Trelleborg India Pvt. Ltd.

Software Requirements Specification (SRS) Document for Internship

Title: USER ACCESS & RIGHTS MANAGEMENT SYSTEM

Date: 10/06/2020

Ver:A.1.0

Document Details:

Version	Author & Guide	Internship Approved By	Date
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Document Review History:

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1. Introduction:

1.1 ***Organization:*** Trelleborg India Pvt. Ltd. is a leading global supplier of sealing solutions. Trelleborg is a world leader in engineered polymer solutions that seal, damp and protect critical applications in demanding environments. Its innovative solutions accelerate performance for customers in a sustainable way. The Trelleborg Group has annual sales of SEK 34 billion (EUR 3.31 billion, USD 3.91 billion) in over 40 countries. The Group comprises five business areas: Trelleborg Coated Systems, Trelleborg Industrial Solutions, Trelleborg Offshore & Construction, Trelleborg Sealing Solutions and Trelleborg Wheel Systems. About 5800 employee partners are engaged by this group globally. The group has a cumulative business legacy of 112 years.
Trelleborg India became a WOS (Wholly Owned Subsidiary) of Trelleborg Sealing Solutions in 2007. Trelleborg India has its major customers in segments like Aerospace, Automotive, Railways, Industrial applications, Power, Agriculture, Healthcare & Medical etc.

1.2 ***Fourth Shift ERP:*** FourthShift as an ERP is pivotal to business operations in Trelleborg India comprising a Marketing company, Supply Chain Management (SCM) unit, GOEP and GOEL manufacturing units. We are not only able to seamlessly integrate Manufacturing, Purchase & Planning, Supply Chain, Finance, Sales & Marketing functions but also ensure that they are fully complies with statutes of the land. The team here supports local users with their day-to-day requirements in analysing the data, drawn from the ERP, and making informed business decisions & strategies.

1.3 ***Purpose of the Project:*** The current project 'USER ACCESS & RIGHTS MANAGEMENT SYSTEM' is in continuation of our efforts to automate the processes, where feasible, for tight administrative control. The scope of this project is to govern all ERP users with respect to their access to modules, screens and reports as per the organization structure. The process shall be based on 'Request' and 'Approval' basis.

1.4 ***Trelleborg Initiative:*** We are extending this project to the young engineering students, in our effort to build a close relationship between academia and industry. Trelleborg is happy to support and guide such talents who take initiatives and come up with innovative solutions. Since you, students, had approached requesting for a project as interns, our IT management team has been considerate to create this opportunity. You will be awarded with a '*Certificate of Merit in Internship*', for having successfully completed, from our HoD in Germany.

2. General Description:

2.1 ***Project Framework:*** We have the system of 'USER ACCESS & RIGHTS MANAGEMENT' in FourthShift, ERP. This has to be duly authorised to every new users to enable them access relevant screens and processes.

a. Present Process: Users has to initiate their request through his/her respective manager who further authorises the extent of access. Which will be seconded by the respective HoDs and finally approved by the Finance Director after due scrutiny.

b. The entire process, right now, is manual and through physical document movement. A sample copy of the '*User Access Management Form*' is given below for your reference.

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Trelleborg India Pvt. Ltd. Fourth Shift : User Access Management Form

Ver.2.0	Dt.12-Jan-2017
Ver 3.0	Dt.14-Jun-2018

Marketing ☐	**SCM** ☐	**MFG**– Hosur Rd Plant ☐	**MFG**- Jigani Rd Plant ☐

FS User Name :	Desig :	Depart:
Emp. Id:	Email :	D0J:
		Employment Type :Permanent ☐ Apprentice ☐

FS User Access –Request Type	New User creation ☐	Changes Required ☐	Deletion Required ☐
Reason for request			

FS Access Rights.

Sl. No.	Screen Name	Transaction Details
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		

Note:1. User access rights need to be specified based on the Separation Of Duties and responsibilities.
2. In case of any enclosure to this document i.e access rights required for multiple users, enclosure need to be signed by the Reporting Manager and Finance Controller / Director.
3. HR : Collect training document from HODs/Trainer. **

Area of Function	Name	Designation	Signature	Date
Reporting Manager				
Finance Approval				
HR Approval **				
IT– Access Given by				

Remarks by IT.

User Id : Access Codes :

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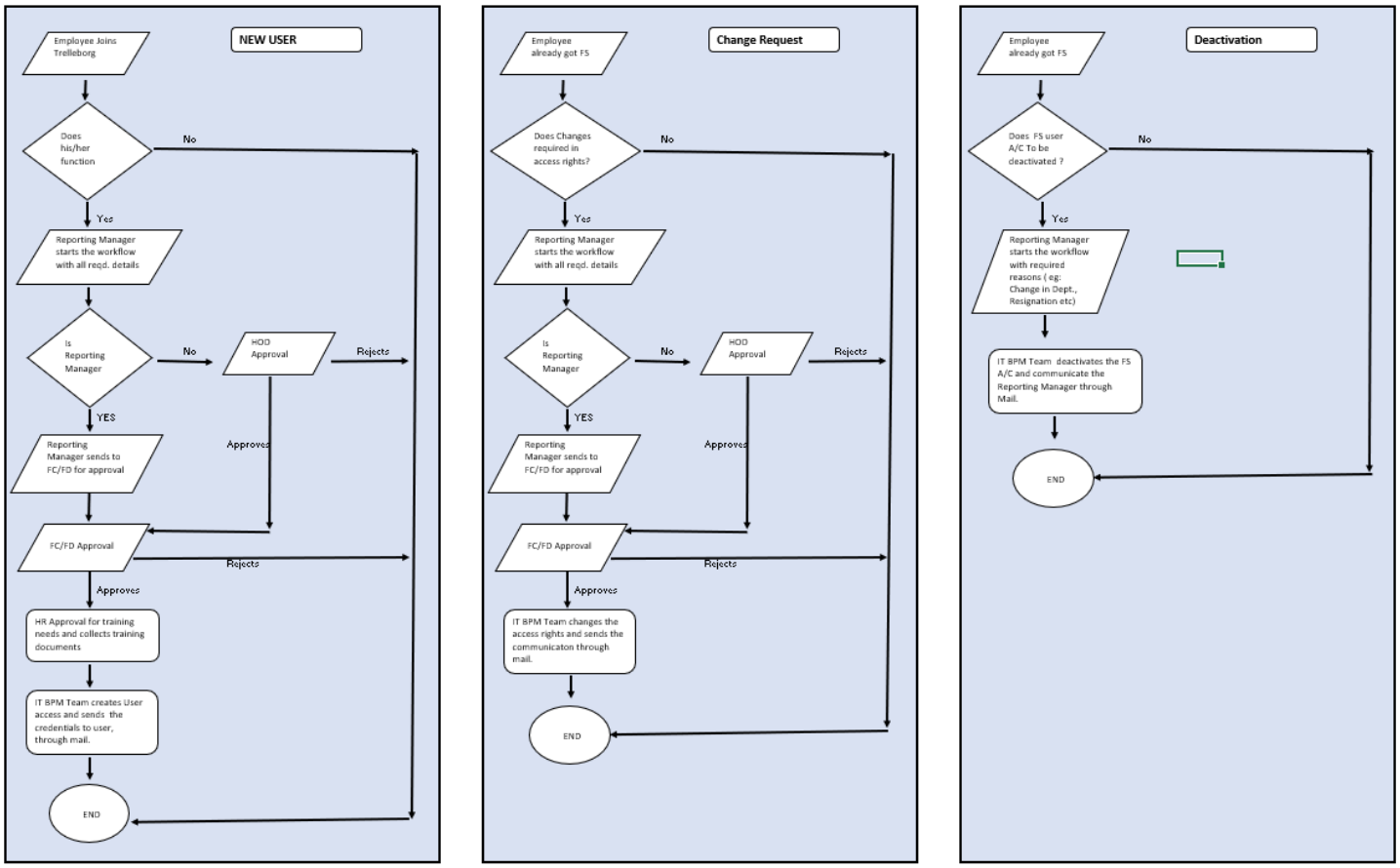
c. We, at IT, hold these documents and present them for periodic audits.

d. However, there are challenges in tracking the changes and altering for future authorisations for all the active users. Employees who have either left the organisation or 'Inactive' are to be stored for reference and audits.
e. Biggest gap however is when the users are routinely moved from one department to the other. We at IT will have no real time information or control over it.
f. Since, the entire process presently is manual which requires to be automated on priority. We are contemplating to make this happen for a while now.

2.2 ***Work Flow:*** The standard 'Work Flow' has been depicted in the diagram below.

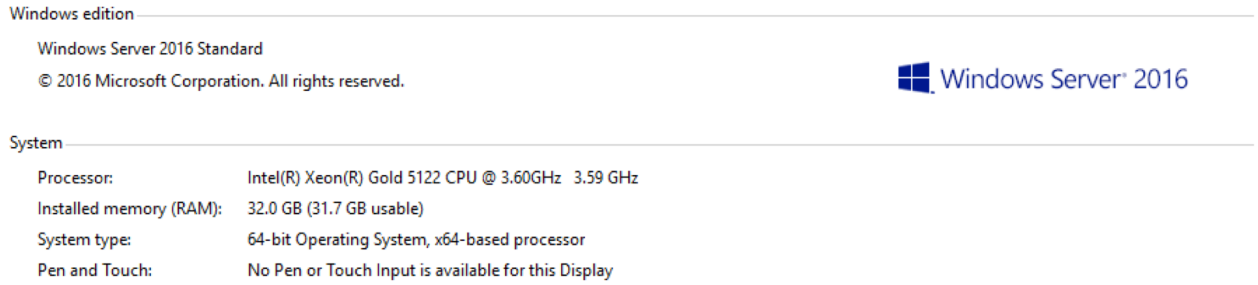


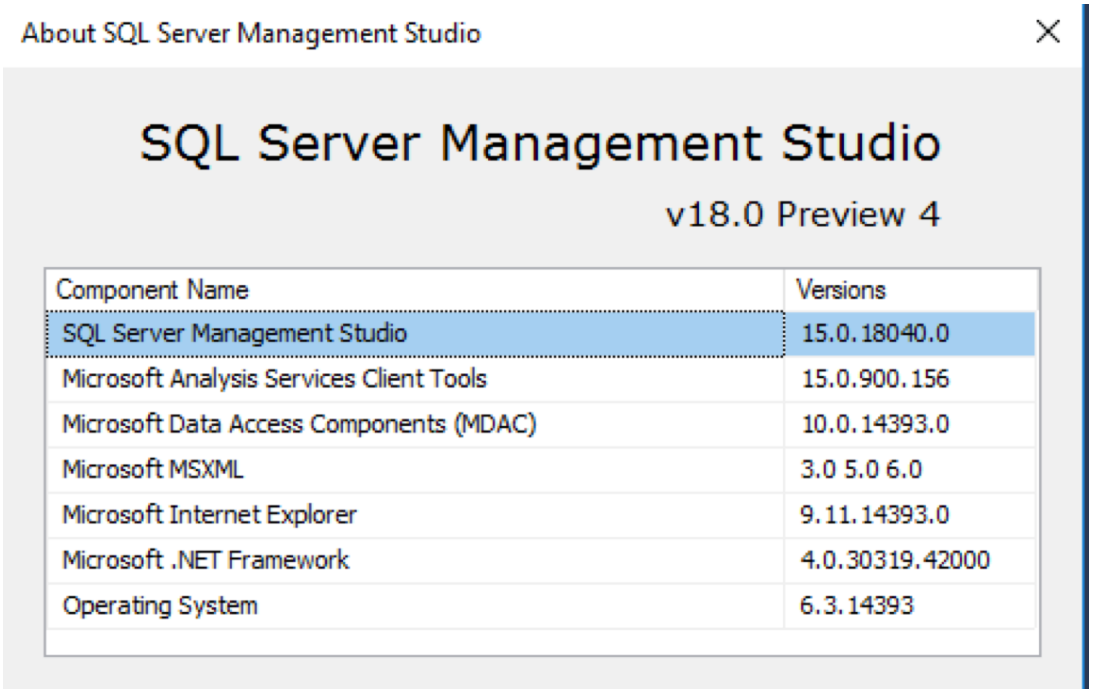
(Work Flow Diagram)

2.3 ***Technology Details:*** The software shall operate in Windows OS environment in a server <> client configuration.

2.4 ***Server & Database Structure:***

a. Server Details: The server configuration details are as in the diagrams below.





b. Database Structure: Master and Transaction Tables to be created, in Microsoft SQL Server, as per the details & guidelines given below.

```
TABLE [dbo].[Approval_Master](
    [Approval_ID] [bigint] IDENTITY(1,1) NOT NULL,
    [Emp_ID] [nchar](10) NOT NULL,
    [Manager_Name] [varchar](100) NOT NULL,
    [Designation] [varchar](100) NOT NULL,
    [Department] [varchar](100) NOT NULL,
    [Email] [varchar](150) NOT NULL,
    [Type] [varchar](50) NOT NULL,
    [HOD_Name] [varchar](100) NULL,
    [HOD_Emp_ID] [nchar](10) NULL,
    [HOD_Designation] [varchar](100) NULL,
    [HOD_Department] [varchar](100) NULL,
    [HOD_Email_ID] [varchar](150) NULL,
    [Finance_Approval] [nchar](10) NOT NULL,
    [Fin_Name] [varchar](100) NULL,
    [Fin_Emp_ID] [nchar](10) NULL,
    [Fin_Designation] [varchar](100) NULL,
    [Fin_Email_ID] [varchar](150) NULL,
    [HR_Name] [varchar](100) NULL,
    [HR_Emp_ID] [nchar](10) NULL,
    [HR_Designation] [varchar](100) NULL,
    [HR_Email_ID] [varchar](150) NULL,
    [Cost_Center] [varchar](50) NULL,
    [IT_NotificationEmail_ID1] [varchar](150) NULL,
    [IT_NotifinationEmail_ID2] [varchar](150) NULL,
    [IT_NotificationEmail_ID3] [varchar](150) NOT NULL,
    [User_ID] [nchar](10) NULL,
    [System_ID] [varchar](100) NULL,
    [Trans_Datetime] [datetime] NULL
)


TABLE [dbo].[Email_Workflow](
    [Workflow_ID] [bigint] IDENTITY(1,1) NOT NULL,
    [Emp_ID] [nchar](10) NOT NULL,
    [UserAccess_HeaderKey] [numeric](18, 0) NOT NULL,
    [Approver_EmpID] [nchar](10) NOT NULL,
    [Approver_Name] [varchar](100) NOT NULL,
    [Status] [nchar](10) NULL,
    [Reasons] [varchar](150) NULL,
    [User_ID] [nchar](10) NOT NULL,
    [System_ID] [varchar](100) NOT NULL,
    [Trans_Datetime] [datetime] NOT NULL
)

TABLE [dbo].[FS_Transactions](
    [SL_NO] [bigint] IDENTITY(1,1) NOT NULL,
    [Module] [varchar](100) NOT NULL,
    [Screens] [varchar](100) NOT NULL,
    [Description] [varchar](150) NOT NULL,
    [User_ID] [nchar](10) NOT NULL,
    [System_ID] [varchar](100) NOT NULL,
```

```
    [Trans_Datetime] [datetime] NOT NULL
)


 TABLE [dbo].[User](
    [SL_NO] [bigint] IDENTITY(1,1) NOT NULL,
    [Emp_ID] [nchar](10) NULL,
    [Username] [varchar](100) NULL,
    [Password] [varchar](100) NULL,
    [Status] [nchar](1) NULL,
    [System_ID] [varchar](100) NULL,
    [Trans_Datetime] [datetime] NULL,
    [Email] [nvarchar](50) NULL
)

TABLE [dbo].[User_Credentials](
    [Credential_ID] [bigint] IDENTITY(1,1) NOT NULL,
    [Emp_ID] [nchar](10) NOT NULL,
    [UserAccess_Headerkey] [numeric](18, 0) NOT NULL,
    [FS_SS_UserID] [nchar](10) NOT NULL,
    [Created_by] [varchar](100) NOT NULL,
    [Created_on] [datetime] NOT NULL,
    [Remarks] [varchar](100) NULL,
    [User_ID] [nchar](10) NOT NULL,
    [System_ID] [varchar](100) NOT NULL,
    [Trans_Datetime] [datetime] NOT NULL
)

 TABLE [dbo].[UserAccess_Detail](
    [SL_No] [bigint] IDENTITY(1,1) NOT NULL,
    [Emp_ID] [nchar](10) NOT NULL,
    [Module] [varchar](100) NOT NULL,
    [Screens] [varchar](100) NOT NULL,
    [Trans_Datetime] [datetime] NOT NULL,
    [UserAccess_Headerkey] [numeric](18, 0) NOT NULL
)

 TABLE [dbo].[UserAccess_Header](
    [SL_NO] [bigint] IDENTITY(1,1) NOT NULL,
    [Trans_Type] [nvarchar](50) NULL,
    [Location] [varchar](50) NULL,
    [Reason] [varchar](150) NULL,
    [Emp_ID] [nchar](10) NULL,
    [Emp_Name] [varchar](100) NULL,
    [Emp_Designation] [varchar](100) NULL,
    [Emp_Department] [varchar](100) NULL,
    [Emp_Email] [varchar](150) NULL,
    [DOJ] [datetime] NULL,
    [Employee_Type] [varchar](100) NULL,
    [Software] [nchar](10) NULL,
    [User_Email] [nvarchar](150) NULL,
    [System_ID] [varchar](100) NULL,
    [Trans_Datetime] [datetime] NULL,
    [UserAccess_Headerkey] [numeric](18, 0) NOT NULL
)
```

2.5 ***User Interface:*** To be created as per the standard protocol with enhanced user experience.

2.6 ***Calendar of Events & Activity Chart:***

Date	Activity*	Details	Note*
10/06/2020	Release of SRS	Interns were briefed with the work details. Document sent by mail.	All the activities are tentatively calendared & subject to change. A 'Progress Report' (format below) to be submitted on every saturdays & a telecall may be organised for support & help on sundays.
July 2020	Recess	The break to attend university examinations.	
21/08/2020	Initial Submission	Submit the project progress report with pain points for resolution	
21/09/2020	Project Deployment	Submit entire project with all source codes and utilities.	
28/09/2020	Viva Voce	Individual Viva Voce of participants.	
10/10/202	Certification & Sign off	Interns shall be handed with '*Certificate of Merit in Internship'*	

Internship: Weekly Progress Report Form				
Name of Intern	**Registration No.**	**Week No.**	**1**	**Brief Summary**
		Date Start	10/06/2020	
		Date End	17/06/2020	
		Hours Utilised	26 Hrs	
Comments by the Guide:				

2.7 ***Product Features:*** On screen operational access to operate to all users. 'Admin User' shall have an enhanced level of accessibility. Automated workflow with tight security feature to be incorporated. Email notification shall reach the persons in the hierarchical order.

3. Software Development Cycle & Resource

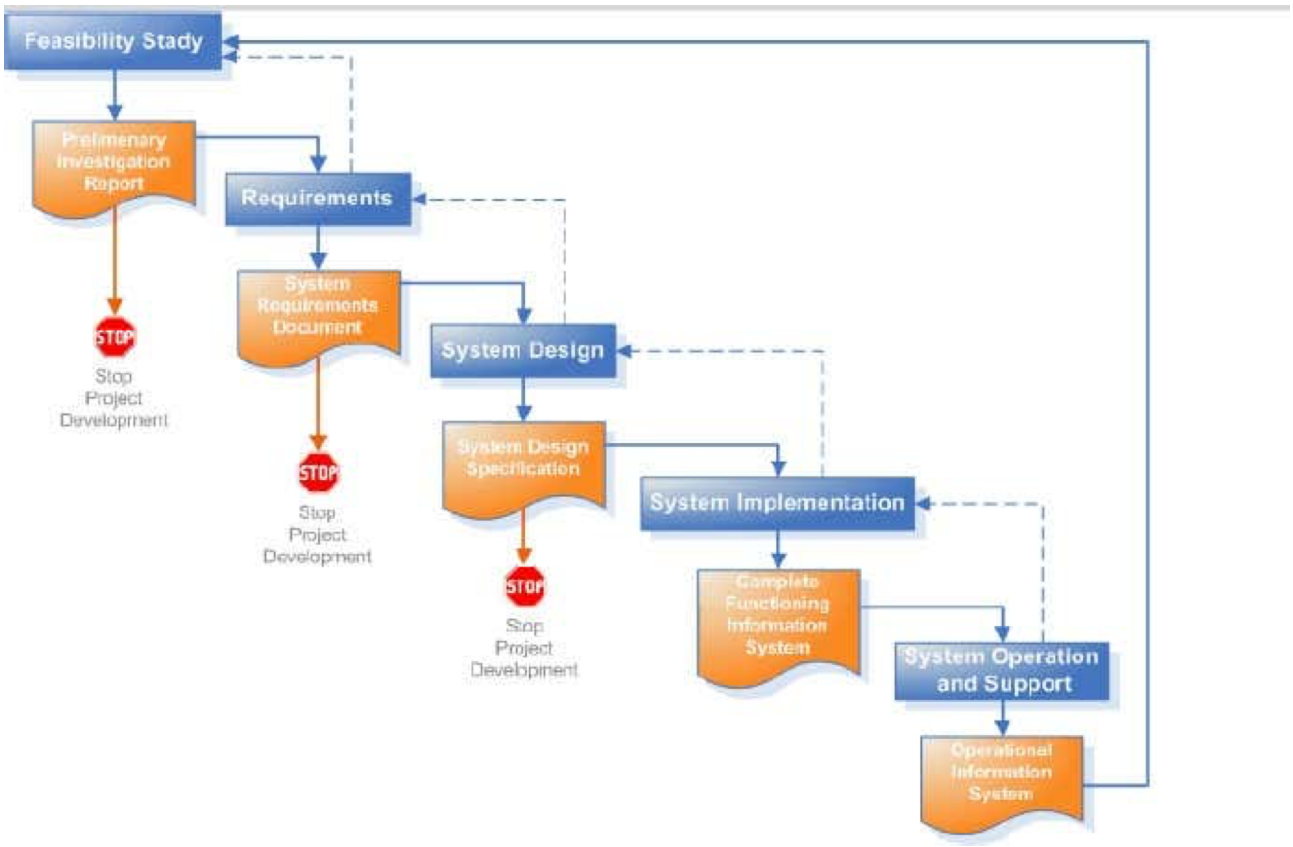
3.1 ***Planning:*** Planning is an objective of each and every activity, where we want to discover things that belong to the project. An important task in creating a software program is extracting the requirements or requirements analysis. Customers typically have an abstract idea of what they want as an end result, but do not know what software should do. Skilled and experienced software engineers recognise incomplete, ambiguous, or even contradictory requirements at this point. Frequently demonstrating live code may help reduce the risk that the requirements are incorrect. Once the general

requirements are gathered from the client, an analysis of the scope of the development should be determined and clearly stated.

3.2 ***Implementation, Testing & Documentation:*** Implementation is the part of the process where software engineers actually program the code for the project. Software testing is an integral and important phase of the software development process. This part of the process ensures that defects are recognised as soon as possible. Documenting the internal design of software for the purpose of future maintenance and enhancement is done throughout development. This may also include the writing of an API, be it external or internal. The software engineering process chosen by the developing team will determine how much internal documentation (if any) is necessary. Plan-driven models (e.g.Waterfall) generally produce more documentation than agile models.

3.3 ***Deployment and Maintenance:*** Deployment starts directly after the code is appropriately tested, approved for release, and sold or otherwise distributed into a production environment. This may involve installation, customisation (such as by setting parameters to the customer's values), testing, and possibly an extended period of evaluation. Software training and support is important, as software is only effective if it is used correctly.

Software Deployment (Waterfall) Method:



4. Non-Functional Requirements

4.1 ***Performance:*** The software shall meet the organisational and user expectations & standards.

4.2 ***Safety:*** List out any safeguards that need to be incorporated as a measure against any possible harm the use of the software application may cause.

4.3 ***Security:*** Privacy and data protection regulations that need to be adhered to while designing of the product

4.4 ***Software Quality Attributes:*** Detailing on the additional qualities that need to be incorporated within the software like maintainability, adaptability, flexibility, usability, reliability, portability etc.

5. Signing Off

5.1 The project 'Sign Off' includes complete deployment of software including the source code with every documentation pertaining to it. The interns shall responsibly respond to the operational related queries in future days too.