Upload HS file task(Angular .NET Core)	Health and Safety	None	None
			2.1.5 Return to step task 2.1.1 (Angular)	None	None	None
2.2 Search Health and Safety File	2.2	Search Health and Safety File	2.2.1 Display "View HS file" screen task(Angular)	None	View HS file screen	None
			2.2.2 Capture and validate inputted information task in search bar(Angular)	None	None	None
			ALT 2.2.3 Validation error message task	None	Validation error message	None
			2.2.3 Retrieve HS file information task(Angular .NET Core)	Health and Safety, Health and Safety type	None	None

			ALT 2.2.4 HS file error information task	None	HS file error message	None
			2.2.4 Display "View HS file" screen task(Angular)	None	View HS file screen	None
2.3 Edit Health and Safety File	2.3	Edit Health and Safety File	2.3.1 Retrieve and display Health and Safety File details Task (Angular)	Health and Safety	Edit Health and Safety File	None
			2.3.2 Request and capture edited Health and Safety File info Task (Angular)	None	None	None
			2.3.3 Validate Captured Health and Safety File Details Task (Angular)	None	None	None
			2.3.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			2.3.4 Confirmation of updated Health and Safety File info Task (Angular)	None	None	None
			2.3.5 Update Health and Safety File info Task (Angular)	Health and Safety	None	None
2.4 Delete Health and Safety File	2.4	Delete Health and Safety File	2.4.1 Retrieve and Display Health and Safety File Task (Angular)	Health and Safety File	Delete Health and Safety File	None
			2.4.2 Display Delete Confirmation Modal Task (Angular)	None	Delete Confirmation	None
			6.4.3 Delete Health and Safety File Task (Angular)	Health and Safety File	None	None

2.5 Create Health and Safety type	2.5	Create Health and Safety type	2.5.1 Display "Create Hs file type" screen task(Angular)	None	Create Hs file type screen	None
			2.5.2 Capture and validate inputted information task(Angular)	None	None	None
			ALT 2.5.3 Validation error message task(Angular)	None	None	None
			2.5.3 Display "Confirm HS file type" modal task(Angular)	None	Confirm HS file type modal	None
			2.5.4 Create Hs file type task (Angular .NET Core)	Health and Safety type	None	None
2.6 Search Health and Safety type	2.6	Search Health and Safety type	2.6.1 Display "View HS file type" screen task(Angular)	None	View Hs file type screen	None
			2.6.2 Capture and validate inputted information task in search bar(Angular)	None	None	None
			2.6.3 Retrieve HS file type task(Angular .NET Core)	Health and Safety type	None	None
			2.6.4 Display "Searched HS file type" screen task(Angular)	None	Searched HS file type screen	None
2.7 Edit Health and Safety Type	2.7	Edit Health and Safety Type	2.7.1 Retrieve and display Health and Safety Type details Task (Angular)	Health and Safety Type	Edit Health and Safety Type	None
			2.7.2 Request and capture edited Health	None	None	None

			and Safety Type info Task (Angular)			
			2.7.3 Validate Captured Health and Safety Type Details Task (Angular)	None	None	None
			2.7.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			2.7.4 Confirmation of updated Team info Health and Safety Type (Angular)	None	None	None
			2.7.5 Update Health and Safety Type info Task (Angular)	Health and Safety Type	None	None
2.8 Delete Health and Safety Type	2.8	Delete Health and Safety Type	2.8.1 Retrieve and Display Health and Safety Type Task (Angular)	Health and Safety Type	Delete Health and Safety Type	None
			2.8.2 Display Delete Confirmation Modal Task (Angular)	None	Delete Confirmation	None
			2.8.3 Delete Health and Safety Type Task (Angular)	Health and Safety Type	None	None
2.9 Create Drawing type	2.9	Create Drawing type	2.9.1 Display "Create drawing type" screen task (Angular)2	None	Create drawing type screen	None
			2.9.2 Capture and validate inputted information task(Angular)13	None	None	None
			2.9.3 Display "Confirm drawing type" modal task(Angular)2	None	Confirm drawing type modal	None
			2.9.4 Create drawing type task(Angular .NET Core)2	Drawing type	None	None

2.10 Search Drawing type	2.10	Search Drawing type	2.10.1 Display "View drawing type" screen task(Angular)2	None	View drawing type screen	None
			2.10.2 Capture and validate inputted information task in search bar(Angular)2	None	None	None
			2.10.3 Retrieve Drawing type task(Angular .NET Core)2	Health and Safety type	None	None
			2.10.4 Display "View Drawing type" screen task(Angular)2	None	View drawing type screen	None
2.11 Edit Drawing Type	2.11	Edit Drawing Type	2.11.1 Retrieve and display Drawing Type detailsTask (Angular)	Drawing Type	Edit Drawing Type	None
			2.11.2 Request and capture edited Drawing Type info Task (Angular)	None	None	None
			2.11.3 Validate Captured Drawing Type Details Task (Angular)	None	None	None
			2.11.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			2.11.4 Confirmation of updated Drawing Type info Task (Angular)	None	None	None
			2.11.5 Update Drawing Type info Task (Angular)	Drawing Type	None	None
2.12 Delete Drawing Type	2.12	Delete Drawing Type	6.4.1 Retrieve and Display Drawing Type Task (Angular)	Drawing Type	Delete Drawing Type	None
			6.4.2 Display DeleteConfirmation Modal Task (Angular)	Delete Confirmation	Delete Confirmation	None

			6.4.3 Delete Drawing Type Task (Angular)	Drawing Type	None	None
2.13 Upload Formal Drawing	2.13	Upload Formal Drawing	2.7.1 Gui Display: "Upload formal drawing" screen task(Angular)	None	Upload formal drawing screen	None
			2.7.2 Capture and validate inputted information task(Angular)	None	None	None
			ALT 2.7.3 Validation error message task(Angular)2	None	Validation error message	None
			2.7.3 Display "Formal drawing upload" modal task(Angular)	None	Formal drawing upload modal	None
			2.7.4 Upload formal drawing task(Angular)	Drawing	None	None
2.14 Search Formal Drawing	2.14	Search Formal Drawing	2.14.1 Search Formal Drawing search parameter Task (Angular)	None	View Formal Drawing	None
			2.14.2 Validate search parameter Task (Angular)	None	None	None
			2.14.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			2.14.3 Retrieve Formal Drawing search parameter (Angular)	Drawing	None	None
			2.14.4 Return Formal Drawing Search results Task (Angular)	None	None	None
			2.14.5 Return Selected Formal Drawing Information Task (Angular)	Drawing	View Formal Drawing	None

			2.14.5 ALT: Notification of No Formal Drawing found Task (Angular)	None	Error Screen	None
2.15 Edit Formal Drawing	2.15	Edit Formal Drawing	2.15.1 Retrieve and display Formal Drawing details Task (Angular)	Drawing	Edit Formal Drawing	None
			2.15.2 Request and capture edited Formal Drawing info Task (Angular)	None	None	None
			2.15.3 Validate Captured Formal Drawing Details Task (Angular)	None	None	None
			2.15.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			2.15.4 Confirmation of updated Formal Drawing info Task (Angular)	None	None	None
			2.15.5 Update Formal Drawing info Task (Angular)	Drawing	None	None
			2.15.6 Retrieve and display Formal Drawing details Task (Angular)	Drawing	Edit Formal Drawing	None
2.16 Delete Formal Drawing	2.16	Delete Formal Drawing	2.16.1 Retrieve and Display Formal Drawing Task (Angular)	Drawing	View Formal Drawing	None
			2.16.2 Display Delete Confirmation Modal Task (Angular)	None	Delete Confirmation	None
			2.16.3 Delete Formal Drawing Task (Angular)	Drawing	None	None
			2.16.1 Retrieve and Display Formal Drawing Task (Angular)	Drawing	View Drawing screen	None
2.17 Upload second	2.17	Upload second cut drawing	2.17.1 Gui Display: "Upload second-cut drawing" screen task(Angular)2	None	Upload second-cut	None

cut drawing					drawing screen	
			2.17.2 Capture and validate inputted information task(Angular)2	None	None	None
			ALT 2.17.3 Validation error message task(Angular)3	None	Validation error message	None
			2.17.3 Display "second-cut drawing upload" modal task(Angular)2	Drawing	second-cut drawing upload modal	None
			2.17.4 Upload Second-cut drawing task(Angular)	Drawing	None	None
2.18 Search Second-cut Drawing	2.18	Search Second-cut Drawing	2.18.1 Search Second-cut Drawing search parameter Task (Angular)	None	View Second-cut Drawing	None
			2.18.2 Validate search parameter Task (Angular)	None	None	None
			2.18.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			2.18.3 Retrieve Second-cut Drawing search parameter (Angular)	Drawing	None	None
			2.18.4 Return Second-cut Drawing search results Task (Angular)	None	None	None
			2.18.5 Return Selected Second-cut Drawing Information Task (Angular)	Drawing	None	None
2.19 Edit Second-cut Drawing	2.19	Edit Second-cut Drawing	2.19.1 Retrieve and display Second-cut Drawing details Task (Angular)	Drawing	Edit Second-cut Drawing	None
			2.19.2 Request and capture edited Second-	None	None	None

			cut Drawing info Task (Angular)			
			2.19.3 Validate Captured Second-cut Drawing Details Task (Angular)	None	None	None
			2.19.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			2.19.4 Confirmation of updated Second-cut Drawing info Task (Angular)	None	None	None
			2.19.5 Update Second-cut Drawing info Task (Angular)	Drawing	None	None
2.20 Delete Second-cut Drawing	2.20	Delete Second-cut Drawing	2.20.1 Retrieve and Display Second-cut Drawing Task (Angular)	Drawing	View Second-cut Drawing	None
			2.20.2 Display Delete Confirmation Modal Task (Angular)	None	Delete Confirmation	None
			2.20.3 Delete Second-cut Drawing Task (Angular)	Drawing	None	None
2.21 Search As-built document	2.21	Search As-built document	2.21.1 Display "View As-built file" screen task(Angular)	None	View As-built file screen	None
			2.21.2 Capture and validate inputted information task in search bar(Angular)	None	None	None
			ALT 2.21.3 Validation error message task(Angular)4	None	Validation error message	None
			2.21.3 Retrieve As-built file task(Angular)	As-Built, Project	None	None
			2.21.4 Display "View As-built file" screen task(Angular)	None	View As-built file screen	As-Built

			2.21.5 Download As-built file task(Angular)	None	None	As-Built
2.22 Generate As-Built Document	2.22	Create As-Built Document	2.22.1 Retrieve project status task(Angular .NET Core)	Project	None	None
			2.22.2 Display "Create As-built" modal task(Angular)	None	Generate As-built modal	None
			2.22.3 Retrieve all As-built information task(Angular .NET Core)	Project	None	None
			2.22.4 Capture and validate inputted information task(Angular)	None	None	None
			ALT 2.22.5 Validation error message task(Angular)7	None	Validation error message	None
			2.22.5 Generate As-built document task(Angular)	None	None	As-built
			2.22.6 Display "Generated As-built" modal task(Angular)	None	Create As-built modal	None
			2.22.7 Display "View As-built" screen task(Angular)	None	View As-built screen	None
2.23 Edit As-Built Document	2.23	Edit As-Built Document	2.23.1 Retrieve and display As-Built Document details Task (Angular)	As-Built	Edit As-Built Document	None
			2.23.2 Request and capture edited As-Built Document info Task (Angular)	None	None	None
			2.23.3 Validate Captured As-Built Document Details Task (Angular)	None	None	None
			2.23.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None

			2.23.4 Confirmation of updated As-Built Document info Task (Angular)	None	None	None
			2.23.5 Update As-Built Document info Task (Angular)	As-Built	None	None
2.24 Delete As-Built Document	2.24	Delete As-Built Document	2.24.1 Retrieve and Display As-Built Document Task (Angular)	As-Built	View As-Built Document	None
			2.24.2 Display Delete Confirmation Modal Task (Angular)	None	Delete Confirmation	None
			2.24.3 Delete As-Built Document Task (Angular)	As-Built	None	None

3.3 Construction Subsystem

3.Construction Subsystem						
Requirement	Use Case No.	Use Case Title	Processes from Primitive Data Flow Diagram	Entities from ERD	Screen	Report
3.1 Create TSS	3.1	Create TSS	3.1.1 Capture TSS detail Task (Angular/ionic)	Site Type	Create TSS screen	None
			3.1.2 Validate Captured details Task (Angular/ionic)	None	None	None
			3.1.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			3.1.3 Confirmation of details Task (Angular/ionic)	None	Confirmation Screen	None
			3.1.4 Save TSS details Task (asp.net Core)	Project, TSS Photos, Project Line Items, Project	None	None
3.2 Search TSS	3.2	Search TSS	3.2.1 Capture TSS search parameter Task (Angular)	None	TSS Screen	None
			3.2.2 Validate search parameter Task (Angular)	None	None	None
			3.2.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None

			3.2.3 Retrieve TSS search parameter (Angular)	TSS	None	None
			3.2.4 Return TSS search results Task (Angular)	None	None	None
			3.2.5 Return Selected TSS Information Task (Angular)	Project	None	None
			3.2.5 ALT: Notification of No TSS found Task (Angular)	None	Error Screen	None
			3.2.5(A) [ALT] Capture Add TSS request Task (Angular)	None	None	None
			3.2.5(B) [ALT] Capture Update TSS Request Task (Angular)	None	None	None
3.3 Edit TSS	3.3	Edit TSS	3.3.1 Retrieve and display TSS details Task (Angular/ionic)	Project, TSS Photos, Project Line Items	Edit TSS screen	None
			3.3.2 Request and capture edited TSS info Task (Angular/ionic)	None	None	None
			3.3.3 Validate Captured TSS details Task (Angular/ionic)	None	None	None

			3.3.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			3.3.3 ALT Capture Submit TSS request Task (Angular)	None	None	None
			3.3.4 Confirmation of updated TSS info Task (Angular/ionic)	None	Confirmation Screen	None
			3.3.5 Update TSS info Task (asp.net Core)	Project, TSS Photos, Project Line Items	None	None
			3.3.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			3.3.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
3.4 Submit TSS report	3.4	Submit TSS report	3.4.1 Retrieve and display TSS information Task (Angular/ionic)	None	Edit TSS screen	None
			3.4.2 Confirmation of TSS information Task (Angular/ionic)	None	Confirmation Screen	None
			3.4.3 Submit TSS report	Project	None	None

			Task (asp.net Core)			
			3.4.4 Notification of successful Submission Task (Angular)	None	Success Notification Screen	None
			3.4.4 ALT: Notification of unsuccessful Submission Task (Angular)	None	Error Screen	None
3.5 Search Project	3.5	Search Project	3.5.1 Display Construction Dropdown Task (Angular)	None	Home Page	None
			3.5.2 Display "Search Project Page" Task (Angular and .NET Core)	Project	Search Project page (home screen)	None
			3.5.3 ALT Display Project page Task (Angular)	None	Project page	None
			3.5.3 Capture Project Search Criteria Task (Angular)	None	None	None
			3.5.4 Validate Project Search Criteria Task (Angular)	None	None	None
			3.5.5 ALT Display Validation error on search criteria Task (Angular)	None	Validation Error notification	None
			3.5.5 Capture Project Information Task (Angular and .NET Core)	Project	None	None

			3.5.6 ALT Display Search Error Task (Angular)	None	Search error notification	None
			3.5.6 Display Searched Project result Task (Angular)	None	Search Project page	None
			3.5.7 Display "Project Page" Task (Angular)	None	Project page	None
3.6 View Project	3.6	View Project	3.6.1 Capture view project request (Angular)	None	Homepage	None
			3.6.2 Retrieve & Display project details	Project	None	None
			3.6.3 Display "Project Page" Task (Angular)	None	Project page	None
3.7 Edit Project	3.7	Edit Project	3.7.1 Retrieve and display Edit Project details Task (Angular)	Project	Edit Project	None
			3.7.2 Request and capture edited Project info Task (Angular)	None	None	None
			3.7.3 Validate Captured Project Details Task (Angular)	None	None	None
			3.7.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			3.7.4 Confirmation of updated Project	None	None	None

			info Task (Angular)			
			3.7.5 Update Project info Task (Angular)	Project	None	None
			3.7.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			3.7.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
3.8 Capture Site - Go-Ahead	3.8	Capture Site - Go-Ahead	3.8.1 Display "Project Page" Task (Angular and .Net Core)	None	Project page screen	None
			3.8.2 Validate for existing Construction Sites Task (Angular and .Net Core)	Construction Site	Project page screen	None
			ALT 3.8.3 Existing Site go Ahead found notification Task (Angular .Net Core)	None	Notification screen	None
			3.8.3 Display Confirmation Modal Task (Angular)	None	Confirmation modal	None
			3.8.4 Display "Capture Site-Go-Ahead" page Task (Angular)	None	Capture Site-Go-Ahead screen	None
			3.8.5 Capture Site-Go-Ahead details Task (Angular)	None	Capture Site-Go-Ahead screen	None

			3.8.6 Validate Captured Site-go-Ahead information Task (Angular)	None	Capture Site-Go-Ahead screen	None
			3.8.7 ALT Display Validation Error Task (Angular)	None	Invalid notification screen	None
			3.8.7 Display Confirmation modal Task (Angular)	None	Confirmation Modal	None
			3.8.8 Save captured Site-Go-Ahead details Task (Angular and .Net Core)	Construction Site	None	None
			3.8.9 Update Project Status Task (Angular and .Net Core)	Project	None	None
			3.8.10 Display notification on successfully Captured of Site-Go-Ahead information Task (Angular)	None	Successfully uploaded notification	None
			3.8.11 Generate Site-Go-Ahead Email Task (Angular and .Net Core)	None	None	None
			3.8.12 Retrieve Employee emails Task (Angular and .Net Core)	Employee	None	None
			3.8.13 Email Employees Task (Angular and .Net Core)	None	None	None

			3.8.14 Display modal on successful emails sent Task (Angular)	None	Successfully notified employee modal	None
3.9 Search construction	3.9	Search construction	3.9.1 Display Construction Dropdown Task (Angular)	None	Home Screen	None
			3.9.2 Display "Search Construction page" Task (Angular)	Construction Site, Site Progress Description	Search Construction page screen	None
			3.9.3 ALT Display Construction page Task (angular)	None	Construction Page screen	None
			3.9.3 Capture Construction Search Criteria Task (Angular and .NET Core)	None	Search Construction page screen	None
			3.9.4 Validate Construction Search Criteria Task (Angular)	None	Search Construction page screen	None
			3.9.5 ALT Display Validation error on search criteria Task (Angular)	None	Invalid notification screen	None
			3.9.5 Capture Construction information Task (Angular and .NET Core)	Construction Site	Search Construction page screen	None
			3.9.6 ALT Display Search Error Task (Angular)	None	Search Error notification	None

			3.9.6 Display Searched Construction Information Task (Angular)	None	Search Construction page screen	None
			3.9.7 Display "Construction Site details page" Task (Angular)	Construction Site	Construction Site details page	None
3.10 Edit construction	3.10	Edit construction	3.10.1 Display Construction Site Details Page Task (Angular)	None	Construction Site details page	None
			3.10.2 Display Update Construction Site details page Task (Angular)	None	Update Construction Site details page	None
			3.10.3 Capture updated Construction Site details Task (Angular)	None	None	None
			3.10.4 Validate captured Construction site details Task (Angular)	None	None	None
			3.10.4 ALT Display Validation error on Edit Construction site Task (Angular)	None	Validation error notification	None
			3.10.5 Display confirmation modal Task (Angular)	None	Update Confirmation modal	None
			3.10.6 Update Construction site details Task (Angular)	Construction Site	None	None

			3.10.7 Notification on successfully updated Construction Site Details Task (Angular)	None	Updated Construction site notification	None
3.11 Allocate Team Site	3.1 1	Allocat e Team Site	3.11.1 Display "Project Page" Task (Angular and .Net Core)	None	Project page	None
			3.11.2 Display Search Allocated teams page Task (Angular)	None	Search Allocated Teams page	None
			3.11.3 Display Allocated Team Page Task (Angular)	Team Construction Site, Team	Allocate Team Page	None
			3.11.4 Capture Allocate teams details Task (Angular .Net Core)	None	None	None
			3.11.5 Validate captured details Task (Angular)	None	None	None
			3.11.6 ALT Display Validation error Task (angular)	None	Validation Error notification	None
			3.11.6 Display Confirmation modal Task (Angular)	None	Allocate Team confirmation modal	None
			3.11.7 Allocate Team to construction site Task (Angular .Net Core)	Team Construction Site	None	None

			3.11.8 Display notification on successfully allocated team Task (Angular)	None	Successfully allocated team notification	None
			3.11.9 Generate Successfully allocated team message Task (Angular)	None	None	None
			3.11.10 Retrieve Employee emails and number Task (Angular .Net Core)	Employee	None	None
			3.11.11 Notify employee on team site allocation Task (Angular .Net Core)	None	None	None
			3.11.12 Display Modal on successfully notified employees Task (Angular)	None	Successfully notified employee notification	None
3.12 Search Allocated Team	3.12	Search Allocated Team	3.12.1 Display Construction Dropdown Task (Angular)	None	Home Page	None
			3.12.2 Display Search Allocated Teams Page Task (Angular .Net Core)	Team Construction Site, Team, Construction Site	Search Allocated teams page	None
			3.12.3 Capture Allocated teams Search criteria Task (Angular)	None	None	None

			3.12.4 Validate Allocated teams search criteria Task (Angular)	None	None	None
			3.12.5 ALT Display Validation on search criteria Task (angular)	None	Validation error notification	None
			3.12.5 Capture allocated teams information Task (Angular .Net Core)	Team Construction Site, Team	None	None
			3.12.6 ALT Display Search Allocated team error Task (Angular)	None	Search Error notification	None
			3.12.6 Display searched allocated team information Task (Angular)	None	Search Allocated teams page	None
			3.12.7 Display Allocated Team Page Task (Angular)	None	Allocated Teams page	None
3.13 Update Allocated Team	3.13	Update Allocated Team	3.13.1 Display Allocated team page Task (Angular)	None	Allocated Teams page	None
			3.13.2 Enable Allocated team page inputs Task (Angular)	None	Updated Allocated Teams page	None
			3.13.3 Capture Updated Allocated team info Task (Angular)	None	None	None
			3.13.4 Validate Captured	None	None	None

			Allocated team info Task (Angular)			
			3.13.5 ALT Display Validation error on updated allocated team info Task (Angular)	None	Validation error notification	None
			3.13.5 Display confirmation modal Task (Angular)	None	Update Confirmation modal	None
			3.13.6 Update Allocated Team Info Task (Angular .NET Core)	Team Construction Site	None	None
			3.13.7 Display Notification on successfully updated Allocated team info Task (Angular)	None	Successfully updated team notification	None
			3.13.8 Generate Successfully updated Team Allocation messages Task (Angular .NET Core)	None	None	None
			3.13.9 Retrieve Employee emails and number Task (.Net Core)	Employee	none	None
			3.13.10 Notify Employees on team allocation update Task (Angular .NET Core)	None	None	None

			3.13.11 Display Modal on Successfully notified employees Task (Angular)	None	Successfully notified employees notification	None
3.14 Delete Allocated Team	3.14	Delete Allocated Team	3.14.1 Retrieve and Display Allocated Team Task (Angular)	Team Construction Site	Delete Allocated Team	None
			3.14.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation		None
			3.14.3 Delete Allocated Team Task (Angular)	Team Construction Site		None
			3.14.4 Notification of Successful Deletion Task (Angular)	None		None
			3.14.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None
3.15 Upload Compliance Document	3.15	Upload Compliance Document	3.15.1 Display Project page Task (Angular)	None	Project Page screen	None
			3.15.2 Capture Compliance Document Information Task (Angular .Net Core)	Compliance Document	None	None
			3.15.3 Display Compliance	None	Compliance Document page	None

			Documents Page Task (Angular)			
			3.15.4 ALT No compliance Documents upload notification Task (Angular)	None	No Compliance Document notification	None
			3.15.4 Display Upload Compliance Documents Page Task (Angular)	None	Upload Compliance document page	None
			3.15.5 Capture Compliance Document Information Task (Angular)	None	None	None
			3.15.6 Validate Compliance Document Info Task (Angular)	None	None	None
			3.15.7 ALT Display Validation error on entered info Task (Angular)	None	Validation error notification	None
			3.15.7 Display Confirmation modal Task (Angular .Net Core)	None	Upload compliance document confirmation	None
			3.15.8 Upload Compliance Document Info Task (Angular .Net)	Compliance Document	None	None
			3.15.9 Display Notification modal on successfully uploaded compliance	None	Successfully upload compliance document notification	None

			document Task (Angular)			
3.16 Search Compliance Document	3.16	Search Compliance Document	3.16.1 Display Construction dropdown (Angular)	None	Home Page	None
			3.16.2 Display Search Compliance Document page (Angular)	None	Search Compliance Document Page	None
			3.13.21 ALT Display Compliance Document page (Angular)	None	Compliance Document page	None
			3.13.21 Capture Compliance Document Search criteria (Angular .Net Core)	Project, Compliance Document	Search Compliance document page	None
			3.13.22 Validate Compliance document search criteria (Angular)	None	None	None
			3.16.5 ALT Display Validation Error on Search criteria	None	Validation Error notification	None
			3.16.5 Capture Compliance Document information (Angular .Net Core)	Compliance Document	None	None
			3.16.5 ALT Display Search Error validation (Angular)	None	Search Error notification	None
			3.16.6 Display Searched	None	Search Compliance	None

			compliance Document info (Angular)		Document Page	
			3.16.7 Display compliance document page (Angular)	None	Compliance Document page	None
3.17 Edit Compliance Document	3.17	Edit Compliance Document	3.17.1 Retrieve and display Compliance Document details Task (Angular)	Compliance Document	Edit Team	None
			3.17.2 Request and capture edited Compliance Document info Task (Angular)	None	None	None
			3.17.3 Validate Captured Compliance Document Details Task (Angular)	None	None	None
			3.17.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			3.17.4 Confirmation of updated Compliance Document info Task (Angular)	None	None	None
			3.17.5 Update Compliance Document info Task (Angular)	Compliance Document	None	None
			3.17.6 Notification of successful save	None	Success Notification Screen	None

			Task (Angular)			
			3.17.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
3.18 Delete Compliance Document	3.18	Delete Compliance Document	3.18.1 Retrieve and Display Compliance Document Task (Angular)	Compliance Document	Delete Compliance Document	None
			3.18.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation		None
			3.18.3 Delete Compliance Document Task (Angular)	Compliance Document		None
			3.18.4 Notification of Successful Deletion Task (Angular)	None		None
			3.18.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None
3.19 Create Site Progress description	3.19	Create Site Progress description	3.19.1 Display Site Progress description page Task (Angular)	None	Site Progress description page	None
			3.19.2 Display Create new Site Progress	None	Create new site progress description page	None

			description page Task (Angular)			
			3.19.3 Capture Site Progress description information Task (Angular .Net Core)	None	None	None
			3.19.4 Validate Site Progress description information Task (Angular)	None	None	None
			3.19.5 ALT Display Validation Error (angular)	None	Validation error notification	None
			3.19.5 Display Confirmation modal Task (Angular)	None	Create Site progress description confirmation modal	None
			3.19.6 Save Site Progress description information Task (Angular .Net Core)	Site Progress Description, Construction Photo	None	None
			3.19.7 Display Successful capture notification Task (Angular)	None	Successfully captured notification	None
			3.19.8 Display Site Progress Task description page Task (Angular)	None	Site Progress description page	None
3.20 View Site	3.20	View Site Progress	3.20.1 Display Project page Task (Angular)	None	Project page	None

Progress description		s description	3.20.2 capture Site Progress Description Information Task (Angular and .NET Core)	Site Progress Description, Construction Photo	None	None
			3.20.3 ALT Display No site progress description modal Task (Angular)	None	No Site progress description notification	None
			3.20.3 Display Site Progress Description Page Task (Angular)	None	Site Progress description page	None
3.21 Edit Site Progress description	3.21	Edit Site Progress description	3.21.1 Retrieve and display Site Progress description details Task (Angular)	Site Progress description	Edit Site Progress description	None
			3.21.2 Request and capture edited Site Progress description info Task (Angular)	None	None	None
			3.21.3 Validate Captured Site Progress Description Details Task (Angular)	None	None	None
			3.21.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			3.21.4 Confirmation of updated Site Progress	None	None	None

			description info Task (Angular)			
			3.21.5 Update Team info Site Progress description (Angular)	Site Progress description	None	None
			3.21.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			3.21.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
3.22 Delete Site Progress description	3.22	Delete Site Progress description	3.22.1 Retrieve and Display Site Progress description Task (Angular)	Site Progress description		None
			3.22.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation		None
			3.22.3 Delete Site Progress description Task (Angular)	Site Progress description		None
			3.22.4 Notification of Successful Deletion Task (Angular)	None		None
			3.22.4 ALT: Notification of Deletion Unsuccessful Task	None		None

			(Angular)			
3.23 Upload complete site photos	3.23	Upload complete site photos	3.23.1 Display Project page Task (angular)	None	Project page	None
			3.23.2 Check for existing complete site photos Task (angular .Net Core)	Completion Photo	None	None
			3.23.3 Upload Complete site photos confirmation Task (angular)	None	Confirmation upload initial complete site photos	None
			3.23.4 Display Capture complete site photos modal Task (angular)	None	Capture complete site photos modal	None
			3.23.5 Capture complete site photos Task (angular)	None	None	None
			3.23.6 Validate Complete site photos Task (angular)	None	None	None
			3.23.7 ALT Display Validation Error Task (angular)	None	Validation Error notification	None
			3.23.7 Display confirmation modal Task (angular)	None	Upload Complete site photos confirmation	None
			3.23.8 Upload complete site photos Task (angular .Net Core)	Completion Photo	None	None

			3.23.9 Update Project Status Task (angular .Net Core)	Project	None	None
			3.23.10 Generate email notifying on complete site photos uploaded Task (angular .Net Core)	None	None	None
			3.23.11 Retrieve employee emails Task (angular .Net Core)	Employee	None	None
			3.23.12 Email employees Task (angular .Net Core)	None	None	None
			3.23.13 Display Notification on successfully uploaded complete site photos Task (angular)	None	Successfully upload complete site photos notification	None
3.24 Search complete site photos	3.24	Search complete site photos	3.24.1 Display Project Page Task (Angular)	None	Project Page	None
			3.24.2 Check for existing complete site photos Task (Angular .Net Core)	Completion Photo	None	None
			3.24.3 ALT No Display captured complete site photos Task (Angular)	None	No Captured Complete site photos Notification	None
			3.24.3 Capture complete site photos Task	Completion Photo	None	None

			(Angular .Net Core)			
			3.24.4 Display complete site photos modal Task (Angular)	None	Complete site photos modal	None
3.25 Edit complete site photos	3.25	Edit complete site photos	3.25.1 Retrieve and display complete site photos details Task (Angular)	Completion Photo	Edit Team	None
			3.25.2 Request and capture edited complete site photos info Task (Angular)	None	None	None
			3.25.3 Validate Captured complete site photos Details Task (Angular)	None	None	None
			3.25.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			3.25.4 Confirmation of updated complete site photos info Task (Angular)	None	None	None
			3.25.5 Update complete site photos info Task (Angular)	Completion Photo	None	None
			3.25.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			3.25.6 ALT: Notification of	None	Error Screen	None

			unsuccessful save Task (Angular)			
3.26 Delete complete site photos	3.26	Delete complete site photos	3.26.1 Retrieve and Display complete site photos Task (Angular)	Completion Photo		None
			3.26.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation		None
			3.23.29 Delete complete site photos Task (Angular)	Completion Photo		None
			3.23.30 Notification of Successful Deletion Task (Angular)	None		None
			3.23.30 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None
3.27 Upload Radio Frequency report	3.27	Upload Radio Frequency report	3.27.1 Display Project Page Task (Angular)	None	Project page	None
			3.27.2 Capture Existing Radio Frequency report information Task (Angular .Net Core)	Radio Frequency Report	None	None
			3.27.3 Display Upload Radio Frequency report	None	Upload Radio frequency report page	None

			page Task (Angular)			
			3.27.4 capture Radio Frequency report information Task (Angular.Net Core)	Radio Frequency Reports	None	None
			3.27.5 Validate Radio Frequency Report Information Task (Angular)	None	None	None
			3.27.6 ALT Display Validation Error Task (Angular)	None	Validation error notification	None
			3.27.6 Display confirmation modal Task (Angular)	None	Upload Radio Frequency report confirmation modal	None
			3.27.7 Upload Radio Frequency Report Information Task (Angular .Net Core)	Radio Frequency Reports, Construction Site	None	None
			4.1.8 Update Project Status Task (Angular .Net Core)	Project	None	None
			3.27.9 Display Notification on successfully uploaded Radio Frequency report Task (Angular)	None	Successfully uploaded Radio Frequency report notification	None
			3.27.10 Generate Uploaded Radio Frequency report email Task	None	None	None

			(Angular.Net Core)			
			3.27.11 Retrieve Employee email information Task (Angular.Net Core)	Employee	None	None
			3.27.12 Email Employees Task (Angular .Net Core)	None	None	None
			3.27.13 Display notification on emails sent to employees Task (Angular)	None	Emailed employees notification	None
3.28 Search Radio Frequency report	3.28	Search Radio Frequency report	3.28.1 Display Construction dropdown Task (Angular)	None	Home Page	None
			3.28.2 Display Search Radio Frequency reports page Task (Angular .Net Core)	Project, Radio Frequency Reports	Search Radio frequency report page	None
			3.28.3 Capture Radio Frequency Search criteria Task (Angular)	None	None	None
			3.28.4 Validate Radio Frequency Report Info Task (Angular)	None	None	None
			3.28.5 ALT Display Validation error on search criteria Task (angular)	None	Validation Error notification	None
			3.28.5 Capture Radio Frequency Report Information Task	Radio Frequency Reports,	None	None

			(Angular .Net Core)	Project, Construction Site		
			3.28.6 ALT Display Search Error Task (Angular)	None	Search Error notification	None
			3.28.6 Display Searched Radio Frequency report information Task (Angular)	None	Search Radio frequency report page	None
			3.28.7 Display Radio Frequency Report Page Task (Angular)	None	Radio Frequency report page	None
3.29 Edit Radio Frequency report	3.29	Edit Radio Frequency report	3.29.1 Retrieve and display Radio Frequency report details Task (Angular)	Radio Frequency Reports	Edit Team	None
			3.29.2 Request and capture edited Radio Frequency report info Task (Angular)	None	None	None
			3.29.3 Validate Captured Radio Frequency report Details Task (Angular)	None	None	None
			3.29.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			3.29.4 Confirmation of updated Radio Frequency report info Task (Angular)	None	None	None

			3.29.5 Update Radio Frequency report info Task (Angular)	Radio Frequency Reports	None	None
			3.29.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			3.29.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
3.30 Delete Radio Frequency report	3.30	Delete Radio Frequency report	3.30.1 Retrieve and Display Radio Frequency report Task (Angular)	Radio Frequency Reports	Radio Frequency	None
			3.30.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation	Delete Confirmation Modal	None
			3.30.3 Delete Radio Frequency report Task (Angular)	Radio Frequency Report		None
			3.30.4 Notification of Successful Deletion Task (Angular)	None		None
			3.30.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None
3.31 Request	3.31	Request Site Visit	3.31.1 Display Project page Task (Angular)	None	Project page	None

Site Visit			3.31.2 Determine project status Task (Angular .Net Core)	Project, project Status	None	None
			3.31.3 Display confirmation modal requesting site visit inspection Task (Angular)	None	Confirmation to request site visit modal	None
			3.31.4 Generate email on site acceptance document created Task (Angular .Net Core)	None	None	None
			3.31.5 Retrieve employee emails Task (Angular .Net Core)	Employee	None	None
			3.31.6 Email Quality Control Officer on site acceptance document and Site visit Task (Angular .Net Core)	None	None	None
			3.31.7 Update Project Status Task (Angular .Net Core)	Project	None	None
			3.31.8 Display notification on emailed site visit requested Task (Angular)	None	Successfully requested site visit notification	None
3.32 Create Acceptance	3.32	Create Acceptance	3.32.1 Capture Acceptance Document detail Task (Angular)	Acceptance Document	Create Acceptance Document	None

Document		Document	3.32.2 Validate Captured details Task (Angular)	None	None	None
			3.32.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			3.32.3 Confirmation of details Task (Angular)	None	None	None
			3.32.4 Save Acceptance Document details Task (asp.Net Core)	Acceptance Document	None	None
			3.32.5 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			3.32.5 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
3.33 Edit Acceptance Document	3.33	Edit Acceptance Document	3.33.1 Display Acceptance Document Page Task (Angular)	None	Acceptance Document page	None
			3.33.2 Display Edit Acceptance Document Page Task (Angular)	None	Edit Acceptance Document page	None
			3.33.3 Capture updated Acceptance Document information Task (Angular)	None	None	None
			3.33.4 Validate Acceptance	None	None	None

			Document Information Task (Angular)			
			3.33.5 Display Acceptance Document Snag Information Task (Angular)	None	Acceptance Documents snag modal	None
			3.33.6 Capture Acceptance Document Snag Information Task (Angular)	None	None	None
			3.33.7 Validate Acceptance Document Snag Information Task (Angular)	None	None	None
			3.33.8 Display Confirmation Modal Task (Angular)	None	Edit Acceptance document confirmation modal	None
			3.33.9 Update Acceptance Document Information Task (Angular .Net Core)	Acceptance Document, Project Snag List	None	None
			3.33.10 Generate Updated Acceptance Document Email Task (Angular .Net Core)	None	None	None
			3.33.11 Retrieve Employee Emails Task (Angular)	Employee	None	None
			3.33.12 Email Operations Manager on updated	None	None	None

			Acceptance Document Task (Angular)			
			3.33.13 Display Notification on successfully updated Acceptance Document Task (Angular)	None	Successfully updated acceptance document notification	None
3.34 Search Acceptance document	3.34	Search Acceptance document	3.34.1 Display Construction dropdown Task (Angular)	None	Home Page	None
			3.34.2 Display Acceptance Document Page Task (Angular .Net Core)	Acceptance Document	Search Acceptance document page	None
			3.34.3 ALT Display Site Acceptance Document Page Task (Angular)	None	Acceptance Document page	None
			3.34.3 Capture Acceptance Document Search criteria Task (Angular)	None	None	None
			3.34.4 Validate Acceptance Document Search criteria Task (Angular)	None	None	None
			3.34.5 ALT Display validation error on search criteria Task (Angular)	None	Validation Error notification	None
			3.34.5 Capture Acceptance Document	Acceptance Document	None	None

			Information Task (Angular .Net Core)			
			3.34.6 ALT Display Search Error Task (Angular)	None	Search Error notification	None
			3.34.6 Display Acceptance Document Information Task (Angular)	None	Search Acceptance document page	None
			3.34.7 Display Acceptance Document Page Task (Angular)	Acceptance Document, Snag, Project Snag List	Acceptance Document page	None
3.35 Delete Acceptance Document	3.35	Delete Acceptance Document	3.35.1 Retrieve and Display Acceptance Document Task (Angular)	Acceptance Document		None
			3.35.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation		None
			3.35.3 Delete Acceptance Document Task (Angular)	Acceptance Document		None
			3.35.4 Notification of Successful Deletion Task (Angular)	None		None
			3.35.4 ALT: Notification of Deletion Unsuccessful Task	None		None

			(Angular)			
3.36 Confirm acceptance document	3.36	Confirm acceptance document	3.36.1 Display Acceptance Document Page Task (Angular)	None	Acceptance Document page	None
			3.36.2 Capture Snags on Acceptance Document Task (Angular)	Project Snag List	None	None
			3.33.39 Display acceptance document snag modal Task (Angular)	None	Acceptance document snag modal	None
			3.33.40 Capture Complete snag info Task (Angular)	None	None	None
			3.36.5 validate Complete snag information Task (Angular)	None	None	None
			3.36.6 ALT Display Validation Error Task (Angular)	None	Validation Error notification	None
			3.36.6 Display Confirmation modal Task (Angular)	None	Acceptance Document confirmation modal	None
			3.36.7 Capture Confirmation on acceptance document Task (Angular .Net Core)	Acceptance Document	None	None
			3.36.8 Update Project Status Task (Angular .Net Core)	Project	None	None

			3.36.9 Generate Email on Confirmed Acceptance Document Task (Angular .Net Core)	None	None	None
			3.36.10 Retrieve employee emails Task (.Net Core)	Employee	None	None
			3.36.11 Email employees on confirmed acceptance document Task (Angular .Net Core)	None	None	None
			3.36.12 Display notification on confirmed Acceptance Document Task (Angular)	None	Confirmed Acceptance document notification	None
3.37 Capture Site Sign-off	3.37	Capture Site Sign-off	3.37.1 Display Project Page Task (Angular)	None	Project Page	None
			3.37.2 Check for existing site sign-offs Task (Angular .Net Core)	Acceptance Schedule	None	None
			3.37.3 Prompt confirmation to capture site sign-off Task (Angular)	None	Capture site sign off confirmation modal	None
			3.37.4 Display Capture Site - sign-off page Task (Angular)	None	Capture Site Sign off page	None
			3.37.5 Capture Site sign-off	None	None	None

			details Task (Angular)			
			3.37.6 Validate site sign-off details Task (Angular)	None	None	None
			3.37.7 Display Confirmation modal Task (Angular)	None	Upload Site sign off confirmation modal	None
			3.37.8 Upload Site -sign-off information Task (Angular .Net Core)	Acceptance Schedule	None	None
			3.37.9 Update Project Status Task (Angular .Net Core)	Project	None	None
			3.37.10 Capture Site Acceptance Document Task (Angular .Net Core)	Acceptance Document	None	None
			3.37.11 Merge Acceptance Document and site sign off document Task (Angular .Net Core)	None	None	None
			3.37.12 Update Acceptance Document Task (Angular .Net Core)	Acceptance Document	None	None
			3.37.13 Generate Email on Site sign-off Task (Angular .Net Core)	None	None	None
			3.37.14 Retrieve Employee emails	Employee	None	None

			Task (Angular .Net Core)			
			3.37.15 Email Employees on site sign-off Task (Angular .Net)	None	None	None
			3.37.16 Display notification on successfully emailed employees Task (Angular)	None	Successfully emailed employees notification	None
3.38 Search Site Sign-off	3.38	Search Site Sign-off	3.38.1 Display Construction Dropdown Task (Angular)	None	Home Page	None
			3.38.2 Display site Sign-offs page Task (Angular .Net Core)	Acceptance Schedule, Construction Site	Site sign-offs page	None
			3.38.3 ALT Display Site Sign-off page Task (Angular)	None	Site sign-off page	None
			3.38.3 Capture Site sign-offs search criteria Task (Angular)	None	None	None
			3.38.4 Validate site Sign-off search criteria Task (Angular)	None	None	None
			3.38.5 ALT Display Validation error on search criteria Task (Angular)	None	Validation Error notification	None
			3.38.5 Capture Site sign-off information Task (Angular .Net Core)	Acceptance Schedule, Construction Site	None	None

			3.38.6 ALT Display Search Error Task (Angular)	None	Search Error notification	None
			3.38.6 Display Site sign-off info Task (Angular)	None	Site sign-offs page	None
			3.38.7 Display site sign-off page Task (Angular)	None	site sign-off page	None
3.39 Edit site sign-off	3.39	Edit site sign-off	3.39.1 Retrieve and display Edit site sign-off details Task (Angular)	Acceptance Schedule	Edit site sign-off	None
			3.39.2 Request and capture edited site sign-off info Task (Angular)	None	None	None
			3.39.3 Validate Captured site sign-off Details Task (Angular)	None	None	None
			3.39.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			3.39.4 Confirmation of updated site sign-off info Task (Angular)	None	None	None
			3.39.5 Update Team info Task (Angular)	Acceptance Schedule	None	None
			3.39.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None

			3.39.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
3.40 Delete site sign-off	3.40	Delete site sign-off	3.40.1 Retrieve and Display Delete site sign-off Task (Angular)	Acceptance Schedule		None
			3.40.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation		None
			3.40.3 Delete site sign-off Task (Angular)	Acceptance Schedule		None
			3.40.4 Notification of Successful Deletion Task (Angular)	None		None
			3.40.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None
3.41 Capture Commission report	3.41	Capture Commission report	3.41.1 Display project page Task (Angular)	None	Project page screen	None
			3.41.2 Capture existing Commission report information Task (Angular .Net Core)	Commission report	None	None
			3.41.3 Display Commission reports page Task (Angular)	None	Commission reports page	None

			3.41.4 Display upload Commission reports page Task (Angular)	None	Upload Commission report page	None
			3.41.5 Capture Commission report information Task (Angular)	None	None	None
			3.41.6 Validate Commission report information Task (Angular)	None	None	None
			3.41.7 ALT Display Validation error Task (Angular)	None	Validation Error notification	None
			3.41.7 Display confirmation modal Task (Angular)	None	Upload Commission report confirmation	None
			3.41.8 Upload Commission report information Task (Angular .Net Core)	Commission report	None	None
			3.41.9 Display Notification modal on successfully uploaded Commission report Task (Angular)	None	Successfully uploaded Commission report page	None
3.42 Search Commis	3.42	Search Commission report	3.42.1 Display Construction Dropdown Task (Angular)	None	Home Page	None

sion report			3.42.2 Display Commissions report page Task (Angular .Net Core)	Project, Commission report	Commission reports page	None
			3.42.3 Capture commission report search criteria Task (Angular)	None	None	None
			3.42.4 Validate Commission report search criteria Task (Angular)	None	None	None
			3.42.5 ALT Display Validation Error Information Task (Angular)	None	Validation Error notification	None
			3.42.5 Capture Commission report information Task (Angular .Net Core)	Project, Commission report	None	None
			3.42 ALT Display Search result Error Task (Angular)	None	Search Error notification	None
			3.42.6 Display Searched commission report information Task (Angular)	None	Commission reports page	None
			3.42.7 Display Commissioner report page Task (Angular)	None	Commission report page	None
3.43	3.43	Edit Commi	3.43.1 Retrieve and display Edit	Commission report	Edit Team	None

Edit Commission report		Commission report	Commission report details Task (Angular)			
			3.43.2 Request and capture edited Commission report info Task (Angular)	None	None	None
			3.43.3 Validate Captured Commission report Details Task (Angular)	None	None	None
			3.43.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			3.43.4 Confirmation of updated Commission report info Task (Angular)	None	None	None
			3.43.5 Update Commission report info Task (Angular)	Commission report	None	None
			3.43.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			3.43.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
3.44 Delete Commis	3.44	Delete Commi	3.44.1 Retrieve and Display Delete Commission	Commission report		None

Commission report		Commission report	Commission report Task (Angular)			
			3.44.2 Display Delete Confirmation Modal Task (Angular)		Delete Confirmation	None
			3.44.3 Delete Commission report Task (Angular)	Commission report		None
			3.44.4 Notification of Successful Deletion Task (Angular)	None		None
			3.44.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None
3.45 Create Site Type	3.45	Create Site Type	3.45.1 Display Construction Dropdown (Angular)	None	Hope Page	None
			3.45.2 Display Site type details page (Angular .Net Core)	Site Type	Site type details page	None
			3.45.3 Display new site type modal (Angular)	None	New Site type modal	None
			3.45.4 Capture Site type details (Angular)	None	None	None
			3.45.5 Validate Captured site type information (Angular)	None	None	None

			3.45.6 ALT Display Validation Error (Angular)	None	Validation Error notification	None
			3.45.6 Display Confirmation modal (Angular)	None	Create new site type confirmation modal	None
			3.45.7 Create site type details (Angular .Net Core)	Site Type	None	None
			3.45.8 Display Notification on successfully created site type details (Angular)	None	Successfully create site type notification	None
3.46 Search Site type	3.46	Search Site type	3.46.1 Display Construction Dropdown Task (Angular)	None	Home page	None
			3.46.2 Display Site Type details page Task (Angular and .NET Core)	Site Type	Site type details page	None
			3.46.3 Capture Site type search criteria Task (Angular)	None	None	None
			3.46.3 ALT Display Site type details modal Task (Angular)	None	Site type details modal	None
			3.43.48 Validate site type search criteria Task (Angular)	None	None	None
			3.46.5 Capture Site type information Task (Angular and .NET Core)	Site Type	None	None

			3.46.5 ALT Display validation Error on search criteria Task (angular)	None	Validation Error notification	None
			3.46.6 Display searched site type results Task (Angular)	None	Site type details page	None
			3.46.6 ALT Display Search Error Task (Angular)	None	Search Error notification	None
			3.46.7 Display Site type details modal Task (Angular)	None	Site type details modal	None
3.47 Edit Site Type	3.47	Edit Site Type	3.47.1 Display Edit Site type details modal Task (Angular)	None	Site type details modal	None
			3.47.2 Capture updated Site type details Task (Angular)	None	None	None
			3.47.3 Validate updated site type details Task (Angular)	None	None	None
			3.47.4 Display Confirmation Modal Task (Angular)	None	Edit Site type details notification	None
			ALT 3.47.4 Display Validate error on edit information Task (Angular)	None	Validation Error notification	None
			3.47.5 Edit Site type details Task (Angular and .NET Core)	Site Type	None	None

			3.47.6 Display Notification on successfully updated site type details Task (Angular)	None	Successfully edited site type notification	None
3.48 Delete Site Type	3.48	Delete Site Type	3.48.1 Retrieve and Display Delete Site Type Task (Angular)	Site Type		None
			3.48.2 Display Delete Confirmation Modal Task (Angular)		Delete Confirmation	None
			3.48.3 Delete Site Type Task (Angular)	Site Type		None
			3.48.4 Notification of Successful Deletion Task (Angular)	None		None
			3.48.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None

3.4 Invoicing Subsystem:

4. Invoicing Subsystem						
Requirement	Use Case No.	Use Case Title	Processes from Primitive Data Flow Diagram	Entities from ERD	Screen	Report
4.1 Search Invoice	4.1	Search Invoice	4.1.1 Retrieve Invoice detail Task (Angular .NET Core)	Invoice	None	None
			4.1.2 Display Search Invoice Screen Task (Angular)	None	Search Invoice Screen	None
			4.1.3 Capture Search Result Task (Angular)	None	None	None
			4.1.4 Validate Search Parameter Task (Angular)	None	None	None
			ALT 4.1.5 Display Validation Error Dialog Task (Angular)	None	Validation Error Dialog	None
			4.1.5 Retrieve Search Result Task (Angular .NET Core)	Invoice	None	None
			4.1.6 Populate Result Table Task (Angular)	None	None	None
			4.1.7 Capture Download Request Task (Angular)	None	None	None
			4.1.8 Retrieve Invoice Task (Angular .NET Core)	Invoice	None	None
			4.1.9 Send Invoice Task (Angular)	None	None	None
4.2 Send	4.2	Send	4.2.1 Display Select Invoice Type Screen	None	Select Invoice	None

Invoice		Invoice	Task (Angular .NET Core)		Type Screen	
			4.2.2 Capture Selected Type Task (Angular)	None	None	None
			4.2.3 Retrieve Client Purchase Order Details Task (Angular .NET Core)	Client Purchase Order	None	None
			4.2.4 Generate Initial Invoice Task (Angular)	None	None	None
			ALT 4.2.4 Generate Final Invoice Task (Angular)	None	None	None
			4.2.5 Display Confirm Invoice Modal Task (Angular)	None	Confirm Invoice Modal	None
			4.2.6 Capture Invoice Confirmation Task (Angular)	Invoice	None	None
			4.2.7 Save Invoice Task (Angular .NET Core)	Invoice	None	None
			4.2.8 Retrieve Invoice Task (Angular .NET Core)	Invoice	None	None
			4.2.9 Send Invoice Task (Angular)	None	None	None
4.3 Capture Proof of Payment	4.3	Capture Proof of Payment	4.3.1 Retrieve Invoices Task (Angular .NET Core)	Invoice	None	None
			4.3.2 Display Capture Proof of Payment Screen Task (Angular)	None	Capture Proof of Payment Screen	None
			4.3.3 Capture Proof of Payment Details Task (Angular)	None	None	None

			4.3.4 Validate Provided Details Task (Angular)	None	None	None
			ALT 4.3.5 Display Validation Error Dialog Task (Angular)	None	Validation Error Dialog	None
			4.3.5 Display Confirm Proof of Payment Modal Task (Angular)	Proof of Payment	Proof of Payment Modal	None
			4.3.6 Capture Confirmation Task (Angular)	None	None	None
			4.3.7 Save Proof of Payment Task (Angular .NET Core)	Proof of Payment	None	None
			4.3.8 Display Proof of Payment Captured Alert Task (Angular)	None	Proof of Payment Alert	None
4.4 Capture Claim	4.4	Capture Claim	4.4.1 Retrieve Invoice Details Task (Angular .NET Core)	Invoice	None	None
			4.4.2 Display Capture Claim Screen Task (Angular)	None	Capture Claim Screen	None
			4.4.3 Capture Claim Details Task (Angular)	Invoice	None	None
			4.4.4 Validate Provided Details Task (Angular)	None	None	None
			ALT 4.4.5 Display Validation Error Dialog Task (Angular)	None	Validation Error Dialog	None
			4.4.5 Display Claim Confirmation Modal Task (Angular)	None	Claim Confirmation Modal	None

			4.4.6 Capture Confirmation Task (Angular)	None	None	None
			4.4.7 Save Claim Details Task (Angular .NET Core)	Invoice	None	None
			4.4.8 Display Claim Captured Alert Task (Angular)	None	None	None
4.5 Search Proof of Payment	4.5	Search Proof of Payment	4.5.1 Retrieve Proof of Payment Details Task (Angular .NET Core)	Proof of Payment	None	None
			4.5.2 Display Search Proof of Payment Screen Task (Angular)	None	Search Proof of Payment Screen	None
			4.5.3 Capture Search Parameter Task (Angular)	None	None	None
			4.5.4 Validate Search Parameter Task (Angular)	None	None	None
			ALT 4.5.5 Display Validation Error Dialog Task (Angular)	None	Validation Error Dialog	None
			4.5.5 Retrieve Proof of Payment Record Task (Angular .NET Core)	Proof of Payment	None	None
			4.5.6 Populate Search Result Table Task (Angular)	None	None	None
			ALT 4.5.6 Display Result Not Found Label Control Task (Angular)	None	Search Proof of Payment Screen	None
			4.5.7 Capture View Request Task (Angular)	None	None	None

			4.5.8 Display View Proof of Payment Modal Task (Angular)	None	View Proof of Payment Modal	None
4.6 Search Invoice Type	4.6	Search Invoice Type	4.6.1 Retrieve Invoice Type Details Task (Angular .NET Core)	Invoice Type	None	None
			4.6.2 Display Search Invoice Type Screen Task (Angular)	None	Search Invoice Type Screen	None
			4.6.3 Capture Search Parameter Task (Angular)	None	None	None
			4.4.9 Validate Search Parameter Task (Angular)	None	None	None
			ALT 4.6.5 Display Validation Error Dialog Task (Angular)	None	Validation Error Dialog	None
			4.6.5 Retrieve Search Result Task (Angular .NET Core)	Invoice	None	None
			4.6.6 Populate Search Result Table Task (Angular)	None	None	None
4.7 Create Invoice Type	4.7	Create Invoice Type	4.7.1 Retrieve Invoice Type Details Task (Angular .NET Core)	Invoice Type	None	None
			4.7.2 Display Create Invoice Type Screen Task (Angular)	None	Create Invoice Type	None
			4.7.3 Capture Create Request Task (Angular)	None	None	None
			4.7.4 Display Add Invoice Type Modal Task (Angular)	None	Add Invoice Type Modal	None

			4.7.5 Capture Invoice Type Information Task (Angular)	None	None	None
			4.7.6 Validate Invoice Type Information Task (Angular)	None	None	None
			ALT 4.7.7 Display Validation Error Dialog Task (Angular)	None	Validation Error Dialog	None
			ALT 4.7.7 Display Invoice Type Exists Modal Task (Angular)	None	Invoice Type Exists Modal	None
			4.7.7 Display Invoice Type Confirmation Modal Task (Angular)	None	Invoice Type Confirmation Modal	None
			4.7.8 Capture Confirmation Task (Angular)	None	None	None
			4.7.9 Save Invoice Type Task (Angular)	Invoice Type	None	None
			4.7.10 Display Invoice Type Created Alert Task (Angular)	None	Invoice Type Confirmation Alert	None
4.8 Edit Invoice Type	4.8	Edit Invoice Type	4.8.1 Retrieve and display Edit Invoice type details Task (Angular)	Team, Employee Team	Edit Invoice	None
			4.8.2 Request and capture edited invoice type info Task (Angular)	None	None	None
			4.8.3 Validate Captured Team Details Task (Angular)	None	None	None

			4.8.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			4.8.4 Confirmation of updated Invoice Type info Task (Angular)	None	None	None
			4.8.5 Update Invoice type info Task (Angular)	Invoice type	None	None
			4.8.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			4.8.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
4.9 Delete Invoice Type	4.9	Delete Invoice Type	4.9.1 Retrieve and Display Delete Invoice Type Task (Angular)	Invoice Type		None
			4.9.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation		None
			4.9.3 Delete Invoice Type Task (Angular)	Invoice Type		None
			4.9.4 Notification of Successful Deletion Task (Angular)	None		None
			4.9.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None

3.5 Human Resources Subsystem:

5. Human Resource Subsystem					
Use Case No.	Use Case Title	Processes from Primitive Data Flow Diagram	Entities	Screens	Reports
5.1	Add Employee	5.1.1 Retrieve Employee Skills and Employee Type Information Task (Angular)	Employee Skills Employee Type	Employee Screen	None
		5.1.2 Display Add Employee Modal Task (Angular)	None	Add Employee Modal	None
		5.1.3 Validate Captured Details Task (Angular)	None	None	None
		5.1.3 ALT: Notification of Validation Error Task (Angular)	None	Validation Error Dialog	None
		5.1.4 Display Confirmation Dialog Task (Angular)	None	Confirmation Dialog	None
		5.1.5 Request confirmation of captured info Task (Angular)	None	None	None
		5.1.6 Save Employee Details Task (Angular .NET Core)	Employee	None	None
		5.1.7 Notification of successful employee addition Task (Angular)	None	Successful Employee Addition Modal	None
		5.1.7 ALT: Notification of unsuccessful employee addition Task (Angular)	None	Unexpected Error Dialog	None
5.2	Edit Employee	5.2.1 Retrieve Employee Information Task (Angular)	None	Employee Screen	None
		5.2.2 Retrieve Employee Skills and Employee Type Information Task (Angular .NET Core)	Employee Skills Employee Type	None	None

		5.2.3 Display Edit Employee Modal Task (Angular)	None	Edit Employee Modal	None
		5.2.4 Validate Captured Details Task (Angular)	None	None	None
		5.2.4 ALT: Notification of Validation Error Task (Angular)	None	Validation Error Dialog	None
		5.2.5 Display Confirmation Dialog Task (Angular)	None	Confirmation Dialog	None
		5.2.6 Request confirmation of captured info Task (Angular)	None	None	None
		5.2.7 Save Changes to Employee Task (Angular .NET Core)	Employee	None	None
		5.2.8 Notification of successful employee update Task (Angular)	None	Successful Employee Edit Modal	None
		5.2.8 ALT: Notification of unsuccessful employee update Task (Angular)	None	Unexpected Error Dialog	None
5.3	Search Employee	5.3.1 Display Employee Screen Task (Angular)	None	Employee Screen	None
		5.3.2 Capture Search Parameter Task (Angular)	None	None	None
		5.3.3 Validate Captured Details Task (Angular)	None	None	None
		5.3.3 ALT: Notification of Validation Error Task (Angular)	None	Validation Error Dialog	None
		5.3.4 Retrieve Search Results Task(Angular .NET Core)	Employee	None	None
		5.3.5 Populate Search Results Table Task (Angular)	None	None	None

5.4	Delete Employee	5.3.5 ALT: Notification of no employee found Task (Angular)	None	No Employee Found Dialog	None
		5.3.6 Display Selected Employee Task (Angular)	None	View Employee Modal	None
		5.3.6 ALT: Notification of display error encountered Task (Angular)	None	Unexpected Error Dialog	None
		5.4.1 Retrieve and Display Delete Employee Task (Angular)	Employee	Delete Employee	None
		5.4.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation	None	None
		5.4.3 Delete Employee Task (Angular)	Employee	None	None
		5.4.4 Notification of Successful Deletion Task (Angular)	None	None	None
5.5	Upload Employee Document	5.4.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None	None	None
		5.5.1 Display Upload Employee Compliance Document Modal Task (Angular)	None	Home Screen Employee Screen Upload Employee Compliance Document Modal	None
		5.5.2 Retrieve Employee Information Task (Angular .NET Core)	None	None	None

		5.5.3 Capture Employee Document Information Task (Angular)	None	None	None
		5.5.4 Validate Employee Document Details Task (Angular)	None	None	None
		5.5.4 ALT: Notification of Validation Error (Angular)	None	Validation Error Dialog	None
		5.5.5 Display Confirmation Dialog Task(Angular)	None	Confirmation Dialog	None
		5.5.6 Save Changes of Employee Compliance Document Task (Angular .NET Core)	Employee Compliance Document	None	None
		5.5.7 Notification of successful upload Task (Angular)	None	Successful Document Upload Dialog	None
		5.5.7 ALT: Notification of unsuccessful upload Task (Angular)	None	Unexpected Error Dialog	None
5.6	Edit Employee Document	5.6.1 Retrieve Employee Document Information Task (Angular .NET Core)	None	Home Screen Employee Screen	None
		5.6.2 Display Update Employee Compliance Document Modal Task (Angular)	None	Update Employee Compliance Document Modal	None
		5.6.3 Capture Employee Document Details Task(Angular)	None	None	None
		5.6.4 Validate Captured Details Task (Angular)	None	None	None
		5.6.4 ALT: Notification of Validation Error Task (Angular)	None	Validation Error Dialog	None

		5.6.5 Display Confirmation Dialog Task (Angular)	None	Confirmation Dialog	None
		5.6.6 Request confirmation of captured info Task(Angular)	None	None	None
		5.6.7 Save Changes to Employee Task (Angular .NET Core)	Employee Compliance Document	None	None
		5.6.8 Notification of successful employee update Task (Angular)	None	Successful Document Update Dialog	None
		5.6.8 ALT: Notification of unsuccessful document update Task (Angular)	None	Unexpected Error Dialog	None
5.7	Search Employee Document	5.7.1 Display Search Compliance Document Modal Task (Angular)	None	Home Screen Employee Screen	None
		5.7.2 Capture Search Parameter Task(Angular)	None	None	None
		5.7.3 Validate Captured Details Task (Angular)	None	None	None
		5.7.3 ALT: Notification of Validation Error (Angular)	None	Validation Error Dialog	None
		5.7.4 Retrieve Search Results Task (Angular .NET Core)	Employee Compliance Document	None	None
		5.7.5 Populate Search Results Table Task(Angular)	None	None	None
		5.7.5 ALT: Notification of no document found Task (Angular)	None	None	None
		5.7.6 Display Selected Employee Task(Angular)	None	View Employee	None

5.8	Delete Employee Document			Document Modal	
		5.7.6 ALT: Notification of display error encountered Task (Angular)	None	Unexpected Error Dialog	None
		5.8.1 Retrieve and Display Delete Employee Document Task (Angular)	Employee Compliance Document	Delete Employee Document	None
		5.8.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation	Delete Confirmation Modal	None
		5.8.3 Delete Employee Document Task (Angular)	Employee Compliance Document	None	None
		5.8.4 Notification of Successful Deletion Task (Angular)	None	None	None
		5.8.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None	None	None
5.9	Create Account	5.9.1 Retrieve Employee Information Task (Angular .NET Core)	None	Account Screen	None
		5.9.2 Display Create Account Modal Task (Angular)	None	Create Account Modal	None
		5.9.3 Validate Captured Details Task(Angular)	None	None	None
		5.9.3 ALT: Notification of Validation Error (Angular)	None	Validation Error Dialog	None
		5.9.4 Display Confirmation Dialog Task (Angular)	None	Confirmation Dialog	None
		5.9.5 Request confirmation of captured info Task (Angular)	None	None	None

		5.9.6 Save User Details Task (Angular .NET Core)	User	None	None
		5.9.7 Notification of successful user addition Task(Angular)	None	Successful User Addition Dialog	None
		5.9.7 ALT: Notification of unsuccessful user addition Task (Angular)	None	Unexpected Error Dialog	None
5.10	Edit Account	5.10.1 Retrieve Employee Information Task (Angular .NET Core)	None	Account Screen	None
		5.10.2 Display Update Account Modal Task (Angular)	None	Update Account Modal	None
		5.10.3 Validate Captured Details Task (Angular)	None	None	None
		5.10.3 ALT: Notification of Validation Error (Angular)	None	Validation Error Dialog	None
		5.10.4 Display Confirmation Dialog Task (Angular)	None	Confirmation Dialog	None
		5.10.5 Request confirmation of captured info Task (Angular)	None	None	None
		5.8.6 Save Changes to User Task (Angular .NET Core)	User	None	None
		5.10.7 Notification of successful user update Task (Angular)	None	Successful User Addition Dialog	None
		5.10.7 ALT: Notification of unsuccessful user addition Task (Angular)	None	Unexpected Error Dialog	None
5.11	Search Account	5.11.1 Display Account Screen Task (Angular)	None	Account Screen	None
		5.11.2 Capture Search Parameter Task (Angular)	None	None	None
		5.11.3 Validate Captured Details Task (Angular)	None	None	None

5.12	Delete Account	5.11.3 ALT: Notification of Validation Error (Angular)	None	Validation Error Dialog	None
		5.11.4 Retrieve Search Results Task (Angular .NET Core)	User	None	None
		5.11.5 Populate Search Results Table Task (Angular)	None	None	None
		5.11.5 ALT: Notification of no user found Task (Angular)	None	No User Found Dialog	None
		5.11.6 Display Selected User Task (Angular)	None	View User Modal	None
		5.11.6 ALT: Notification of display error encountered Task (Angular)	None	Unexpected Error Dialog	None
		5.12.1 Retrieve and Display Delete Account Task (Angular)	Account		None
		5.12.2 Display Delete Confirmation Modal Task (Angular)		Delete Confirmation	None
		5.12.3 Delete Account Task (Angular)	Account		None
		5.12.4 Notification of Successful Deletion Task (Angular)	None		None
		5.12.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None
5.13	Create Employee Type	5.13.1 Display Employee Type Screen Task (Angular)	None	Employee Screen	None
		5.13.2 Display Add Employee Type Modal Task (Angular)	None	Add Employee Type Modal	None
		5.13.3 Capture Employee Type Information Task (Angular)	None	None	None

		5.13.4 Validate Employee Type Details Task (Angular)	None	None	None
		5.13.4 ALT: Notification of Validation Error (Angular)	None	Validation Error Dialog	None
		5.13.5 Display Confirmation Dialog Task (Angular)	None	Confirmation Dialog	None
		5.13.6 Save Changes of Employee Type Task (Angular .NET Core)	Employee Type	None	None
		5.13.7 Notification of successful creation Task (Angular)	None	Employee Type Creation Successful Modal	None
		5.13.7 ALT: Notification of unsuccessful creation Task (Angular)	None	Unexpected Error Dialog	None
5.14	Search Employee Type	5.14.1 Display Employee Screen Task (Angular)	None	Employee Screen	None
		5.14.2 Capture Search Parameter Task (Angular)	None	None	None
		5.14.3 Validate Captured Details Task (Angular)	None	None	None
		5.14.3 ALT: Notification of Validation Error (Angular)	None	Validation Error Dialog	None
		5.14.4 Retrieve Search Results Task (Angular .NET Core)	Employee Type	None	None
		5.14.5 Populate Search Results Table Task (Angular)	None	None	None
		5.14.5 ALT: Notification of no employee type found Task (Angular)	None	No Employee Type Found Dialog	None
		5.14.6 Display Selected Employee Type Task (Angular)	None	View Employee Type Modal	None

5.15	Edit Employee Type	5.14.6 ALT: Notification of display error encountered Task (Angular)	None	Unexpected Error Dialog	None
		5.15.1 Retrieve and display Edit Employee Type details Task (Angular)	Employee Type	Edit Employee Type	None
		5.15.2 Request and capture edited Employee Type info Task (Angular)	None	None	None
		5.15.3 Validate Captured Employee Type Details Task (Angular)	None	None	None
		5.15.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
		5.15.4 Confirmation of updated Employee Type info Task (Angular)	None	None	None
		5.15.5 Update Employee Type info Task (Angular)	Employee Type	None	None
		5.15.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
		5.15.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
5.16	Delete Employee Type	5.16.1 Retrieve and Display Delete Employee Type Task (Angular)	Employee Type	Delete Employee Type	None
		5.16.2 Display Delete Confirmation Modal Task (Angular)		Delete Confirmation	None
		5.16.3 Delete Employee Type Task (Angular)	Employee Type	None	None
		5.16.4 Notification of Successful Deletion Task (Angular)	None	None	None
		5.16.4 ALT: Notification of	None	None	None

		Deletion Unsuccessful Task (Angular)			
5.17	Create Employee Skill	5.17.1 Display Employee Screen Task (Angular)	None	Employee Screen	None
		5.17.2 Display Add Employee Skill Modal Task (Angular)	None	Add Employee Skill Modal	None
		5.17.3 Capture Employee Skill Information Task (Angular)	None	None	None
		5.17.4 Validate Employee Skill Details Task (Angular)	None	None	None
		5.17.4 ALT: Notification of Validation Error (Angular)	None	Validation Error Dialog	None
		5.17.5 Display Confirmation Dialog Task (Angular)	None	Confirmation Dialog	None
		5.17.6 Save Changes of Employee Skill Task (Angular .NET Core)	Employee Skill	None	None
		5.17.7 Notification of successful creation Task (Angular)	None	Successful Employee Type Creation Dialog	None
		5.17.7 ALT: Notification of unsuccessful creation Task (Angular)	None	Validation Error Dialog	None
5.18	Search Employee Skill	5.18.1 Display Employee Screen Task (Angular)	None	Employee Screen	None
		5.18.2 Capture Search Parameter Task (Angular)	None	None	None
		5.18.3 Validate Captured Details Task (Angular)	None	None	None
		5.18.3 ALT: Notification of Validation Error (Angular)	None	Validation Error Dialog	None
		5.18.4 Retrieve Search Results Task (Angular .NET Core)	Employee Skill	None	None

		5.18.5 Populate Search Results Table Task (Angular)	None	None	None
		5.18.5 ALT: Notification of no employee type found Task (Angular)	None	No Employee Skill Found Dialog	None
		5.18.6 Display Selected Employee Skill Task (Angular)	None	View Employee Skill Modal	None
		5.18.6 ALT: Notification of display error encountered Task (Angular)	None	Validation Error Dialog	None
5.19	Edit Employee Skill	6.3.1 Retrieve and display Edit Employee Skill details Task (Angular)	Employee Skill	Edit Employee Skill	None
		6.3.2 Request and capture edited Employee Skill info Task (Angular)	None	None	None
		6.3.3 Validate Captured Employee Skill Details Task (Angular)	None	None	None
		6.3.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
		6.3.4 Confirmation of updated Employee Skill info Task (Angular)	None	None	None
		6.3.5 Update Employee Skill info Task (Angular)	Employee Skill	None	None
		6.3.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
5.20	Delete Employee Skill	6.3.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
		5.20.1 Retrieve and Display Delete Employee Skill Task (Angular)	Employee Skill	Delete Employee Skill	None
		5.20.2 Display Delete Confirmation Modal Task (Angular)		Delete Confirmation	None

		5.20.3 Delete Employee Skill Task (Angular)	Employee Skill		None
		5.20.4 Notification of Successful Deletion Task (Angular)	None		None
		5.20.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None

3.6 Team Subsystem

6. Team Subsystem						
Requirement	Use Case No.	Use Case Title	Processes from Primitive Data Flow Diagram	Entities from ERD	Screen	Report
6.1 Create Team	6.1	Create Team	6.1.1 Capture Team detail Task (Angular)	Employee	Create Team Screen	None
			6.1.2 Validate Captured details Task (Angular)	None	None	None
			6.1.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			6.1.3 Confirmation of details Task (Angular)	None	None	None
			6.1.4 Save Team details Task (asp.Net Core)	Team, Employee Team	None	None
			6.1.5 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			6.1.5 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
6.2 Search Team	6.2	Search Team	6.2.1 Capture Team search parameter Task (Angular)	None	Teams Screen	None
			6.2.2 Validate search parameter Task (Angular)	None	None	None
			6.2.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			6.2.3 Retrieve Team search parameter (Angular)	Team	None	None
			6.2.4 Return Team search results Task (Angular)	None	None	None
			6.2.5 Return Selected Team Information Task (Angular)	Team, Employee Team	None	None

			6.2.5 ALT: Notification of No Team found Task (Angular)	None	Error Screen	None
			6.2.5(A) [ALT] Capture Add Team request Task (Angular)	None	None	None
			6.2.5(B) [ALT] Capture Update Team Request Task (Angular)	None	None	None
6.3 Edit Team	6.3	Edit Team	6.3.1 Retrieve and display Edit Team details Task (Angular)	Team, Employee Team	Edit Team	None
			6.3.2 Request and capture edited Team info Task (Angular)	None	None	None
			6.3.3 Validate Captured Team Details Task (Angular)	None	None	None
			6.3.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			6.3.4 Confirmation of updated Team info Task (Angular)	None	None	None
			6.3.5 Update Team info Task (Angular)	Team, Employee Team	None	None
			6.3.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			6.3.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
6.4 Delete Team	6.4	Delete Team	6.4.1 Retrieve and Display DeleteTeam Task (Angular)	Team		None
			6.4.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation		None
			6.4.3 Delete Team Task (Angular)	Team		None

			6.4.4 Notification of Successful Deletion Task (Angular)	None		None
			6.4.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None

3.7 Inventory Management Subsystem:

7. Inventory Management						
Requirement	Use Case No.	Use Case Title	Processes from Primitive Data Flow Diagram	Entities from ERD	Screen	Report
7.1 Add Line-Item	7.1	Add Line-Item	7.1.1 Capture Line-Item details Task (Angular)	None	Create Line-item screen	None
			7.1.2 Validate Captured details Task (Angular)	None	None	None
			7.1.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			7.1.3 Confirmation of details Task (Angular)	None	None	None
			7.1.4 Save Line-Item details Task (Angular)	Line-Item	None	None
			7.1.5 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			7.1.5 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
7.2 Search Line-Item	7.2	Search Line-Item	7.2.1 Capture Line-Item search parameter Task (Angular)	None	Inventory Management screen	None
			7.2.2 Validate search parameter Task (Angular)	None	None	None

			7.2.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			7.2.3 Retrieve Line-Item search parameter Task (asp.Net Core)	Line-Item	None	None
			7.2.4 Return Line-Item search results Task (Angular)	None	None	None
			7.2.5 Return Selected Line-Item information Task (Angular)	None	None	None
			7.2.5 ALT: Notification of No line-item found Task (Angular)	None	Error Screen	None
			7.2.5(A) [ALT] Capture line-item Add request Task (Angular)	None	None	None
			7.2.5(B) [ALT] Capture line-item Update request Task (Angular)	None	None	None
7.3 Edit Line-Item	7.3	Edit Line-Item	7.3.1 Display Edit Line-Item details Task (Angular)	Line-Item	Edit line-item screen	None
			7.3.2 Request and capture edited Line-Item info Task (Angular)	None	None	None

			7.3.3 Validate Captured Line-Item details Task (Angular)	None	None	None
			7.3.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			7.3.4 Confirmation of updated Line-Item info Task (Angular)	None	None	None
			7.3.5 Update Line-Item info Task (asp.Net Core)	Line-Item	None	None
			7.3.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			7.3.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
7.4 Delete Line-Item	7.4	Delete Line-Item	7.4.1 Retrieve and Display Delete Line-Item Task (Angular)	Line-Item	Delete Line-Item	None
			7.4.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation		None
			7.4.3 Delete Line-Item Task (Angular)	Line-Item		None
			7.4.4 Notification of Successful Deletion Task (Angular)	None		None
			7.4.4 ALT: Notification of Deletion Unsuccessful Task	None		None

			(Angular)			
7.5 Create Line-Item Type	7.5	Create Line- Item Type	7.5.1 Capture Line-Item Type detail Task (Angular)	Line-Item Type	Create Line-Item Type	None
			7.5.2 Validate Captured details Task (Angular)	None	None	None
			7.5.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			7.5.3 Confirmation of details Task (Angular)	None	None	None
			7.5.4 Save Line-Item Type details Task (asp.Net Core)	Line-Item Type	None	None
			7.5.5 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			7.5.5 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
7.6 Search Line-Item Type	7.6	Search Line- Item Type	7.6.1 Capture Line-Item Type search parameter Task (Angular)	None	Search Line-Item Type	None
			7.6.2 Validate search parameter Task (Angular)	None	None	None
			7.6.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			7.6.3 Retrieve Line-Item Type search parameter (Angular)	Line-Item Type	None	None

			7.6.4 Return Team search results Task (Angular)	None	None	None
			7.6.5 Return Selected Line-Item Type Information Task (Angular)	Line-Item Type	None	None
			7.6.5 ALT: Notification of No Line-Item Type found Task (Angular)	None	Error Screen	None
7.7 Edit Line-Item Type	7.7	Edit Line-Item Type	7.7.1 Retrieve and display Edit Line-Item Type details Task (Angular)	Line-Item Type	Edit Line-Item Type	None
			7.7.2 Request and capture edited Line-Item Type info Task (Angular)	None	None	None
			7.7.3 Validate Captured Line-Item Type Details Task (Angular)	None	None	None
			7.7.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			7.7.4 Confirmation of updated Line-Item Type info Task (Angular)	None	None	None
			7.7.5 Update Line-Item Type info Task (Angular)	Line-Item Type	None	None
			7.7.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			7.7.6 ALT: Notification of	None	Error Screen	None

			unsuccessful save Task (Angular)			
7.8 Delete Line-Item Type	7.8	Delete Line-Item Type	7.8.1 Retrieve and Display Delete Line-Item Type Task (Angular)	Line-Item Type	Delete Line-Item Type	None
			7.8.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation		None
			7.8.3 Delete Line-Item Type Task (Angular)	Line-Item Type		None
			7.8.4 Notification of Successful Deletion Task (Angular)	None		None
			7.8.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None
7.9 Create Package Type	7.9	Create Package Type	7.9.1 Capture Package Type Details Task (Angular)	Package Type	Create Package Type	None
			7.9.2 Validate Captured details Task (Angular)	None	None	None
			7.9.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			7.9.3 Confirmation of details Task (Angular)	None	None	None
			7.9.4 Save Package Type Details Task (asp.Net Core)	Package Type	None	None

			7.9.5 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			7.9.5 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
7.10 Search Package Type	7.10	Search Package Type	7.10.1 Capture Package Type search parameter Task (Angular)	None	Package Type	None
			7.10.2 Validate search parameter Task (Angular)	None	None	None
			7.10.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			7.10.3 Retrieve Package Type search parameter (Angular)	Package Type	None	None
			7.10.4 Return Package Type Search results Task (Angular)	None	None	None
			7.10.5 Return Selected Package Type Information Task (Angular)	Package Type	None	None
			7.10.5 ALT: Notification of No Team found Task (Angular)	None	Error Screen	None
7.11 Edit Package Type	7.11	Edit Package Type	7.11.1 Retrieve and display Edit Package Type details Task (Angular)	Package Type	Edit Package Type	None

			7.11.2 Request and capture edited Package Type info Task (Angular)	None	None	None
			7.11.3 Validate Captured Package Type Details Task (Angular)	None	None	None
			7.11.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			7.11.4 Confirmation of updated Package Type info Task (Angular)	None	None	None
			7.11.5 Update Package Type info Task (Angular)	Package Type	None	None
			7.11.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			7.11.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
7.12 Delete Package Type	7.12	Delete Package Type	7.12.1 Retrieve and Display Delete Package Type Task (Angular)	Package Type	Delete Package Type	None
			7.12.2 Display Delete Confirmation Modal Task (Angular)	Delete Confirmation		None
			7.12.3 Delete Package Type Task (Angular)	Package Type		None
			7.12.4 Notification of	None		None

			Successful Deletion Task (Angular)			
			7.12.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None		None

3.8 Reporting Subsystem:

8. Reporting Subsystem						
Requirement	Use Case	Use Case	Primitive DFD Processes	Entities	Screens	Report
8.1 Generate Site Progress Report	8.1	Generate Site Progress Report	8.1.1 Display Site Progress Report Screen Task (Angular)	None	Generate Site Progress Report Screen	None
			8.1.2 Capture Report Parameters Task (Angular)	None	None	None
			8.1.3 Validate Report Parameters Task (Angular)	None	None	None
			8.1.4 Retrieve all necessary data from datastores to generate report	• Site Type • Project • Project Status • Company Information • Site Progress description • Construction Photo • Completion Photo	None	None

			(Angular .NET Core			
			ALT 8.1.4 Display Validation Error Task (Angular)	None	Validation Error	None
			8.1.5 Generate Site Progress Report Task (Angular)	None	None	Site Progress Report
			8.1.6 Display Generated Report Task (Angular)	None	Generate Site Progress Report Screen	None
			8.1.7 Capture Download Request Task (Angular)	None	None	None
			8.1.8 Send Report Task (Angular)	None	None	None
8.2 Generate Site Type Report	8.2	Generate Site Type Report	8.2.1 Display Generate Site Type Report	None	Generate Site Type Report Screen	None

			Screen Task (Angular)			
			8.2.2 Capture Date Range Task (Angular)	None	None	None
			8.2.3 Validate Date Range Task (Angular)	None	None	None
			8.2.4 Retrieve all necessary data from datastores to generate report (Angular. NET Core)	• Site Type • TSS • Project • Project Status • Company Information	None	None
			ALT 8.2.4 Display Validation Error Task (Angular)	None	Validation Error	None
			8.2.5 Generate Site Type Report Task (Angular)	None	None	Site Type Report

			8.2.6 Display Generated Report Task (Angular)	None	Generate Site Type Report Screen	None
			8.2.7 Capture Download Request Task (Angular)	None	None	None
			8.2.8 Send Report Task (Angular)	None	None	None
8.3 Generate Team Site Completed Report	8.3	Generate Team Site Completed Report	8.3.1 Display Generate Team Site Completed Report Screen Task (Angular)	None	Generate Team Site Completed Report Screen	None
			8.3.2 Capture Report Parameters Task (Angular)	None	None	None
			8.3.3 Validate Report Parameters	None	None	None

			Task (Angular)			
			8.3.4 Retrieve all necessary data from datastores to generate report (Angular. NET Core)	• TSS • Site Type • Project • Project Status • Company Information • Team • Employee Team • Employee • Employee Type	None	None
			ALT 8.3.4 Display Validation Error Task (Angular)	None	Validation Error	None
			8.3.5 Generate Team Site Completed Report Task (Angular)	None	None	Team Site Completed Report
			8.3.6 Display generated report Task (Angular)	None	Generate Team Site Completed Report Screen	None
			8.3.7 Capture Download Request	None	None	None

			Task (Angular)			
			8.3.8 Send Report Task (Angular)	None	None	None
8.4 Generate Employee Document Expiry Report	8.4	Generate Employee Document Expiry Report	8.4.1 System Prompted to Generate Employee Document Expiry Report (Angular)	None	None	None
			8.4.2 Retrieve all necessary data from datastores to generate report (Angular. NET Core)	• Employee • Employee Compliance Document	None	None
			8.4.3 Generate Employee Document Expiry Report Task (Angular)	None	None	Employee Document Expiry Report
			8.4.4 Retrieve	• User	None	None

			Human Resource Officer Details Task (Angular .NET Core)			
			8.4.5 Send Report Task (Angular)	None	None	None
8.5 Generate Site Acceptance Document	8.5	Generate Site Acceptance Document	8.5.1 Capture Generate Site Acceptance Document Request Task (Angular)	None	None	None
			8.5.2 Retrieve all necessary data from datastores to generate Site Acceptance Document (Angular. NET Core)	• User • Construction Site • TSS	None	None
			8.5.3 Generate Site Acceptance	None	None	Site Acceptance Document

			Document Task (Angular)			
			8.5.4 Display Site Acceptance Document Screen Task (Angular)	None	Site Acceptance Document Screen	None
			8.5.5 Capture Confirmation Task (Angular)	None	None	None
			ALT 8.5.6 Display Site Acceptance Document Not Saved Alert Task (Angular)	None	Site Acceptance Document Not Saved Alert	None
			8.5.6 Send Site Acceptance Document Task (Angular)	None		

3.9 User Management Subsystem:

9. User management subsystem						
Requirement	Use Case No.	Use Case Title	Processes from Primitive Data Flow Diagram	Entities from ERD	Screens	Reports
9.1 Login	9.1	Login	9.1.1 Display "login" page task (Angular)	None	Login	None
			9.1.2 Capture and validate information task (Angular)	None	None	None
			ALT 9.1.3 Validation error message task(Angular)	None	Validation Error Dialog Screen	None
			9.1.3 Retrieve email details task(Angular .NET core)	User	None	None
			ALT 9.1.4 Validation error message task (Angular)3	None	Validation Error Dialog Screen	None
			9.1.4 Capture Hash algorithm task (Angular .NET Core)	User	None	None
			ALT 9.1.5 Validation error message task (Angular)2	None	Validation Error Dialog Screen	None

			9.1.5 Retrieve user's role task (Angular .NET Core)	Employee	None	None
			9.1.6 Log in task(Angular)	None	None	None
9.2 Logout	9.2	Logout	9.2.1 Display "Logout" modal task(Angular)	None	Logout modal	None
			9.2.2 Logout task (Angular)	None	None	None
9.3 Reset password	9.3	Reset password	9.3.1 Display "Forgot password" modal (Angular)	None	Forgot password screen	None
			9.3.2 Display "Reset password" modal (Angular)	None	Reset password modal	None
			9.3.3 Display "Request email" screen (Angular)	None	Request email screen	None
			9.3.4 Capture and validate email information (Angular)	None	None	None

			ALT 9.3.5 Email validation error message Angular	None	Email validation error message	None
			9.3.5 Retrieve security question (Angular .NET Core)	User	None	None
			ALT 9.3.6 Retrieve security question error Angular	None	Security question error message	None
			9.3.6 Display "Security question" screen (Angular)	None	Security question screen	None
			9.3.7 Capture and validate security answer information (Angular)	None	None	None
			ALT 9.3.8 Security answer validation error message Angular	None	Security answer validation error message	None
			9.3.8 Compare and validate security answer (Angular .NET Core)	User	None	None
			ALT 9.3.9 Security answer error message Angular	None	Security answer error message	None

			9.3.10 Capture and validate password (Angular)	None	None	None
			ALT 9.3.11 Password error message Angular	None	Password error message	None
			9.3.11 Display "Confirm reset password" modal (Angular)	None	Confirm reset password modal	None
			9.3.12 Update passwords in database (Angular)	User	None	None
			9.3.13 Display "password reset" modal (Angular)	None	Password reset modal	None

3.10 Client Subsystem

10. Client						
Requirement	Use Case No.	Use Case Title	Processes from Primitive Data Flow Diagram	Entities from ERD	Screen	Report
10.1 Add Client	10.1	Add Client	10.1.1 Capture Client details Task (Angular)	None	Create Client screen	None
			10.1.2 Validate Captured details Task (Angular)	None	None	None
			10.1.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			10.1.3 Confirmation of details Task (Angular)	None	None	None
			10.1.4 Save Client details Task (Angular)	Client	None	None
			10.1.5 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			10.1.5 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
10.2 Search Client	10.2	Search Client	10.2.1 Capture Client search parameter Task (Angular)	None	Client screen	None
			10.2.2 Validate search parameter Task (Angular)	None	None	None

			10.2.3 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			10.2.3 Retrieve Client search parameter Task (asp.Net Core)	Client	None	None
			10.2.4 Return Client search results Task (Angular)	None	None	None
			10.2.5 Return Selected Client Information Task (Angular)	None	None	None
			10.2.5 ALT: Notification of No client found Task (Angular)	None	Error Screen	None
			10.2.5(A) [ALT] Capture client Add request Task (Angular)	None	None	None
			10.2.5(B) [ALT] Capture client Update request Task (Angular)	None	None	None
10.3 Edit Client	10.3	Edit Client	10.3.1 Display Edit Client details Task (Angular)	Client	Edit client screen	None
			10.3.2 Request and capture edited Client info Task (Angular)	None	None	None
			10.3.3 Validate Captured Client	None	None	None

			Details Task (Angular)			
			10.3.4 ALT: Notification of Validation error Task (Angular)	None	Invalid Notification screen	None
			10.3.4 Confirmation of updated Client info Task (Angular)	None	None	None
			10.3.5 Update Client info Task (asp.Net Core)	Client	None	None
			10.3.6 Notification of successful save Task (Angular)	None	Success Notification Screen	None
			10.3.6 ALT: Notification of unsuccessful save Task (Angular)	None	Error Screen	None
10.4 Delete Client	10.4	Delete Client	10.4.1 Retrieve and Display Delete Client Task (Angular)	Client	None	None
			10.4.2 Display Delete Confirmation Modal Task (Angular)	None	Delete Confirmation	None
			10.4.3 Delete Client Task (Angular)	Client	None	None
			10.4.4 Notification of Successful Deletion Task (Angular)	None	None	None
			10.4.4 ALT: Notification of Deletion Unsuccessful Task (Angular)	None	None	None

Conclusion

This section has validated the system against the outlined requirements using the entities from the ERD, screens and reports.

CRUD Matrix

Introduction

The following section contains our system’s CRUD matrix. This is used to identify the tables and their attributes in our database. It shows how each attribute is either Created (C), Read (R), Updated (U), or Deleted (D) by using the system’s functionality.

4. Complete CRUD Matrix of the System

Please refer to Appendix A for this section.

Conclusion

The section above contained a detailed CRUD matrix for the Gohvan Construction System. It shows in detail how each attribute in the database is either Created (C), Read (R), Updated (U), or Deleted (D).

Conversion Plan

Introduction

The conversion plan is used to guide the implementation phase of the system development life cycle. This plan will specify the type of conversion to be followed. It will also include the conversion plan components, acceptance testing, installation of databases and the training system users will require.

5.1 Background Information

The current system in place at Gohvan Construction is a paper-based company. The current system lacks automation and is vulnerable to human error. The new system, developed by Paralinear Solutions, will help automate the day-to-day business functions of Gohvan Construction.

The Gohvan Construction System is an intranet that supports the required business functions.

- Gohvan Construction Website (intranet): This is the company’s intranet used by the employees of Gohvan Construction. The website will be developed on Angular and hosted on Amazon Web Services.

5.2 Plan Components

Conversion Strategy

The conversion strategy that is best suited to Gohvan Construction’s needs, is the Abrupt Cut-Over strategy. The Abrupt Cut-Over strategy suggested that on a set date the company’s current paper-based system will stop and the implementation of the new system will take place. The Abrupt Cut-Over strategy is the best option for situations where there is no old system to be replaced. This means the time required to transition to the new system is significantly lower. However, this strategy comes with a high-risk factor as the new system may be incomplete.

Conversion Requirements

The following hardware, software and network requirements need to be met before commencement of the conversion plan can begin. These requirements are also available in Deliverable 4: Technical Specifications.

Hardware Requirements

CPU (Central Processing Unit)	intel CORE i3 2.4 GHz or faster processor
RAM (Random Access Memory)	Minimum of 6GB of RAM
Disk Space	Minimum Capacity of 256GB of SSD (Solid State Drive)
	Minimum Capacity of 1TB of HDD
HDD Speed (Hard Disk Drive)	5400 RPM hard disk drive
GPU (Graphics Processing Unit)	DirectX 9-capable video card (1024 x 768 or higher resolution)

Peripheral Devices	Mouse
	Keyboard
	Printer
Internet Connectivity	Ethernet Port
	Wi-Fi Connectivity
Minimum Internet Speed	10Mbps

Software Requirements

Operating System	Windows 10
Internet Browser	Google Chrome
Documentation Software	Microsoft Office (Word, Excel)
PDF Viewer	Adobe Acrobat Reader DC
Screenshot Software	Snip & Sketch

Network Requirements

Internet Connectivity	10Mbps Fibre Line
Web / Server Hosting	Support for MySQL, ASP.NET and domain

5.4 System Acceptance Test

The system acceptance test is a set of comprehensive tests performed on the final system before it is handed-over to Gohvan Construction. This test is made up of verification test, validation testing and audit testing.

Verification (Alpha) Testing

The Verification (Alpha) Test helps the team determine if the developed system fulfils the required functionality. This test is performed in a simulated environment with simulated data. By using a simulated environment and simulated data our team will be able to test the system in a more controlled setting. Testing the system's functionality helps the team identify any issues or missing functionality in the system. When an issue is identified, the team will need to fix the error and test the newly implemented changes.

Validation (Beta) Testing

The Validation (Beta) Test helps the team test the developed system in a live environment with real data. This will help the team ensure that the developed system is compatible in real world scenarios. The Paralineer team will focus on the following points:

- System Performance – Ensures that the system produces adequate throughput and has appropriate response time.

- Peak workload processing performance – Measures the system's performance during peak processing periods.
- Human engineering test – This test will measure the system's ease of use and assess its level of learnability.
- Methods & Procedures – The implementation of functions and procedures may vary to the initial plan. Modifications and adjustments should be made to the functions and procedures.

Audit Testing

Only once both Alpha & Beta Testing is complete, the team will perform an Audit Test. Performing an audit test will help the team confirm that the developed system is free of errors and is ready to be handed over.

5.5 Install Databases

During this phase the system's database needs to be installed and populated with the company's data. This data will be used to manage and process the business functions of Gohvan Construction. However, the current system that is in place is a paper-based system. This means the Paralineer team will capture and store all the necessary data in the installed databases.

5.6 System Access

The Gohvan Construction system is an online angular application. The database is hosted in Amazon Web Services. The system restricts user access to the database and system functionality. Users can only access the system when they are registered and logged in to the system. Once logged in, the user will have access to the system's functionality according to the user's associated access level.

5.6 Train System Users

System users will require training in order to be able to use the new Gohvan Construction system. As the previous business processes will not be supported in the new system. An extensive training manual will be compiled by the Paralineer Solutions team in the next deliverable (Deliverable 9). This training manual will support the system users if they should encounter difficulty or uncertainty when performing business functions.

Conclusion

This section covered the overview of the conversion plan of the Gohvan Construction System. This plan entails the required conversion strategy, testing, installations, as well as training and support.

Project related issues

Introduction

Not every project runs smoothly. The chances of running into issues, when developing a system, is a given. This section documents the issues the Paralinear team encountered during the 5th, 6th and 7th deliverable.

6.1 Project Related Issues

6.1.1 COVID-19 pandemic and nation lockdown

On the 26th of March 2020 South Africa was put on lockdown as the spread of the COVID-19 pandemic began ravaging the world. Due to the lockdown the Paralinear team faced an entirely new environment filled with unforeseen issues. The team would rely heavily on online communication channels such as Discord, WhatsApp and Google Meets. The pandemic also affected the academic year by reducing the duration. This in turn brought its own issues with time management.

6.1.2 Scope Creep

As the team began developing the system, we found inconsistencies in the system. This needed to be addressed and certain new functionalities were introduced to solve the issues.

6.1.3 Communication

The Paralinear team faced issues with communication the below points:

- Communication between Paralinear and our Client (Michael van der Walt) was affected due to the pandemic. Our client would also have his own issues to face during the pandemic and this would mean his priorities would have to take precedent. This would delay responses and prolong the time required to solve the issue.
- Communication between the INF 370 team; It is understandable that not all attempts of communication will be acknowledged as the INF 370 team faced their own adversities during the 2021 academic year. Our team felt like we had to walk on eggshells when communicating with the lecturers and this resulted in a misunderstanding of issues our team faced.
- Internal communication, our team would have to neglect communication due to the sheer workload of this deliverable. We would always reply just not in a timely manner.

6.1.4 Time Management

Our team struggled with managing the allotted time for this deliverable. Our system is quite large and we were required to add the missing functionality mentioned in the scope creep section Which only compounded this issue.

6.1.5 Team Dynamics

Our team faced a situation where no team would want to find itself. We had to remove one of our team members. The other four members of the team approached the lecturers on several occasions to try address the issue from Deliverable 1. However, the issues seemed to persist even after providing support. Unfortunately, this in turn impacted the team's marks. This ordeal was extraordinarily disruptive and it is still completely mentally draining.

6.2 Team sign-off

We, the members of Team 7 of INF 370 2021, declare that we are satisfied with the quality and professionalism of the contents contained in this document. We declare that each member of the team has made an equal contribution.

X 
Matthew Veltman
u19050608

X 
Vincent Yu
u15195059

X 
Michael Vosloo
u19031174

X 
Amore Rossouw
u19052864

Conclusion

This section covered the issues the Paralinear team faced during deliverable 5, 6 and 7. These issues have been acknowledged by the team with the team sign off.

Complexity

Introduction

The complexity marks document indicates the level of complexity the proposed system for Gohvan construction will have and feature. All the required complexity marks listed must achieve a total score of above 100 points for a four-man team and must be maintained throughout the project lifecycle and finished product.

7. Complexity requirements

Topic	Level	Marks
		MAX
1. Special GUI	For online applications: Responsive web design For desktop applications: Form design according to design principles (Schneiderman's golden rule on navigation applies here)	3
	Appropriate use of grids/tables	3
	Appropriate use of tabs/links	3
	Use of graphs in an appropriate business context	4
	The storage and display of graphical information, like photos with a good business reason	3
	Working e-mail automatically generated from the database in an appropriate business context	2
	SMS messages automatically generated from the system in an appropriate business context	2
	Extensive user-friendly search facility	3
	At least one use of a tree to display data from the database	3
	Able to dynamically modify a data tree structure and in doing so adjusting the data in the database	4
	At least one use of a calendar view of data (not a date/time picker; not a plug-in such as Google calendar)	3
	Uploading a file into the system with appropriate business reason	3
	The use of audio/video in an appropriate business context	3
	At least one use of an administrator configurable timer in an appropriate business context	3
2. Database access	At least 30 tables used (4 member groups) or 40 tables used (5 member groups)	6
	Full referential integrity on all tables	6
	At least one use of master-detail table relationships (Schneiderman's golden rule on system status applies here)	3
3. Reports	At least 3 simple list reports in a reporting tool (no control breaks, no graphs, single table)	3

	At least 2 transactional report with 2 or more control breaks (with heading and calculated values/totals, multiple tables)	6	
	At least 1 report with adjustable criteria	3	
	At least 1 management report using a graph	3	
4. Flexibility	All data that can change in future should not be hard coded but maintained in a sub-module of the system (e.g. Lookup tables)	6	12
	Some business rules are not hard coded but maintained in a sub-module of the system.	6	
5. Error handling	All system-generated errors are trapped, and consistent, user-friendly error messages are displayed	6	12
	Appropriate data validation on all input fields	6	
6. Help	At least one menu item or other control that opens up a complete help document (HTML, PDF, Help-file)	3	15
	Extensive context-sensitive help. E.g. calling Help on a specific screen/function will automatically open the specific help for that screen/function.	6	
	Search Facility on Help	3	
	Extensive use of hints	3	
7. Security	Logon screen with user ID and password and fixed user profiles	3	13
	Applying two factor authentication with applicable business reason.	3	
	Encrypted passwords in database	* 1	
	Flexible user profiles (i.e. you can dynamically add user profiles that will enable/disable access to certain parts of the system)	6	
8. Audit Trail	An audit trail of all transactions in the system showing at least date, time, user, transaction type, critical data (such as amount and quantity of transaction)	6	9
	Able to search the audit trail on any of the following: date, user, transaction type	3	
9. Deployment	For a desktop application: Fully functional installation disks that take care of application installation requirements (install and uninstall)	3	15
	For an online application: Deployment of application to a publicly accessible web server	3	
	For a mobile application: Deployment to an App Market place (such as the PlayStore or the AppStore)	6	
	Deployment of the database to a remote database server	3	
10. Backup and Restore	A backup and restore subsystem exists that backup/restore all data (system may exit during restore)	3	3
11. Import/Export Data	Able to open Word or Excel and automatically place data in it based on the parameters provided (with a good business reason)	6	9

	XML or JSON: At least 1 XML or JSON file for Importing or Exporting of data (with good business reason)	3	
12. External INPUT device	Simple Link to an external INPUT device using plug-and-play technology, such as a swipe card reader, bar code reader, etc. or a native component such as a QR reader, a GPS component, etc.	3	18
	Loose Link to an external INPUT device using device specific software. Data or images must seamlessly be stored in the database, but device specific software is visible to the user. (This could include a digital camera, scanner, voice recording device, thumb print reader, etc.)	6	
	Tight Link to an external INPUT device using device specific software. Data or images must seamlessly be stored in the database, but device specific software is not visible to the user. (This could include a digital camera, scanner, voice recording device, thumb print reader, etc.)	9	
13. External APPLICATION / Services	Integrate an existing web service into your application (with good business reason)	3	9
	A fully functional link to an installed external application system exists and the interface must be shown to work on the external system. Note that this excludes Microsoft Office Applications	6	
14. Multiplatform processing for an appropriate business reason	Appropriate business use of static views on an alternative platform.	3	27
	Appropriate use of dynamic views on an alternative platform (i.e. data is displayed from the system's database)	3	
	Appropriate use of substantial dynamic views on an alternative platform (i.e. both reading and writing data from the system's database)	9	
	Uploading a file through an alternative platform onto the system's database.	3	
	Substantial processing on a third platform (i.e. both reading and writing data from the system's database)	9	
15. Programming Principles	The use of a data layer to facilitate interaction between your database and your business layer	3	12
	The use of an API to facilitate interaction between your business layer and your presentation layer	6	
	Comprehensive use of stored procedures and/or triggers and/or jobs.	3	
16. Innovative addition to the system	Any very advanced innovative addition to the system (e.g. machine learning, AI, block chain, text mining, IOT, etc.)	1 - 9	9

Maximum Complexity Marks 222

Total Calculated Complexity Marks 102

Conclusion

This concludes the complexity mark section for Team 7 which has been filled out as to the sections we can complete with this current system design.

Sign-off by Client

Introduction

This section serves as proof that the client has read through the deliverable presented and agrees with the content and work that has been provided

8. Sign-off by client

X 

Michael Van Der Walt
Director

By signing this document, the client verifies that the deliverable 4 and content provided within are acceptable, up to standard and relates to the business solution proposed from the Project proposal.

Conclusion

This concludes the Client sign off section and the client signature is present indicating that the work is acceptable and relates to the business solution that was proposed.

Deliverable Conclusion

This concludes deliverable 06. Deliverable 06 consists of the complete system documentation for our INF 370 project. This complete documentation includes: Deliverable 00 (Team & Client Information), Deliverable 01 (Project Proposal), Deliverable 02 (Functional Specification), Deliverable 03 (System Prototype), Deliverable 04 (Technical Specification) and Deliverable 05 (Gohvan Construction System). This deliverable covered the validation, Crud Matrix, Conversion Plan, Project related issues, Complexity matrix. Deliverable 06 helps consolidate and conclude the System Documentation.

Appendices

Introduction

This section of our deliverable holds the appendices of the document. The appendices will include the CRUD matrix.

9. Attached Appendices

The following appendices accompany this deliverable.

Appendix	Document Title	Document Contents
A	Appendix A - CRUD Matrix	This appendix will contain the CRUD Matrix

Conclusion

This section of our deliverable held the appendices of the document.