Software Design Specification

for

Foreign Worker Agency System

Version 2

Group No.: *2*

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Contents

Revisions

Version	Primary Author(s)	Description of Version	Date Completed
Draft Type and Number	Full Name	Information about the revision. This table does not need to be filled in whenever a document is touched, only when the version is being upgraded.	00/00/00

1 System Overview

1.1 Description

The system will allow worker to login by entering ID and password. After login success, worker can select some function in home page. Select view personal detail function, system will display their personal detail. In the view personal detail function, worker also can select edit function to update their personal detail. Select view working permit status function in the home page, system will display their working permit status detail.

The system will allow company to login by entering ID and password. After login success, company can add worker. Select view worker detail function, system will display the worker detail. In the worker detail screen, company can update and delete worker. Company also can apply permit for worker. Company also can go through check permit status function to view worker premit status, and also can renew the premit.

The system will allow agency staff to login by entering ID and password. After login success, staff can add company. System will display the company detail to let staff to view and update. System perform some function to let staff to help company to add their worker, view worker detail, check worker premit ,and renew the premit.

The system will allow agency manager to login by entering ID and password. After login success, manager can approve the premit for the worker. Manager also can view company and worker detail.

1.2 Actors

Actor	Use Case
Worker	View Personal Detail
	Edit Personal Detail
	View Working Permit Status
Company	Apply Permit
	Insert Worker Detail
	Update Worker Detail
	Delete Worker Detail
	View Worker Detail
	Check Permit Status
	Renew Permit
Agency Staff	Add Company
	Add Worker
	Update Company Detail
	Update Worker Detail
	View Company Detail
	View Worker Detail
	Check Permit Status
	Renew Permit

Agency Manager	Approve Permit
	View Company Detail
	View Worker Detail

1.3 Assumptions and Dependencies

1.4 Use Case Diagram
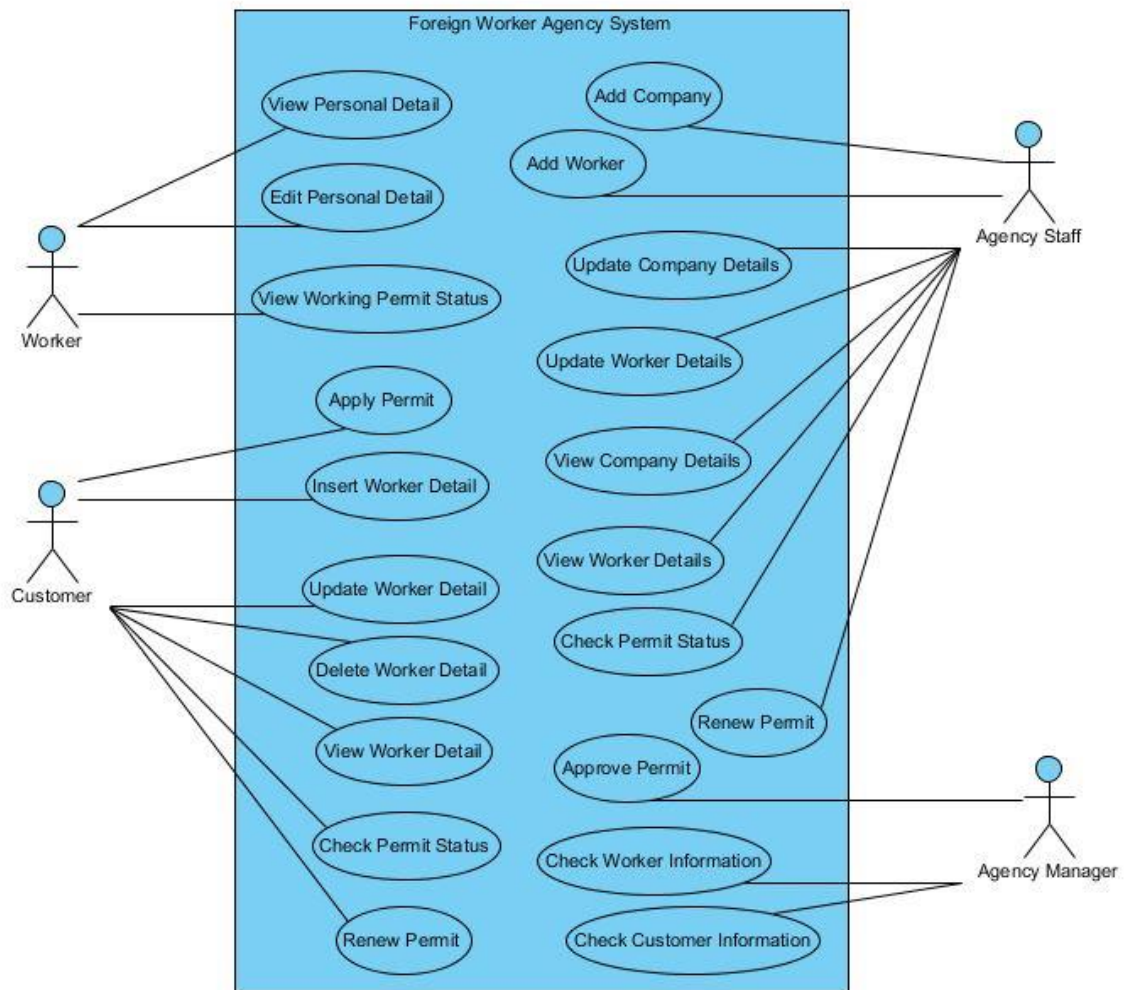
2 Data Design

2.1 Data Dictionary

Login Table

Field Name	Data Type	Length	Null	Description
User_id	Short Text	255	Not Null	Primary key, username for login purpose
User_password	Short Text	255	-	Login password
User_role	Short Text	255	-	Admin / Manager / Staff / Company / Worker
User_status	Number		-	1 for active, 0 for not active

Worker Table

Field Name	Data Type	Length	Null	Description
ID	Autonumber		Not Null	To keep the record on how many worker have been registered
WorkerID	Long Text	>255	-	Worker company's ID
WorkerName	Long Text	>255	-	Full name
DoB	Long Text	>255	-	Format (dd MMMM yyyy)
Address	Long Text	>255	-	Full Address
Phone	Long Text	>255	-	Format (number only)
Email	Long Text	>255	-	Personal email
CompanyName	Long Text	>255	-	Working Company
PassportNum	Long Text	>255	-	Passport Number
PassportExp	Long Text	>255	-	Format (dd MMMM yyyy)
VisaExp	Long Text	>255	-	Format (dd MMMM yyyy)
VisaStatus	Long Text	>255	-	Active / rejected / terminated / pending / No Visa
User_id	Short Text	255	-	Same as WorkerID, used for login username

Company Table

Field Name	Data Type	Length	Null	Description
ID	Autonumber		Not Null	To keep the record on how many company have been registered
CompanyID	Long Text	>255	-	Company's ID (example: 001)
CompanyName	Long Text	>255	-	Company Name
Address	Long Text	>255	-	Full Address
Phone	Long Text	>255	-	Format (number only)
Email	Long Text	>255	-	Active email

2.2 Data Structures

2.2.1 Worker Array

An array of worker elements will be used to store the list of workers to be processed. Each worker element will be as follows:
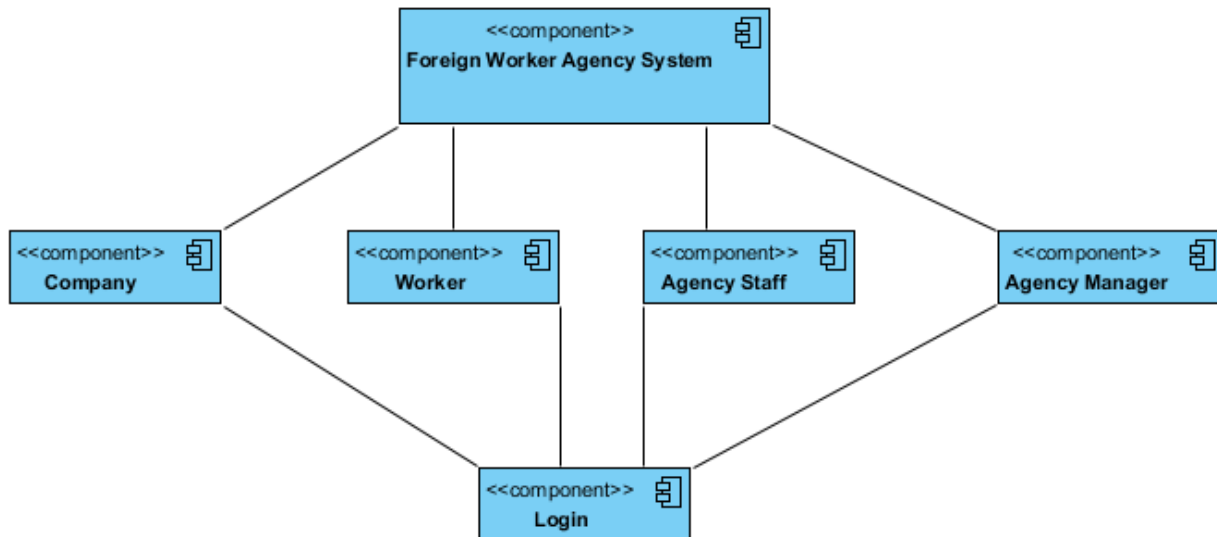
Worker

ID	Number
Worker_ID	Text
Fname	Text
Lname	Text
DOB	Date/Time
Gender	Text
Nationality	Text
Address	Text
Tel	Text
Email	Text
Status	Text
Company_ID	Text
Passport_No	Text

3 Architecture Design

3.1 Software Architecture

The software architecture of a computing system is the set of the structures needed to reason about the system, which comprise software elements, relations among them and properties of both.

3.2 Subsystem 1
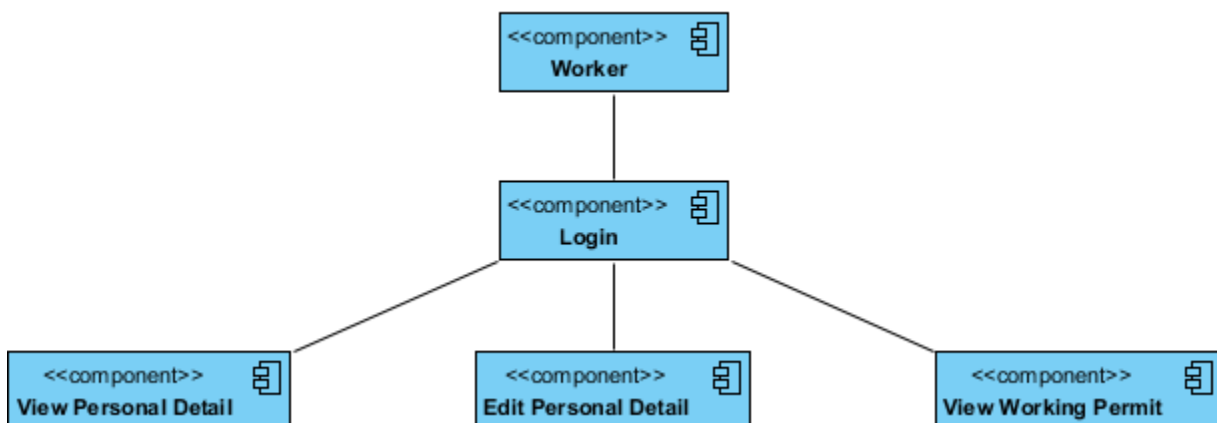
3.3 Subsystem 2
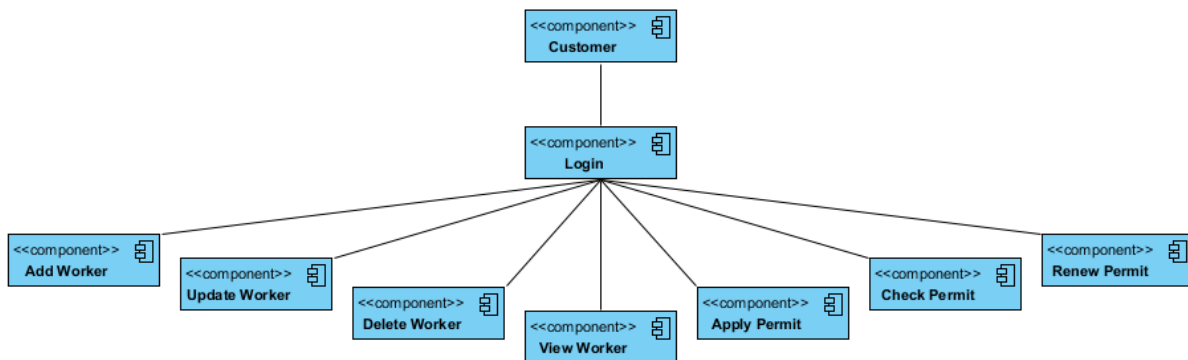
3.8 Subsystem 3
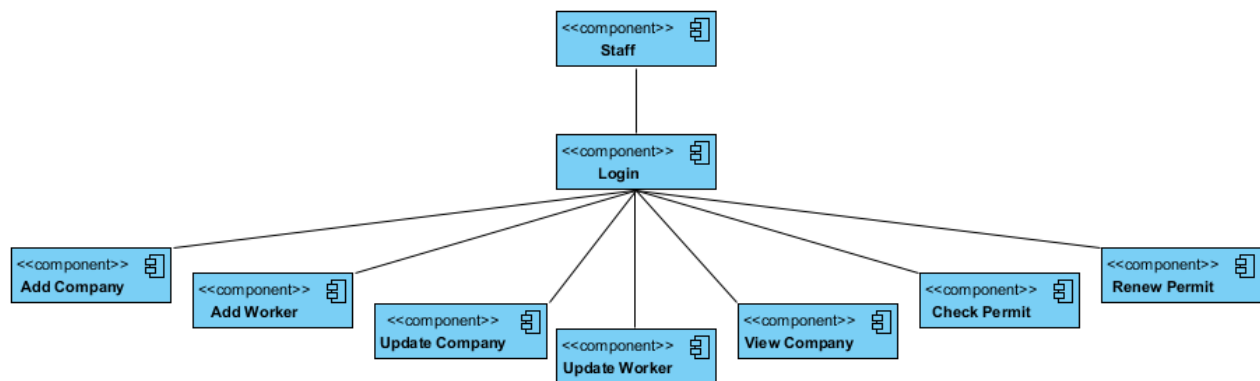
3.13 Subsystem 4
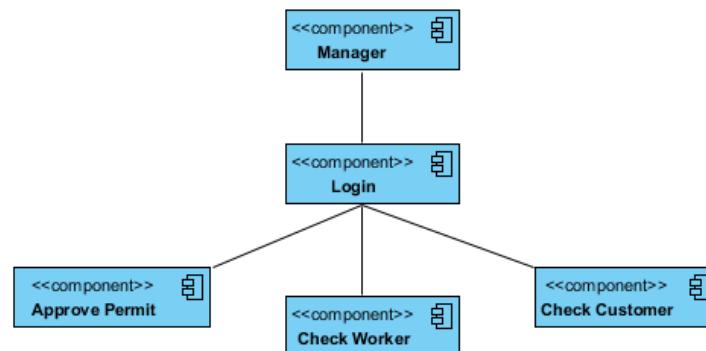
4 Interface Design
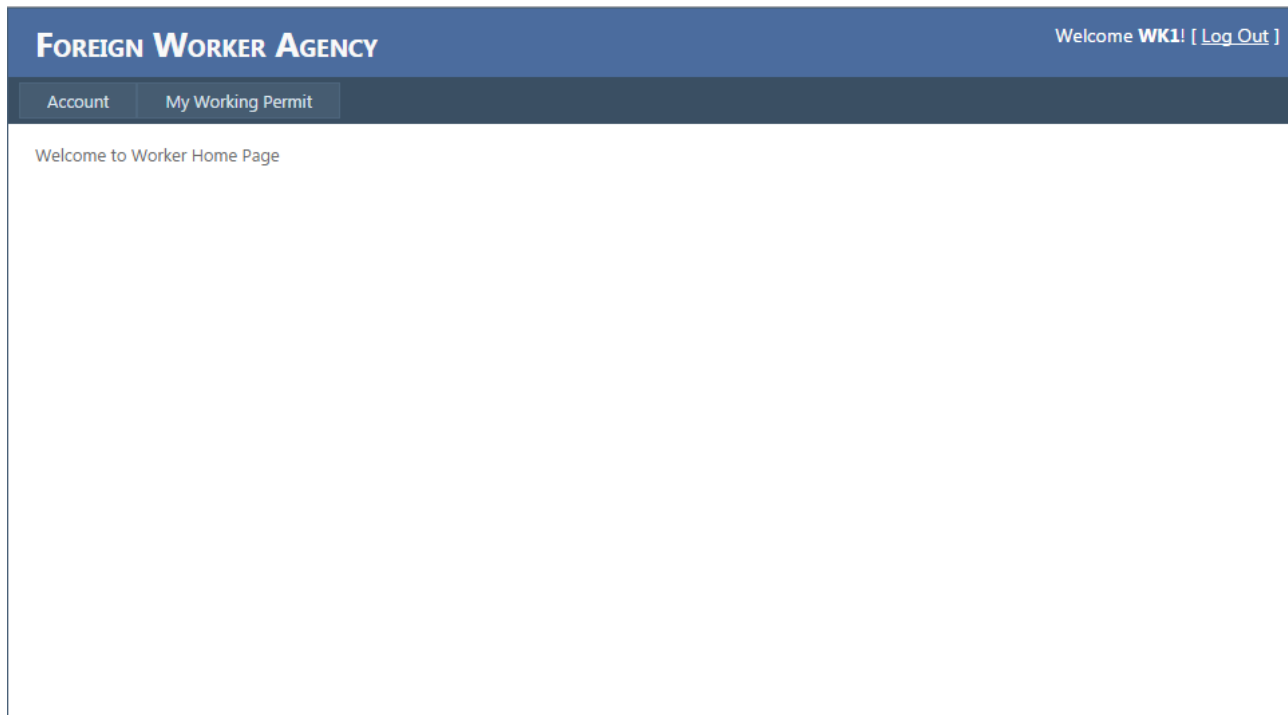
4.1 Main Screens

<TO DO: Describe the main screens of the system and place the screen designs here.>

4.2 Login (Worker , Company , Staff , Manager)

After log in success, go to the Current user role home page.

4.3 Home Page (Worker)

Worker home page have 2 menu item which is Account and My Working Permit.

4.4 View Personal Detail (Worker)

FOREIGN WORKER AGENCY	Welcome **WK1**! [Log Out]

Account	My Working Permit

Worker ID	WK1
Password	WK1
First Name	TAN
Last Name	YI YANG
DOB	1980-05-05
Gender	M
Nationality	SINGAPORE
Address	111,JALAN O, TAMAN O,KUALA LUMPUR, MALAYSIA.
Tel	+60010-8211211
Email	TYY@GMAIL.COM
	Edit Profile

In the menu bar "Account" have a menu item, which is "my profile" . Worker click the "my profile" menu item will display their personal information. Worker can click "Edit Profile" button , Website will display a edit personal form.

4.5 Edit Personal Detail (Worker)

Account	My Working Permit

Worker ID	WK1
Password	WK1
First Name	TAN
Last Name	YI YANG
DOB	1980-05-05
Gender	M
Nationality	SINGAPORE
Address	111,JALAN O, TAMAN O,KUALA LUMPUR, MALAYSIA.
Tel	+60010-8211211
Email	TYY@GMAIL.COM
	Save Back

After fill in the new information, worker can click "Save" button to save the new information. Worker also can click "Back" button to back to the my profile.

4.6 View Working Permit (Worker)

FOREIGN WORKER AGENCY	Welcome **WK1**! [Log Out]

Account	My Working Permit

Worker Information

Worker ID	WK1		
First Name	TAN	Last Name	YI YANG
Passport No	S0099912A		
Date Of Issue	2015-12-11	Date Of Expire	2016-12-11

Company Information

Company ID	CPN1	Registration No	1019185-A
Name	ABC SDN BHD		
Address	110,TAMAN NILAI,JALAN 1,50400 KUALA LUMPUR, MALAYSIA		
Tel	(603) 2161-8888	Fax	(603) 2161-2393
Email	ABC@abc.com		

Working Permit Information

Working Permit ID	WKP1		
Date Of Issue		Date Of Expire	
Status	Pending		
Approved By			
Staff ID			
First Name		Last Name	

Worker click "My Working Permit", Website will display the working permit information.

4.7 Home Page (Company)

4.8 Add Worker (Company)

FORIEGN WORKER AGENCY

Welcome **CPN1**! [Log Out]

| Permit | Worker | Roles |

Worker ID:	WK3
Password:	123
First Name:	Fang
Last Name:	Siaw
Date Of Birth:	23-02-1994
Gender:	Male
Natinalyty:	Malaysia
Address:	13,Jalan Meranti
No.Telephone:	+60142794574
Email:	siawtungfang@gmail.com
Status:	
Compnay ID:	
Passport Number:	

| Submit | Cancel |

4.9 Search Worker (Company)

FORIEGN WORKER AGENCY   Welcome **CPN1**! [Log Out]

Permit	Worker	Roles

EDIT WORKER

SEARCH WORKER DETAIL

SEARCH: [_____]

Worker ID	FName	LName	Nationality	Status	
WK1	TAN	YI YANG	SINGAPORE	Hire	Update
WK2	MENG	TENG HAN	PHILIPINA	Hire	Update
WK3	HIN	ZHEN HUAN	SINGAPORE	Hire	Update

4.10 Update Worker (Company)

FORIEGN WORKER AGENCY	Welcome **CPN1**! [Log Out]

Permit	Worker	Roles

Worker ID:	WK3
Password:	123
First Name:	Fang
Last Name:	Siaw
Date Of Birth:	23-02-1994
Gender:	Male
Natinalyty:	Malaysian
Address:	13,Jalan Meranti, Taman Sri Chaah
No.Telephone:	018-2300223
Email:	siawtungfang@gmail.com
Status:	Hire
Compnay ID:	CPN1
Passport Number:	-
	Update Cancel

4.11 Delete Worker (Company)

FORIEGN WORKER AGENCY   Welcome **CPN1**! [Log Out]

| Permit | Worker | Roles |

Worker ID:	WK3
Password:	123
First Name:	Fang
Last Name:	Siaw
Date Of Birth:	23-02-1994
Gender:	Male
Natinalyty:	Malaysian
Address:	13,Jalan Meranti, Taman Sri Chaah
No.Telephone:	018-2300223
Email:	siawtungfang@gmail.com
Status:	Hire
Compnay ID:	CPN1
Passport Number:	-
	Delete

4.12 View Worker (Company)

FORIEGN WORKER AGENCY	Welcome **CPN1**! [Log Out]

Permit	Worker	Roles

Worker ID:	WK3
Password:	123
First Name:	Fang
Last Name:	Siaw
Date Of Birth:	23-02-1994
Gender:	Male
Natinalyty:	Malaysian
Address:	13,Jalan Meranti, Taman Sri Chaah
No.Telephone:	018-2300223
Email:	siawtungfang@gmail.com
Status:	Hire
Compnay ID:	CPN1
Passport Number:	-

Cancel

4.13 Agency Staff Account Page
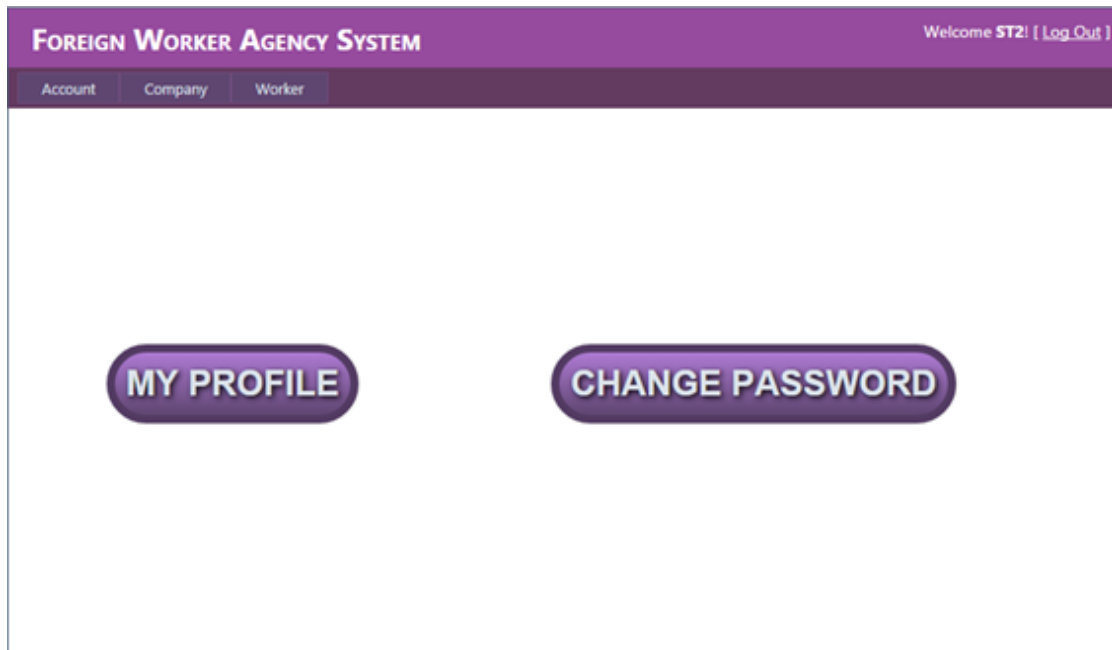
Staff account page have 2 item which is My Profile and Change Password.

4.14 Agency Staff Profile Page

Role	Staff
First Name	TEY
Last Name	LALA
DOB	01/07/1975
Gender	M
Nationality	MALAYSIA
Address	22,TAMAN ROSS,JALAN 22,50450 KUALA LUMPUR,MALAYSIA.
Tel	017-1122334
Email	TEYLALA@gmail.com
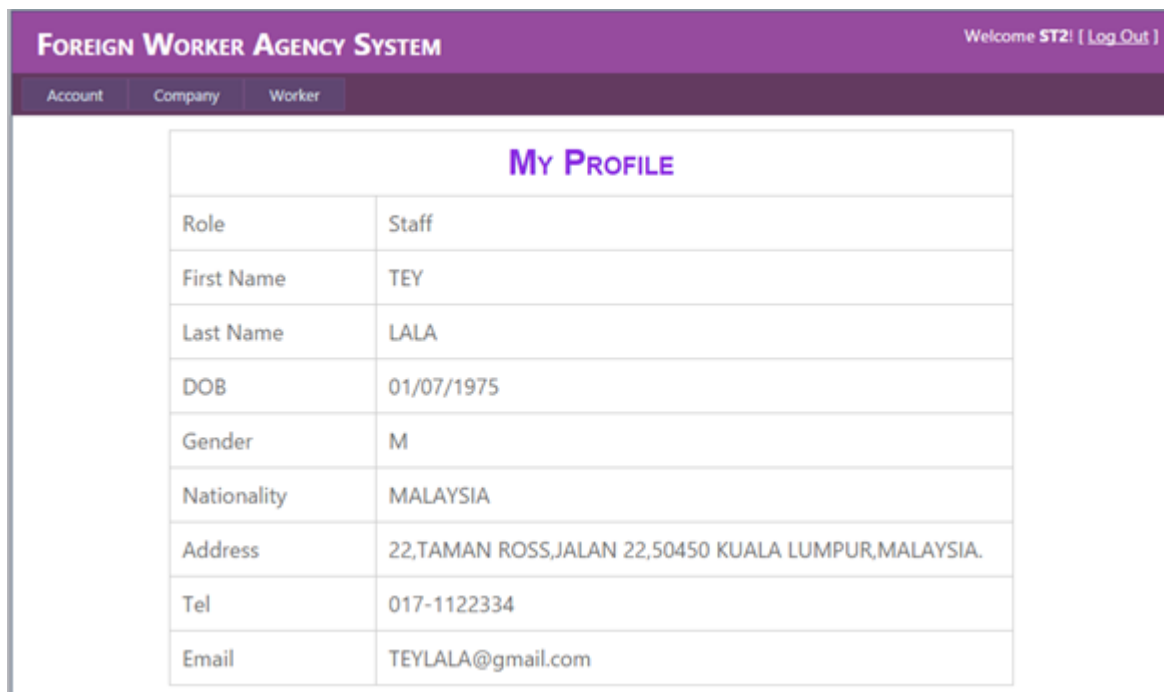
Agency Staff click the "my profile" button, it will display their personal information.

4.15 Change Password Page (Agency Staff)

Agency Staff click the "Change Password" button, it will display a change password form.

4.16 Company Page (Agency Staff)

Company page have 2 item which is New Company and Company List.

4.17 Add New Company Page (Agency Staff)

FOREIGN WORKER AGENCY SYSTEM   Welcome **ST2**! [Log Out]

| Account | Company | Worker |

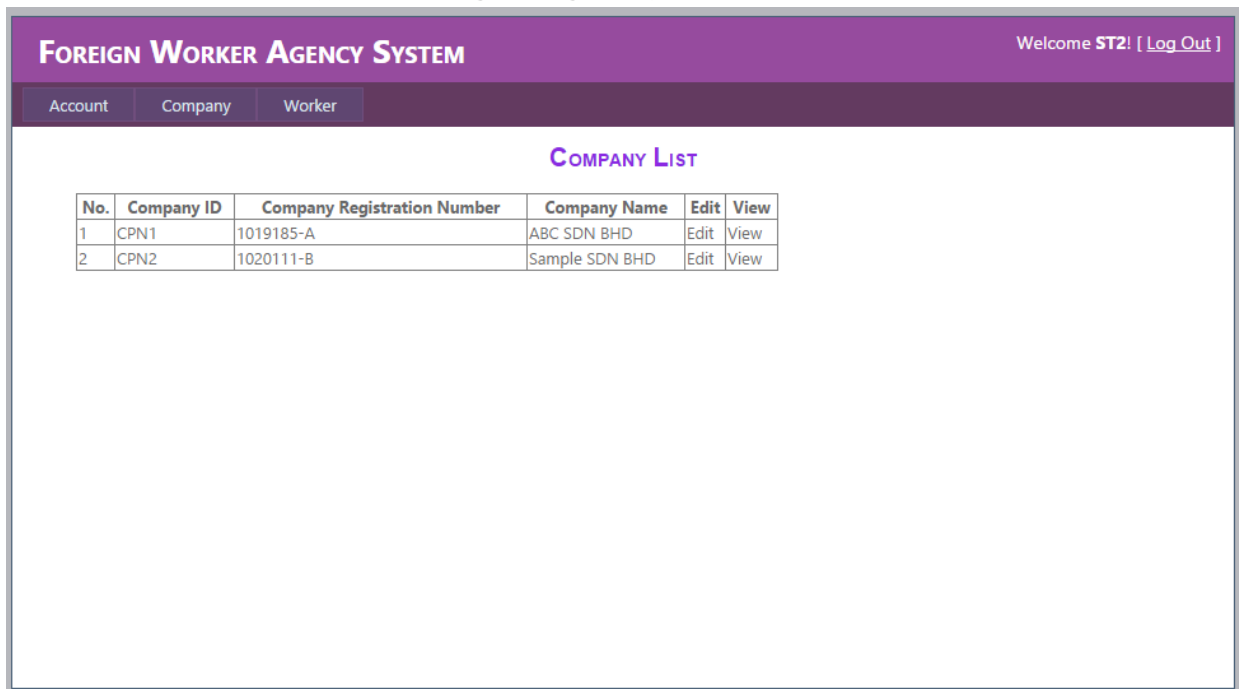NEW COMPANY

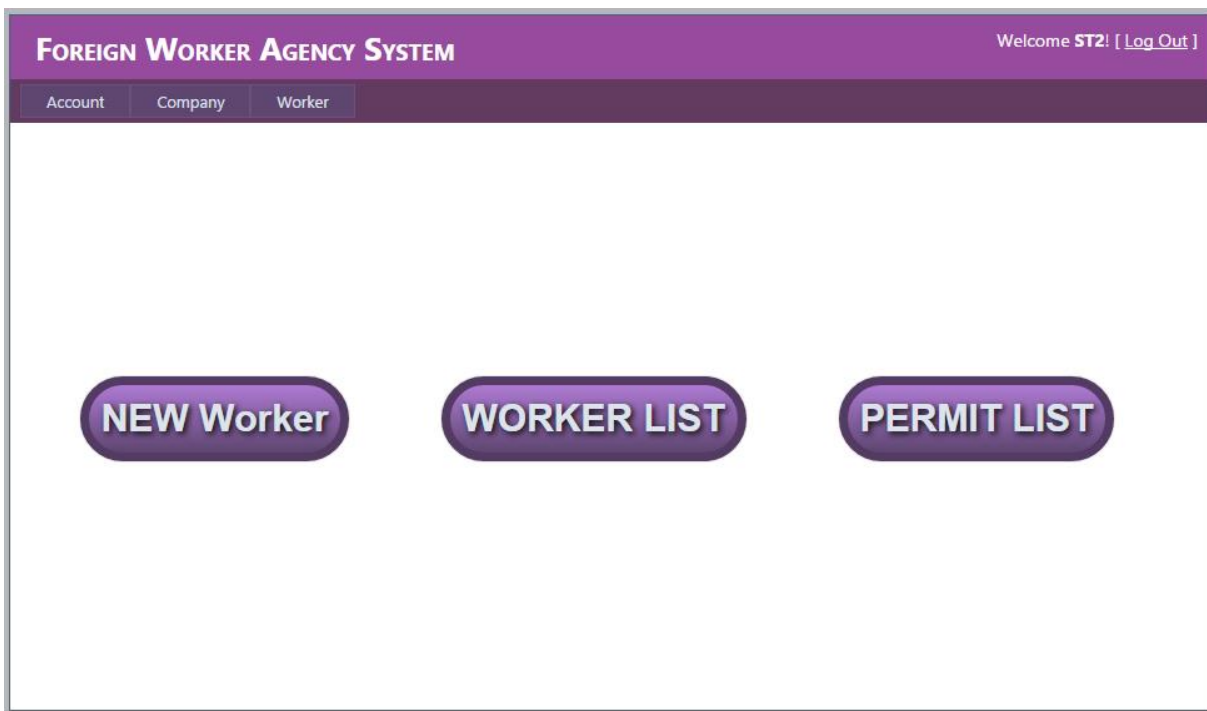Company
Registeration
Number

Company Name

Address

Tel

Fax

Email

Submit   Clear

Agency Staff click the "New Company" button, it will display a add company form and staff can fill in for add a new company.

4.18 View Company List Page (Agency Staff)

Agency Staff click the "Company List" button, it will display a company list.

1.1 Worker Page (Agency Staff)

Worker page have 3 item which is New Worker, Worker List and Permit List.

4.19 Add New Worker Page (Agency Staff)

Agency Staff click the "New Worker" button, it will display a add worker form and staff can fill in for add a new worker.

4.20 View Worker List Page (Agency Staff)

FOREIGN WORKER AGENCY SYSTEM   Welcome **ST2**! [Log Out]

Account	Company	Worker

WORKER LIST

No.	Worker ID	First Name	Last Name	Edit	View
1	WK1	TAN	YI YANG	Edit	View

Agency Staff click the "Worker List" button, it will display a worker list.

4.21 View Permit List Page (Agency Staff)

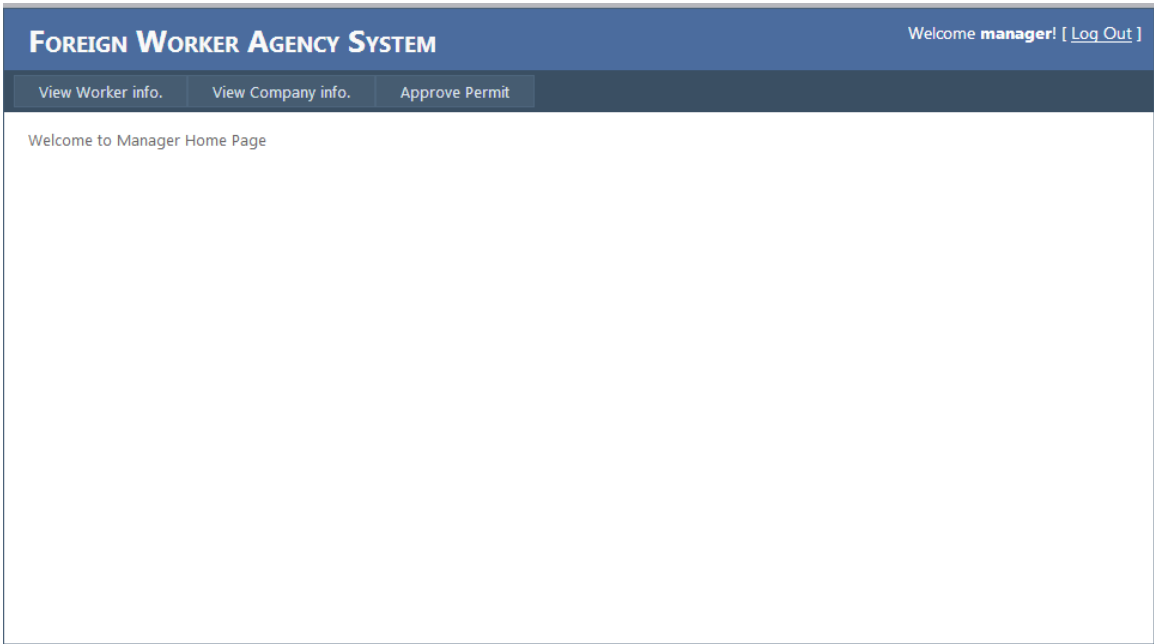**FOREIGN WORKER AGENCY SYSTEM**   Welcome **ST2**! [Log Out]
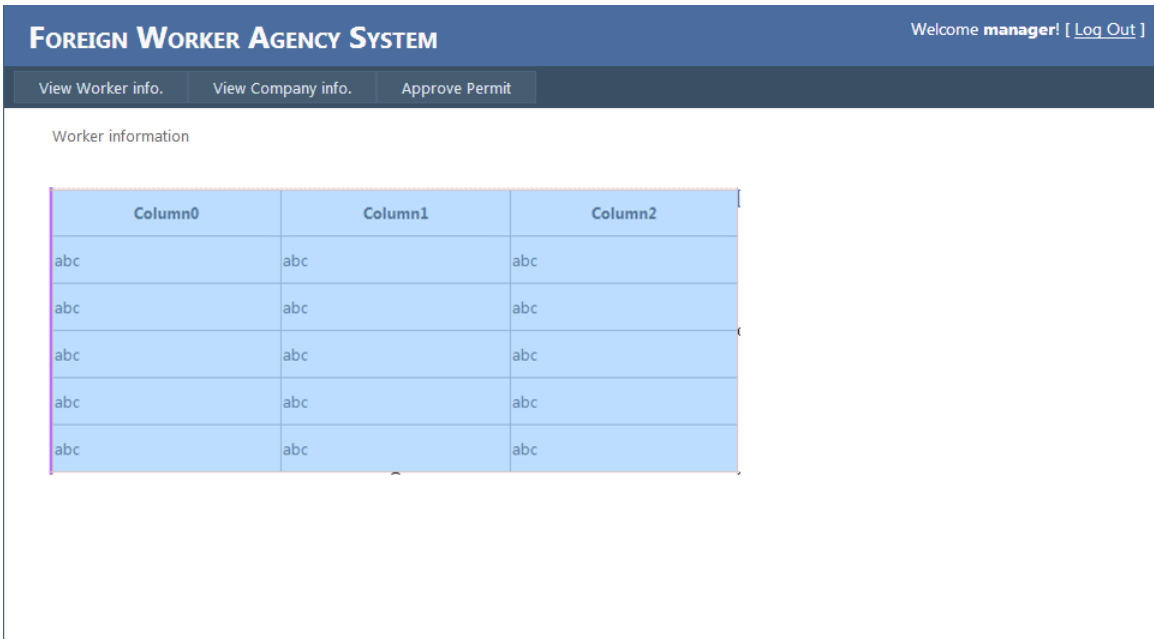
Account	Company	Worker

PERMIT LIST

No.	Permit ID	Worker ID	Due Date	Renew	View
1	WP1	1	10/01/2017 12:00:00 AM	Renew	View

Agency Staff click the "Permit List" button, it will display a permit list.

4.22 Home Page (Manager)

4.23 View Worker (Manager)

4.24 View Company
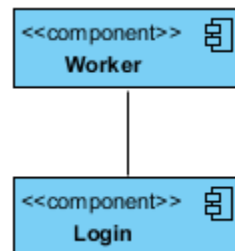

4.25 Approve Permit (Manager)
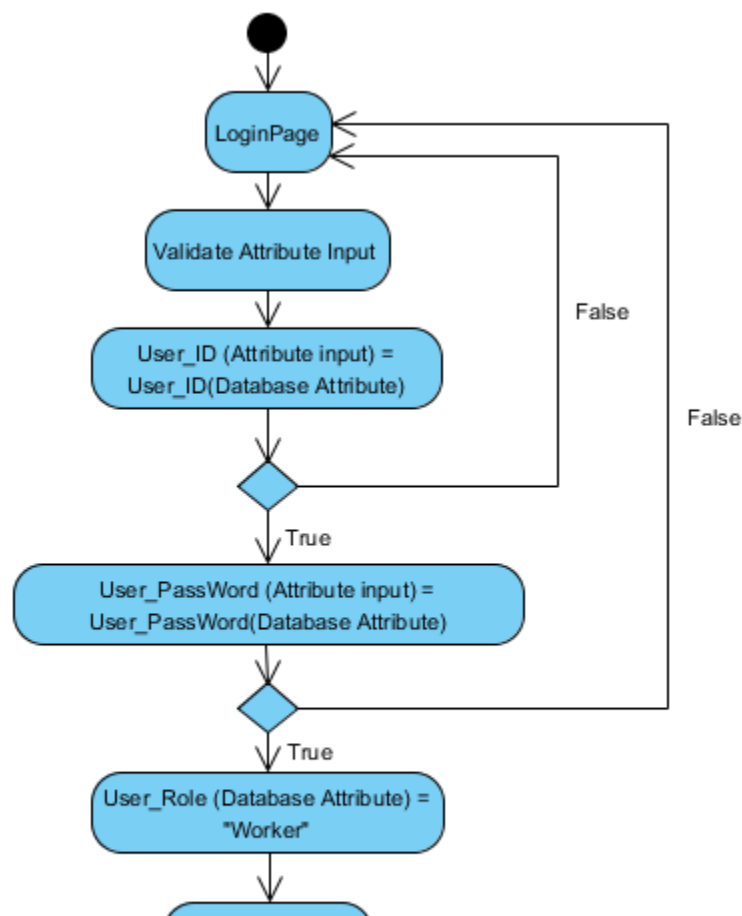
5 Component Design

5.1 Main Components

<TO DO: Describe the main components (modules, classes, packages, etc.) and the table with the components and related subsystems here.

5.1.1 Component 1

<TO DO: Describe the component and place the diagram here. There should be algorithm, pseudocode, flowchart, activity diagram to support the processing in the component.>

Activity Diagram

Login Button Selected

*Select * From LOGIN Where User_ID = User_ID.Text*

If

   User_ID.Text != String.Empty And
   User_Password.Text != String.Empty

Then
If

  User_ID.Text = User_ID

Then
If

 User_Password.Text = User_Password

Then

 Session("ID") = User_ID
 Session("Role") = Role

 Select HomePage_Path From HomePage Where Role = Session("Role")

Else

 FailureText = "Invalid Password ! "
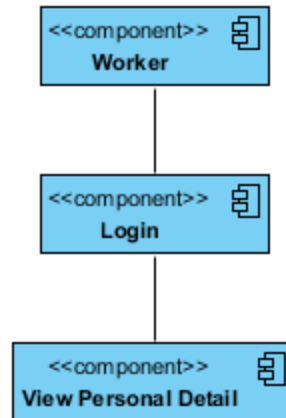
End If
Else

 FailureText = "Invalid User ID ! "

End If
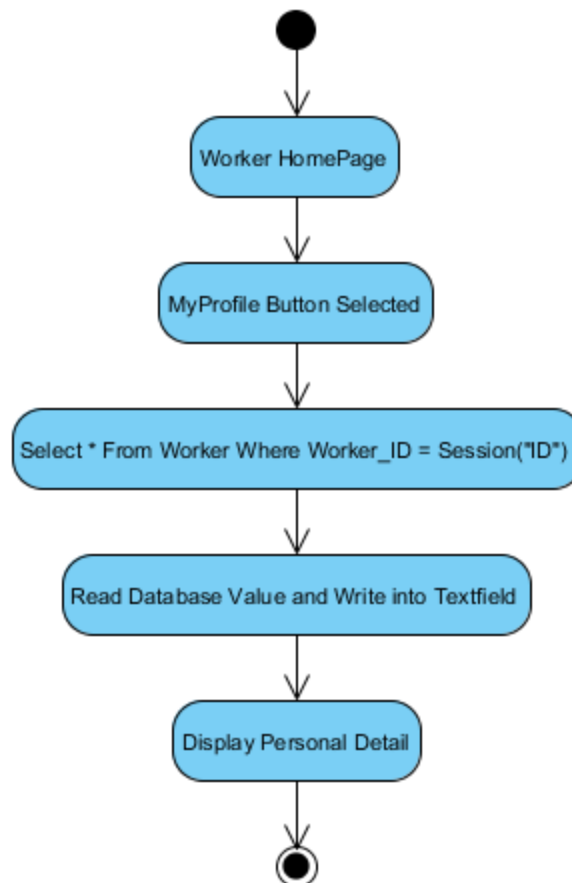*Else*

 *FailureText = " * Value Required ! "*

End If

5.1.2 Component 2

<TO DO: Describe the component and place the diagram here. There should be algorithm, pseudocode, flowchart, activity diagram to support the processing in the component.>

```
<<component>>       🗊
   Worker

<<component>>       🗊
   Login

<<component>>          🗊
View Personal Detail
```

Activity Diagram

```
●
↓
Worker HomePage
↓
MyProfile Button Selected
↓
Select * From Worker Where Worker_ID = Session("ID")
↓
Read Database Value and Write into Textfield
↓
Display Personal Detail
↓
◉
```

Pseudocode

Page Load

*Select * From Worker Where User_ID = Session("ID")*

Worker_ID.Text = Session("ID")
Fname.Text = Fname
Lname.Text = Lname
DOB.Text = DOB
Gender.Text = Gender
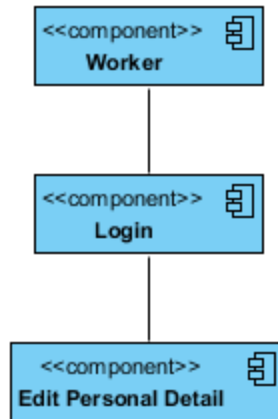Nationality.Text = Nationality
Address.Text = Address
Tel.Text = Tel
Email.Text = Email
Status.Text = Status

5.1.3 Component 3

<TO DO: Describe the component and place the diagram here. There should be algorithm, pseudocode, flowchart, activity diagram to support the processing in the component.>

Activity Diagram

Pseudocode

Page Load

*Select * From Worker Where User_ID = Session("ID")*

Worker_ID.Text = Session("ID")
Fname.Text = Fname
Lname.Text = Lname
DOB.Text = DOB
Gender.Text = Gender
Nationality.Text = Nationality
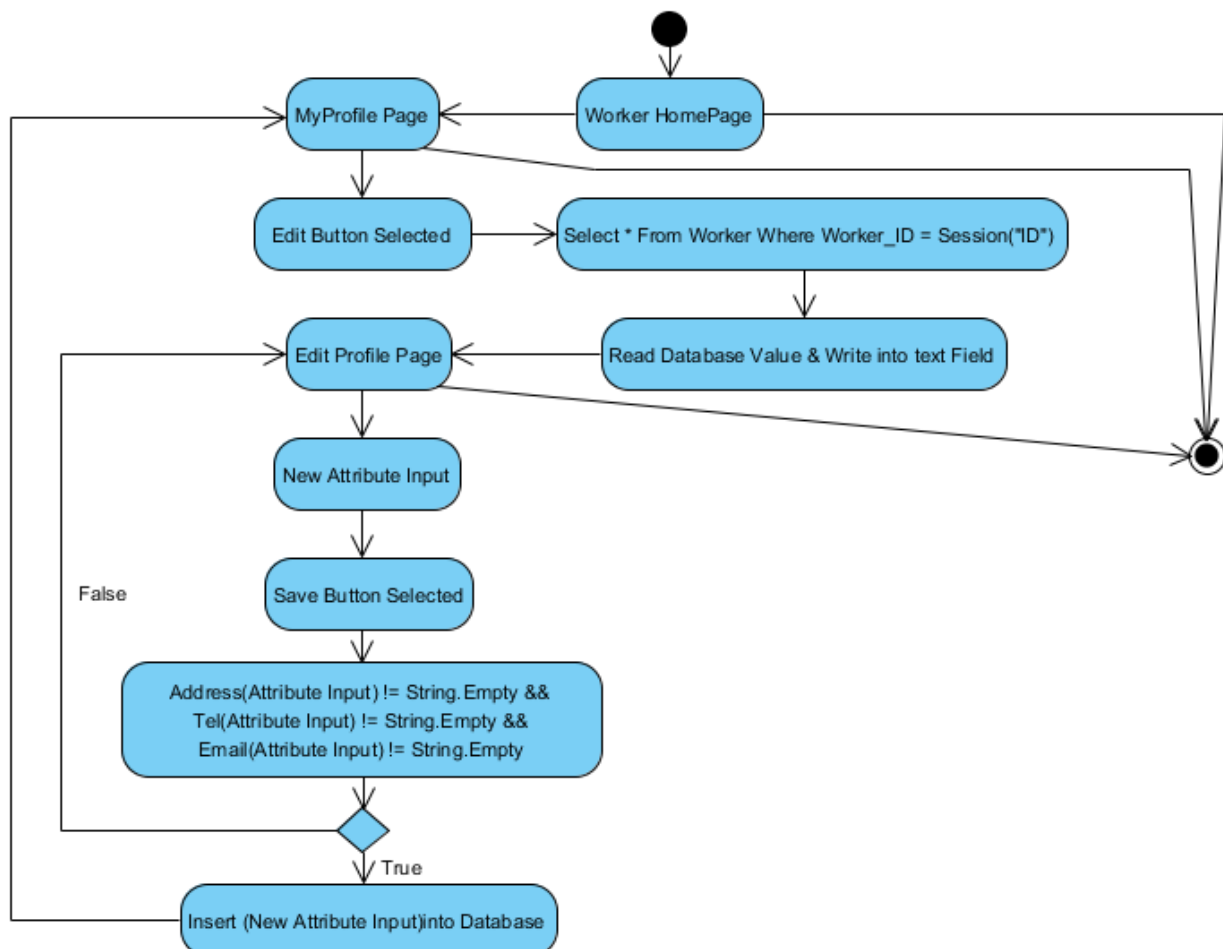Address.Text = Address
Tel.Text = Tel
Email.Text = Email
Status.Text = Status

Save Button Selected

If

   Address.Text != String.Empty And
   Tel.Text != String.Empty And
   Email.Text != String.Empty

Then

Update Worker Set Address = "Address.Text",Tel = "Tel.Text",Email = "Email.Text" Where Worker_ID = "Session("ID")"
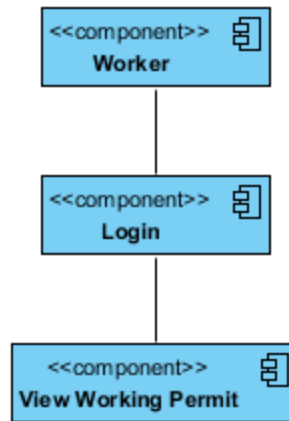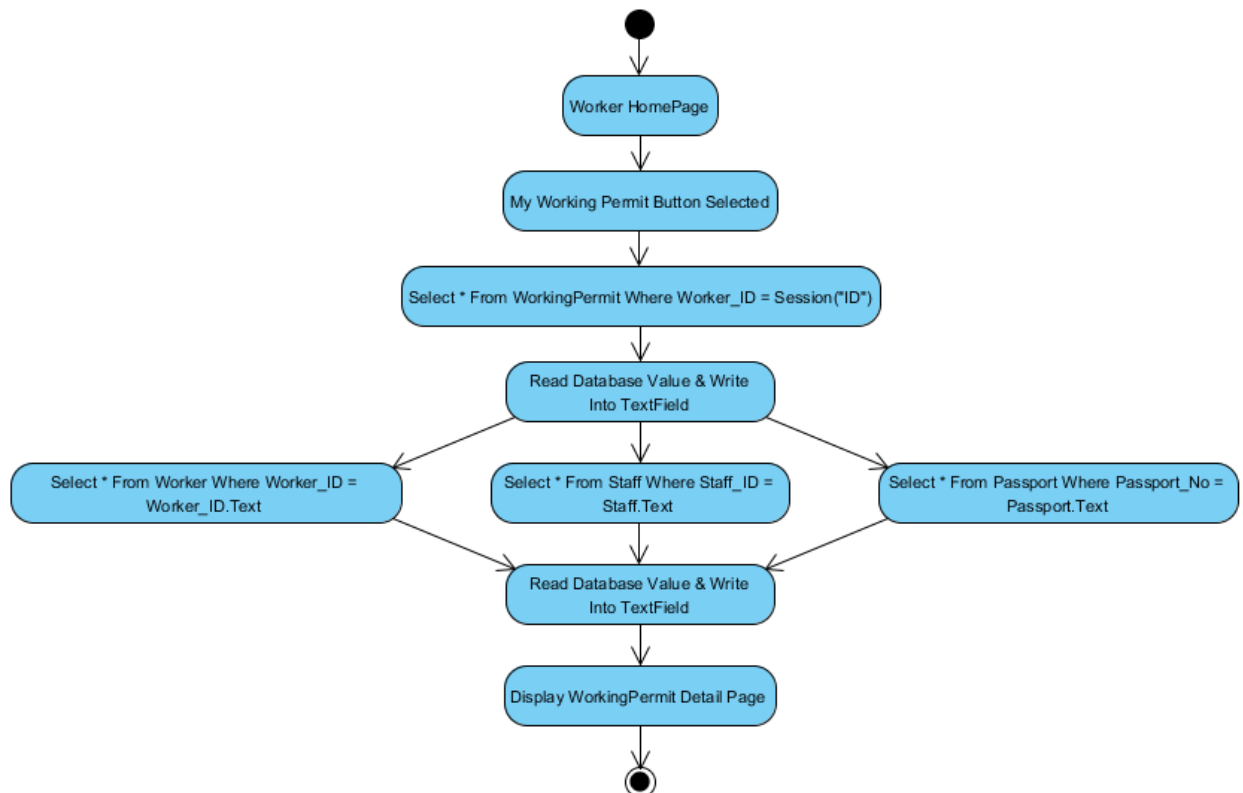
Else

*FailureText = " * Value Required ! "*

End IF

5.1.4 Component 4

<TO DO: Describe the component and place the diagram here. There should be algorithm, pseudocode, flowchart, activity diagram to support the processing in the component.>

Activity Diagram

<u>Pseudocode</u>

Page Load

*Select * From WorkingPermit Where Worker_ID = Session("ID")*

WorkingPermit_ID.Text = WorkingPermit_ID
StartDate.Text = StartDate
EndDate.Text = EndDate
Status.Text = Status
Worker_ID.Text = Worker_ID
Company_ID.Text = Company_ID
Staff_ID.Text = Staff_ID

Select FName, LName From Worker Where Worker_ID = Worker_ID.Text
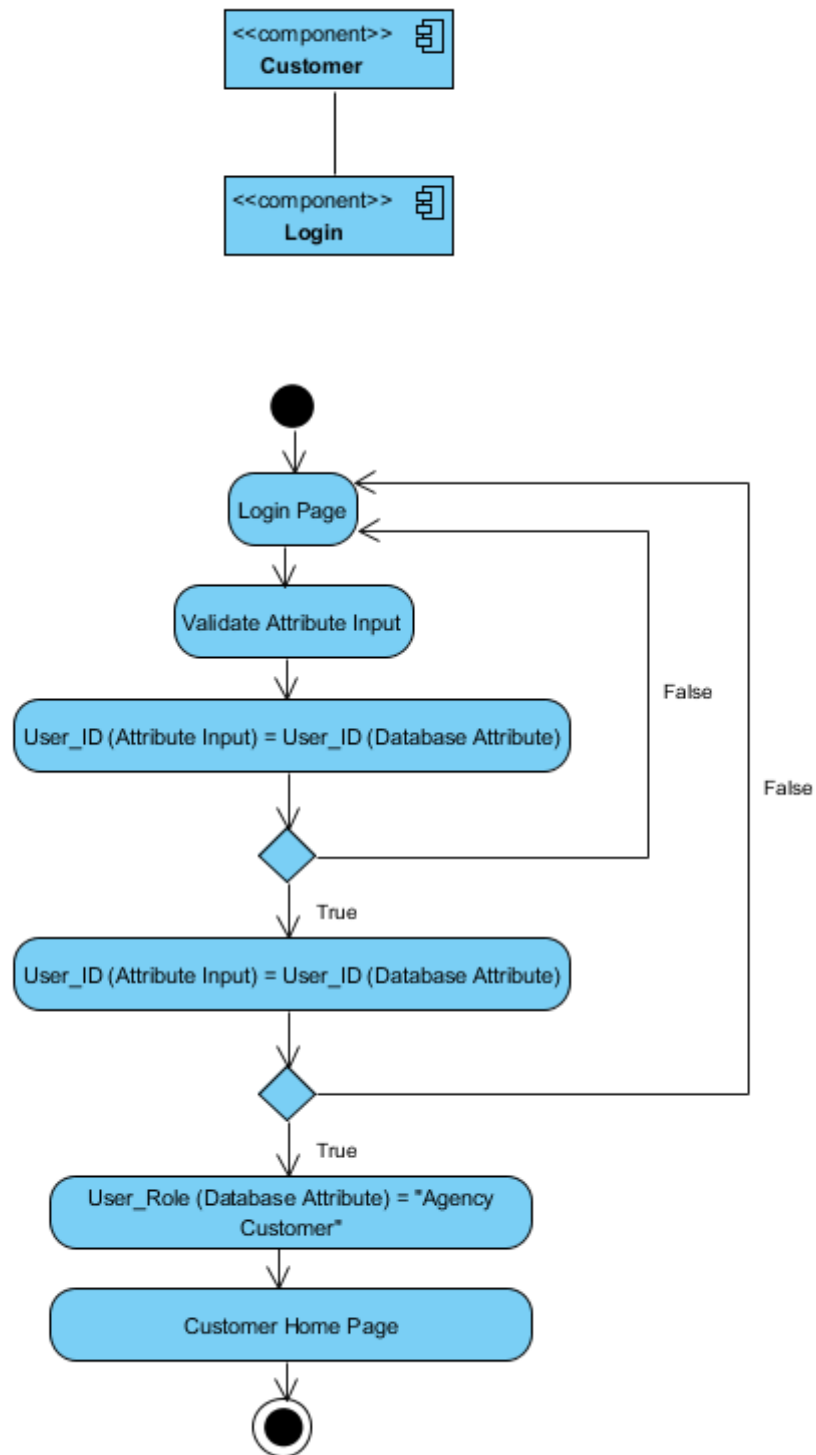
FName.Text = Fname
LName.Text = LName

Select FName, LName From Staff Where Staff_ID = Staff_ID.Text

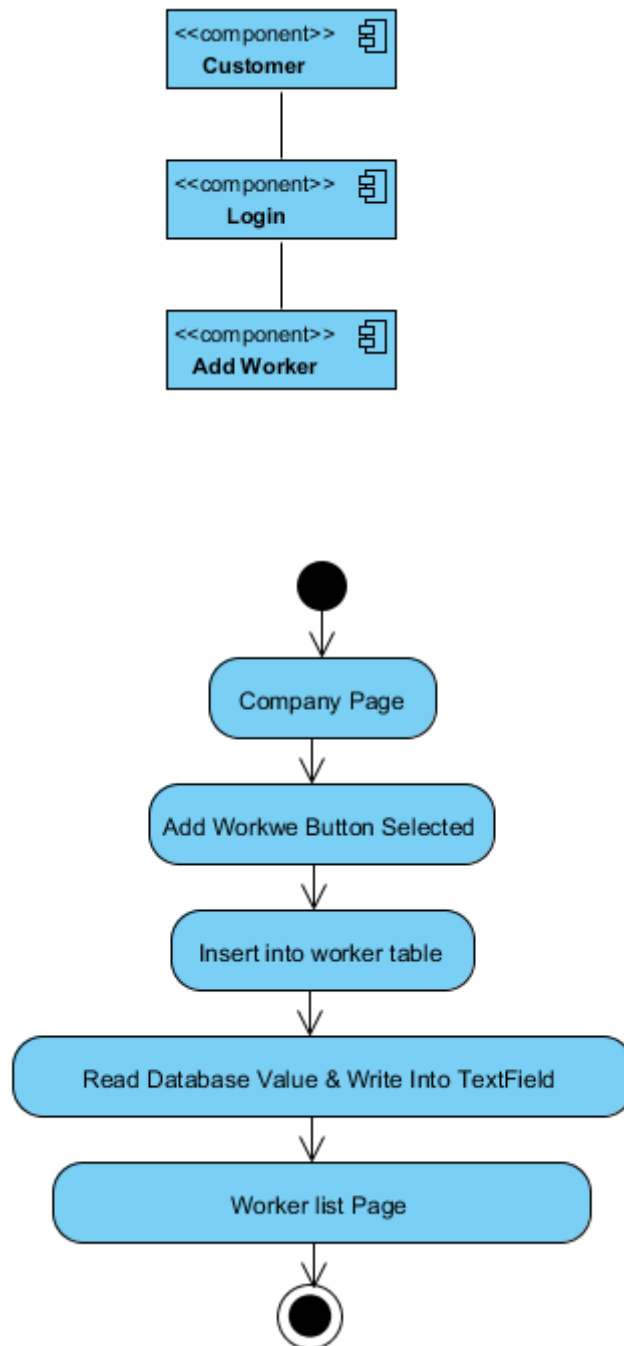FName.Text = FName
LName.Text = LName

*Select * From Company Where Company_ID = Company_ID.Text*

CName.Text = CName
Address.Text = Address
Tel.Text = Tel
Fax.Text = Fax
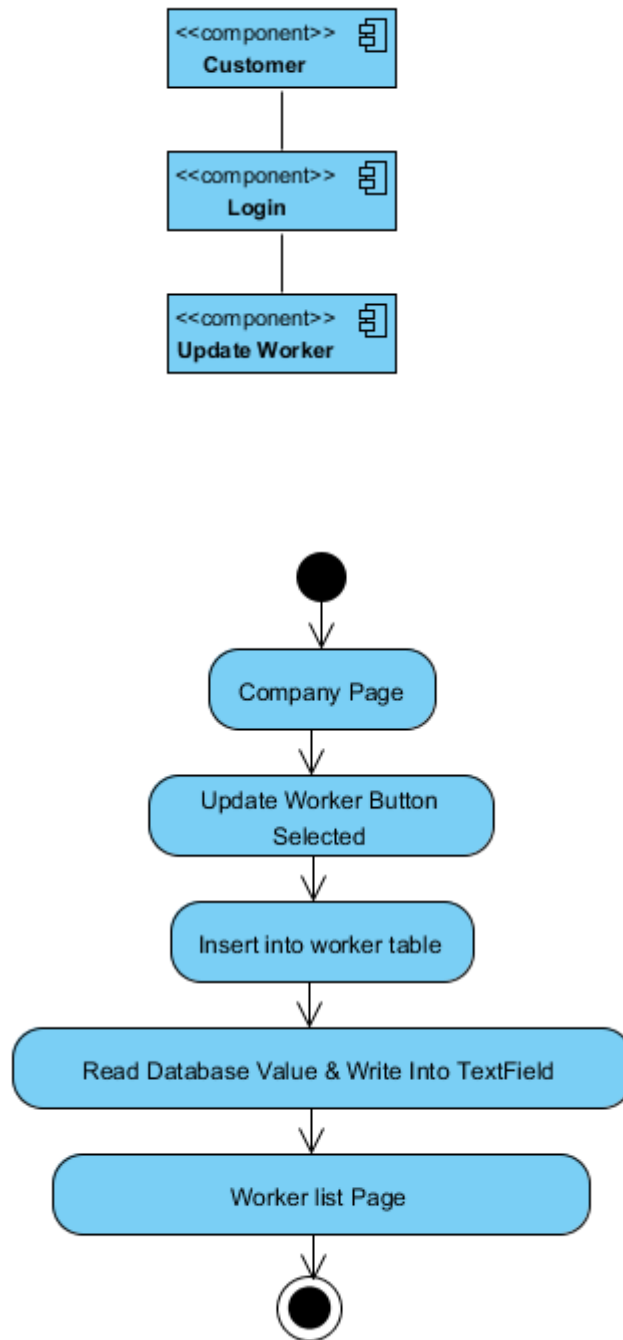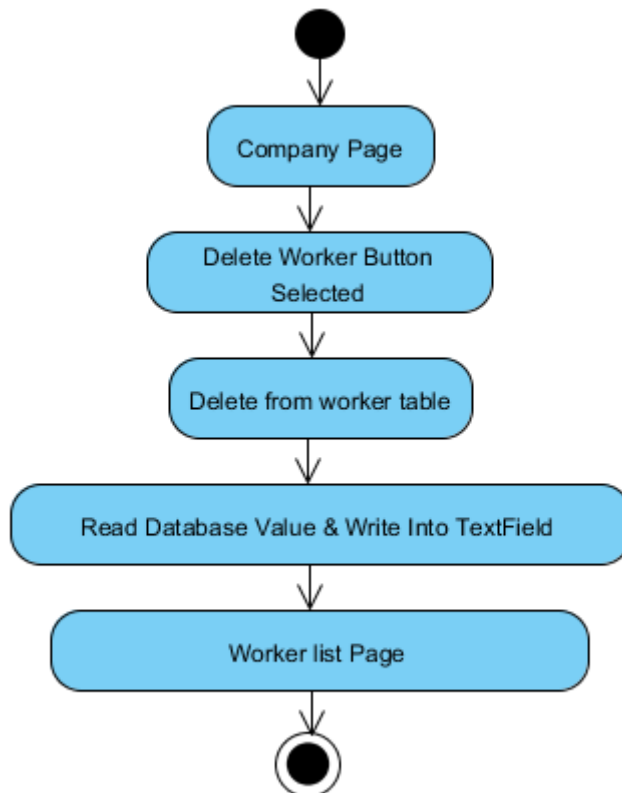Email.Text = Email
CompanyNo.Text = CompanyNo

5.1.5 Component 5


```
<<component>>
  Customer

<<component>>
   Login
```

```
Login Page

Validate Attribute Input

User_ID (Attribute Input) = User_ID (Database Attribute)

                                    False

                                    False

                     True

User_ID (Attribute Input) = User_ID (Database Attribute)

                     True

User_Role (Database Attribute) = "Agency
Customer"

Customer Home Page
```

5.1.6 Component 6

5.1.7 Component 7


```
<<component>>
Customer

<<component>>
Login

<<component>>
Update Worker
```

Company Page

Update Worker Button Selected

Insert into worker table

Read Database Value & Write Into TextField

Worker list Page

5.1.8 Component 8

```
<<component>>  [icon]
   Customer
        |
<<component>>  [icon]
     Login
        |
<<component>>  [icon]
  Delete Worker
```

●
↓
Company Page
↓
Delete Worker Button
Selected
↓
Delete from worker table
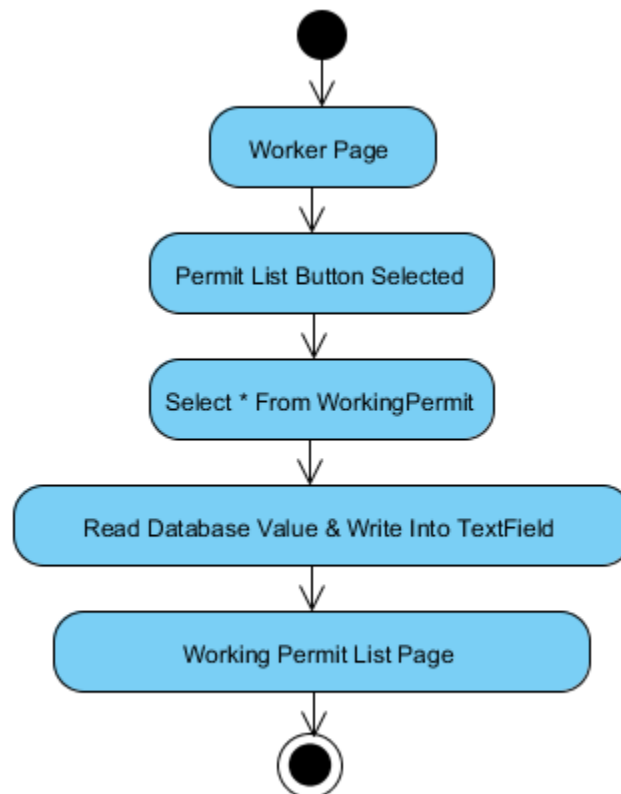↓
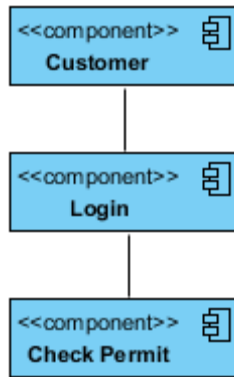Read Database Value & Write Into TextField
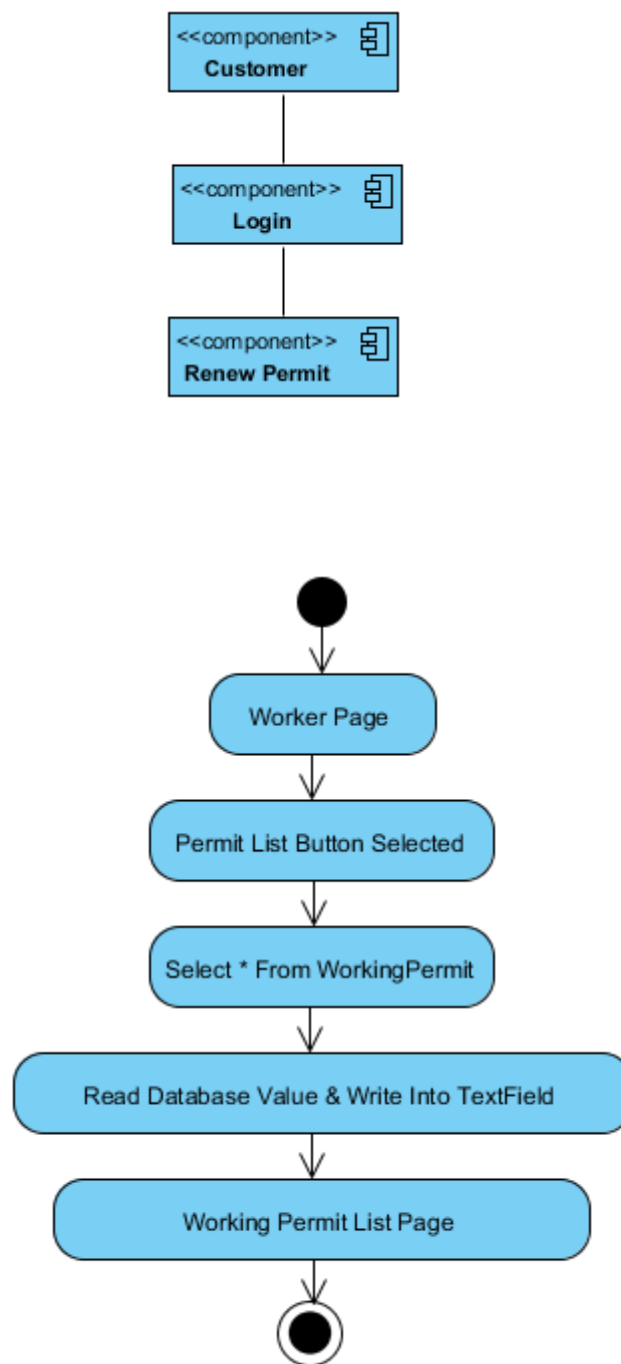↓
Worker list Page
↓
◉
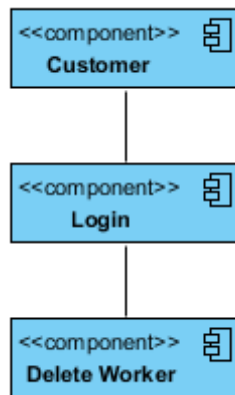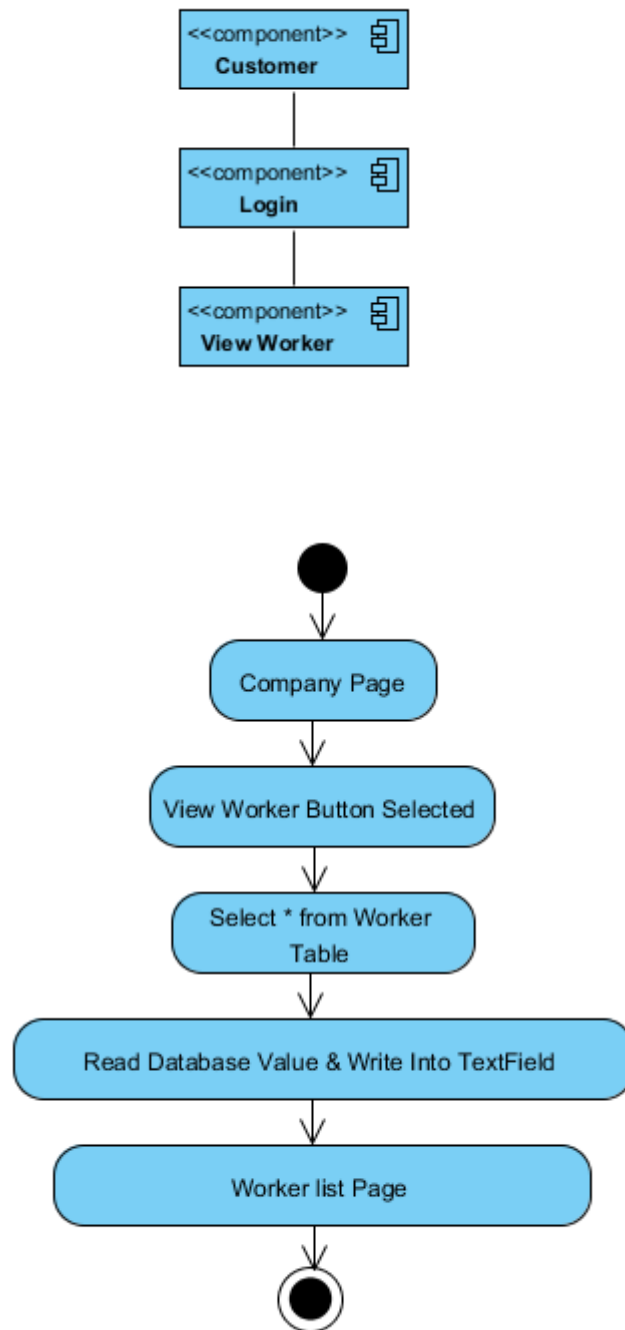
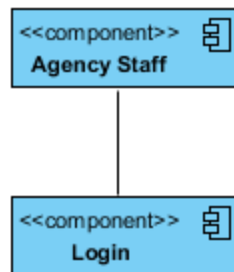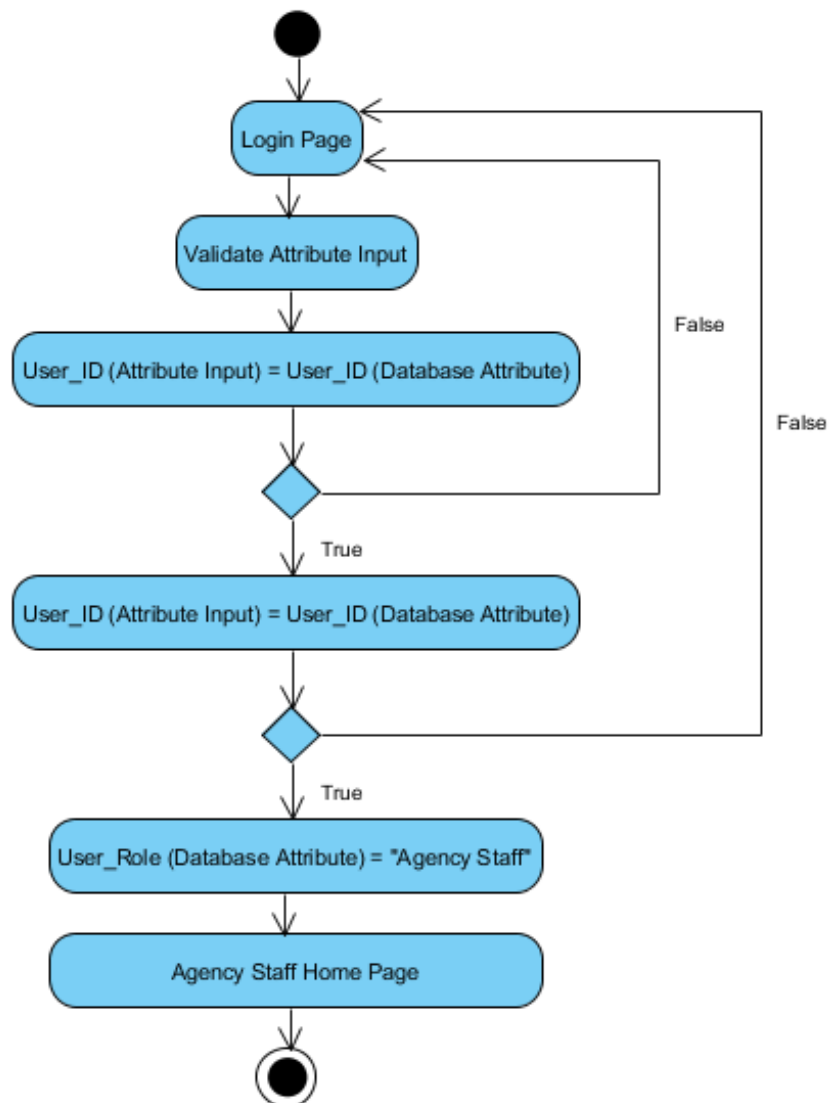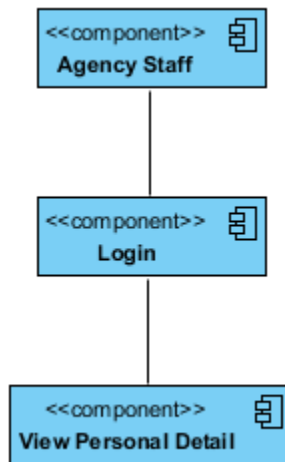### 5.1.9 Component 9

5.1.10 Component 10
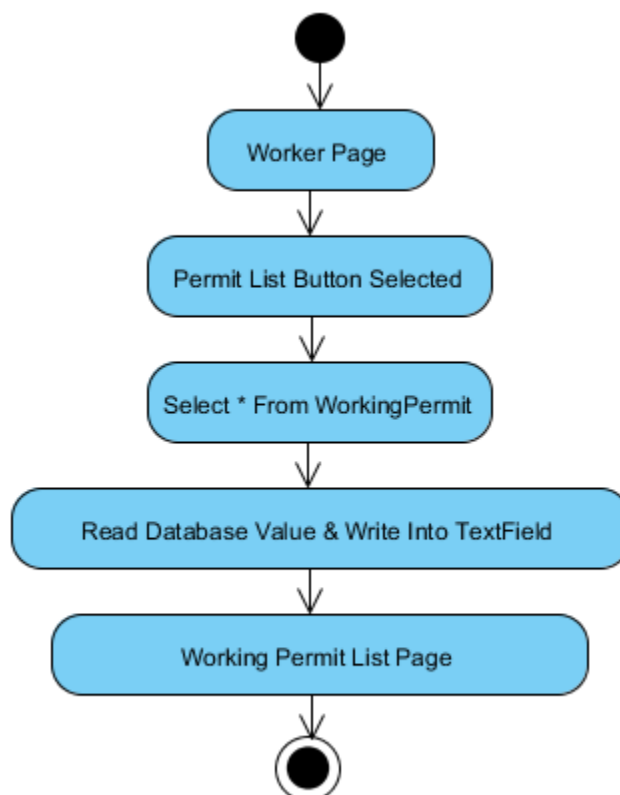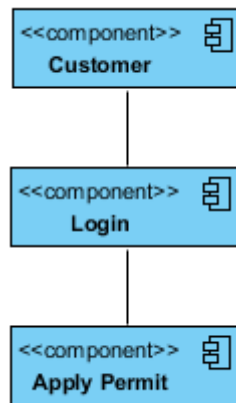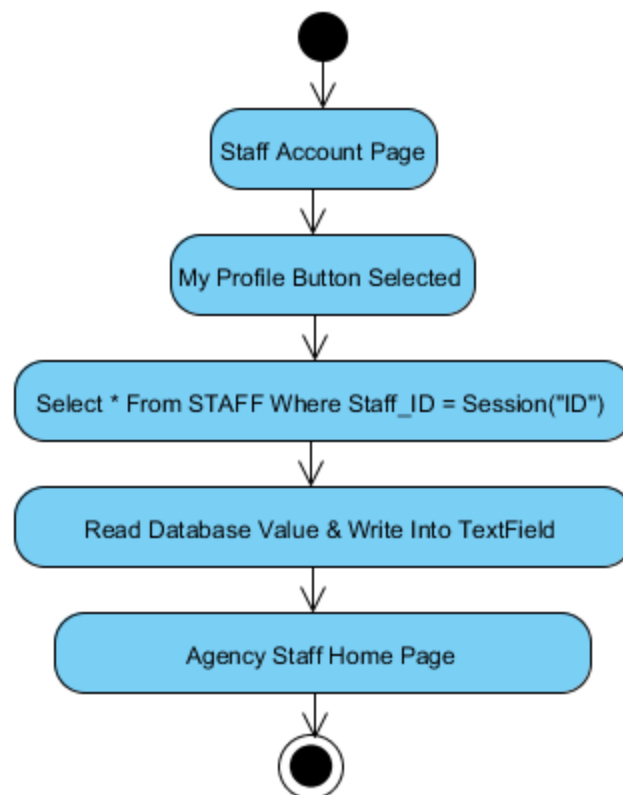
5.1.11 Component 11

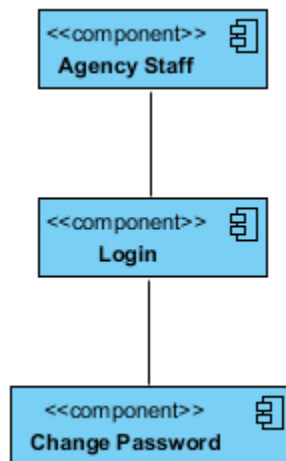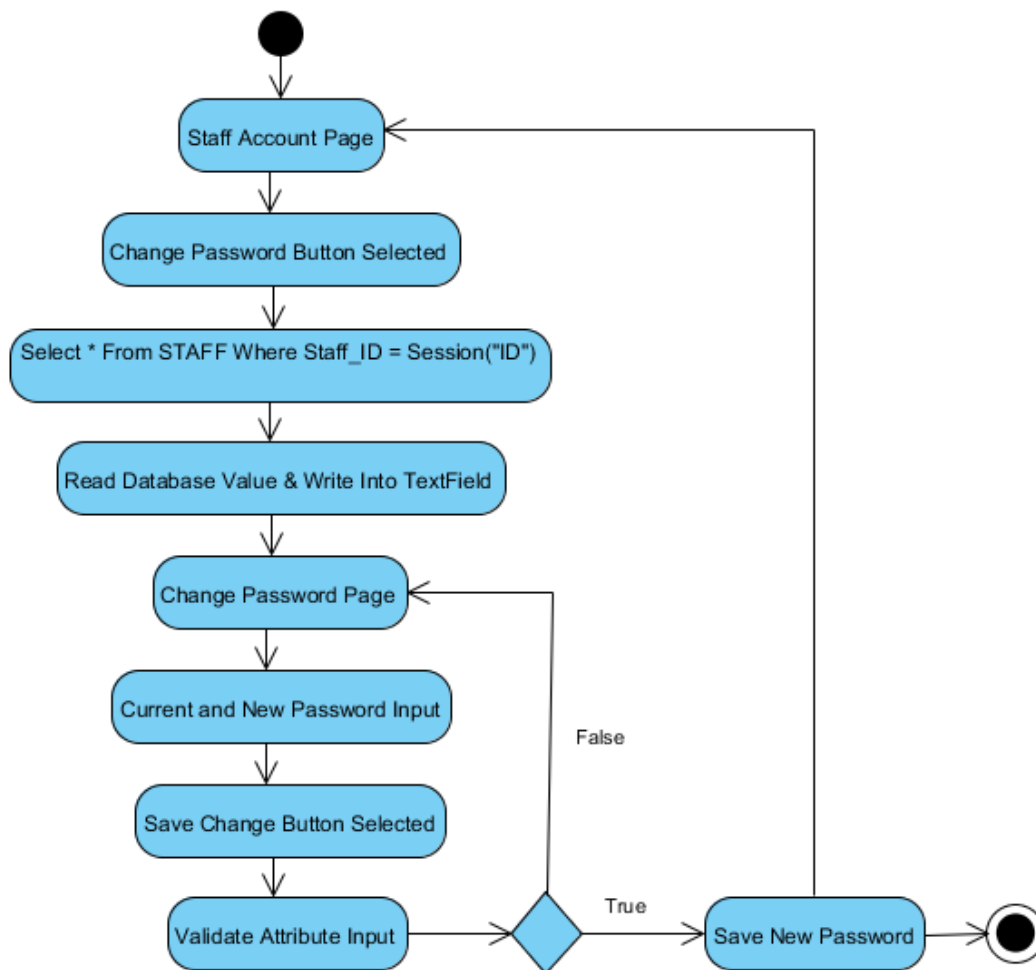## 5.1.12 Component 12

5.1.13 Component 13

Activity Diagram

5.1.14 Component 14

Activity Diagram

5.1.15 Component 15

```
<<component>>     冏
  Agency Staff

<<component>>     冏
    Login

<<component>>     冏
Change Password
```

Activity Diagram

```
              ●
              ↓
      Staff Account Page  ←─────────────────────────┐
              ↓                                      │
Change Password Button Selected                      │
              ↓                                      │
Select * From STAFF Where Staff_ID = Session("ID")   │
              ↓                                      │
Read Database Value & Write Into TextField           │
              ↓                                      │
      Change Password Page  ←──────────┐             │
              ↓                         │            │
Current and New Password Input    False │            │
              ↓                         │            │
 Save Change Button Selected            │            │
              ↓                         │            │
                              True                   │
Validate Attribute Input  →  ◇  →  Save New Password → ◉
```
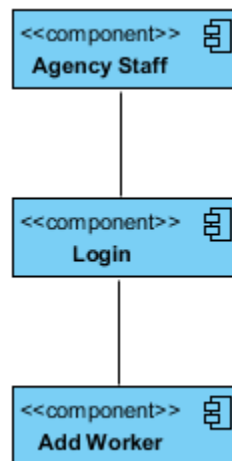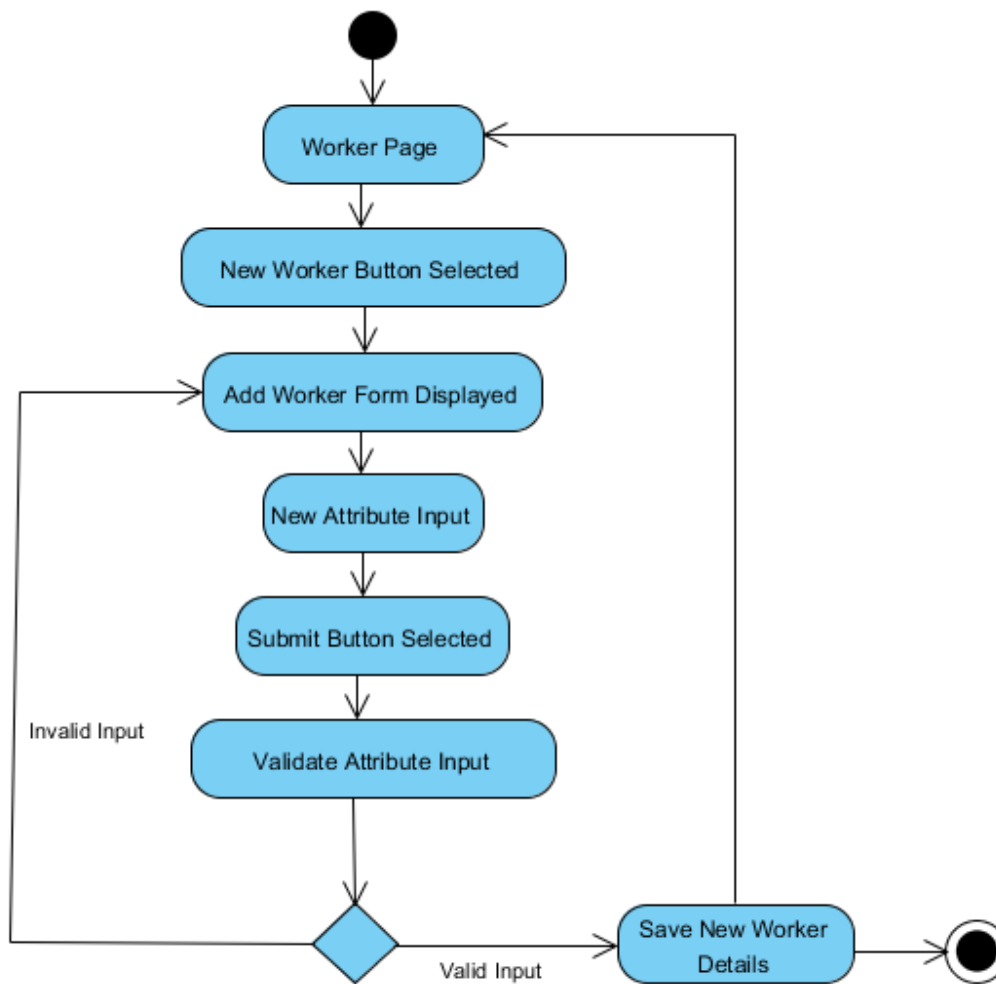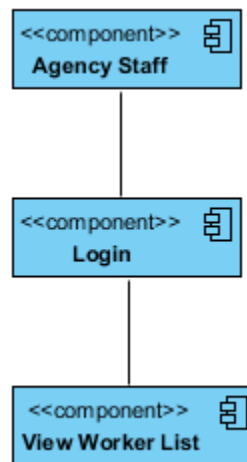
5.1.16 Component 16
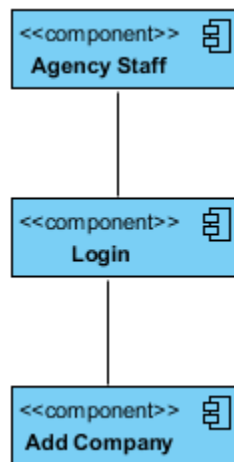
Activity Diagram
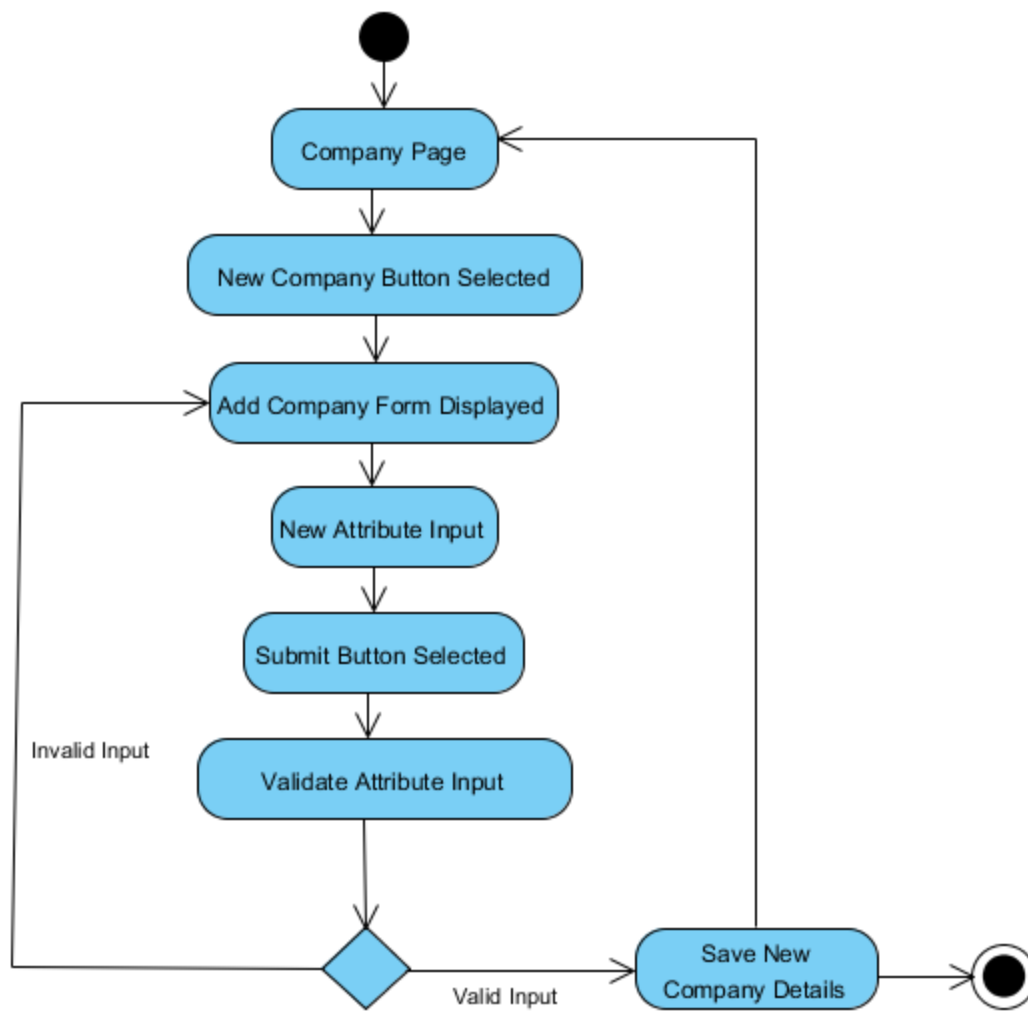
5.1.17 Component 17
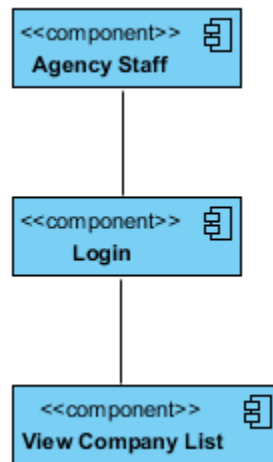
Activity Diagram

5.1.18 Component 18

```
<<component>>    ▤
  Agency Staff
       │
       │
<<component>>    ▤
    Login
       │
       │
<<component>>    ▤
  Add Worker
```

Activity Diagram

```
              ●
              │
              ▼
        ┌──────────────┐
        │ Worker Page  │◄──────────────┐
        └──────┬───────┘               │
               ▼                        │
     ┌──────────────────────┐          │
     │New Worker Button      │          │
     │Selected               │          │
     └──────────┬────────────┘          │
                ▼                        │
     ┌──────────────────────┐           │
  ┌─►│Add Worker Form        │           │
  │  │Displayed              │           │
  │  └──────────┬────────────┘           │
  │             ▼                         │
  │    ┌──────────────────┐              │
  │    │New Attribute Input│             │
  │    └─────────┬─────────┘             │
  │              ▼                        │
  │    ┌──────────────────┐              │
  │    │Submit Button      │             │
  │    │Selected           │             │
  │    └─────────┬─────────┘             │
  │              ▼                        │
  │    ┌──────────────────┐              │
  │    │Validate Attribute │             │
  │    │Input              │             │
  │    └─────────┬─────────┘             │
  │              ▼                        │
Invalid Input    ◇────Valid Input──►┌──────────────┐    ●
  └──────────────                   │Save New Worker│──►⊙
                                    │Details        │
                                    └──────────────┘
```
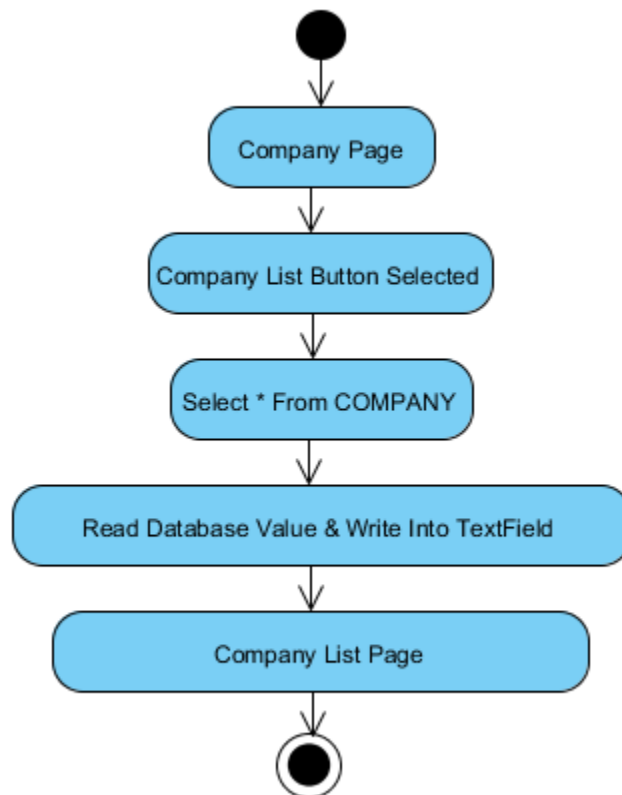
5.1.19 Component 19

Activity Diagram
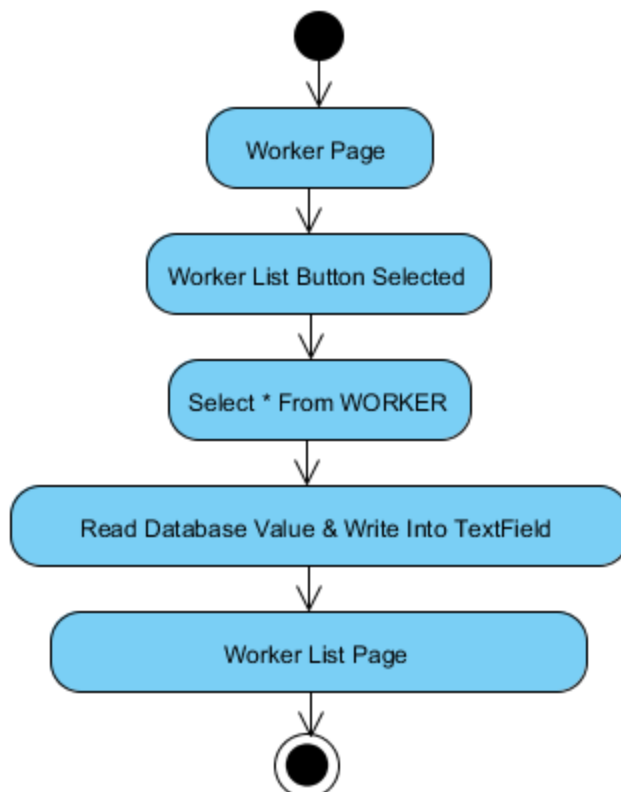
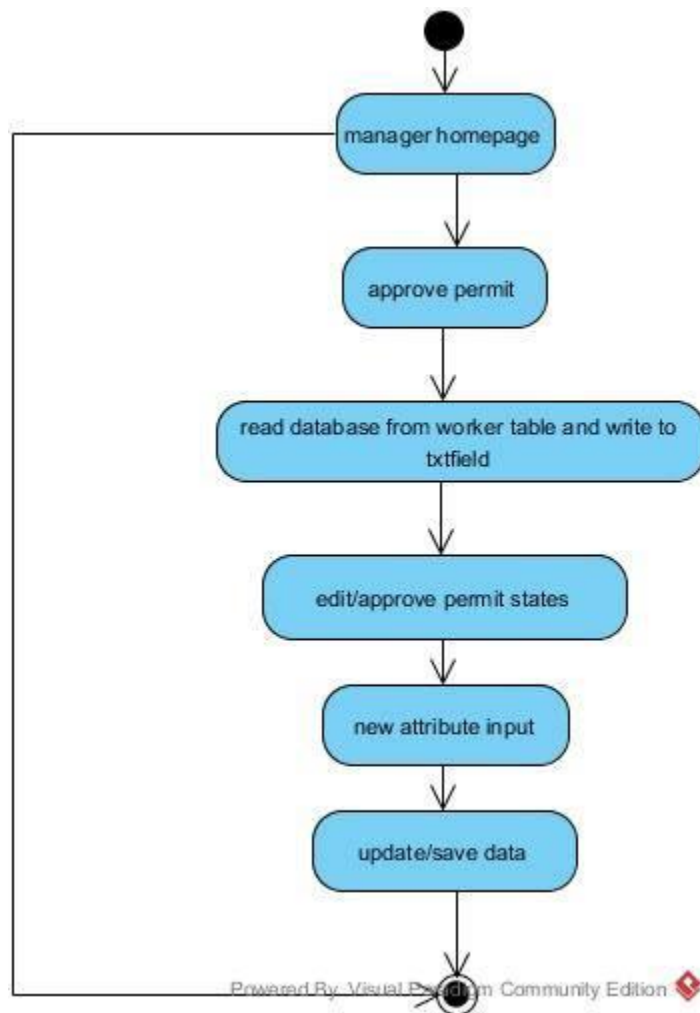### 5.1.20 Component 20
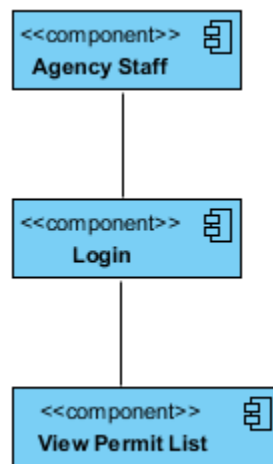
Activity Diagram
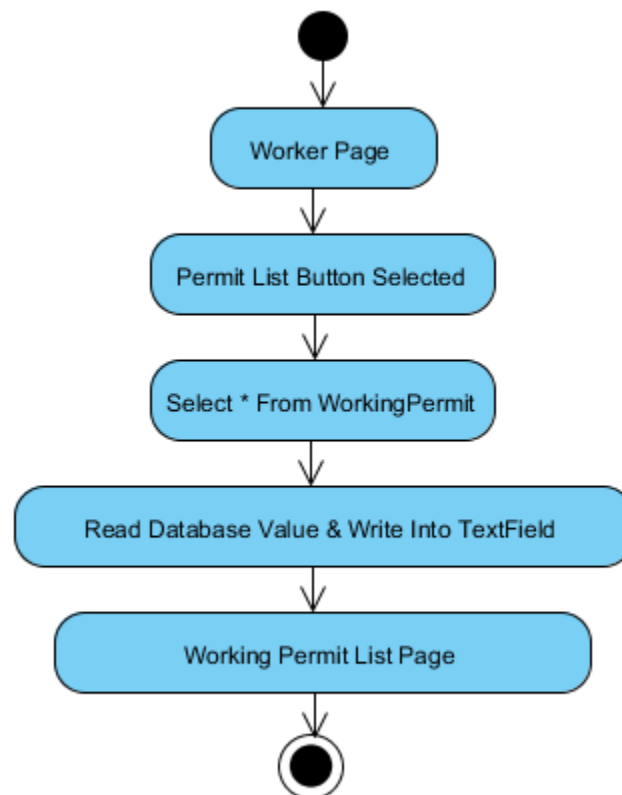
5.1.21 Component 21
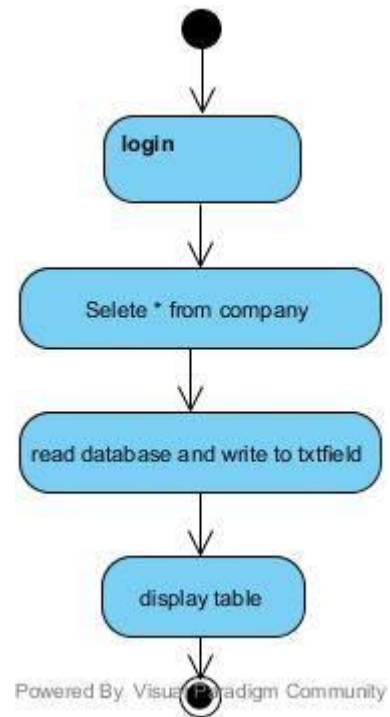
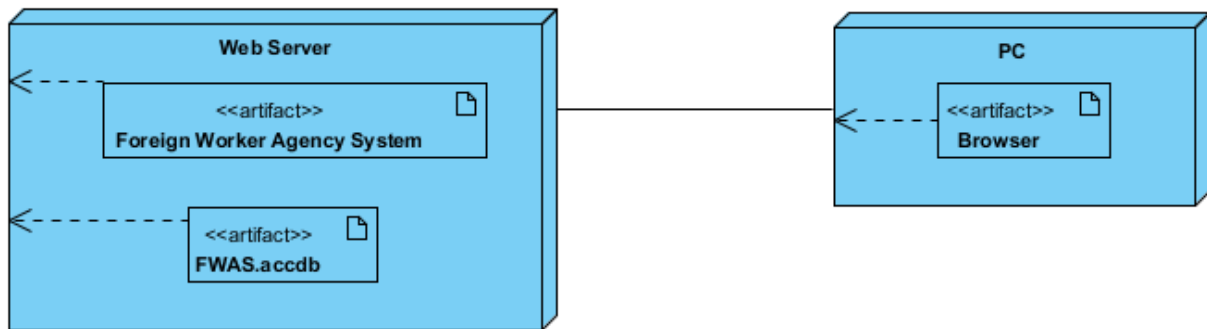### 5.1.22 Component 22
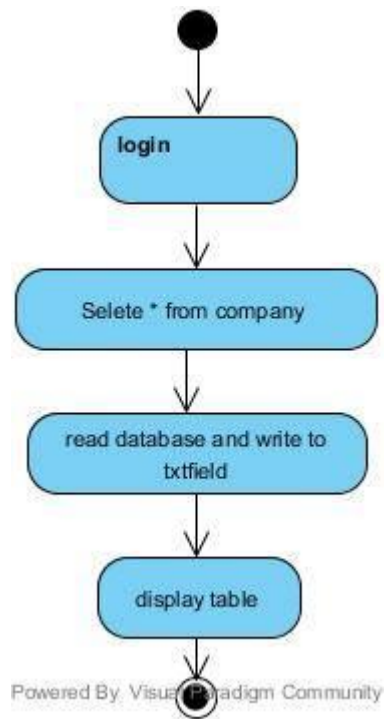
5.1.23 Component 23

5.1.24 Component 3

<TO DO: Describe the component and place the diagram here. There should be algorithm, pseudocode, flowchart, activity diagram to support the processing in the component.>

6 Deployment Design

6.1 Deployment Diagram

<TO DO: Describe the deployment diagram and place the diagram here.>

7 Updated Requirements

*<This section is **Optional**. Place the requirements that have been updated from the SRS, particularly those that would have impact on the software design.>*