

# **Information Technology Center**



## **ITC Networking Services and Billing System (ITCNSBS)**

### **Technical Requirements Specification**

**Version: 6.0**

**Date: 07/11/16**

## **Document History and Distribution**

### **1. Revision History**

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## 1. INTRODUCTION

### 1.1 Purpose

This software requirement specification serves as an overview and provides a complete description of all the functions and specifications of the ITC Billing System of the Information Technology Center, University of the Philippines, Los Baños.

This document will serve as the baseline for the developers on the implementation of the design and development of the software. This allows users to know what to expect in the software. This also serves as the guide for the testers on the evaluation of the software's features and specifications.

### 1.2 Scope

The project aims to create a unified and online billing system for UPLB ITC. This includes the filing of job requests by the users, viewing the job requests filed and scheduling the job requests. The project can also track the job request and it can also generate bills and reports regarding the job request done.

### 1.3 Definitions, Acronyms and Abbreviations

Acronym	Meaning
ITC	Information Technology Center
UPLB	University of the Philippines Los Baños
ITCBS	Information Technology Center Billing System
SRS	Software Requirements Specification

*Table 1. Acronyms used and its respective definition*

<b>Term/Phrase</b>	<b>Meaning Someone who avails the services of</b>
Client	Someone who avails the services of UPLB ITC.
Technician	User that has the ability to update(set the priority level of a certain job and mark job request as done), edit and cancel job requests, add materials and generate bill.
Administrator	User that has the ability to view job requests(set the priority level of a certain job), edit and cancel job request, add materials and generate bill.
Super Administrator	User that has the ability to file, view, update(set the priority level of a certain job and mark job request as done), edit and cancel job requests, add recommended materials, generate bill, generate report and create account.
Job Request	A form that includes the details of the service that the client has availed.
Bill	A form that includes the total amount and job requests a client has to pay.
User	Client, Technician, Administrator, Super Administrator

*Table 2. Terms and Phrases used and its respective definitions*

## **1.4 References**

### **1.4.1 Applicable Documents**

- A) **2015 ITC Billing System (ITCBS)** Software Requirements Specification *Version 5.0*

## **1.5 Product Overview**

The ITC Billing System (ITCBS) integrates the billing system for UPLB ITC's System Administration, Network Administration and Technical Support sections. It caters to the need of the ITC team of a common system in managing job requests.

## **2. SPECIFIC REQUIREMENTS**

### **2.1 External Interface Requirements**

#### **2.1.1 User Interfaces**

User interface is defined to make an ease for the user to use the system. User needs to log in to the system first to be able to access the system. Upon logging in, the user will first be directed to the home page which shows the updates and announcements. Based on the type of account the user logs in, whether as a Client, Technician, Administrator or Super Administrator, the user can access the site with specific limitations per user type. The Client can only file job request and view his job requests. The Technician can set the priority level of a certain job, edit and cancel job requests, add materials and generate bill. Administrator is the user who can view job requests, set the priority level of a certain job, edit and cancel job request, add materials, generate bill and report. The Super Administrator has the ability to file, view, update (set the priority level of a certain job and mark job request as done), edit and cancel job requests, add recommended materials, generate bill, generate report and create account.

#### **2.1.2 Hardware Interfaces**

ITC billing system is a web-based system that needs a server to handle the web application and its database. Any computer owned by the ITC team which has an access to the Internet will be able to use the system. The system will use printers for producing a hard copy of the job request forms and statement of account. There is no specific kind of printer required to use in the system and the printer driver must be installed depending on the kind of printer used. The USB port will also be used to connect the printer into the computer.

#### **2.1.3 Software Interfaces**

The system uses the standard web development tools to be able to create the system. No necessary external tools will be needed.

1. **Code Igniter** framework will be used for the development of the system.
2. **MariaDB Version 10.0.25** will be utilized by the system to manage the database. The tables to be used will be well defined for the system to access the database easily and quickly.

#### **2.1.4 Communication Protocols**

Since ITC billing system is a web-based system that could be reached through the Internet and mainly accessed using a web browser Hypertext Transfer Protocol (HTTP) will be used for data communication between the system and the users.

#### **2.1.5 Memory Constraints**

For the users' side, the computers they are using in their office are well advanced to handle the operations that they need to do in the system. The system will take up to some kilobytes depending on the browser it is being accessed. For the least amount, it may take up to 64MB of the memory. For the server side, the university has already one which is used to handle multiple user requests for its main site.

#### **2.1.6 Operation**

The users (Technician, Administrator, Super Administrator) can entertain request from client within office hours from 8am to 5pm, Mondays-Fridays. They can update the job request and generate the bill for printing. Since the system to be developed is to be deployed locally, the site can only be accessed within the offices. Requests may only be encoded and processed within office hours.

#### **2.1.7 Product Function**

The system will keep record of all the services requested from the ITC. The system will generate a printed version of the job requests and bills for each service done.

#### **2.1.8 Assumptions and Dependencies**

The system assumes that there will only be four types of users of the system, the Super Administrator, Administrator, Technician and the Client. Each user type has its own access levels.

Users from each type have a predefined interface for their convenience. Each user must also use the latest version of the browser that they are using. The users (Super Administrator, Administrator, Technician) must update the job request forms and bills frequently so that the system will be able to update the database.

### **2.2 Software Product Features**

The software product must be able to do the following:



1. The user can see the recent job requests and be able to view the details of each job request.
2. The user can add, edit and cancel job request whenever they have to. This includes the updating of the job request whether it is already done or still on-going.
3. The system can generate job request forms and a viewable record of accepted jobs.

## **2.3 Software System Attributes**

### **2.3.1 Reliability**

The system must be able to recover from a serious error. It will also post warning messages if there will be errors encountered or during maintenance.

### **2.3.2 Availability**

The system will be available online and in the ITC office.

### **2.3.3 Security**

In order to use the system, the user must log-in first using his account. The password entered by the user when his account was encrypted using SHA1 so that the user will be the only one who knows his password.

### **2.3.4 Maintainability**

The system will comply with the w3c web standards. The coding convention should be well-documented.

### **2.3.5 Portability**

ITC billing system will be able to run on any operating system as long as it has a web browser on its latest version.

### **2.3.6 Performance**

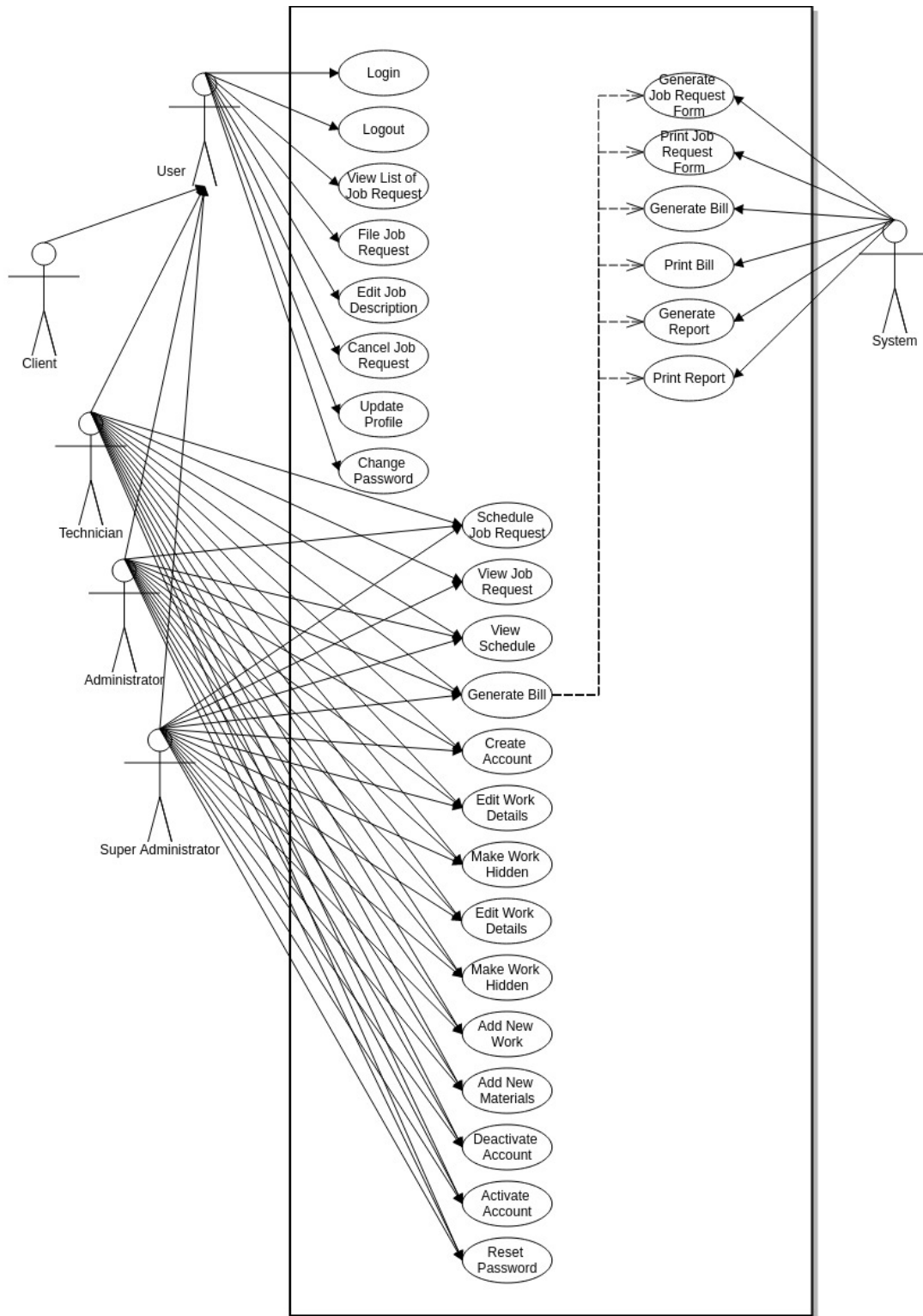
The system must be able to handle requests and usage of the user swiftly and at ease. Considering some possible constraints like Internet connection speed, server and computer hardware, web browser and etc., the ITCBS's services should still cater the needs of the user.

## **2.4 Database Requirements**

The system will use MariaDB Version 10.0.25 as its database. The system will have its own database which will be used for storing and tracking Job Requests and current funds.

### 3. Functional Requirements

#### 3.1 Use Cases

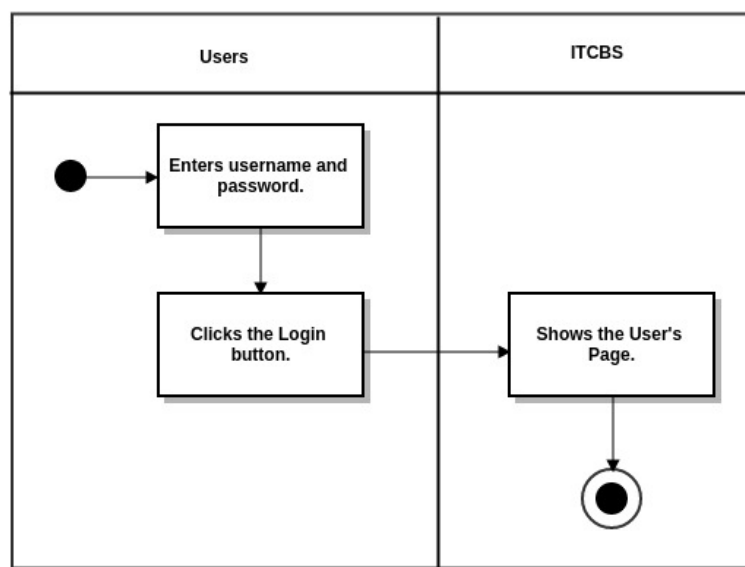


### 3.1.1 Login

#### A. Use Case Specification

Description	The Users enters his/her username and password.
Goal	To allow only valid administrators and users to use the
Preconditions	The system is online.
Assumptions	You are connected to a network.
Frequency	Every time the user needs to use the system.
Flow of Events	Main Flow: 1. The User enters his/her username and password 2. The User clicks the Log In button.  2. System Authentication. <b>A) Alternate Flow: Authentication fails.</b> A1) Prompt “Invalid Credentials”. A2) Return to step 1 of the Main Flow.
Post conditions	The User can now access and use the system.
Actors	Users (Super Administrator, Technician, Administrator, Client)
Included Use Cases	None
Extended Use Cases	None
Notes	

#### B. Activity Diagram



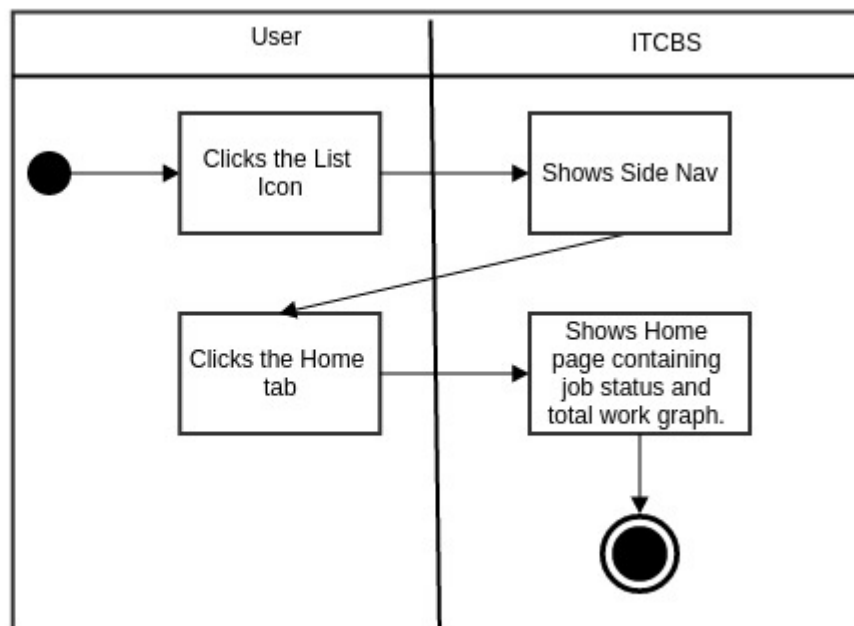
### 3.1.1.1 HOME

#### 3.1.1.1.1 as SuperAdmin, Admin, Technician

##### A. Use Case Specification

Description	The User views Home page.
Goal	To view the Home page.
Preconditions	The system is online.
Assumptions	You are connected to a network.
Frequency	Every time the user logs in.
Flow of Events	1. The User clicks the List Icon. 2. The User clicks the Home tab.
Post conditions	The User can view the Home page containing job status and total work graph.
Actors	Users (Super Administrator, Technician, Administrator)
Included Use Cases	None
Extended Use Cases	None
Notes	

##### B. Activity Diagram

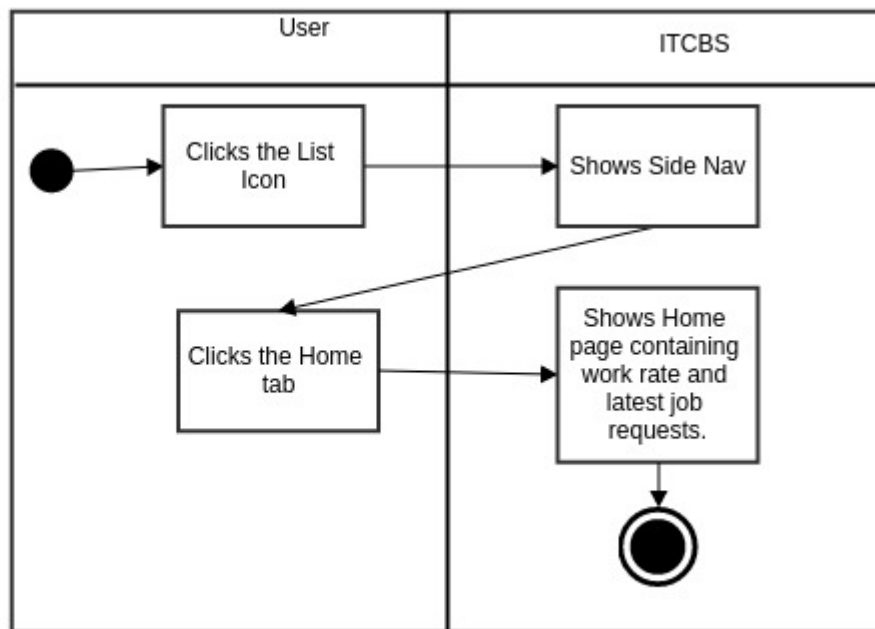


### 3.1.1.1.2 as Client

#### A. Use Case Specification

Description	The User views Home page.
Goal	To view the Home page.
Preconditions	The system is online.
Assumptions	You are connected to a network.
Frequency	Every time the user logs in.
Flow of Events	1. The User clicks the List Icon. 2. The User clicks the Home tab.
Post conditions	The User can view the Home page containing work rate and latest job requests.
Actors	Users (Client)
Included Use Cases	None
Extended Use Cases	None
Notes	

#### B. Activity Diagram



### 3.1.1.2 ANNOUNCEMENTS

#### 3.1.1.2.1 as SuperAdmin, Admin, Technician

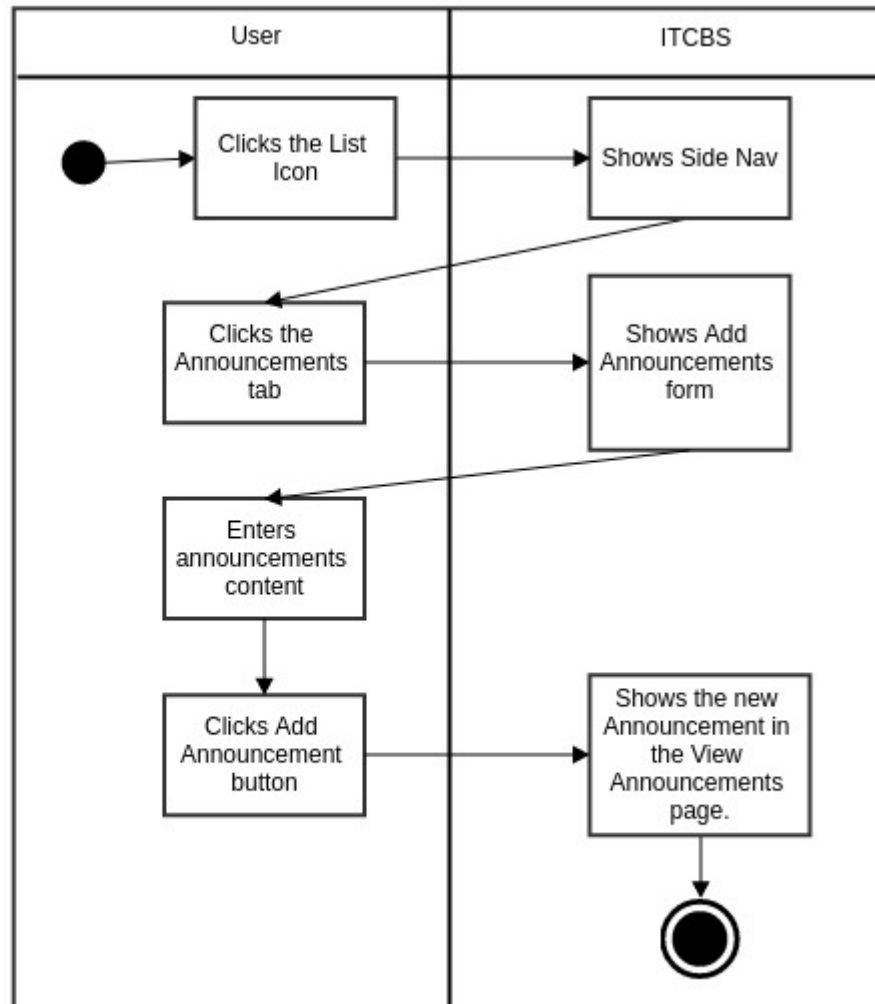
##### 3.1.1.2.1.1 Add Announcements

##### 3.1.1.2.1.1.1 Add Announcement

#### A. Use Case Specification

Description	The User adds announcement.
Goal	To add announcement in the Announcements page.
Preconditions	The system is online.
Assumptions	You are connected to a network. You are already in the Announcements tab.
Frequency	Every time the user wants to add announcement.
Flow of Events	1. The User clicks the List Icon 2. The User clicks the Announcements tab. 3. The User enters announcements data in the Add Announcements form. 4. The User clicks Add Announcements button.
Post conditions	The User adds the new Announcement in the View Announcements page.
Actors	Users (Super Administrator, Technician, Administrator)
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram



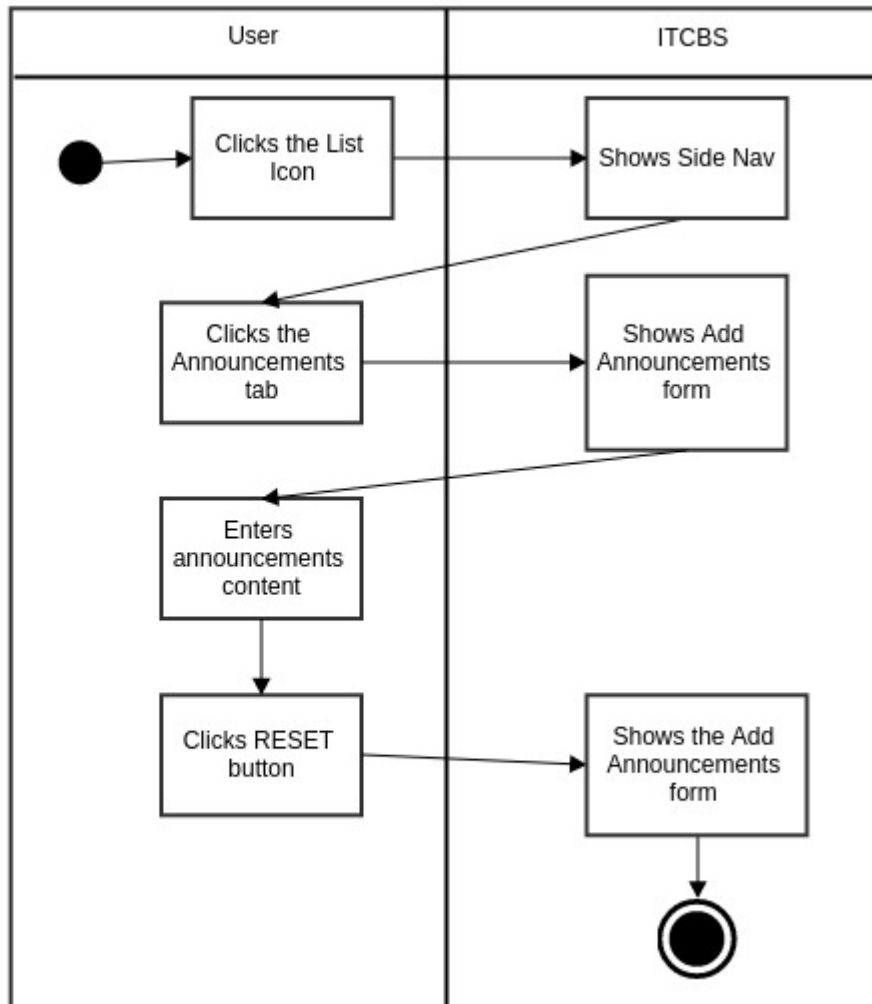
### 3.1.1.2.1.1.2 Reset

#### A. Use Case Specification

Description	The User resets the announcement in the Add Announcements form.
Goal	To reset the announcement in the Add Announcements form
Preconditions	The system is online. You are already in the Announcements tab.
Assumptions	You are connected to a network.
Frequency	Every time the user wants to reset the data entered in the Add Announcements form.
Flow of Events	1. The User clicks the List Icon. 2. The User clicks the Announcements tab. 3. The User enters announcements data in the Add Announcements form. 4. The User clicks Reset button.
Post conditions	The User resets the Add Announcements form.
Actors	Users (Super Administrator, Technician, Administrator)
Included Use Cases	None
Extended Use Cases	None
Notes	



## B. Activity Diagram

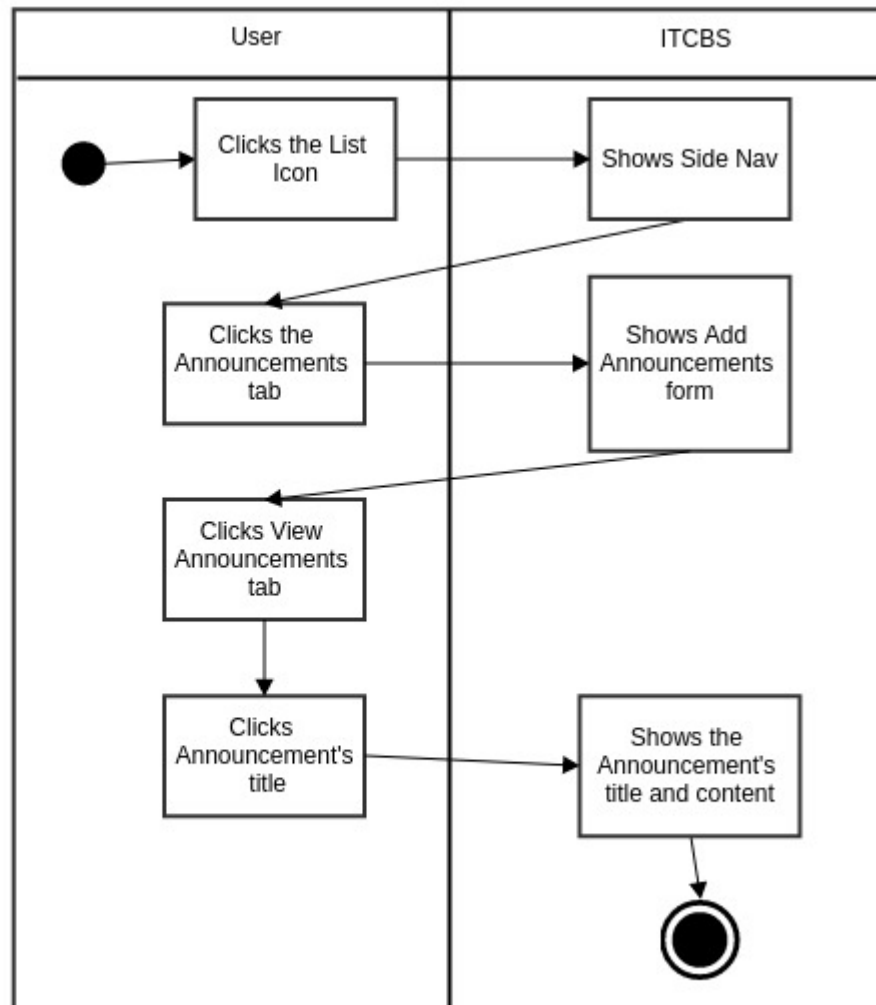


### 3.1.1.2.1.2 View Announcement

#### A. Use Case Specification

Description	The User views the list of Announcements.
Goal	To view the Announcements' title and content.
Preconditions	The system is online.
Assumptions	You are connected to a network. You are already in the Announcements tab.
Frequency	Every time the user wants to view the list of Announcements.
Flow of Events	1. The User clicks the List Icon. 2. The User clicks the Announcements tab. 3. The User clicks View Announcements tab. 4. The User clicks the Announcement's title.
Post conditions	The User views the Announcements' title and content.
Actors	Users (Super Administrator, Technician, Administrator)
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

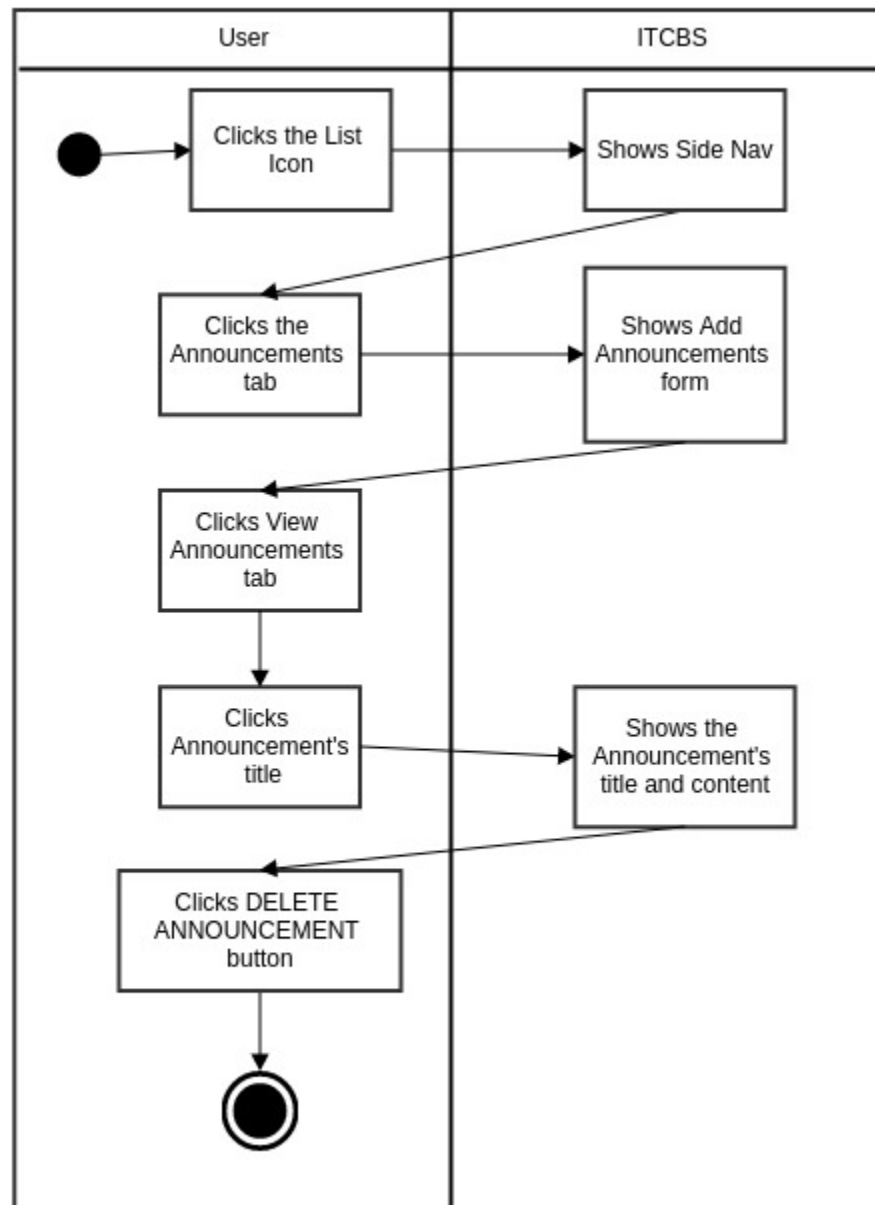


### 3.1.1.2.1.2.1 Delete Announcement

#### A. Use Case Specification

Description	The User deletes the Announcement.
Goal	To delete the Announcements' title and content.
Preconditions	The system is online. You are already in the Announcements tab.
Assumptions	You are connected to a network.
Frequency	Every time the user wants to delete the Announcement.
Flow of Events	1. The User clicks the List Icon. 2. The User clicks the Announcements tab. 3. The User clicks View Announcements tab. 4. The User clicks the Announcement's title. 5. The User clicks the DELETE ANNOUNCEMENT button.
Post conditions	The announcement was deleted.
Actors	Users (Super Administrator, Technician, Administrator)
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

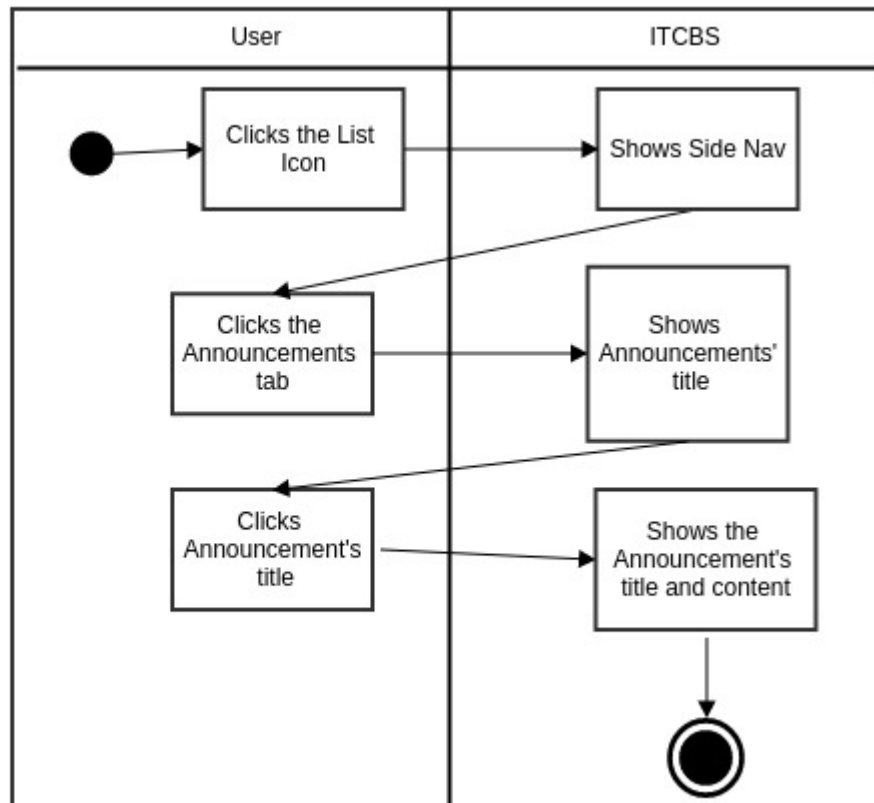


### 3.1.1.2.2 as Client

#### A. Use Case Specification

Description	The User views the list of Announcements.
Goal	To view the Announcements' title and content.
Preconditions	The system is online. You are already in the Announcements tab.
Assumptions	You are connected to a network.
Frequency	Every time the user wants to view the list of Announcements.
Flow of Events	1. The User clicks List Icon. 2. The User clicks the Announcements tab. 3. The User clicks the Announcement's title.
Post conditions	The User views the Announcements' title and content.
Actors	Users (Client)
Included Use Cases	None
Extended Use Cases	None
Notes	

#### B. Activity Diagram



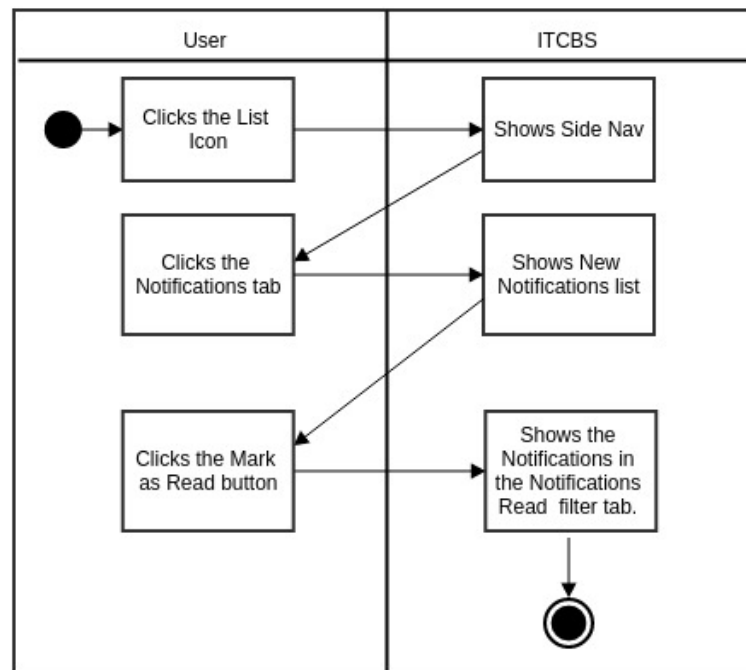
### 3.1.1.3 NOTIFICATIONS

#### 3.1.1.3.1 New Notifications (Mark as Read)

##### A. Use Case Specification

Description	The User views new notifications and marks as read.
Goal	To view new notifications and mark as read.
Preconditions	The system is online.
Assumptions	You are connected to a network. You are already in the Notifications tab.
Frequency	Every time the user wants to view new notifications and mark as read.
Flow of Events	1. The User clicks the List Icon. 2. The User clicks the Notifications tab. 3. The User clicks the Mark as Read button.
Post conditions	The User can view the Notifications in the Notifications Read filter tab.
Actors	Users (Super Administrator, Technician, Administrator, Client)
Included Use Cases	None
Extended Use Cases	None
Notes	

##### B. Activity Diagram

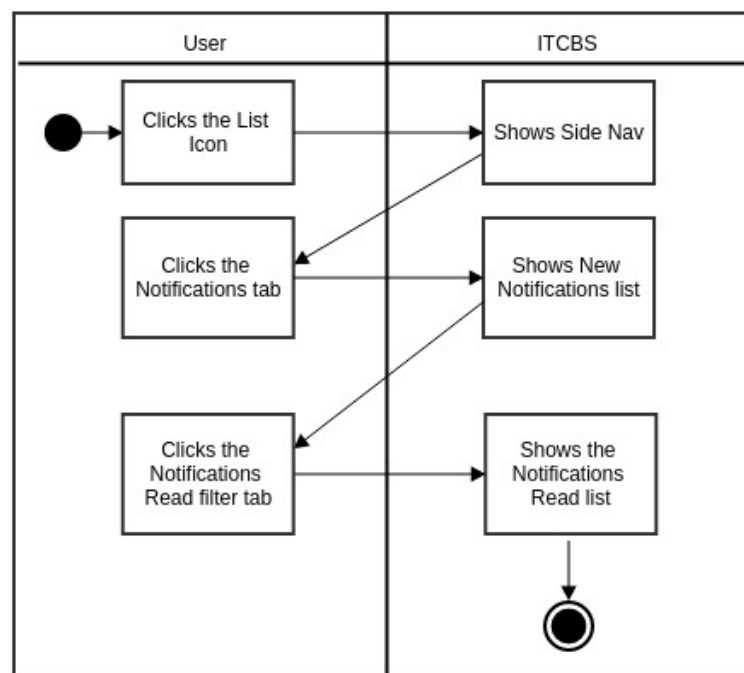


### 3.1.1.3.2 Notifications Read

#### A. Use Case Specification

Description	The User views notifications read.
Goal	To view notifications read.
Preconditions	The system is online.
Assumptions	You are connected to a network. You are in the Notifications tab.
Frequency	Every time the user wants to view notifications read.
Flow of Events	1. The User clicks the List Icon. 2. The User clicks the Notifications tab. 3. The User clicks the Notifications Read filter tab.
Post conditions	The User can view the Notifications in the Notifications Read filter tab.
Actors	Users (Super Administrator, Technician, Administrator, Client)
Included Use Cases	None
Extended Use Cases	None
Notes	

#### B. Activity Diagram





### 3.1.1.4 JOB REQUESTS

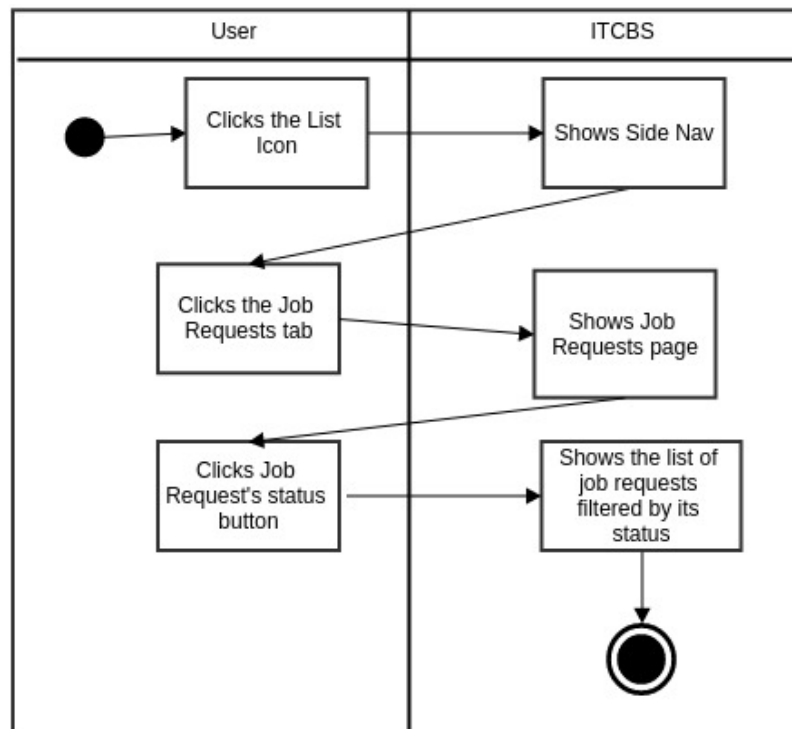
#### 3.1.1.4.1 View List of Job Requests

##### 3.1.1.4.1.1 View (According To Status)

###### A. Use Case Specification

Description	The User views job requests according to its status
Goal	To view job requests according to its status
Preconditions	The system is online.
Assumptions	You are connected to a network. You are already in the Announcements tab.
Frequency	Every time the user wants to view the job requests.
Flow of Events	1. The User clicks the List Icon. 2. The User clicks the Job Request tab. 3. The User clicks the Job Request status button (PENDING, CANCELLED, PROCESSING, PROCESSED)
Post conditions	The User can view the job request according to its status.
Actors	Users (Super Administrator, Technician, Administrator, Client)
Included Use Cases	None
Extended Use Cases	None
Notes	

###### 3.1.1.3.1.1.B Activity Diagram



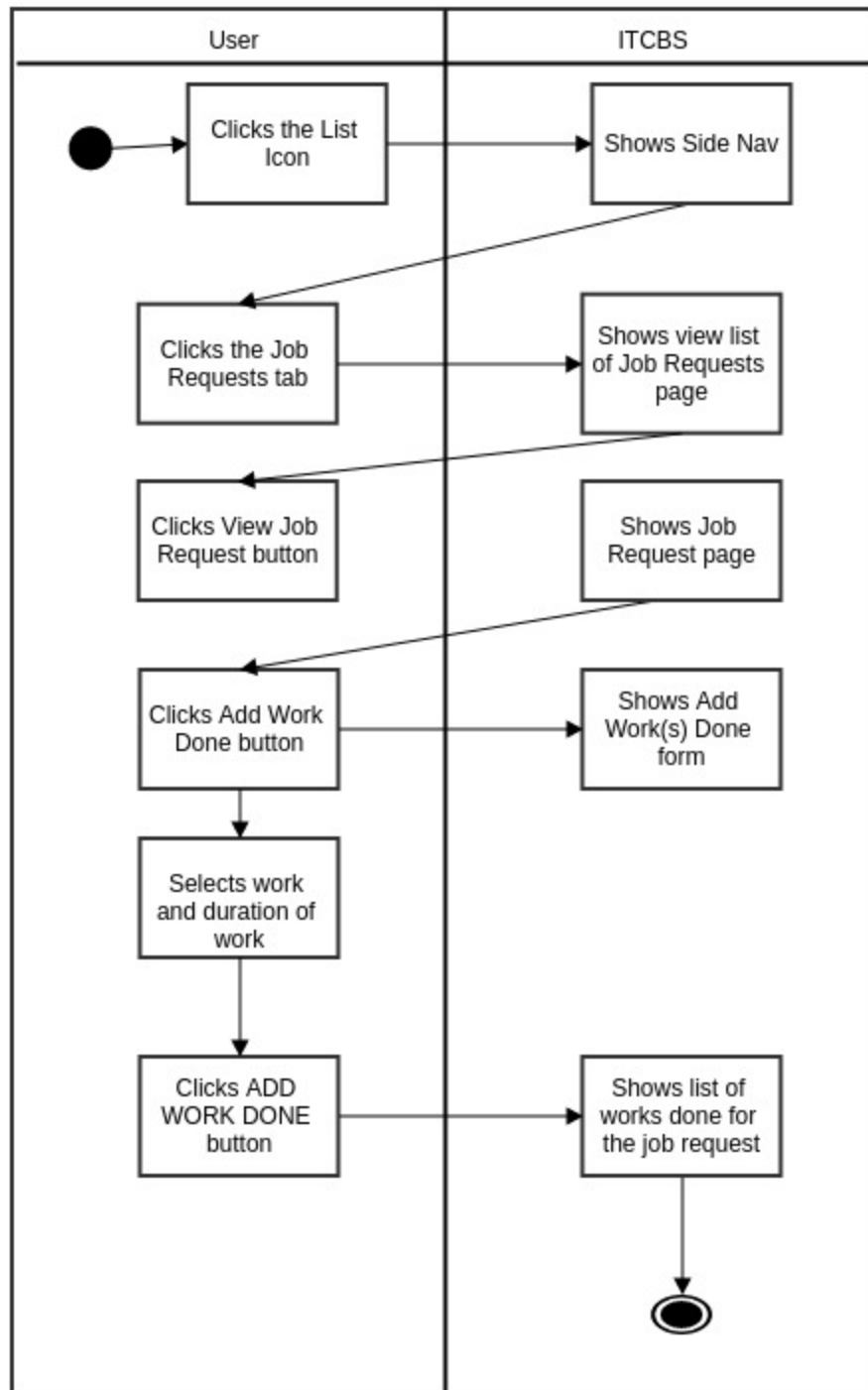
### 3.1.1.4.1.1.a View Job Requests (Job Request status: PROCESSING)

#### 3.1.1.4.1.1.a.1 Work(s) Done

##### A. Use Case Specification

Description	The User (Super Administrator, Technician) inputs the works done for the problem to be solved.
Goal	To insert what are the works done for the problem.
Preconditions	The Users should be logged-in.
Assumptions	You are connected to a network. You are already on the Job Requests Tab
Frequency	Every time the user wants to add what are the works done for the job request.
Flow of Events	Main Flow: 1. The User clicks List Icon. 2. The User clicks the View Schedule tab. 3. The User clicks View Job Requests button. 4. The User clicks the Add Work Done button. 5. The User selects work and duration of work. 6. The User clicks the ADD WORK DONE button.
Post-conditions	The User can see the works done in the Job Request page.
Actors	Super Administrator, Technician
Included Use Cases	None
Extended Use Cases	None
Notes	

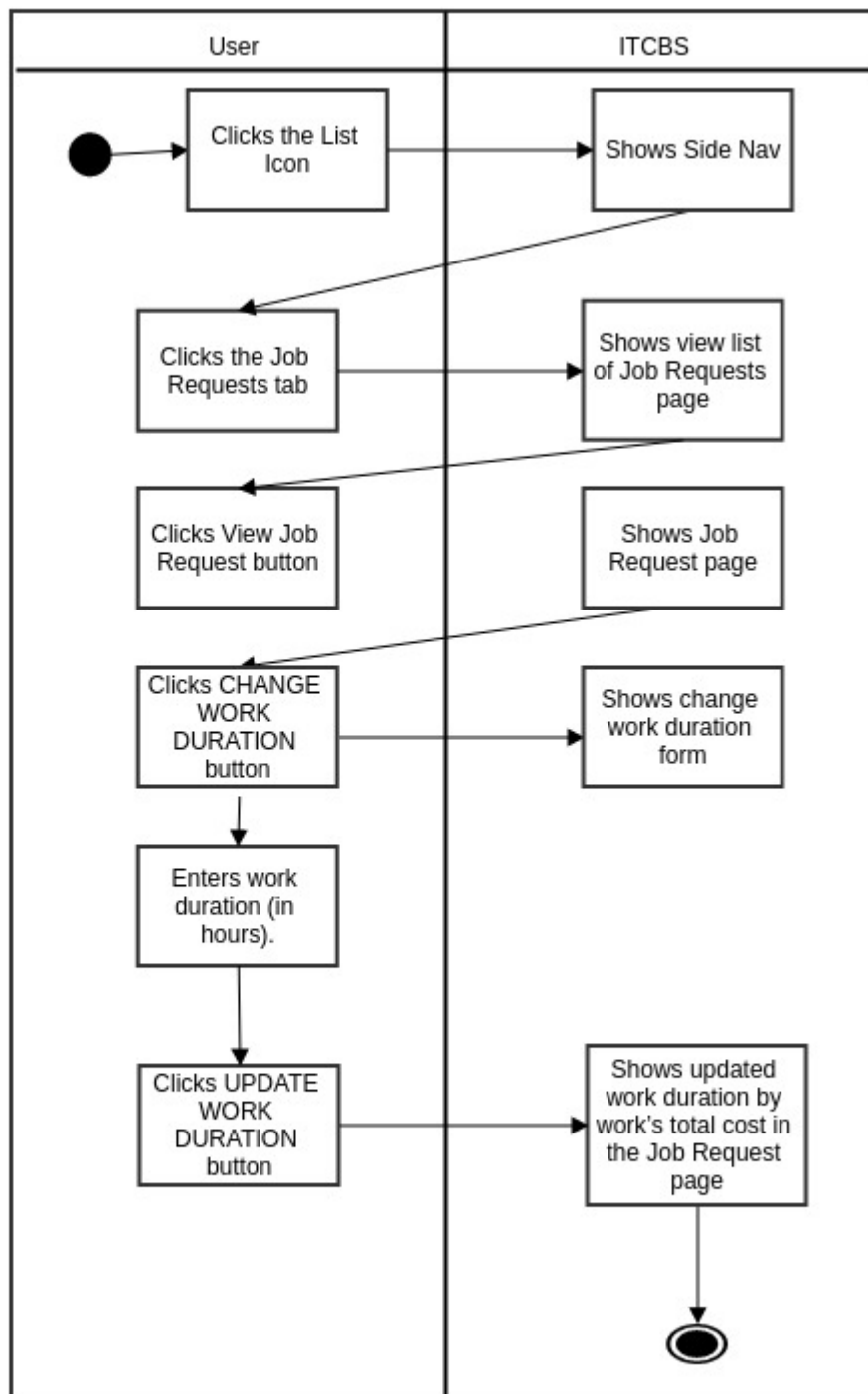
## B. Activity Diagram



**3.1.1.4.1.1.a.1.1 Change Work Duration**  
**A. Use Case Specification**

Description	The User (Super Administrator, Technician) inputs the works done for the problem to be solved.
Goal	To change the work duration
Preconditions	The Users should be logged-in.
Assumptions	You are connected to a network.  You are already on the Job Requests Tab.
Frequency	Every time the user wants to change the work duration
Flow of Events	Main Flow: 1. The User clicks List Icon. 2. The User clicks the Job Request tab. 3. The User clicks View Job Requests button. 4. The User clicks Change Work Duration button. 5. The User enters work duration (in hours). 6. The User clicks UPDATE WORK DURATION.
Post-conditions	The User can see the updated work duration by work's total cost in the Job Request page
Actors	Super Administrator, Technician
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

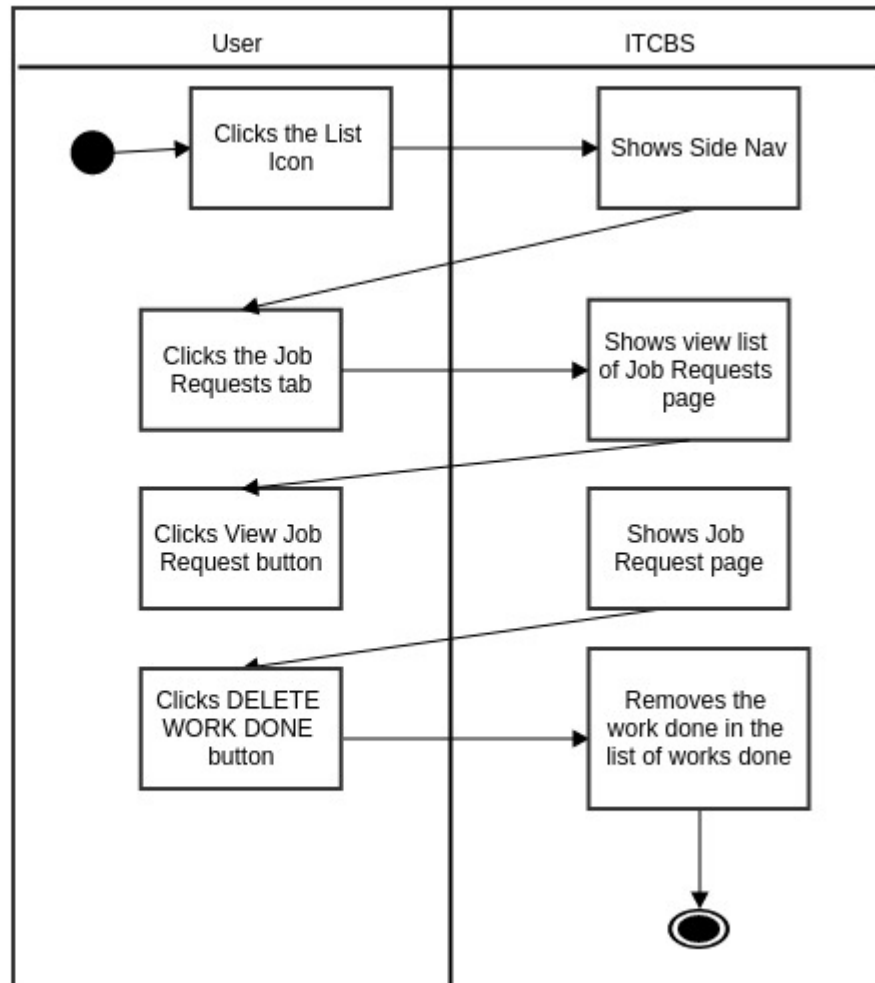


### 3.1.1.4.1.1.a.1.2 Delete Work Done

#### A. Use Case Specification

Description	The User (Super Administrator, Technician) deletes the works done for the problem to be solved.
Goal	To delete the work done for the problem
Preconditions	The Users should be logged-in.
Assumptions	You are connected to a network.  You are already on the Job Requests Tab.
Frequency	Every time the user wants to delete the work done for the job request
Flow of Events	Main Flow: 1. The User clicks List Icon. 2. The User clicks the Job Request tab. 3. The User clicks View Job Requests button. 4. The User clicks DELETE WORK DONE.
Post-conditions	The work done is removed from the list of works done.
Actors	Super Administrator, Technician, Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram



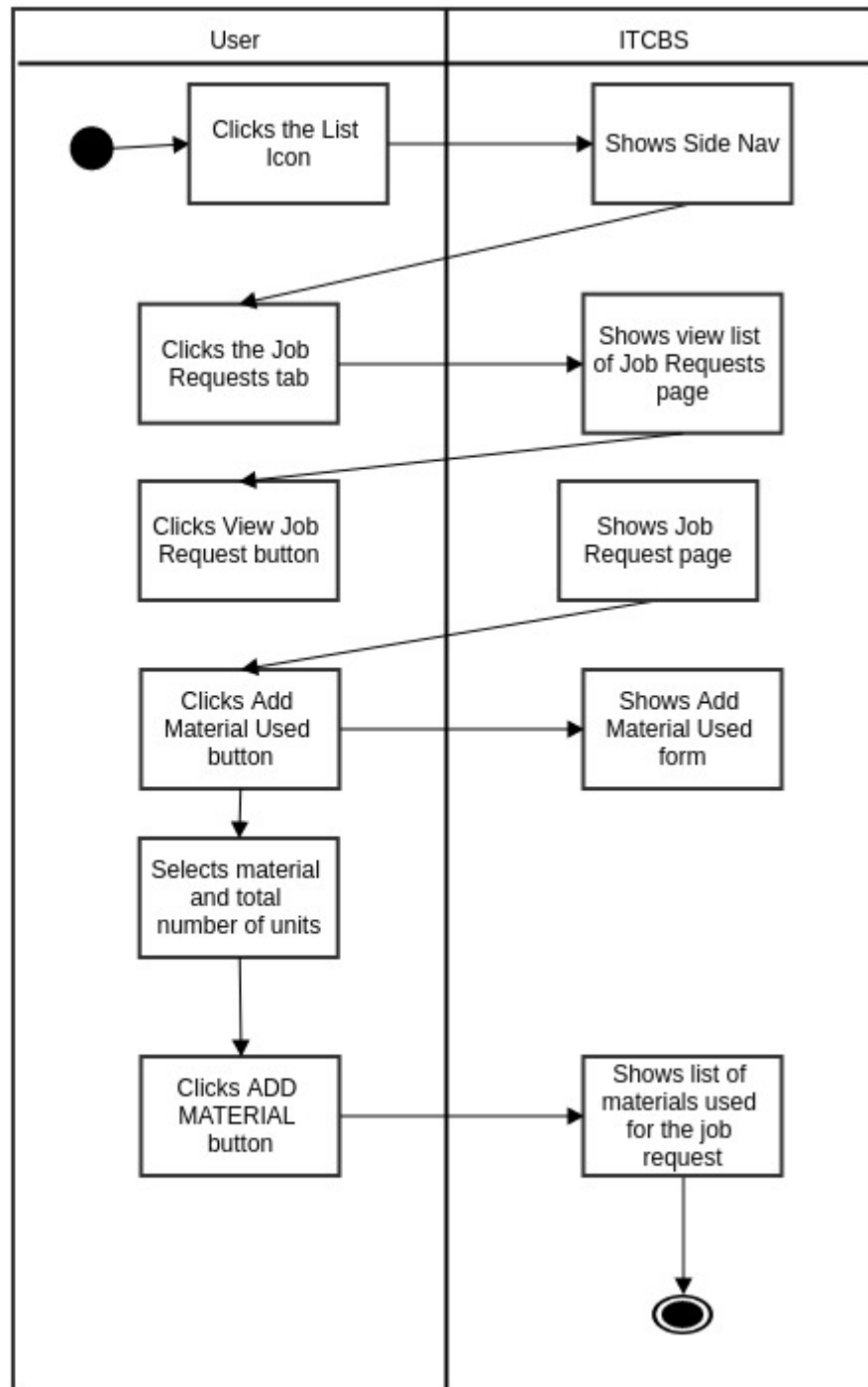
### 3.1.1.4.1.1.a.2 Materials Used

#### A. Use Case Specification

Description	The User (Super Administrator, Technician) inputs the materials used for the job request.
Goal	To add the materials used.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network. You are already on the Job Requests Tab.
Frequency	Every time the user wants to add the materials used for the job request.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Job Request tab. 3. The User clicks View Job Request button. 4. The User clicks Add Materials Used button. 5. The User selects material and inputs total number of units . 6. The User clicks the Add Material button.
Post-conditions	The User can see the materials used in the Job Request page
Actors	Super Administrator, Technician
Included Use Cases	None
Extended Use Cases	None
Notes	



## B. Activity Diagram

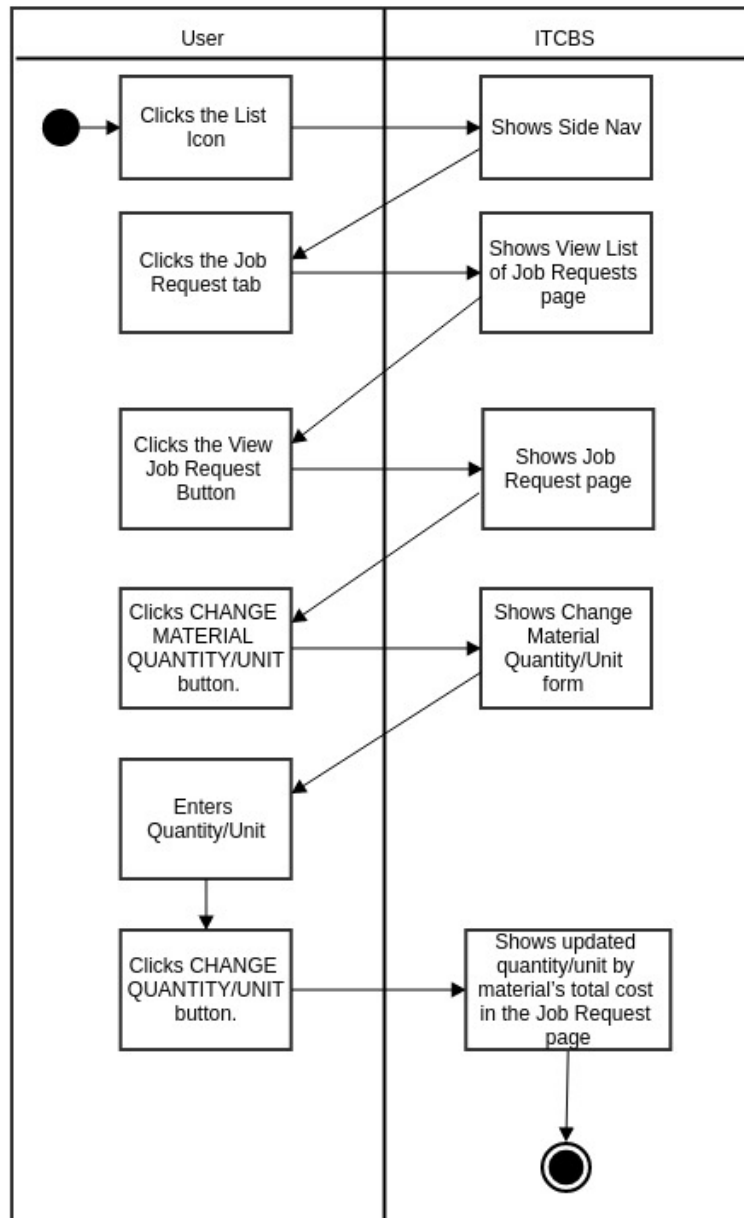


### 3.1.1.4.1.1.a.2.1 Change Material Quantity/Unit

#### A. Use Case Specification

Description	The User (Super Administrator, Technician) changes material quantity/unit.
Goal	To change the material quantity/unit
Preconditions	The Users should be logged-in.
Assumptions	You are connected to a network.  You are already on the Job Requests Tab.
Frequency	Every time the user wants to change the material quantity/unit
Flow of Events	Main Flow: 1. The User clicks List Icon. 2. The User clicks the Job Requests tab. 3. The User clicks View Job Requests button. 4. The User clicks CHANGE MATERIAL QUANTITY/UNIT button. 5. The User enters Quantity/Unit. 6. The User clicks CHANGE QUANTITY/UNIT button.
Post-conditions	The User can see the updated quantity/unit by material's total cost in the Job Request page
Actors	Super Administrator, Technician
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

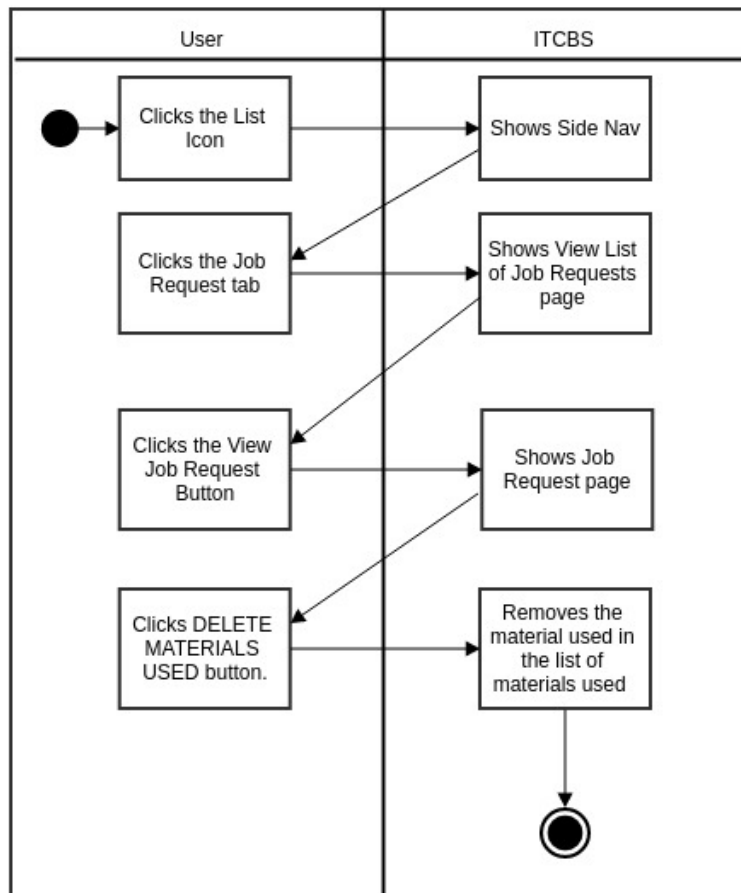


### 3.1.1.4.1.1.a.2.2 Delete Material Used

#### A. Use Case Specification

Description	The User (Super Administrator, Technician) deletes the material used for the problem.
Goal	To delete the materials used for the problem
Preconditions	The Users should be logged-in.
Assumptions	You are connected to a network. You are already on the Job Request Tab.
Frequency	Every time the user wants to delete the materials used for the job request
Flow of Events	Main Flow: 1. The User clicks List Icon. 2. The User clicks the Job Request tab. 3. The User clicks View Job Requests button. 4. The User clicks DELETE MATERIALS USED button.
Post-conditions	The material used is removed from the list of materials used.
Actors	Super Administrator, Technician
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

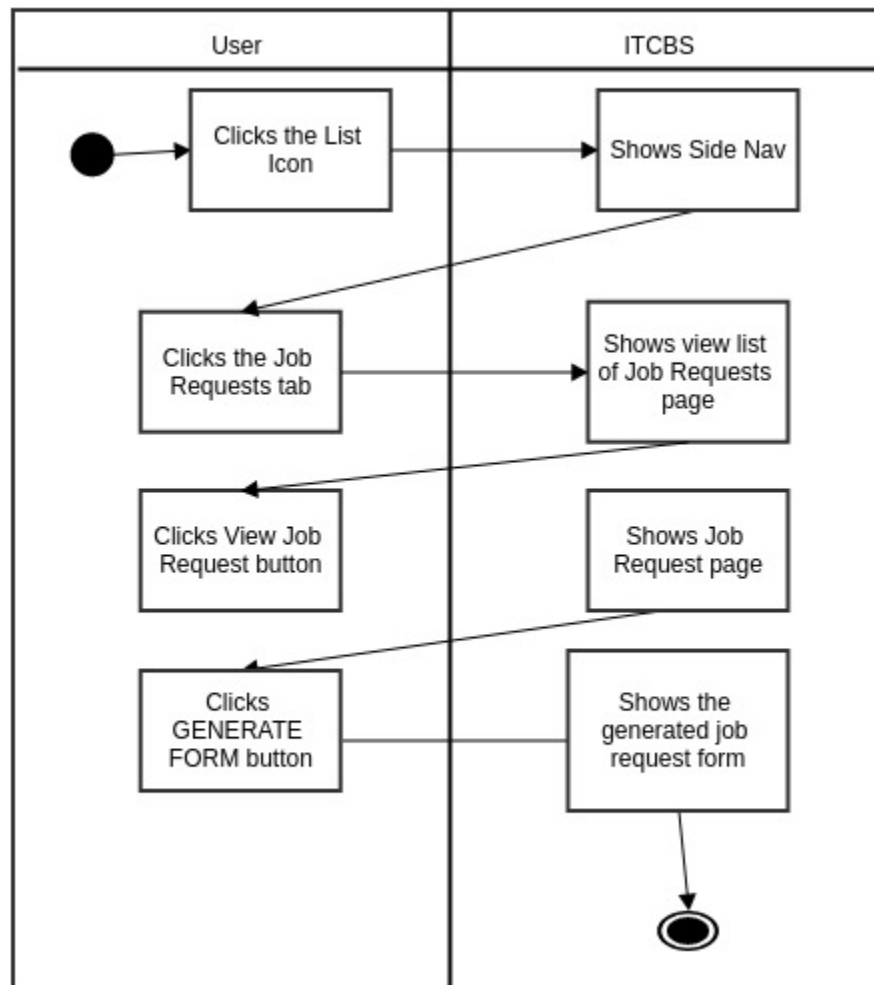


### 3.1.1.4.1.1.a.3 Generate Form

#### A. Use Case Specification

Description	The User (Super Administrator, Technician) inputs the materials used for the job request.
Goal	To generate job request form.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network. You are already on the Job Requests Tab
Frequency	Every time the user wants to generate job request form.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Job Request tab. 3. The User clicks View Job Request button. 4. The User clicks the GENERATE FORM button.
Post-conditions	The User can see the materials used in the Job Request page
Actors	Super Administrator, Technician
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram



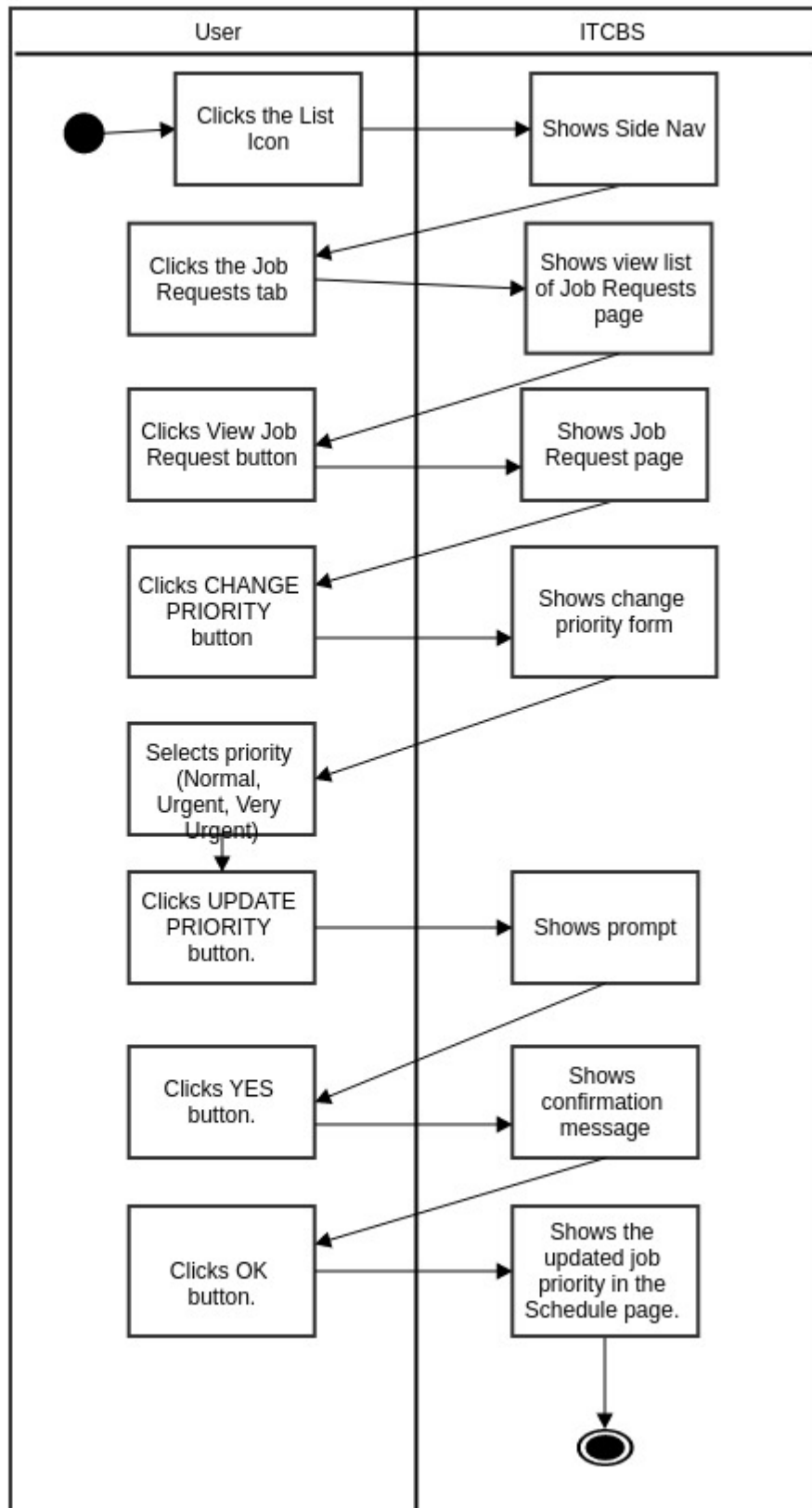
#### 3.1.1.4.1.1.a.4 Change Priority

##### A. Use Case Specification

Description	The User changes the priority of the job.
Goal	To change the priority of the job.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network. You are already on the Job Requests Tab.
Frequency	Every time the User wants to change the job request's priority.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Job Request tab. 3. The User clicks View Job Request button. 4. The User clicks Change Priority button. 5. The User selects priority (Normal, Urgent or Very Urgent) . 6. The User clicks the Update Priority button. 7. The User clicks the YES button. 8. The User clicks the OK button.
Post-conditions	The user changes the job's priority and views it in the Schedule page.
Actors	Super Administrator, Technician
Included Use Cases	None
Extended Use Cases	None
Notes	



## B. Activity Diagram

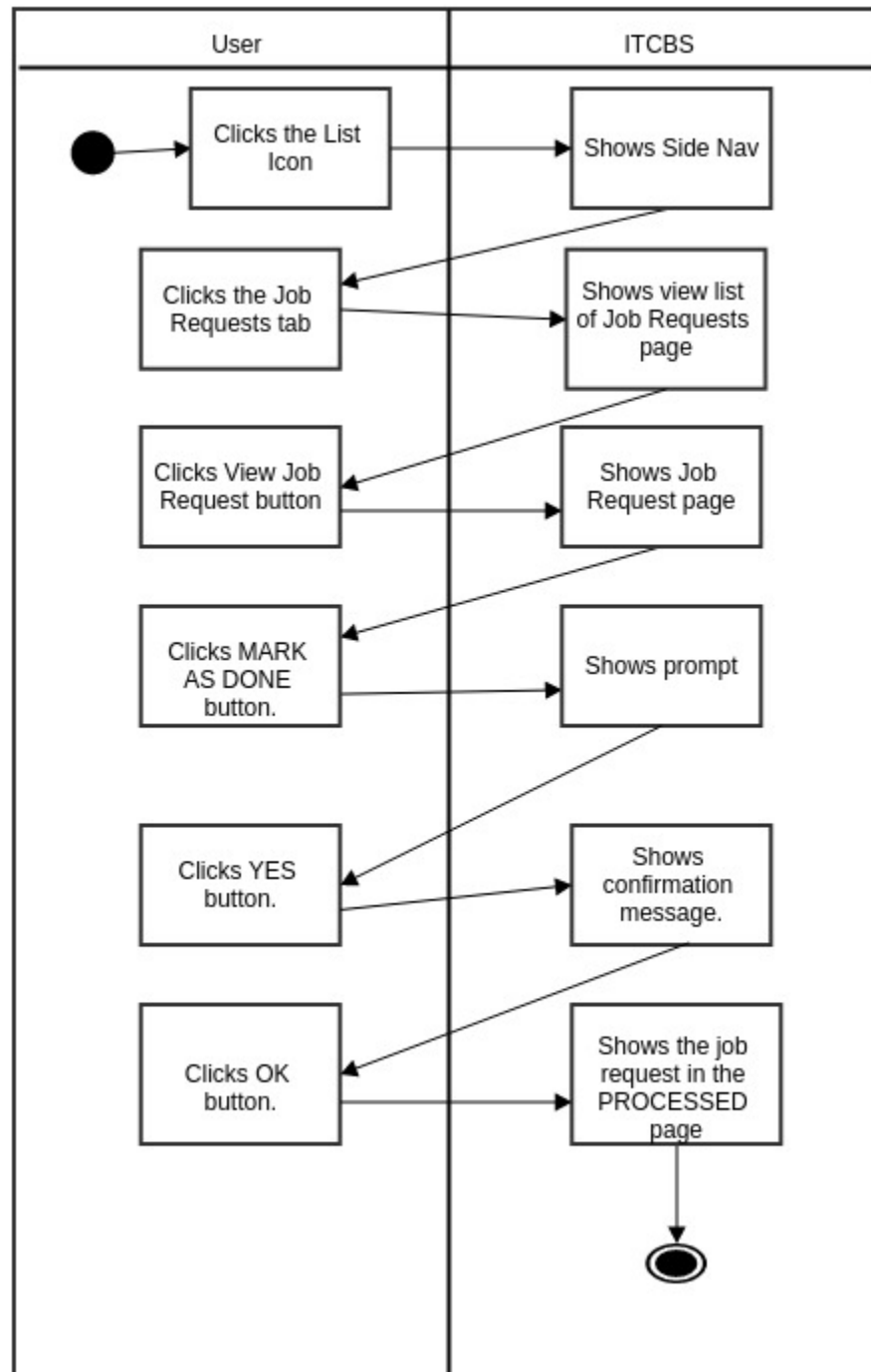


#### 3.1.1.4.1.1.a.5 Mark as Done

##### A. Use Case Specification

Description	The User (Technician or Super Administrator )marks the job as done.)
Goal	To mark the job as done.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network. You are already on the Job Requests tab.
Frequency	Every time the Technician finishes the job.
Flow of Events	Main Flow:  1. The User clicks the View Schedule tab.  2. The User clicks the View Job Request button.  3. The User clicks the Mark as Done button.
Post-conditions	The User marks the job as done and removes it in the view schedule tab.
Actors	Super Administrator, Technician
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

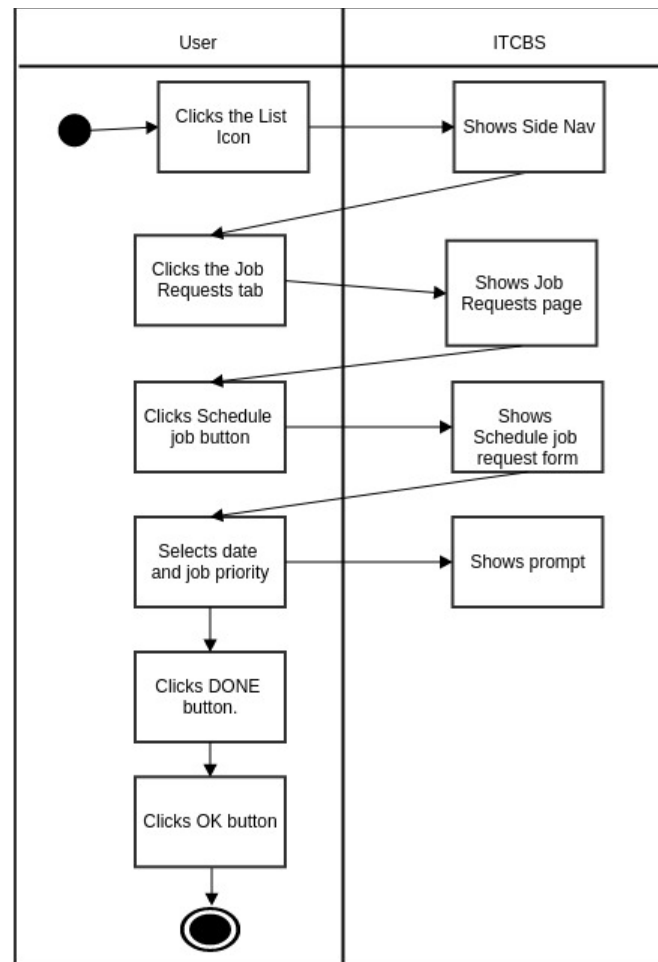


### 3.1.1.4.1.1.b Schedule Job (Job Request status: PENDING)

#### A. Use Case Specification

Description	The User schedules the job request.
Goal	To schedule the job request.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network. You are already on the Job Request Tab.
Frequency	Every time the user wants to schedule the job request.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Schedule Job button. 3. The User selects date and priority in the schedule job form. 4. The User clicks DONE button. 5. The User clicks OK button.
Post-conditions	The User can view the scheduled job request in the job request page.
Actors	Super Administrator, Technician, Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

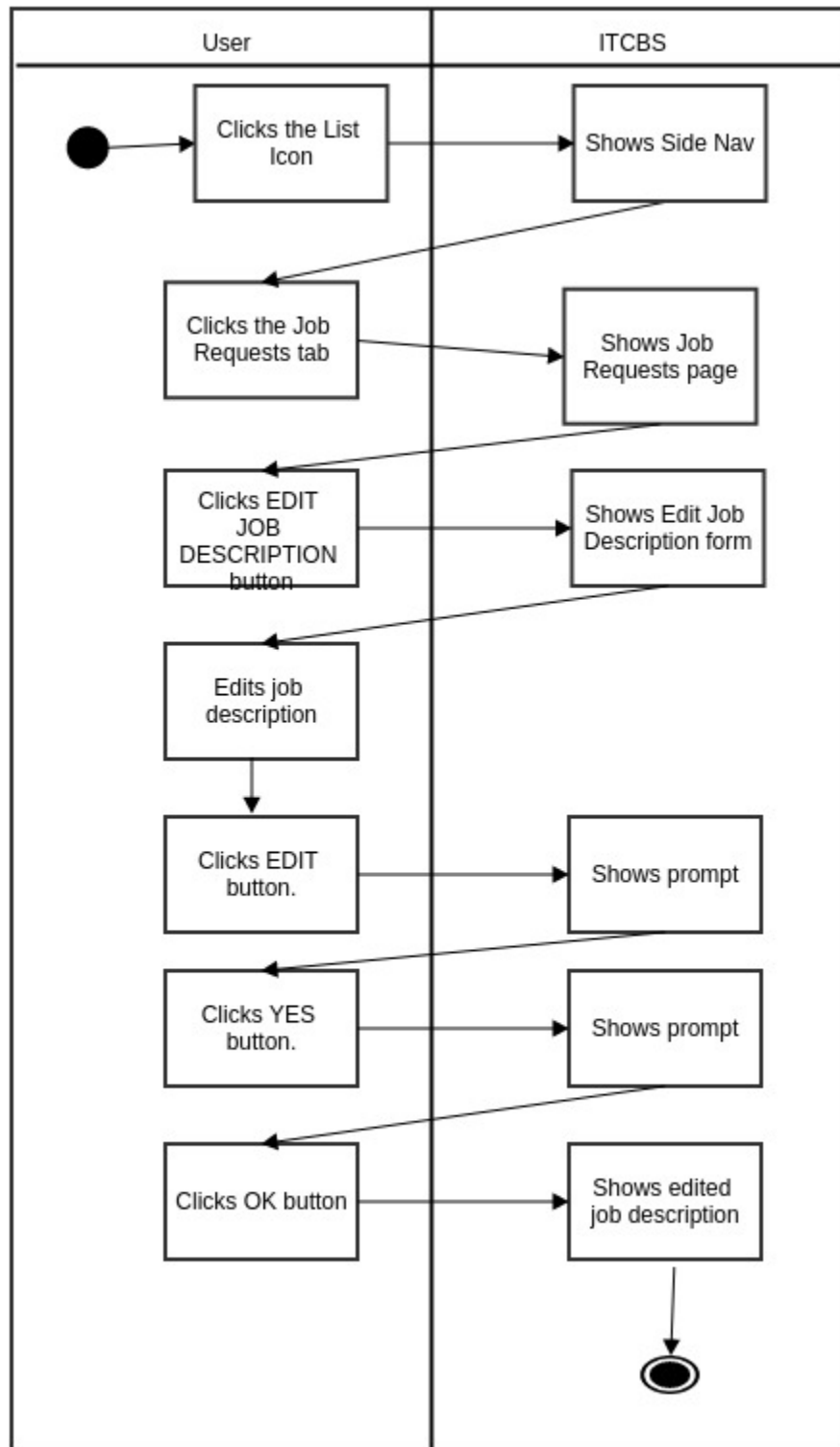


### 3.1.1.4.1.1.2 Edit Job Description

#### A. Use Case Specification

Description	The User edits the job description.
Goal	To edit the job description.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network. You are already on the Job Request Tab.
Frequency	Every time the user wants to edit the job description.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Job Request tab. 3.The User clicks Edit Job Description button. 4. The User edits the job description 5. The User clicks the EDIT button. 6. The User clicks the YES button. 7. The User clicks the OK button.
Post-conditions	The User can view the edited job description in the job request page.
Actors	Super Administrator, Technician, Administrator, Client
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram



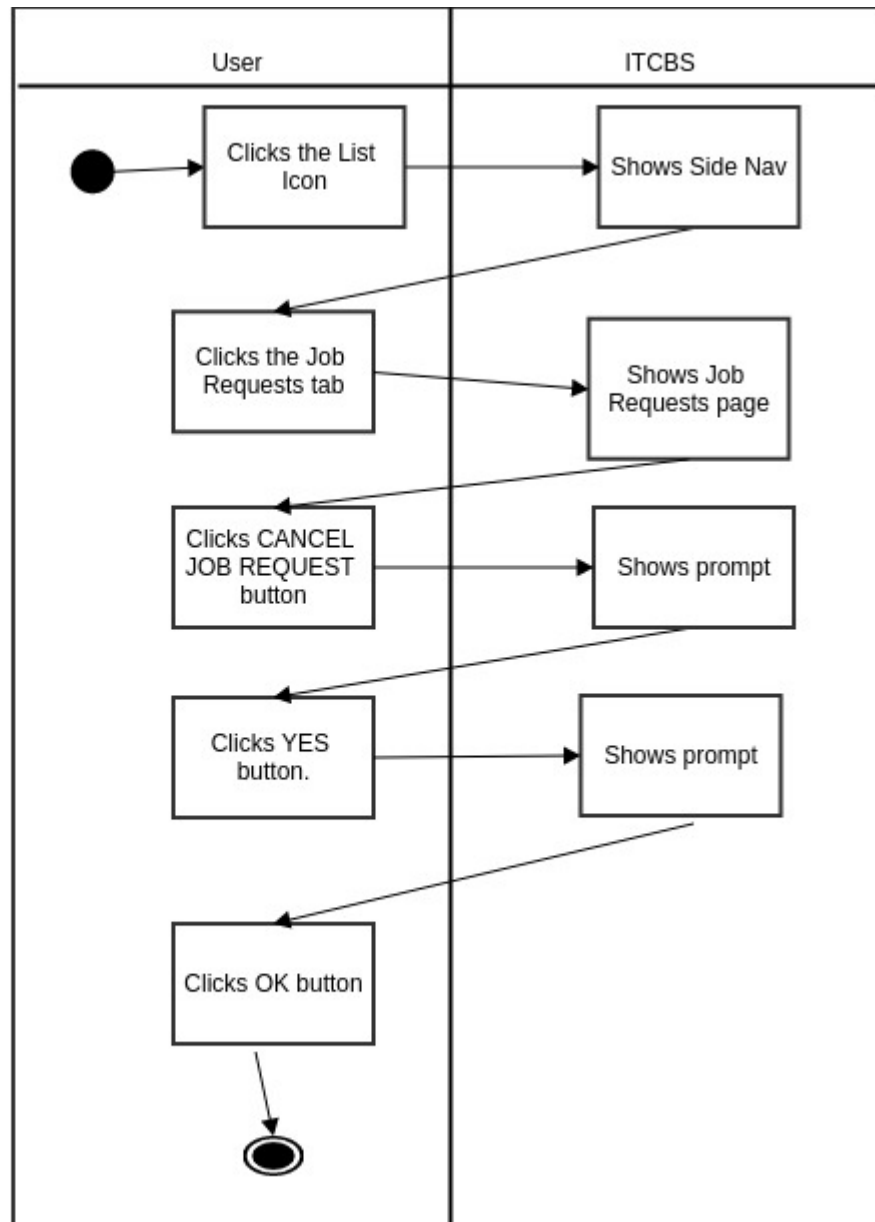
### 3.1.1.4.1.1.3 Cancel Job Request

#### A. Use Case Specification

Description	The User cancels the job request.
Goal	To cancel the job request.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network. You are already on the Job Request Tab.
Frequency	Every time the user wants to cancel his/her job request.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Job Request tab. 3. The User clicks Cancel Job Request 4. The User clicks the YES button. 5. The User clicks the OK button.
Post-conditions	The job request will be cancelled.
Actors	Super Administrator, Technician, Administrator, Client
Included Use Cases	None
Extended Use Cases	None
Notes	



## B. Activity Diagram

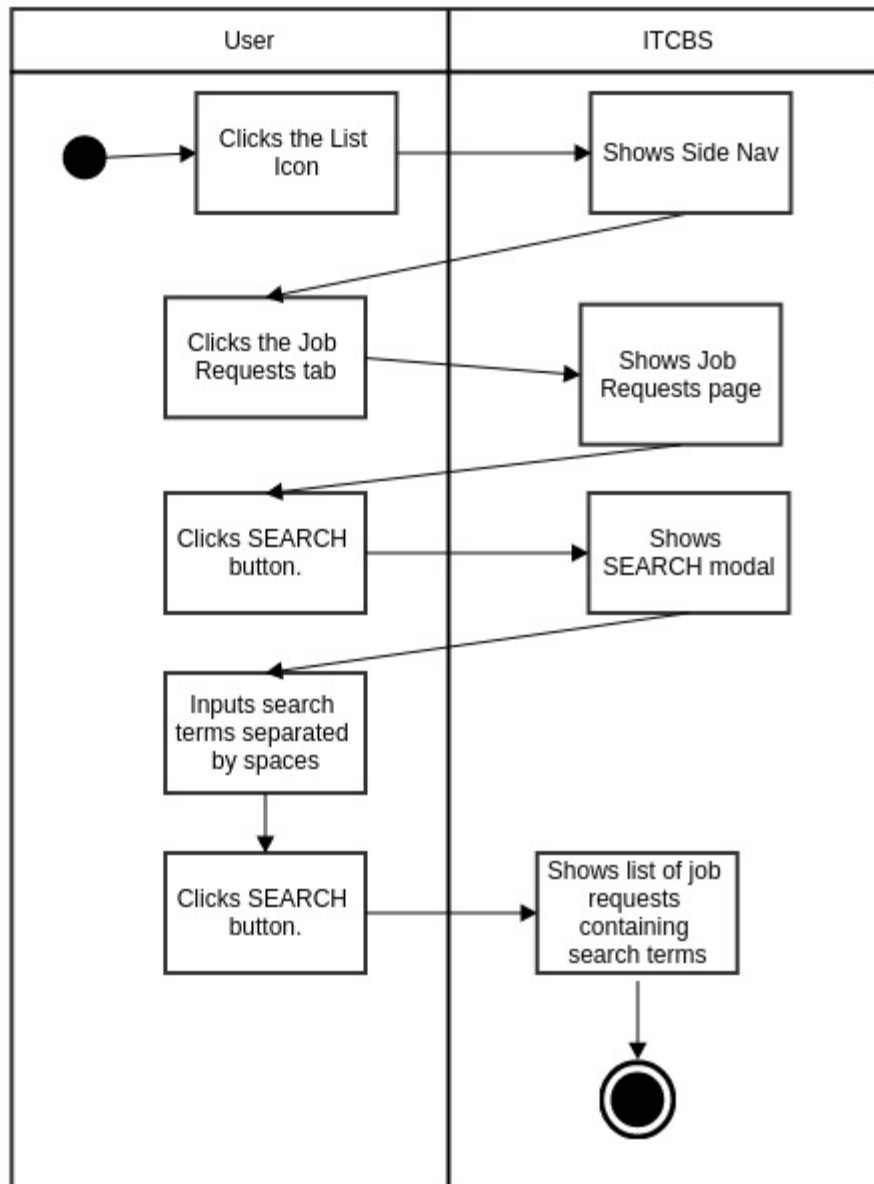


### 3.1.1.4.1.2 Search Jobs

#### A. Use Case Specification

Description	The User searches job requests by search terms.
Goal	To search job requests by search terms.
Preconditions	The system is online.
Assumptions	You are connected to a network. You are already on the Job Requests Tab.
Frequency	Every time the user wants to search job requests.
Flow of Events	1. The User clicks the List Icon. 2. The User clicks the Job Request tab. 3. The User clicks the Search Jobs button. 5. The User inputs search terms separated by spaces. 6. The User clicks the Search button.
Post conditions	The User can view the list of job requests containing searched terms.
Actors	Users (Super Administrator, Technician, Administrator, Client)
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

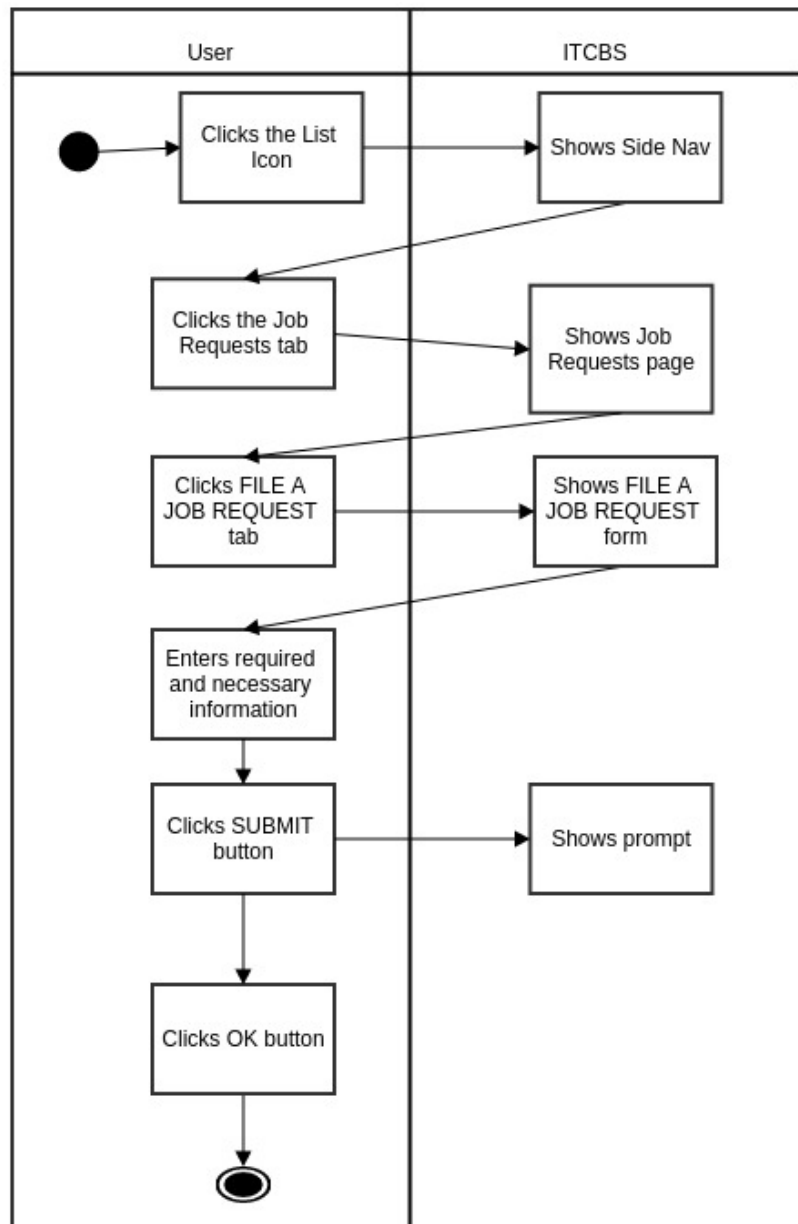


### 3.1.1.4.2 File A Job Request

#### A. Use Case Specification

Description	The User creates a new job request.
Goal	Insert some information about a job request to the database.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network. You are already on the Job Request Tab.
Frequency	Every time the user wants to file a job request.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Job Request tab. 3. The User clicks File A Job Request. 4. The User inputs required and necessary information in the File Job Request form. 5. The User clicks the Submit button.
Post-conditions	The User adds new job request to the database and updates the number and list of job requests in the Job Requests tab.
Actors	Super Administrator, Technician, Administrator, Client
Included Use Cases	None
Extended Use Cases	None
Notes	

### 3.1.1.3.2.B Activity Diagram



### **3.1.1.5 View Schedule**

#### **3.1.1.5.1 View Job Request**

*Assumption: You are already in the View Schedule tab*

##### **3.1.1.5.1.1 Work(s) Done**

**A. Use Case Specification** (*Refer to Section 3.1.1.4.1.a.1 Use Case Specification*)

**B. Activity Diagram** (*Refer to Section 3.1.1.4.1.a.1 Activity Diagram*)

##### **3.1.1.5.1.2 Materials Used**

**A. Use Case Specification** (*Refer to Section 3.1.1.4.1.a.2 Use Case Specification*)

**B. Activity Diagram** (*Refer to Section 3.1.1.4.1.a.2 Activity Diagram*)

##### **3.1.1.5.1.3 Generate Form**

**A. Use Case Specification** (*Refer to Section 3.1.1.4.1.a.3 Use Case Specification*)

**B. Activity Diagram** (*Refer to Section 3.1.1.4.1.a.3 Activity Diagram*)

##### **3.1.1.5.1.4 Change Priority**

**A. Use Case Specification** (*Refer to Section 3.1.1.4.1.a.4 Use Case Specification*)

**B. Activity Diagram** (*Refer to Section 3.1.1.4.1.a.4 Activity Diagram*)

##### **3.1.1.5.1.5 Mark as Done**

**A. Use Case Specification** (*Refer to Section 3.1.1.4.1.a.5 Use Case Specification*)

**B. Activity Diagram** (*Refer to Section 3.1.1.4.1.a.5 Activity Diagram*)

### 3.1.1.6 MANAGE APPLICATION

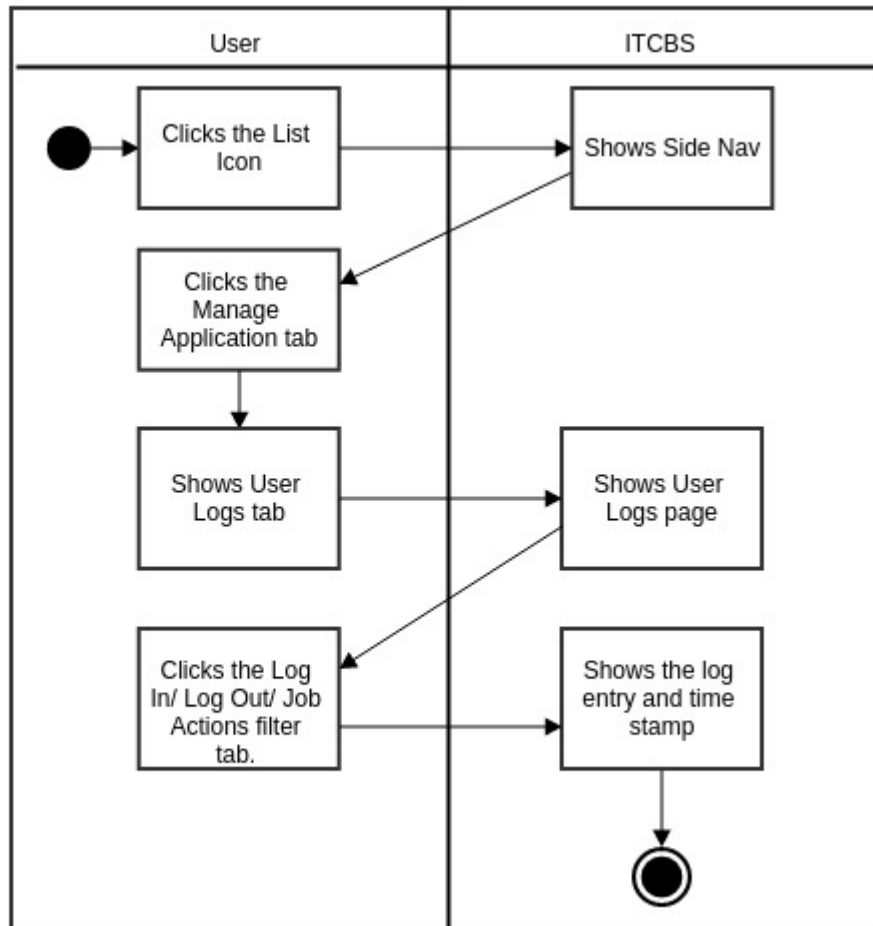
#### 3.1.1.6.1 User Logs

##### 3.1.1.6.1.1 View By Log In/Log Out/Job Actions

###### A. Use Case Specification

Description	The User (Super Administrator) views the User Logs by Log In, Log Out and Job Actions Logs
Goal	To view the User Logs by Log In, Log Out and Job Actions Logs
Preconditions	The Users should be logged-in.
Assumptions	You are connected to a network. You are already on the Manage Application Tab.
Frequency	Every time the User wants to view the User Logs
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Manage Application tab. 3. The User clicks the User Logs tab. 4. The User clicks the Log In/ Log Out/ Job Actions filter tab.
Post-conditions	The User sees the User Logs by Log In, Log Out and Job Actions Logs
Actors	Super Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram



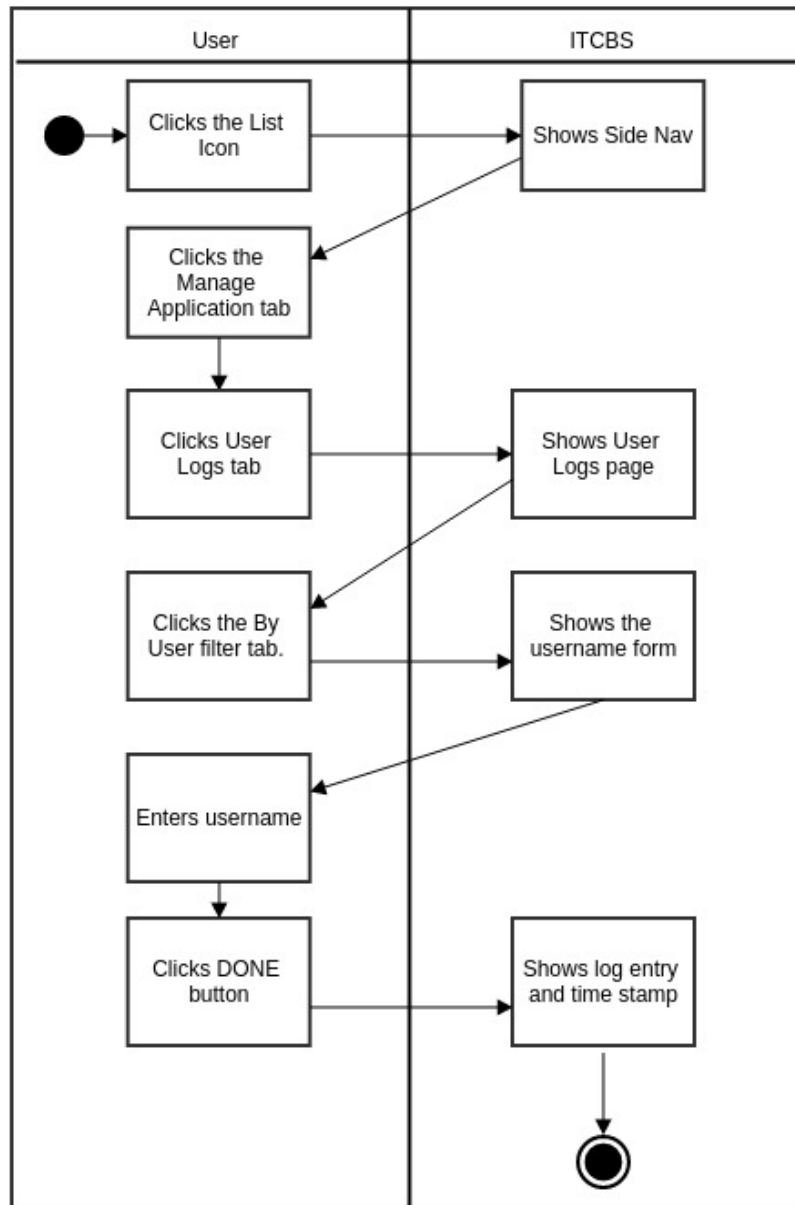


### 3.1.1.6.1.2 View by User

#### A. Use Case Specification

Description	The User (Super Administrator) views user logs filtered by username.
Goal	To view user logs filtered by username
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network.  You are already on the Manage Application Tab.
Frequency	Every time there is a need to view user logs
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Manage Application Tab. 3. The User clicks the Manage Accounts. 4. The User clicks the By User filter tab (SuperAdmin, Admin, Technician, Client) 5. The User enters the Username. 6. The User clicks the DONE button.
Post-conditions	The User views user logs filtered by username
Actors	Super Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

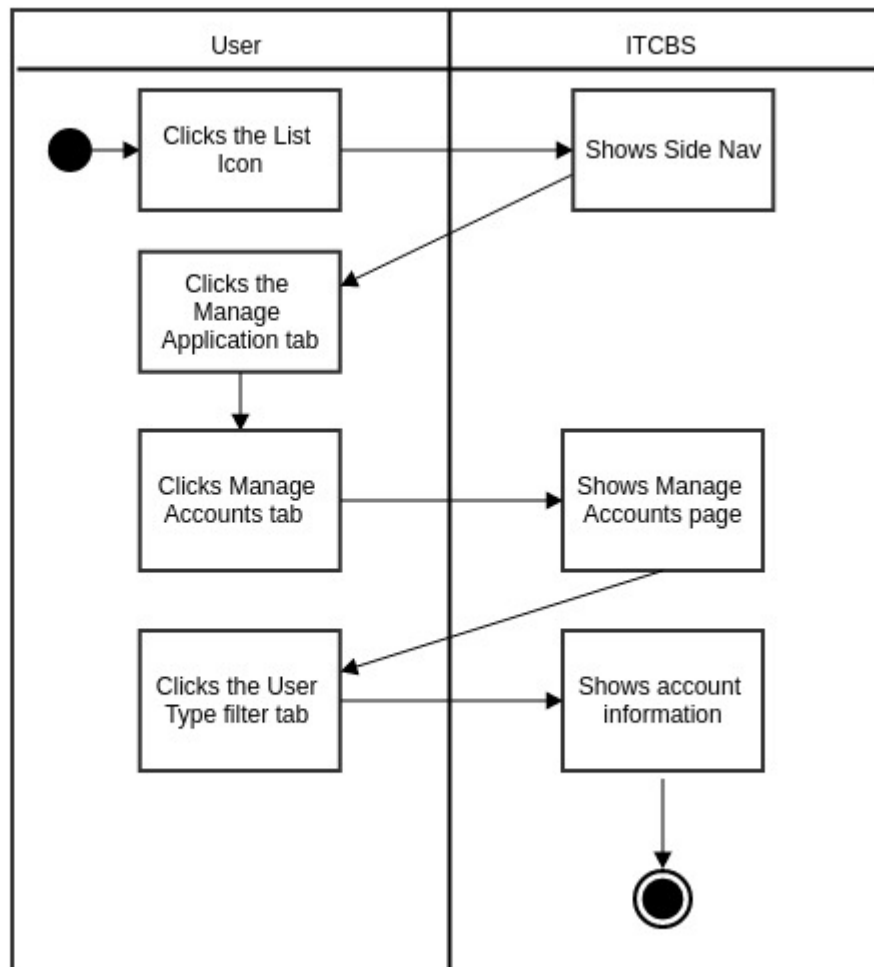
## B. Activity Diagram



**3.1.1.6.2 Manage Accounts**  
**3.1.1.6.2.1 View by User Type**  
**A. Use Case Specification**

Description	The User (Super Administrator, Technician, Administrator) views accounts filtered by user type.
Goal	To view accounts filtered by user type.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network.  You are already on the Manage Application Tab.
Frequency	Every time there is a need to view accounts according to their user type.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Manage Application Tab. 3. The User clicks the Manage Accounts t.ab 4. The User clicks the User Type filter tab (SuperAdmin, Admin, Technician, Client)
Post-conditions	The User views user accounts filtered by user type.
Actors	Super Administrator, Technician, Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

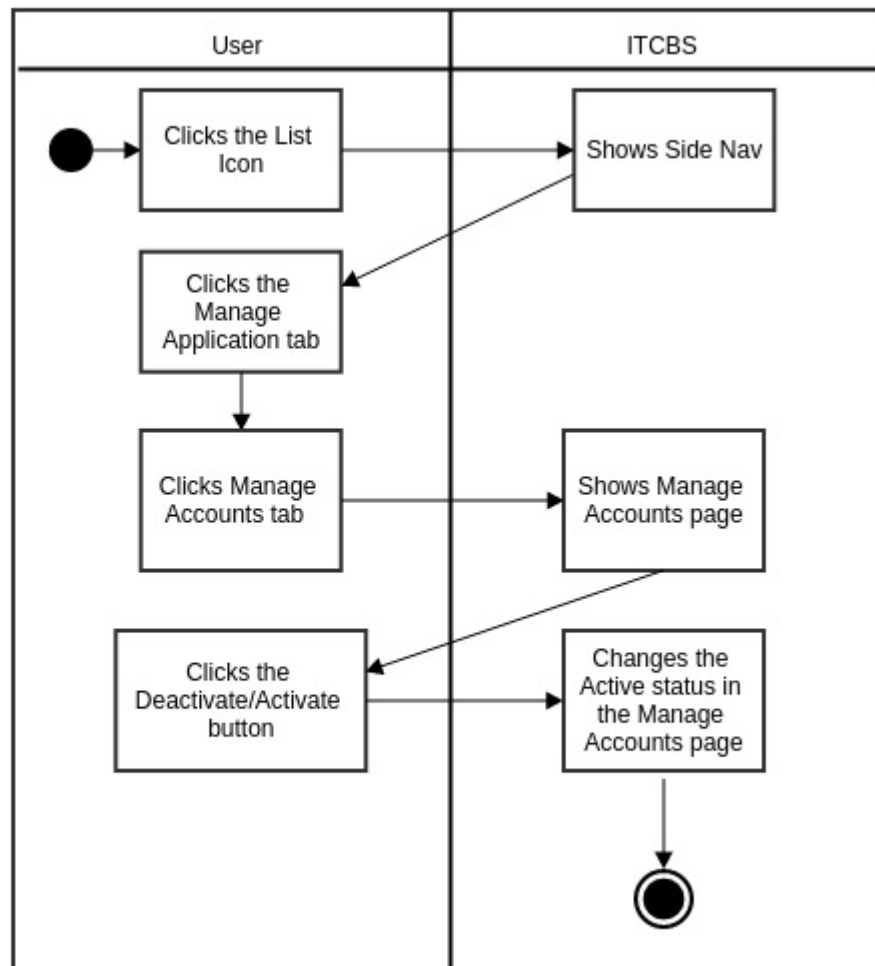


### 3.1.1.6.2.1.1 Deactivate/Activate Account

#### A. Use Case Specification

Description	The User (Super Administrator, Technician, Administrator) deactivates/activates user account.
Goal	To deactivate/activate user account.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network.  You are already on the Manage Application Tab.
Frequency	Every time there is a need to deactivate/activate user account.
Flow of Events	Main Flow: 1.The User clicks the List Icon. 2. The User clicks the Manage Application Tab. 3. The User clicks the Manage Accounts. 4. The User clicks the Deactivate/ Activate Button.
Post-conditions	The User changes the Active status in the Manage Accounts page.
Actors	Super Administrator, Technician, Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

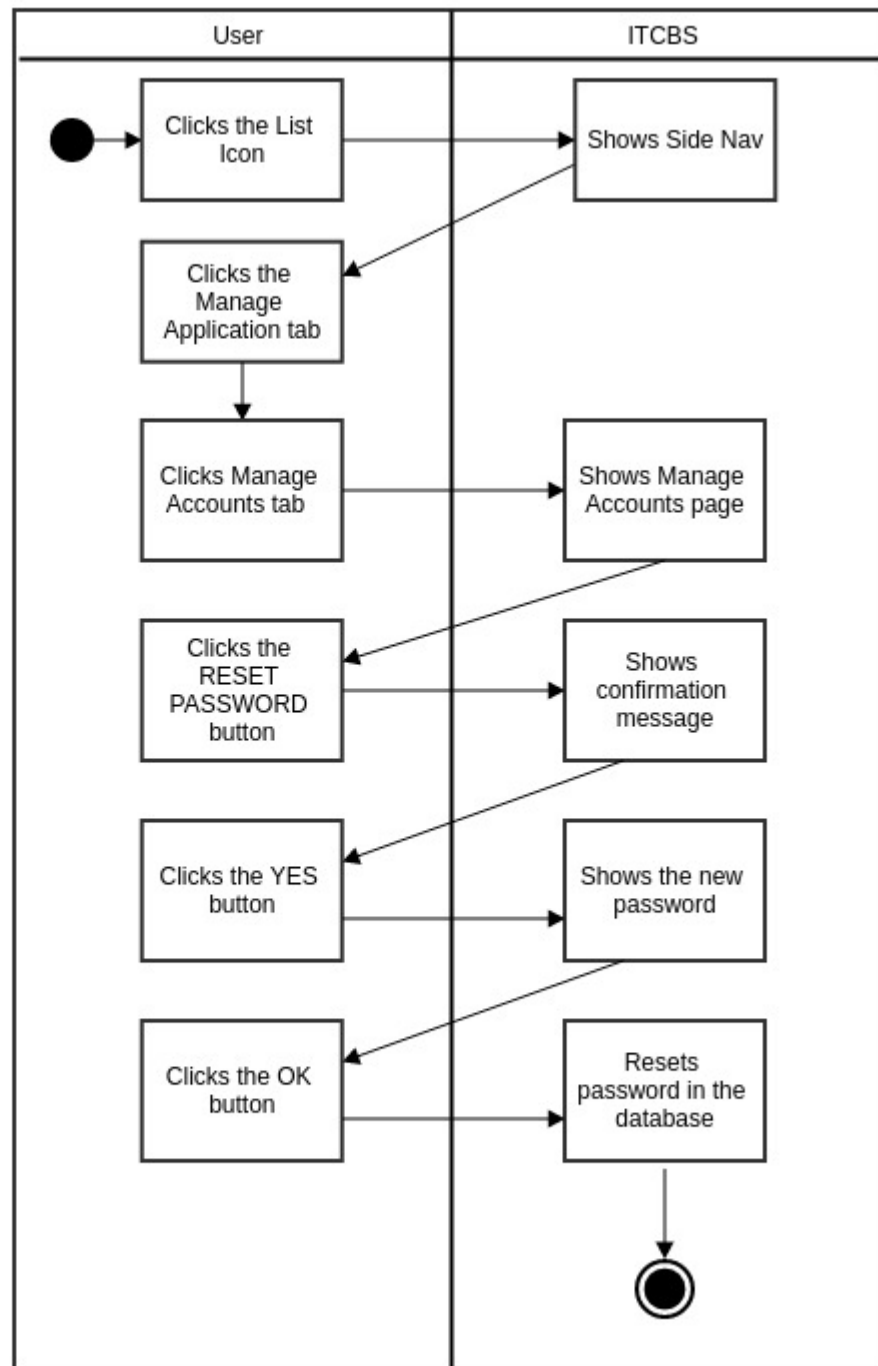


### 3.1.1.6.2.1.2 Reset User Password

#### A. Use Case Specification

Description	The User (Super Administrator, Technician, Administrator) resets user password.
Goal	To reset user password.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network. You are already on the Manage Application Tab.
Frequency	Every time there is a need to reset user password.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Manage Application Tab. 3. The User clicks the Manage Accounts. 4. The User clicks the Reset Password button. 5. The User clicks YES button. 6. The User clicks OK button.
Post-conditions	The User resets the user password in the database.
Actors	Super Administrator, Technician, Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram



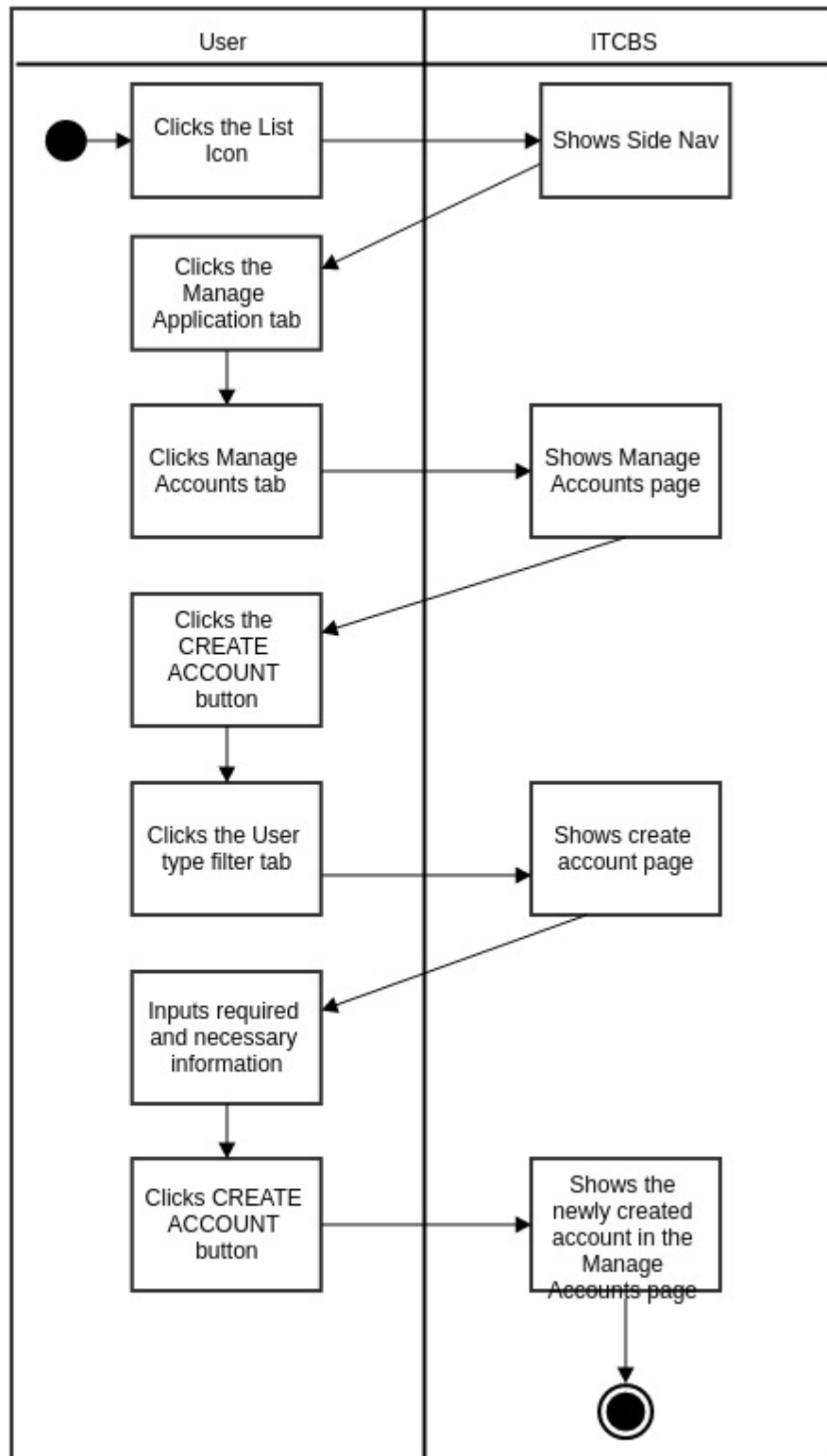


### 3.1.1.6.2.2 Create Account

#### A. Use Case Specification

Description	The User (Super Administrator) creates new user account.
Goal	To create new user account.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network.  You are already on the Manage Application Tab.
Frequency	Every time there is a need to create a new account.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Manage Application Tab. 3. The User clicks the Manage Accounts. 4. The User clicks the Create Account. 5. The User clicks the User type filter tab. 6. The User inputs required and necessary information. 7. The User clicks Create Account button.
Post-conditions	The User adds new user account to the database and updates the number and list of users in the user accounts.
Actors	Super Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram



### 3.1.1.6.3 Manage Work

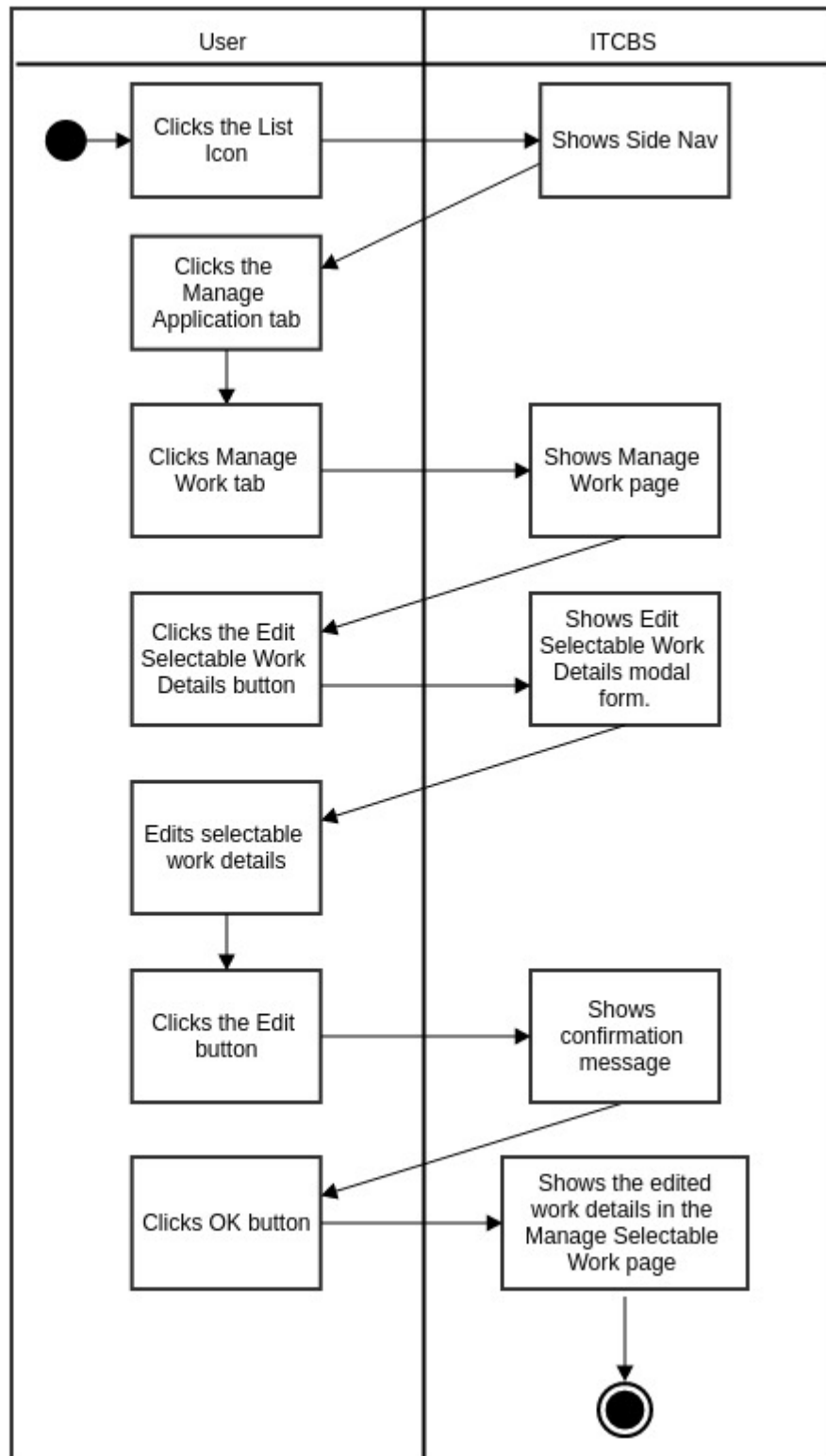
#### 3.1.1.6.3.1 Manage Selectable Work

##### 3.1.1.6.3.1.1 Edit Selectable Work Details

###### A. Use Case Specification

Description	The User (Super Administrator, Technician, Administrator) edits the selectable work details.
Goal	To edit the Selectable Work Details.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network.  You are already on the Manage Applications Tab.
Frequency	Every time the user wants to edit the selectable work details.
Flow of Events	Main Flow: 1. The User clicks List Icon. 2. The User clicks the Manage Application Tab. 3. The User clicks the Manage Work Menu. 4. The User clicks the Edit Selectable Work Details button. 5. The User edits details. 6. The User clicks the Edit button. 7. The User clicks OK button.
Post-conditions	The User sees the edited selectable work details and is updated in the database.
Actors	Super Administrator, Technician, Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

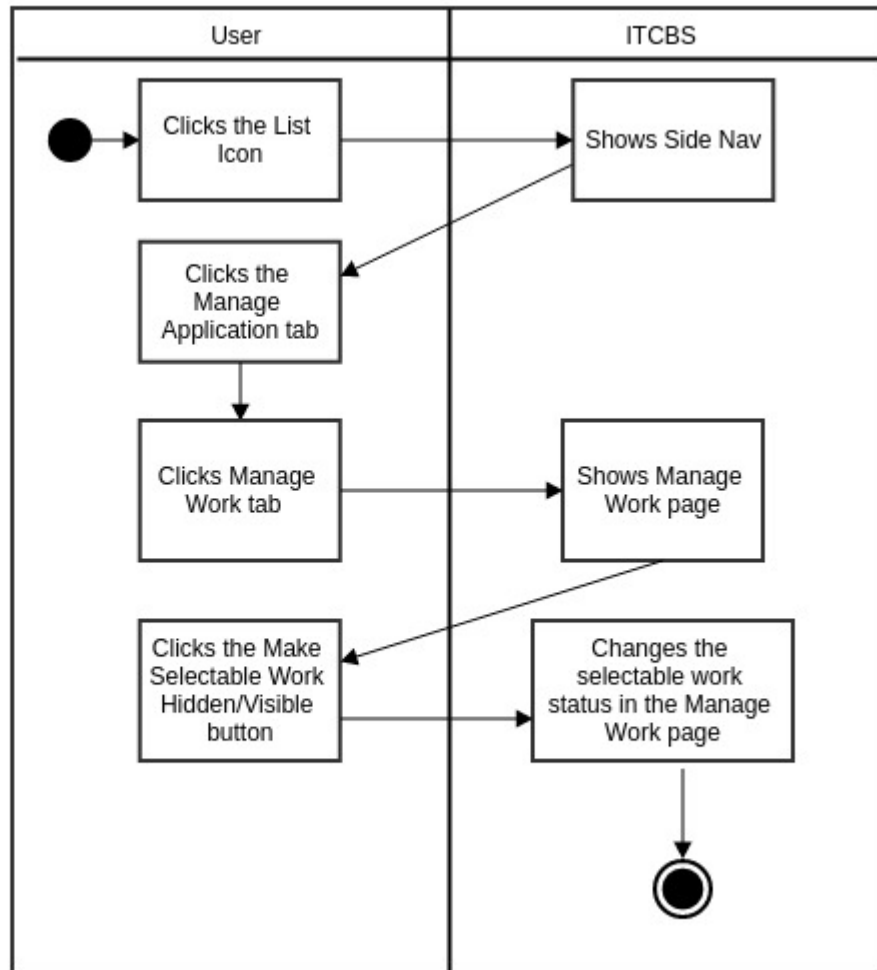


### 3.1.1.6.3.1.2 Make Selectable Work Hidden/Visible

#### A. Use Case Specification

Description	The User (Super Administrator, Technician, Administrator) makes selectable work hidden/visible.
Goal	To make the Selectable Work hidden/visible.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network. You are already on the Manage Applications Tab.
Frequency	Every time the user wants to make the selectable work hidden/visible.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Manage Application Tab. 3. The User clicks the Manage Work Menu. 4. The User clicks the Make Selectable Work Hidden/Visible button.
Post-conditions	The User changes the selectable work status in the Manage Selectable Materials page
Actors	Super Administrator, Technician, Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

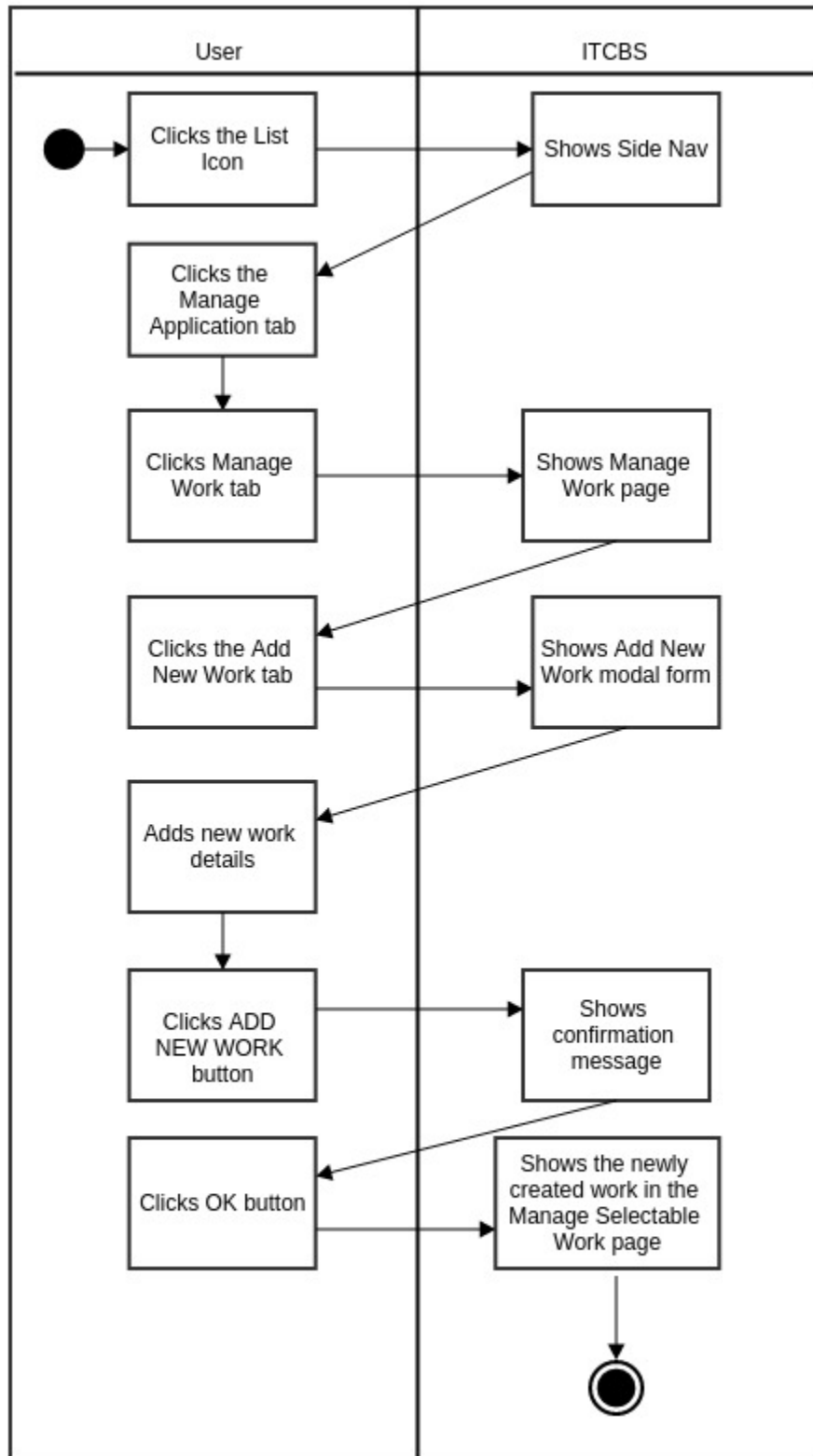


### 3.1.1.6.3.2 Add New Work

#### A. Use Case Specification

Description	The User (Super Administrator, Technician, Administrator) adds new work.
Goal	To add new work.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network.  You are already on the Manage Application Tab.
Frequency	Every time the user wants to add new work.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Manage Application Tab. 3. The User clicks the Manage Work Menu. 4. The User clicks the Add New Work. 5. The User adds new work details. 6. The User clicks Add New Work button. 7. The User clicks OK.
Post-conditions	The User adds new work in the database
Actors	Super Administrator, Technician, Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram





### 3.1.1.6.4 Manage Materials

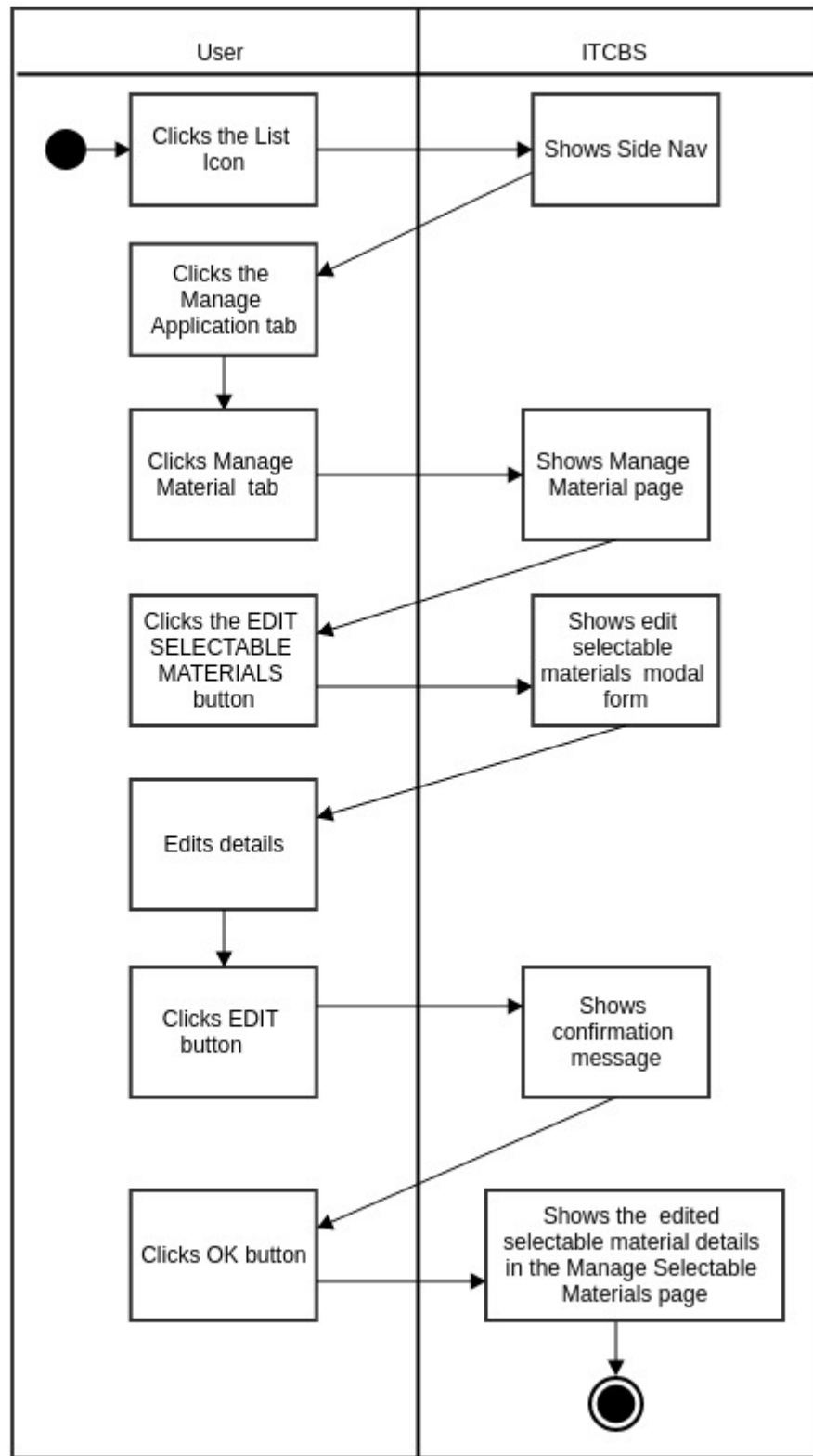
#### 3.1.1.6.4.1 Manage Selectable Materials

##### 3.1.1.6.4.1.1 Edit Selectable Materials Details

###### A. Use Case Specification

Description	The User (Super Administrator, Technician, Administrator) edits the selectable material details.
Goal	To edit the Selectable Material Details.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network.  You are already on the Manage Applications Tab.
Frequency	Every time the user wants to edit the selectable material details.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Manage Application Tab. 3. The User clicks the Manage Material Menu. 4. The User clicks the Edit Selectable Material Details button. 5. The User edits details. 6. The User clicks the Edit button. 7. The User clicks OK button.
Post-conditions	The User sees the edited selectable material details and is updated in the database.
Actors	Technician, Administrator or Super Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

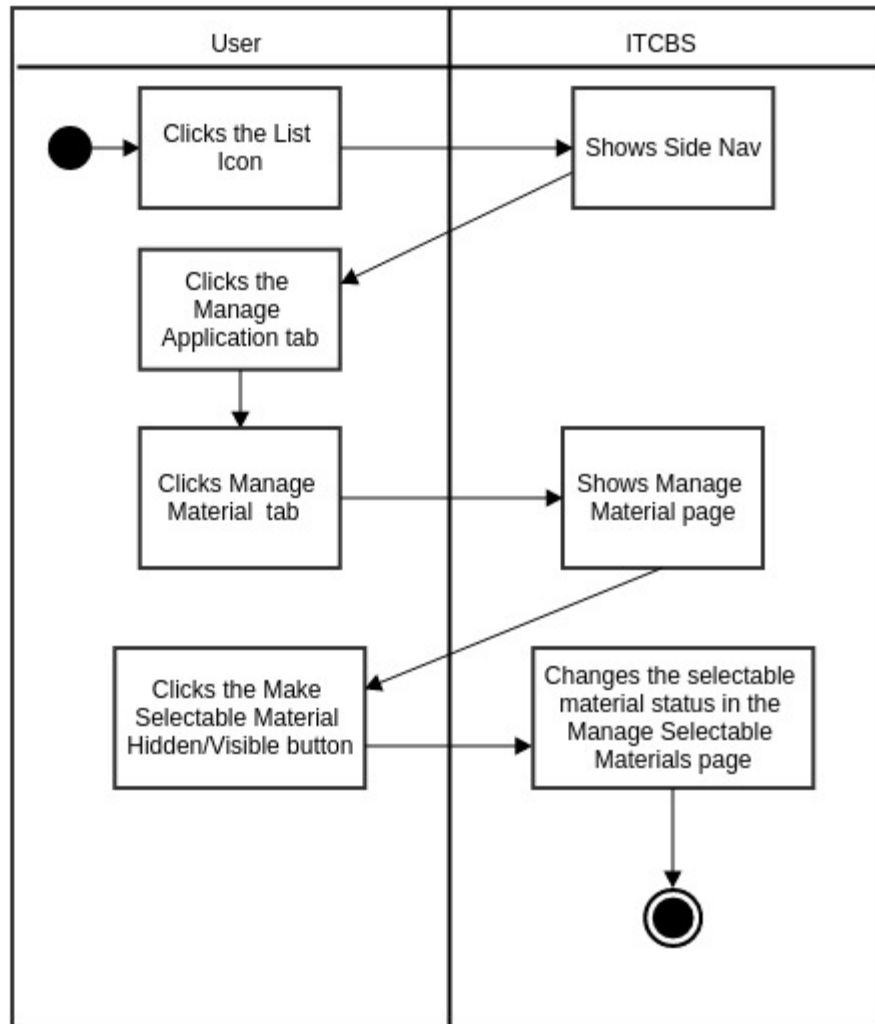


### 3.1.1.6.4.1.2.a Make Selectable Materials Hidden/Visible

#### A. Use Case Specification

Description	The User (Super Administrator, Technician, Administrator) makes selectable materials hidden/visible.
Goal	To make the Selectable Materials hidden/visible.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network.  You are already on the Manage Applications Tab.
Frequency	Every time the user wants to make the selectable material hidden/visible.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Manage Application Tab. 3. The User clicks the Manage Material Menu. 4. The User clicks the Make Selectable Material Hidden/Visible button.
Post-conditions	The User changes the selectable material status in the Manage Selectable Materials page.
Actors	Super Administrator, Technician, Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

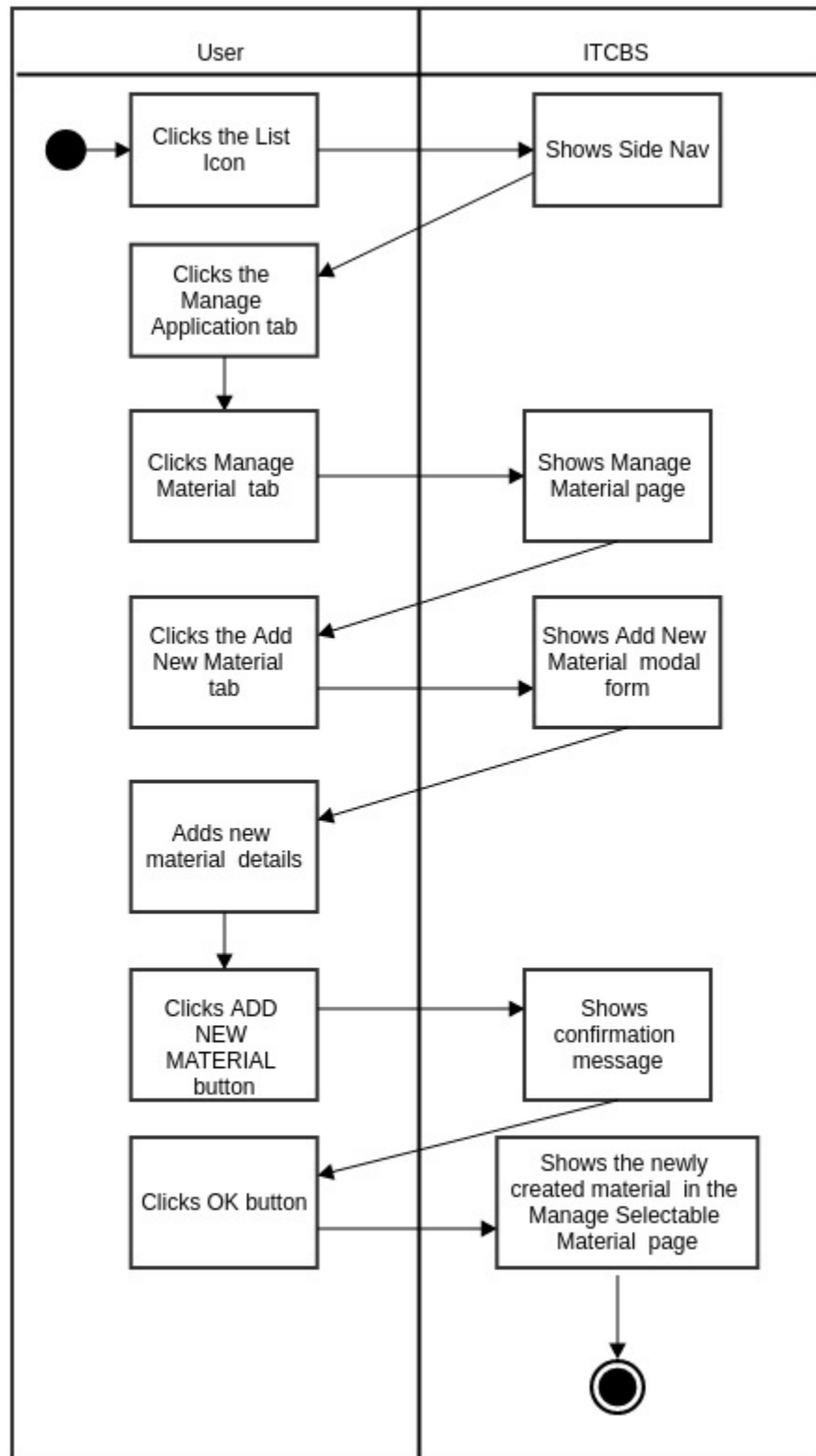


### 3.1.1.6.4.2 Add New Materials

#### A. Use Case Specification

Description	The User (Super Administrator, Technician, Administrator) adds new materials.
Goal	To add new materials.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network.  You are already on the Manage Application Tab.
Frequency	Every time the user wants to add new materials.
Flow of Events	Main Flow: 1. The User clicks the Manage Application Tab. 2. The User clicks the Manage Materials Menu. 3. The User clicks the Add New Materials. 4. The User adds new materials details. 5. The User clicks Add New Materials button. 6. The User clicks OK.
Post-conditions	The User adds new materials in the database
Actors	Super Administrator, Technician, Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

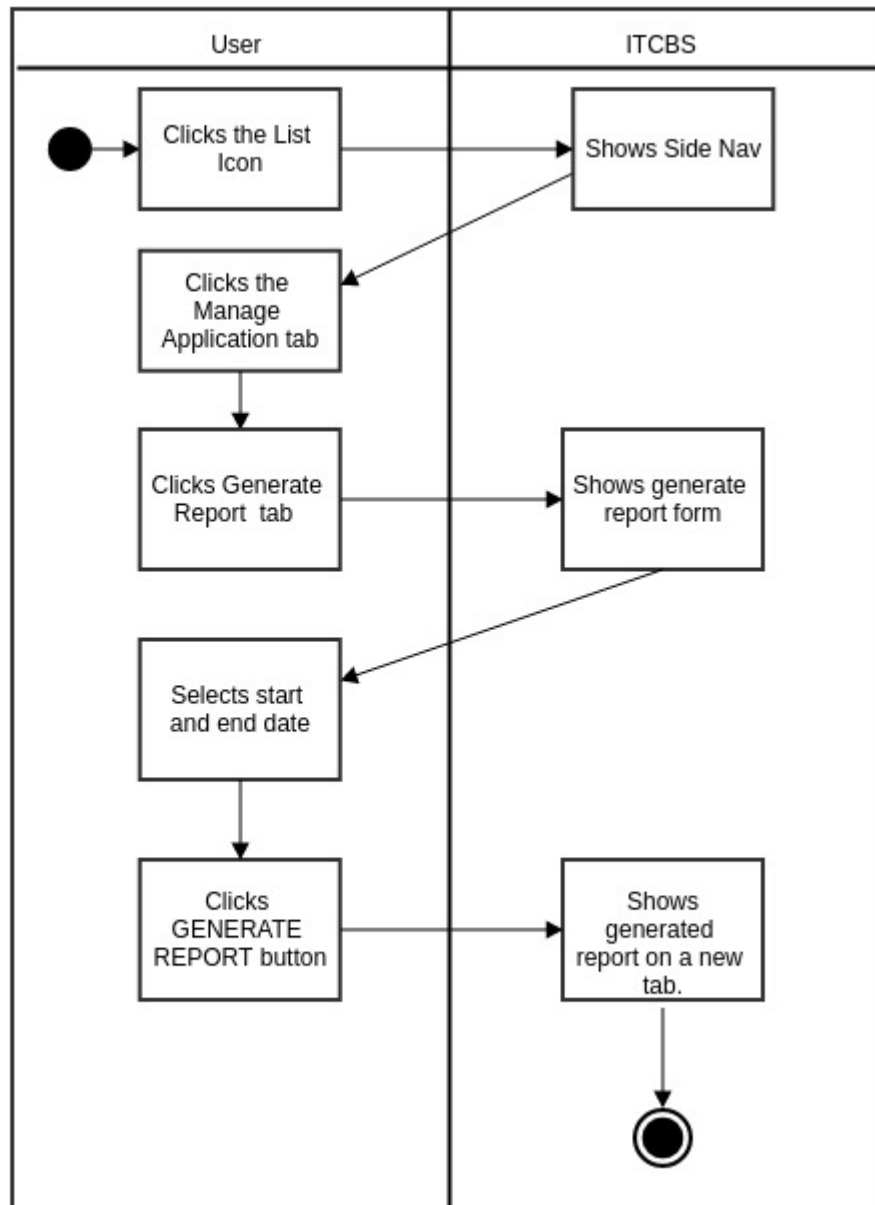
## B. Activity Diagram



**3.1.1.6.5 Generate Report**  
**3.1.1.6.5.1 Generate Report**  
**A. Use Case Specification**

Description	The User (Super Administrator) generates the report for the works done within a given period.
Goal	To generate the report for the works done within a given period.
Preconditions	The Users should be logged-in.
Assumptions	You are connected to a network. You are already on the Manage Application tab.
Frequency	Every time the User wants to generate report for the works done within a given period.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Generate Report Tab. 3. The User clicks the Generate Report button. 4. The User selects start and end date.
Post-conditions	The User sees the Generated report on a new tab.
Actors	Super Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram



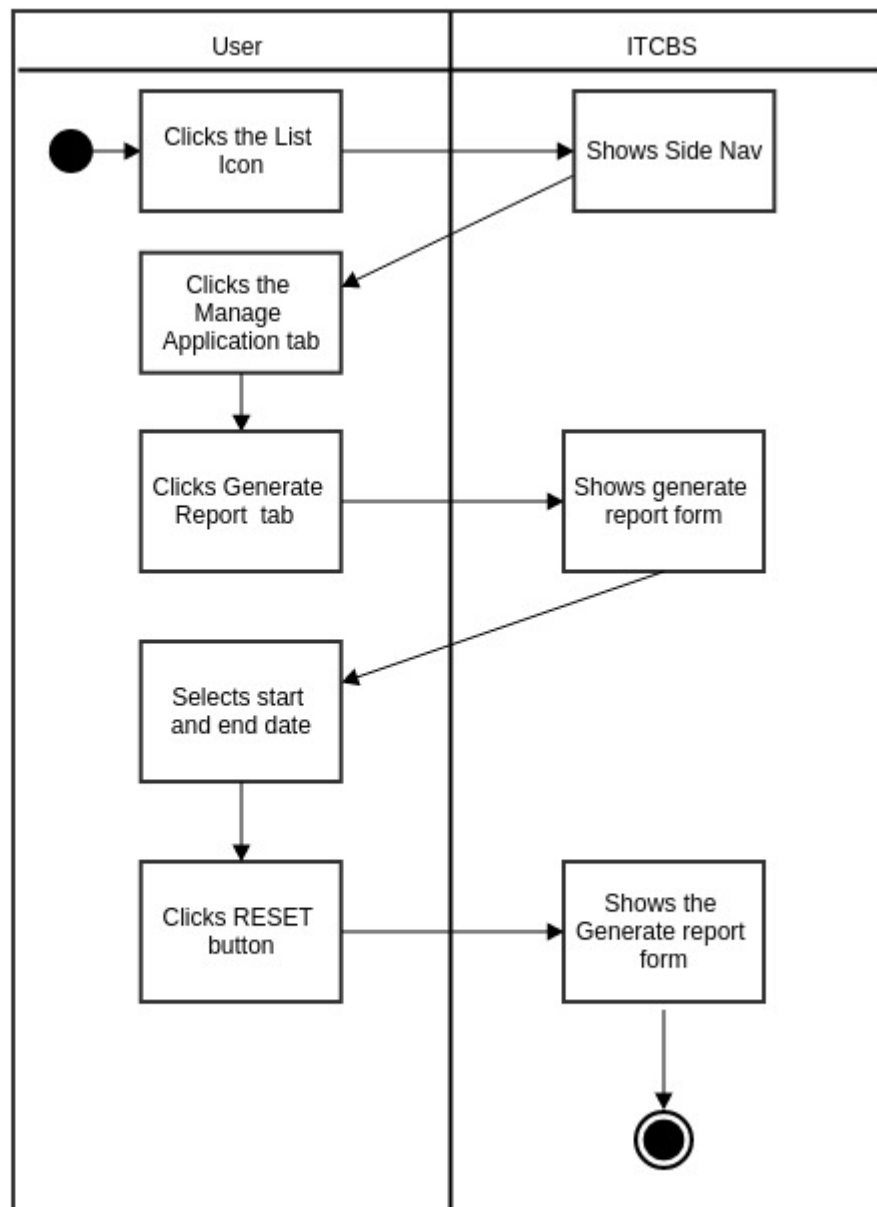


### 3.1.1.6.5.2 Reset Generate Report

#### A. Use Case Specification

Description	The User (Super Administrator) resets the selected start and end date for the generate report function.
Goal	To reset the selected start and end date for the generate report function.
Preconditions	The Users should be logged-in.
Assumptions	You are connected to a network. You are already on the Manage Application tab.
Frequency	Every time the User wants to generate report for the works done within a given period.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Generate Report Tab. 3. The User clicks the Generate Report button. 4. The User selects start and end date. 5. The User clicks RESET button.
Post-conditions	The User sees the Generated report on a new tab.
Actors	Super Administrator
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

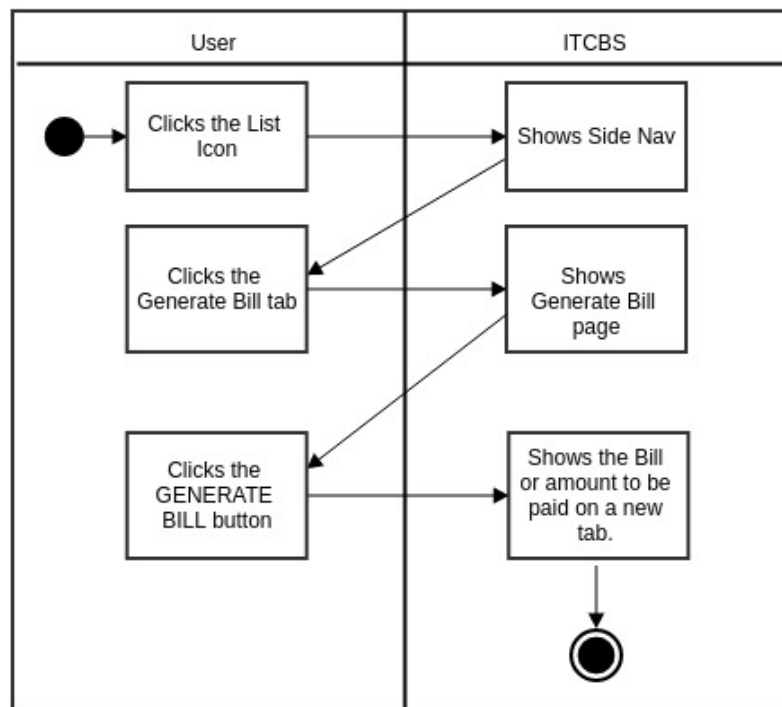


### 3.1.1.7 Generate Bill

#### A. Use Case Specification

Description	The User (Client) generates the bill for the works done for job request.
Goal	To generate the bill for the works done for the job request.
Preconditions	The Users should be logged-in.
Assumptions	You are connected to a network.  You are already on the Generate Bill Tab.
Frequency	Every time the User wants to generate the finished job's bill.
Flow of Events	Main Flow: 1. The User clicks the List Icon. 2. The User clicks the Generate Bill Tab. 3. The User clicks the GENERATE BILL button.
Post-conditions	The User sees the Bill or amount to be paid on a new tab.
Actors	Client
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram



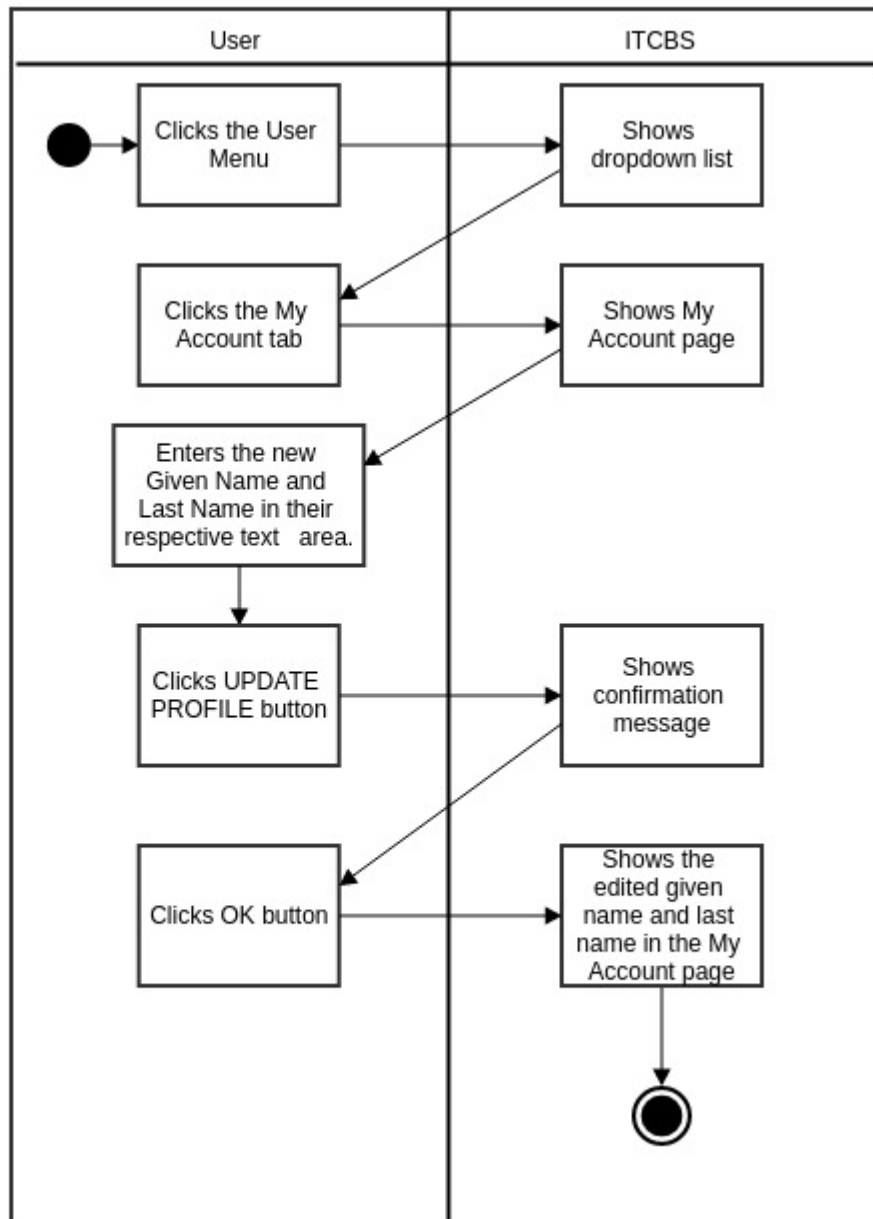
### 3.1.2.My Account

#### 3.1.2.1. Update Profile

##### A. Use Case Specification

Description	The User (Super Administrator, Technician, Administrator, Client) updates account's profile.
Goal	To update the account's profile.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network.  You are already on the User Menu.
Frequency	Every time the User wants to update his/her profile
Flow of Events	Main Flow: 1. The User clicks the User Menu. 2. The User clicks the My Account Tab. 3. The User enters the new Given Name and Last Name in their respective text area. 4. The User clicks the Update Profile button.
Post-conditions	The User updates Given Name and Last Name in the database.
Actors	Super Administrator, Technician, Administrator, Client
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram

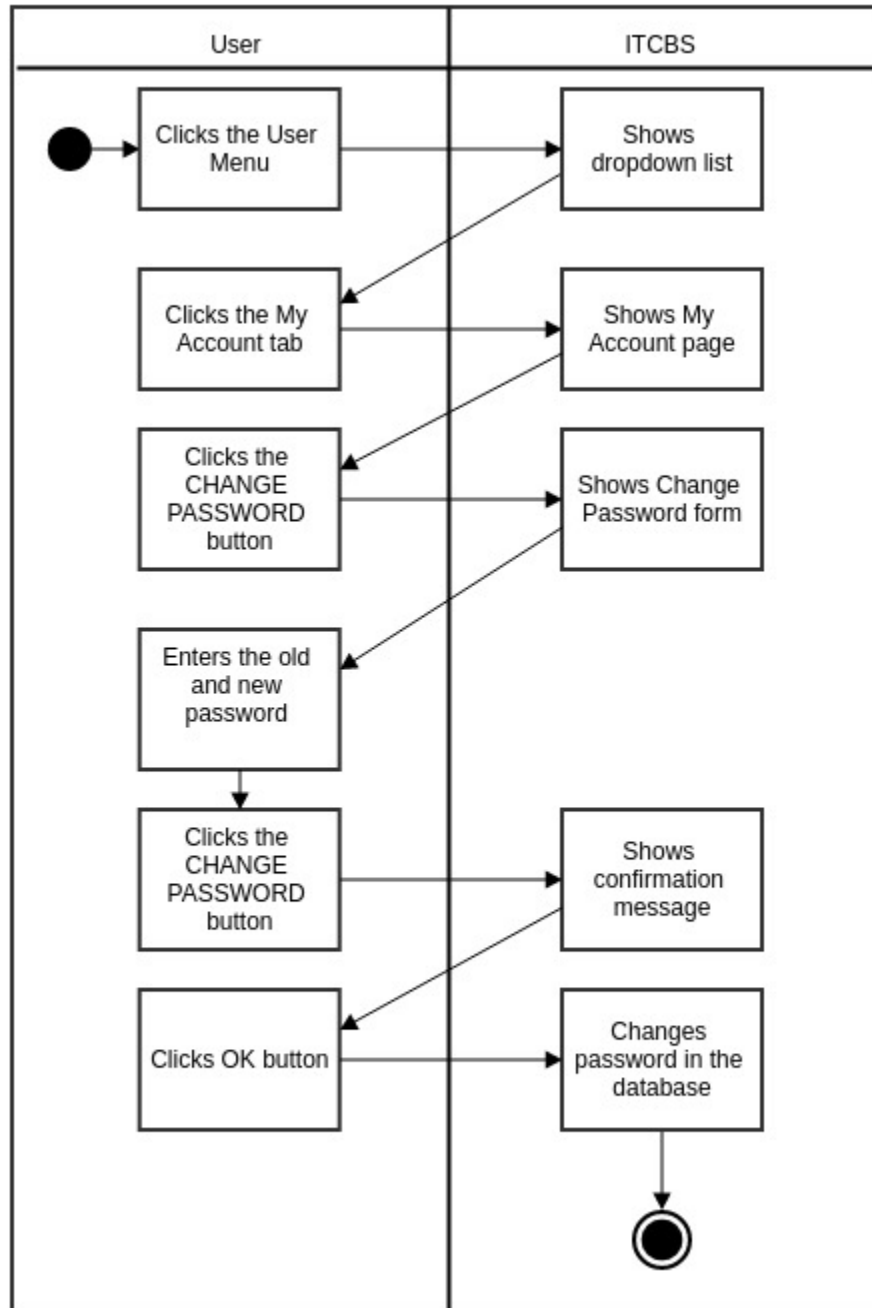


### 3.1.2.2 Change Password

#### A. Use Case Specification

Description	The User (Super Administrator, Technician, Administrator, Client) changes his/her password.
Goal	To change user account's password.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network.  You are already on the User Menu.
Frequency	Every time the User wants to change his/her password.
Flow of Events	Main Flow: 1. The User clicks the User Menu 2. The User clicks the My Account Tab. 3. The User clicks the Change Password button. 4. The User enters the old and new password. 5. The User clicks the Change Password button. 6. The User clicks the OK button.
Post-conditions	The User updates password in the database.
Actors	Super Administrator, Technician, Administrator, Client
Included Use Cases	None
Extended Use Cases	None
Notes	

## B. Activity Diagram



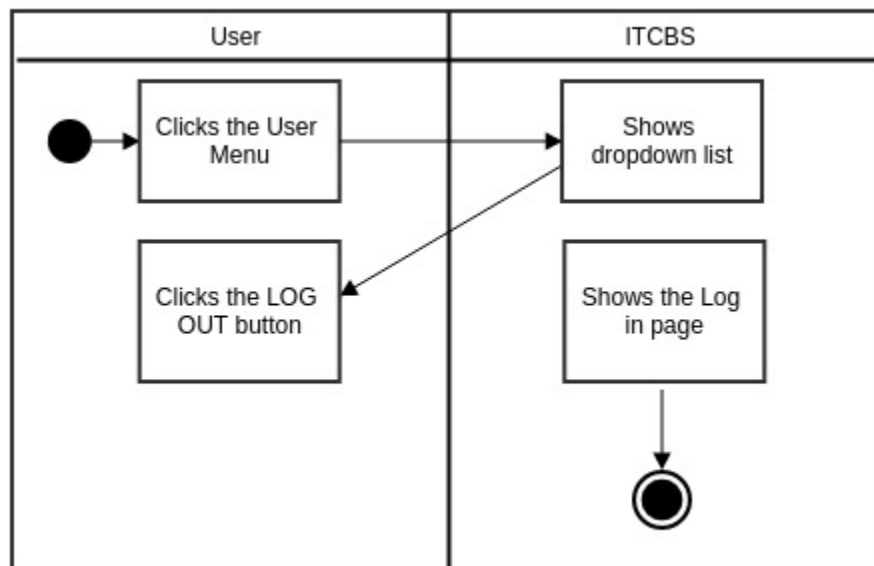


### 3.1.3 Log Out

#### A. Use Case Specification

Description	The User (Super Administrator, Technician, Administrator, Client) logs out.
Goal	To log out of the system.
Preconditions	The User should be logged-in.
Assumptions	You are connected to a network. You are already in the User Menu.
Frequency	Every time the user wants to log out.
Flow of Events	Main Flow: 1. The User clicks the User Menu. 2. The User clicks the Log Out tab.
Post-conditions	The User is logged out and redirected to log in page.
Actors	Super Administrator, Technician, Administrator, Client
Included Use Cases	None
Extended Use Cases	None
Notes	

#### B. Activity Diagram



### 3.2 DATABASE SCHEMA

