PROJECT REPORT

ON

Complaint Management System

Submitted in the partial fulfilment for the award of Internship

at

Telecommunications Consultants India Ltd.

(A Government of India Enterprise)

Submitted To

Ms. Rashmi

Submitted By

Prabhsimran Bajaj

9971647492

Supervised By

Ms. Jyoti

Declaration

The satisfaction that accompanies that the successful completion of any task would be incomplete without the mention of people whose invaluable cooperation made it possible, whose constant guidance and encouragement crown of all efforts with success.

I am grateful to our Industrial Project guide **Ms. Jyoti** Mam for their constant support and guidance, inspiration and constructive suggestions that were helpful to me in preparation of this project.

I also thank my Mentor Guide, **Ms. Rashmi Kanojia** for her trust and support in me that pushed me to my limits to do best in the project. Her guidance and suggestions helped to build the project what it is today.

I would also thank my colleagues who have help in successful completion project and at every step have supported me.

Prabhsimran Bajaj
9971647492

INDEX

I. Introduction

This project is aimed to create a digital Complaint-Management System for the organization that helps them in registering new complaint from the employees and manage the complaints digitally by elimination all the paperwork involved

The user-friendly system is hosted on their server to facilitate safe and secure Complaint Management System for their employees and help them to access the information with an authenticated system.

I.1 About Organization

TCIL short of Telecommunications Consultants India Ltd, a prime engineering and consultancy company, is a wholly owned Government of India Public Sector Enterprise under the administrative control of the Department of Telecommunications (DOT), Ministry of Communications and Information Technology, Government of India.

TCIL was set up in 1978 for providing Indian telecom expertise in all fields of telecom, Civil and IT to developing countries around the world. Company's core competence is in the fields of Switching, Transmission Systems, Cellular services, Rural Telecommunication, Optical fibre based backbone transmission systems, IT & Networking Solutions, Application Software, e-Governance, 3G Network, WIMAX Technology and also Civil construction projects.

TCIL is present in almost 45 countries, mainly in the Middle East, Africa and Europe while the headquarter is situated at New Delhi. The Pan-African e-Network project for Tele-medicine and Tele-education was implemented by the company on a turnkey basis. It provides training activities in the field of Telecom and IT.

The mission of TCIL is “To excel and maintain leadership, in providing Communication Solutions on turnkey basis in telecommunication and information technology service sector globally”.

II. Objective

Until digital era, paper work was the only method that was used to keep records in every organization. TCIL's Complaint Management System was also based on this which was tedious and time consuming for the management. Employees have to file complaints by filling up information and Administrators have to write and maintain the employee's records.

With the advent of Technology, it has transformed the way of our living and managing things. The Web has made it possible to access anything and everything wherever you are. Through this system, I have created a platform where employees and admin can add/update/view the data much faster and securely.

II.1 About Software

Complaint Management System is a **software** program that allows the organisation to address employee's inquiries, deliver consistent support and manage **complaints** in a timely manner for Public Sector Units (PSUs), Government organizations in India.

Benefit of such system

- Reduction of paperwork as complaints and employee information can be uploaded/edited by the administrator and viewed by any employee.
- Decreased operational time.
- Increased accuracy and reliability.
- Increased operational efficiency.
- Centralized updating by the administrator.
- User friendly.

Unlike paperwork, most of the fields that are obvious like date when record was added are automatically provided by the system to facilitate faster input and consistent data storage.

It also has different access layers for different type of users, like admin and employee for security purposes. A smart user-friendly login system. A registration page is also set up to register new users, however admins are created manually, for security purpose.

III. Project Planning Timeline

S. No.	Phase	Duration
1	Software Requirement Specification	1 Week
2	Coding Software	4 Week
3	Implementation	1 Week
4	Testing	1 Week

The Internship time has been divided into following four phases:

In Software Requirements Specification Phase I have collected required information about the software and its specification, test case and functional description. It took about 1 week to gather all the necessary information to build the software.

The coding phase was the core phase of the Internship where I have implemented my knowledge and applied my skills to build this software. With the constant support of industry assistant, the software built was robust and fully functional. Since it was the most intensive phase so it took about 4 weeks to complete

The final phase, or testing phase was the most important phase since the software's robustness and security was verified. I have tested the software on various machines and browsers for the perfect result every time, so it doesn't fail during production.

IV. Requirements

The requirements of the software can be classified in following groups.

IV.1 Software Requirements

The software used to build this project are open source and free to use. The essential software that were used are listed below

- **WAMP**: A software to create local server that uses PHP and MYSQL technologies in a one click.
- **Google Chrome**: Browser and platform to view and interact with the software. Created by Google, it uses V8 JavaScript engine
- **VScode**: A text-editor to write code. It supports syntax highlighting and smart features for better and faster coding.

IV.2 Language Requirements

The following programming language and web technologies were used to build this software.

- **HTML**: Hyper Text Mark-up Language, commonly or HTML is the standard mark-up language used to create web pages. It provides a means to create structured documents by denoting structural semantics for text such as headings, paragraphs, lists, links, quotes and other items

- **CSS**: Cascading Style Sheets or CSS is a style sheet language used for describing the presentation of a document written in a mark-up language. CSS is designed primarily to enable the separation of document content from document presentation, including aspects such as the layout, colours, and fonts.

- **JAVASCRIPT**: JavaScript is the front-end programming language that runs on the browser and executes the instructions. It is used to add interactions to the website. The project software is heavily dependent on this language to provide interaction and user interface to the software.

- **PHP**: PHP or Pre-Hyper Text processing is a server side programming language that is used to create dynamic webpages that are rendered on

the client side. PHP requires a PHP compiler to compile a script. It is implemented over the basic HTML mark-up.

- **MYSQL**: A special purpose programming language that is used to manage the data stored in relational database management system. Originally based upon relational algebra and tuple relational calculus, SQL consists of a data definition language, data manipulation language, and Data Control Language.

IV.3 Hardware Requirements

The minimum hardware requirements for using this software are

- ✓ Windows XP or later
- ✓ 128MB Ram or more
- ✓ Intel Pentium II processor or better
- ✓ At least 8GB Hard-disk
- ✓ Keyboard/Mouse
- ✓ Colour Monitor

IV.4 Human Skills Requirements

As technology is a new player in this game, chances are not all level of employees may be introduced with it. These human skills requirements are necessary to use this software and can be easily learned when given some time.

- ✓ Ability to use Mouse/Keyboard
- ✓ Knowledge of basic User-Interaction like clicking buttons and following through links.
- ✓ Filling up information on various input fields and submitting the valid values.

V. Software Description

In a big organisation there might be a huge number of complaints and maintaining their record and responding to each complaint can be very difficult without a digital software.

In addition, it is important to ensure that a complaint is solved in a short amount of time so that the productivity of the employees is not reduced for a longer period of time.

The Complaint Management system aims to provide all the above-mentioned requirements for digital complaint process. The software works as one entity together to provide a safe, reliable and fast complaint-management Service to its employees and management staff.

V.1 Technical Description about software

Built on the PHP at back-end and HTML/CSS/JavaScript at the front-end along with the MYSQL as the database choice, the Complaint Management System is robust, fast and efficient.

Beginning with the back-end, it has one database that consists of 4 tables, each having dependency on each other using foreign key constraints.

At the server side, the software contains various pages written in PHP scripting language and served to the user via localhost server (using WAMP software) to the client/browser.

The list of pages in the order of their functionality are:

1. **Welcome.php**: The welcome page where users can find instructions on how to use this software. It provides them the basic functionality of the complaint management system.

2. **Login.php**: The login page where users can access the software by authenticating themselves by providing their registration credentials.

3. **Feedback.php:** The feedback page where users can give their reviews and suggestions about the software system.

4. **Register.php:** The register page where users can register for accessing the software. They choose the credentials for them that are later used as to authenticate them at login screen.

5. **Status.php:** This Page provides the user an interface to check the current status of the lodged complaint.

6. **Profile.php:** This page lets the existing user lodge a complaint after successfully logging in to the system.

7. **Table.php:** In this page users can keep track of their complaints and their status.

8. **Config.php:** This page makes connection to the database.

9. **Logout.php:** Logs Out the user from the session and directs them towards the Login page.

10. **History.php:** This file shows an amalgamation of all complaints lodged by a particular employee till date.

11. **Complaints.php:** This page enables the admin to access all complaints in the database and edit their status.

Other modular components that are used by these above-mentioned files are:

1. **Style.css**: The header content for all the files like beginning html, head tags. It also contains link to the stylesheet file.

2. **partials**: This file contains the images used in the project.

3. **Script.js:** This file is linked to complainys.php and it taps on events occurred on that page.

V.2 Software Structure Hierarchy

The software structure hierarchy shows the arrangement of files and their structure and how they appear in order.

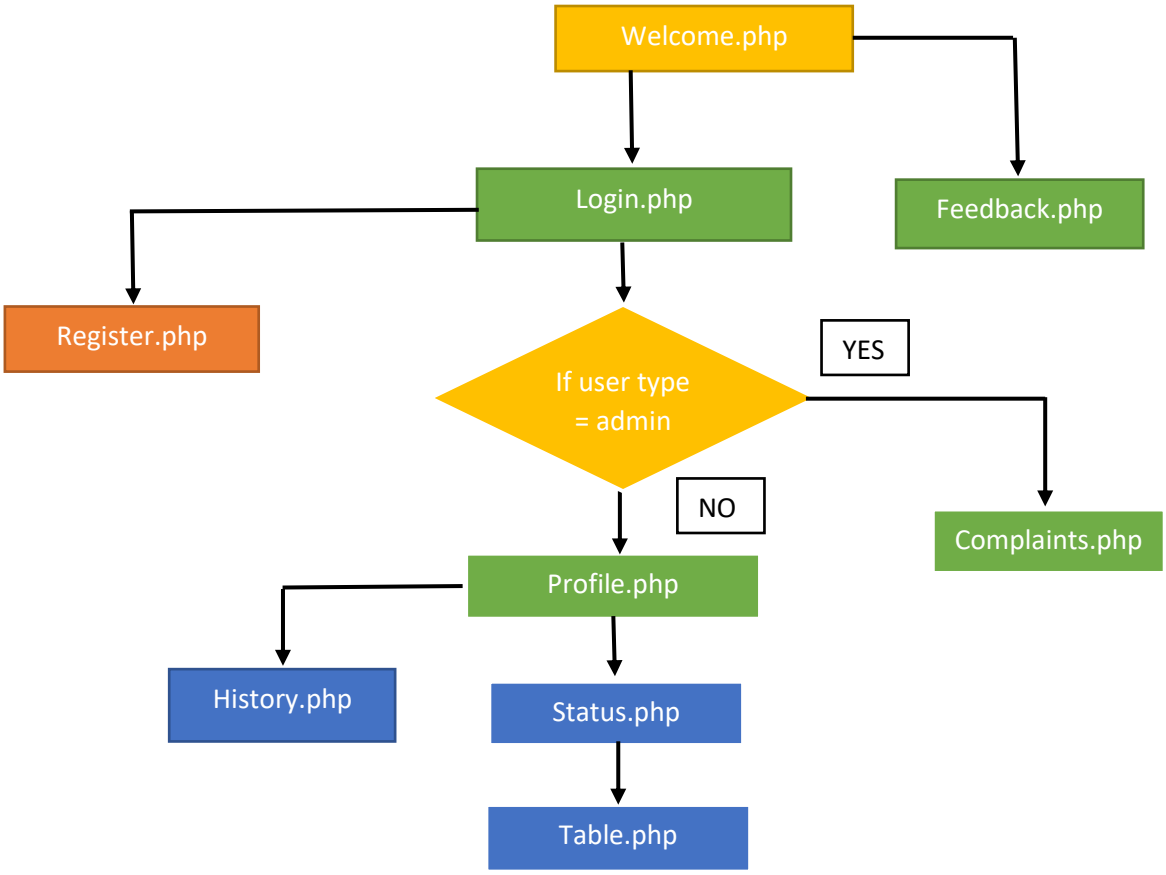


Figure 2. Software structure hierarchy

- In this figure, the main entry point of the software is the **welcome.php**.
- If the user is authentic and has entered valid credentials, he will be redirected to the page corresponding role, which is either admin or user.
- Else, he will have to register in order to benefit from this system.

VI. Screenshots

These screenshots are the actual user-interface and the back-end database of the software. The User Interface is created using CSS and JavaScript effects using external libraries like jQuery and jQuery UI. The back-end consists the structures and the tables in the database as shown in the screenshots below.

VI.1 Database Screenshots

These screenshots are from the database.

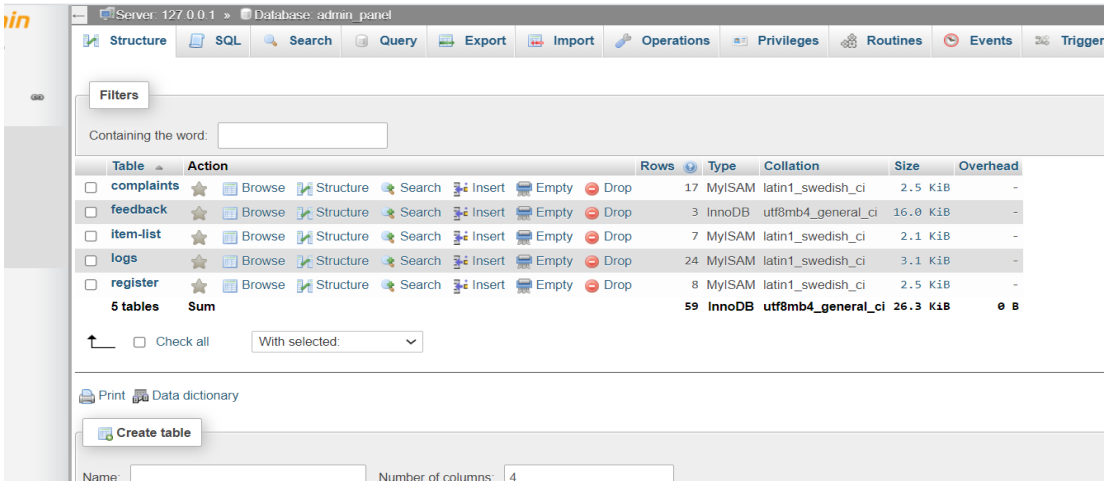


Figure 3. The **admin_panel** database consists of 5 tables

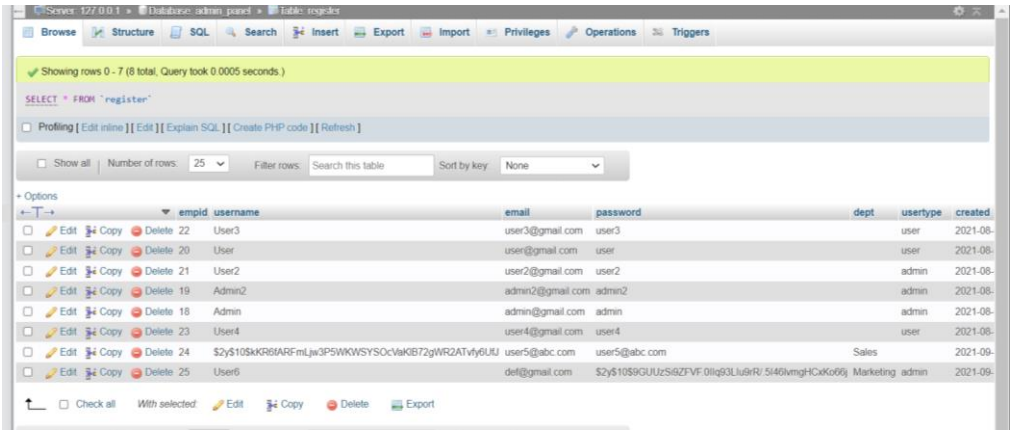
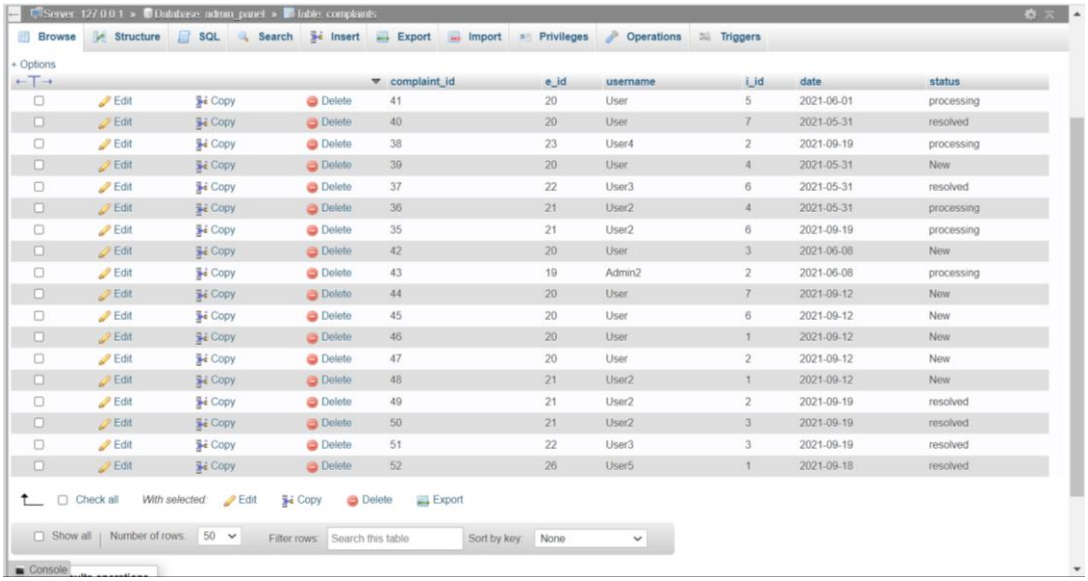


Figure 4. The **register** table consists of 5 columns



complaint_id	e_id	username	i_id	date	status
41	20	User	5	2021-06-01	processing
40	20	User	7	2021-05-31	resolved
38	23	User4	2	2021-09-19	processing
39	20	User	4	2021-05-31	New
37	22	User3	6	2021-05-31	resolved
36	21	User2	4	2021-05-31	processing
35	21	User2	6	2021-09-19	processing
42	20	User	3	2021-06-08	New
43	19	Admin2	2	2021-06-08	processing
44	20	User	7	2021-09-12	New
45	20	User	6	2021-09-12	New
46	20	User	1	2021-09-12	New
47	20	User	2	2021-09-12	New
48	21	User2	1	2021-09-12	New
49	21	User2	2	2021-09-19	resolved
50	21	User2	3	2021-09-19	resolved
51	22	User3	3	2021-09-19	resolved
52	26	User5	1	2021-09-18	resolved

Figure 5. The **complaints** table consists of 6 columns

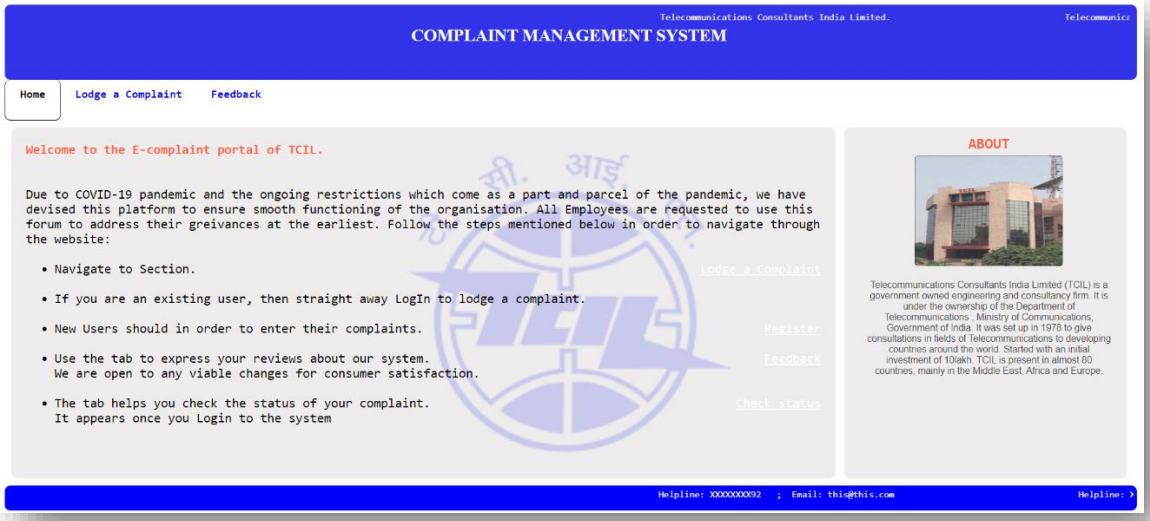
i_id	i_name
1	CPU
2	Monitor
3	Printer
4	Scanner
5	Keyboard
6	Mouse
7	Ethernet

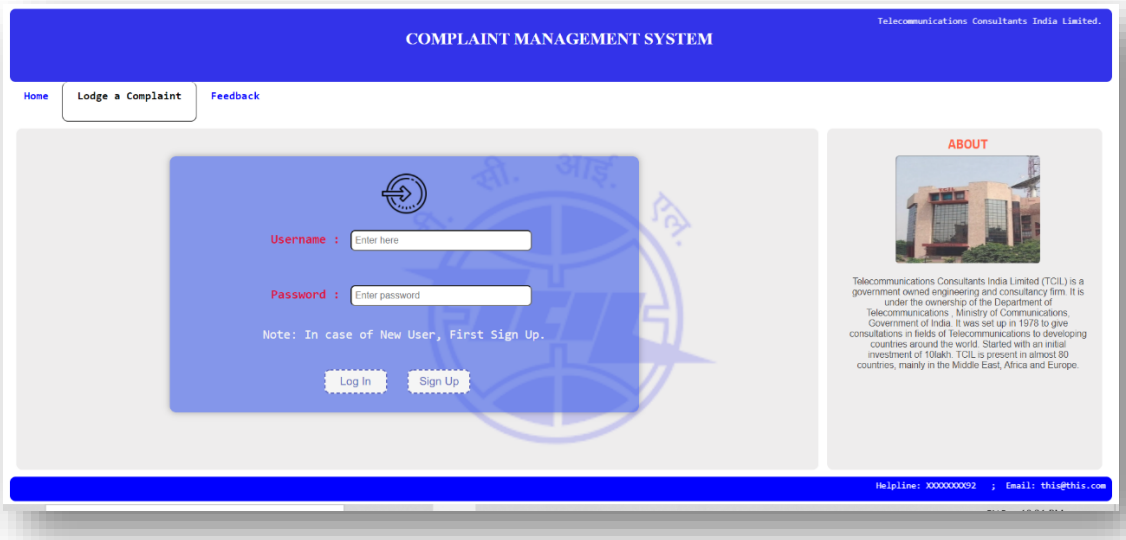
Figure 7. The **item-list** table consists of 2 columns

These are the 4 tables with their structures.
The **Yellow key** next to column name denotes **Primary key**, which is unique in each record.

VI.2 User Interface

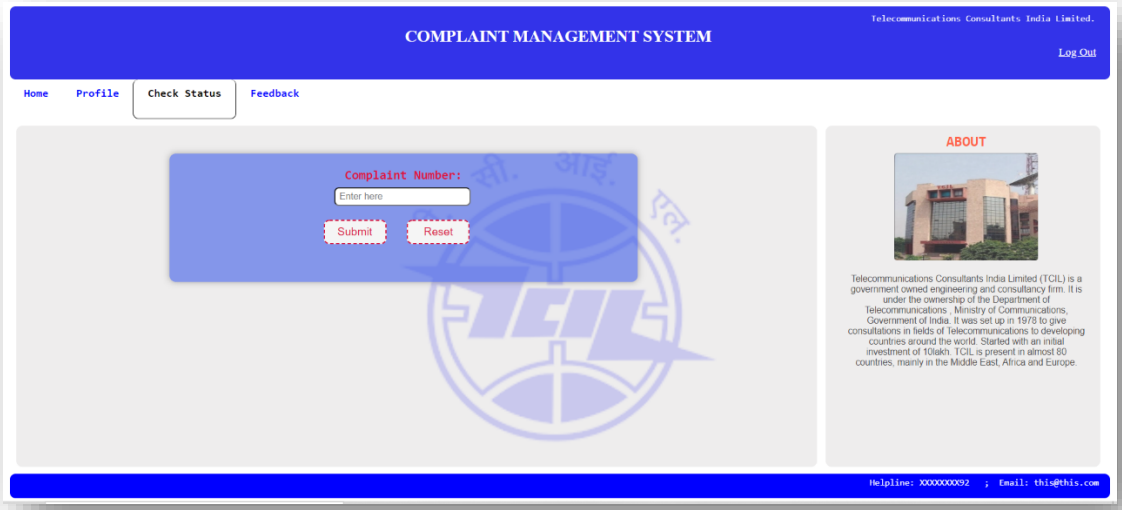
These screenshots are from the client side user interface. This is how the employees and administrators see the software.


Telecommunications Consultants India Limited.
COMPLAINT MANAGEMENT SYSTEM
Home
Lodge a Complaint
Feedback
Welcome to the E-complaint portal of TCIL.
Due to COVID-19 pandemic and the ongoing restrictions which come as a part and parcel of the pandemic, we have devised this platform to ensure smooth functioning of the organisation. All Employees are requested to use this forum to address their greivances at the earliest. Follow the steps mentioned below in order to navigate through the website:
• Navigate to Section.
• If you are an existing user, then straight away LogIn to lodge a complaint.
• New Users should in order to enter their complaints.
• Use the tab to express your reviews about our system. We are open to any viable changes for consumer satisfaction.
• The tab helps you check the status of your complaint. It appears once you Login to the system
Lodge a Complaint
Register
Feedback
Check status
ABOUT
Telecommunications Consultants India Limited (TCIL) is a government owned engineering and consultancy firm. It is under the ownership of the Department of Telecommunications , Ministry of Communications, Government of India. It was set up in 1978 to give consultations in fields of Telecommunications to developing countries around the world. Started with an initial investment of 10lakh. TCIL is present in almost 80 countries, mainly in the Middle East, Africa and Europe.
Helpline: XXXXXXXX92 ; Email: this@this.com


Telecommunications Consultants India Limited.
COMPLAINT MANAGEMENT SYSTEM
Home
Lodge a Complaint
Feedback
Username :
Enter here
Password :
Enter password
Note: In case of New User, First Sign Up.
Log In
Sign Up
ABOUT
Telecommunications Consultants India Limited (TCIL) is a government owned engineering and consultancy firm. It is under the ownership of the Department of Telecommunications , Ministry of Communications, Government of India. It was set up in 1978 to give consultations in fields of Telecommunications to developing countries around the world. Started with an initial investment of 10lakh. TCIL is present in almost 80 countries, mainly in the Middle East, Africa and Europe.
Helpline: XXXXXXXX92 ; Email: this@this.com


Telecommunications Consultants India Limited.
COMPLAINT MANAGEMENT SYSTEM
Home
Lodge a Complaint
Feedback
Feedback Form
Email ID:
Contact Number:
Format: 123-456-7810
Message/Comments:
Write here...
Submit
Reset
ABOUT
Telecommunications Consultants India Limited (TCIL) is a government owned engineering and consultancy firm. It is under the ownership of the Department of Telecommunications , Ministry of Communications, Government of India. It was set up in 1978 to give consultations in fields of Telecommunications to developing countries around the world. Started with an initial investment of 10lakh. TCIL is present in almost 80 countries, mainly in the Middle East, Africa and Europe.
Helpline: XXXXXXXX92 ; Email: this@this.com


Telecommunications Consultants India Limited.
COMPLAINT MANAGEMENT SYSTEM
Log Out
Home
Profile
Check Status
Feedback
User
Username: User
Employee ID: 20
Employee ID:
20
Username:
User
Item:
Select an Option
Submit
Reset
ABOUT
Telecommunications Consultants India Limited (TCIL) is a government owned engineering and consultancy firm. It is under the ownership of the Department of Telecommunications , Ministry of Communications, Government of India. It was set up in 1978 to give consultations in fields of Telecommunications to developing countries around the world. Started with an initial investment of 10lakh. TCIL is present in almost 80 countries, mainly in the Middle East, Africa and Europe.
Helpline: XXXXXXX92 ; Email: this@this.com


Telecommunications Consultants India Limited.
COMPLAINT MANAGEMENT SYSTEM
Log Out
Home
Profile
Check Status
Feedback
Complaint Number:
Enter here
Submit
Reset
ABOUT
Telecommunications Consultants India Limited (TCIL) is a government owned engineering and consultancy firm. It is under the ownership of the Department of Telecommunications , Ministry of Communications, Government of India. It was set up in 1978 to give consultations in fields of Telecommunications to developing countries around the world. Started with an initial investment of 10lakh. TCIL is present in almost 80 countries, mainly in the Middle East, Africa and Europe.
Helpline: XXXXXXX92 ; Email: this@this.com


Telecommunications Consultants India Limited.
COMPLAINT MANAGEMENT SYSTEM
Log Out
Home
Profile
Check Status
Feedback
Complaint ID
Employee ID
Item
Status
Date
40
20
Ethernet
resolved
2021-05-31
ABOUT
Telecommunications Consultants India Limited (TCIL) is a government owned engineering and consultancy firm. It is under the ownership of the Department of Telecommunications , Ministry of Communications, Government of India. It was set up in 1978 to give consultations in fields of Telecommunications to developing countries around the world. Started with an initial investment of 10lakh. TCIL is present in almost 80 countries, mainly in the Middle East, Africa and Europe.
Helpline: XXXXXXX92 ; Email: this@this.com

Complaint ID	Item	Status	Date
39	Scanner	New	2021-05-31
40	Ethernet	resolved	2021-05-31
41	Keyboard	processing	2021-06-01
42	Printer	New	2021-06-08
44	Ethernet	New	2021-09-12
45	Mouse	New	2021-09-12
46	CPU	New	2021-09-12
47	Monitor	New	2021-09-12

Complaint ID	Employee ID	Username	Item	Status	Date
35	21	User2	Mouse	pr	2021-09-19
36	21	User2	Scanner	pr	2021-05-31
37	22	User3	Mouse	resolved	2021-05-31
38	23	User4	Monitor	pr	2021-09-19
39	20	User	Scanner	Ne	2021-05-31
40	20	User	Ethernet	resolved	2021-05-31
41	20	User	Keyboard	pr	2021-06-01
42	20	User	Printer	Ne	2021-06-08

VII. Conclusion

The main purpose of this project along with Internship was to apply our knowledge and skills using the technologies that are revolutionizing the world. To build a system where automation of machine makes the life of management staff easier.

In this project, I have built a software that helps the organization and management with Complaint-Management Process. Querying and accessing stored data is now faster and more efficient. The digital records are stored on a remote server and its copies are available throughout the globe with the help of cloud storage system.

To access the software one needs to register himself as a user and access the homepage with his credentials. To make the process even more fast, some obvious fields are automatically generated through system like the date on which record was added. This not only saves the user's time but also makes this process user-friendly and secure.

Apart from building this project I also learned some essential professional software development skills such as

- ✓ How to engineer a software for an organization that is used by hundreds of employees.
- ✓ The discipline and management needed to build a software.
- ✓ Deploying a software on a server that can be accessed from anywhere.
- ✓ Precautions needed to be taken to build a quality product.

The project has also help to strengthen my skills and given me a confidence to perform in a professional career. It has helped me to launch a successful career in the competitive field of Computer science.

VIII. Bibliography

I would like to mention the websites that have helped me to complete this project.

- Stack Overflow [https://stackoverflow.com]
- Scotch [https://scotch.io]
- PHP Official Manual
- jQuery Documentation
- www.youtube.com
- https://www.w3schools.com
- www.php.net
- www.geeksforgeeks.org