

IndusTree - Factory Management Platform

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Project Title: IndusTree (Factory Management Platform)

Project Summary:

A platform to aid in the management of daily workings in a factory. It enables a centralized management system of tasks such as tracking machine stock levels, request stock. It also provides a management system for the Human Resources department for creating employee and managing employee information and enabling employees to apply for leaves and claims, search for employees and edit personal information.

Project Requirements:

Business Requirements:			
ID	Requirement	Topic Area	User
BR – 001	Login email must be “*@riomhaire.com”	Authentication	All

User Requirements:			
ID	Requirement	Topic Area	User
UR – 001	Users logs into the application	Authentication	All
UR – 002	Creation of user profiles	Authentication	HR Manager
UR – 003	Users can view their profile	Profile	All
UR – 004	Users can edit their personal information	Profile	All
UR – 005(a)	User can search for and view the public profile of other employees	Search	All
UR – 005(b)	User can search for and view all employee information	Search	HR Manager

UR – 006(a)	Users can view their machine line status	Line Status	Factory Line Employee
UR – 006(b)	Users can view machine line statuses of all lines	Line Status	Factory Supervisor
UR – 007	Users can apply for leave	Leaves and Claims	All
UR – 008	Users can apply for claims	Leaves and Claims	All
UR – 009	Users can view and delete applied leave & claims	Leaves and Claims	All
UR – 010	Users can approve/disapprove the applied leaves and claims	Approvals Central	HR Manager
UR – 011	Users can request for stock	Line Status	Factory Supervisor
UR – 012	Users can sign out	Authentication	All
UR – 013	Users can reset their passwords	Authentication	All
UR -- 014	Users can deactivate the employee profile	Authorization	Admin
UR -- 015	Users can change employee access rights	Authorization	Admin

Functional Requirements:

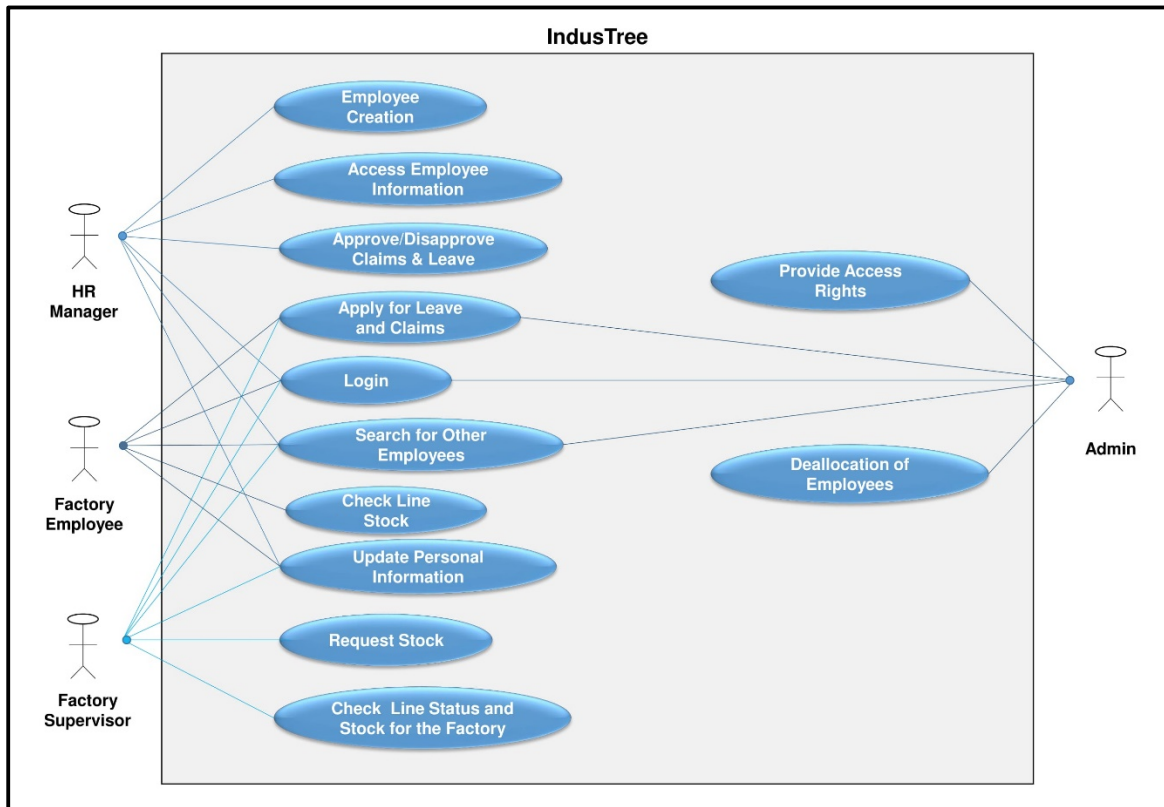
ID	Requirement	Topic Area	User
FR – 001	System should generate a unique username and password for each employee	Authentication	All
FR – 002	System should authenticate the user based on login information and can differentiate the employee type	Authentication	All
FR – 003	System should show the live status of the machine line; refreshed every minute	Line Status	Factory Line Employee, Factory Supervisor

FR – 004	Users should be notified about the applied leaves and claims	Approvals Central	HR Manager
FR – 005	Users should be notified about the approval status of their leaves and claims	Leaves and Claims	All
FR – 006	System session is maintained for 30 minutes	User Session	All
FR – 007	System should be able to notify the user when stocks are running low	Line Status	Factory Line Employee, Factory Supervisor
FR – 008	Email the employee a link to reset their password	Authentication	All

Non-Functional Requirements:			
ID	Requirement	Topic Area	User
NR – 001	Browser Independence	User Centered Design	All
NR – 002	User authentication should not take more than 5 seconds after valid credentials are entered	Latency	All
NR – 003	Search results should not take more than 10 seconds to compute after valid data is entered	Latency	All

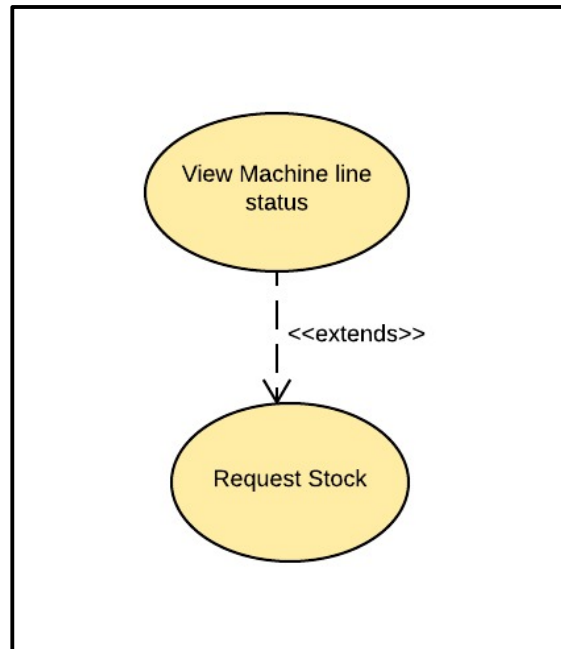
Use Cases:

- **Actors:** Factory Employee, Factory Supervisor, HR Manager, Admin
- **Use Case Overview:**

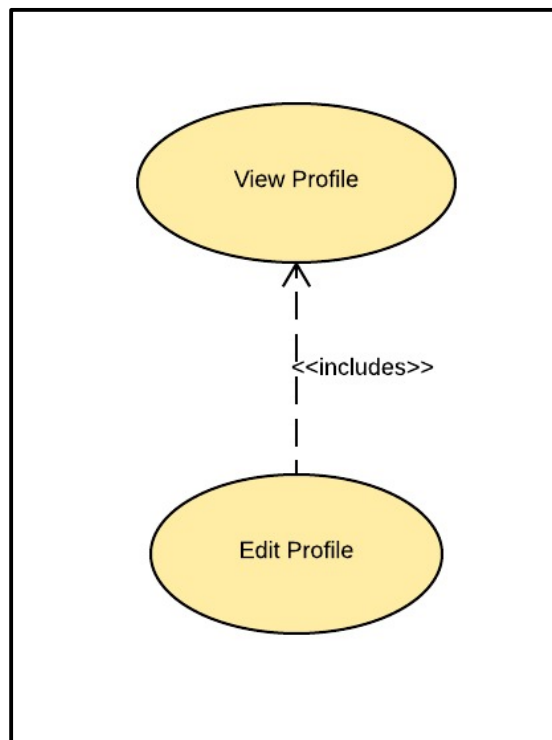


Sub Diagrams:

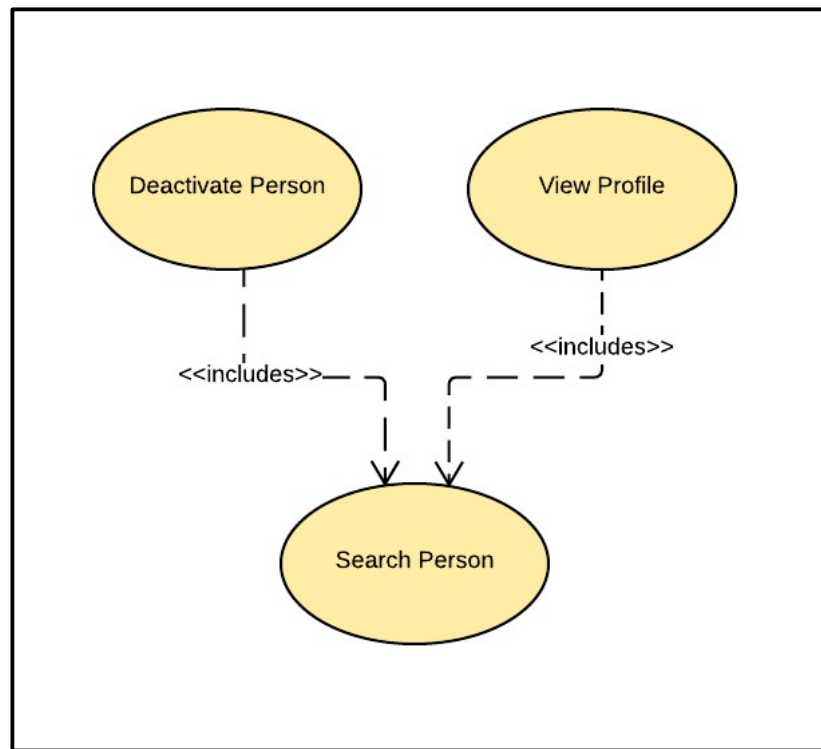
Sub Diagram 1



Sub Diagram 2



Sub Diagram 3



Data Storage:

The Project uses a MYSQL database. JDBC is used to connect with the Java driver from MYSQL to update and retrieve data from the database. The interaction with the database is done with dbConnection() which automates queries and retrieves the data.

The dbConnection class has functions with various methods to get and save updates to the databases for Employee Profiles, Machine Line Statuses and Employee requests for leaves and claims. These methods perform insert, delete and update operations on various tables (some of which are tables for Employees, Machine Types and Requests).

The dbConnection class is constructed in a way to reduce the amount of changes required in the program to modify the database.

Classes:

User class to store the information regarding the user.

- userName (unique)
- password(stored in encrypted form)
- Role (FactoryEmployee / FactoryManager / HRManager)
- lastName
- firstName
- middleName

Employee class to store the information regarding the employee.

- employeeId (unique)
- designation (designation of the employee)
- department (department which the employee is in)
- emailAddress (employee contact address)
- dateOfJoining (date on which the employee joined)
- workContact
- managerId (employeeId of the manager)

EmployeeLeave class to store the information regarding the employee leave.

- employeeLeavId (unique)
- leaveType (CASUAL/OPTIONAL)
- leaveStatusType(APPLIED/PENDING/APPROVED)
- leaveappliedDate(date on which the leave has been applied)
- leaveapprovedDate (date on which the leave has approved)
- leaveStartDate (startdate of the leave)
- leaveEndDate (enddate of the leave)
- notes (comments)

EmployeeClaim class to store the information regarding the employee claim.

- employeeClaimId (unique)

- claimItemType (ItemTypes that can be claimed)
- purchaseDate (Date on which the Item has been bought)
- responseDate (Date on which the Item has been approved)
- amount (amount of the item)
- claimStatus(APPLIED/APPROVED)

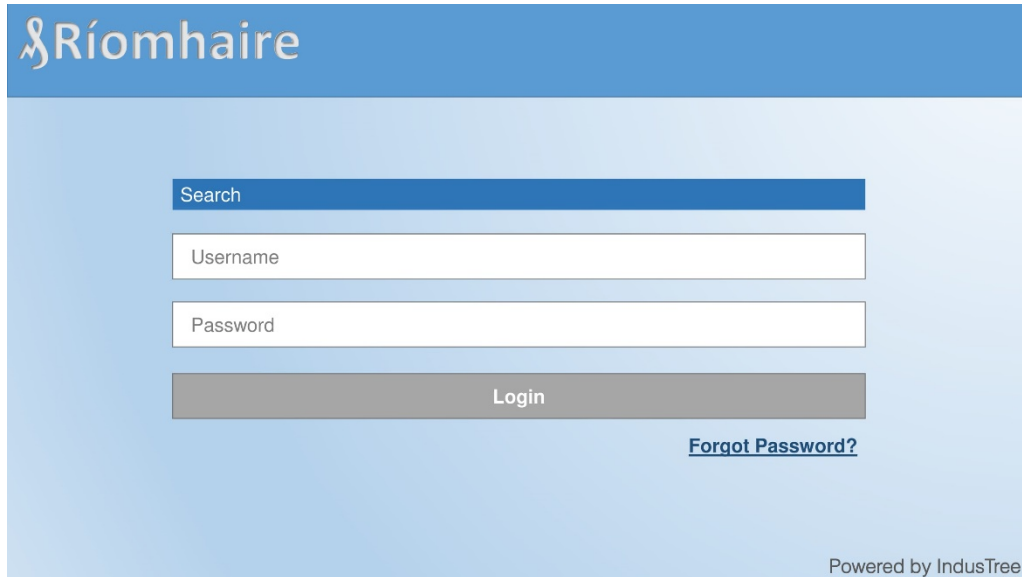
WorkingMachineLineStatus class to store the information regarding the machine line status

- workingMachineLineStatusId (unique)
- stock (stock number of the line)
- firstInLine (the product number of the first product in line)
- lastInLine(the product number of the last product in line)
- machineType (CASING/SCREEN/BATTERY/ELECTRONICS)

UI Mockups

All Users:

Login Page



The login page features a blue header with the 'Ríomhaire' logo. Below the header, there is a search bar, followed by input fields for 'Username' and 'Password'. A grey 'Login' button is positioned below the password field. To the right of the button is a blue link for 'Forgot Password?'. The footer includes the text 'Powered by IndusTree'.

Ríomhaire

Search

Username

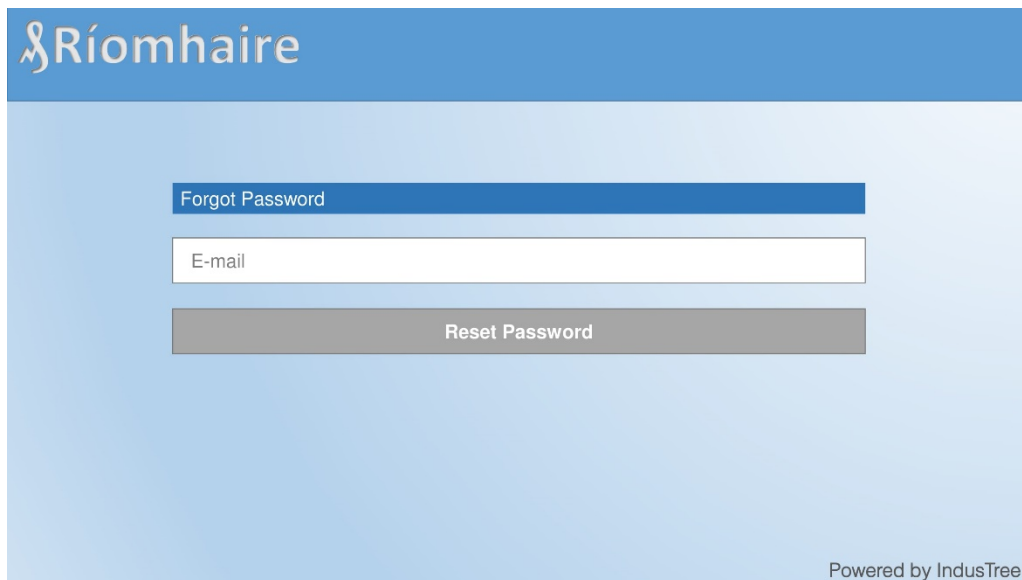
Password

Login

[Forgot Password?](#)

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Forgot Password Page



The forgot password page has a blue header with the 'Ríomhaire' logo. Below the header, there is a 'Forgot Password' section header, followed by an 'E-mail' input field. A grey 'Reset Password' button is located below the input field. The footer contains the text 'Powered by IndusTree'.

Ríomhaire


Forgot Password

E-mail

Reset Password

Powered by IndusTree

Dashboard

Ríomhaire

My Account Sign Out

Dashboard

My Line

Employee Search

My Leave & Claims

Notifications

- ❖ You have applied for Claim 4156 (Screwdriver) [Delete](#)
- ❖ Your leave application 124 for 12/25/17 has been approved

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Employee Search

Ríomhaire

My Account Sign Out

Dashboard

My Line

Employee Search

My Leave & Claims

Search

Name

Department

Search

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My Account Sign Out

Dashboard

My Line

Employee Search

My Leave & Claims

Search Results

Name	Department
<u>James, Acaster</u>	Factory Supervisor
<u>James, Fallon</u>	HR

James

Department

Search Again

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[Dashboard](#)[My Line](#)[Employee Search](#)[My Leave & Claims](#)

Employee Search

Employee Name	Role	Department	Contact Information
James Acaster	Intern	Manufacturing	+4-568-382-7742

Email
james.acaster@riomhaire.com

Application for Leave & Claims

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[My Account](#) [Sign Out](#)

Dashboard

My Line

Employee Search

My Leave & Claims

Claims

Item Name

Item ID

Purchase Date

Amount

Apply for Claim


Leave

Start Date

End Date

Note

Apply

Ríomhaire

[My Account](#) [Sign Out](#)

Dashboard

My Line

Employee Search

My Leave & Claims

Successfully Applied for Screwdriver. Your Claim ID is 4256.

Claims

Item Name

Item ID

Purchase Date

Amount

Apply for Claim


Leave

Start Date

End Date

Note

My Account



[My Account](#) [Sign Out](#)

Dashboard

My Line

Employee Search

My Leave & Claims


My Account

Edit Profile

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Factory Employee:

Line Status



My Account Sign Out









Dashboard

My Line

Employee Search

My Leave & Claims


My Line

Line Status	 Electronics	 Screen	 Casing	 Battery
				
	Working	Malfunction	Stock Low	Off
Processing #	61-80	41-60	21-40	1-20
Stock	225	245	25	220

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HR Manager:

Approval page for Leave and Claims



My AccountSign Out

Dashboard

Approval Central

Employee Creation


Employee Search

My Leave & Claims

Approval Central

Employee Name	Item Name	Item ID	Purchase Date	Amount	Approved
<u>James, A</u>	Screwdriver	4598	1/22/17	55.00 \$	<input type="checkbox"/>
<u>Donna, P</u>	Stapler	522	1/11/17	12.50 \$	<input checked="" type="checkbox"/>

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My AccountSign Out

Dashboard

Approval Central

Employee Creation

Employee Search

My Leave & Claims

Pending Approvals

Employee Name	Item Name	Item ID	Purchase Date	Amount
James, Acaster	Screwdriver	4598	1/22/17	55.00 \$

Approve

Disapprove

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Create a New Employee

Ríomhaire

[My Account](#) [Sign Out](#)

[Dashboard](#)
[Approval Central](#)
[Employee Central](#)
[Employee Search](#)
[My Leave & Claims](#)

Employee Central

First Name*

Last Name*

Middle Initial

Contact Number*


Date of Birth*

Department*

Create Employee

Factory Supervisor:

Factory Line Statuses



My AccountSign Out

Dashboard









Line Statuses

Employee Search

My Leave & Claims

Line Statuses


Line 1

	 Electronics	 Screen	 Casing	 Battery
Line Status				
	Working	Malfunction	Stock Low	Off
Processing #	61-80	41-60	21-40	1-20
Stock	225	245	25	220
	Request Stock	Request Stock	Request Stock	Request Stock

Line 2

Admin:

Modify Access Rights



My AccountSign Out

Dashboard

Access Central


Employee Search

My Leave & Claims

Access Central

Employee Name	Role	Department	Last Edited
James, Acaster	Intern	Manufacturing	1/22/17
Donna, Paulson	Supervisor	Manufacturing	1/11/17

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My AccountSign Out

Dashboard

Access Central

Employee Search

My Leave & Claims

Designated Access Rights

Employee Name	Role	Department	Last Edited
James, Acaster	Intern ▼	Manufacturing ▼	1/22/17

Update

Deactivate

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Class Diagram

