



**AMERICAN INTERNATIONAL UNIVERSITY BANGLADESH**

**Software Project I**

**Industrial Engineering Data Management System for Garments industry**

**Project Members:**

Noman, Md Abdullah Al

ID: 14-28106-3

Program: SE

Das, Sudipta

ID: 14-28145-3

Program: CSSE

Mustafa, H.M. faysal Ibne

ID: 14-28079-3

Program: SE

**Bachelor of Science in Computer Science & Software Engineering  
Department of Computer Science**

# Declaration

We declare that the submitted project is our original work and has not been submitted in any form for another degree or diploma at any university or other institute of tertiary education. Information derived from the published and unpublished work of others has been acknowledged in the text and a list of references is given.

We declare that this project does not contain any content that discloses the secret of any organization or related parties. American International University – Bangladesh (AIUB) will not be held liable for any such activities, as for the project is presented as our original work.

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Noman, Md Abdullah Al  
ID: 14-28106-3  
Program: SE

.....  
Das, Sudipta  
ID: 14-28145-3  
Program: CSSE

.....  
Mustafa, H.M. Faysal Ibne  
ID: 14-28145-3  
Program: SE

# Approval

This software project “Industrial Engineering Data Management System for Garments industry” has been submitted to the following respected members of the board of examiners of the Department of Computer Science in partial fulfillment of the requirements for the degree of Bachelor of Science in Computer Science and Software Engineering on 10th June 2017 has been accepted as satisfactory.

.....  
Md. Shamsur Rahim  
Supervisor & Lecturer  
Department of Computer Science  
Faculty of Science & IT  
American International University-Bangladesh

.....  
Dr. Dip Nandi  
Head  
Department of Computer Science  
Faculty of Science & IT  
American International University-Bangladesh

.....  
Mashiour Rahman  
Director  
Department of Computer Science  
Faculty of Science & IT  
American International University-Bangladesh

.....  
Professor Dr. Tafazzal Hossain  
Dean  
Faculty of Science and information Technology  
American International University-Bangladesh

.....  
Dr. Carmen Z. Lamagna  
Vice Chancellor  
American International University-Bangladesh

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# Table of Contents

---

Declaration .....	2
Approval .....	3
Acknowledgement .....	4
Chapter 1: Statement of Work .....	11
1.1 Documentation History & Distribution.....	11
Table 1-A: Revision History.....	11
Table 1-B: Distribution.....	11
1.2 Purposes/Objectives .....	11
1.3 Anticipated Benefits.....	11
Software/Technology Proposed.....	11
1.4 Customers/End Users Impacted.....	12
1.5 Requirements .....	12
1.6 Deliverable include in scope .....	12
1.7 Study on SDLC .....	12
Phase of SDLC .....	12
SDLC models .....	14
Agile methods.....	18
1.8 Why we choose Scrum.....	22
1.9 Related work study .....	23
1.9.1 Fabee.....	23
1.9.2 Marg.....	26
1.9.3 Startex .....	27
1.9.4 drost .....	28
Chapter 2: Software Requirement Specification.....	31
2.1 Project Summary .....	31
2.1.1 Field study .....	31
2.1.2 Problematic field.....	31
2.1.3 Background to the problem .....	32
2.1.4 User story.....	32

2.2 Project Scope .....	33
2.3 Overall Description .....	33
2.3.1 Product Perspective .....	33
2.3.2 Project Feature .....	33
2.3.3 Operating Environment .....	33
2.3.4 Design & Implementation Constraints .....	34
2.3.5 Assumption and Dependencies .....	34
2.4 System Features .....	34
2.4.1 User Option .....	34
2.4.2 Stimulus/Response Sequence .....	34
2.4.3 Interface Requirement .....	34
2.4.4 User Interface .....	34
2.4.5 Login Page .....	34
2.4.6 Hardware Interfaces .....	35
2.4.7 Software Interfaces .....	35
2.4.8 Communication Interface .....	35
Chapter 3: Software Design Specification Plan .....	36
3.1 Documentation History & Distribution .....	36
Table 3-A: Revision History .....	36
Table 3-B: Distribution .....	36
3.2 Introduction .....	36
3.3 System Overview .....	37
3.3.1 Use Case .....	37
Fig 3-1: Use Case Diagram .....	37
3.4 System Architecture .....	38
3.4.1 Activities .....	38
Fig 3-2: Activity of log in .....	38
Fig 3-3: Activity of Sign up .....	39
Fig 3-4: Activity of production data entry .....	40
Fig 3-5: ER Diagram .....	41
3.5 Human Interface Design .....	42
Fig 3-6: Welcome Page .....	42

Fig 3-7: Login Page .....	43
Fig 3-8: Manager HOmepage .....	43
Fig 3-9: Supervisor info from manager accounts .....	44
Fig 3-10: Edit team info from manager accounts .....	45
Fig 3-11: Edit production Information .....	46
Fig 3-12: Supervisor log .....	47
Fig 3-13: Owner homepage .....	48
Fig 3-14: Edit manager Information .....	49
Fig 3-15: Editing owner information .....	50
Fig 3-16: Manager log(Product) .....	51
Fig 3-17: Manager log(team) .....	52
Fig 3-18: Supervisor homepage .....	52
Fig 3-19: Edit Worker information .....	53
Fig 3-20: Registration page .....	54
Fig 3-21: Successful message .....	54
3.6 Test Plan .....	55
3.7 Test cases .....	58
Chapter 4: Project management .....	59
4.1 Project scheduling .....	59
4.2 Project management tool (Meistertask) .....	60
4.3 Repositories (Deveo) .....	63
4.4 version controlling tool(torroise SVN) .....	65
References .....	69

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## List of Figures

---

Fig 1-1: Phase of SDLC .....	13
Fig 1-2: SDLC models .....	14
Fig 1-3: Phase of iterative model .....	15
Fig 1-4: Spiral model .....	16
Fig 1-5: V-model.....	17
Fig 1-6: Prototyping model.....	18
Fig 1-7: Scrum .....	19
Fig 1-8: Extreme programming .....	20
Fig 1-9: Feature driven development.....	21
Fig 1-10: Dynamic Systems Development Method.....	22
Fig 1-11: Faabee login and detail page .....	24
Fig 1-12: Faabee management system.....	25
Fig 1-13: Marg web page.....	26
Fig 1-14: Marg management system.....	27
Fig 1-15: Marg data entry page.....	28
Fig 1-16: Startex management system.....	29
Fig 1-17: Drost management system .....	30
Fig 3-1: Use Case Diagram.....	37
Fig 3-2: Activity of log in .....	38
Fig 3-3: Activity of Sign up .....	39
Fig 3-4: Activity of production data entry .....	40
Fig 3-5: ER Diagram.....	41
Fig 3-6: Welcome Page.....	42
Fig 3-7: Login page.....	43
Fig 3-8: Manager Homepage .....	43
Fig 3-9: Supervisor info from manager accounts .....	44
Fig 3-10: Edit team info from manager accounts .....	45
Fig 3-11: Edit production Information.....	46



Fig 3-12: Supervisor log .....	47
Fig 3-13: Owner homepage .....	48
Fig 3-14: Edit manager Information .....	49
Fig 3-15: Editing owner information .....	50
Fig 3-16: Manager log(Product) .....	51
Fig 3-17: Manager log(team) .....	52
Fig 3-18: Supervisor homepage .....	52
Fig 3-19: Edit Worker information .....	53
Fig 3-20: Registration page.....	54
Fig 3-21: Successful message .....	54
Fig 3-22: Create account .....	55
Fig 3-23: Login test.....	55
Fig 3-24: Homepage test.....	55
Fig 3-25: User data.....	56
Fig 3-26: Production data.....	56
Fig 3-27: Remark the worker .....	56
Fig 3-28: Manager log .....	57
Fig 3-29: Supervisor log .....	57
Fig 3-30: Team info .....	57
Fig 3-31: Additional test .....	58
Fig 3-32: Test cases .....	58
Fig 4.1: Meistertask project homepage .....	60
Fig 4.2: Sample task.....	61
Fig 4.3: Activities related to task .....	62
Fig 4.4: Repository use history .....	63
Fig 4.5: Repository folders .....	64
Fig 4.6: Repository users .....	64
Fig 4.7: Update or step 1 to commit .....	65
Fig 4.8: Step 2 for commit .....	66
Fig 4.9: Committing process.....	67
Fig 4.10: Commit history and version switching.....	68

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## List of Tables

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Table 1-A: Revision History .....	11
Table 1-B: Distribution .....	11
Table 3-A: Revision History .....	36
Table 3-B: Distribution .....	36

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# Chapter 1: Statement of Work

---

## 1.1 Documentation History & Distribution

**Table 1-A: Revision History**

Revision	Revision Date	Description of Change	Author(s)
1.0	15-02-2017	-----	i)Noman,Md Abdullah Al ii)Das, Sudipta iii)Mustafa, H.M. Faysal Ibne

**Table 1-B: Distribution**

Recipient Name	Recipient Organization	Distribution Method
Md. Shamsur Rahim	AIUB	Hard Copy

## 1.2 Purposes/Objectives

- Find out the problems about “Industrial data management system”.
- Figure out the requirements.
- Define a solution.
- Develop the software.
- Gathering information about input, output.

## 1.3 Anticipated Benefits

- Time saving
- Cost reducing
- More avail
- User friendly control panel
- Not a Manual system

## Software/Technology Proposed

- Programming language: C#
- Database: MS SQL
- Architecture: MVC

- Project Management: Meistertask
- Version Controlling: Tortoise SVN, Deveo
- SDLC Model: Scrum

## 1.4 Customers/End Users Impacted

- Owners of the industry.
- Managers of the industry.
- Supervisors of the industry.

## 1.5 Requirements

- Computers
- MS SQL Database
- Operating System: Windows 7, Windows 8 Windows 10

## 1.6 Deliverable include in scope

- Full software
- Technical documentation
- User manual

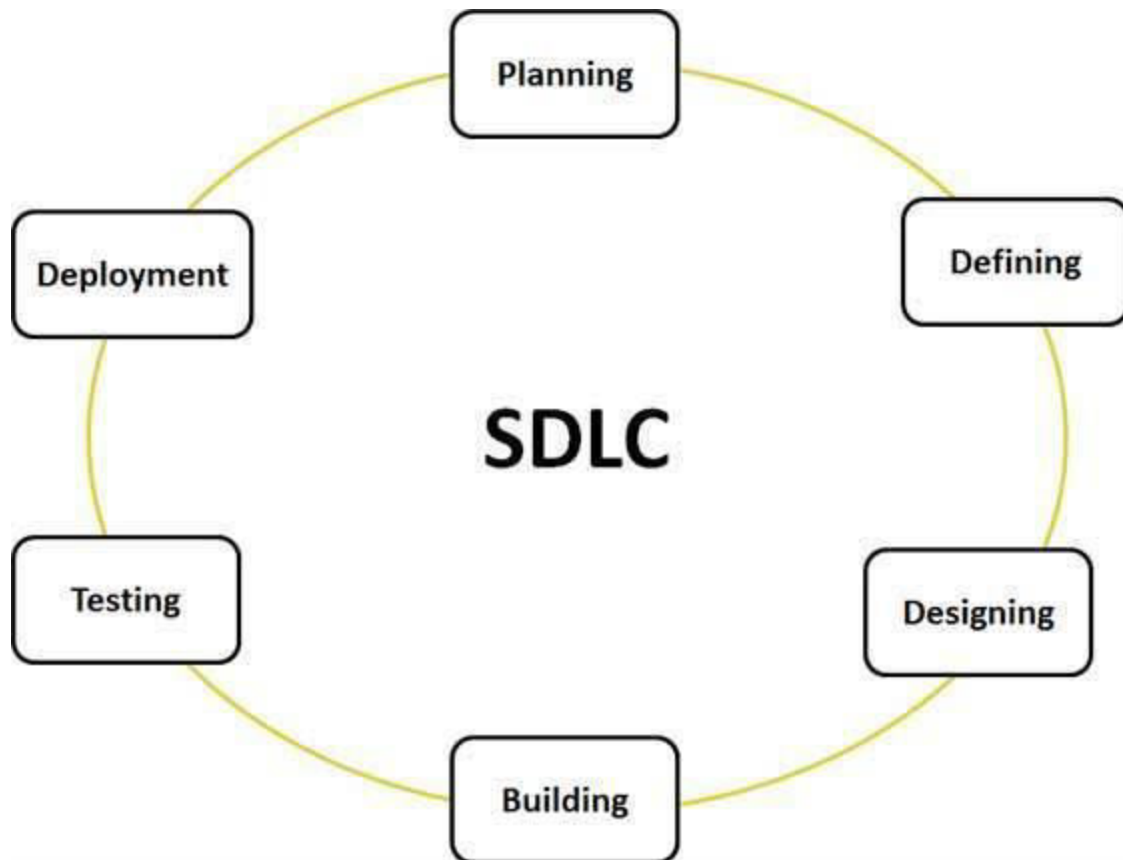
## 1.7 SDLC methods

SDLC stands for Software Development Life Cycle. SDLC is a process to develop high qualified software. SDLC have six stages. The following figure is a graphical representation of the stages of a typical SDLC.

### Phase of SDLC :

Descriptions are given below:

1. **Planning:** This stage contains requirement analysis. This is the most important part of SDLC. In this stage senior members talk to the customer and collects the requirement of the software. Project related study, risk and revenue calculation are also done in this stage.
2. **Defining:** This is the documentation stage. After requirement analysis, requirements are clearly documented and approved from the customer. It's called SRS (software Requirement Specification). It contains all the product requirements.
3. **Designing:** Based on the requirements, more than one design is proposed. Designed are also documented. It's called DDS (Design Document Specification). After analysis the DDS, the best design approach is selected for the product



**Fig 1-1: Phase of SDLC**

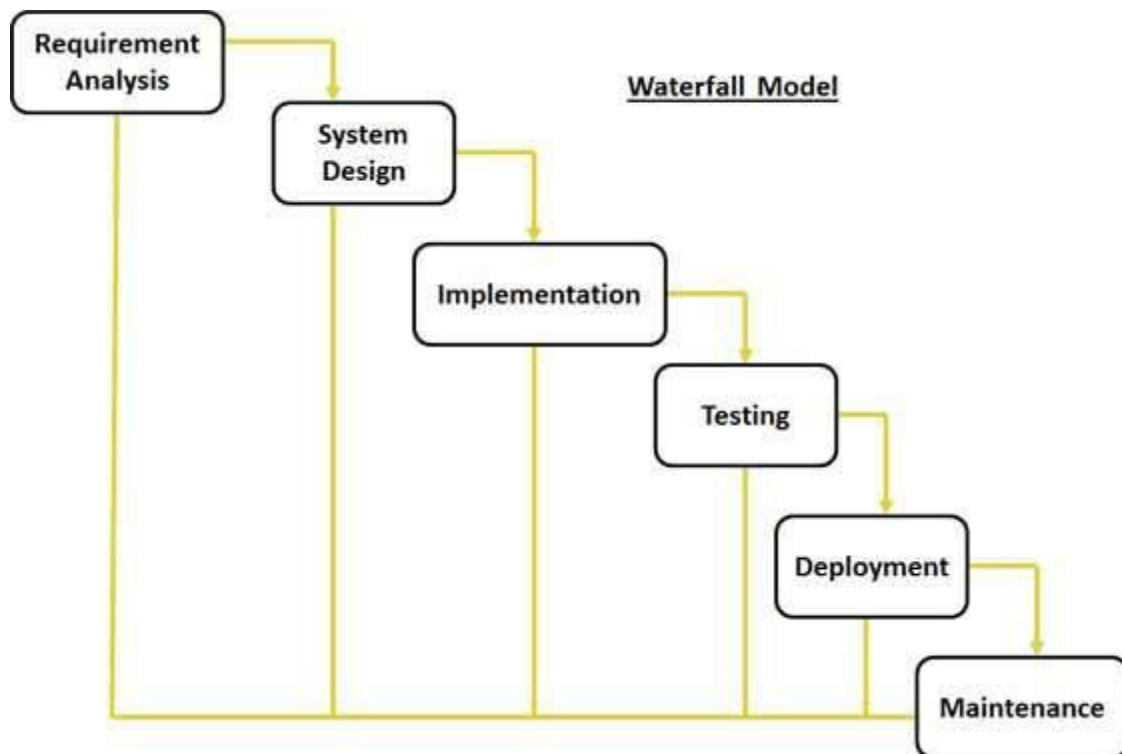
4. **Building:** In this stage programmer start programming with the chosen tools (programming language, compiler etc.). Usually tools are defined by the organization. In this stage actual development is start. The programmer implement the DDS. And the product is built.
5. **Testing:** In this stage tester try to find bugs and check if the software meets the requirements or not.
6. **Deployment:** After the product is tested then it's ready to release. Release date depends on organization and market conditions. This stage is also contain maintenance. Based on feedback and customer demand, software maintenance happen.

## **SDLC Models :**

There are different kinds of SDLC process model. Some are traditional and some agile and other.

### **Traditional Models:**

1. **Waterfall Model:** Waterfall model was the first widely used SDLC model. Phase of waterfall model are given below:



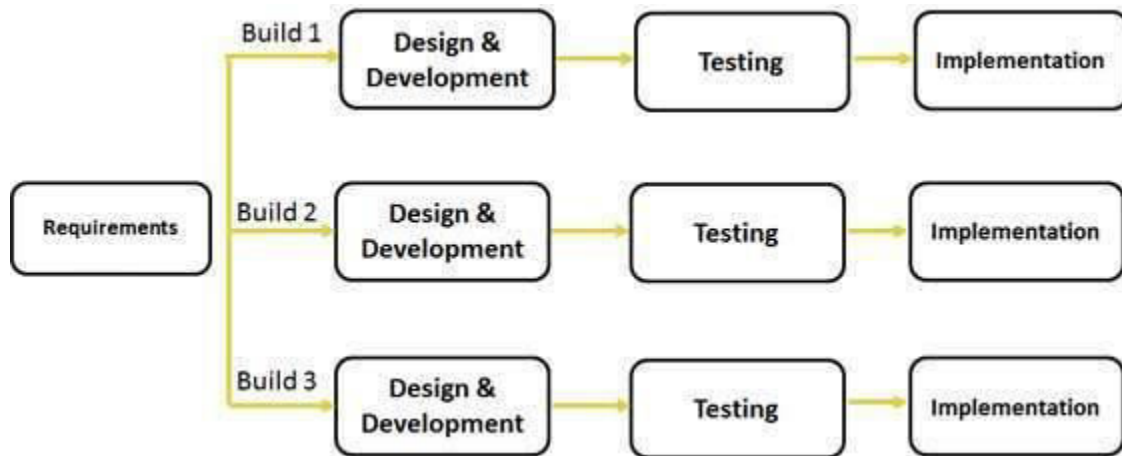
**Fig 1-2: SDLC Models**

In this model, output of a phase is used as input for the next phase. The phase of waterfall model is similar as SDLC. But there is no planning phase.

Waterfall model is used when the project is small and requirements are well defined. So, in big project and requirements are changing then, waterfall model is problematic.

2. **Iterative Model:** Iterative process is start from implementation. It starts implement a subset of the software. This method is based on repeated cycle (iterative). The main plot of this method is to develop a system through repeated cycles (iterative) and in smaller portions at a time (incremental).

Phases of iterative model are:

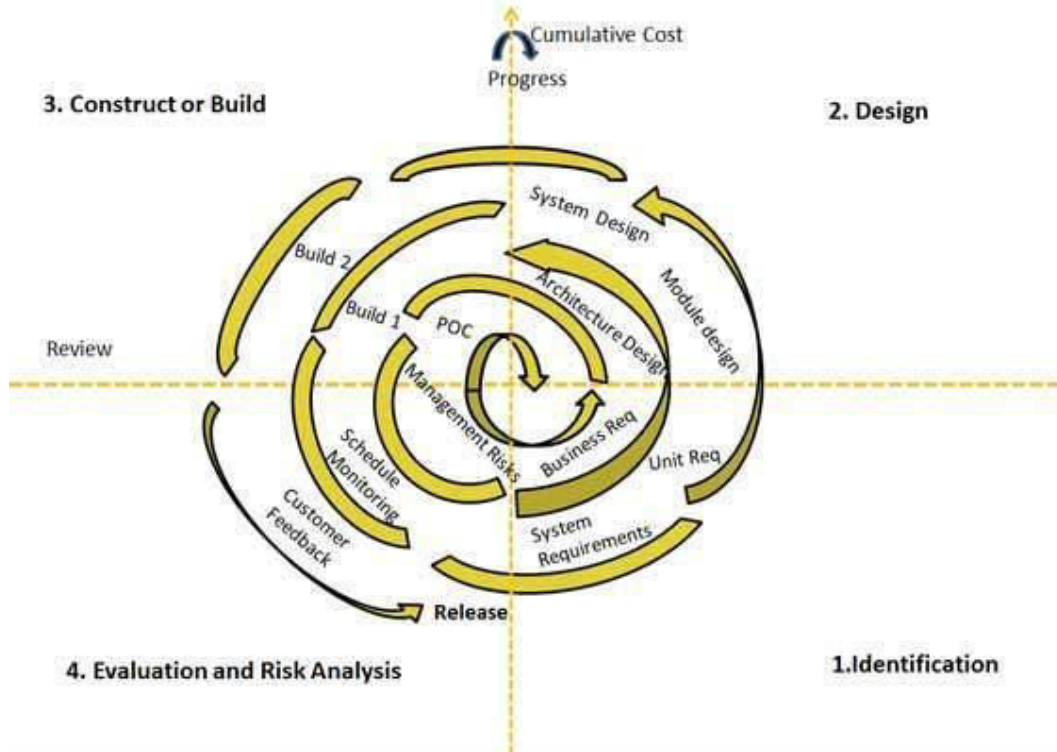


**Fig 1-3: Phase of iterative model**

Iterative process is an incremental process. More than one iteration may process at a time. Every iteration includes requirement analysis, design, development, testing and implementation.

In this model risk can easily analyze. But this model is so complex. Skilled people need for management.

3. **Spiral Model:** Spiral model is combination of iterative model and waterfall model. Spiral model has four phase. Phases are spiral. One iteration happens when a software project passes every phase. A software project repeatedly passes through these phases. Phases of spiral method are given below:

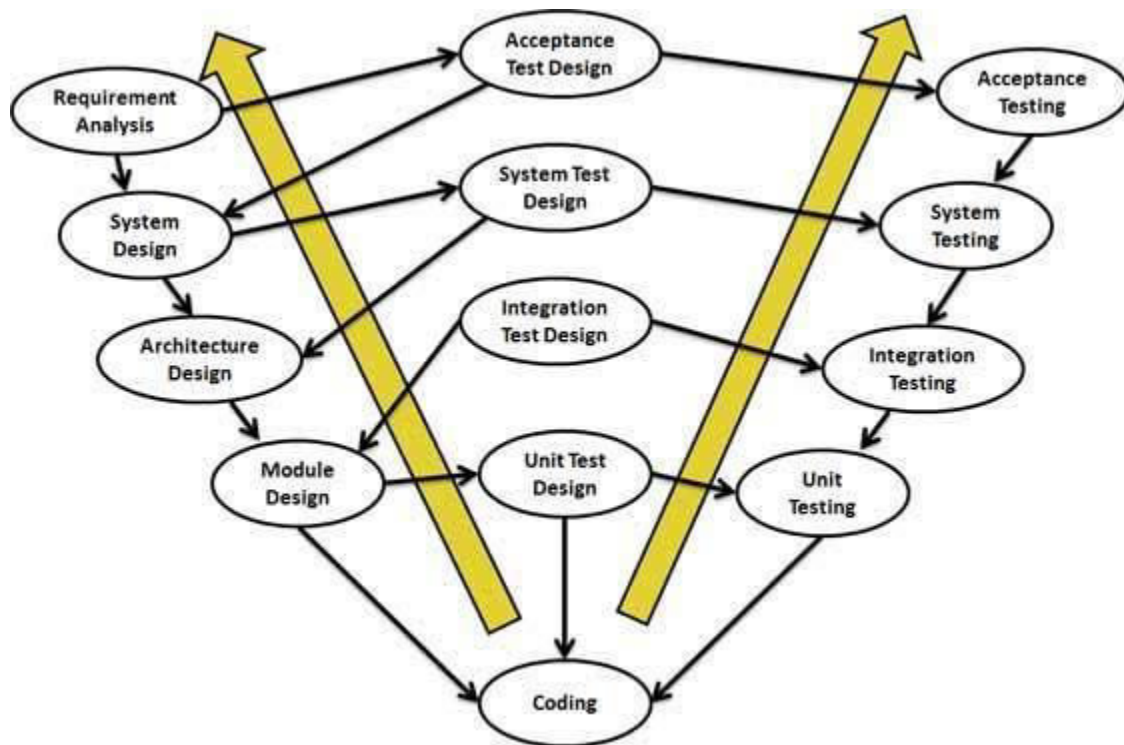


**Fig 1-4: Spiral model**

Spiral method is used for big projects and when requirements are not stable.



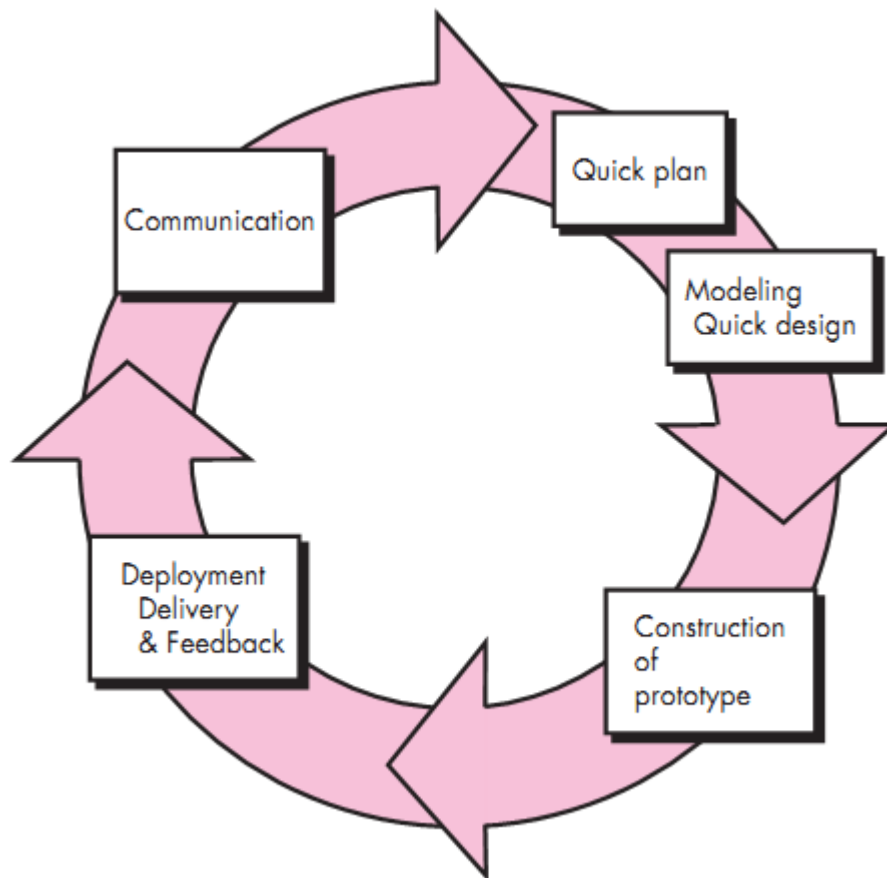
- 4. V – Model:** V – model is a model where execution of processes are happened in a sequence like v – shape.



**Fig 1-5: V-model**

In V-model testing are parallelly done with the other phase. This model is used when project is short and requirements are well defined. But this model is not a good model for object oriented projects and it also have high risk.

- 5. Prototyping Model:** Prototyping model is used when requirements are not clear. Project iteration occur when customer is satisfied.



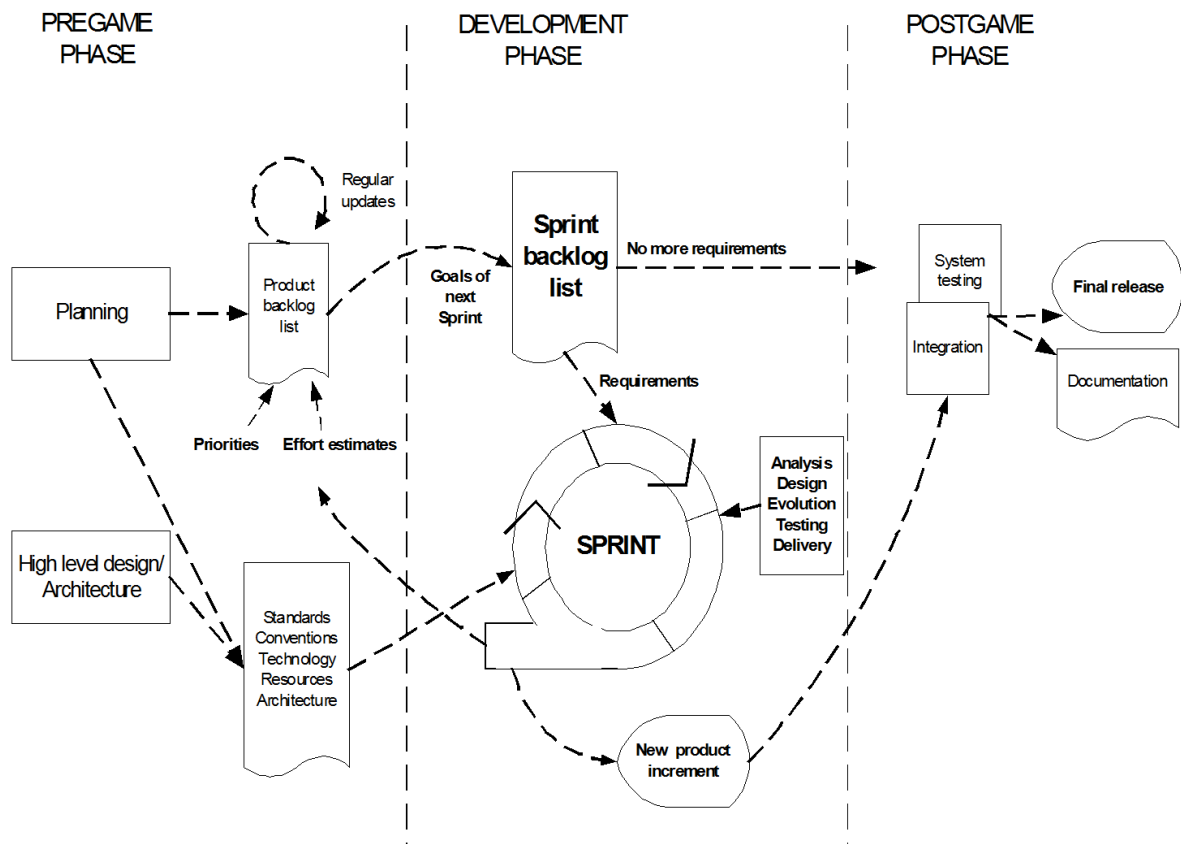
**Fig 1-6: Prototyping model**

Prototyping model is used when the project is short.

**Agile Methods:**

- 1. Scrum:** Scrum have three phase. These are:
  - 1.1. Pre-game
  - 1.2. Development
  - 1.3. Post-game

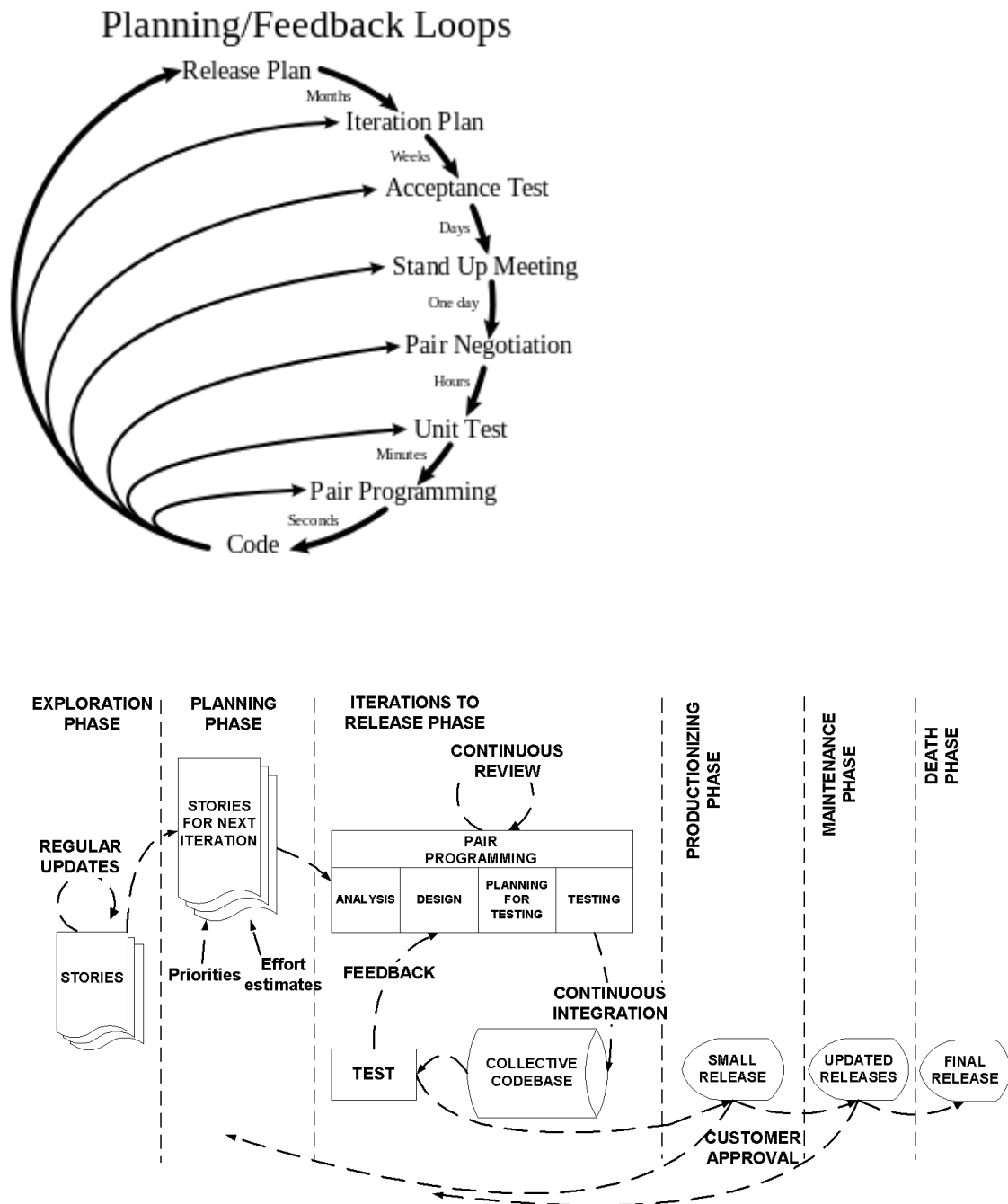
In pre-game phase planning and design are happen. It includes requirements analysis, risk calculation and other documentation part. And in development phase, project is built. Post-game phase come when there is no more requirement. And then the project is being released.



**Fig 1-7: Scrum**

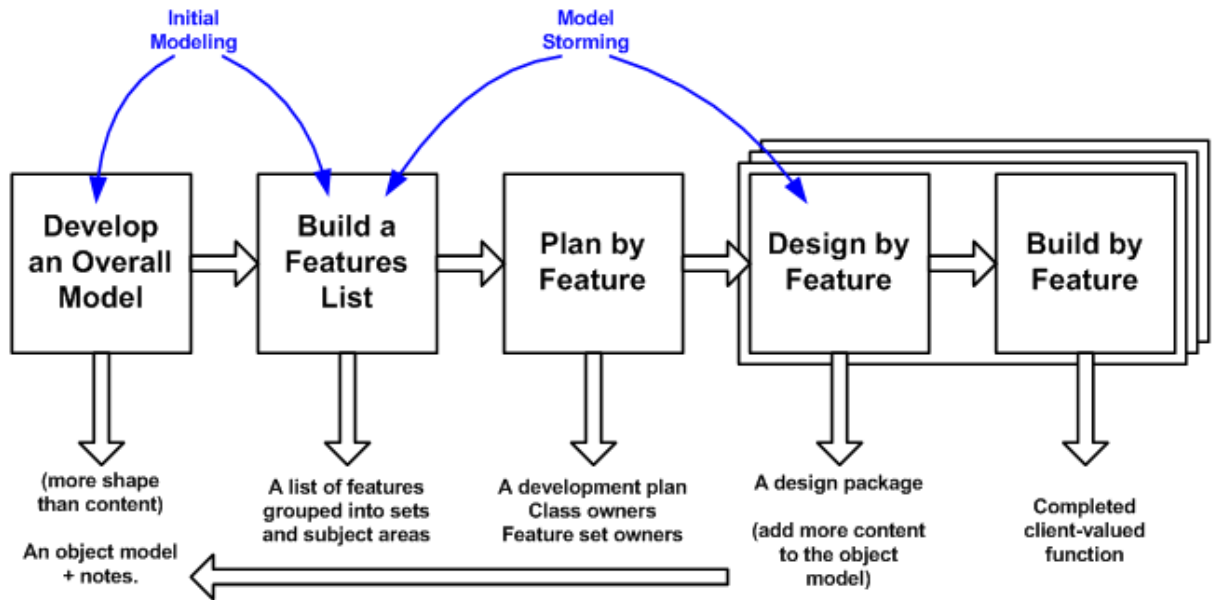
Product backlog and sprint are special features of scrum. Product backlog is a list of priority based requirements. And sprint is iteration cycle.

2. **Extreme Programming (XP):** Agile Modeling (AM) is a practices-based software process. In XP method, software may release after every iteration.



**Fig 1-8: Extreme programming**

**3. Feature Driven Development (FDD):** FDD is iterative and incremental software development process. FDD have short iteration process. FDD consist five basic activities.



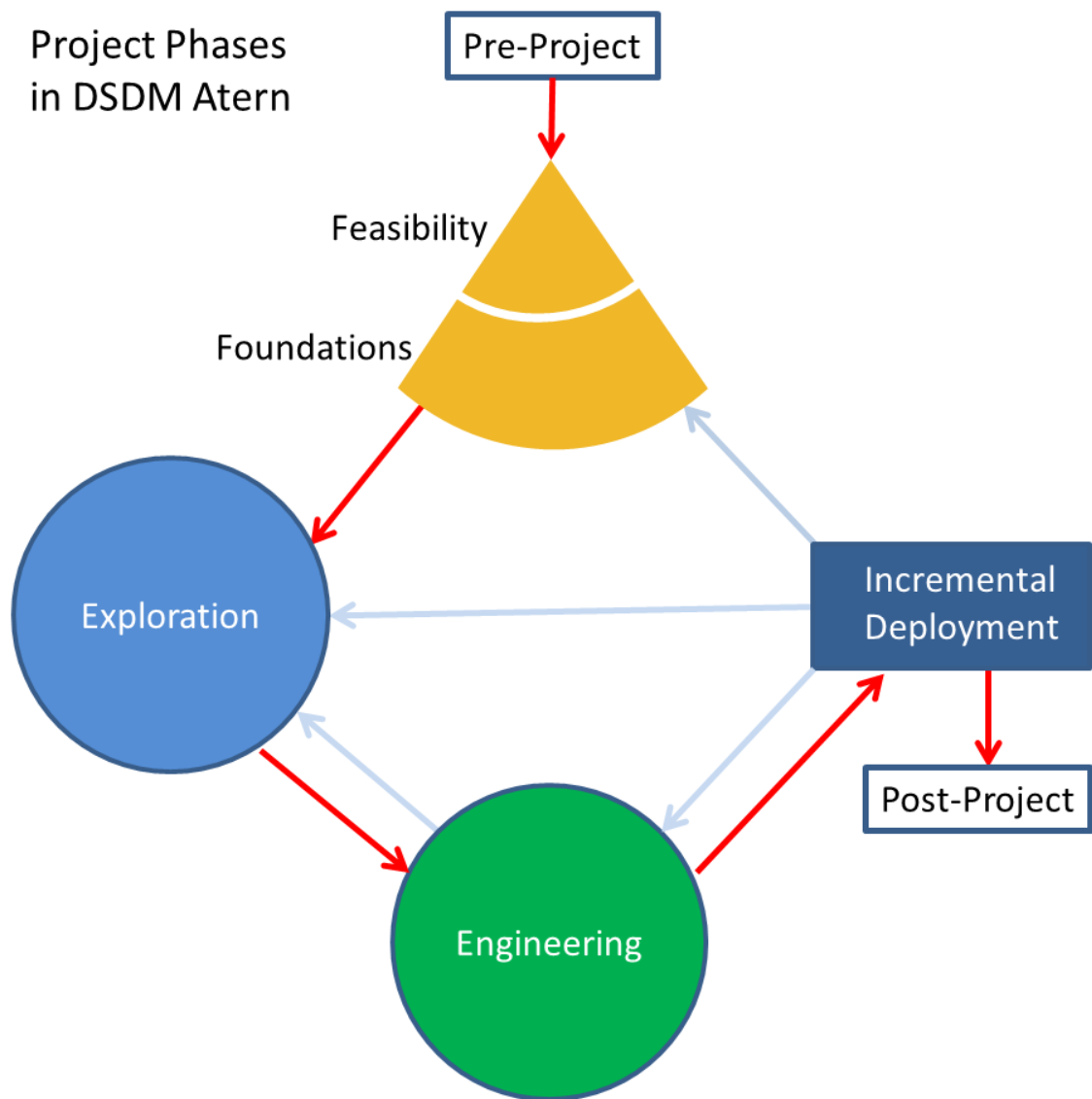
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Original Copyright S. R. Palmer & J.M. Felsing

**Fig 1-9: Feature driven development**

First two activities are the overall model of the project. The final three activities are iterated for each feature.

4. **Dynamic Systems Development Method (DSDM):** DSDM is a rapid application development process. DSDM is also a combination of iterative and incremental software development process. The main focus of DSDM is to deliver what business needs when it needs it.

Phases of DSDM:



**Fig 1-10: Dynamic Systems Development Method**

## 1.8 Why we choose Scrum

- Our requirements are not clear and software is not safety critical. So waterfall model is not good for us. There will be also good amount of change in requirements. Iterative method is an option but our time limit is too short for iterative method. As we need to adapt change overtime, so V-model and spiral model will not work. Prototyping model is a good option for us as our requirements are not clear but it also does not support mass amount of change. So we have to select any agile process for the development.
- Among agile models, we can't follow XP because our team is too short. FDD needs some experience for the development and also features can be changed over time. DSDM support urgent business need but there is no industry's business need now. So, DSDM is not a good choice.
- That leads us to Scrum. It is agile, it supports small iteration or sprint, it support small group.
- In scrum method project manager is not responsible for the project management. Scrum team is responsible for project management. In the other SDLC method, we need a project manager but we don't have any project manager. So SCRUM is best for us in this sector.
- Communication is easy in scrum method. Scrum meeting will be held regularly.
- Sprint review meeting is a plus point of scrum. We can define current status of our project in the sprint review meeting.
- In traditional method, development team is not involve in the definition of criteria for acceptance. But in scrum method development team defines the boundary of acceptance state.

That's why scrum is better SDLC for our project and we chose scrum for our development.

## 1.9 Related Work Study

In software market, many firms already introduce their software for Garments data management. In this part we analysis their software and find out pros and cons of these software. That will help our project development.

### 1.9.1 Faabee:

The image displays two screenshots of the Faabee Inventory Management software interface.

**Top Screenshot: Secure Login**

- Title:** InventoryManagement
- Section:** Secure Login
- Fields:**
  - Login ID : admin
  - Password : \*\*\*\*\*
- Buttons:** Login, Cancel
- Link:** [Forgot Password ?](#)
- Footer:** Powered By: Vihaan Sys [www.faabee.com](http://www.faabee.com)

**Bottom Screenshot: SHOP DETAILS**

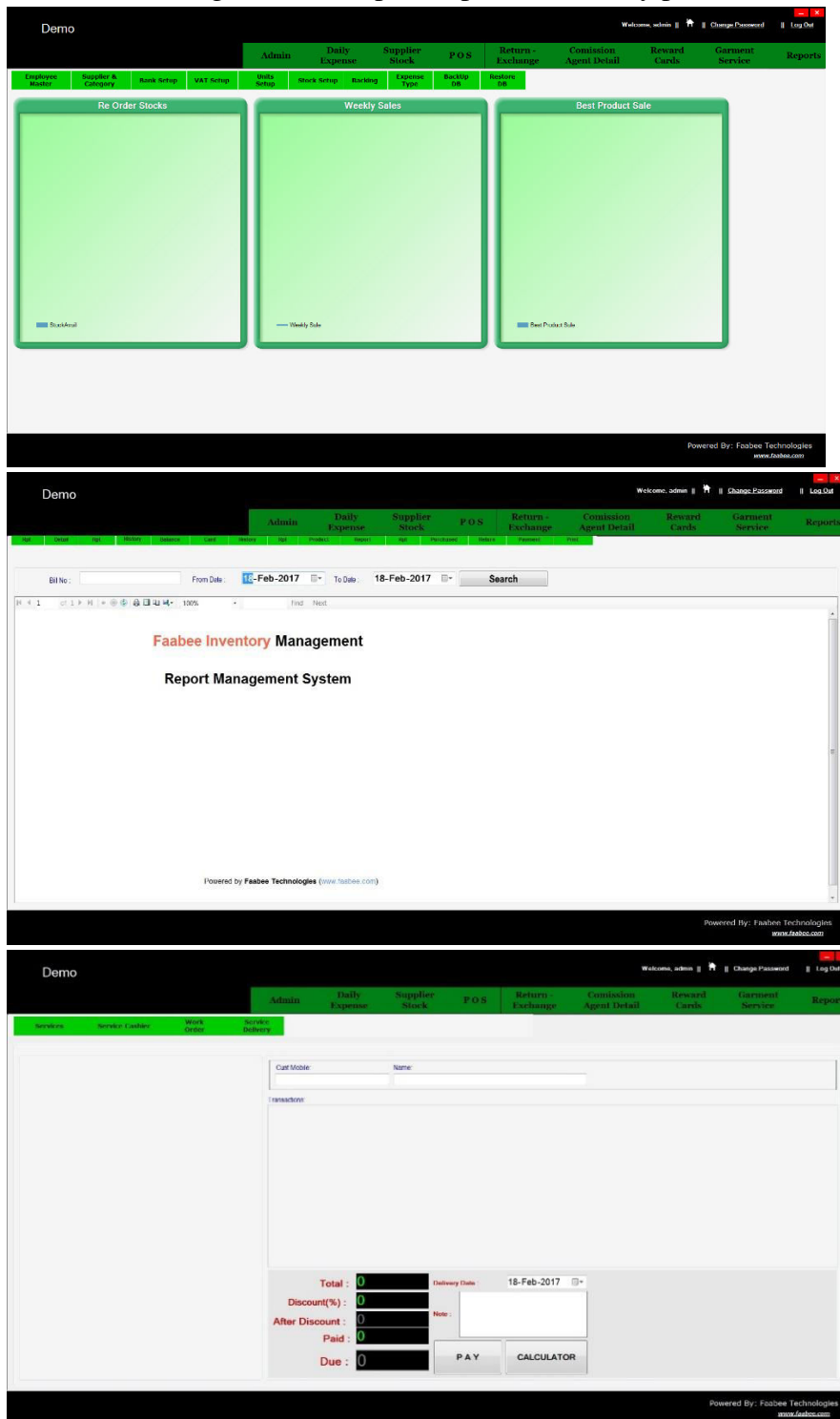
- Title:** InventoryManagement
- Section:** SHOP DETAILS
- Fields:**
  - Shop Name : Demo
  - Contact No : 12345
  - Address : Dhaka, Bnagladesh
- Buttons:** Upload Logo, Submit
- Message:** \*\*\* Logo should be 50px height and 50px width \*\*\*
- Footer:** Powered By: Vihaan Sys [www.faabee.com](http://www.faabee.com)

**Fig 1-11: Faabee login and detail page**

For using Faabee we need to login first and then we need to add a Garments details.



After adding garments details, main page will appear. It has lots of option and many features including calculation part, report and history part.



**Fig 1-12: Faabee management system**

Faabee have some limitation. Firstly, admin is the only user of the software. But in our project supervisor, manager and owner are the user of the software. Secondly, Faabee don't have any kind of option that provides workers capabilities.

### 1.9.2 Marg:

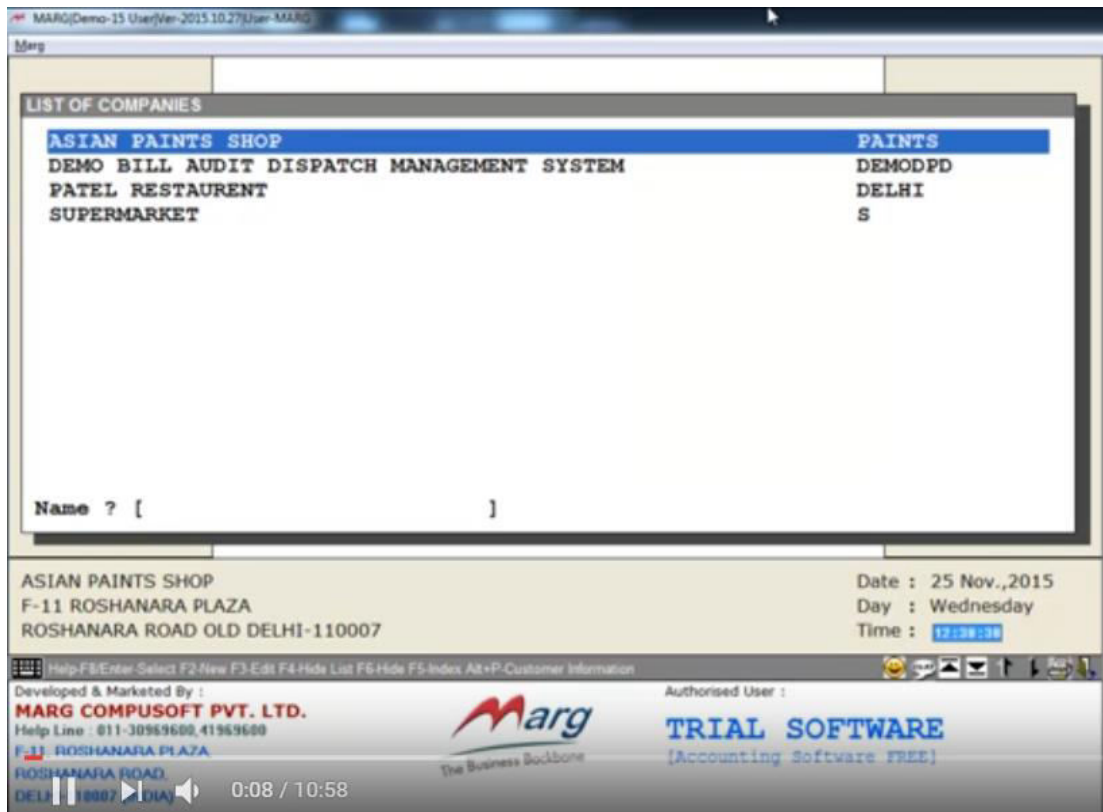


**Fig 1-13: Marg web page**

Marg is well known garment software. According to their website, more than 6 lakh user use this software. Marg is mainly product based software. It stored information about the products that garments made.

But in our project we're not just concern about the products, we also concern about the people who work here.

First page of MARG:



**Fig 1-14: Marg management system**

Marg is not user friendly. As a user I can't understand anything at the first look.

MARG(Demo-15 User\Ver-2015.10.27)\User-MARG

Marg

**COMPANY CREATION**

Company Name \*: **GARMENTS**

Address \*: \*

Phone No. \*: \*

Branch Code \*: \*

Fax No. : \*

E-Mail : \*

Jurisdiction : State : Date : 1 English

VAT No. : Country : India

Licence No. : Exp.Date :

Mfg.Lic.No. : Exp.Date :

LST No. : Exp.Date :

Service Tax : Exp.Date :

Food Lic.No. : Exp.Date :

Company Type : PHARMA DISTRIBUTORS & STOCKISTS (DELHI)

Tax Structure : Product Wise

Stock Value : Last Purchase

Working Style : Normal W/o Secondary

Financial Year : 01/04/2015 -31/03/2016

Data Directory : data

Password :

Net Password :

Help F8|Enter>Select F2|New F3|Edit F4|Hide List F5|Hide F5|Index Alt+P|Customer Information

Developed & Marketed By : **MARG COMPUSOFT PVT. LTD.**

Help Line : 011-30969600,41969600

F-11, ROSHANARA PLAZA

ROSHANARA ROAD,

DELHI-110007 (INDIA)

Authorized User : **TRIAL SOFTWARE**

[Accounting Software FREE]

The Business Backbone

MARG(Demo-15 User\Ver-2015.10.27\2015-2016\123-GARMENTS SHOP\User-MARG)

Marg

**SEARCH IN ALL FOR "CATEGORY"**

**General Setup Part-1**

17 1-Company 2-Group 3-Category X-No ask in Direct Exp/Income Ledger---X

**Inventory Setup General Part-1**

19 Name of Item Group Company/Agency/Type/Group/Category.....Group

Subgrouping Required of Company/Agency/Type/Group/Category-----N

Y-Subgroup / N-Main/Subgroup wise List-----N

Ask to print merge in Company/Salt/caTegory/Both masters-----N

**Inventory Setup General Part-1**

1 Item Code Y=Auto C=Company T-Category N=Self 2=Code+Color.....Y

Item Name repeat allowed-----N

Fast Searching Code [Y-Default 1 to 9-Character N-No].....Y

Item Search MRP wise [Numeric as MRP] eg.COF12.50-----N

All COF...Items with 12.50 MRP [Difference in MRP upto].....1

Ignore Comma, Dot, Space, &, -, \$ etc.on I-Item/P-Party/Y-Both Searc--N

**Inventory Setup Body Part-1**

5 Item List = All / C-Company / X-Category / S-Series Wise Billing....A

CHANGE ON DATE DAYS OLD VALUE TO NEW VALUE COMPUTER NAME

**Fig 1-15: Marg data entry page**

Marg is so much messy. Fronts are very small. Color combination is not so good. Only trained people can use this software.

1.9.3 Startex:

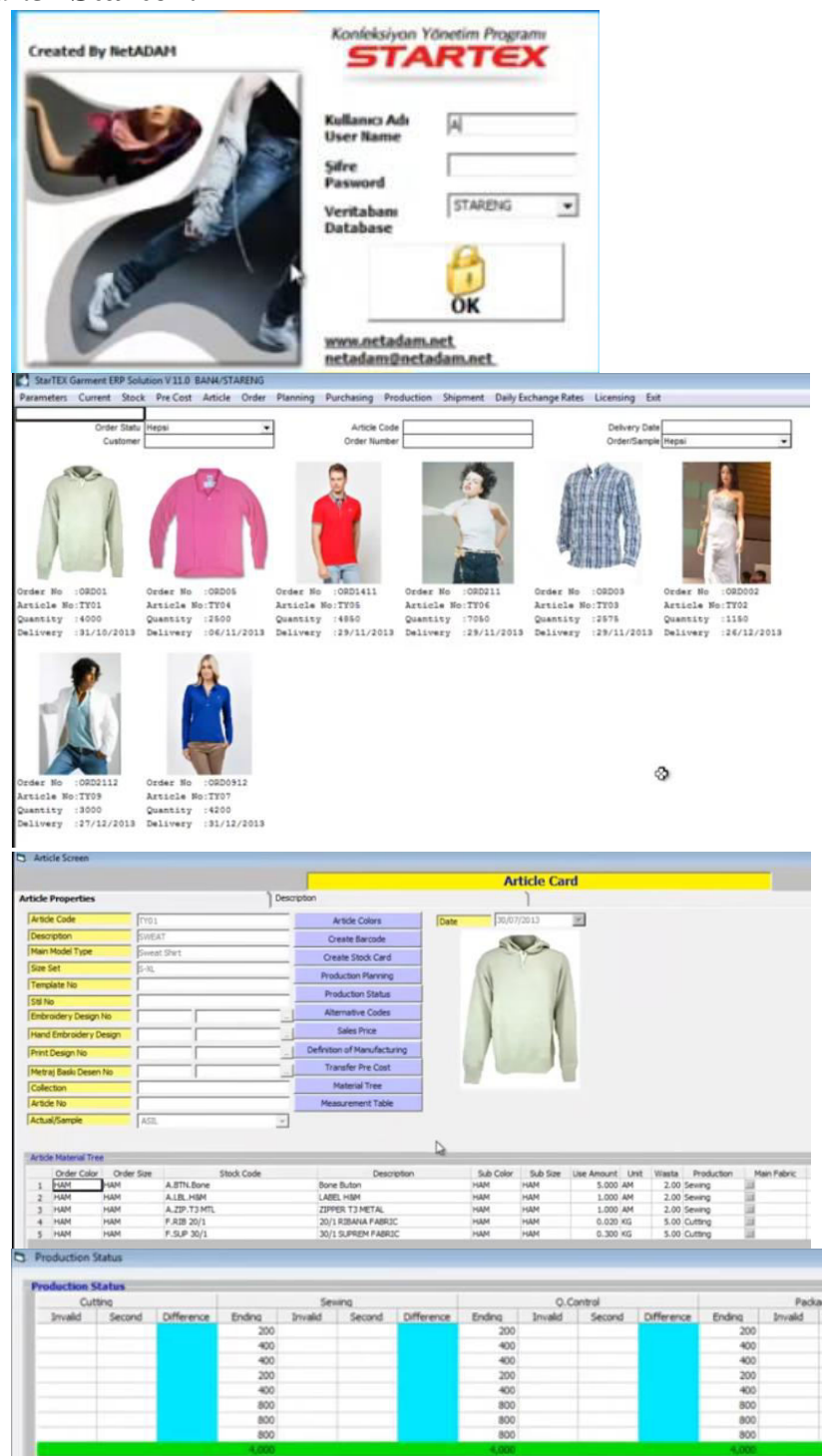
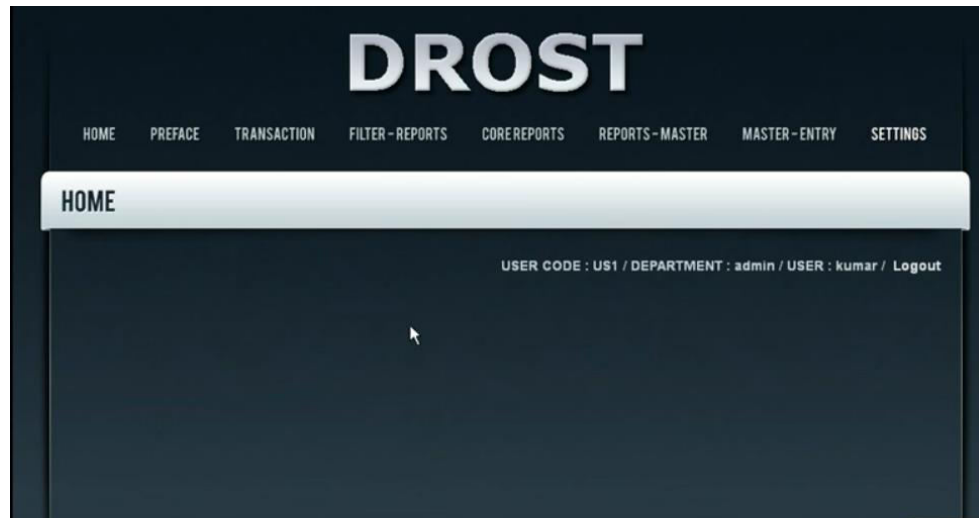


Fig 1-16: Startex management system

Like Marg, Startex is also product base software. But it have more features than Marg. Startex have option to store daily productions data. But like Faabee, the user of Startex is just an admin.

### 1.9.4 Drost:

The screenshot shows the 'COST SHEET' page of the Drost management system. The layout is similar to the Home page, with the 'DROST' logo and navigation bar at the top. A light blue banner below the navigation bar contains the text 'COST SHEET'. In the main content area, the text 'USER CODE : US1 / DEPARTMENT : admin / USER : kumar / Logout' is visible in the top right corner. Below this, there is a form with several input fields and buttons. The form fields are arranged in two columns. The left column contains: 'C.S.No : CS0001', 'Style Code : Test Style', 'Model No : TestModel', 'Description : Test description', and 'Season :'. The right column contains: 'C.S.Date : 15-04-2014', 'Style No: Test', 'Brand Name : TEST BRAND', and 'Buyer Name :'. At the bottom right of the form, there are two buttons: 'COPY ITEMS' and 'NEXT', and a circular 'UPDATE' button.

**Fig 1-17: Drost management system**

### Data Entry Page

Drost is another software for garments industry. Limitation of this software is that, there is no option for trace workers capabilities.

---

## Chapter 2: Software Requirement Specification

---

### 2.1 Project Summary:

#### 2.1.1 Field Study:

We have chosen to develop a software for “**Industrial Engineering Data Management System for Garments Industry**”.

We went to visit an industry named Sadia Fashion. Address Plot # 4, Road # 27/Ka, Rupnagar Rd, Dhaka, Bangladesh. They are Contract based small production industry.

Monthly Production Size: 30,000 unit

Product type: clothes and garments for man, women, children. products are specially Knit (T-shirt, polo shirts, Sweat Shirt, Tank Top, Vest, Trouser, Bermuda Shorts, Pajama Set, Thermal Set, Long John, Boxer, Briefs, underwear, nightwear, Sportswear, lingerie's, shorts, pajamas, baby clothes and such like knitted products).

Besides manufacturing and selling regular products to customers' applying different types of typographic and color Technics (Cool pigment, Asudel etc.).

Type of works: Cutting, Sewing, Finishing.

Workers distribution: Total 30 workers. 8 cutting line, 15 sewing line, 7 finish line

#### 2.1.2 Problematic field:

The production reduces roughly after lunch. It can only produce 25 % max after the lunch time [1]. As their order size small (5000-15000) and production line is max 2 to 3, they can handle their data manually by pen and paper, no computerized data collection. This causes a minor problem for report generating and further analysis after a month or year, on profit- loss. But if the industry is big, multiple line of work then it is near impossible to handle such massive amount of data. This why we need automated system that will work for any kind, any size of garments industry.

Users will able to store the data of daily production. Data can be stored for each shift, for each hour, for each worker according to the needs of different users. Users can edit data later. The data will be used to make weekly, monthly and yearly report. The users will be able to see the change in work progress each week, identify each worker skill, progress or reduction in production. They can monitor the change in the production due to implementing any change in existing work process.

Users of different role will handle different part of the software. Accessing to the software and database will be controlled according to their role.

### **2.1.3 Background to the Problem:**

Due to lack of data, they cannot analyze their production. They cannot evaluate each worker accurately. As they do not keep data of employee, they cannot point out the fault in the production line. They cannot monitor hourly production rate. They cannot accurately predict production for each employee and their maximum capability of production.

### **2.1.4 User Story:**

#### **1.0 Log in ( supervisor )**

“As a supervisor, I want to log in to the software, so that I can enter into the data entry section to enlist each workers hourly production data”

#### **1.1 Log in (Manager)**

“As a manager, I want to log in to the software, so that I can see the daily, weekly or monthly data of production and order data”

#### **1.2 Log in (Owner)**

“As an owner, I want to log in to the software to see the daily, weekly, monthly report of the industry, Investment and profit”

#### **2.0 entry Data ( supervisor )**

“As a supervisor, I want to enter the hourly data into the software for each employee about what product they working on, how much they produces, what is the hourly and daily target, so that I can monitor each worker evaluate them and submit report on them”

#### **3.0 Report ( manager )**

“As a manager, I want to get all the monthly daily weekly, monthly, yearly report with grading, so that I can evaluate the employees”

#### **3.1 Report ( Owner )**

“As an owner, I want to get report on monthly basis and yearly basis regarding how much order received, how much delivered on time, how many in time, how many late, what money is spend and how much profit each order carry, so that I can set up business goal and determine further policies”



## **2.2 Project Scope**

### **In Scope:**

- User Registration
- Log in
- Categorized homepage
- User Information Insert, update ,delete
- Product Information Insert, update ,delete
- Team Information Insert, update ,delete
- Workers Information Insert, update ,delete
- Team update history
- Workers update history
- Product update history

### **Out of Scope:**

- Report generating
- Automated Management System (Salary, HR etc.)

## **2.3 Overall Description**

### **2.3.1 Product Perspective**

This software is for Garments Industry. Users are Owners, Managers and Supervisors of the industry.

### **2.3.2 Project Feature**

- Maintain product database.
- Login system for different kinds of users.
- Registration for the new employee.
- Add new product, employee, and team.
- Particular control panel for particular user.
- Editing Data.
- Accessing data level according to the user.
- Report generation.

### **2.3.3 Operating Environment**

The software will run in windows 7 or higher Windows operating system.

### **2.3.4 Design & Implementation Constraints**

This software is developed with C# programming language and metro framework. We also use MS SQL database for storing data. There are particular login system for accessing.

### **2.3.5 Assumption and Dependencies**

There is a dependency of the software and it is,

- MS SQL server to store the database.
- .Net platform

## **2.4 System Features**

### **2.4.1 User Option**

There are multiple login system in the software. Every user has a particular homepage. To access the system the need to login through id and password.

### **2.4.2 Stimulus/Response Sequence**

User can login through the id and password or log out. For login, when user give id and password, the software will verify them. If it is allowed it will give access to the user.

### **2.4.3 Interface Requirement**

Graphical user interface will demonstrate the page that will appear to user. GUI contains lots of form that will be used by the user.

### **2.4.4 User Interface**

User interface will contains lots of features that used by users. They will appear step by step while accessing the system. There must be some rules that should follow the user.

### **2.4.5 Login Page**

Login page will appear when a user will registration to the system. After successfully done user can enter into the system by registered id and password. If someone don't have id and password, he can register by clicking "Create a new account".

## **2.4.6 Minimum Hardware Requirement**

Server Side:

- OS: Linux/Windows Server
- CPU: Minimum Intel Xenon or higher
- RAM: 8 GB or higher
- Hard Drive: 20 GB or more

Client Side:

- OS : Linux/Windows operating system
- CPU: Minimum Intel Pentium or higher
- RAM: 2 GB or higher
- Hard Drive: 1 GB or more

## **2.4.7 Software Interfaces**

- Database: MS SQL
- Programming language: C#
- Development tool: Microsoft Visual Studio 2015

## **2.4.8 Communication Interface**

- LAN connection.

---

## Chapter 3: Software Design Specification Plan

---

### 3.1 Documentation History & Distribution

**Table 3-A: Revision History**

Revision	Revision Date	Change	Author
1.0A	29-03-2017	N/A	i)Noman, Md Abdullah Al ii)Das, Sudipta iii)Mustafa,H.H. Faysal Ibne

**Table 3-B: Distribution**

Recipient Name	Recipient Organization	Distribution Method
Md, Shamsur Rahim	AIUB	Hard Copy

### 3.2 Introduction

In software design specification plan there will be some system diagram, some software UI screenshots, architecture plan, test plan and system overview.

### 3.3 System Overview

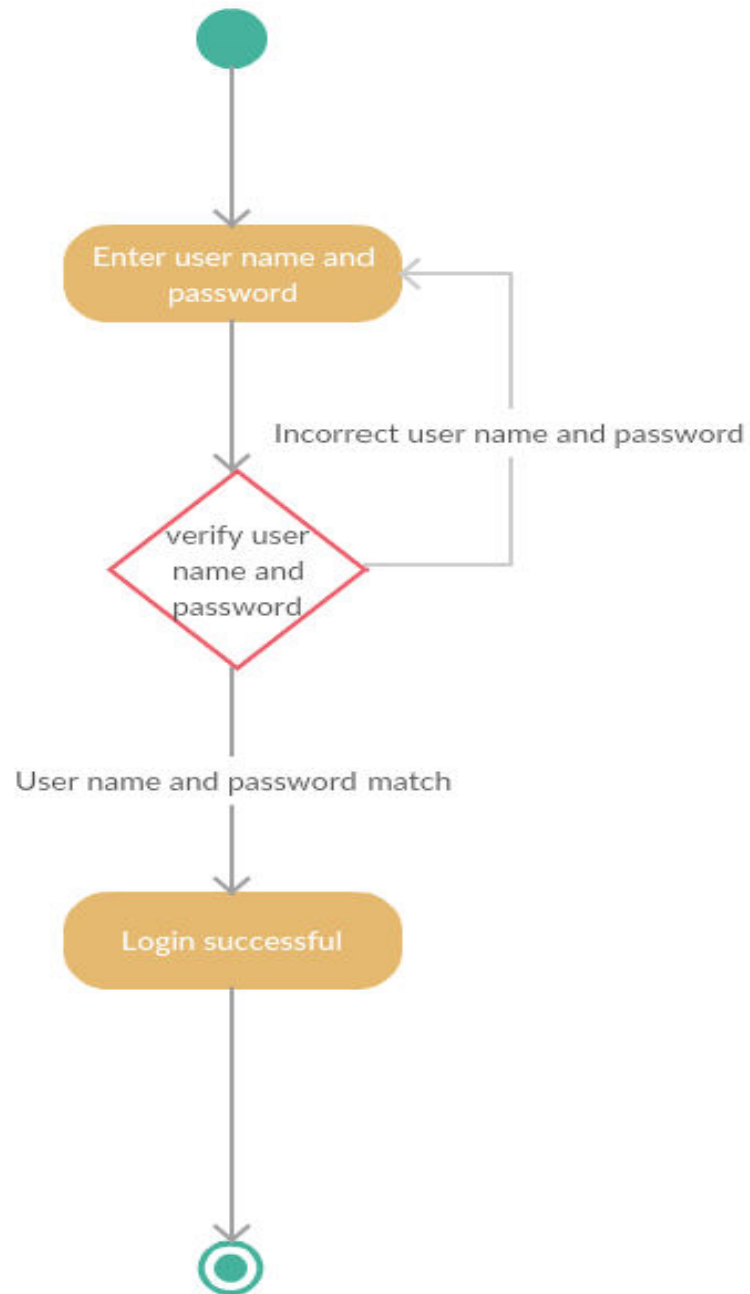
#### 3.3.1 Use Case



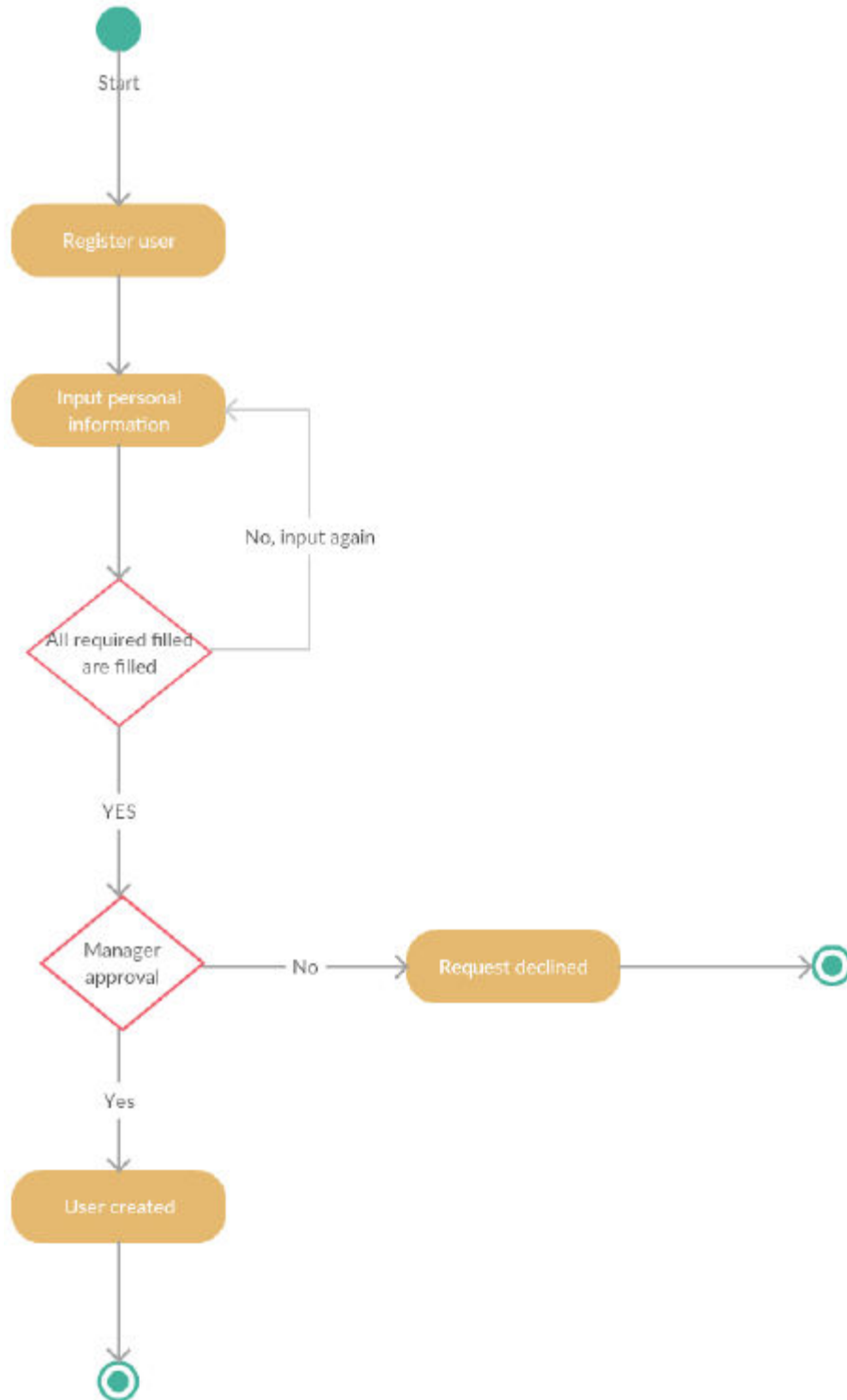
**Fig 3-1: Use Case Diagram**

## 3.4 System Architecture

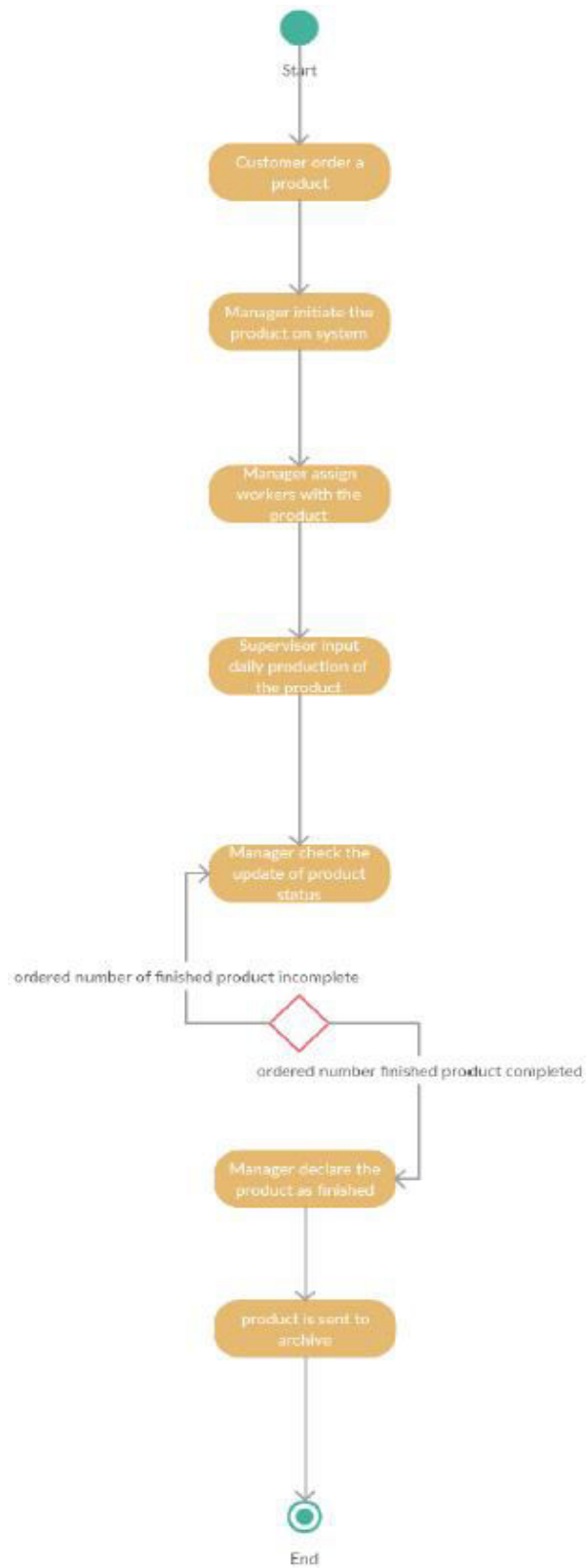
### 3.4.1 Activities



**Fig 3-2: Activity of Login**



**Fig 3-3: Activity of Sign up**



**Fig 3-4: Activity of production data entry**



### 3.4.2 ER Diagram

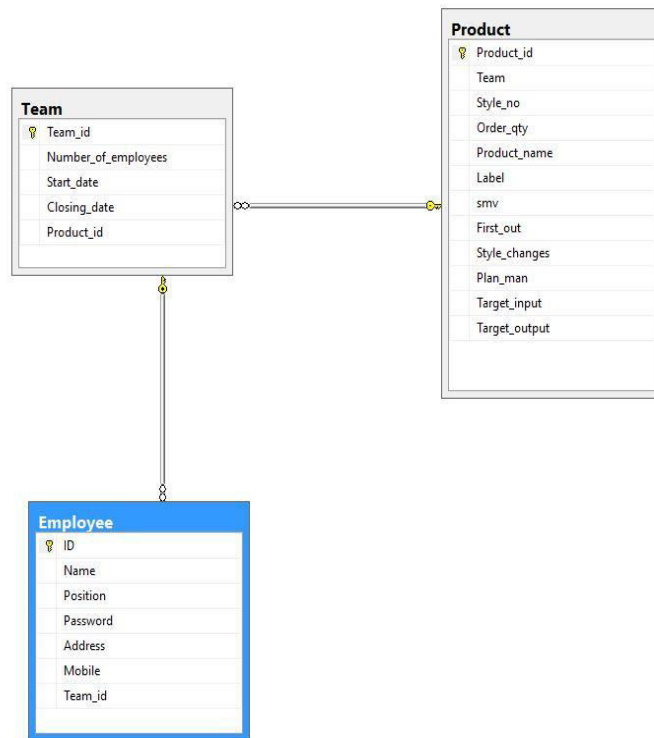


Fig 3-5: ER Diagram

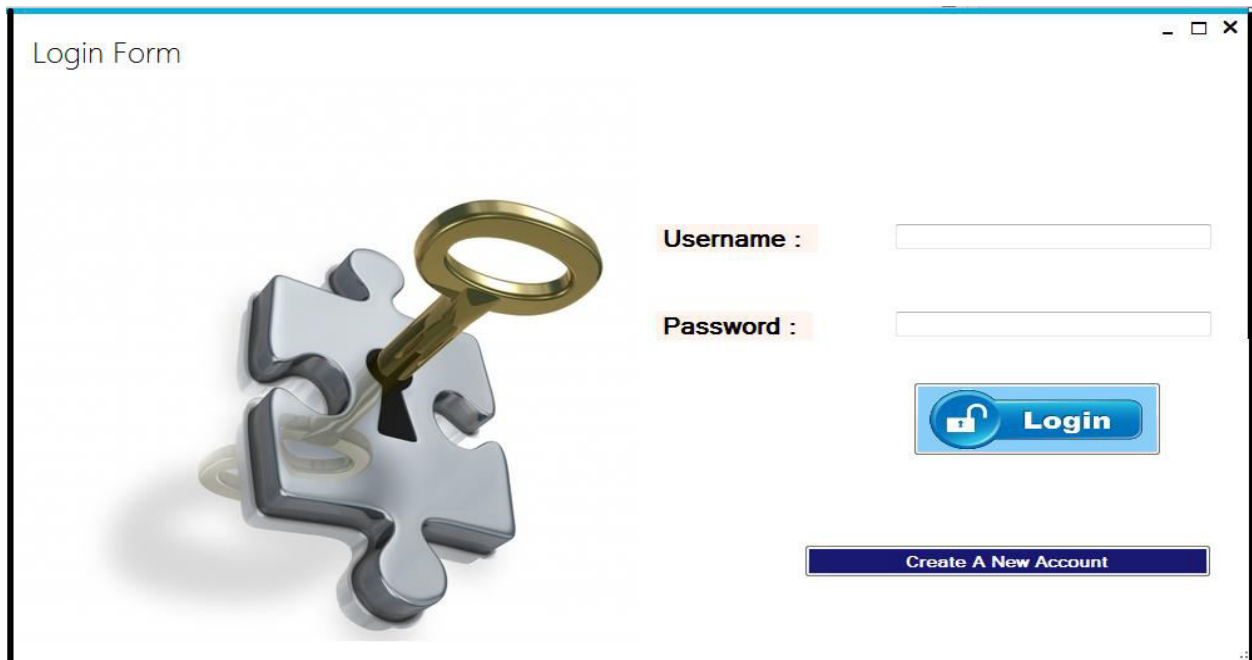
## 3.5 Human Interface Design

### 3.5.1 welcome Page



**Fig 3-6: Welcome Page**

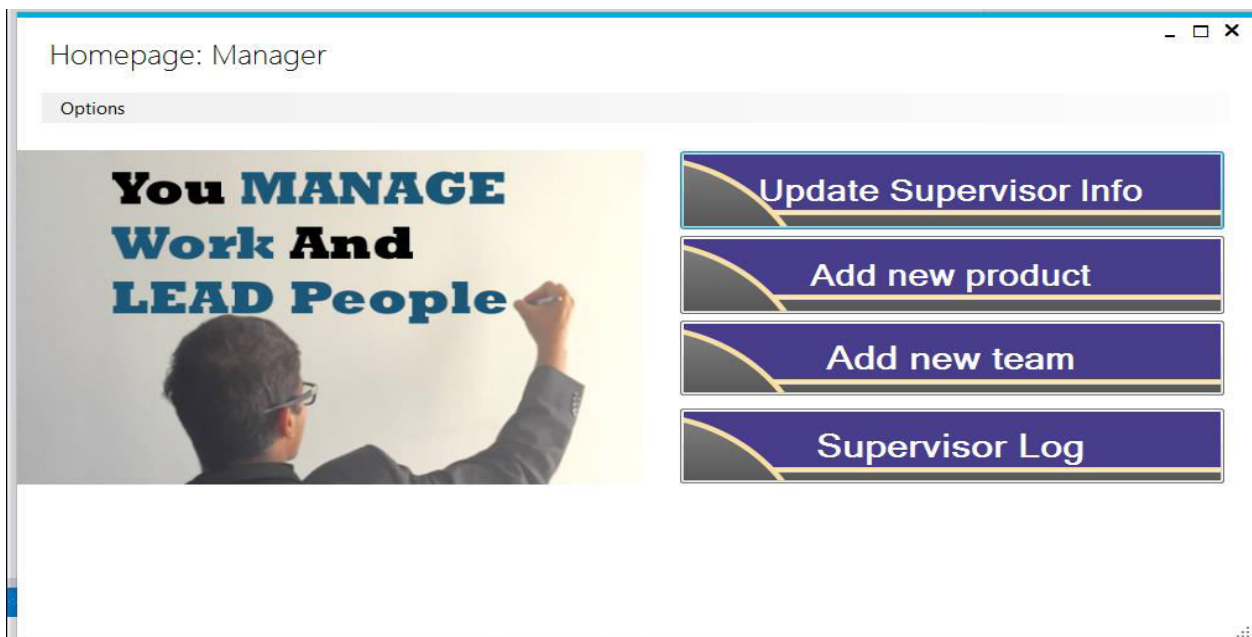
### 3.5.2 Log in Page



The screenshot shows a web browser window titled "Login Form". On the left, there is a graphic of a gold key inserted into a silver puzzle piece. To the right of this graphic are two input fields: "Username :" and "Password :". Below the password field is a blue "Login" button with a white padlock icon. At the bottom right, there is a dark blue button labeled "Create A New Account".

Fig 3-7: Log in Page

### 3.5.3 Manager Homepage



The screenshot shows a web browser window titled "Homepage: Manager". Below the title bar is a light gray bar labeled "Options". The main content area is divided into two sections. On the left, there is a large image of a man in a suit writing on a whiteboard. The text on the whiteboard reads: "You **MANAGE** Work And **LEAD** People". On the right, there are four stacked blue buttons with white text: "Update Supervisor Info", "Add new product", "Add new team", and "Supervisor Log".

Fig 3-8: Manager Homepage

### 3.5.4 Supervisor Info from manager accounts

Supervisor Information

Options

Name

sup

Username

sup

Position

Supervisor

Password

123

Address

Barisal

Mobile

12312312

Team ID

111

New

Save

Update

Delete

	Username	Name	Position	Password	Address	Mobile	Team_id
	faysup	faysal sup	Supervisor	123	dhaka	1234567	101
▶	sup	sup	Supervisor	123	Barisal	12312312	111
*							

**Fig 3-9: Supervisor Info from manager accounts**

### 3.5.5 Edit Team Info From manager accounts

Team Info

Options

Team ID

No Of Emp

Starting Date

Closing Date

Product ID

New

Save

Update

Delete

Team_Id	No_of_Employee	Starting_Date	Closing_Date	Product_Id
111	11	11-May-17	26-Jul-17	1
*				

**Fig 3-10: Edit team info from manager accounts**

### 3.5.6 Edit Product Information

Product Info

Options

Product ID

Team ID

Style No

Order Quantity

Product

Label

S.M.V.

First Out

Tuesday , May

Style Changes

Plan Man

Target Input

Target Output

New

Save

Update

Delete

	Product_Id	Team_Id	Style_No	Order_qty	Product	Label	smv	First_out	Style_change	Plan_man	Target_input	Target_output
▶	1	111	123	5000	Pant	CK	145	05-Jul-17	0	known	2000	2000
*												

Fig 3-11: Edit Product Information

### 3.5.7 Supervisor Log

Supervisor Log

Options

BACK

Workers

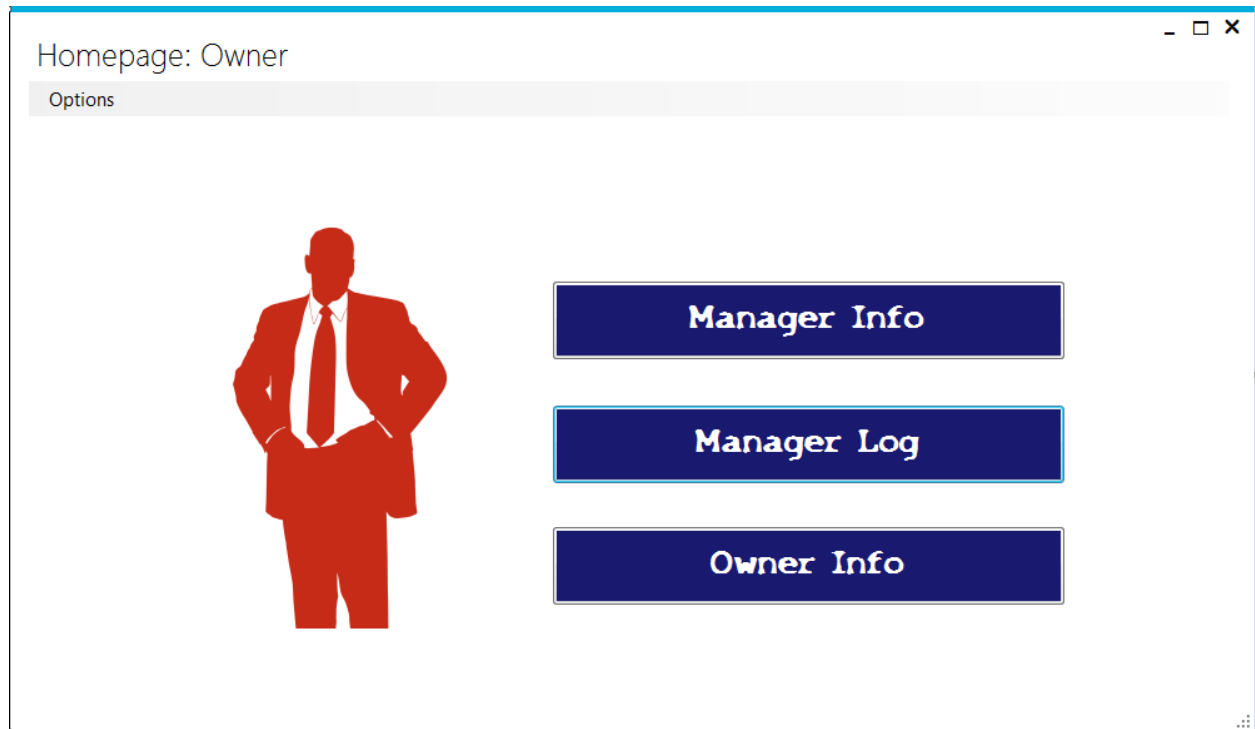
Products

Clear Log

	Product_id	Time	Team_id	Style_No	Order_qty	Product	Label	smv	First_out	Style_chai	Plan_man	Target_in	Target_out
▶	1	30-May-...	111	123	5000	Pant	CK	145	05-Jul-17	0	known	1500	2000
	1	30-May-...	111	123	5000	Pant	CK	145	05-Jul-17	0	known	1500	1200
	1	30-May-...	111	123	5000	Pant	CK	145	05-Jul-17	0	unknown	1500	1200
*													

**Fig 3-12: Supervisor Log**

### 3.5.8 Owner Homepage



**Fig 3-13: Owner Homepage**



### 3.5.9 Edit Manager Information

Manager Info

Options

Name

faysal manager

Username

fayman

Position

Manager

Password

123

Address

Dhaka, Bangladesh

Mobile

12134234

Team ID

101

New

Save

Update

Delete

	Username	Name	Position	Password	Address	Mobile	Team_id
▶	fayman	faysal manager	Manager	123	Dhaka, Bangl...	12134234	101
	man	man	Manager	123	Dhaka	1231231	111
*							

Fig 3-14: Edit Manager Information

### 3.5.10 Editing Owner Information

Owner Info

Options

Name

faysal own

Username

fayown

Position

Owner

Password

123

Address

Dhaka

Mobile

1123123123

Team ID

101

New

Save

Update

Delete

	Username	Name	Position	Password	Address	Mobile	Team_id
▶	fayown	faysal own	Owner	123	Dhaka	1123123123	101
	own	own	Owner	123	Dhaka	12312355	111
*							

Fig 3-15: Editing Owner Information

### 3.5.11 Manager Log (Product)

Manager Log

Options

BACK

Products Team

Clear Log

	Team_Id	Time	Action	Product_Id	Product	Quantity
▶	111	11-May-17 2:49 AM	Insert	1	Pant	5000
*						

Fig 3-16: Manager Log (Product)

### 3.5.12 Manager Log (Team)

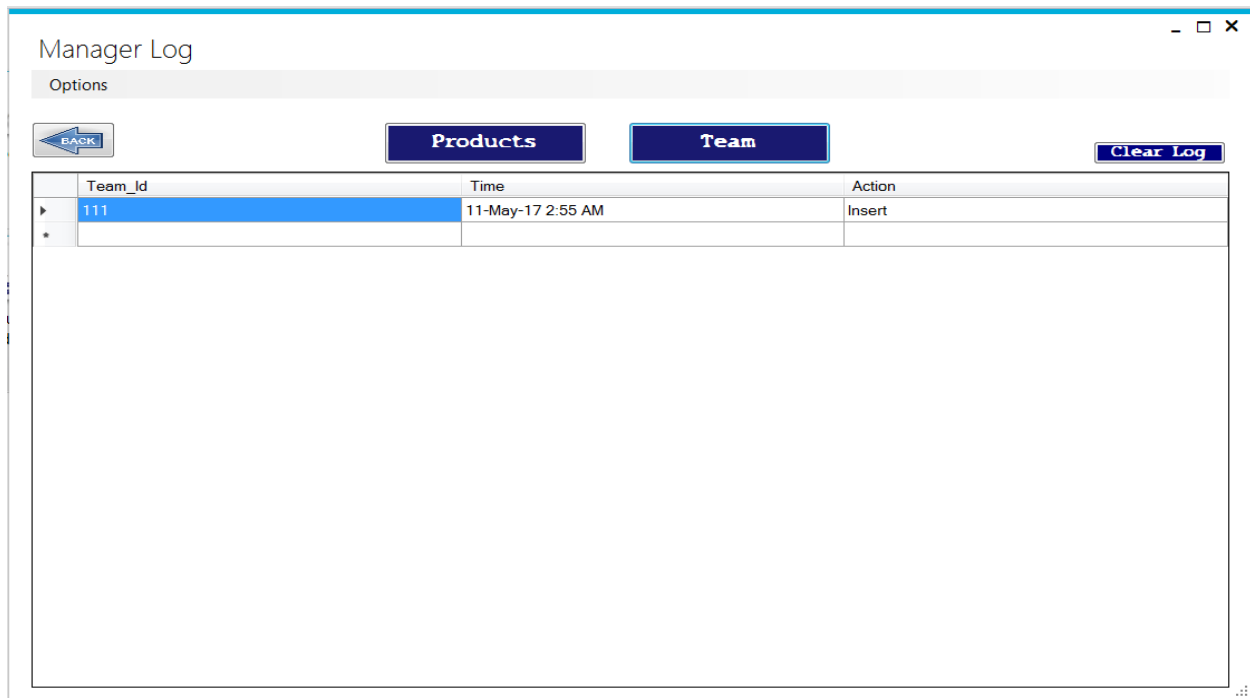


Fig 3-17: Manager Log (Team)

### 3.5.13 Supervisor Homepage

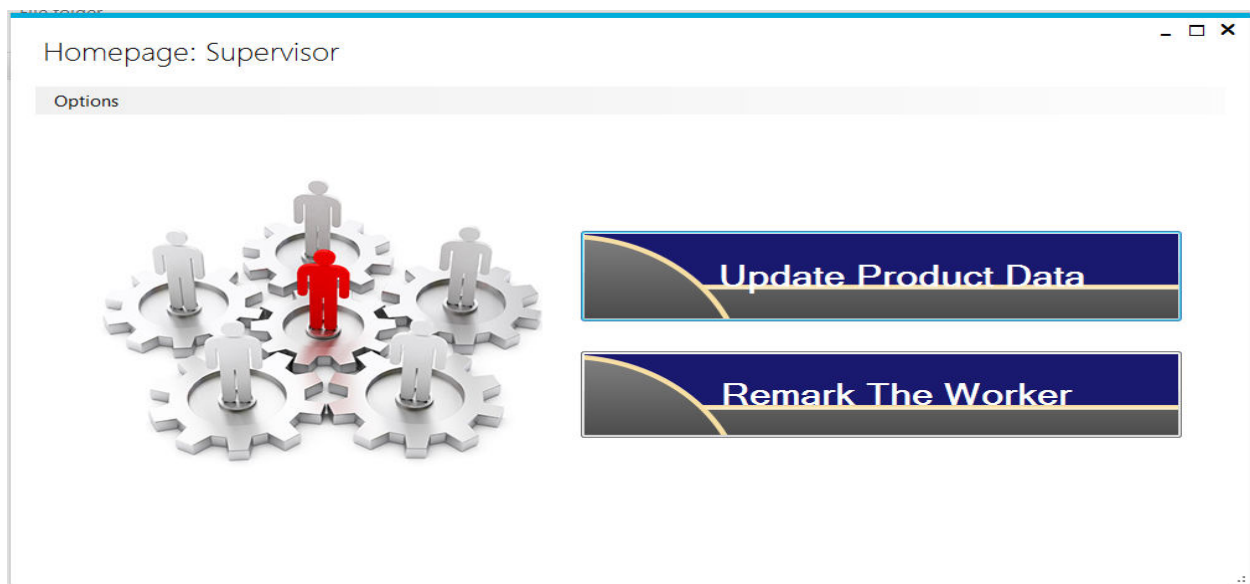


Fig 3-18: Supervisor Homepage

### 3.5.14 Edit Worker Information

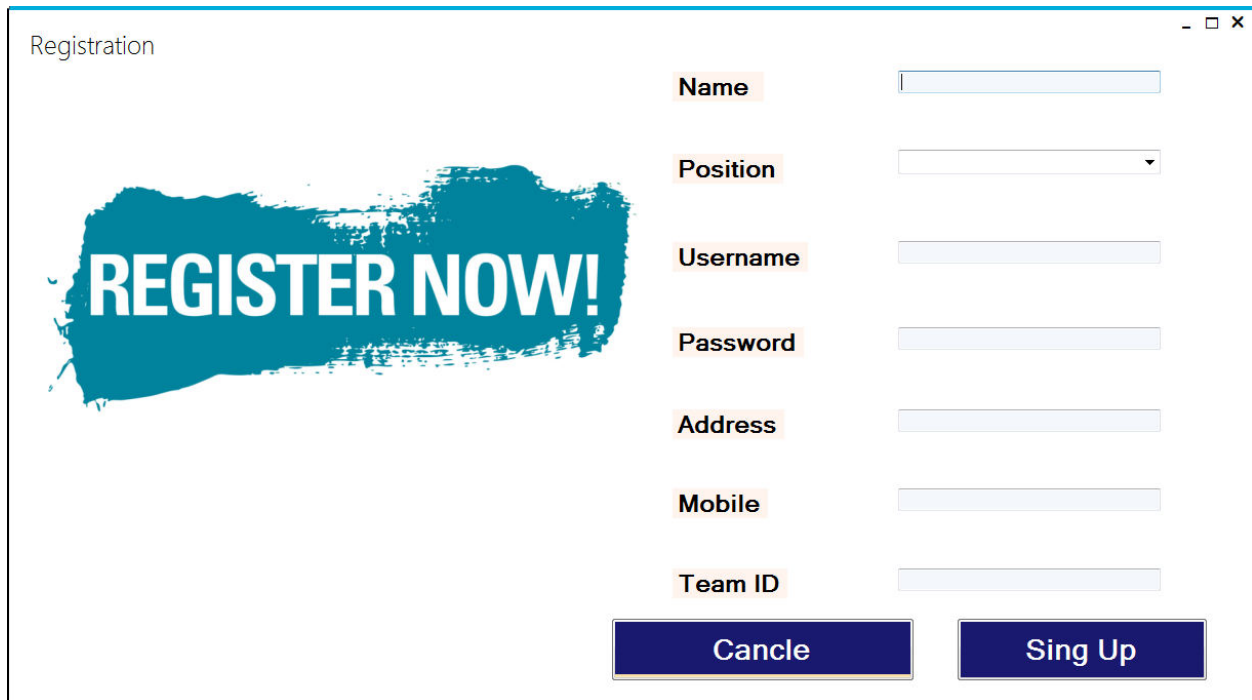
The screenshot shows a web application window titled "WorkerInfo". On the left is a form with five input fields: "Name", "Address", "Mobile", "Position", and "Performance". Below these fields are four buttons: "New", "Save", "Update", and "Delete". On the right is a table with the following data:

	Name	Address	Mobile	Position	Performance
▶	Worker 1	Dhaka	123435	Finisher	Good
	sf	Dhaka	534	Cutter	Good
*					

A "BACK" button is located at the top right of the table area.

Fig 3-19: Edit Worker Information

### 3.5.15 Registration



The image shows a registration form window titled "Registration". On the left side, there is a large, stylized blue brushstroke graphic with the text "REGISTER NOW!" in white, bold, uppercase letters. On the right side, there are several input fields with labels: "Name", "Position", "Username", "Password", "Address", "Mobile", and "Team ID". The "Position" field is a dropdown menu. At the bottom right, there are two buttons: "Cancle" (note the spelling) and "Sing Up" (note the spelling).

Fig 3-20: Registration Page

### 3.5.16 Successful Message



Fig 3-21: Successful Message

## Testing

### 3.6 Test plan

#### 3.6.1 Create account

	Test	Case	Coverage
1	Create Account	Check all the text boxes accept text and number	Check text boxes take valid input
2		Check the buttons	Check dropdown list in the boxes
3		All the boxes are filled with specific type	check all the data inputed in database
4		Check confirmation text of new account created	Cancel button take back to login page
			Create account button create new account
			mobile number is 11 digit , not more, not less
			drop down boxes only recive data from drop down
			check all the boxes are filled with data , else show error message
			Confirmation massage of new account created

Fig 3-22: Create account

#### 3.6.2 Login

5	Login test	Check the buttons and text boxes	Check all the bution action is performed
6		Check the functionalaty	Check test can be written in the text boxes
7		Check the error messages	Check password cant be seen when typed
			Check only correct passowrd accepted
			Error notified with a massage
			According to username and password appropriate homepage opens
			Error message are shown in massage box

Fig 3-23: Login

#### 3.6.3 Homepage test

8	Homepage test	Manager homepage	Clicking all the buttons move to next page
9		supervisor homepage	Navigation options
10		owner homepage	Clicking all the buttons move to next page
			Navigation options

Fig 3-24: Homepage test

### 3.6.4 User data

11	User data ( inside Supervisor info, Manager info and Owner info )	content	All the required data category present dropdown boxes have all catagories
12		table	All data inputed are saved in table table update rapidly with operations
13		operations	Save button save newly input dat
			update button edit previous data
			remove buton delete entire seleted row

**Fig 3-25: User data**

### 3.6.5 Production data

14	production data	Content	All the required data category present Unique ID generated for each product each order
15		Table	All data inputed are saved in table table update rapidly with operations
16		Operation	update button edit previous data
			Save button save newly input data
			No production data can be removed from table

**Fig 3-26: Production data**

### 3.6.6 Remark the worker

17	Remark the workers	Content	All the required data category present dropdown boxes have all catagories
18		Table	All data inputed are saved in table table update rapidly with operations
19		Operation	Save button save newly input dat
			update button edit previous data

**Fig 3-27: Remark the worker**



### 3.6.7 Manager log

20	Manager Log	Product	All new product added are listed in table with all data inputed
21		Team	Any new team created are listed with all information about the team
22		Clear Log	Clear log delete all the informationand reset log

**Fig 3-28: Manager log**

### 3.6.8 Supervisor log

23	Supervisor Log	Product	All new product added are listed in table with all data inputed
24		Worers	Any new worker profile created are listed with all information about the team
25		Clear Log	Clear log delete all the informationand reset log

**Fig 3-29: Supervisor log**

### 3.6.9 Team info

26	Team info	Content	All the required data category present dropdown boxes have dates
27		Table	All data inputed are saved in table table update rapidly with operations
28		Operation	Save button save newly input dat update button edit previous data Delete button delete entire row

**Fig 3-30: Team info**

### 3.6.10 Additional test

	Additional Test	Homepage	Buttons are working
29		Navigation (options in every page )	Clicking back (in option or icon) moves back to previous page
30			clicking logout takes back to login form
			Clicking exit close the application
31		Form icons ( for all pages )	Clicking minimize icon minimize the app
			clicking fullscreen icon make the app fullscreen
			Clicking cross icon exit the app

**Fig 3-31: Additional test**

### 3.7 Test Cases

Title	Description	Expected result	Actual Result	Pass/fail
Check the Strting of software	1. Double click the icon of the software from desktop 2. now observe the result	The system should open without any error	The system opened without any error	Pass
Check the minimize icon of any new page	1. After any change in page/form repete test case 2 2. Click the minimize icon 3. Observe the result	The system should minimize in system tray without any error	The system was minimized in system tray without any error	Pass
Check full screen icon of any new page	1. After any change in page/form repete test case 3 2. Click the fullscreen icon 3. Observe the result	The system should Exit without any error	The system exit without any error	Pass
check exit cross icon of any new page	1. After any change in page/form repete test case 4 2. Click the fullscreen icon 3. Observe the result	The system should go fullscreen without any error	The system went fullscreen without any error	Pass
Check the log in button in front screen	1. Repeat test case 1 2. Click the log in button 3. Observe the result	Login form with username and password box, login and create a new account button , log in form written and login picture should arrive	Login form with username and password box, login and create a new account button , log in form written and login picture arrived	Pass
check login process with valid username and valid password of supervisor	1. Repeat test case 5 2. Fill valid supervisor username and password 3. Observe the result	Log in should be successful and supervisor homepage should appeare	Log in was successful and supervisor homepage appeared	Pass
check login process with valid username and invalid password of supervisor	1. Repeat test case 5 2. Fill valid supervisor username and invalid password 3. Observe the result	Login should be unsuccessful and a massese box with "Username or password is wrong , please try again " test and ok button should arrive	Login was unsuccessful and a massese box with "Username or password is wrong , please try again " test and ok button arrived	Pass
check login process with valid username and valid password of Manager	1. Repeat test case 5 2. Fill valid manager username and valid password 3. Observe the result	Log in should be successful andmanager homepage should appeare	Log in was successful andmanager homepage appeared	Pass
check login process with valid username and invalid password of Manager	1. Repeat test case 5 2. Fill valid manager username and invalid password 3. Observe the result	Login should be unsuccessful and a massese box with "Username or password is wrong , please try again " test and ok button should arrive	Login was unsuccessful and a massese box with "Username or password is wrong , please try again " test and ok button arrived	Pass
check login process with valid username and valid password of Owner	1. Repeat test case 5 2. Fill valid owner username and valid password 3. Observe the result	Log in should be successful and owner homepage should appeare	Log in was successful and owner homepage appeared	Pass
check login process with valid username and invalid password of Owner	1. Repeat test case 5 2. Fill valid owner username and invalid password 3. Observe the result	Login should be unsuccessful and a massese box with "Username or password is wrong , please try again " test and ok button should arrive	Login was unsuccessful and a massese box with "Username or password is wrong , please try again " test and ok button arrived	Pass
check login process with invalid username and password	1. Repeat test case 5 2. Fill invalid username and password 3. Observe the result	The box should dissappear and login form should be back functional	The box dissappeared and login form was back functional	Pass

**Fig 3-32: Test cases**

---

## Chapter 4: Project Management

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### 4.1 Project Scheduling

Total Project Time: 18 Weeks

Start Date: 15 February, 2017

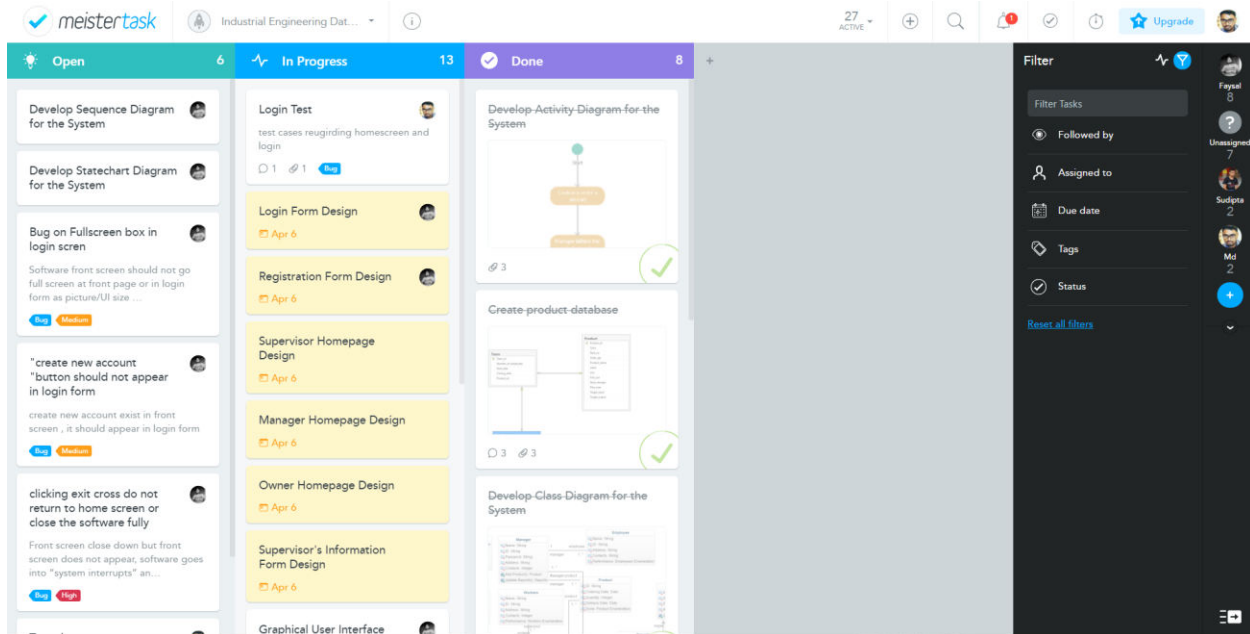
Release Date: 11 June, 2017

Task	Time (Week)
Field study	0-1
Study on SDLC	1-2
Study on previous works	1-2
Prepare user story	2-3
Identify user requirements	3-4
Develop Use case diagram	4-5
Develop Activity diagram	4-5
Develop Class diagram	4-5
Develop E-R diagram	4-6
Create Database	6-7
Create user interface	6-8
Software Development	6-16
Prepare Test plan	3-4
Prepare Test Suit	4-6
Software Testing and Debugging	7-17
Documentation	17-18

## 4.2 Project Management tool (Meistertask)

MeisterTask was used as our project management and issue tracking tool.

Some sample screenshots of related works are given



**Fig: 4.1 MeisterTask project Homepage**

Archive

Completed by Shamsur Rahim

on Feb 19, 2017, 7:51

...

X

Time to complete

9 days

3 persons contributed

Related Works Study

You have to study the related works and find out their pros and cons.

Also the findings should be properly documented.

The load the task can be distributed among ourselves. So it'll speed up the completion time.

+ Add Checklist Item

Attachments

+ Add Attachment

Activity

Add Comment

Say it

4 months ago

Shamsur moved the task to 'Done'

4 months ago

Shamsur completed the task

4 months ago

Shamsur said

1

Great Job!

4 months ago

Faysal stopped working on the task

4 months ago

Faysal attached a file

1

4 months ago

Faysal started working on the task

4 months ago

Faysal stopped working on the task

Total Time Tracked

02:55 h

Start Recording

Due on

Feb 16, 2017, 12:00

2 people are Watching

Tags

Relations

About this task

Industrial Engineering Data Mana...

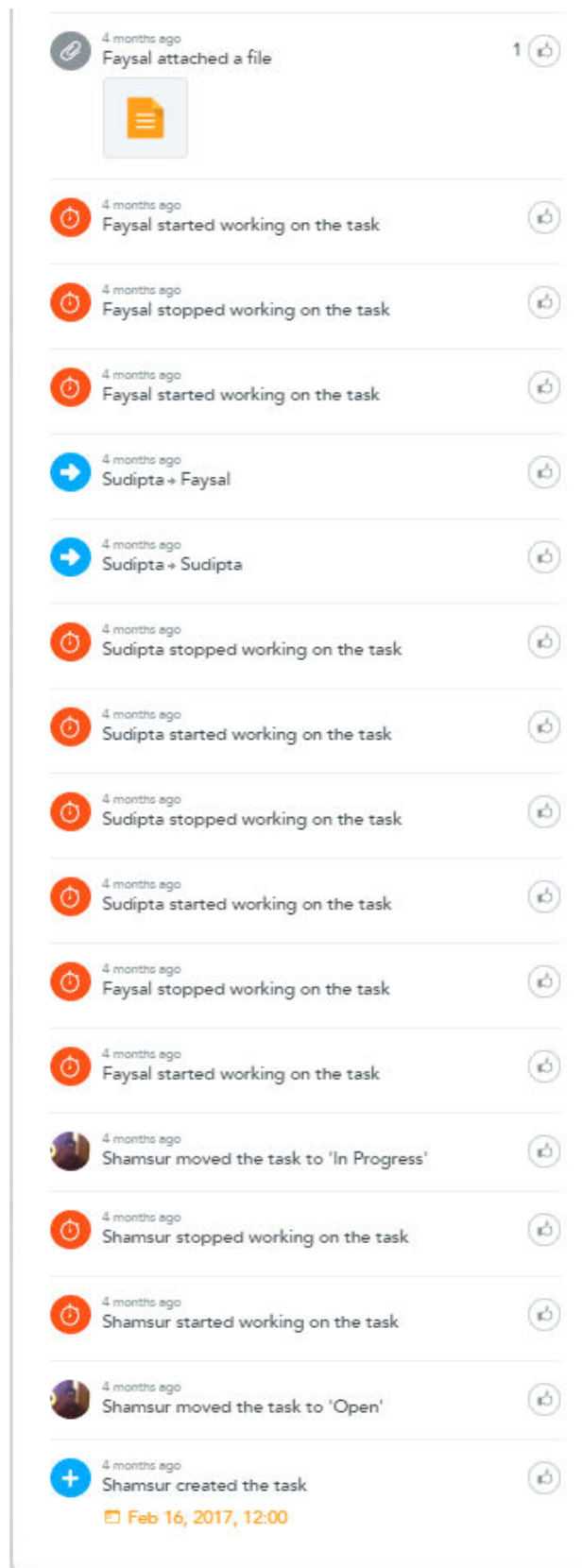
Done

★ Feb 9, 2017, 23:08

📌 Feb 19, 2017, 7:51

**Fig: 4.2 Sample task**

Page | 61

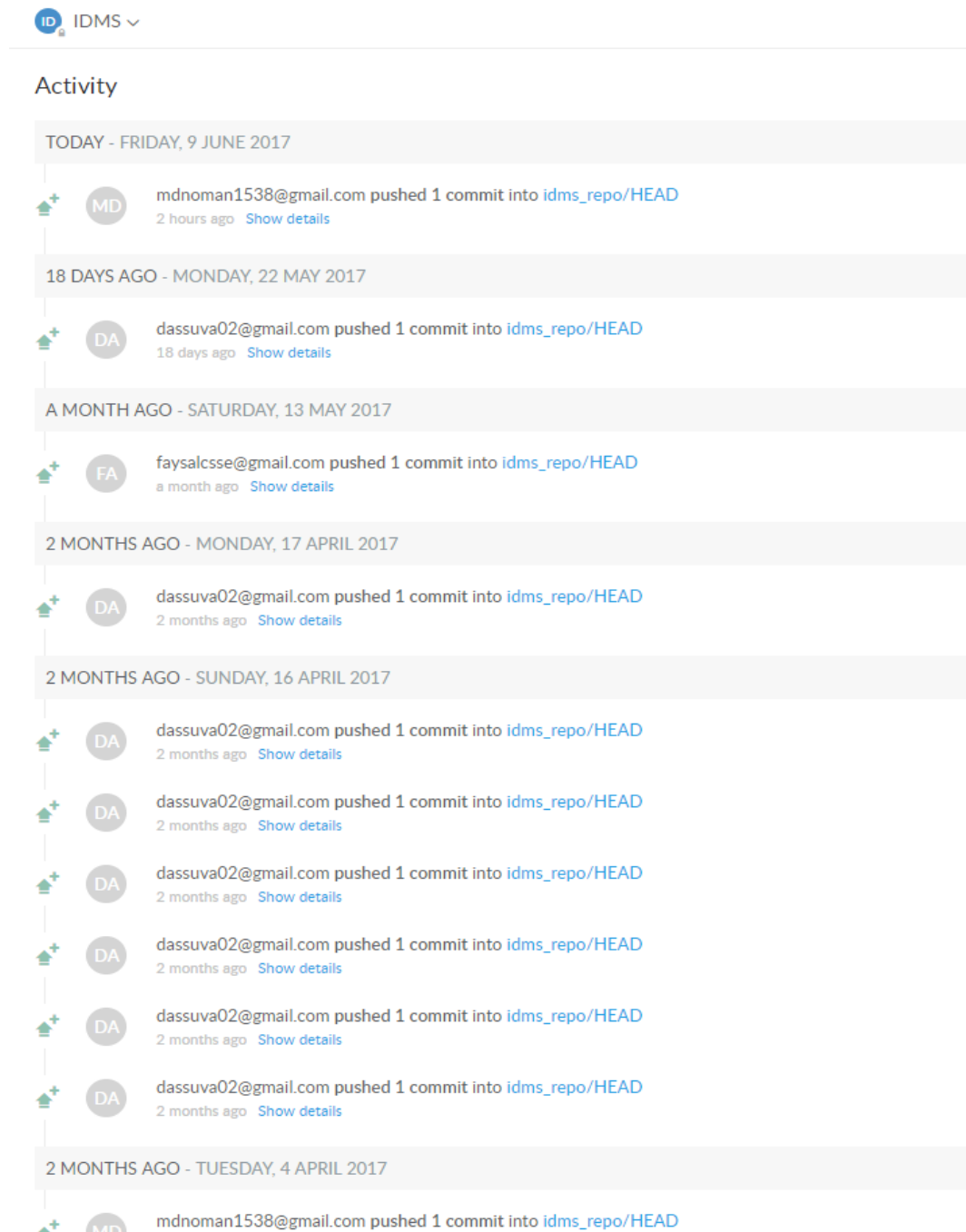


**Fig: 4.3 Activities related to task**

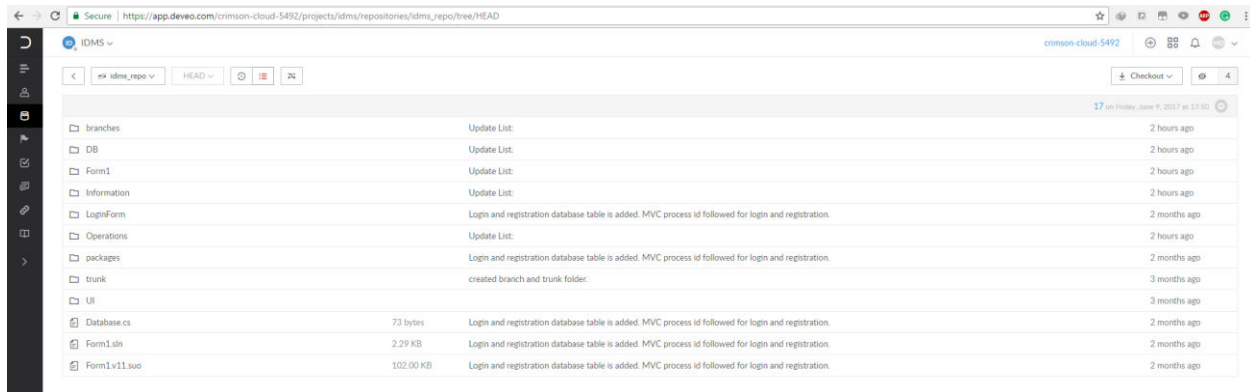
## 4.3 Repositories (deveo)

We used Deveo as our online repository. By using Tortoise SVN we can access the repository from everyone's computer.

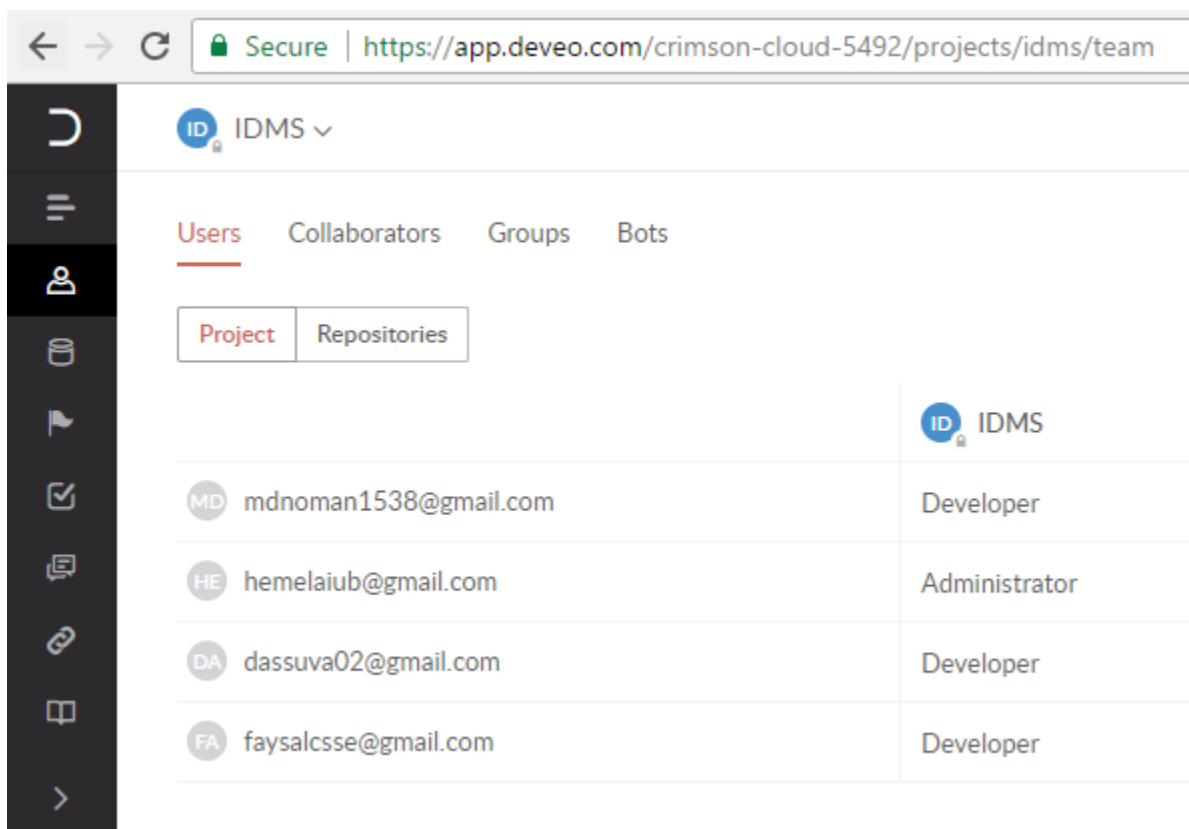
Some sample screenshots of related works are given:



**Fig: 4.4 Repository use history**



**Fig: 4.5 Repository folders**



**Fig: 4.6 Repository users**



## 4.4 Version controlling tool (tortoise SVN)

We used Tortoise SVN as our version controlling tool with the help of Deveo repository.

Some sample screenshots of related works are given:

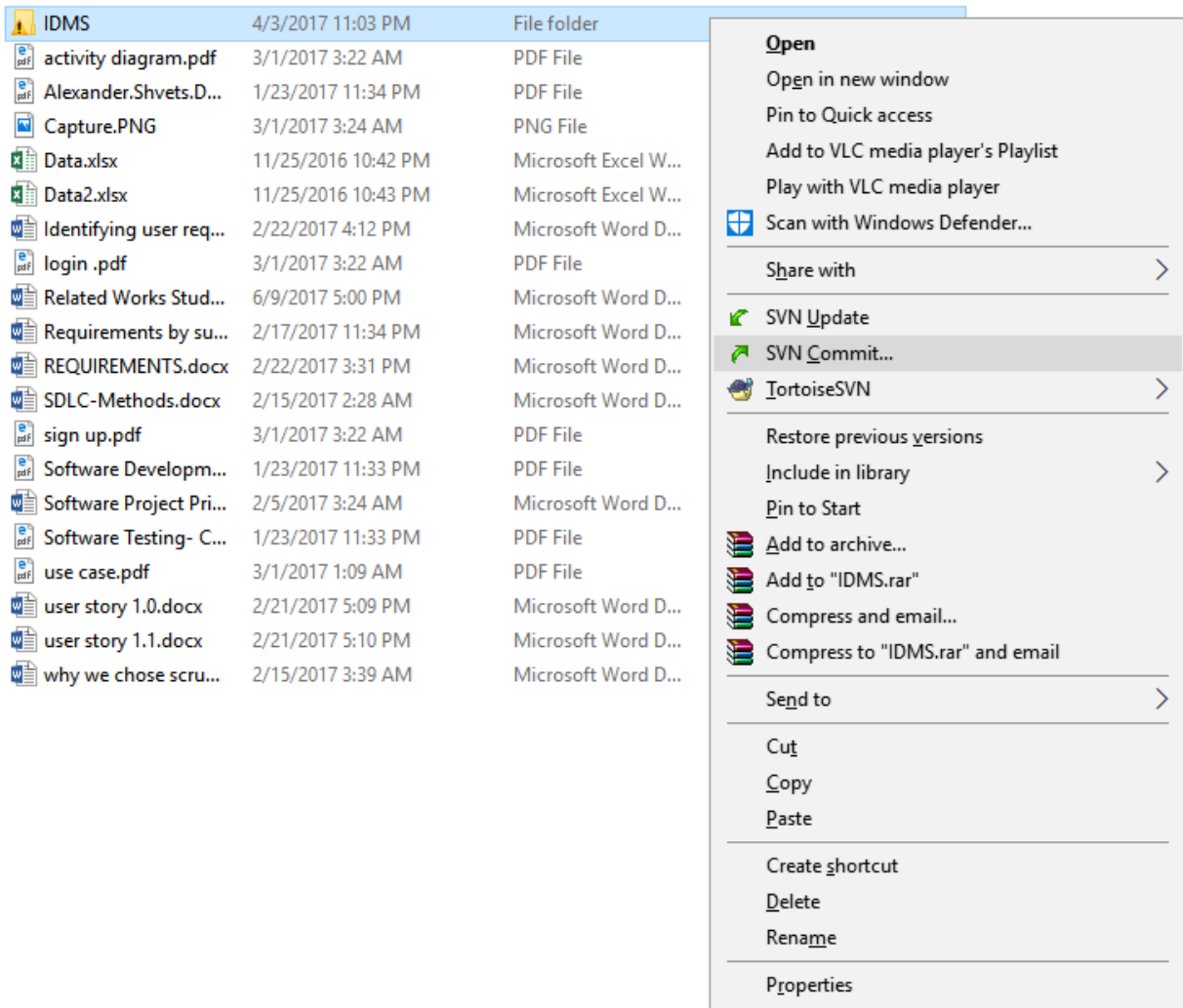
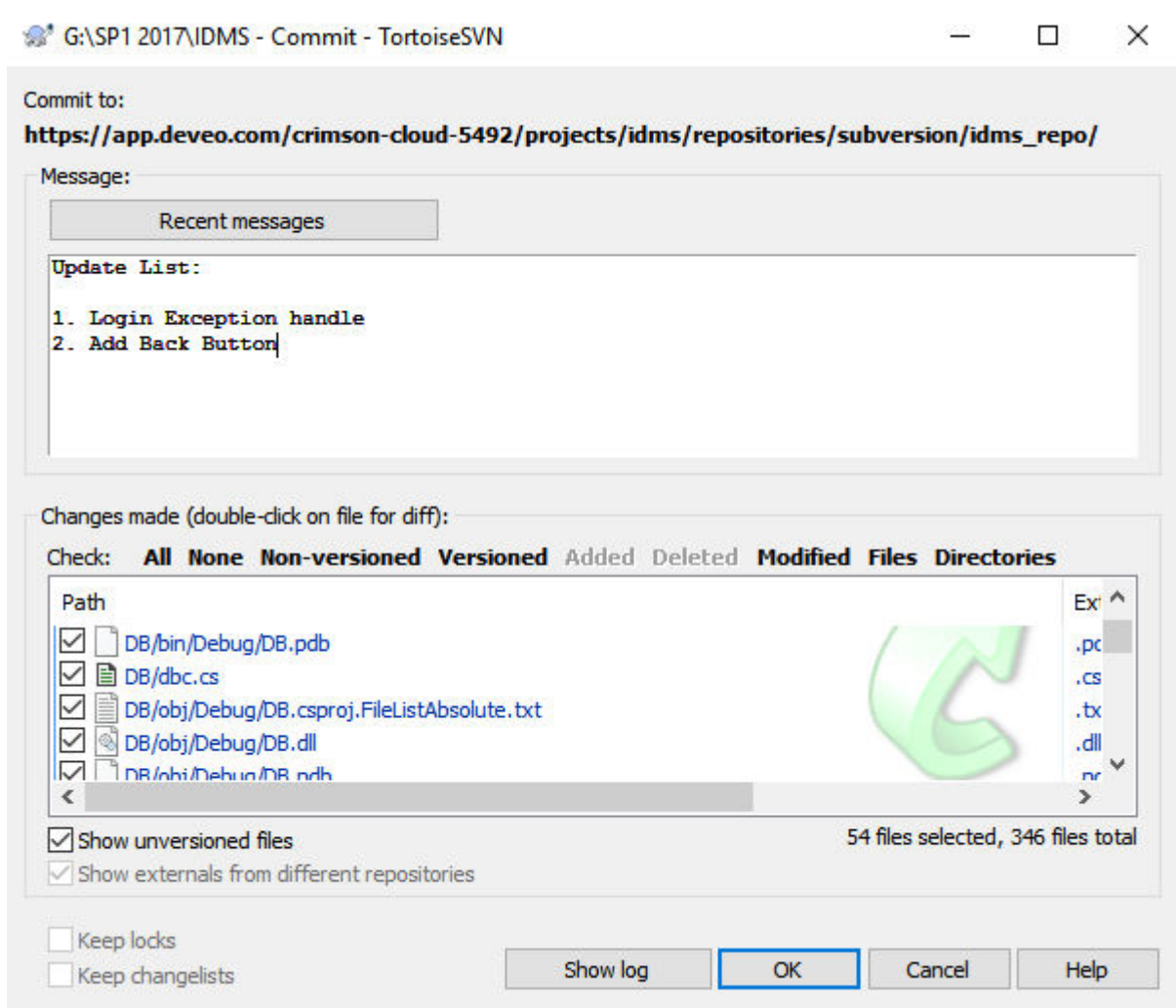
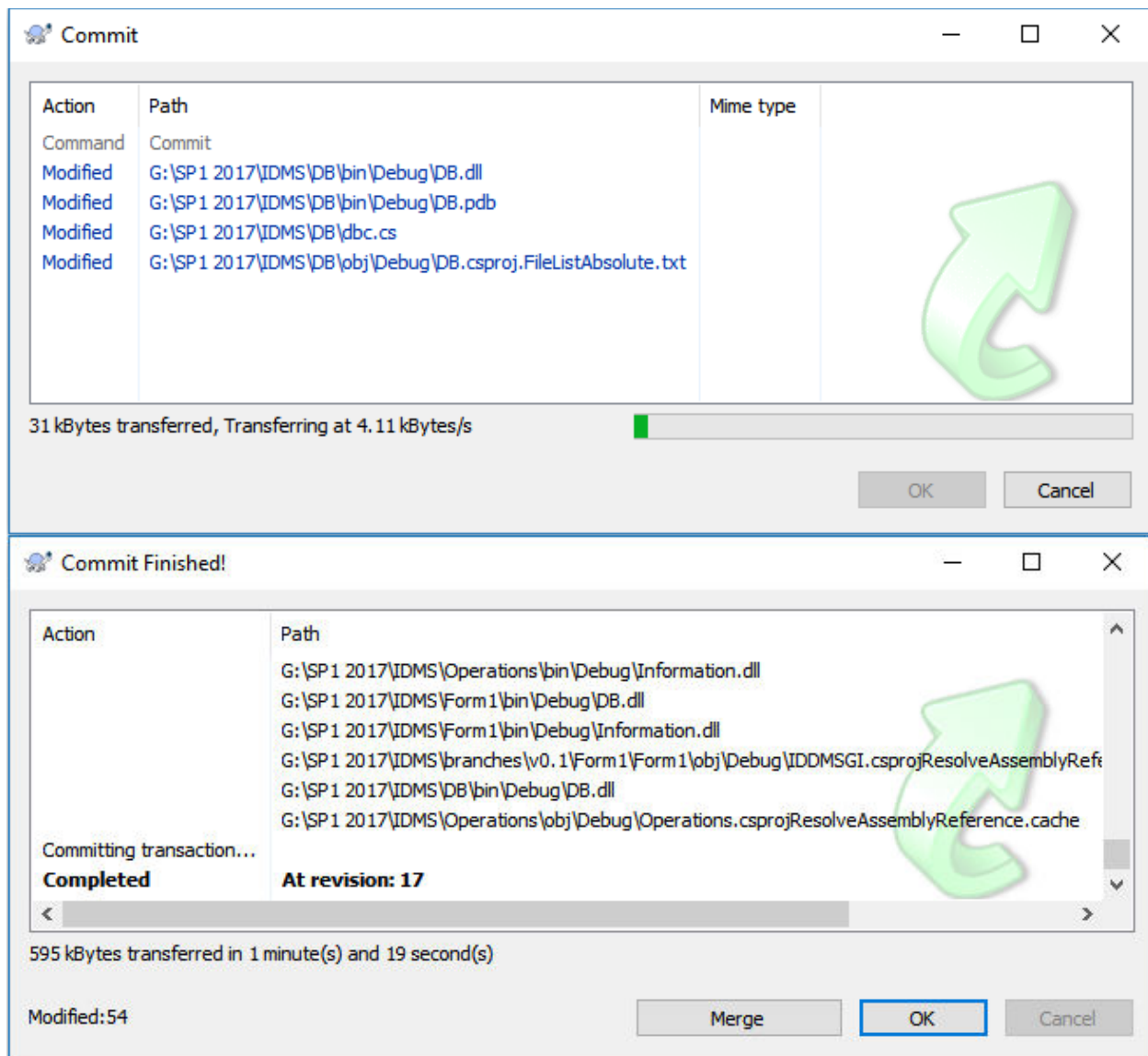


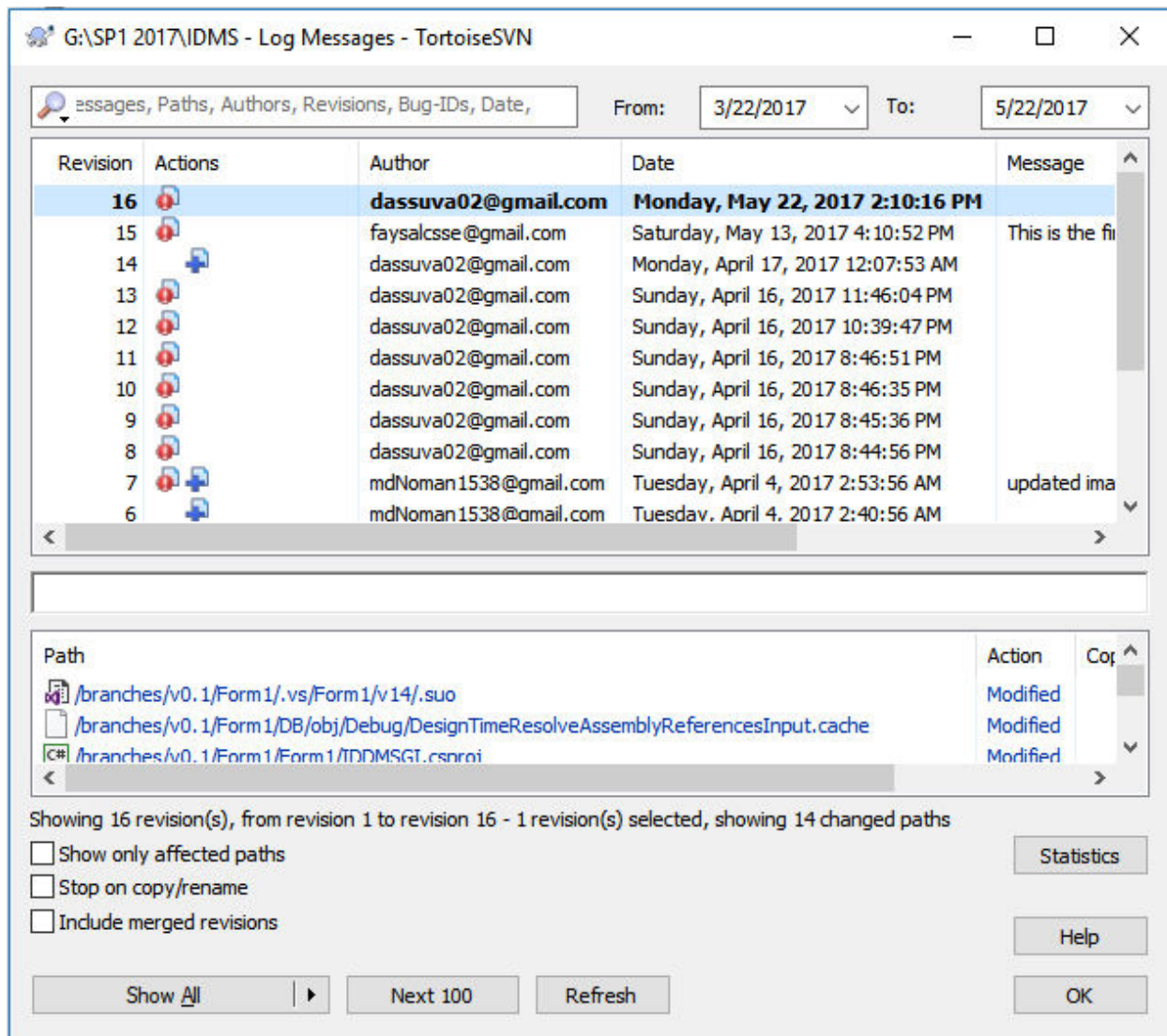
Fig: 4.7 Update or step 1 to commit



**Fig: 4.8 step 2 for commit (adding message about update)**



**Fig: 4.9 committing process**



**Fig: 4.10 Commit history and version switching**

---

## References

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1. Shamsur, M., Rahman, M., & Ehtesham, A. (2017). Mining Industrial Engineered Data of Apparel Industry: A Proposed Methodology. International Journal of Computer Applications, 161(7), 1-7. doi:10.5120/ijca2017913262
2. [http://en.wikipedia.org/wiki/Software\\_documentation](http://en.wikipedia.org/wiki/Software_documentation)
3. <http://www.meistertask.com/app/dashboard>
4. <http://tortoisesvn.net/downloads.html>
5. <http://app.deveo.com/login>