# Web Based Incident Management System

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in

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of

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# Approval Certificate

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# Declaration

This is to certify that the work entitled "**Web Based Incident Management System**" is the outcome of the research carried out by me under the supervision of **Dr. Mohammad Nurul Huda, Professor and MSCSE Coordinator**.

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In my capacity as supervisor of the candidate's project, I certify that the above statements are true to the best of my knowledge.

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# Abstract

Incident management is the principle part of getting a handle on IT service management problems. Basically it is the first step of the process of incident management. An useful incident management most of the time counteract the problems from interrupting business events or impacting other IT services.

Fixing problems and getting everything back to normal operations as soon as possible is the main reason of incident management system. It makes the resolution process pleasant and more thorough when all incidents are managed in a thoughtfully way. It also helps and benefits the user to learning the resolution process for future incidents.

As a solution of incident management we have designed and developed an application using ASP.NET platform for necessary security and portability reason. We are hopeful and satisfied about the performance of our developed application. The future of this incident management can be farther extended with more features.

# Acknowledgement

First of all we would like to express our heartiest and deepest appreciation to almighty Allah. For His divine blessing to make us possible to complete this project successfully.

We are grateful to and wish our profound compulsion to **Dr. Mohammad Nurul Huda, Professor and MSCSE Coordinator, Department of Computer Science and Engineering**, United International University, Dhaka. Deep Knowledge & keen interest of our supervisor in the field of incident management system influenced us to carry out this project. And A special gratitude we would like to give to Dr. Swakkhar Shatabda, Assistant Professor and Undergraduate Program Co-ordinator, Department of CSE, United International University.

We are also like to thank our entire course mate in United International University, who took part in this discuss while completing the course work and other faculty member and the staff of CSE department of United International University.

Finally, we must acknowledge with due respect the constant support and patients of our parents.

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# Chapter 1

# Introduction

The reason of developing this incident management is to provide a basic advantage and overview for the Information of Office Tech (OIT) Incident Management Process. The name of Incident Management explains the use to manage the lifecycle of all incidents. Any Incident can happen by technical staff, reported and detected by consequence monitoring tools. The issues can be recorded by the users throw telephone call or email to service desk.

## 1.1 Purpose

The purpose of using incident management is simple. It helps the organization to re-establish normal service operations as early as possible from a problem. It also accent down the negative impact on business operations, this make sure that the agreed levels of service quality are maintained.

## 1.2 Reasons of Incident Management

Why we need Incident Management? There are some reasons we found for the Incident Management process. First in a minimum time limit we have to rake up normal service operation. secondly presiding agreed levels of service quality are complied and third reason is to summarize the adverse impact on business operations.

## 1.3 Objectives

To achieve the Goals of Incident Management process we have to follow some objectives. They could be like communication with end users and visibility of incidents should be frequently. Then ascertained procedures and methods are used for prompt and doughty response, documentation, analysis, reporting of incidents, and ongoing management must be done. The third reason is more Business conciseness of IT

approaching professional way, so that incidents will be resolved and get feedback quickly. The another reason is without losing the quality of IT services user contentment should be increased and maintained. Storing the record of Incident management activities and prioritize them following.

## 1.4 Policies

Incident management has some policies. Some policies are followed by an organization. That is they designed the policies only to use them self. Some policies are common which are used for all the organization. We have found some policies below.

First the incidents should be recorded and must be reported in a timely manner with their updated status. All incident should have a resolution deadline. The deadline defined by the organization. The reason of incident management is to gain the satisfaction of the user. User satisfaction is very important. So for an IT department they should count user satisfaction should as their achievement. The handling and processing should be in a single line with overall service levels and objectives of an incident. Each and every incidents should be managed and stored in a single incident or issue management application. Across the business enterprise every incident should be subscribe to a standard classification schema which are suitable. To ensure that entries every incident should be inspect and categorized correctly in a regular intervals.

## 1.5 Scope

The scope and the demand of the incident management for an organization is very important. Every event which obliterate are comprehends, or something which are capable of causing a staving to the service. Events which are communicated directly by the end users. Through an interface from event management to incident management tools – or through the service desk. Scope defines the boundaries or extent of influence to which Incident Management applies for an organization.

### 1.5.1 General Process Scope

All events which smash, or which could smash a service, including those:

- The end users identify the incident and record it to the incident management application
- Service desk identify the incident and logged the incident in incident management application
- An incident could be detected by event management

Everyone should use the incident management in an organization. In an organization incident management could be used by IT service provider, internal and third parties. They also reporting, recording or working on an incident. Every incident management activities should be fully executed, operated and measured and improved as necessary.

### 1.5.2 Development Scope

Incident Management should be deployed and applicable to: Specifying service targets for resolution of Incidents covered by Service Level Agreements (SLAs) by end users. The Incident Management responsibilities outlined by Service Level Agreements, Operating Level Agreements (OLAs), and Underpinning Contracts (UCs) applied by service providers. The Services to which Incident Management Resolution Targets agreed in Service Level Agreements Apply

## 1.6 Advantage

There are several benefits of using incident management. It could be like qualitative and quantitative. For implementing an effective and efficient Incident Management process it should be attain for both service providers and end users. Keeping record on incident management helps continuous improvement of incident management. Throughout the incident management process lifecycle helps to analyze the level of resources applied to the incident management process. Providing solutions in a short time will minimize the bad impact to business functions. The business unit define their incident and solutions are informed by the support and maintenance. It make sure for all end users to get their best quality service.

### 1.6.1 Advantage to the IT Service Providers

It is highly important for the business and it is easiest for elucidate its value than most areas in service related operation of Incident Management. For a successful Incident Management approach which can be used to highlight other the areas that needs concern:

- Between departments it helps proper alignment and interaction
- It should be focused and improve the ability of service provider
- It should be effective in using resource and reduced the cost in unplanned labor or other unnecessary costs
- It must be quittance of lost incident and service requests
- It helps to classification of improved efforts
- Increased denominate IT staff
- It gives more controls over vendors through incident management prosody
- Possible enhancements are identified
- Excellent staff utilization of interruption based incident handling.
- By timely accomplishment it helps to concise business impact of incidents
- It helps to improve monitoring of overall process
- All incident information related services are managed to aspects

### 1.6.2 Advantage to the Users

There are some advantage to the users like it helps to reduced service downtime which confirm maximum service availability. It improved unplanned labor and associated costs and identify of efficient opportunities of services. It helps to identify of additional service or training requirements for IT or business. Improved all activity of IT which are depends to real-time business priorities and user/customer contentment.

# Chapter 2

## Incident Process

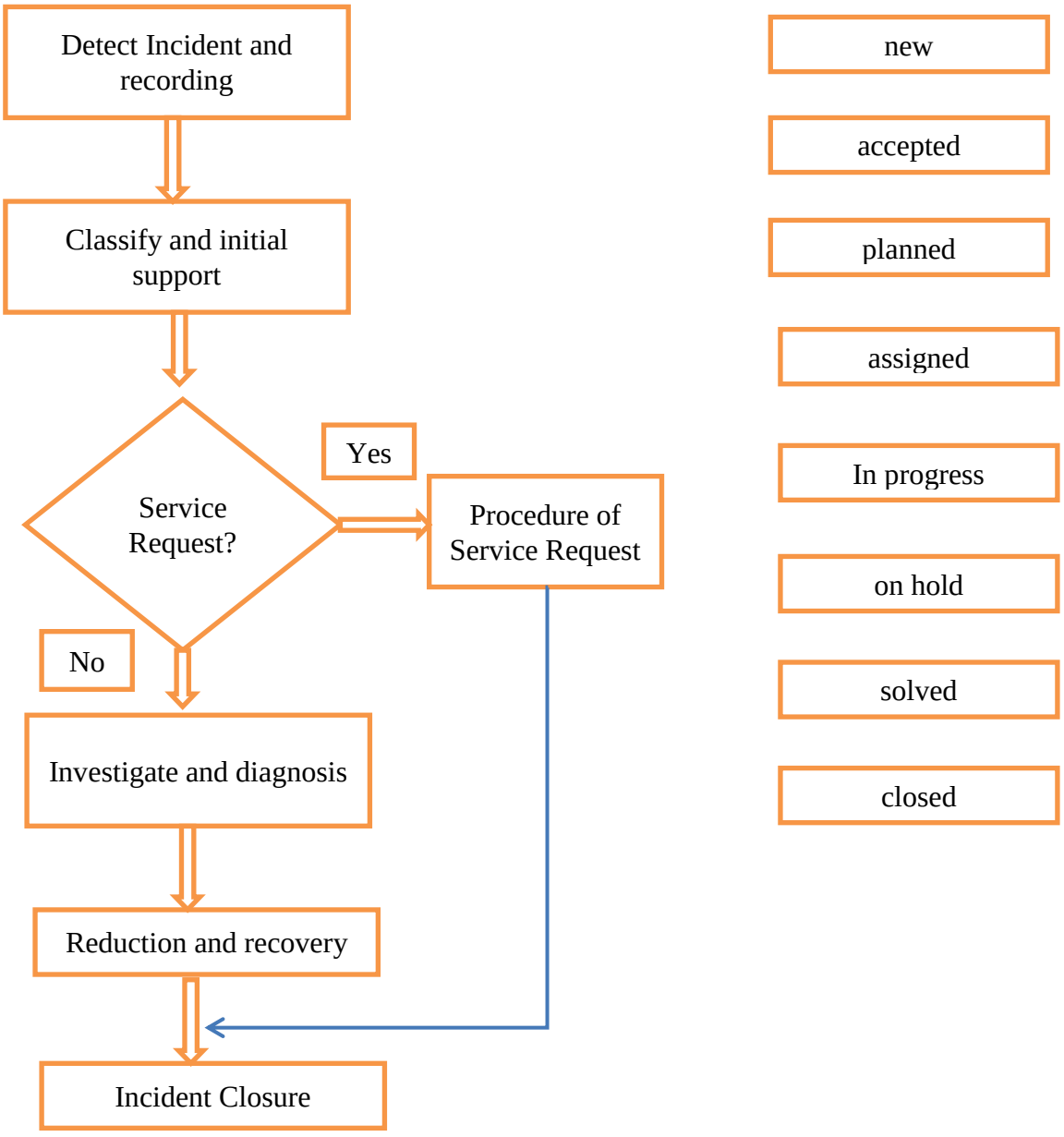



Figure 1: Incident management process

In our developed application incidents are followed in a structured workflow that encourages and competency best results for both end users and service provider. The incident management process mainly follows these steps:

1. Identification
2. Logging
3. Categorization
4. Prioritization
5. Response
    - Basic diagnosis
    - Escalation of incident
    - Investigation and diagnosis
    - Resolution and recovery
    - Incident closure

Every incident has a lifecycle. And they go throw a process. The process also helps to handle the incident in a efficient way.
In the cycle of an incident, identifying the incident is the first step. Incidents rises from users in whatsoever forms the organization accustom. Reporting sources of incident include phone calls, emails, support chats, walk-ups, self-service and automated notices like network governance software or system scanning utilities. The service desk tranquillize after checking the incident. Then it is classify the that the issue is truly an incident or it's a request. Classified and handled differently the requests than incidents, and they fall under request fulfillment.
After identifying an incident the service desk log the incident as a ticket. Every ticket should include basic information like the user's name and contact information, the incident description, and the date and the reporting time of the incident. Basically these kind of information are used for SLA reports. It should be categorize and prioritize the process to completion of an incident and the steps of service desk are included.
Incident classification is a complex stage for incident management process.
Every incident should be assigned a category. If needed add at least one subcategory to the incident. There are several ways for this action. Based on their categories and subcategories the service desk sort and model incidents. Second, it allows some issues to be mechanically prioritized. For example, an incident might be categorized as "Internet" with a sub-category of "IP". This categorization would, in some organizations, be considered a high-priority incident that requires egregious incident response. Accurate incident unequivocal is the third purpose to take measures. Patterns emerge after

categorization of incident. It’s easy to quantify how often certain incidents come up and point to aptitude that require training or problem management.

An incident's priority is set by the impact and urgency on users and on the business. By the impact and urgency a incidents priority is set.
Urgency is how fast a resolution is required; impact is the menstruation of the extent of influential damage the incident may cause.

1. **Low-priority:** The low priority incidents do not closely affect users or the business. The users can continue their regular work. Services to users and customers come up to top.
2. **Medium-priority:** In medium priority incident is slightly oppressed or inconvenienced customer. This kind of incident affects a few staff and interrupt work to some degree.
3. **High-priority:** High-priority incident most of the time has a big financial influence. When an incident affect in a large number of users or customers, and obstruct business called high priority incident. These incidents almost always have a financial influence.

## 2.1 Steps in the Incident Management Process

Incident management process mainly has five basic steps:

1. **Primary incident diagnosis:** The service desk agents primarily investigate/diagnose the problem and talk with the person who reported. If necessary the service desk agent can also ask for the help of the organization’s management database for the aspect.
2. **Escalation:** When the service desk agent can't handle the incident then the escalation required. To ensure the incident is resolution escalation is necessary.
3. **Investigation:** To find out how to solve the problem incident investigation is necessary. It basically helps to gather information related of the incident.
4. **Incident resolution and recovery:** In this stage the incident resolution and recovered by the service agent. The service desk agent resolved and documented the incident.

5. **Incident closure:** Incident closure is when the incident is clasp out of view of the service desk agent. At this time, the resolution may be added to the IT service desk's knowledge base so that similar incidents in the future may be resolved rapidly.

## 2.2 Incident Management: Recovery time

Each priority is related to a certain recovery time:

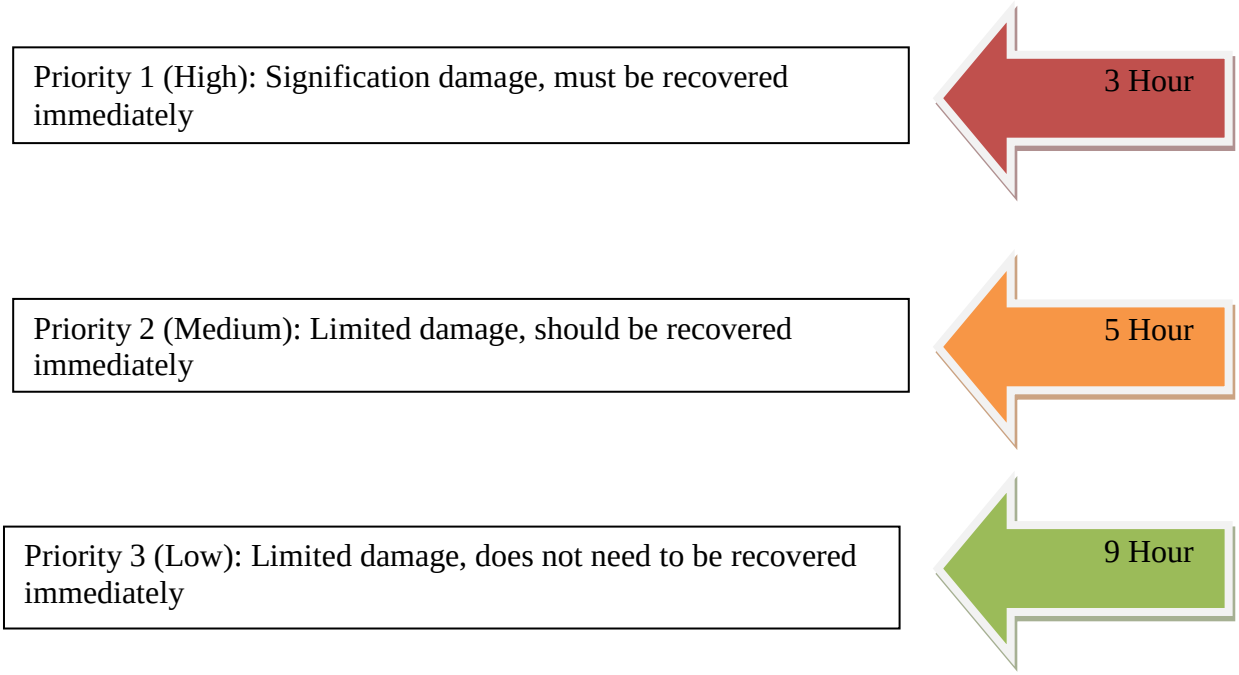



Figure 2: Incident Management Processes Response Time Limit

## 2.3 Incident Triage

We can measure priority based on impact and urgency.

1. Impact: An impact is the effect of the incident on business.
2. Urgency: Urgency is how fast or how much time it could be delayed for a resolution.
3. Priority: Priority is how quickly the service desk should go for action.

**Priority = Impact + Urgency**

Basically a priority is the summation of impact and urgency. For example, It dictate top priority when the incident has high impact and high urgency, whereas low priority is low impact and low urgency. With other impact and urgency values dictating priority levels between high and low.

## 2.4 Statuses of Incident

There are mainly five Incident statuses in the incident management process, they are as follows:

- New
- In progress
- On hold or pending
- Resolved
- Closed

**New:** It is the first level of an incident life cycle. The new status exhibit that the service desk has received the incident but has not assigned it to an agent.
**In progress:** The in-progress status indicates that an incident has been assigned to an agent but has not been resolved. The agent is actively working with the user to diagnose and determination the incident.
**On hold or pending:** The on-hold status indicates that the incident requires some information or response from the user or from a third party. The incident is placed "on hold" so that SLA response deadlines are not surpassing while waiting for a response from the user or vendor.
**Resolved:** The resolved status means that the service desk has confirmed that the incident is resolved and that the user's service has restored to the SLA levels.
**Closed:** The closed status indicates that the incident is resolved and there is no further actions can be taken.

Incident management follows incidents through the service desk to track trends in incident categories and time in each status. The final component of incident management is the evaluation of the data gathered. Incident data guides organizations to make decisions that improve the quality of service delivered and decrease the overall volume of incidents reported. Incident management is just one process in the service operation framework.

# Chapter 3

# Critical Success Factors and associated Key Performance Indicators

Critical Success Factors (CSF) specified when an IT service, process, plan, project or other activities are succeeded. “Metrics that [are] used to conduct an IT service, process, plan, project, or other activity” is determined as Key Performance Indicators (KPI) which defines CSFs.

Table 1: CSF – Consolation to Process

| CSF– Consolation to Process | |
|---|---|
| KPI: Weekly reports provided to Management | |
| Description: | Trends, usage and compliance with Incident Management process are highlights. |
| Type: | Characteristic |
| Details of Supporting: | Weekly |
| Measurement Procedure: | ServiceNow dashboards |
| Category: | Usefulness |

Table 2: CSF – Improved Customer Gratification

| CSF –Improved Customer Gratification | |
|---|---|
| KPI: Most (95%) of Incidents correspond to within target response time | |
| Description: | Most Incident responded to within target response time |
| Type: | Characteristic |
| Supporting Details: | Weekly |
| Measurement Procedure: | ServiceNow, dashboards ,Customer Closure Surveys |
| Category: | Value |

Table 3: KPI: 95% of Incidents resolved within target correlation time

| KPI: 95% of Incidents resolved within target correlation time | |
|---|---|
| Description: | 95% of Incident accomplished within target resolution time |
| Type: | Characteristic |
| Supporting Details: | Weekly |
| Measurement Procedure: | ServiceNow dashboards |
| Category: | Value |

Table 4: KPI: Timely and balanced communication provided to customer

| KPI: Timely and balanced communication provided to customer | |
|---|---|
| Description: | Timely and consistent communication provided to customer by management staff for open incidents |
| Type: | QuaNtitative |
| Supporting Details: | Weekly and yearly |
| Measurement Procedure: | ServiceNow dashboards |
| Category: | Value |

• CSF Impacts to the business by resolve problem as quickly as possible are minimizing

• KPI To achieve incident resolution or deception, broken down by impact code by Mean elapsed time

• KPI Incidents should be amputation at each stage (e.g. logged, work in progress, closed etc.)

• KPI Incidents closed by the service desk without allusion to other levels of corroboration (often referred to as first point of contact) should be segmented

• KPI Without the need for a visit a good number and portion of incident should be resolved remotely

• CSF Quality of IT services should be retained

• KPI Total numbers of occurrence(as a control measure)

• KPI For each IT service there should be a backlog

• KPI Egregious incidents for each IT service should be a number and percentage

• CSF User contentment with IT services should be maintain

• KPI Observation score (total and by question category) should be average for user/customer.
• KPI total number of appeasement surveys sent versus Percentage of gratification surveys answered

# Chapter 4

# Roles & Responsibilities

A set of connected behaviors or actions that are accomplished by a person, team or group in a distinctive association called roles. A role is a function or position in an organization or any organize places. It is a set of connected actions or behaviors that are accomplished by a team, group or a person. By the set of responsibilities, activities and authorities inflicted to the designated person, team or group are defined in a process role.

In yearly objectives, it should be included and the neglectful of the scope, role liability which should be agreed by management. When the roles are assigns, the moderator must be authorized to execute the role activities and given the ample authority for holding other people responsible.

It should be clearly instructed in crosswise organization about all roles and designated person(s), team(s), or group(s) about their roles and responsibility. For cross-functional process activities it should encourage or improve facilitation and collaboration.

## 4.1 Incident Manager

Incident manager is responsible to monitor all the progress of the incident. He conducting management information and Driving the knack and effectiveness of the Management process. He/She governance the effectiveness of Incident Management and making solicitation for improvement. Governing the work of incident support staff and provoking and maintaining the incident Management systems.

## 4.2 Incident Analyst

Incident Analyst is very important role in an organization. He trampling service requests to support groups when incidents are not closed. He gives initial support and ramification of the incident. He registered the incident and takes necessary actions to close the incident. He has the ownership of the incident. He monitor, track the incident and communicate with the end user. He accomplish and recover the incident which are not assigned for second line support.

## 4.3 Incident Coordinator

Simply an incident coordinator performs necessary support operations. They receive all email notification at each step of an incident status. If necessary he escalates all process issues to the incident manager. He identifies possible problems and/or increasing trend of frequent incidents.

## 4.4 Users

Incident management application is mainly used by the user. Incident management cycle mainly used to satisfy them. They provide the input into the Incident Management Process and use the Service Desk, contact a division directly, or open a ticket directly in the incident management system. They reports occurrence when they occur. The end users provide correct and complete information about the incident itself and the situation under which it arrived. They raise and close the incident. They are the main part of an organization.

# Chapter 5

## System Design and overview

We have design and developed our application based on the requirement of Lafarge Surma Cement Ltd. which is a joint venture of LafargeHolcim, a world leader in building materials and cementosMolins, Spanish Company with strong global presence.On 11th November 1997 it was first incorporated as a private limited company in Bangladesh. The plant/depot located in Chhatak, Dipnagar, Kachpur, Kutubpur, Meghnaghat, Mirpur, Dhaka(Head Office), Shella(India) and Shillong(India).

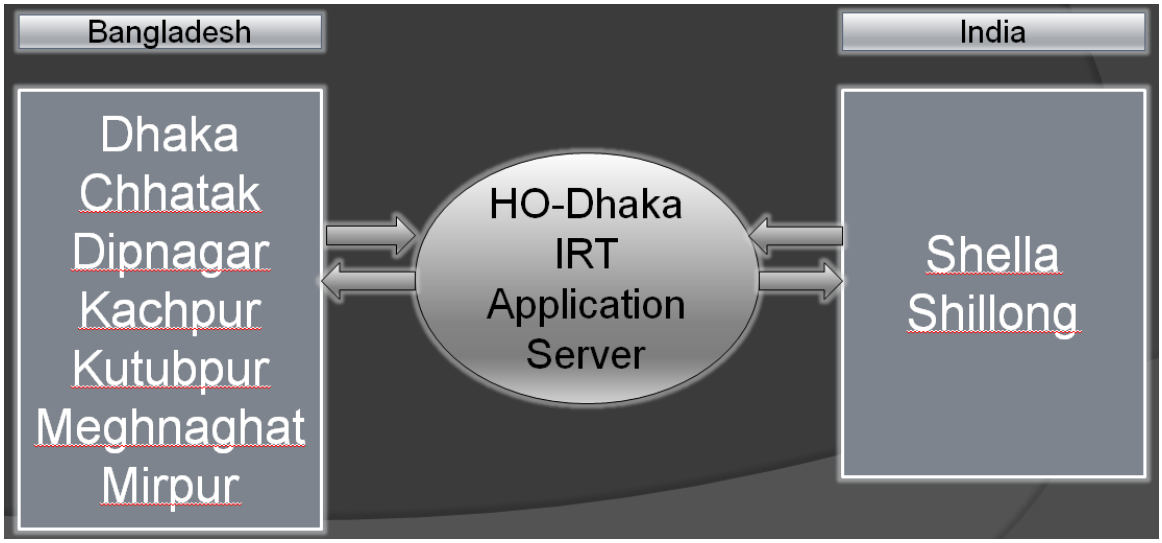



Figure 3: Application access diagram of LSC

The application is hosted in Dhaka and accessed by ethernet from other locations. The incident which are raised from Chhatak, Dipnagar, Kachpur, Kutubpur, Meghnaghat, Mirpur are maintained and managed from HO-Dhaka. And which are raised from Shella, Shillong are maintained and managed by Shella. But all the incident are monitored from HO-Dhaka.

**Infrastructure Of LSC:**

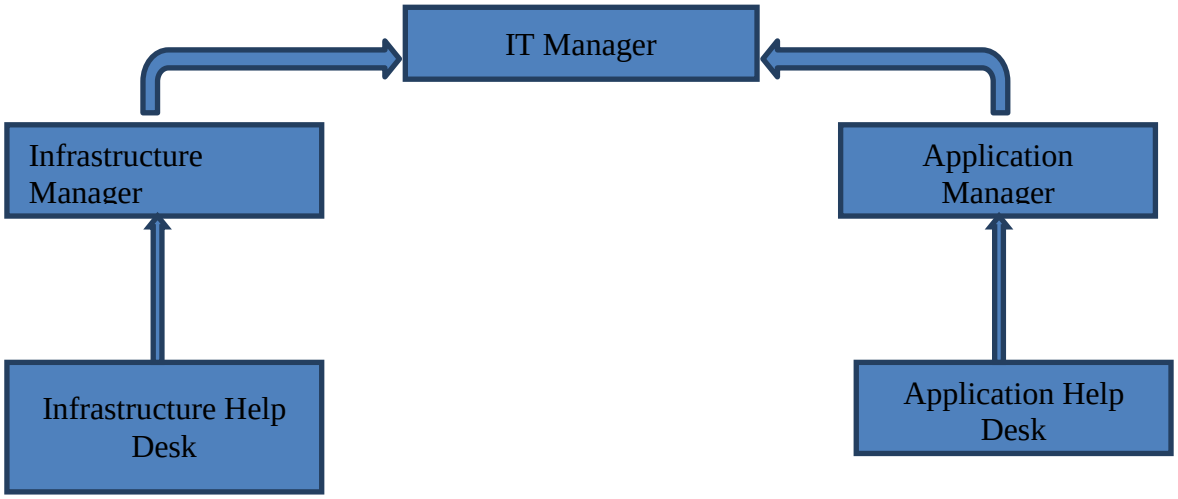



Figure 4: Structure of IT Department of LSC

The IT department is responsible to maintain and monitor all incidents related with infrastructure and application. There are two typeshelpdesk , one for infrastructure and another is for application. The infrastructure help desk receives and resolves incidents of hardware. and application helpdesk receives and resolves software related incidents. Sometimes they work as tier. If one tier is unable to handles the incidents the other tier response. They also can forward incidents.

If help desk is unable to resolve the incident they can escalate to upper level. Each tier has a manager. And finally an IT manager will monitor and manage the department. He will make the final decision or create new role and rules.

## 5.1 Use Case Details

| **Use case name: Login** | |
|---|---|
| **Precondition** | **None** |
| **Actor** | **System** |
| **Primary path** | **Key in login Id** |
| | **Key in password** |
| | **Click on Login** |
| **Exceptional path** | **Invalid login Id or password, Show “Wrong user** |

| | |
|---|---|
| | **ID/Password”** |
| **Notes** | **Created on 10 Dec, 2017** |

| **Use case name: Create New Incident (User)** | |
|---|---|
| **Precondition** | **Login** |
| **Actor** | **User** |
| **Primary path** | **Key in incident title** |
| | **Key in description** |
| | **Key in select incident type** |
| | **Key in set priority** |
| | **Key in file upload** |
| | **Click on Submit** |
| **Exceptional path** | **Incident is not created, required field must not be empty** |
| **Notes** | **Created on 10 Dec, 2017** |

| **Use case name: Create New Incident (Agent)** | |
|---|---|
| **Precondition** | **Login** |
| **Actor** | **User** |
| **Primary path** | **Key in set code** |
| | **Key in on behalf of** |
| | **Key in status** |
| | **Key in incident title** |
| | **Key in description** |
| | **Key in select incident type** |
| | **Key in set priority** |
| | **Key in file upload** |
| | **Click on Submit** |
| **Exceptional path** | **Incident is not created, required field must not be empty** |
| **Notes** | **Created on 10 Dec, 2017** |

| Use case name: Generate Reports | |
|---|---|
| **Precondition** | **Login** |
| **Actor** | **User** |
| **Primary path** | **Key in date from** |
| | **Key in date to** |
| | **Key in status** |
| | **Key in irt code** |
| | **Key in site** |
| | **Click on Generate List** |
| **Exceptional path** | **List not generated, required field must not be empty** |
| **Notes** | **Created on 11Dec, 2017** |

| Use case name: Incident Summary | |
|---|---|
| **Precondition** | **Login** |
| **Actor** | **User** |
| **Primary path** | **Key in date from** |
| | **Key in date to** |
| | **Key in department** |
| | **Key in location** |
| | **Key in incident type** |
| | **Click on Generate** |
| **Exceptional path** | **Incident list/Graph not generated, required field must not be empty** |
| **Notes** | **Created on 9th Dec, 2017** |

| Use case name: Create New Employee | |
|---|---|
| **Precondition** | **Login** |
| **Actor** | **User** |
| **Primary path** | **Key in full name** |
| | **Key in email** |

| | |
|---|---|
| | **Key in designation** |
| | **Key in department** |
| | **Key in location** |
| | **Click on Create New Employee** |
| **Exceptional path** | **New employee not created, required field must not be empty** |
| **Notes** | **Created on 12th Dec, 2017** |

## 5.2 Database Design

For software, database design is the most important factor. To make the system very portable, we have used Microsoft SQL server as database. Database is used for store incident history. The diagram of a physical database is given below. This includes table diagram for Incident Management System.

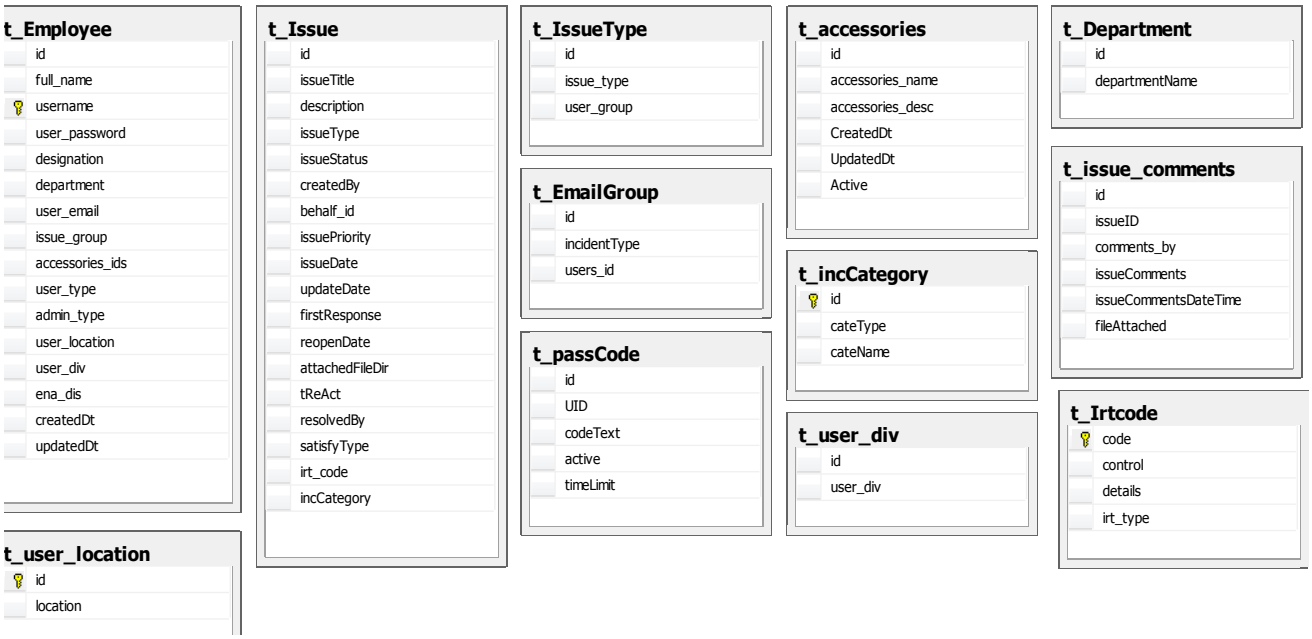



Figure 5: Relational Tables

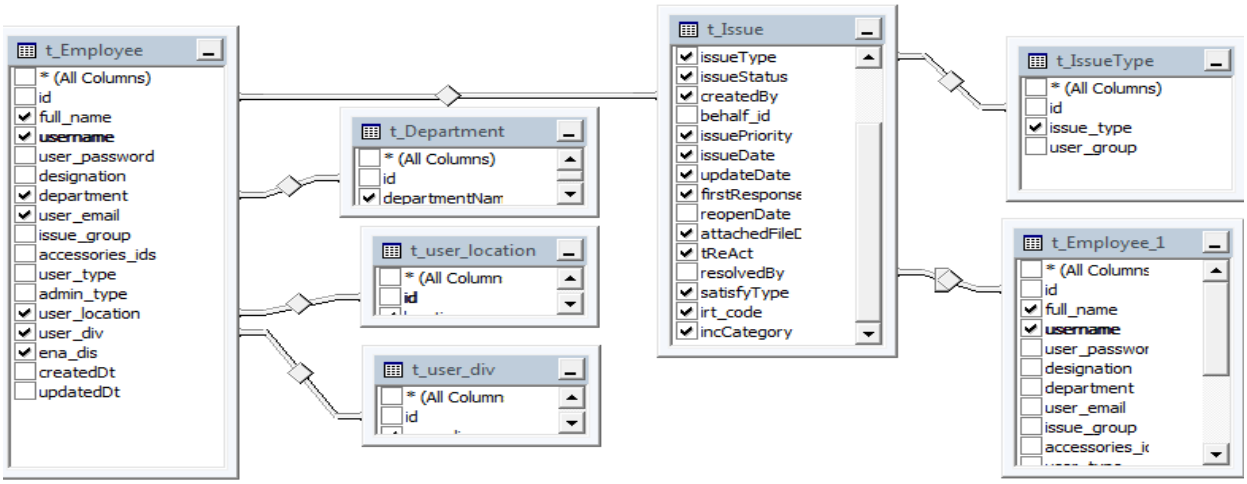



Figure 6: E-R diagram of incident creation

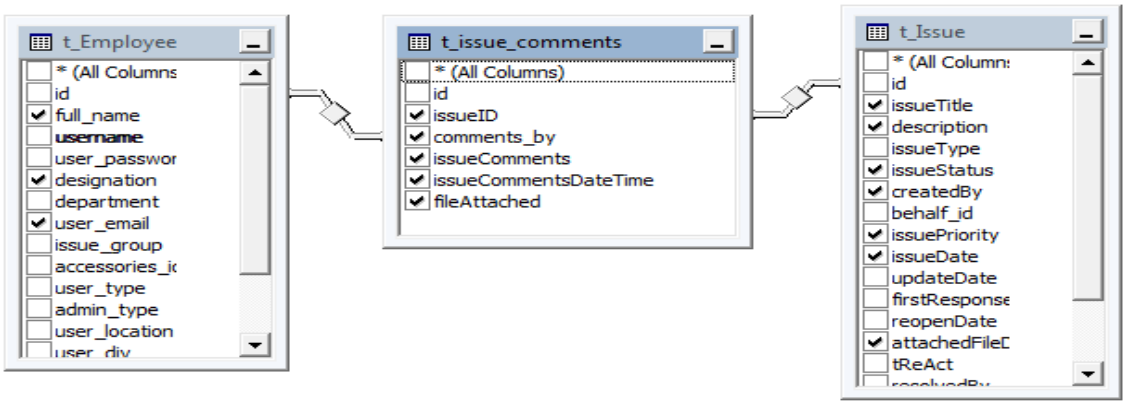



Figure 7:E-R diagram of incident history

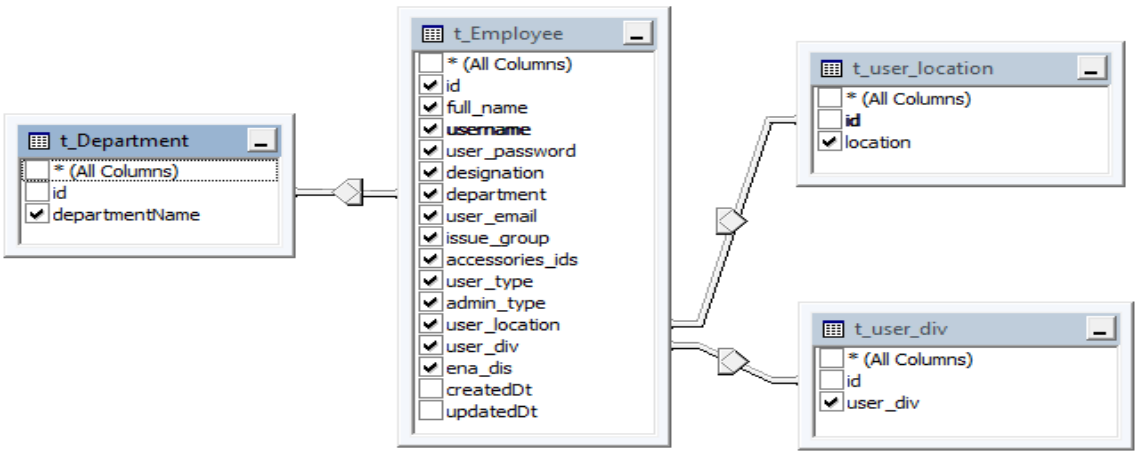



Figure 8: E-R diagram of creating new employee

## 5.3 Incident Forms

We would like to mention some important form of our Incident Management System. The applications main challenge is how to handle the complexity of user experience and show the real-time response in single form.

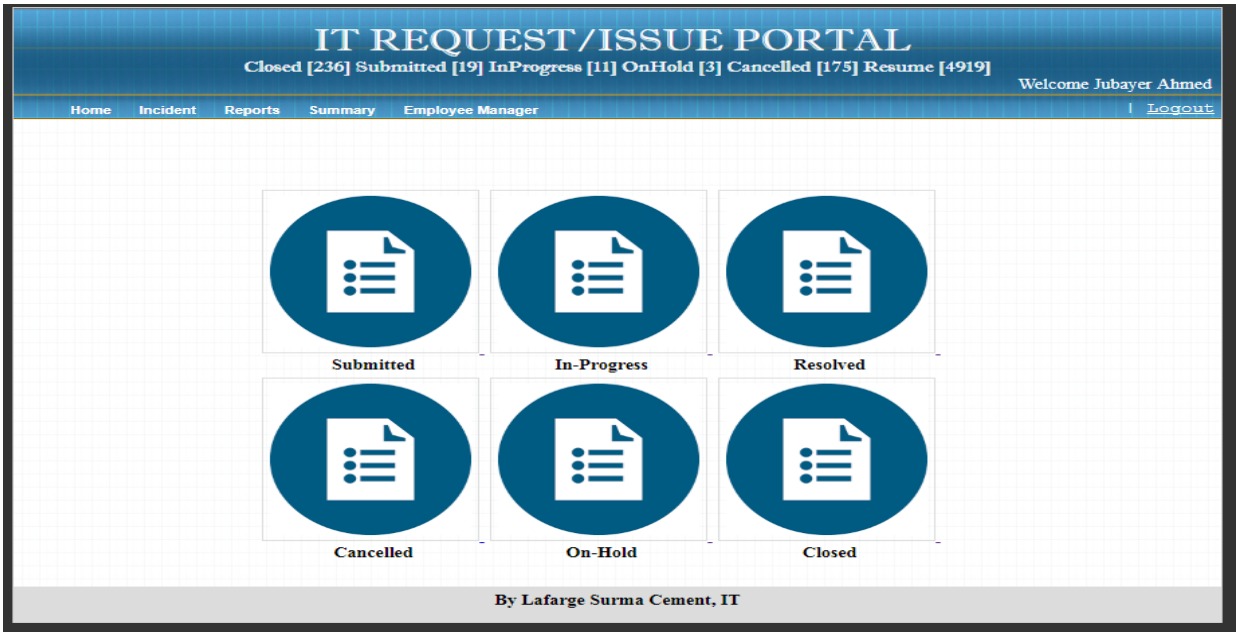



Figure 9: Dashboard

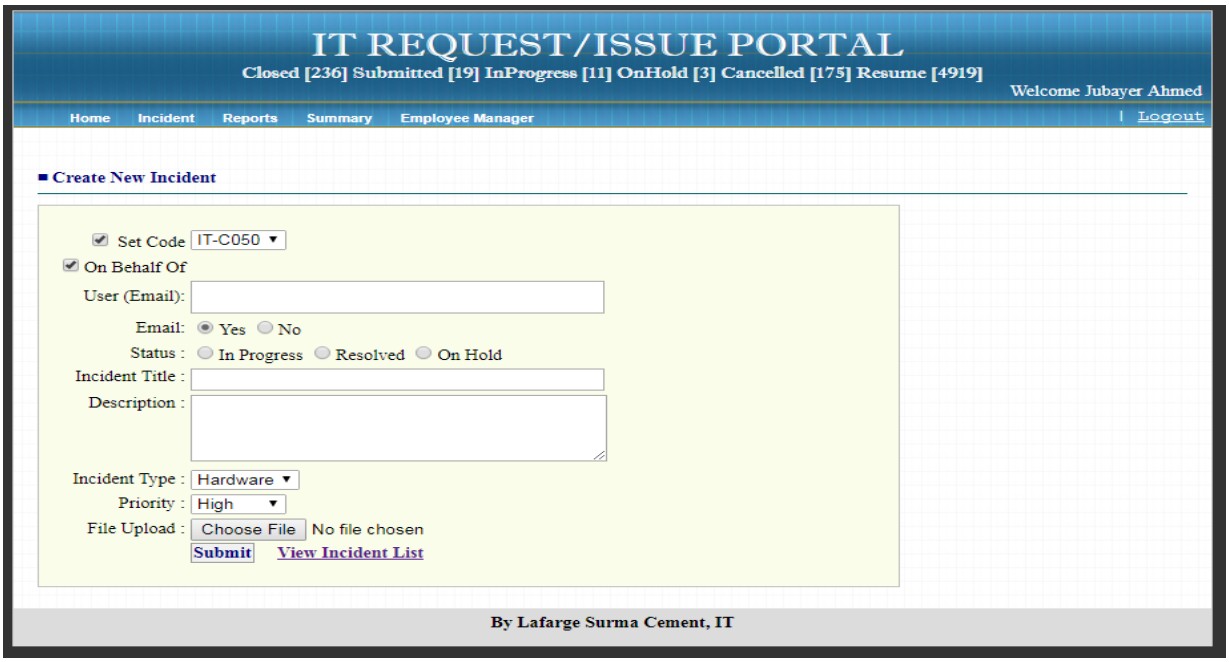



Figure 10: Creating Incident Form

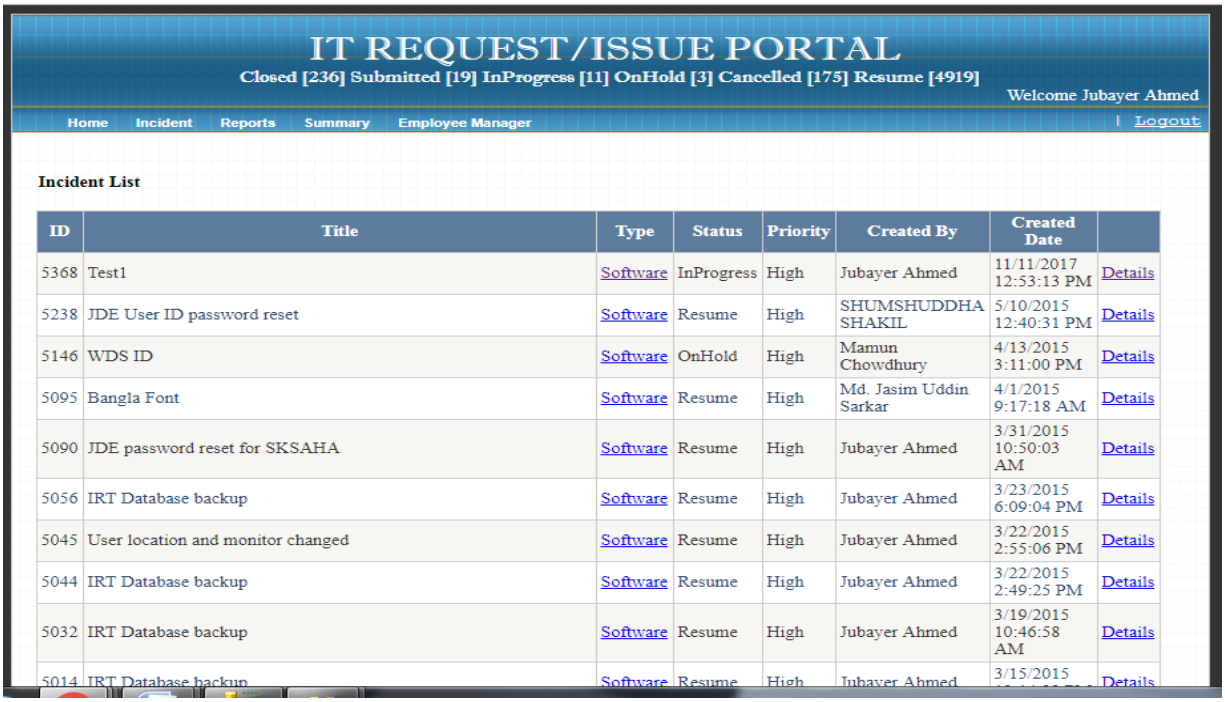



Figure 11: Incident List

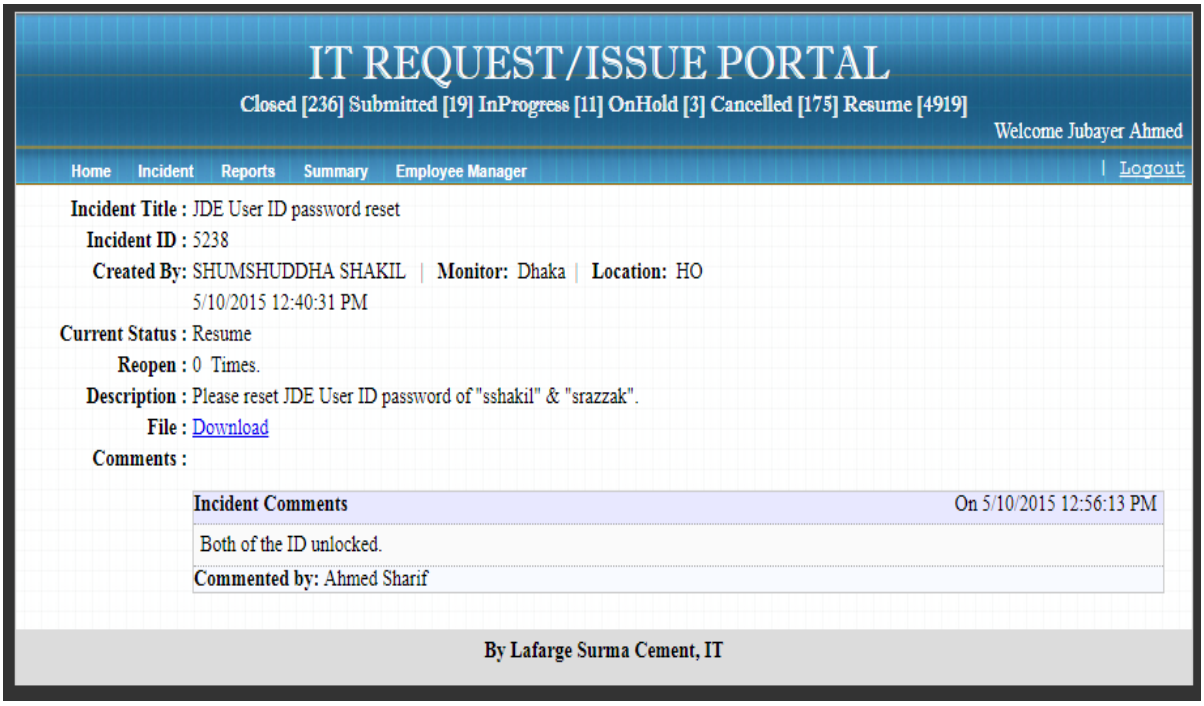



Figure 12: Incident Details

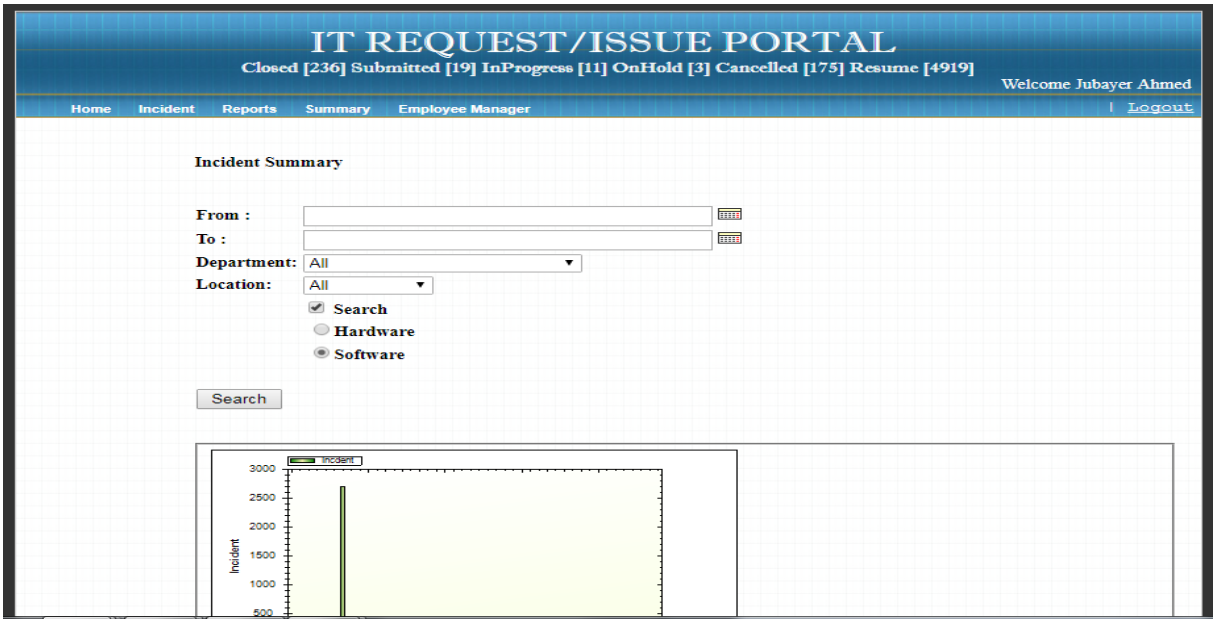



Figure 13: Incident Summary Report Generation Form

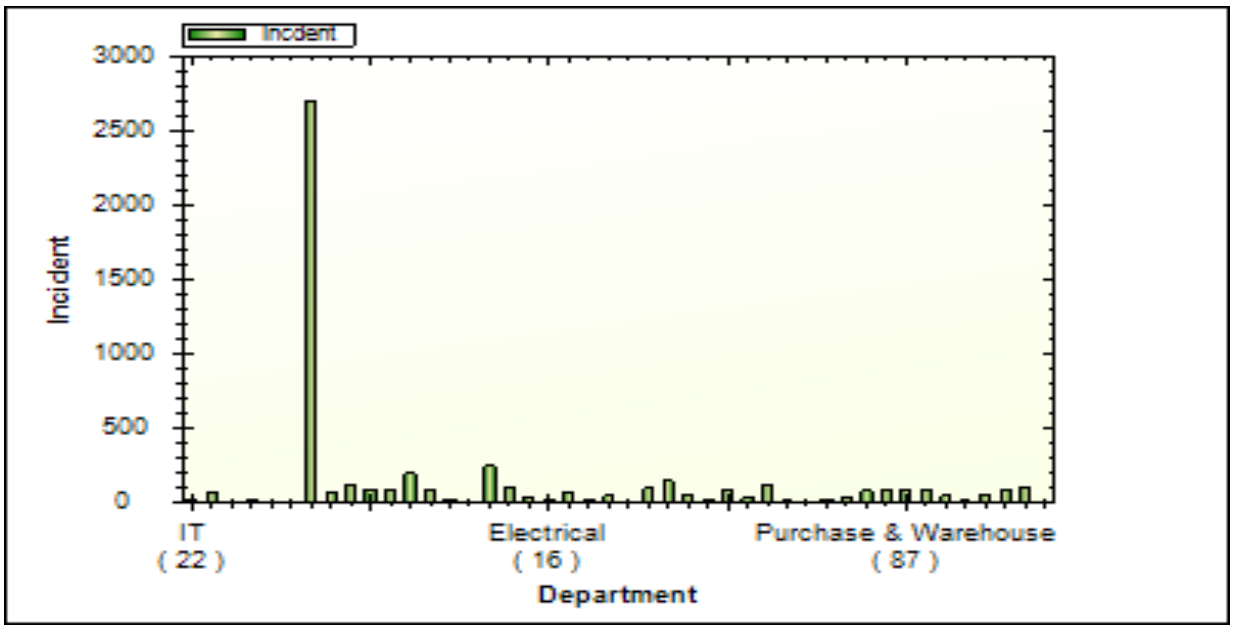
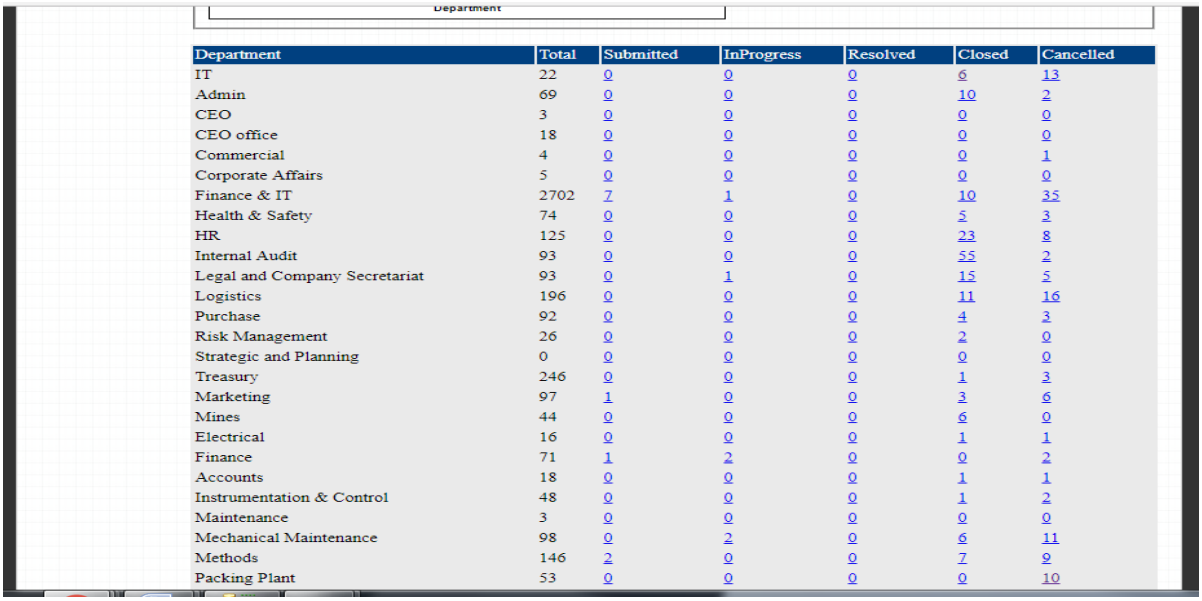



Figure 14: Department wise graphical representation of incident



| Department | Total | Submitted | InProgress | Resolved | Closed | Cancelled |
|---|---|---|---|---|---|---|
| IT | 22 | 0 | 0 | 0 | 6 | 13 |
| Admin | 69 | 0 | 0 | 0 | 10 | 2 |
| CEO | 3 | 0 | 0 | 0 | 0 | 0 |
| CEO office | 18 | 0 | 0 | 0 | 0 | 0 |
| Commercial | 4 | 0 | 0 | 0 | 0 | 1 |
| Corporate Affairs | 5 | 0 | 0 | 0 | 0 | 0 |
| Finance & IT | 2702 | 7 | 1 | 0 | 10 | 35 |
| Health & Safety | 74 | 0 | 0 | 0 | 5 | 3 |
| HR | 125 | 0 | 0 | 0 | 23 | 8 |
| Internal Audit | 93 | 0 | 0 | 0 | 55 | 2 |
| Legal and Company Secretariat | 93 | 0 | 1 | 0 | 15 | 5 |
| Logistics | 196 | 0 | 0 | 0 | 11 | 16 |
| Purchase | 92 | 0 | 0 | 0 | 4 | 3 |
| Risk Management | 26 | 0 | 0 | 0 | 2 | 0 |
| Strategic and Planning | 0 | 0 | 0 | 0 | 0 | 0 |
| Treasury | 246 | 0 | 0 | 0 | 1 | 3 |
| Marketing | 97 | 1 | 0 | 0 | 3 | 6 |
| Mines | 44 | 0 | 0 | 0 | 6 | 0 |
| Electrical | 16 | 0 | 0 | 0 | 1 | 1 |
| Finance | 71 | 1 | 2 | 0 | 0 | 2 |
| Accounts | 18 | 0 | 0 | 0 | 1 | 1 |
| Instrumentation & Control | 48 | 0 | 0 | 0 | 1 | 2 |
| Maintenance | 3 | 0 | 0 | 0 | 0 | 0 |
| Mechanical Maintenance | 98 | 0 | 2 | 0 | 6 | 11 |
| Methods | 146 | 2 | 0 | 0 | 7 | 9 |
| Packing Plant | 53 | 0 | 0 | 0 | 0 | 10 |

Figure 15: Departments and status wise incidents

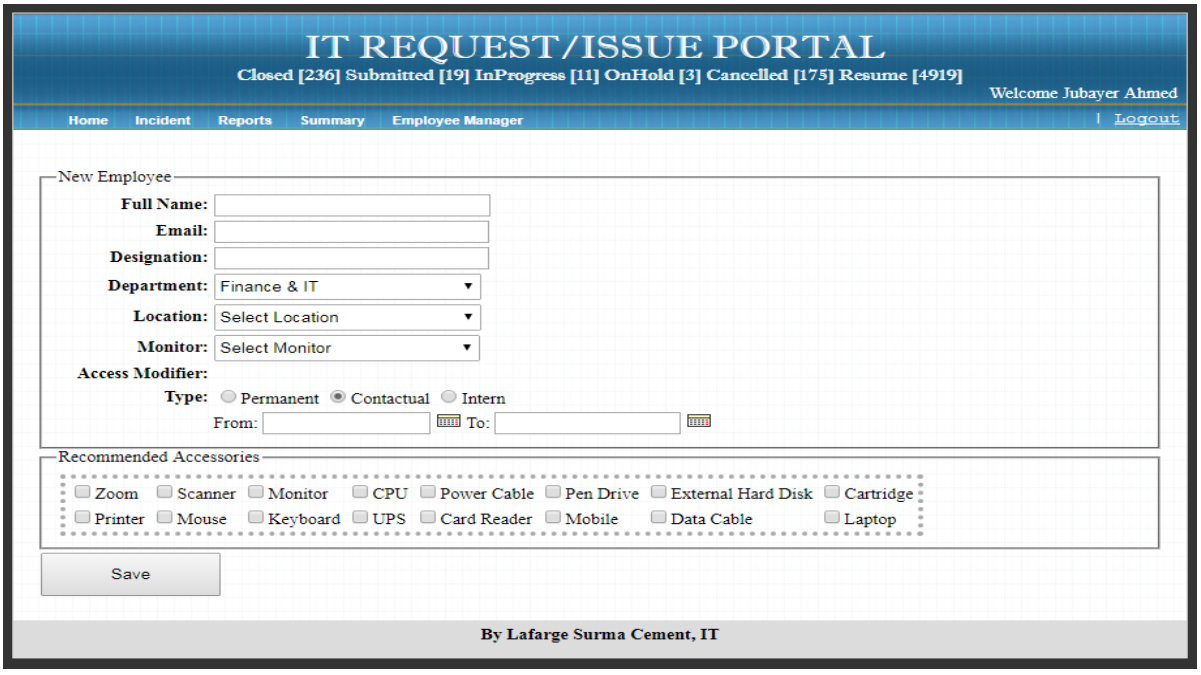
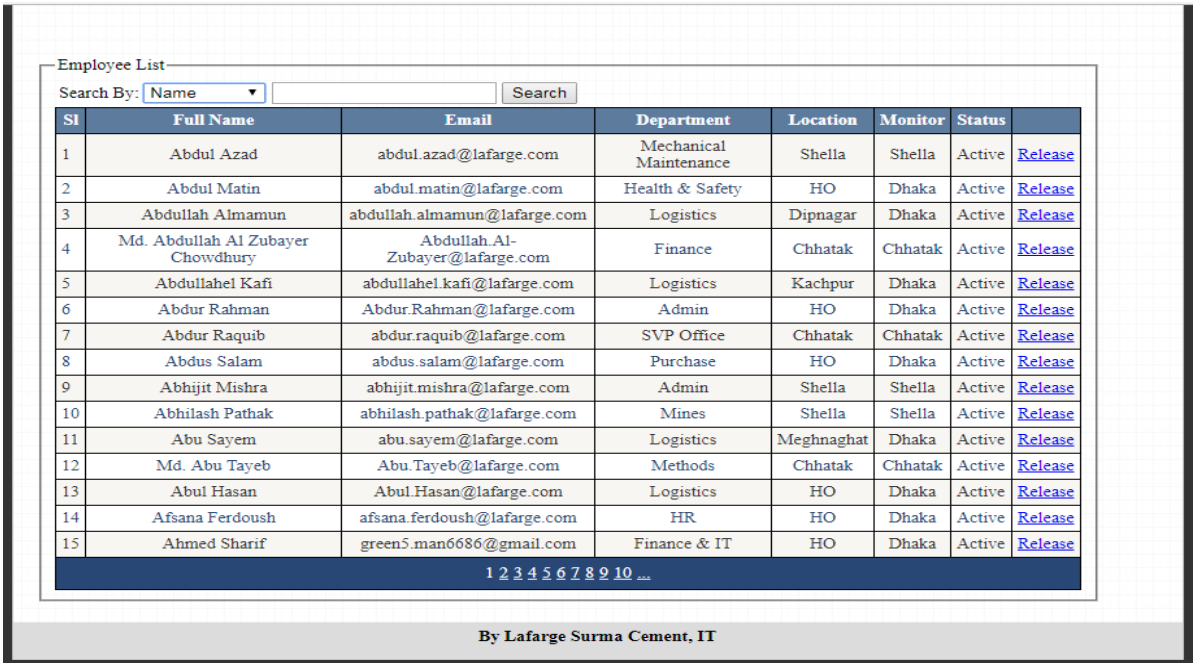



Figure 16: Creating new employee



Employee List

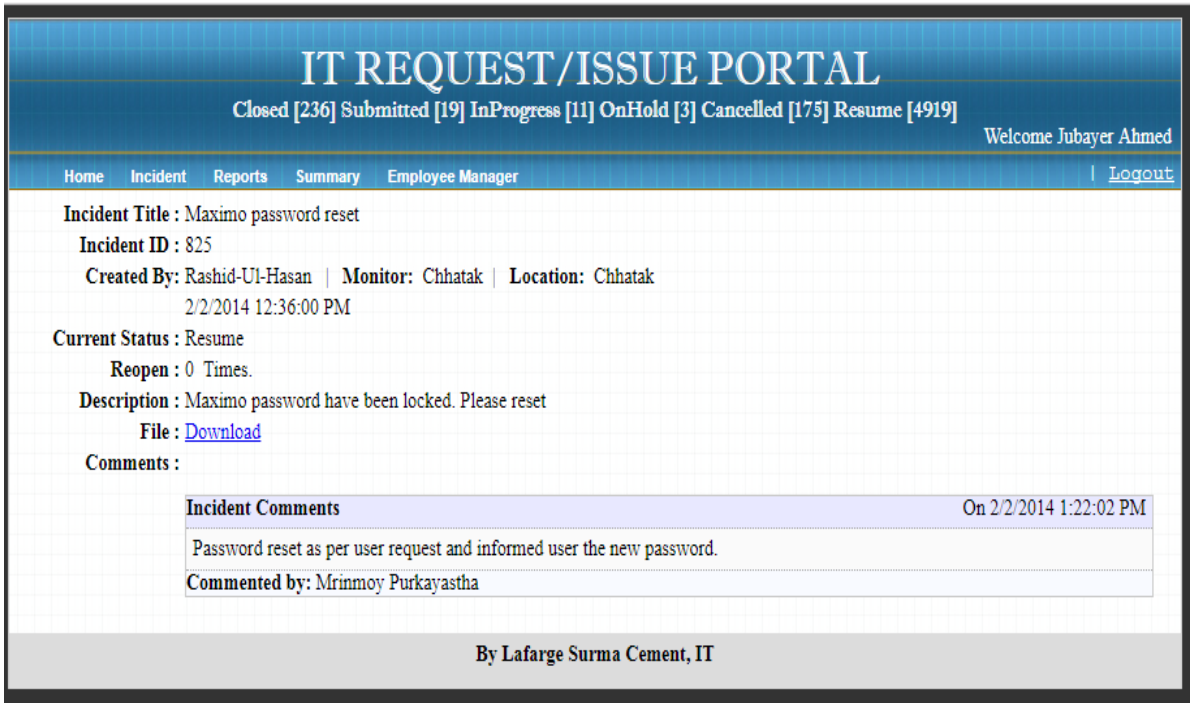
Search By: Name Search

| Sl | Full Name | Email | Department | Location | Monitor | Status | |
|---|---|---|---|---|---|---|---|
| 1 | Abdul Azad | abdul.azad@lafarge.com | Mechanical Maintenance | Shella | Shella | Active | Release |
| 2 | Abdul Matin | abdul.matin@lafarge.com | Health & Safety | HO | Dhaka | Active | Release |
| 3 | Abdullah Almamun | abdullah.almamun@lafarge.com | Logistics | Dipnagar | Dhaka | Active | Release |
| 4 | Md. Abdullah Al Zubayer Chowdhury | Abdullah.Al-Zubayer@lafarge.com | Finance | Chhatak | Chhatak | Active | Release |
| 5 | Abdullahel Kafi | abdullahel.kafi@lafarge.com | Logistics | Kachpur | Dhaka | Active | Release |
| 6 | Abdur Rahman | Abdur.Rahman@lafarge.com | Admin | HO | Dhaka | Active | Release |
| 7 | Abdur Raquib | abdur.raquib@lafarge.com | SVP Office | Chhatak | Chhatak | Active | Release |
| 8 | Abdus Salam | abdus.salam@lafarge.com | Purchase | HO | Dhaka | Active | Release |
| 9 | Abhijit Mishra | abhijit.mishra@lafarge.com | Admin | Shella | Shella | Active | Release |
| 10 | Abhilash Pathak | abhilash.pathak@lafarge.com | Mines | Shella | Shella | Active | Release |
| 11 | Abu Sayem | abu.sayem@lafarge.com | Logistics | Meghnaghat | Dhaka | Active | Release |
| 12 | Md. Abu Tayeb | Abu.Tayeb@lafarge.com | Methods | Chhatak | Chhatak | Active | Release |
| 13 | Abul Hasan | Abul.Hasan@lafarge.com | Logistics | HO | Dhaka | Active | Release |
| 14 | Afsana Ferdoush | afsana.ferdoush@lafarge.com | HR | HO | Dhaka | Active | Release |
| 15 | Ahmed Sharif | green5.man6686@gmail.com | Finance & IT | HO | Dhaka | Active | Release |

1 2 3 4 5 6 7 8 9 10 ...

By Lafarge Surma Cement, IT

Figure 17: Employee list



IT REQUEST/ISSUE PORTAL

Closed [236] Submitted [19] InProgress [11] OnHold [3] Cancelled [175] Resume [4919]

Welcome Jubayer Ahmed

Home Incident Reports Summary Employee Manager | Logout

**Incident Title :** Maximo password reset

**Incident ID :** 825

**Created By:** Rashid-Ul-Hasan | **Monitor:** Chhatak | **Location:** Chhatak

2/2/2014 12:36:00 PM

**Current Status :** Resume

**Reopen :** 0 Times.

**Description :** Maximo password have been locked. Please reset

**File :** Download

**Comments :**

| Incident Comments | On 2/2/2014 1:22:02 PM |
|---|---|
| Password reset as per user request and informed user the new password. | |
| **Commented by:** Mrinmoy Purkayastha | |

By Lafarge Surma Cement, IT

Figure 18: Issue Details

## 5.4 Benchmark Analysis

Table 5: Benchmark Analysis with Traditional System

| Features | Category | OTRS (Traditional Incident management system) | IRT |
|---|---|---|---|
| Knowledge Management & self service | 1. Customer Information Center | Yes | Yes |
| | 2. Surveys | Yes | Yes |
| Ticket Creation | 1. Email | Yes | Yes |
| | 2. Phone | Yes | Yes |
| | 3.People | Yes | Yes |
| | 4. On Behalf Of | No | Yes |
| Look & Feel | 1. Dashboard with filter option | Yes | Yes |
| Reporting | 1. CSV/PDF/Excel export | Yes | Yes |
| Ticket Management | 1. Ticket prioritization& assignment | Yes | Yes |
| | 2. Ticket transmission & follow up | Yes | Yes |
| | 3. Attachments | Yes | Yes |
| | 4. Forward ticket(Other Departments) | No | Yes |
| | 5. Incident tracking using code name. | No | Yes |
| Time Management | 1. Escalation | Yes | No |
| Notification | 1. Email incident list to notify all admin users | No | Yes |

# Chapter 6

# CONCLUSION AND FUTURE WORK

The purpose of the Incident Management Application is to make the user feedback swiftly and make the process smoothly preventing unnecessary loss of data, utilities and others. This software is capable to take care of all major incidents and keep records for future need.

Finally we would like to say that using “IT Request and Issue portal(IRT)” software is very helpful to maintain for small or large companies. It has dynamic customization for any type infrastructure. As a result it is easy to know customer requirement and analysis feedback. It has a smart database design which records all necessary data. By analysis the history we can now predict when a particular incident could happen. So we can prepare for the incident. Sometimes we can go for action before the incident could happen.

## 6.1 Incident Management Roadblocks

Every incident management has some roadblocks or limitation. Most of the time there is no commitment from management/staff. So it is like no resources for resolving the incident. There is a lack of clarity of business needs. Most of the time the goal is not defined. So it indicate that no one knows where from the resolution begins nobody knows. Service providers don't change the working practices, even they don't review the change. There is no service levels defined for customer. There is not enough knowledge on resolving incidents. The configuration Database is not standard even the quality is not satisfied. There is not integration with other processes and there is resistance to using the process.

## 6.2 Key Relationships

- Availability Management
- Configuration Management
- Change Management
- Capacity Management

- Service level Management
- Problem Management

## 6.3 Future Work

In the future we can add more feature to our developed application:

- Develops mobile apps so that it can be accessible from anywhere.
- Improve admin module
- Add new HR module
- Make it platform independent
- Auto update the application using internet.
- Access central database using real IP connection.
- More reports on the basis of user requirements.
- Asset management module

# References

[1] https://www.atlassian.com/blog/it-service-management/introduction-to-incident-management

[2] http://www.bmc.com/guides/itil-incident-management.html

[3] https://www.cherwell.com/products/it-service-management/itil-processes/essential-guide-to-itil-incident-management

[4] https://en.wikipedia.org/wiki/Incident_management

[5] https://en.wikipedia.org/wiki/Incident_management_(ITSM)

[6] https://uit.stanford.edu//2015/12/09/Incident_ManagementDocument-Version%201.pdf

# Appendix A

**Escalation:** There are two types of escalation: functional escalation and hierarchical escalation. It is an Activity that obtains additional resources when it needed to meet service level targets or user expectations.

**Event:** An event is any change of the system. It helps to track the incident. It also indicates that the incident is following the flow.

**Failure:** It is the loss of ability to operate to specification, or to deliver the required output. An Incident often caused for failure.

**Function:** A group or a team and the processes or activities to perform to finish a particular job; for example, the Help Desk.

**Impact:** An impact is the reflection of an incident. An impact could be a problem, or change on business processes. Sometimes it is based on how the Service Levels are affected. Impact and urgency are used to set priority.

**Incident:** An unplanned interruption to an IT service which reduce the quality and has a bad impact to the organization. It prevents normal result to the organization.

**Incident Record:** The details of an incident can be found in a record. Every single incidents lifecycle are documented in a report.

**Incident Workflow:** Workflow is defined steps which handle incidents in agreed way.

**Incident Status Tracking:** Track all Incidents and reporting based on the indicators such as Open, In-progress, Resolved and Closed.

**Primary Technician:** The person who are responsible for coordinating child records and has the responsibility for correcting the root cause issue and must keep users informed of progress.

**Priority:** A priority is a combination of urgency and impact. When the urgency is high and impact is high it dictates high priority. When the urgency is low and impact is low it dictates low priority. Depending on the priority the solving time is set.

**Problem:** The reason of one or more incidents.

**User:** The person who is receives all services and they use IT services day to day. Sometimes they face problems which are related with IT. They are informally referred to as customer.

# Appendix B

| | |
|---|---|
| SLA | Service Level Agreement |
| KPI | Key Performance Indicator |
| CSF | Critical Success Factors |
| SLAS | Service Level Agreements |
| OLAS | Operating Level Agreement |
| ITIL | Information Technology Infrastructure Library |
| OIT | Office of Information Technology |
| UCs | Underpinning Contracts |
| CaT | Cyber security Assessment Tool |
| ITSM | IT service management |
| SRS | Software Requirement Specification |
| ERD | Entity Relationship Diagram |
| GUI | Graphical User Interface |
| OOP | Object Oriented Programming |