



Software Requirement Specification

OF

Shipbuilding Information Management System of Bangladesh Navy

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[A software requirements specification (SRS) is a description of a software system to be developed. It lays out functional and non-functional requirement and all the necessary information]



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3.0				

Approvals

This document is created after requirement collection session from customer. User Requirements Specifications are not intended to be a technical document; readers with only a general knowledge of the system should be able to understand the requirements outlined in the URS. If required this document can be change or modify. ITIL approves the URS for the application development process and submit it to the customer for further feedback.

Version	Issue date	Name	Position	Approval date
3.0	1-01-2017			

Related documents

Document	Location
SRS	ITIL

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1.Introduction

The introduction of the Software Requirements Specification (SRS) provides an overview of the entire SRS with purpose, scope, definitions, acronyms, abbreviations, references and overview of the SRS. The aim of this document is to gather, analyze and give an in-depth insight of the Shipbuilding Information and Progress Monitoring Application. Nevertheless, it also concentrates on the capabilities required by Applicants and their needs while defining high-level product features.

1.1Purpose

The purpose of the document is to collect and analyze all assorted ideas that have come up to define the system, its requirements with respect to consumers. Also, we shall predict and sort out how we hope this product will be used in order to gain a better understanding of the project, outline concepts that may be developed later, and document ideas that are being considered, but may be discarded as the product develops.

This document will also include the hardware specification required to execute this application.

In short, the purpose of this SRS document is to provide a detailed overview of our software product, its parameters and goals. This document describes the project's target audience and its user interface, hardware and software requirements. It defines how our client, team and audience see the product and its functionality. Nonetheless, it helps any designer and developer to assist in software delivery lifecycle (SDLC) processes.

1.2 Scope

Primarily, the scope pertains to keep all information about ship & its machineries and maintained the entire feature for making Bangladesh NAVY's Customized Shipbuilding Information and Progress Monitoring. It focuses on the Administration of Bangladesh NAVY and related users which will allow them to go through the application process electronically.

This SRS is also aimed at specifying requirements of software to be developed but it can also be applied to assist in the selection of in-house. The standard can be used to create software requirements specifications directly or can be used as a model for defining an organization or project specific standard. It does not identify any specific method, nomenclature or tool for preparing an SRS.

2. System Description

The customized Shipbuilding File Information and Progress Monitoring will be designed base on the general requirements, user specific requirements, functional requirements and non-functional requirements.

The core system is designed based on multitier architecture. In every stage of information checking and communication of database, System will connect with API and API will communicate with Database.

The basic concept of this system is to provide categorized, functional, user friendly web base solution by which directorate of Bangladesh Navy can observe and monitor their shipbuilding process not only building process but also will also able to monitor every single resource from the software. In this proposal technical flows are created by considering system admin role and controlling features so that admin can track over resources and this system will allow the user to track all the progress of the file.

The full system is divided in two different features and modules. In this SRS document we (ITIL) will provide all the modules and features descriptions and diagrams including business layer and the mock input output layout.

2.1 System Features

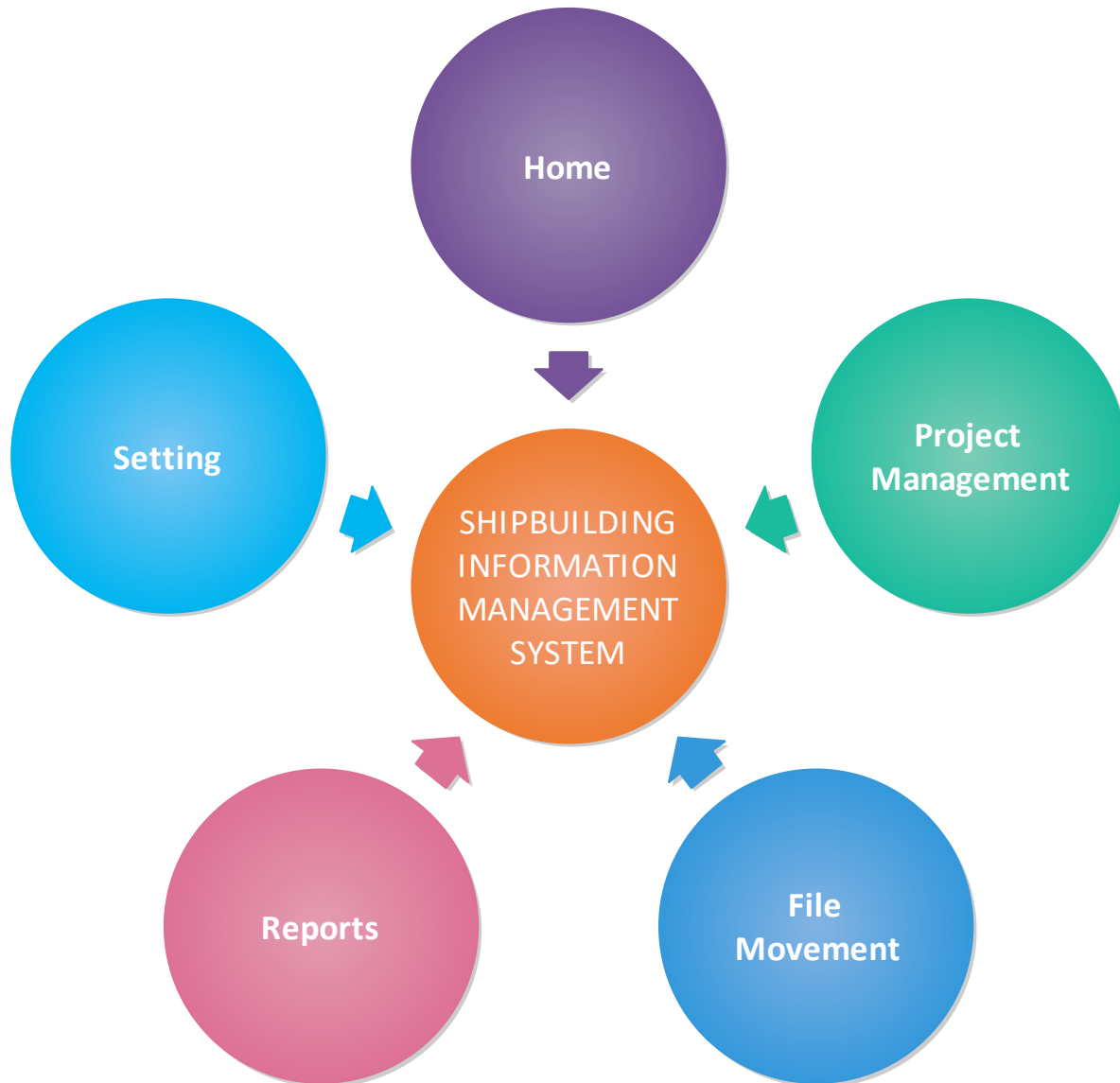


Figure: Major Modules of the system

This flowchart describes the major modules of the system of web based solution for ship building information management system software for Bangladesh NAVY. There are other sub features under these modules.

2.2 Overall System DSB workflow

1. Authorized admin will login to the system and get the dashboard where admin can see the notifications, alert message, project information according to access right etc. Admin will have to select a project to see all the information about that ship also with schedules. Admin can generate a report if they needed.
2. There is a search option for necessary. If any info needs to add/delete/update then admin can add/Edit/View/delete/update the information according to rights and after approving from authority information will updated to database.
3. Admin can also add a new user if needed. There are some other operation sections where user can save some additional documents if needed.

2.3 System workflow of a control item

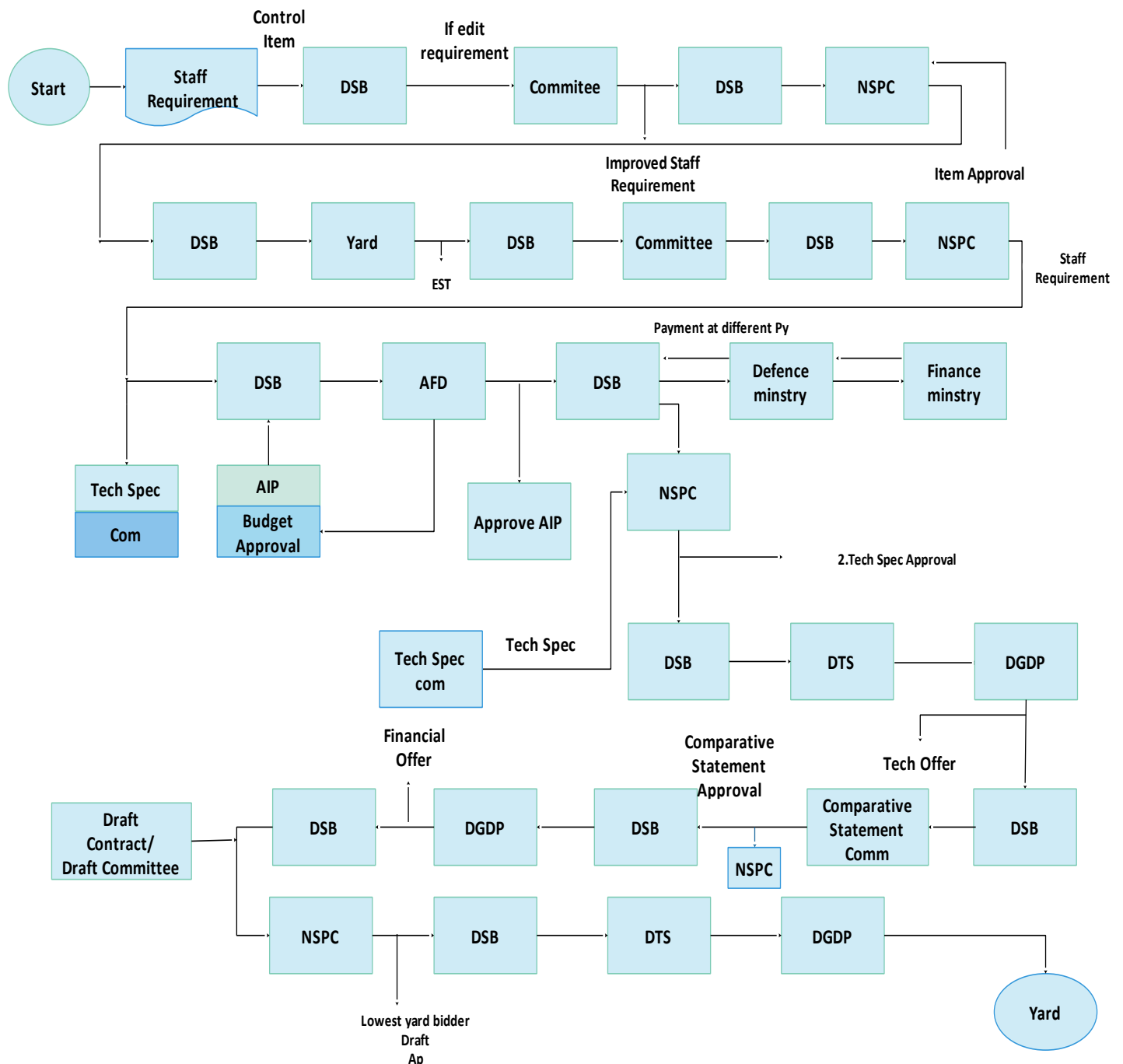


Figure: System workflow for a control item

1. From demanding organizations necessary papers have to send navy head offices (DNP/DSB)
2. The offers and position peppers would make in agenda.
3. After approval from NSCP, staff requirements for preparing the committee by BNTM.
4. After approval the meeting of ASPC should prepare to rectify and justify the final staff requirements
5. According to the NSPC meeting, the expenses should accept from the principle of AIP for buying or making up by the rules of DGDP
6. After getting the approval principle the staff requirements, the tender specification should prepare for constructing the committee by BNTM
7. After preparing the existing committee by tender specification, demanding organization should accept the opinions from a wide variety of offices.
8. Demanding organization from the Tender specification should amend the committee by taking the opinions on the tender specification
9. After approval the meeting of NSPC, the Tender specification committee's copy should amend by doing final and sending the DSB
10. The final Tender specification have to send with (soft copy) the head office by DGDP
11. After getting offered From the DGDP by DTS, tender evaluation and for preparing the deal should make up the agenda by BNTM

2.4 System workflow for uncontrolled item

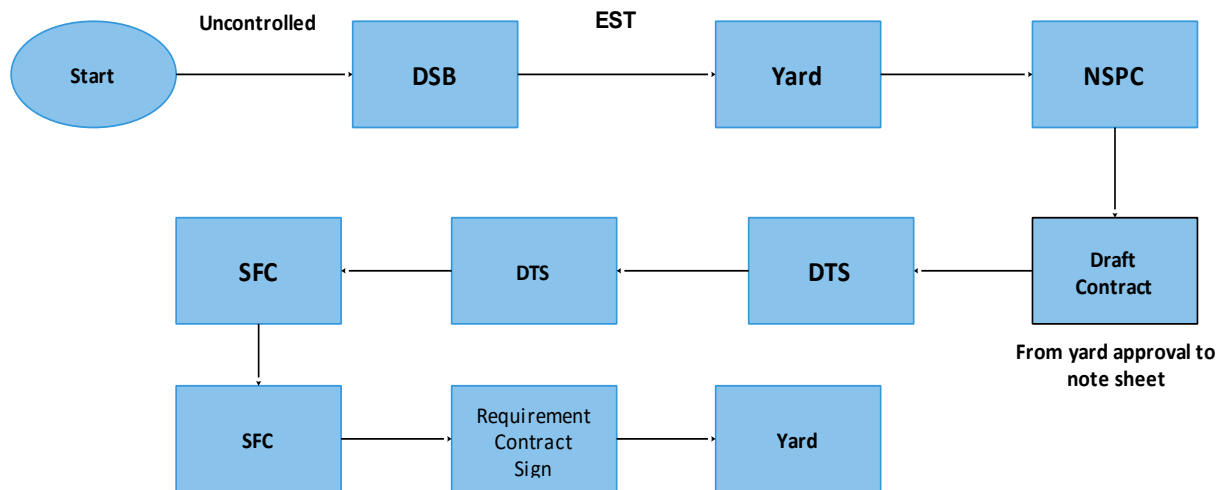


Figure: Work Flow of anUncontrol item

This flow diagram is described how to work an uncontrolled item. First of all, Uncontrolled item go to the DSB. If uncontrolled item, DSB informed to yard and DSB wants to estimate form yard. Then that estimation goes to NSPC after that, NSPC go to draft contract for yard approval whatever, afterthat DTS take a decision for the next Process.

2.5 Milestone workflow for Control item

There are five workflow payments system for Milestone Control Item

- First of all, Project implement for 1st payment
- Secondly, keel laying
- The 3rd payment for shipment of main equipment
- Launching for 4th payment
- Lastly, C acceptance (HAT, SAT) and handover for 5th payment

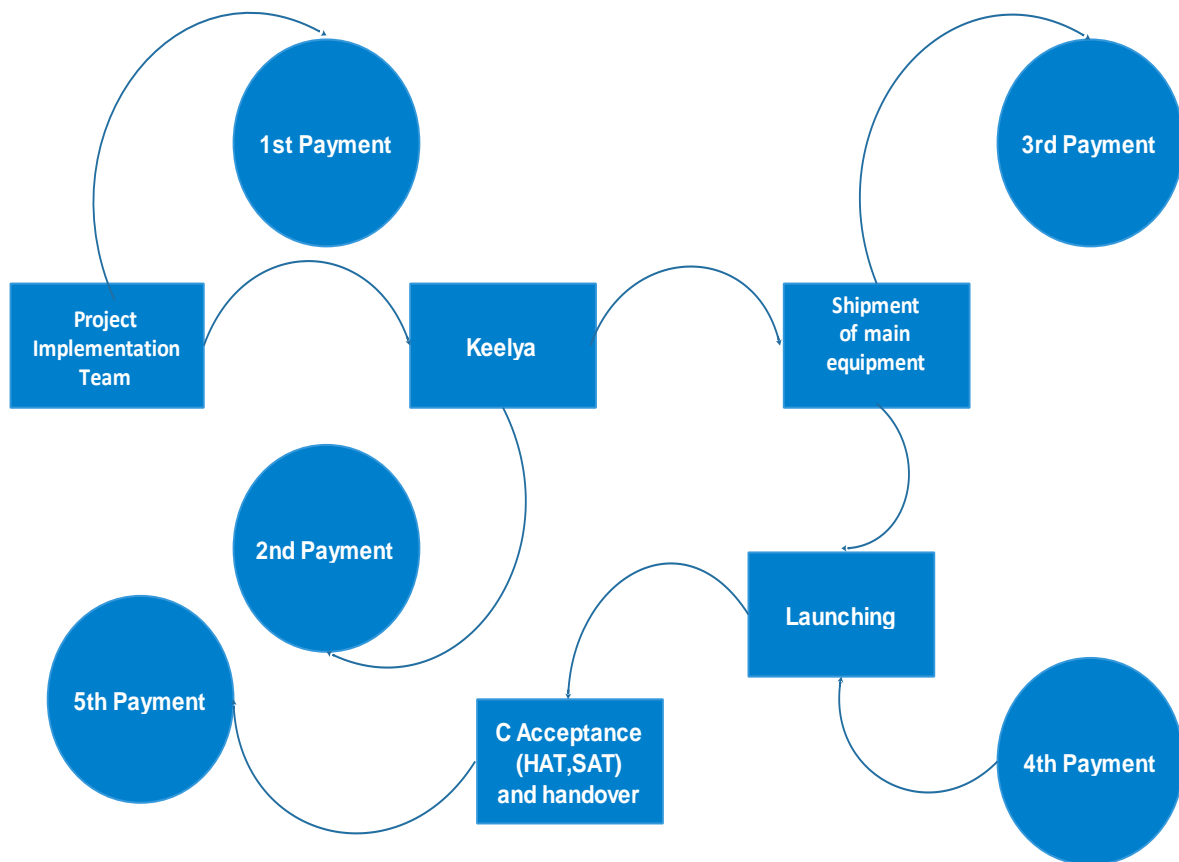


Figure: Milestone for Control item

2.6 Milestone workflow for Control item

There are four workflow payments system for Milestone Uncontrolled item

- The Contract DGDP for 1st payment
- The 2nd payment for GA Drawing approval
- Launch for 3rd payment
- Lastly, Acceptance for 4th payment

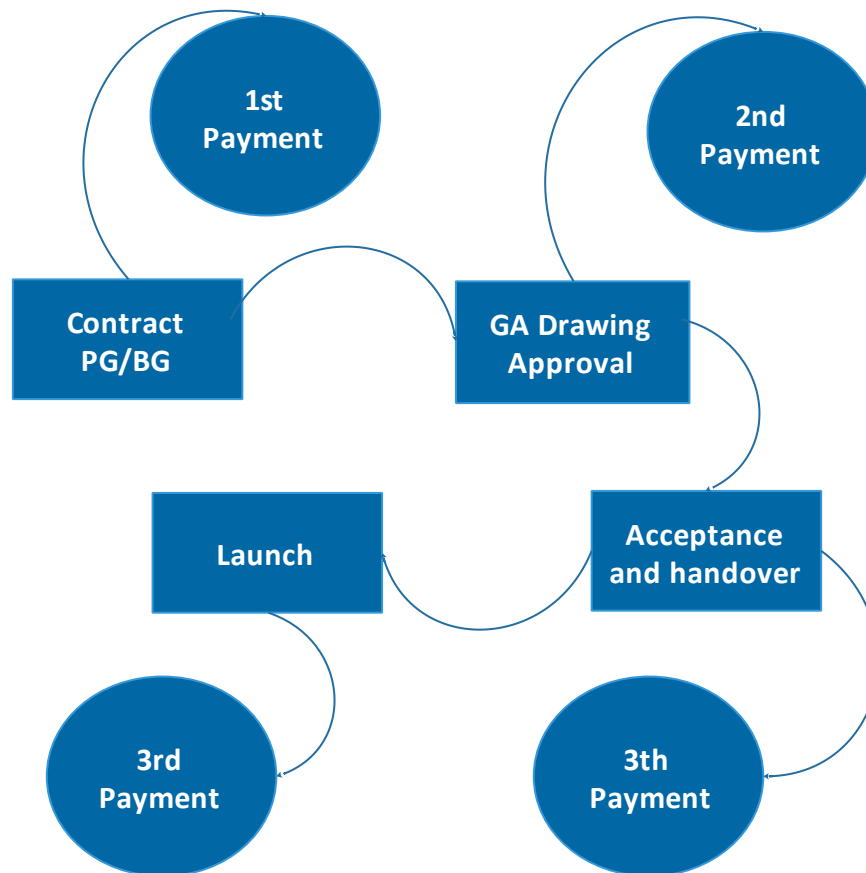


Figure: Milestone for Uncontrolled item

2.7 Generate a Report

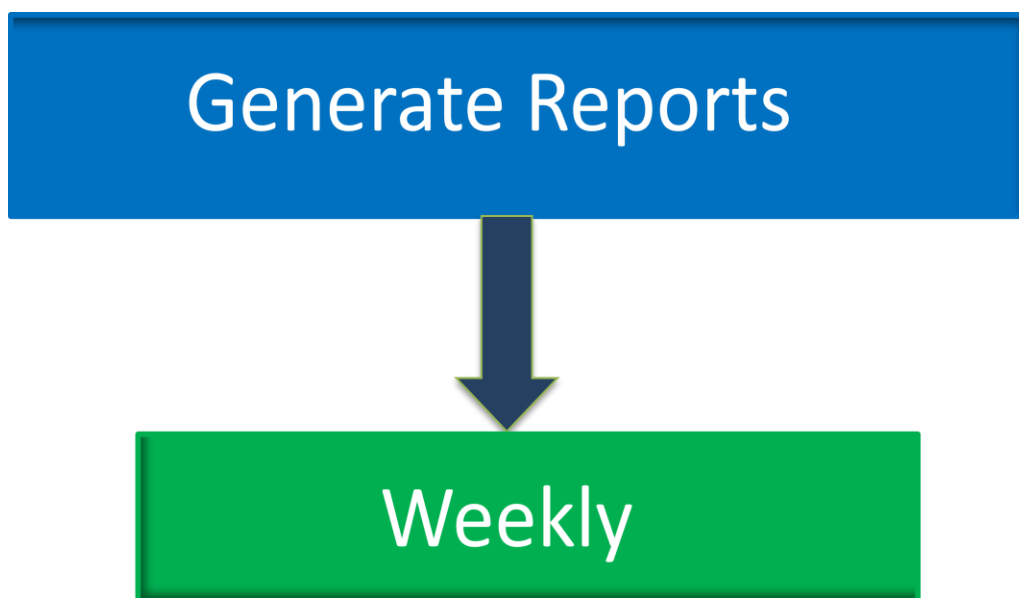


Figure: Report Generation system

Admin can generate report according to necessity by this option.

Weekly report system followed by Bangladesh NAVY. One of here (weekly) are fixed and defined by the NAVY and another is customizable report system which can be generated according to need. Bangladesh Navy to be maintains weekly report in this process. Specimen of a report format to be provided following here below

Running Project Portfolio Update Information- Shipbuilding Directorate

Date: 19 OCTober 2016(Till)

Sl. No	Item Name	Maker Institution Name	Contract Date	Shipment Date	Work Description	Work Improvement (%)	Remarks/ Comments
1.	BN durgom (ANB-707)	Khusili(Budget code-6809)	30 June 2014	01 Aug 2017(BG)	<ul style="list-style-type: none"> 06 sept 2015 date keel laying to be ceremony ALPC-1 and 2 wether deck till work has to finished 	ALPC-1 67%	Two ALPC (1st and 2nd)Lunching 29 Nov 2016 and 10 Jan 2017 will be
	BN Nishan (ANB-707)					ALPC-2 58%	
2.	Sub-merine Tag: BN Halda	Khusili (Budget code-6809)	16 June 2015	1st BN halda-15 june 2016	<ul style="list-style-type: none"> Bn Halda 65% work has to be changed 5th modules gradually 85%,70%,60 %,30%, and 30% has to be finished 2nd BN pushor -15 December 2016 	BN Halda 65%	1 st tag will be delivery within on Oct 2016 Finance ministry approved 3 rd installment 10% bill 2016-2017 has to be submitted
	Sub-marine Tag: BN pushor					BN Pushor 80%	

Table: Weekly Reports Generate of Bangladesh Navy

3.Features

Feature	Obligatory Field	Notification	Comments	Comply
Entry Information file	List View Print Search Add Edit Delete	Dashboard		Yes
File Movement	List View Print Search Add Edit Delete	Dashboard	Admin will find this in dashboard.	Yes
File management	List View Search Add Edit Delete	Dashboard	Admin will find this in dashboard.	Yes
Project monitoring	Add Edit Delete Search Print	Dashboard	User can check refit/docking information of a ship and Admin can update if needed.	Yes
Milestones follow up	Add Edit Delete Print	Dashboard	User can input refit/Interval information of a ship and Admin can update if needed.	Yes
File flow maintenance	View Print List View Add Edit Delete Email	Dashboard	Admin will upload drawing file of ships and can add, delete, update drawing files	Yes
DSB file location maintenance	View Print Add Edit Delete	Dashboard	Signal information can check by admin.	Yes
Create Project	Edit	Dashboard	Admin can check	Yes

	Delete		user list	
Password change/update			User can change their password	Yes
Generate Report of File information	View Print		Admin can generate report ship information	Yes
Download file	View Print		Admin can download drawing file	Yes
Create new Category	View Print		Admin can create new categories	Yes
User Account, Role Management	Edit Delete Print List View Search		Super admin can manage Admin account. As well can assign rights to the other candidates.	Yes
Each and Every Stage of Data	Print List View Search		Admin can generate report and collect each and every stage of data.	Yes

3.1 Functional Requirements

All requirements are defined in the tables and also added comment to describe the specific field.

Functional Requirements

File Flow Information	1. Department Wise 1.1. DSB 1.2. NSPC 1.3. AFD 1.4. Committee 1.5. DGDP 1.6. DTS 1.7. AIP 1.8. Yard 1.9. Defence ministry	Edit/Delete/ Modify/view/print
	2. Sub stage wise	

File Flow Information	1. Attachment Wise 1.1 PDF 1.2 XL 1.3 DWG 1.4 Word	Edit/Delete/ Modify/view/print
------------------------------	--	-----------------------------------

File Flow Information	1. Download 1.1. Zip 1.2. PDF 1.3. XL 1.4. DWG 1.5. Word	Edit/Delete/ Modify/view/print

Settings Flow setup Information	Login	Edit/Delete/ Modify/view/print
	Forget Password	
	Access Rights	
	Dash board setup	

Activities of User

Requirements	Others
1.1.1.1 Login	
1.1.1.2 Add file Information	
1.1.1.3 Create Project/Create User	
1.1.1.4 Member information/ committee info	
1.1.1.5 Modify/ Delete/ Print any information	
1.1.1.6 User Profile View	
1.1.1.7 Location Movement Tracking	
1.1.1.8 Payment system	
1.1.1.9 File formats / Existing view formats	
1.1.1.10 View & Print/ Download	
1.1.1.11 Report Generate	
1.1.1.12 Alert message	
1.1.1.13	

4. Software Quality Attributes/Non Functional Requirement

Usability

In **Software** engineering, **usability** is the degree to which software can be used by specified consumers to achieve quantified objectives with effectiveness, efficiency, and satisfaction in a quantified context of use. In our Software as well as application there are two types of consumers.

1. Super Admin
 - a. Who has the full access of the system
2. General Admin
 - a. Depending on access rights there can be n^{th} level of general admins

Availability

If the internet service gets disrupted while sending information to the server, the information will send again for verification.

Security

The main security concern is for login mechanism will be used to avoid hacking. In order to ensure security our system provides-

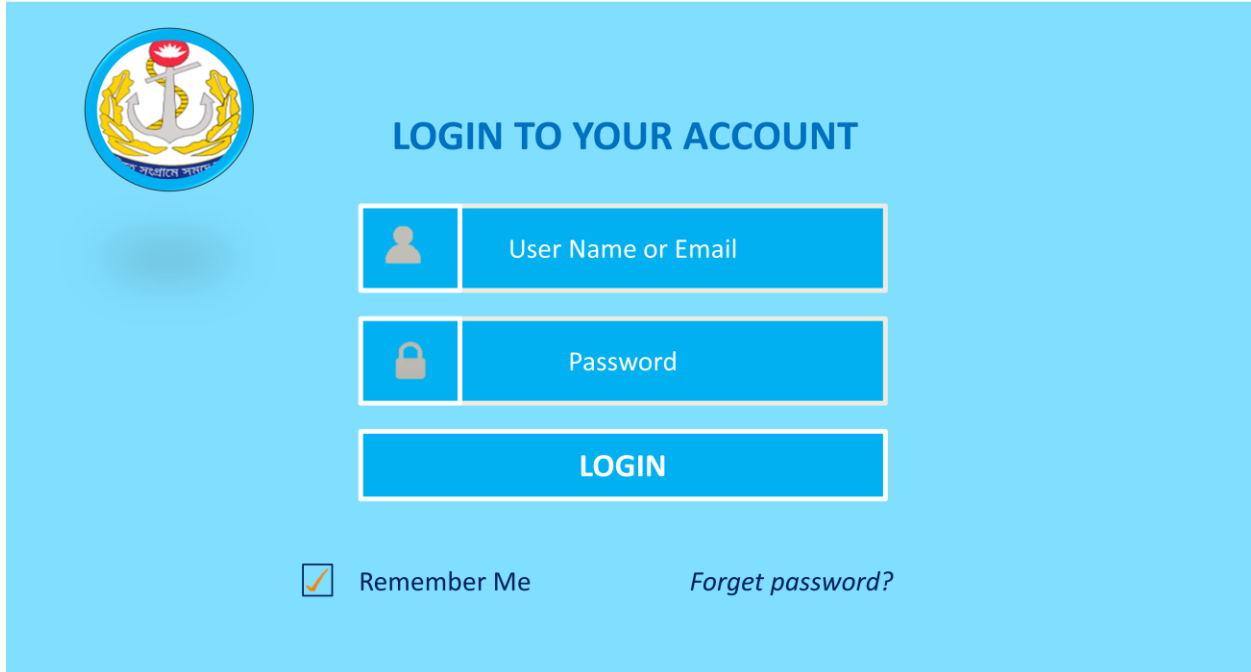
- ✓ Individual user password protection
- ✓ Control Access level through system administrator
- ✓ Encrypted Password protected.
- ✓ Password Validity setup for individual user
- ✓ Access Right through assigned permission
- ✓ Unlimited User Creation
- ✓ Create User Log File
- ✓ Assign Permission on various Menu/Options


Error Handling

System is designed and will be developed to handle error automatically and take decision to informing users about error message. Error message generate to users will be must user friendly.


5. Mock Interfaces


SHIPBUILDING INFORMATION MANAGEMENT SYSTEM





LOGIN TO YOUR ACCOUNT

 User Name or Email

 Password

LOGIN

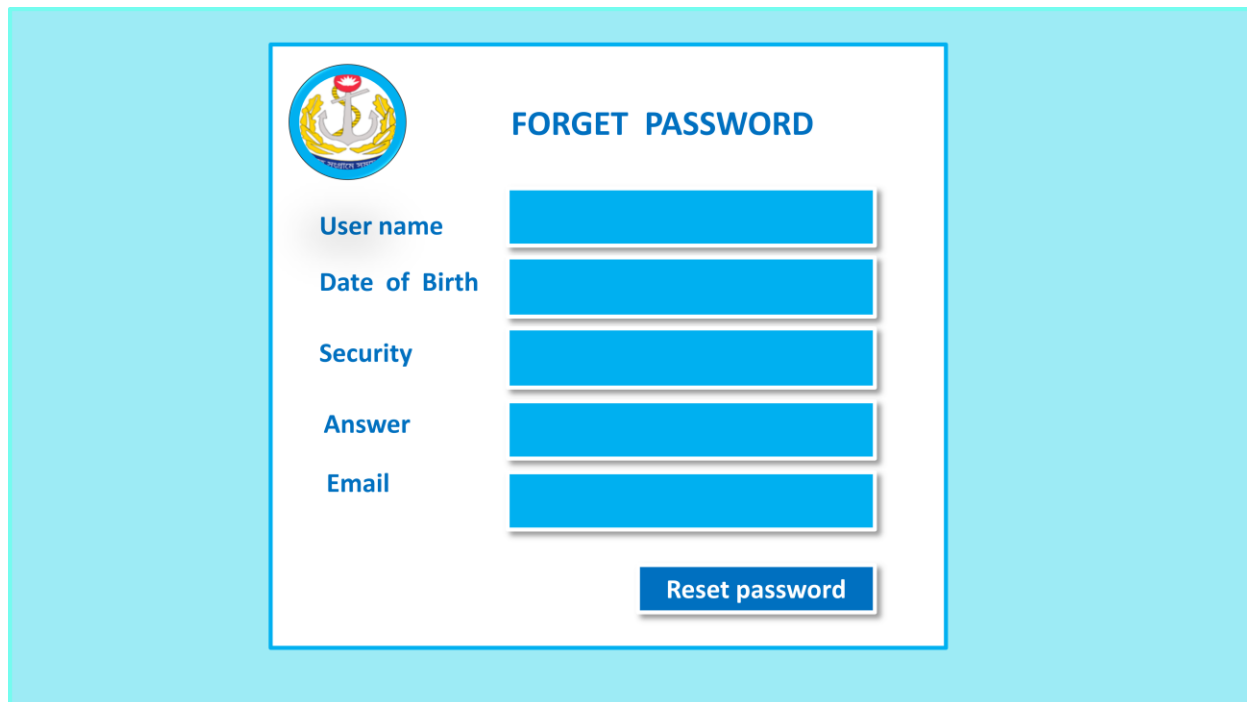
☒ Remember Me [Forget password?](#)


User Login

Login page of Bangladesh Navy

User Login:

Requirement: To login into this site user must have login id and password. After visiting the site <http://.....> a login form will appear as follow and user id and password has to be given. After login into the site all the menu will appear.



 **FORGET PASSWORD**

User name

Date of Birth

Security

Answer

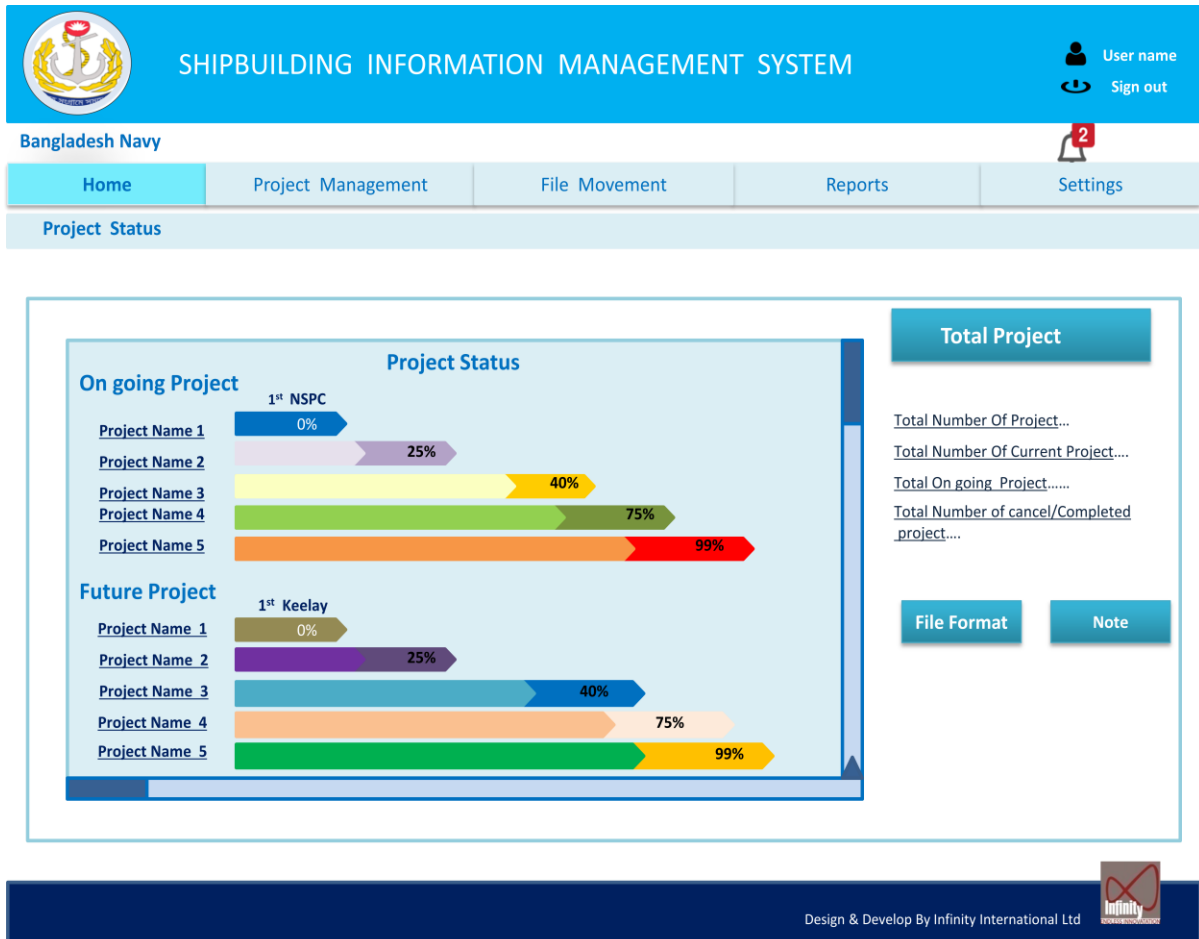
Email

Reset Password

Login page of Bangladesh Navy

Reset Password:

Requirement: If user forgets the password after that, user can easily reset the password




Home



Home page of Bangladesh Navy

Home:


Requirement: Ongoing project, Future project, and Total project will be show all the project status on home page and to be added note



SHIPBUILDING INFORMATION MANAGEMENT SYSTEM

 User name
 Sign out


Bangladesh Navy

 2

Home
Project Management
File Movement
Reports
Settings

File Formats

Add New

Search Key


Attach

SL. NO	File List	Step	File Name	
1	DSB	Staff Requirement	St_Rp	View/Delete/Down
2	DSB	NSPC Approval	NS_App	View/Delete/Down
3	DGDP			View/Delete/Down
4	DTS			View/Delete/Down

Word


PDF

DWG

→

Editable

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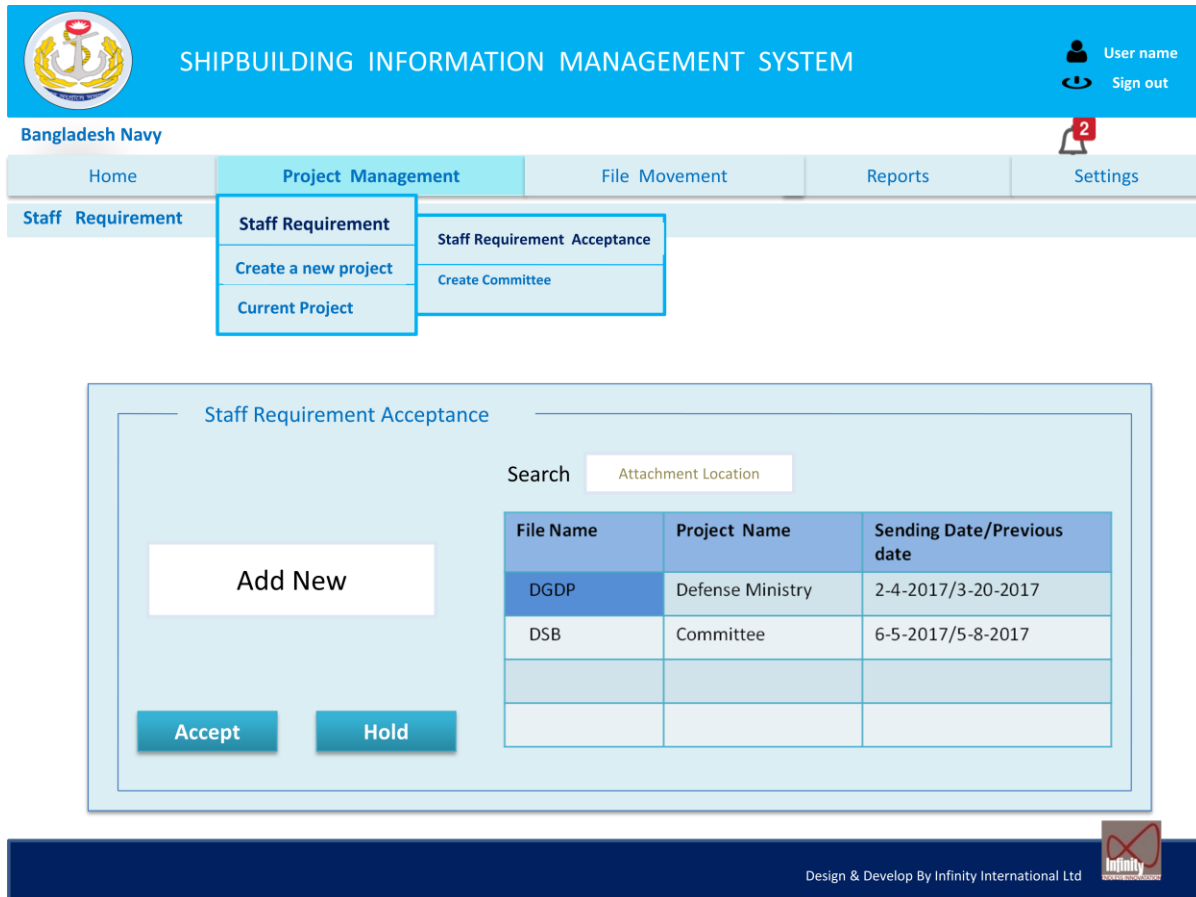
File Formats

File Formats of Bangladesh Navy

File Formats:

Requirement: To be added file /Aattachment file user can easily editable by PDF, DWG

Project Management



SHIPBUILDING INFORMATION MANAGEMENT SYSTEM

Bangladesh Navy

Home Project Management File Movement Reports Settings

Staff Requirement

Staff Requirement Acceptance

Create a new project

Create Committee

Current Project

Staff Requirement Acceptance

Search Attachment Location

Add New

Accept Hold

File Name	Project Name	Sending Date/Previous date
DGDP	Defense Ministry	2-4-2017/3-20-2017
DSB	Committee	6-5-2017/5-8-2017


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Staff Requirement

Staff Requirement of Bangladesh Navy


Staff Requirement Acceptance page:

Requirement: User to be added flow setup/ after that, staff requirement will be accept (if yes) the file/ there to be added list/Data will be searched based on project list. If staff requirement not accept, the file will be hold on then file will be send the committee for improved the staff requirement/ will be show the project location and date (sending date/previous date)


SHIPBUILDING INFORMATION MANAGEMENT SYSTEM

User name
Sign out

Bangladesh Navy



Home	Project Management	File Movement	Reports	Settings
Create committee	<div style="background-color: #007bff; color: white; padding: 2px;">Staff Requirement</div> <div style="background-color: #007bff; color: white; padding: 2px;">Create a new project</div> <div style="background-color: #007bff; color: white; padding: 2px;">Current Project</div>	<div style="background-color: #007bff; color: white; padding: 2px;">Staff Requirement Acceptance</div> <div style="background-color: #007bff; color: white; padding: 2px;">Create Committee</div>		

Create Committee

Committee Name

Committee Head

E-mail

Phone No

Designation

assign staff requirement


Next

Save

Committee Create Successful

Yes

No


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Create a Committee

Create a Committee of Bangladesh Navy

Create a Committee Page:

Requirement: After acceptance, User can create a committee and to be assign the staff requirement


SHIPBUILDING INFORMATION MANAGEMENT SYSTEM

 User name
 Sign out

Bangladesh Navy

2

Home	Project Management	File Movement	Reports	Settings
------	--------------------	---------------	---------	----------

Member Information


Staff Requirement
 Create a new project
 Current Project

Staff Requirement Acceptance
 Create Committee/Member

Member Information

Member Name
 Department
 E-mail
 Phone No

Back to list
 Save

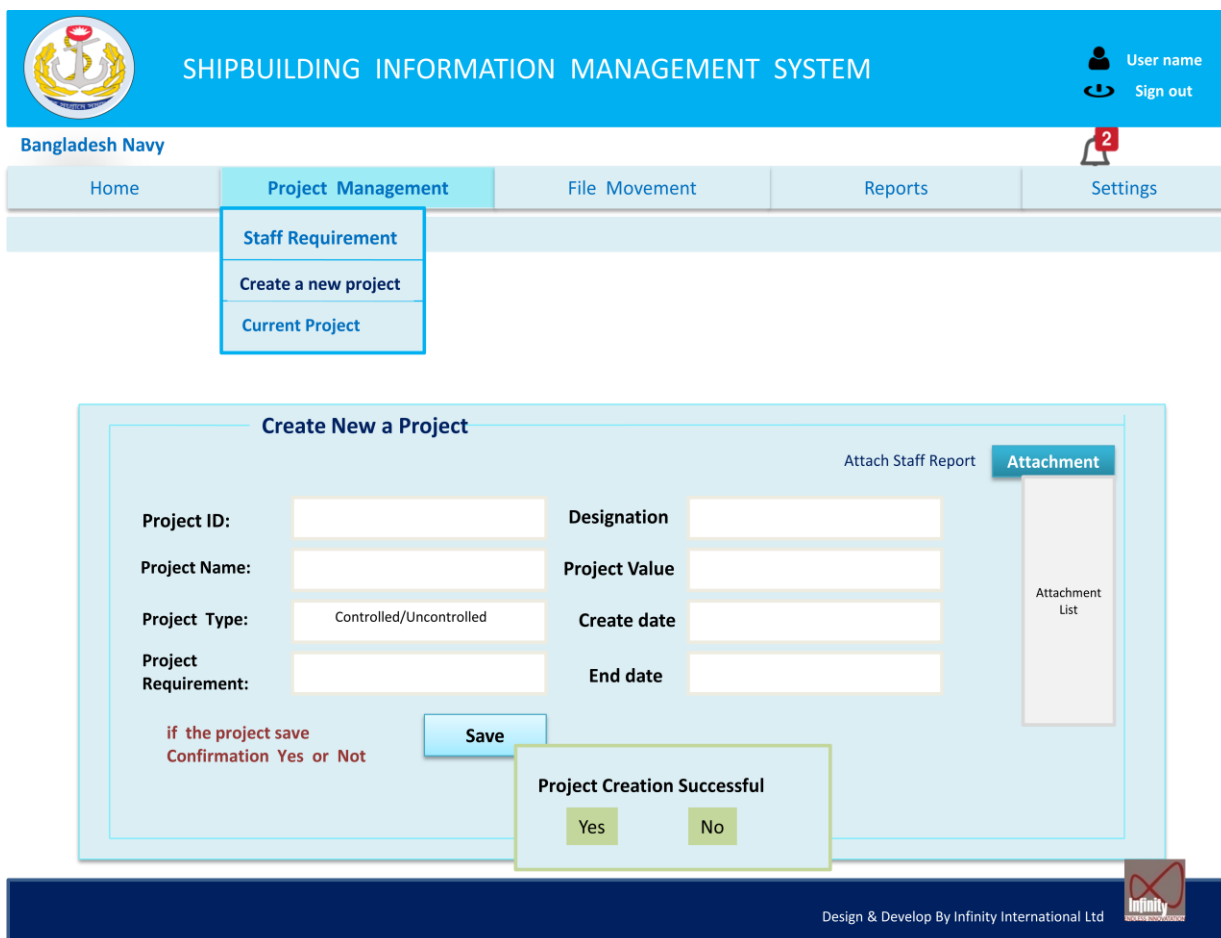
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Member Information

Member Information of Bangladesh Navy

Member Information page:

Requirement: To be added member information



SHIPBUILDING INFORMATION MANAGEMENT SYSTEM

Bangladesh Navy

User name
Sign out

Home Project Management File Movement Reports Settings

Staff Requirement
Create a new project
Current Project

Create New a Project

Attach Staff Report Attachment

Project ID: Designation

Project Name: Project Value

Project Type: Create date

Project Requirement: End date

if the project save Confirmation Yes or Not

Project Creation Successful

Attachment List


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Create a Project



Create a project of Banagladesh Navy

Create a project page:

Requirement: Project Creation and to be attach the staff requiremnt then will be show the attachment list



SHIPBUILDING INFORMATION MANAGEMENT SYSTEM

 User name
 Sign out

Bangladesh Navy

Home

Project Management

File Movement

Reports

Settings

Staff Requirement


Create a new project

Current Project

Newly Added

Search Key

Search Value



SL.No	Project Number	Project id	Project Name	Current Status	Next Arriving Date	Next Flow	Remaini ng NO. OF DAYS	
1	10	0000001	BNS ABU BAKR					Edit/View/Download
2	12	0000002	BNS ABU BAKR					Edit/View/Download

Current Projects


SL.No	Project Number	Project id	Project Name	Current Status	Next Arriving Date	Next Flow	Remaini ng NO. OF DAYS	
1	10	0000001	BNS ABU BAKR					Edit/View/Download
2	12	0000002	BNS ABU BAKR					Edit/View/Download
3	13	0000003	BNS ABU BAKR					Edit/View/Download

To be Download all Zip file

>All Projects file

>Current file

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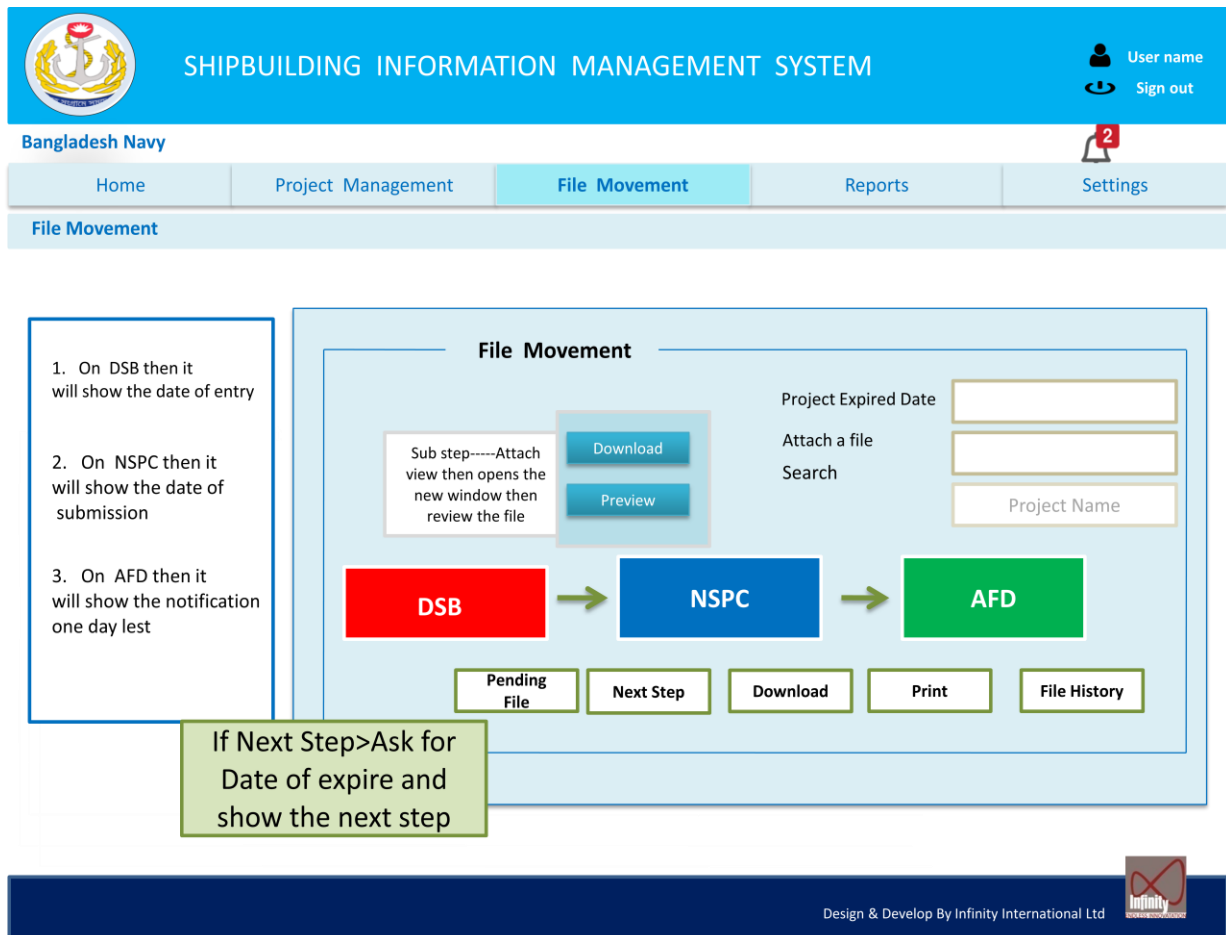


Current Project

Current Project of Bangladesh Navy

Current Project Page:

Requirement: To be added newly and current project status

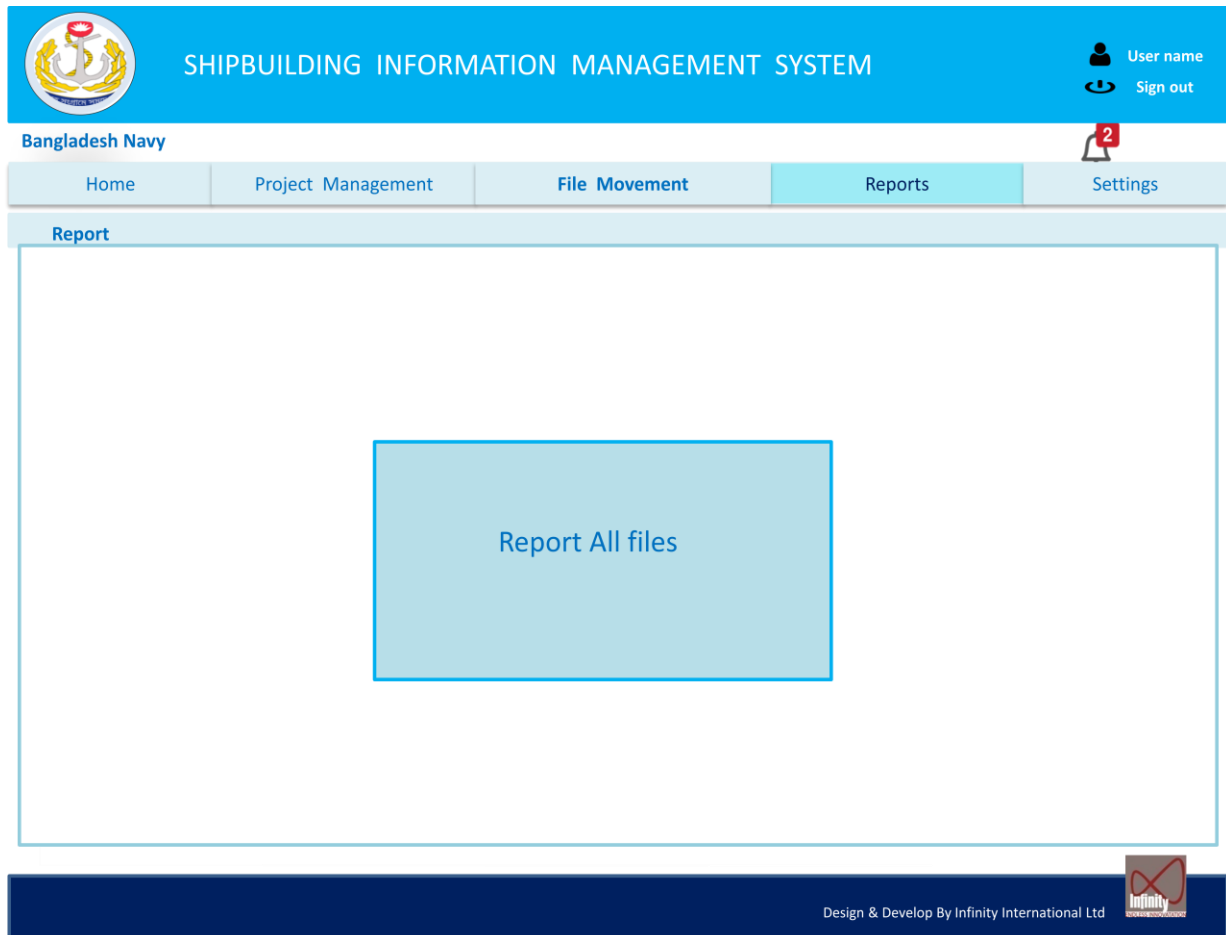


File Movement

File Movement of Bangladesh Navy

File Movement Tracking page:

Requirement: Will be the date of entry, date of submission/to be added notification alert before one day./Ask for date of expire and show the next step location

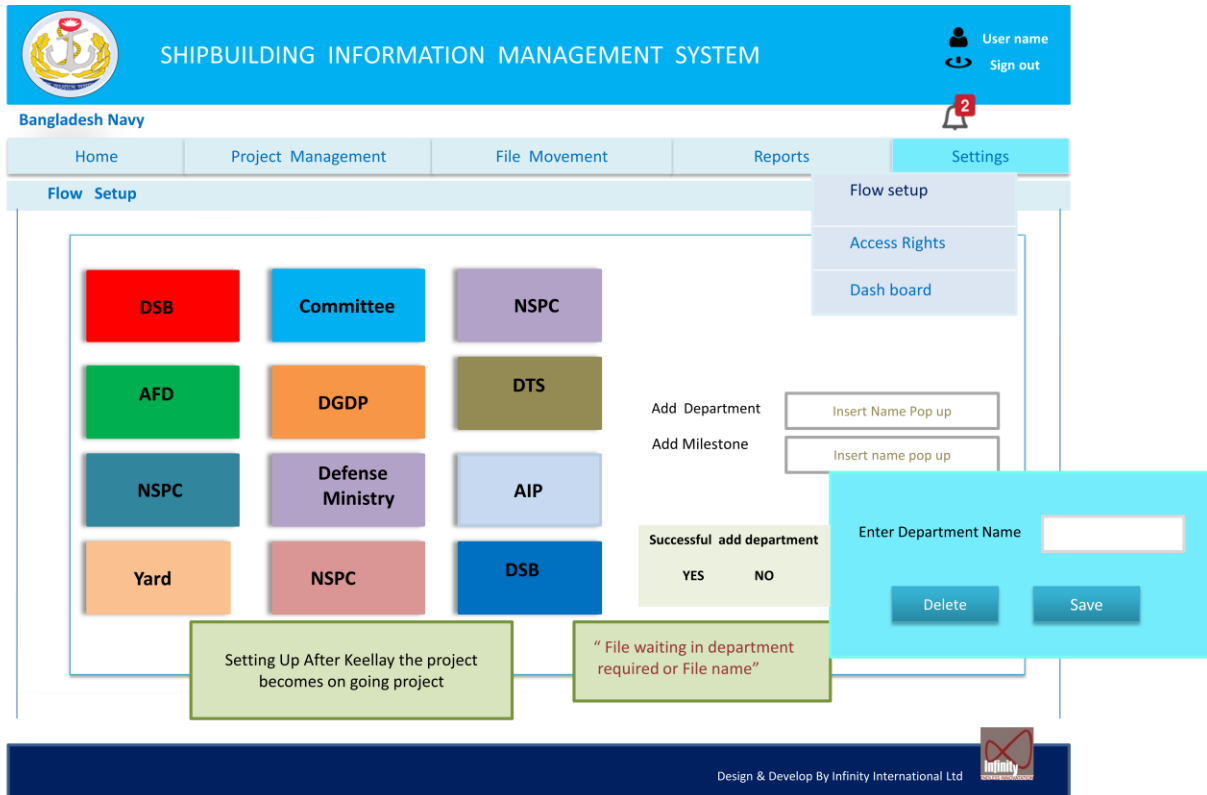


Reports

Reports of Bangladesh Navy

Report page:

Requirement: Will be show all files and project reports



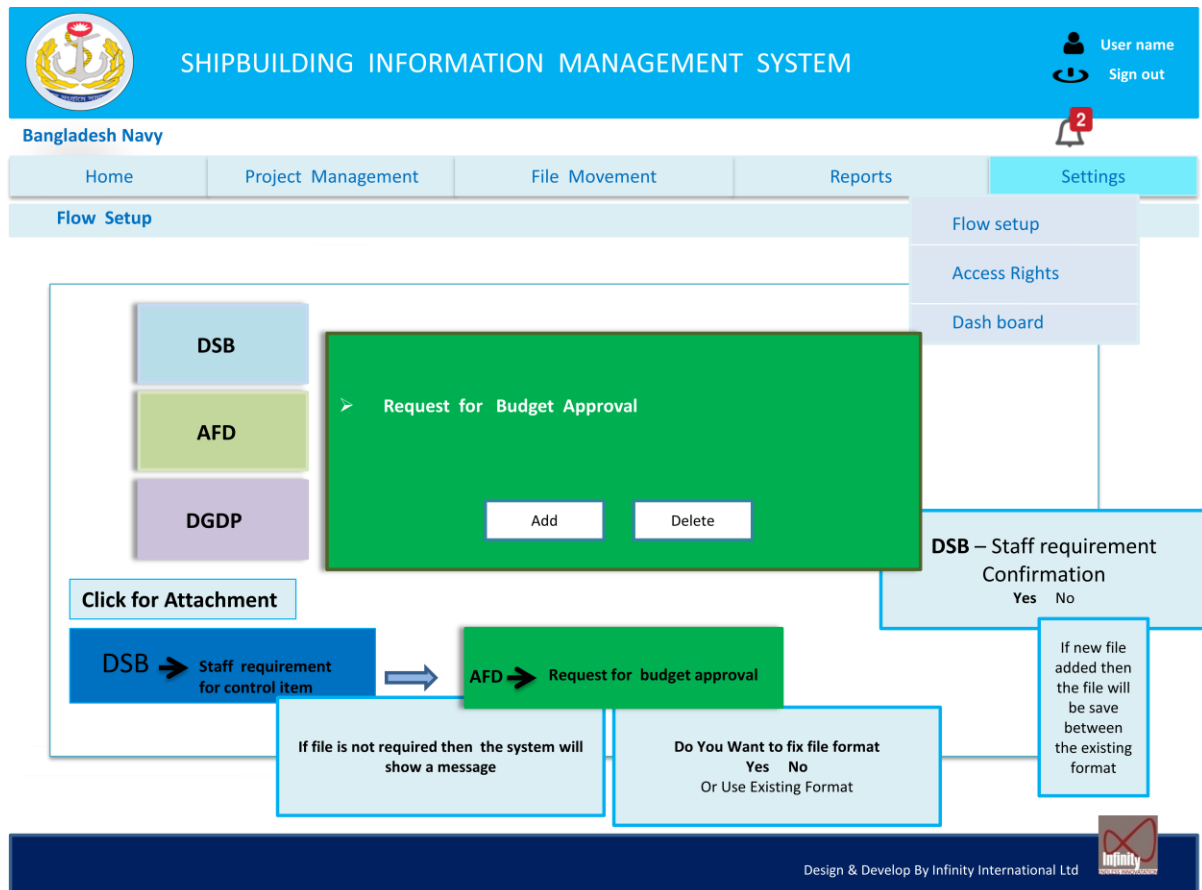
Flow setup

Settings of Bangladesh Navy
flow setup page:

Requirement: To be added department name/to be Added sub-department
name/Added milestone




Requirement: To be added department and sub-department / To be added insert milestone






Flow setup

Requirement: To be added more department



SHIPBUILDING INFORMATION MANAGEMENT SYSTEM

 User name
 Sign out


Bangladesh Navy

HomeProject ProgressFile MovementReportsSettings

Dash board

Search Key

Search Value

Future Project


SL.No	Project Number	Project id	Project Name	Current Status	Next Arriving Date	Next Flow	Remaining NO. OF DAYS	
1	10	0000001	BNS ABU BAKR					Edit
2	12	0000002	BNS ABU BAKR					Edit
3	13	0000003	BNS ABU BAKR					Edit

Search Key

Search Value

On Going Project

SL.No	Project Number	Project id	Project Name	Current Status	Next Arriving Date	Next Flow	Remaining NO. OF DAYS	
1	10	0000001	BNS ABU BAKR					Edit
2	12	0000002	BNS ABU BAKR					Edit

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Dash Board

Dash board of Bangladesh Navy

Requirement: To be added ongoing projects and future projects

Dept							
SL	Name	Description	Type	Len	Default	Null	Constraint
1	Dept_ID		Varchar	10		No	PK_Dept
2	Dept_Name		Varchar	30		No	

Table Structure of Shipbuilding Information Management System

Sub_Dept							
SI	Name	Description	Type	Len	Default	Null	Constraint
1	Sub_Dept_Id		Varchar	10		No	PK_Sub_Dept
2	Dept_ID		Varchar	10		No	FK_Dept
3	Step_Name		Varchar	25		No	PK_Sub_Dept

FS_Step_Files							
SL	Name	Description	Type	Len	Default	Null	Constraint
1	F_Code		Varchar	10		No	PK_FS_Step_Files
2	F_Name		Varchar	25		No	PK_FS_Step_Files
3	Sub_Dept_Id		Varchar	10		No	FK_Sub_Dept

Projects							
Sl	Name	Description	Type	Len	Default	Null	Constraint
1	Pro_ID		Varchar	15		No	PK_Projects
2	Pro_Name		Varchar	30		No	PK_Projects
3	Pro_Type		Varchar	30		No	
4	Pro_Requirement		Text	500		No	
5	Pro_Value		Decimal	10,2		No	
6	Create_Date		Date			No	
7	End_Date		Date			No	
8	Pro_Designation		Varchar	15		Yes	
9	Pro_Attach		Varbinary			Yes	
10	Pro_Keelay		Boolean	10	No	No	
11	Pro_Success		Boolean	10	No	No	

Staff_Report							
SL	Name	Description	Type	Len	Default	Null	Constraint
1	Staff_Report_Id						PK_Staff_Report
2	Pro_ID		Varchar	15		No	FK_Projects
3	Status		Varchar	15	ACCEPT,HOLD	No	
4	Label 1						
5	Label 2						
6	Label 3						

Members							
SI	Name	Description	Type	Len	Default	Null	Constraint
1	Mem_Id		Varchar	15		No	PK_Memebrs
2	Mem_Name		Varchar	25		No	
3	Mem_Category		Varchar	25		No	
4	Mem_Designation		Varchar	25		No	
5	Mem_Department		Varchar	25		No	
6	Mem_DOB		Date			No	
7	Mem_Email		Varchar	25		No	
8	Mem_Phone		Varchar	15		No	
SI							
1	Comm_Id		Varchar	15		No	PK_Committee
2	Comm_Name		Varchar	25		No	PK_Committee
3	Comm_Head		Varchar	25		No	
4	Comm_Designation		Varchar	25		No	
5	Comm_Department		Varchar	25		No	
6	Comm_Email		Varchar	25		No	
7	Comm_Phone		Varchar	15		No	
8	Comm_Purpose		Text	500		No	

Project_Flow							
SI	Name	Description	Type	Len	Default	Null	Constraint
1	Pro_ID		Varchar	15		No	FK_Projects
2	Dept_ID		Varchar	15		No	FK_Dept
3	Entry Date		Date				
4	F_Code		Varchar	40		No	FK_FS_Step_Files
5	F_Name		Varchar	40		No	FK_FS_Step_Files
6	1 st Step		Varchar				
7	2 nd Step		Varchar				
						
	30 th Step		Varchar	40			
37	Submission Date		Date				

Login							
SL	Name	Description	Type	Len	Default	Null	Constraint
1	Login_ID		Varchar	15		No	PK_Login
2	Login_Pass		Varchar	20		No	
3	Fullname		Varchar	40		No	
4	Email		Varchar	30		No	
5	Designation		Varchar	25		No	
6	Login_DOB		Date			No	
7	Mobile		Varchar	25		No	
8	Security_question		Text	50		No	
9	Answer		Text	50		No	

1. Hardware Specification

SL	Items	Product Model	Qty.
A. Data Centre Server and Components:			
01	DB & Backup Server	Dell PowerEdge R730 Server	02
02	AD + UAT	Dell PowerEdge R320 Server	02
03	Networking Switch	Cisco 2960X24TSSL	01
04	Router	Cisco 2911SEC/K9 with Card	01
05	Firewall	Cisco ASA5516	01

B. Software Components:			
01	Operating System	Microsoft Windows Server 2016	As Required
02	Database Software	Microsoft SQL Server 2016	As Required
03	Antivirus	KasperSky Antivirus Software	As Required

Technical Proposal for Data Center Server and Components:

1. Database Server and Backup Server : (1+1)=02 unit

Features	Technical Descriptions
Brand & Model	Dell Power Edge R730 Server
Chassis Type	2U Rack mount
Processor	Intel Xeon E5-2620 v3 2.4GHz,15M Cache,8.00GT/s QPI,Turbo,HT,6C/12T (85W) Max Mem 1866MHz
No of processors	02 (Two)
Chipset	Intel C610 series chipset
Memory	32GB (4x8GB) 2133MT/s, x8 Data Width Up to 768GB (24 DIMM Slots)
RAID Controller	PERC H730 Integrated RAID Controller, 1GB Cache
Hard Drive	4 x 600GB 10K RPM SAS 6Gbps 2.5in Hot-plug Hard Drive
Monitor	NO Monitor
Optical Drive	Internal SATA DVD+/-RW ROM Drive
Expansion Slot	6 PCIe slots 3.0 plus dedicated PERC slot, 4 USB (2 Front, 2 Back, and 1



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Power Supply	High-efficiency, hot-plug, redundant power supplies (1+1), 750W
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Remote Management	iDRAC8 Enterprise, Dedicated remote Management Port.
Other Accessories	2U Sliding Rails with 2U Cable Management Arm
Warranty	03 (Three) Years Standard warranty

2. Active Directory + UAT+ Training Server: (1+1+1)=03 Unit

Features	Technical Descriptions
Brand & Model	Dell PowerEdge R320 Server
Chassis Type	1-U Rack Mount
Processor	Intel Xeon E5-2430 v2 2.50GHz, 15M Cache, 7.2GT/s QPI, Turbo, 6 Core, 80W, 1600MHz
No of processors	01 (One)
Chipset	Intel C600 Chipset
Memory	16GB (2x8GB), RDIMM, 1600MT/s, Up to 96GB (6 DIMM Slots)



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Version: [3.0]

	2 PCIe slots: One x8 PCIe slot with x4, One x16 PCIe slot with x16
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Number of Bays	Chassis with up to 4 x 3.5" Hot Plug Hard Drives
LAN /NIC	Integrated Dual Port 1GbE BASE-T
Audio & Video	Integrated Audio & Video Graphics
Operating System	NO OS
Power Supply	Dual, Hot-plug, Redundant Power Supply (1+1), 550W
Remote Management	Baseboard Management Controller (12G)
Other Accessories	1U Sliding Rails with 2U Cable Management Arm
Warranty	03 (Three) Years Standard Warranty

3. **Manageable Networking Switch 24 Port: 01 Unit**

Features	Technical Descriptions
Brand & Model	Cisco 2960X24TSSL
Switch Type	Manageable
Port	24 (Twenty Four) Port 10/100/1000Mbps, Two SFP ports for future-proofed network expansion, up to 256 active port- and 802.1Q-based VLANs
Switching Capacity	80 GBPS, Non-blocking
Warranty	01 (One) Year Standard Warranty

4. Router: 01 Unit

Features	Technical Descriptions
Brand & Model	Cisco 2911 SEC/K9
	<p>The Cisco 2911 Integrated Services Router (ISR) delivers highly secure data, voice, video, and application service. Key features include:</p> <ul style="list-style-type: none"> • 3 integrated 10/100/1000 Ethernet ports (RJ-45 only) • 1 service module slot • 4 enhanced high-speed WAN interface card slots • 2 onboard digital signal processor (DSP) slots • 1 Internal Service Module slot for application services • Fully integrated power distribution to modules supporting 802.3af Power over Ethernet (PoE) and Cisco Enhanced PoE • Security <ul style="list-style-type: none"> • Embedded hardware-accelerated VPN encryption for secure connectivity and collaborative communications Integrated threat control using Cisco IOS Firewall, Cisco IOS Zone-Based Firewall, Cisco IOS IPS, and Cisco IOS Content Filtering • Identity management using authentication, authorization, and accounting (AAA) and public key infrastructure • Voice <ul style="list-style-type: none"> • High-density-packet voice DSP module, optimized for voice and video support • Standards-certified VoiceXML browser services • Cisco Unified Border Element capabilities • Cisco Unity Express voicemail support • Support for Cisco Communications Manager Express and Survivable Remote Site Telephony
Card	4 enhanced high-speed WAN interface card
Warranty	01 (One) Year Standard Warranty

5. Firewall: 01 Unit

Features	Product Description
Brand & Model	Cisco ASA 5516 Firewall
Device Type	Security Appliance
Form Factor	Rack-Mountable
Warranty	01 (One) Year Standard Warranty

6. Server Rack: 01 Unit

Features	Technical Descriptions
Brand & Model	Data Rack J2M-6042
Size	W 600 x D 1000 mm x 42U
Front Door	Lockable Steel Perforated Front Door
Rear Door	Steel Perforated Rear Door
Cooling Fan	4 Cooling Fans
PDU	2 x FS-019R-S0P-6246-6UK, 3M
Fixed Shelf	2 x Fixed Shelf and 1 x Sliding Shelf
KVM Console	A-Ten 8 Port KVM Console
Port	8 Port KVM Console with Cable
Display	17" LED Display with integrated Keyboard & TouchPad

Warranty	01 (One) Year Standard Warranty
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7. 3 KVA ONLINE UPS BACKUP TIME 1 HOUR (For Branch) : 02 Unit

Features	Technical Descriptions
Brand & Model	NPS EA920
Capacity	3 KVA
Input Voltage	165V – 300VAC
Frequency Range	45.5HZ – 54.5HZ
Output Voltage	220VAC, 50HZ
Technology	High Frequency/ Dual Conversion
Waveform	True Sine Wave (Online)
Power Factor	> .7
Battery	7.5AH * 12VOLT * 8 PCS (Sealed Acid Maintenance Free)
Backup Time	60 Minutes (Depend on Load)
Transfer Time	(0) Zero Millisecond Auto Transfer to UPS
Efficiency	>89% AC Mode, >85% Battery Mode
Protection	Short Circuit and Overload
Warranty	01 (One) Year Standard Warranty



Software Components:

Features	Technical Descriptions	
Software Components:		
Operating System	Microsoft Windows Server 2016	As Required
Database Software	Microsoft SQL Server 2016	As Required
Antivirus	KasperSky Antivirus Software	As Required

Approval

Bangladesh Navy Authority

Name	Designation	Date	Signature



Infinity Authority

Name	Designation	Date	Signature
Md. Nasimul Gani	Senior Consultant		
M. A. Mannan Rana	Project Manager		
	Software Engineer (Project Planning and Analysis)		

8.3 Delivery To

According to our contract specification, we are submitting this document to the following address.

Officer – In Charge

Naval Stores Sub Depot Dhaka
Khilkheth Naval Area Namapara
Khilkheth, Dhaka-1229