GLOBAL TASK REPORTING SYSTEM (GTRS)

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This Report Presented in Partial Fulfillment of the Requirements for the Degree of Bachelor of Science in Computer Science and Engineering

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DHAKA, BANGLADESH

MAY 2018

APPROVAL

This Project/internship titled **"Global Task Reporting System"**, submitted by A. S. M Shawon, ID No: 152-15-6144 and Shakil Hossain, ID No: 152-15-6306 to the Department of Computer Science and Engineering, Daffodil International University has been accepted as satisfactory for the partial fulfilment of the requirements for the degree of B.Sc. in Computer Science and Engineering and approved as to its style and contents. The presentation has been held on May 2018.

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DECLARATION

We hereby declare that, this project has been done by us under the supervision of **Mr. Md. Sazzadur Ahamed, Lecturer, Department of CSE** Daffodil International University. We also declare that neither this project nor any part of this project has been submitted elsewhere for the award of any degree or diploma.

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ACKNOWLEDGEMENT

First we express our heartiest thanks and gratefulness to almighty God for His divine blessing makes us possible to complete the final year project/internship successfully.

We really grateful and wish our profound our indebtedness to **Mr. Md. Sazzadur Ahamed,** Lecturer**,** Department of CSE Daffodil International University, Dhaka. Deep Knowledge & keen interest of our supervisor in the field of "*Field name*" to carry out this project. His endless patience, scholarly guidance, continual encouragement, constant and energetic supervision, constructive criticism, valuable advice, reading many inferior drafts and correcting them at all stage have made it possible to complete this project.

We would like to express our heartiest gratitude to **Prof. Dr. Syed Akhter Hossain**, Professor and Head**,** Department of CSE, for his kind help to finish our project and also to other faculty member and the staff of CSE department of Daffodil International University.

We would like to thank our entire course mate at Daffodil International University, who took part in this discuss while completing the course work.

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

ABSTRACT

Used to be, when a client would call you for a service, it would take a long time to figure out what level of Service Agreement you had with the client. Because all the records were kept on papers and stored in files. Then, after you have confirmed that you have an agreement, you would send an operator to serve the client. And also you would not know if the operator ever went on site to provide the service. Even after providing the service you would not know the quality of the service that the operator had provided – the customer survey. All of these constraints were because you had to keep manual data. And making reports from these manual data was a nightmare.

Another problem is you had to come up with a solution that can cater for several different types of services. Like it could be hardware repair, Server Operating System configuration, blood collection service for a diagnostic centre etc. Each type of service providers have many different needs. Extensive study was needed to figure out a common requirement for the different types.

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CHAPTER 1
INTRODUCTION

1.1 Introduction

The purpose of the software is to automate the tasks of a “Service Providing Organization”. The scope includes but not limited to, assigning tasks, managing and monitoring the tasks from the start to end. The task starts with either a client reporting a problem or a scheduled service. In either case, a manager checks the database for the level of service agreed in the contract with the client. After checking the status of the service level, he assigns the task to an operator who then goes to the client. The operator confirms the equipment is under service agreement by scanning a QR code with the client. This also confirms that the operator went on site. After providing the required service, the operator fills out the proper service completion form on his mobile app. The customer also fills out a survey report which is used to make sure proper service was provided.

All these data is stored centrally and can be accessed from any location in the world. Security is provided at different levels to secure the software from corrupt and malicious data. There are database level security which provided by the database server. There are Internet and Intranet security which are provided by the IPS and the software itself.

There are several permission levels in the software also. This is done to limit the access to the data of the system. Like the Adim has the highest level of access and the lowest level is the operator. Each of the users has certain forms they have access to that are pertaining to their tasks only. They may not access any other form unless a higher authorized user give him the permission to do so.

There are many reports that are generated daily, weekly, monthly and yearly basis. All the reports are extensively parametrized to generate custom reports as and when required from the system.

1.2 Motivation

When I was working with a client, he explains me, about a feedback system. It was about three years ago. At that time, I was not capable of handling this project. But after a few days, I realize its values, and then I set my mind. I was waiting for a chance, and I think now it`s the perfect time to implementation. Because I have my friend and my honourable supervisor.

1.3 Object

- Make a secure and trustable system to manage tasks and workers. Our system will conform to the predefined individual user-level activity.
- The software can be centrally controlled and managed: a manager will able to maintain a large number of workers at a different location and assigned different types of work.
- The software will be able to track tasks assigned from different source points of branches of the office and to whom the task is attached to.
- Keeping all your task in one place to makes them much easy to find, manage and produce a report for customers.
- The manager will be able to create a task for a worker anytime using our system.
- A manager will able to select a worker, working date, and location with daily task, weekly, and monthly task.
- Tasks will be assigned different priority statuses. And the software will make it easy to track each task with different priority status.

- The selected worker then will be able to view the task and receive notifications with task description.
- Improve Customer Satisfaction and collaborate with them to improve the satisfaction level.
- A process will be developed to confirm that the process of the customer satisfaction is correctly implemented.
- Manage office task more effectively and efficiently to save time and resources. Our system will make the organization more productive and reduce the cost of operation.

1.4 Expected Outcome

- A task reporting system that will be allows to assign a task to specific people, so it's easy to see who is working on for what.
- If a company is working with a worker of outside organizations, they want to make sure that each worker only sees the task they're allowed to access. Global task reporting system will allow you to specify worker access permissions.
- A system that will Keep everyone in the loop about a particular worker can take a lot of work. What's the current status? Who's responsible for the next step? Does anybody need more information? Global task reporting system can automatically notify the appropriate users when a task is assigned. It will wait for manager approval.
- If you ever need to refer to previous updates a task, or need to review issues that were resolved in the past, Global task reporting system can help. Every update is permanently logged, allowing you to quickly see who worked on the task, how long they worked on it, and how the task progressed to completion.

- Auto report generating system for a client: it can me monthly it can be weekly or it can be daily basis.

1.5 Related Layout

No Graduation is useful without effective usage for other doing a project is more important, and consequences are impacting our skills. Creating a project is increasing our opportunity to share our knowledge and utilize your thoughts. In the fast chapter in this project report, we discuss the gravity of our project with this main reason behind our application. In the second chapter, we describe how this project is done with its work follow. The requirement to fulfill the project and make a web and Android application have discussed in the third chapter. We have included our web and app layout with sort description in chapter four. The implementation of a database with front-end layout and the testing report discussed in the fifth chapter. Finally, summarize the project consultation and future work that can be implemented in discussed in chapter six.

1.6 Workflow

- A customer manager will receive a telephone call, email, or other communication from a customer about a problem.
- The manager will check and verifies that the problem is real. Also, the manager will ensure that enough information about the problem is obtained from the customer. This information generally includes the environment of the customer, when and how the problem occurs, and all other relevant circumstances.

- The manager will create a task in the system, entering all relevant data, as provided by the customer and include working location.
- He or she will add an operator to solve the issue with task id.
- The operator will solve the problem and submit it for review by manager
- The manager will confirm the task and generate a report for the customer.

1.7 Conclusion

Firstly, information on the current system is gathered and found that there are some problems which need to be solved. By using the proposed system those problems will be solved.

CHAPTER 2
BACKGROUND

2.1 Introduction

Every person has a different perspective of thinking some think a different a different person has any different opinion. In our view now a day where every small and big company are trying to increase their workforce in many ways. Using modern technology is one of the best ways. So we implement a task management system for making a part our self in this industry. It will reduce the task management time and hassle. if a company want to use thread party service they can efficiently manage the task and will, be able to observe the quality of work. Also able to maintain a variety of reporting for a customer any time any place.

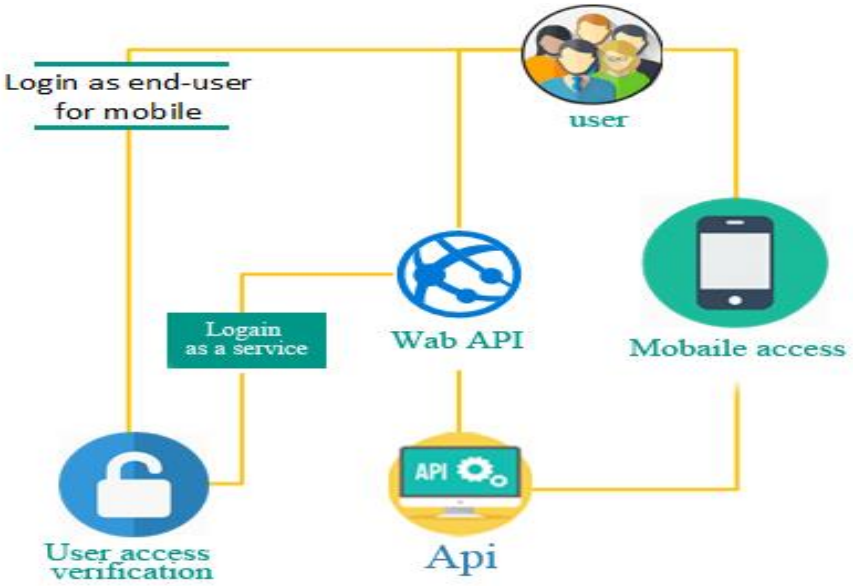
The entire implementation of our application is using visual code studio block and android studio. JAVA code for app work and PHP code for web and API implementation we use MySQL for storing the data most of the action are working with ajax request. We try to reduce redirect user and switching the interface. There web application for super admin and manager will be the only user. App for worker uses to complete his task.

2.2 Related Works

When I was searching a similar work, we found a solution in google search result http://www.tasktoday.com it is one of the same examples for my project. Here Tasks from employers are issued to employees. Employees are required to do the task within the time frame given, and write a report reflecting on the tasks completed.

2.3 System Architecture

The Following figure 1 is the basic system architecture and figure 1 is the main system architecture of our web, api and app application. It defines how this system is working with interconnection. How managing the several levels of user with this system. This architecture is also presenting the system data flow way there. All user will connect with this through an internet connection. It is mandatory for a worker to use a smartphone with our app. We divide this system in three-part one is web application another one is API server and a mobile application. Here is the web application URL http://diu.webspreed.com and http://app.webspreed.com is API server for web and mobile app connection. We have a complete configuration with cpanel access. We start our web development project in our local system and same thing for api. When we have complete the web and api part then it took in live domain for app application development.



Figure_GTRS 1: System Architecture

2.4 Comparative Studies

I have an ATM company. And I have a lot of customer centres. Every customer centre has a list of customers. Now I want to provide a spot service from my customer centre to customer place. The whole process will manage from the main company office. There will be a reporting system for every customer it will be monthly, weekly, daily basis. And filtering process will be date wise, product wise, and customer wise. A customer will have one or more than one product. It can be in different place and under different customer care. Any customer care will be able to provide service to any customer. Customer care will send operator at customer place that will be predefined. Customer care will generate a task for a customer and assign an operator to do that. The application will be confirming the work operator task. In this way,

- Define the requirement for that task. (Like where need image, comment, reporting, and location)
- Customer care will describe task and task schedule what to do, when and how.
- Operator doing assign task and full fill the requirement maintaining the schedule
- Operator will submit feedback it will wait for customer care approval.
- Task will be available for rescheduling.
- Task will be product or service oriented.
- Wait for approval

2.4 Scope of the Problem

- It can use any big or small product servicing company or any repairing company.
- It will be useable for any kind of anomaly reporting.
- Any kind of product observation
- Task monitoring system.
- Task schedule solution
- Task reporting
- Task Location tracing.
- Delivery service.

2.5 Challenges

- Minimum One server
- Minimum One computer
- Minimum a smartphone
- Minimum three people
- Internet connection at least one time in a day
- Battery backup
- A public domain
- The system is confirming only device location
- Worker task is valueless without any smartphone device.

CHAPTER 3
REQUIREMENT SPECIFICATION

3.1 Business Process Modelling

Figure_GTRS 2: Business Process Modelling

3.2 Requirement Collection and Analysis

Requirements analysis is the way to finding the frequent communication with system users to determine specific feature expected outcome. Resolution of conflict or ambiguity in requirements as demanded by the various users or groups of users, avoidance of feature creep and documentation of all aspects of the project development process from start to finish.

Energy should be directed towards ensuring that the final system or product conforms to client needs rather than attempting to mood user expectations to fit the requirements.

Requirements analysis is a team effort that demands a combination of hardware, software and human factors engineering expertise as well as skills in dealing with people. Requirements analysis is There an only way to achieving the expected outcome. We have complete our project requirement analysis in figure 2 is displaying the documentation table

This table is presenting the permission level for the action and the access levels are explained in the table GTRS 1.

Table_GTRS 1: Access Table For any user

Menu/Name	Super_Admin	Admin	Manager	Operator
Dashboard	+ First manager needs to be selected from the "manager centre". Looks like in the manager's account.	+ First manager needs to be selected from the "manager centre". Looks like in the manager's	+ Looks the way you know already	+ Shows only the map with today's locations and the list of today's tasks

		account.		
Customer Centre	+ Add/Edit/ View details of customer Add/Edit/View details of location Add/Edit/View details of service point	+ View details of customer View details of location View details of service point	+ Add/Edit/View details of customer Add/Edit/ View details of location Add/Edit/ View details of service point Product can only be selected when the service point is created.	-
Tasks List	+ Edit/ View details of service points Edit/ View details of tasks	+ View details of service points View details of tasks	+ Edit/View details of service points Edit/ View details of tasks	+ View today's tasks. The Customer name, location name, service point name and the tasks name are shown. The reference number of the location is NOT

				shown.
Tasks Organizer	+ Can edit the order of the operator's tasks.	+ Can view the tasks. Cannot change the order of the tasks.	+ Can edit the order of the operator's tasks.	-
Administrator Centre	+ This page loads first. SuperAdmin needs to choose the Admin to be able to Add/Edit/ View the details of the Admin, Manager, Customer, Locations, Service Points and Tasks Add/Edit/ View details of customer	-	-	-
Manager Centre	+ Add/Edit/View Details of the managers.	+ This page loads first after the login. Admin has to choose the manager to be able to view the details of the manager, his	-	-

		customers, locations, service points and tasks. Add/Edit/View Details of the managers.		
Operator Centre	+ Add/Edit/View details of the operators.	+ View details of the operators.	+ Add/Edit/View details of the operators.	-
Product Centre	+ Add/Edit/View products.	+ View products.	+ View products.	+ View products.
Customer Report	+ Can generate reports.	+ Can generate reports.	+ Can generate reports.	-

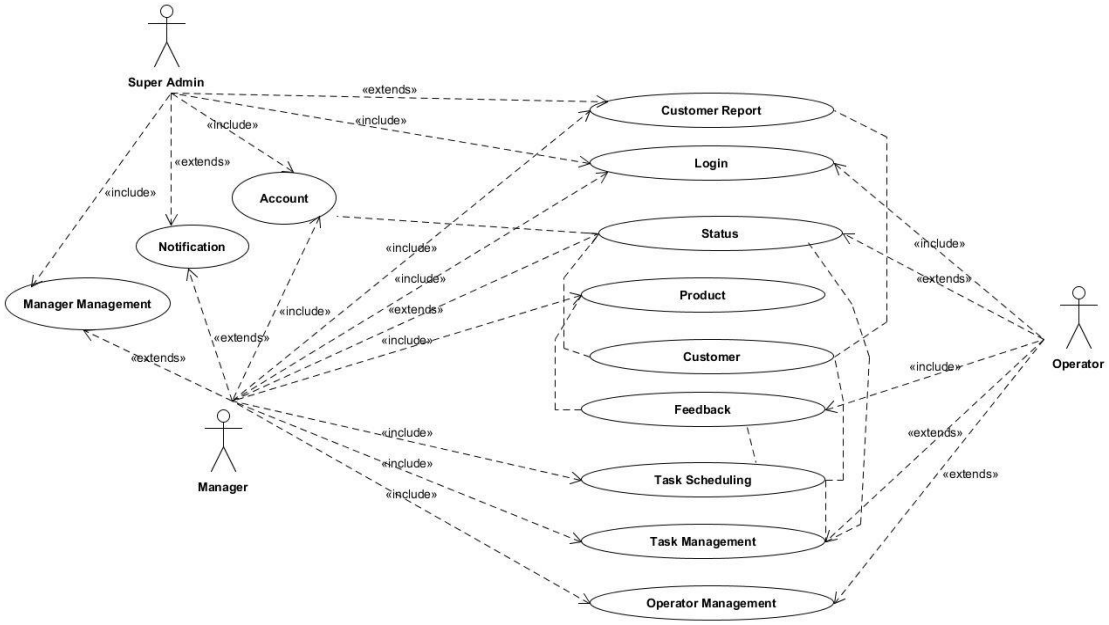
3.4 Use Case Modelling and Description

3.4.1 Use case diagram

In the Unified Modelling Language (UML), a use case diagram can summarize the details of your system's users (also known as actors) and their interactions with the system. To build one, you'll use a set of specialized symbols and connectors. An effective use case diagram can help your team discuss and represent:

- Scenarios in which your system or application interacts with people, organizations, or external systems
- Goals that your system or application helps those entities (known as actors) achieve
- The scope of your system

3.4.2 Use case diagram of Proposed System for proposed system



Figure_GTRS 3: Use_Case_Diagram_For_GTRS

3.5 Design Requirements

Logo & Layout Scratch, Html5, CSS3, JavaScript, Jquery, & Colour code, Bootstrap Front-end framework, XML (for android), Android Studio,Visual Code Block, String View, Toolbar Suppor

3.6 Conclusion

Requirement analysis is a total description of a system. It includes the system behaviour, properties of a system etc. it helps to find out the customers need which is very important for developing a system. Client's requests are correctly interpreting here even if they don't state it clearly. Requirement analysis is very important for system design. Before system design by requirement analysis the needs of user can be found which is very important. Otherwise the design may need to change later and that will very expensive in many ways.

CHAPTER 4
DESIGN SPECIFICATION

4.1 Front-end Design

Front end design is that design what user can see in front of any web or any company website. It's also called the UI design. That means User Interface design. In front end design there define a little thing about the website or websites company. Because a user first looks the design and then he thought a small thing about the company. If it looks rugged, then user think the company is not a smart company. Then he carries a negative think about the company. That possible only seen the web site front end design. So we are sure that the front end design is very smartly organized about the company. Here some way of finding front end design

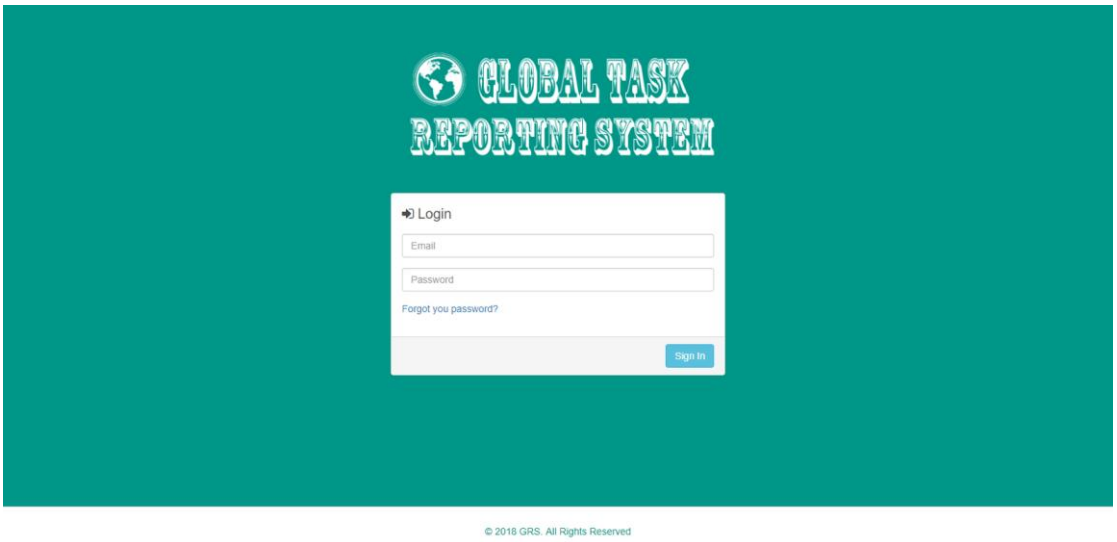
- First study about the company work.
- Then what type of work or which work done by company.
- Must memories that which type of user are used this system.
- How many users use this system daily, monthly, yearly.
- Must remember design is fully user friendly.
- There no complex design allows.
- Large file is being skip.
- High loaded data is not including in front end.

Now, discuss about the propose system. In this propose system, we use two type of system. In that case, we use two front end design. Here thus

- Web front end design
- Android apps front end design.

4.2 Web Front-end Design

4.2.1 Login

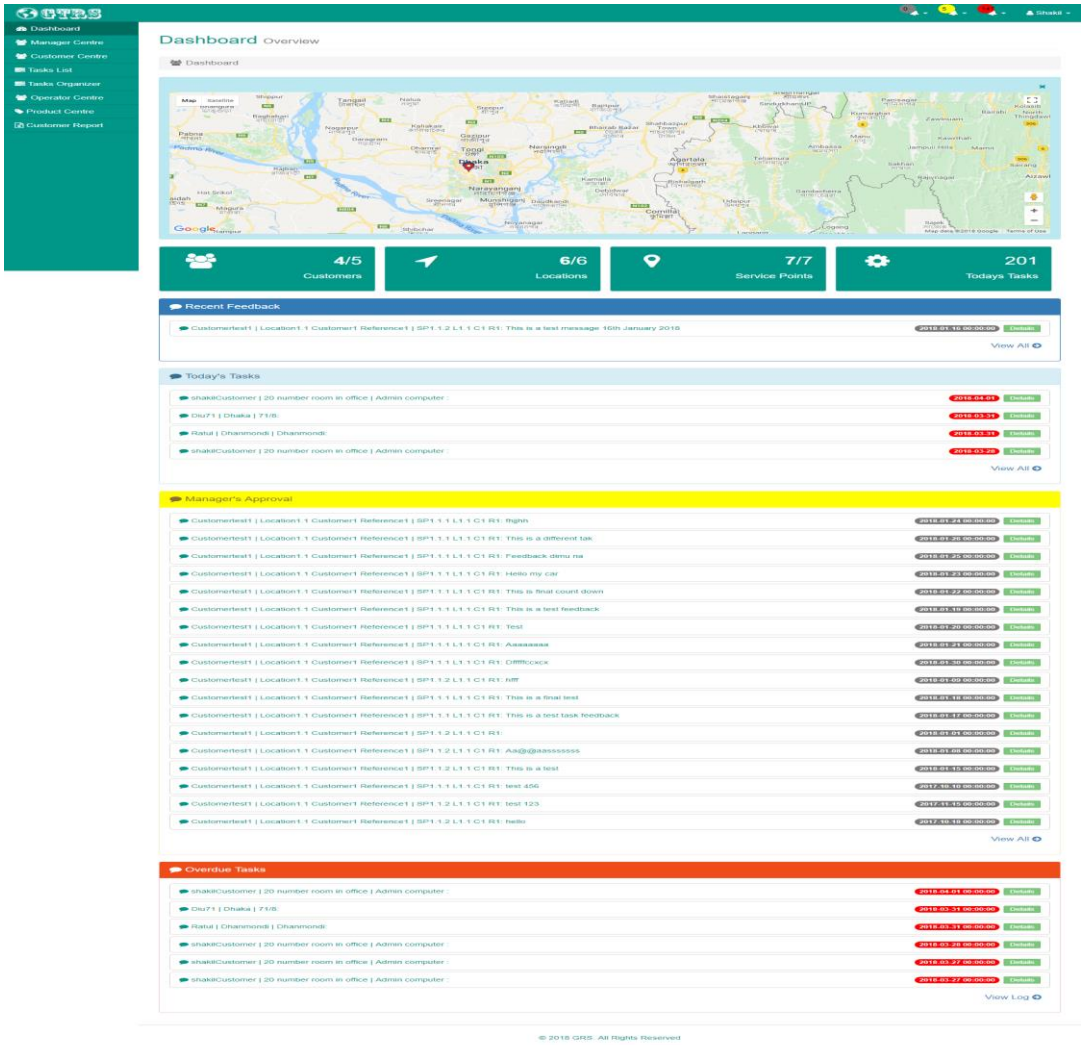


Figure_GTRS 4: Login_Page_Server_Side

This is the login page of our proposed system. This is also the home page too. After opening our system this is the UI for a user. That not predefined that you are an Admin, manager or operator. Anyone can view this UI, in that case he must visit our server site or use the android application. In this fig4 there view the server site login page. The user of this system must need to visit this. It ensures that our system is protected, because there no access without system admin. So, there is less possibility of uses an unauthorized person.

4.2.2 Admin Dashboard

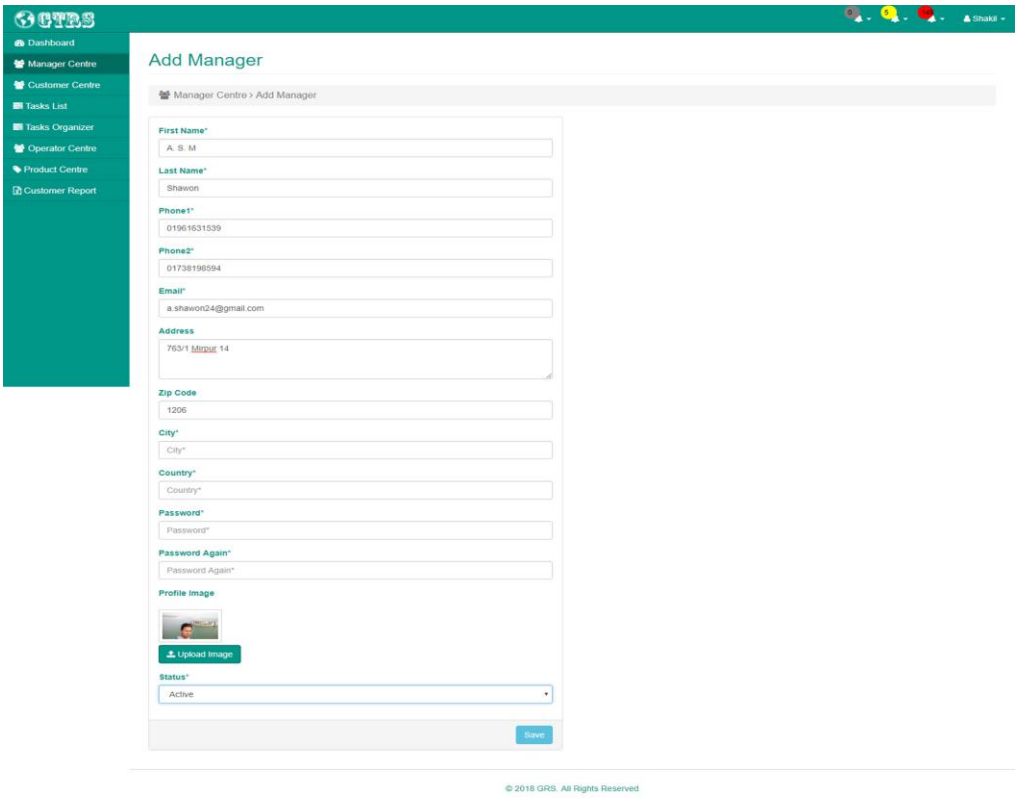
This is the dashboard for the super admin in our proposed system. After the verified e-mail address and the password which provide the system administer through the login interface then get the access in whole system for a admin. In this dashboard admin all those operations which we implement this system.



Figure_GTRS 5: Admin_Dashboard/Login_Page

4.2.3 Add Manager

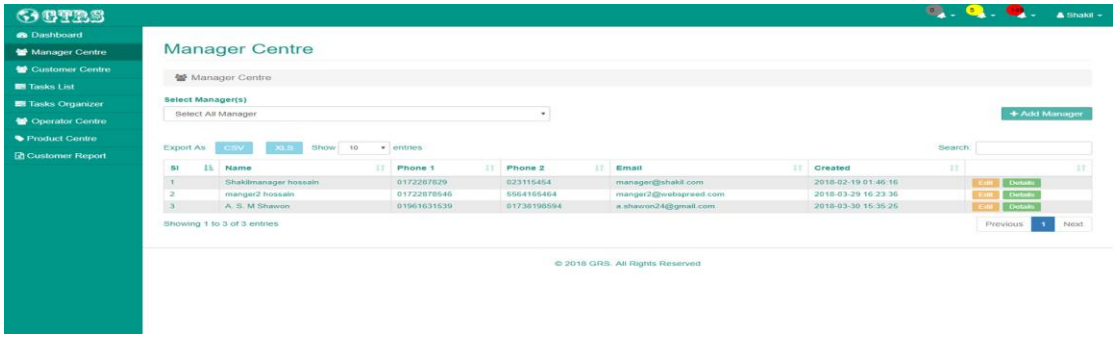
This is the function for a admin. A admin is alone not running this system. This is the system for joining any Manager in this system or organization. This process is fully handled by the admin who is the head of organization. Without his adding no people get the manager access. There no automatically registration system. In this process admin provide the manage an e-mail & also a password which given by the admin. After login a manager can change his information.



Figure_GTRS 6: Admin_Add_ Manager

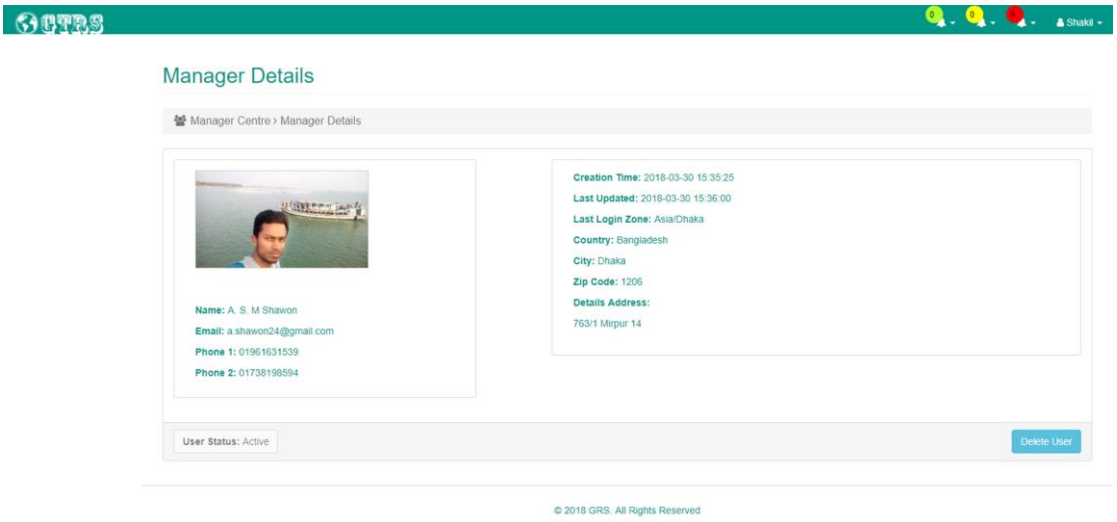
4.2.4 Manager List

This function is viewing how many managers in their organization. And also known how the worked. And also know about their details. In fig7 admin view there how many managers work on their organization. And in fig8, He seen details about any manager who work on his organization.



Figure_GTRS 7: Admin_view_Manager List

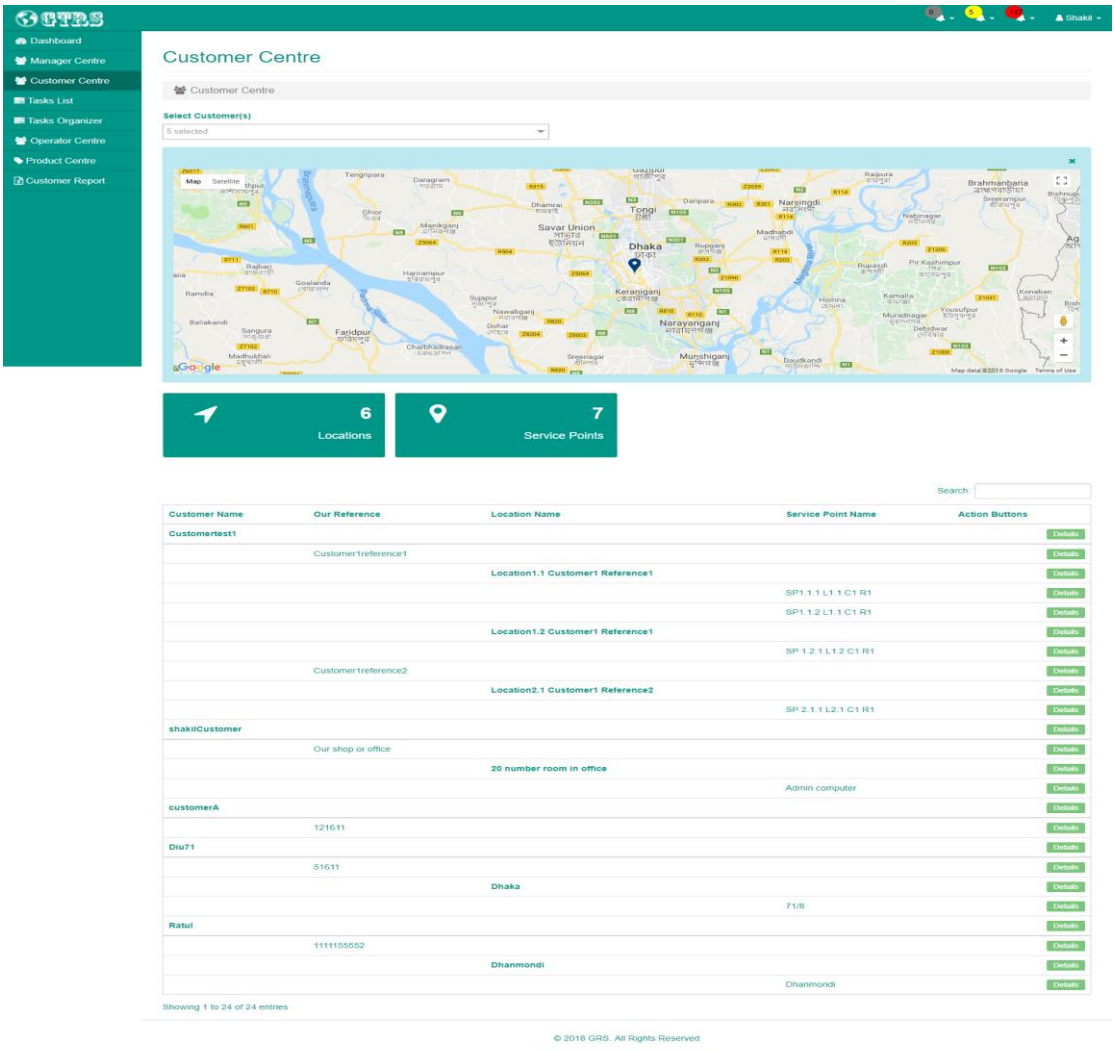
Manager profile overview page and its displaying the manager details together. This is common manager details controller view part.



Figure_GTRS 8: Admin_View_Manager_Details

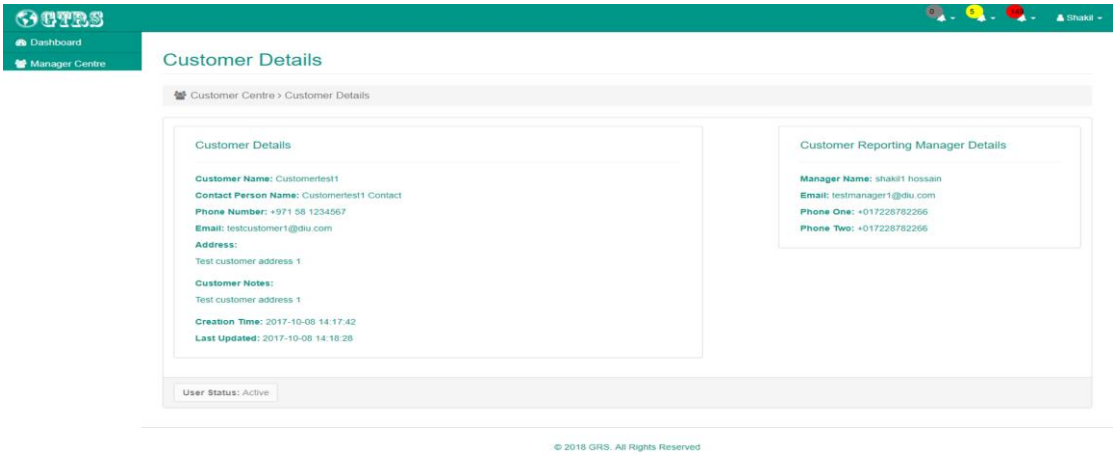
4.2.5 Customer Centre List

This user interface is viewing total customer in our system. And also their point viewing in Google Map. And also known how the worked. And also know about their details. In fig9, admin view their customer point in google map in their organization.



Figure_GTRS 9: Admin_View_Customer_Center_List

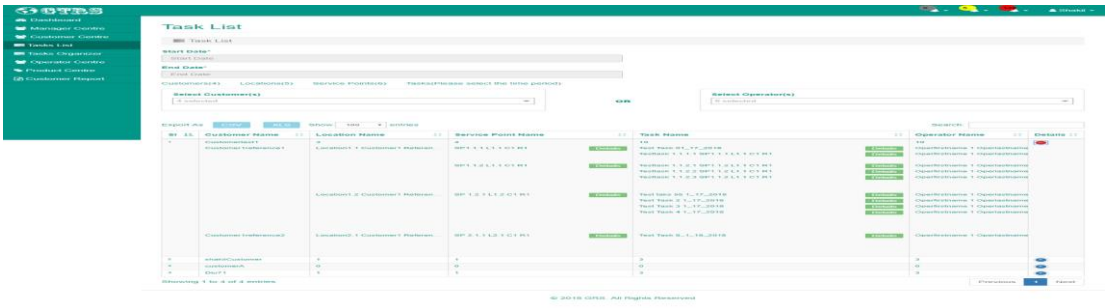
In fig10, Admin view details about any customer and also known about which manager is handled this customer.



Figure_GTRS 10: Admin_View_Customer_Details

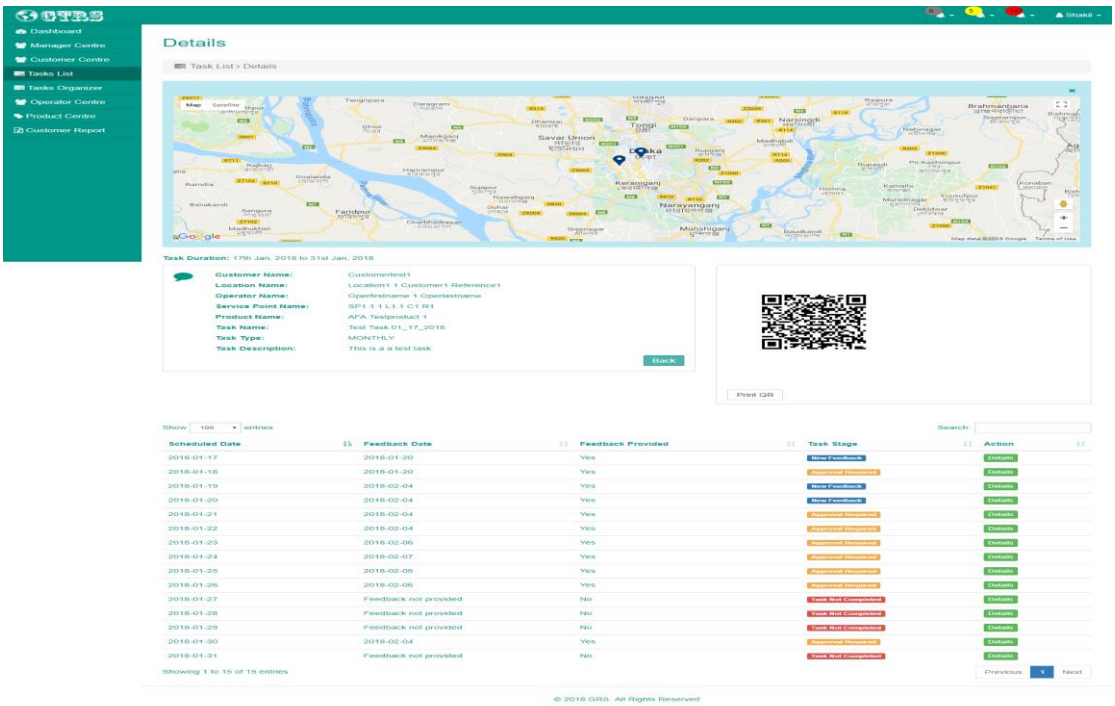
4.2.6 Task List

This page is viewing how many task in our system. And also view which task is complete and which are pending. In this function, a admin also known about today how many task is completed. In before completed any task which assign for running day. In fig10, he can see all of task list in any day.



Figure_GTRS 11: Admin_View_Task_List

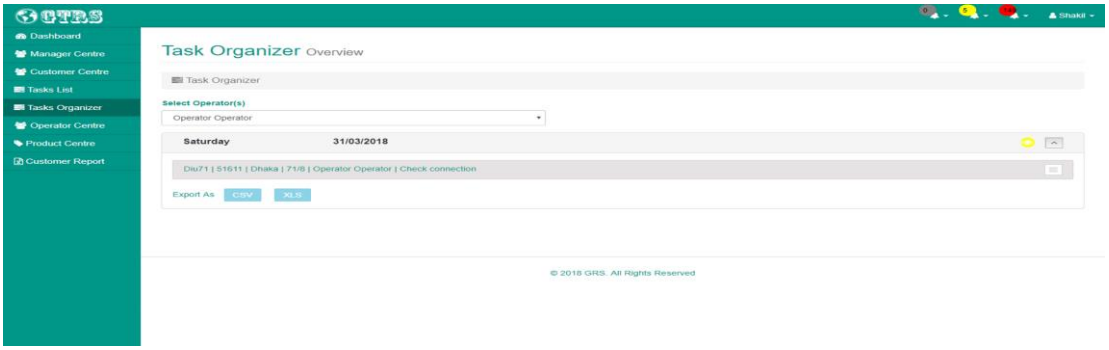
In fig11, Admin sees the details about any of customer if he wants to know about the customer details in any task. In this, there the details describe about the task. Here the location, place, city, customer name and also most important thing is the QR code in viewing here. Which the organization before provided by customer point through the manager. And this QR is generated by the proposedd system.



Figure_GTRS 12: Admin_View_Task_List_Details

4.2.7 Task Organization

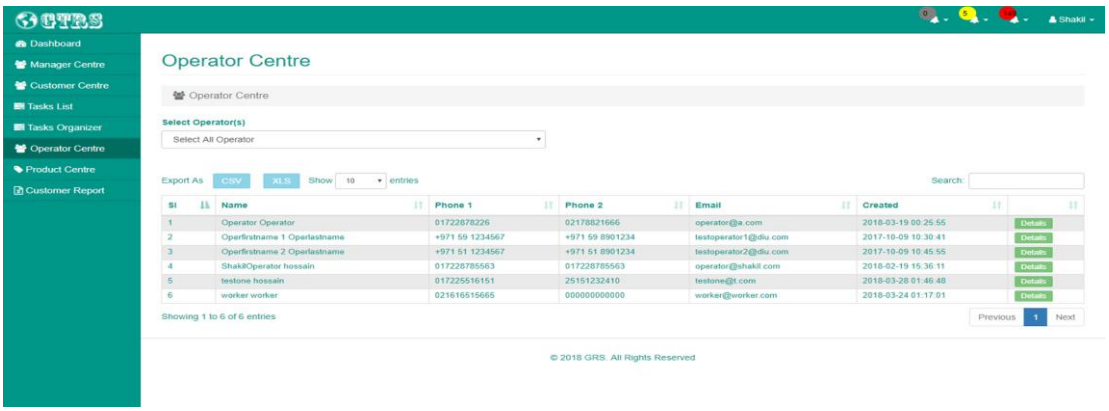
In task organization, the main function is, if any task not complete on his bounded time then an admin or a manager can re-task this task which are not completed by the operator. In there, usage is too easy just drag and swap the task which will see here. And after swapping fault task will re-task for the same operator (if manager wants that task will be re-schedule). In there, fig13, will provide more clear for us.



Figure_GTRS 13: Admin_View_Task_Organizer

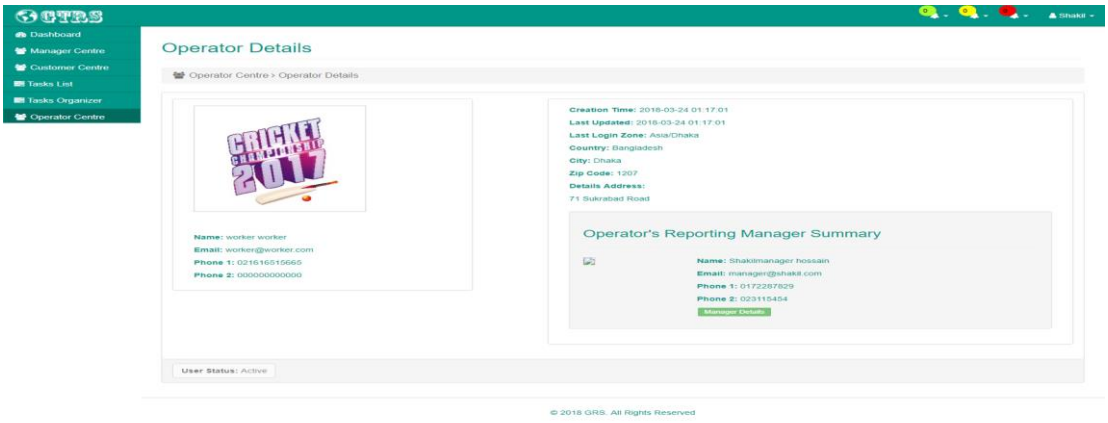
4.2.8 Operator Centre

In this operator centre an admin views the total operator on his system. All operator is adding or join through by the manager. After manager approval then in this table here show the whole operator of this system. In there, fig14, admin view the list of the operator on his system.



Figure_GTRS 14: Admin_View_Operator_List

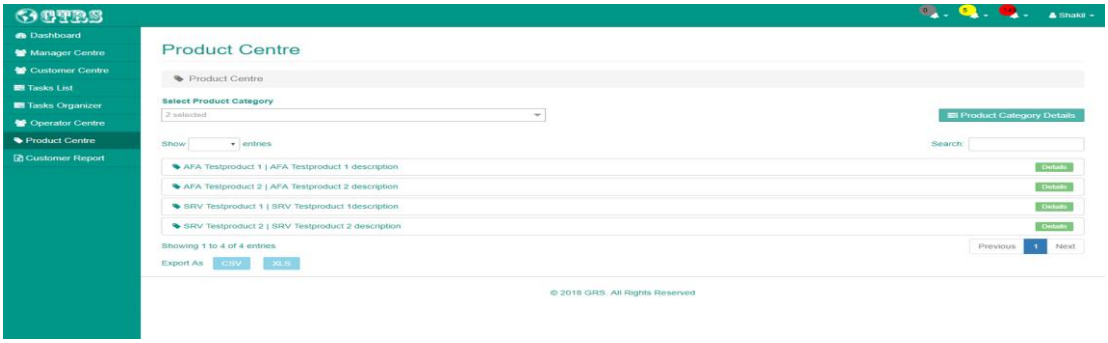
And here in fig15, there admin show details about an operator. He sees the image, address, which city, phone number and anything else of an operator. All information is confirmed by the operator himself.



Figure_GTRS 15: Admin_View_Operator_Details

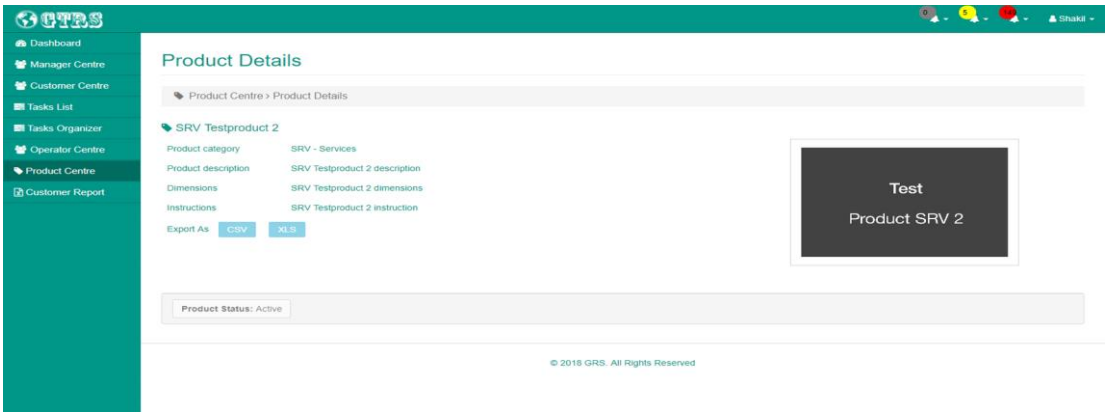
4.2.9 Product Centre

In this part discuss about the product of the system. This is for why we make this system. If there no product in the system, then we do not use this system. Not only we any people not use the system. In there a list view of our product. In fig16, a list view of system product. All product included by the manager. Without manager any people not add or access our product.



Figure_GTRS 16: Admin_View_Product_List

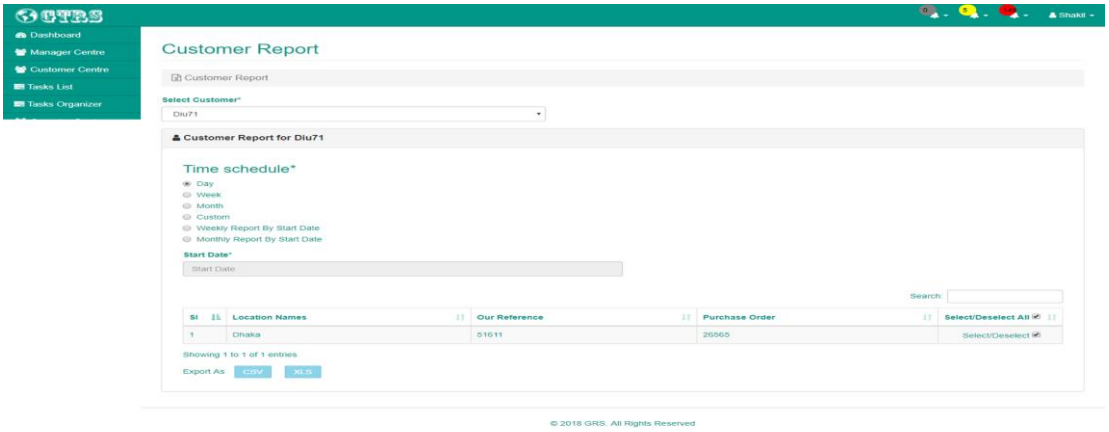
And in fig17, here the details about any product. Here we saw product name, category, some description about the selected product, and the especial thing is we seen through here the quantity and the different location of selling product.



Figure_GTRS 17: Admin_View_Product_Details

4.2.10 Customer Report

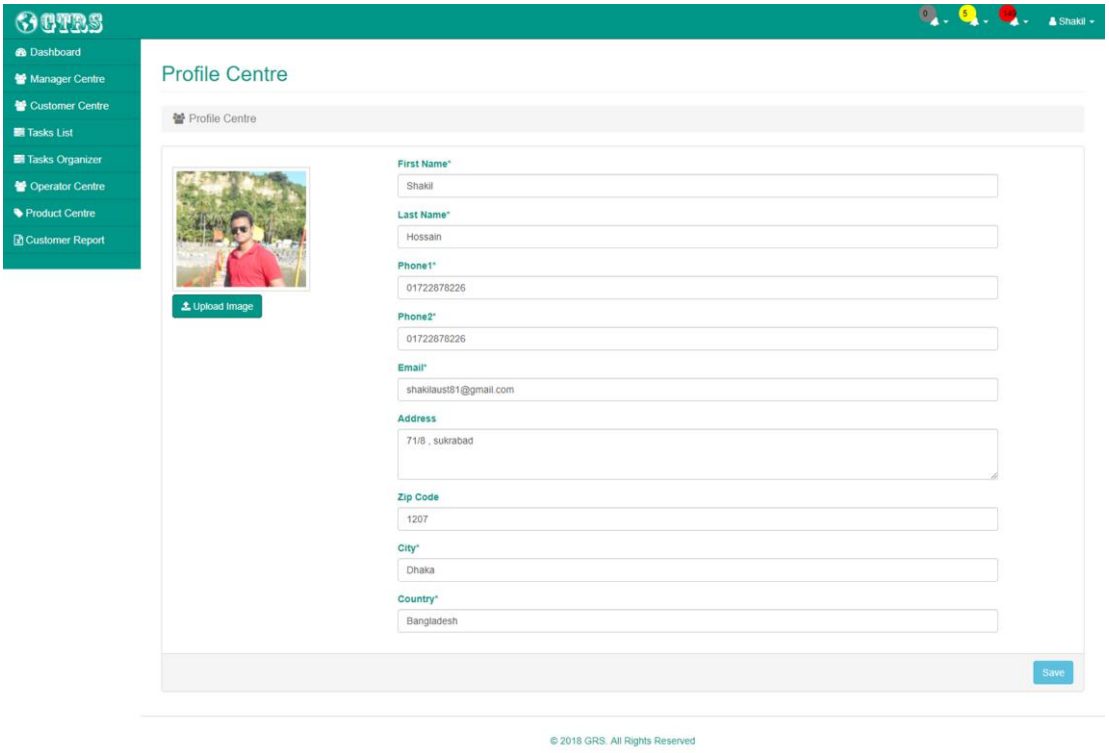
In this customer report admin sees the feedback of the tasks which is submitted by the operator after completing any task. In there, only viewing the feedback. There many functions of viewing, which task of feedback he wants to see, is it daily or weekly or monthly either yearly. Without that he also sees day to day. It's help admin for monitor about his customer and also the operator.



Figure_GTRS 18: Admin_View_Customer_Report

4.2.11 Profile Centre

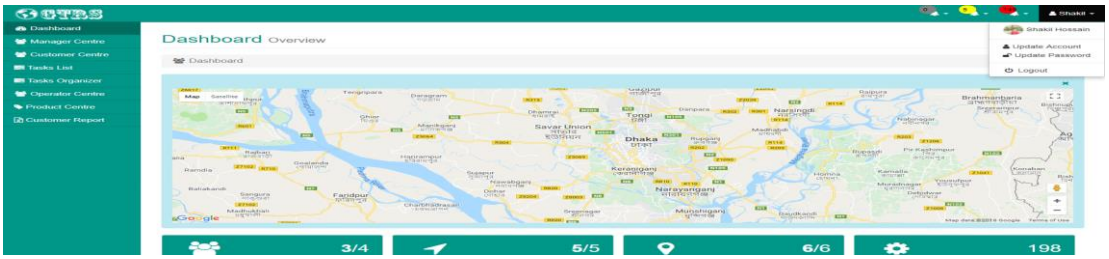
Profile centre is used for personal task. Like name change, email change, password change, phone number change anything else about personal. As a shortly speak that this is only for personal information which through by user and entry with the system administrator.



Figure_GTRS 19: Admin_View/Update_Profile

4.2.12 Notification

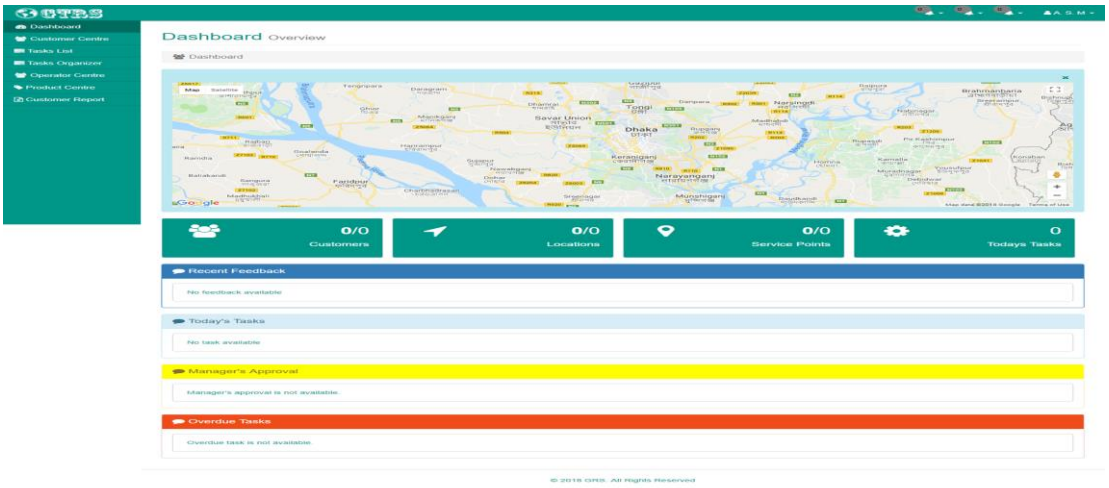
The top or the header section of this system seen 3 alarm. One is for manager approval, one is for operator approval and the finally is for the notification is get the feedback of customer which come after any task complete in any operator of this system. This notification is for two types of user. As an admin or as a manager. If you are an operator then you got a notification too. But It's for you task reminder. In there, fig20 for an admin or a manager.



Figure_GTRS 20: Admin_Notification

4.2.13 Manager Dashboard

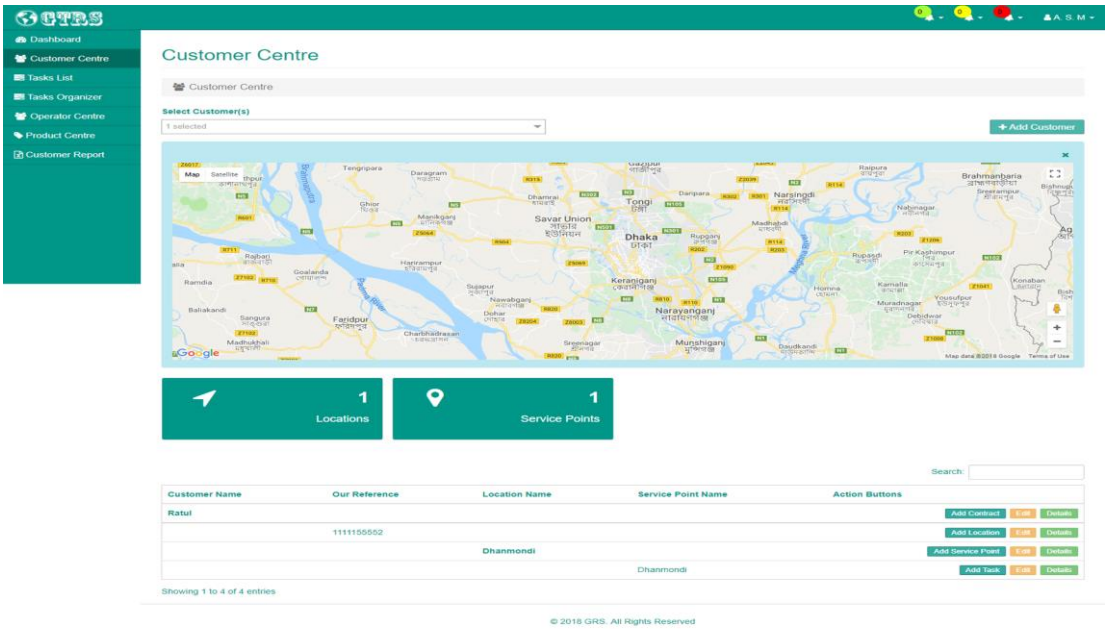
This is the dashboard for the manager in our proposed system. After the verified e-mail address and the password which provide the system admin or organizational admin through the login interface then get the access to the whole system for a manager. In this dashboard a manager view all those operations which we provide for him



Figure_GTRS 21: Manager_Dashboard

4.2.14 Customer Centre List

This user interface is viewing total customer in our system. And also their point viewing in Google Map. And also known how the worked. And also know about their details. In fig22, manager views their customer point in google map in their organization. This is same as admin customer centre list.



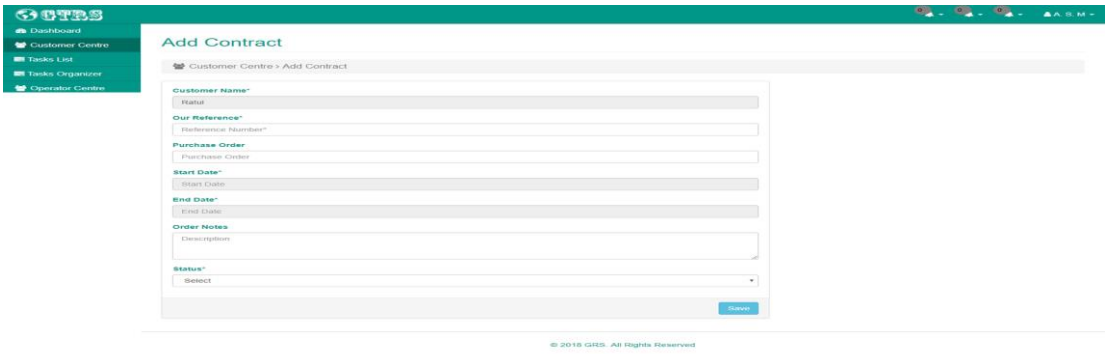
Figure_GTRS 22: Manager_List_Customer_Center

4.2.15 Customer Add

This user interface is used to add a new customer for service provides on our system. Here we add all information which we need for a customer.

Figure_GTRS 23: Manager_Add_Customer_Center

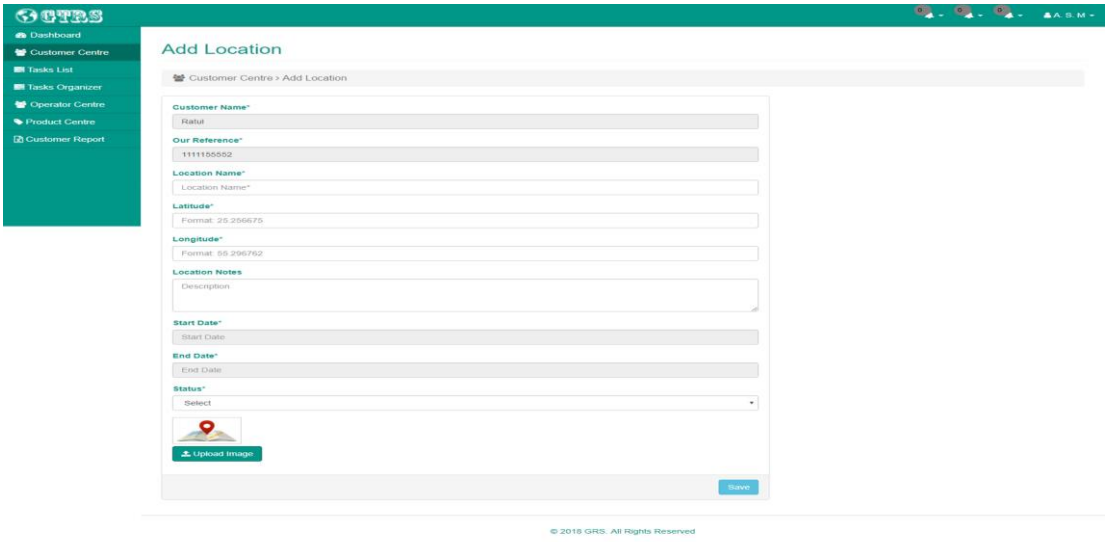
In this fig manager add customer name, contact person, contact number must be a customer, customer email address, customers address and also he decides that the customer is active or pending.



Figure_GTRS 24: Manager_Add_Customer_Center_Contact

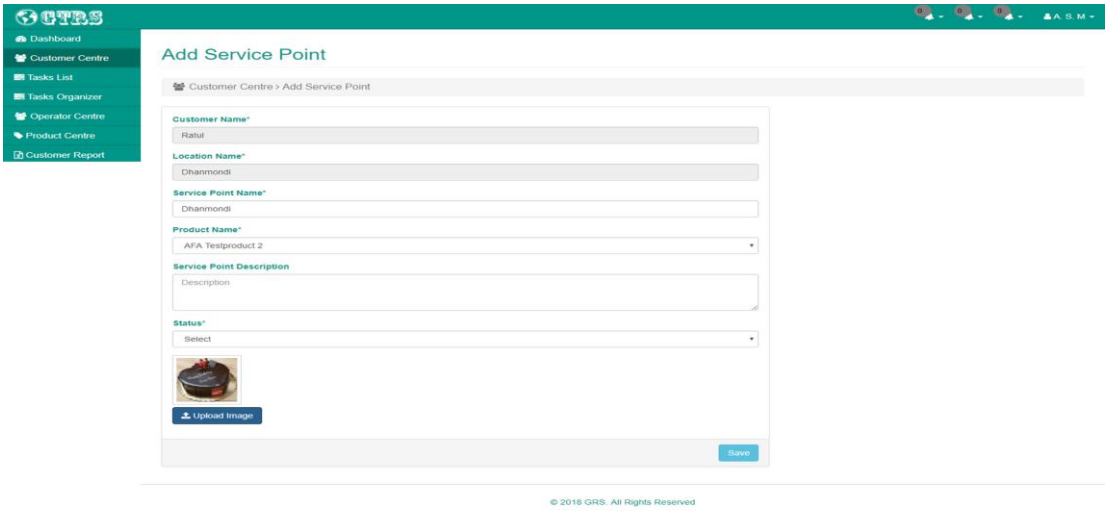
In this side manager add reference number which only know the manager and he provides the number, and when an operator goes for complete his task which depends on user.

In this fig manager add customer location with latitude and longitude. and also he decides that the task is active or pending.



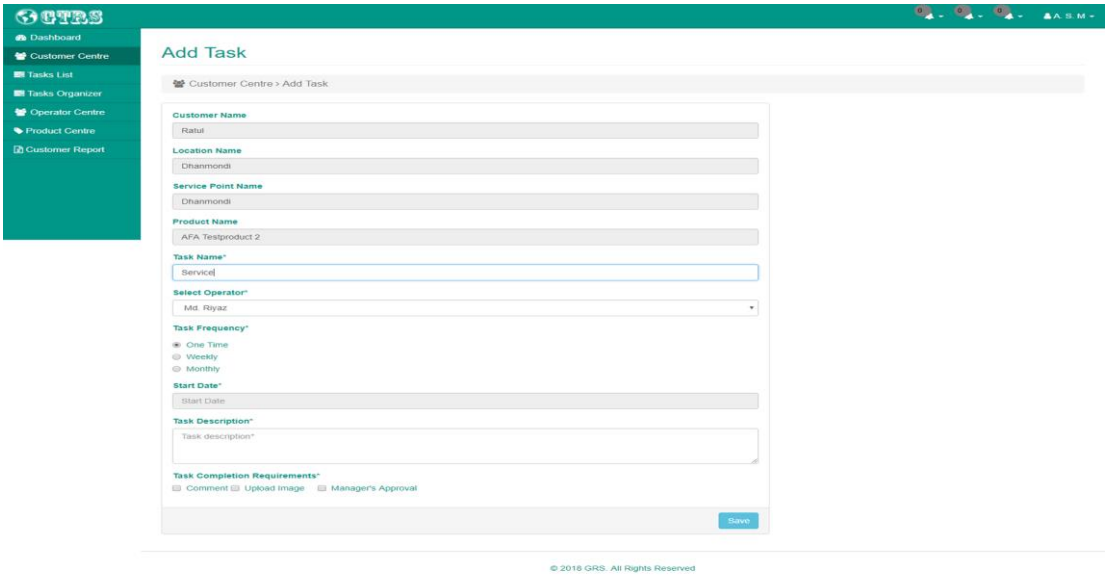
Figure_GTRS 25: Manager_Add_Customer_Location

In this fig manager add customers service point and the place name. And also if he wants then upload an image for operator



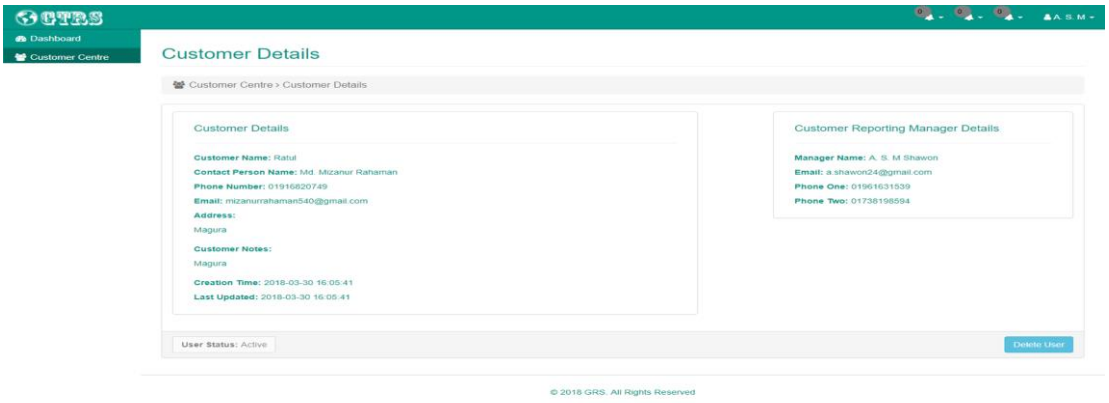
Figure_GTRS 26: Manager_Add_Customer_Service_Point

In this fig manager finally provide task for an operator. And there an important thing in this part that, the task is one time or more than one time. Manger selected this from here.



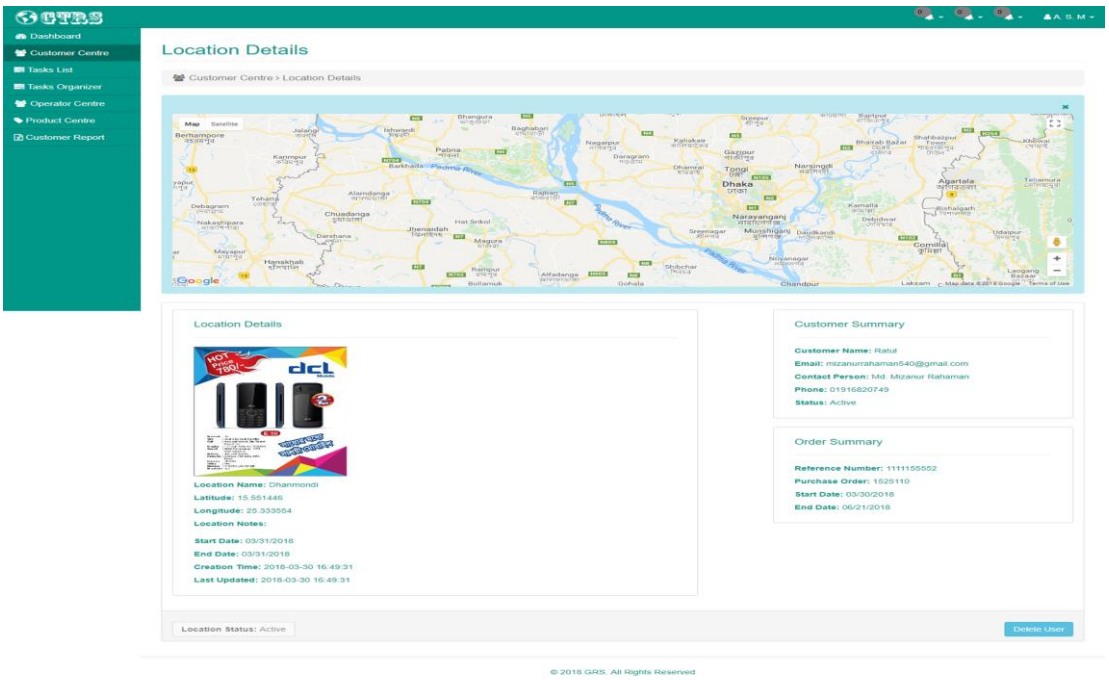
Figure_GTRS 27: Manager_Add_Customer_Task

After all information of customer then the manager can view details about a customer centre for checking final. If any wrong information there he gets then he must edit this.



Figure_GTRS 28: Manager_View_Customer_Details

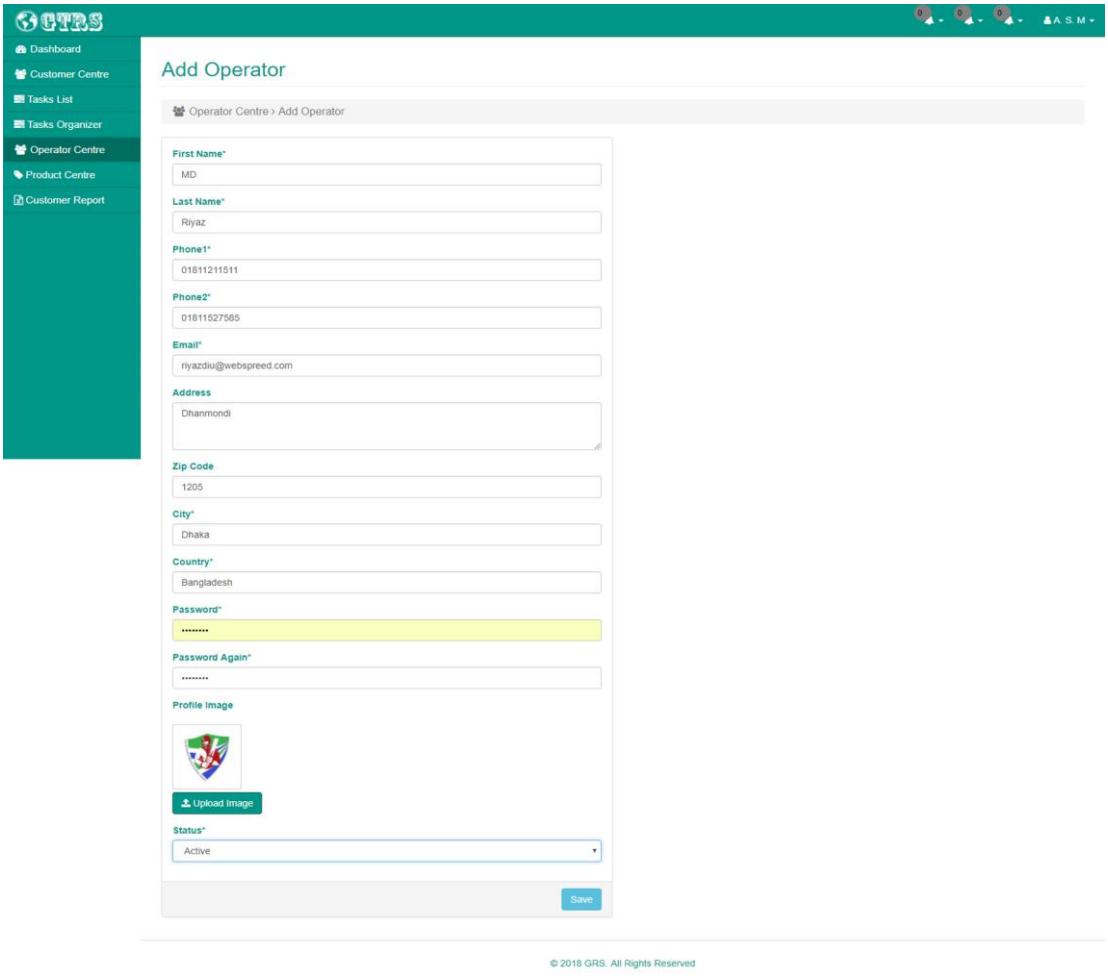
In this portion a manager views the exact location of customer centre. And also view the details of the location. He also checks this is ok or not. In here on fig29



Figure_GTRS 29: Manager_View_Customer_Location_Details

4.2.16 Add Operator

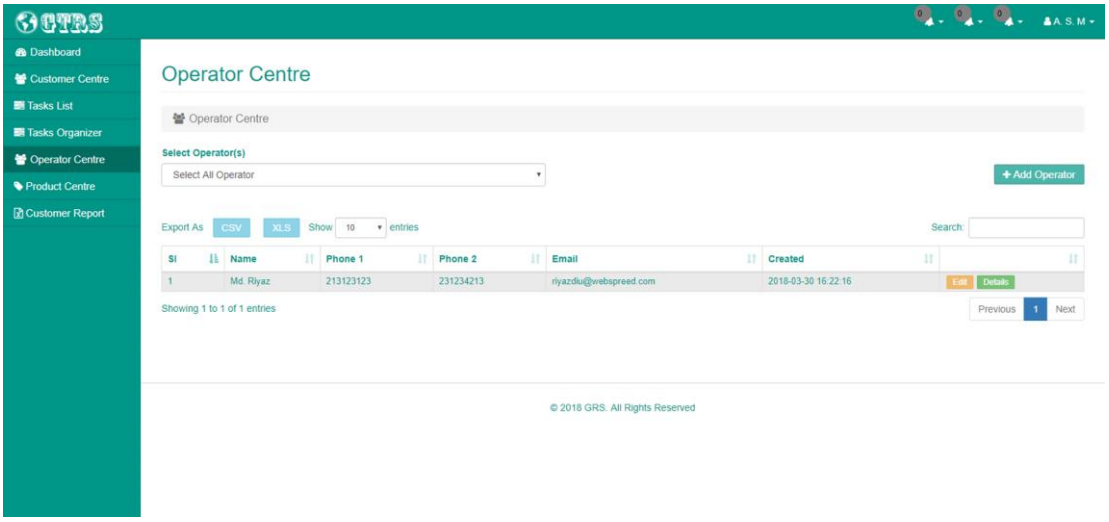
This is the function of a manager. A manager is managing whole the system and provides the task. This is the system for joining any Operator in this system or organization. This process is fully not handled by the admin who is the head of organization there must need the space of a manager. Without his adding no people get the job of the operator. There no automatically registration system. In this process manager provide the operators an e-mail & also a password which is given by the admin. After login an operator must change his information if he wants to change it.



Figure_GTRS 30: Manager_Add_Operator

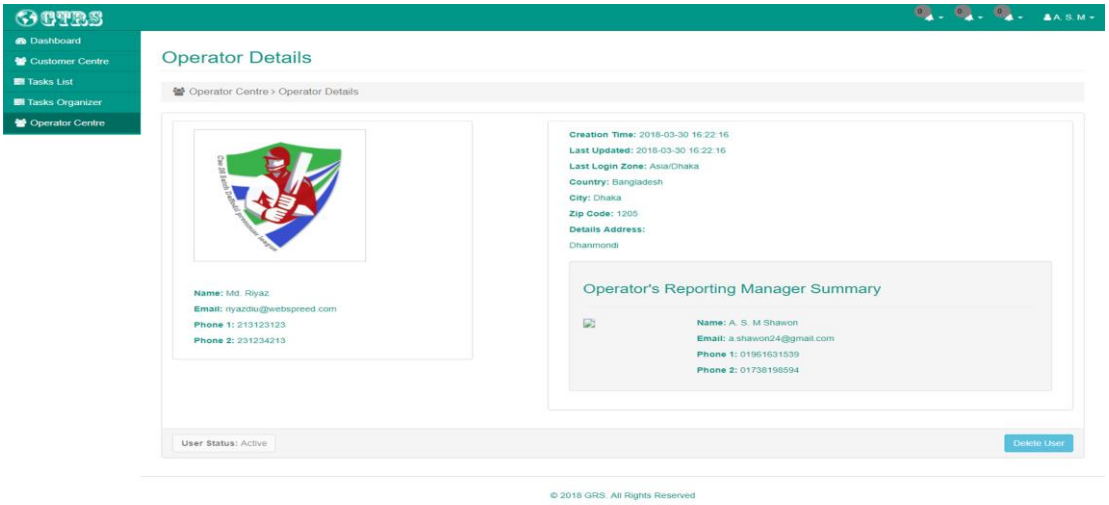
4.2.17 Operator List

This function is viewing how many operators under of him. And also known how the worked. And also know about their details which mostly added by the manager. In fig(4.2.17a), manager view there how many operator works for him. And in fig(4.2.17b), He sees details about any operator who work for him.



Figure_GTRS 31: Manager_View_Operation_List

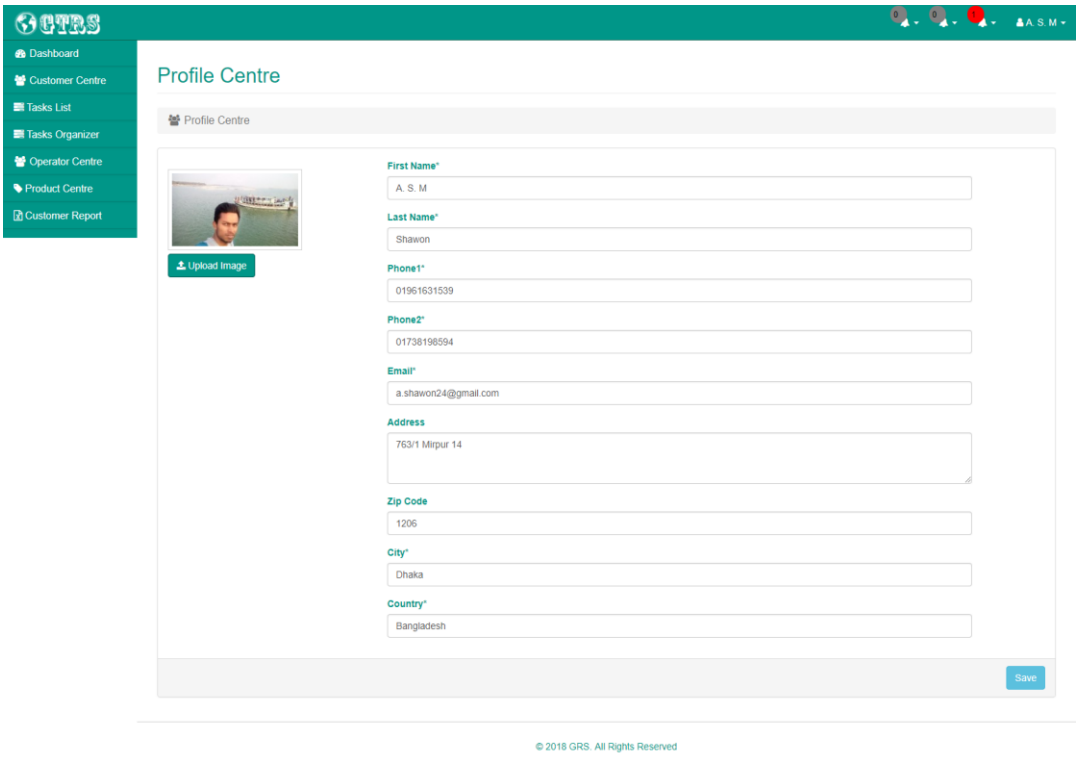
This is for operator derails layout. This section admin or manager can view the operator details.



Figure_GTRS 32: Manager_View_Operator_Details

4.2.18 Profile Centre for Manager

Profile centre is used for the personal task. Like name change, email change, password change, phone number change anything else about personal. As a shortly speak that this is only for personal information which through by user and entry with the system admin.



Figure_GTRS 33: Manager_Update_Profile

4.3 Android Front End Design

4.3.1 App in Phone:

In android phone we need apk file for install. After installing the software it should be in your app category. In this fig(1a), after install our software on an android device the seen the system on this fig. In this software a user must connect to our service or fully connected our system. This is mainly for an operator of our system.

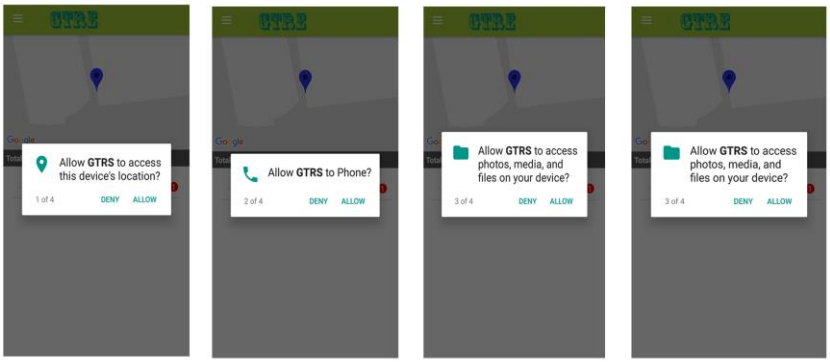
Figure_GTRS 34: App_Desplay_In_App_Store_Phone

4.3.2 Login Page:

This is our application login page. In there a user must submit access user email and also the password. Then, if he has allowed for access then he login the application also the system.

Figure_GTRS 35: Application_Login_UI

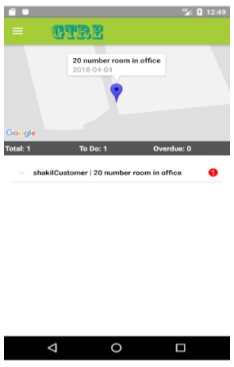
After login application the system of the application wanted to access some other device include with your phone. Firstly, location service for tracking GTRS or system tracking system. Phone calls because of the messing or notification system. Then want to camera access for QR code detect and also a picture. Finally wanted to access file manager for media or picture will be saved on your device which needs for upload operator task report.



Figure_GTRS 36: Application_Want_To_Permission_To_User

4.3.4 Task List

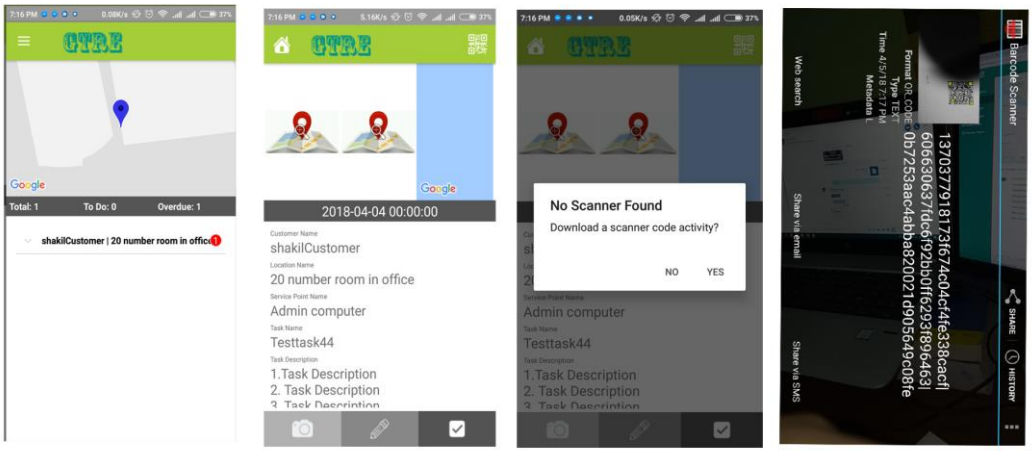
After login the system and also allowed all access what the application need, then the user see how many tasks for him today. And also seen their location. In here fig(4.3.4), we saw the whole system.



Figure_GTRS 37: Application_Task_List_UI

4.3.5 Task Details

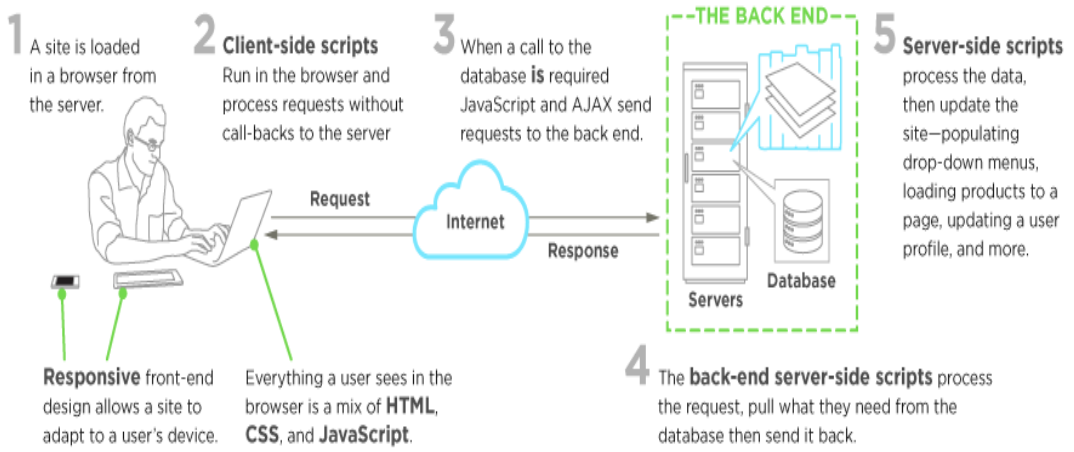
In here user views the task details of any task. With the location and task description. After complete operator task, he must have submitted the report with helping this system or this application.



Figure_GTRS 38: Application_Task_List_UI

4.4 Back-end Develop

A back-end developer is accountable for a website or server-side web software or application logic and integration of the task or develops the work of front-end developers by done. Back-end developer is normally working with the web service or write the web software or service and also work with the APIs used by front-end developers and mobile application developers.



Figure_GTRS 39: Back end development diagram

In this figs, there a clear concept that back-end develop is not worked in the user or customers front. It's totally worked on under the customer or user's eyes. In complete or implementation this work need many types of language those called the server-side language. There are many server-side languages

Java , PHP, Python, JavaScript, ASP, Go, Google Apps Script, Hack ,Haskell, Lua Parser ,Perl via the CGI.pm module ,R ,Ruby ,SMX, Tcl ,WebDAV ,Progress Web Speed, Bigwig .

4.5 Interaction Design and UX

Interaction design is a process in which designers focus on creating engaging web interfaces with logical and thought out behaviors and actions. The successful interactive design uses technology and principles of good communication to create desired user experiences. [https://designmodo.com/interaction-design/ 28/03/2018/3.03]

UX Design & UI design many elements are fateful to a product and work closely together. UX design means or the full from of UX design is User Experience Design. UX design or User experience design is working with the process of developing a user satisfaction with any product by increasing the usability, accessibility, and satisfaction provided in the interaction with that product.

4.6 Implementation Requirements

Implementation is used for the execution, performance, or practice of a proposed system plan, a process, or any kinds of design, concept, example, specification for doing something. For example, this implementation is the action that must follow any initial thinking in order for something to actually what happen. In implementation requirements is what we actually need for properly complete this proposed system, and the right thing we must be chosen by flow some step.

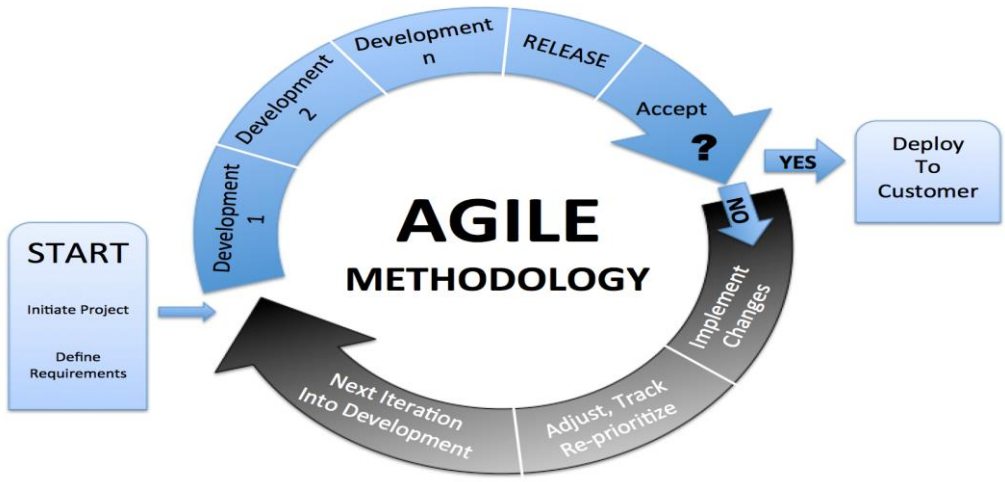
4.6.1 Methodology

A system for finding some of broad principles or rules from which appointed methods or action may be executed to explain or solve different problems within the scope of the proposed system. Dislike an algorithm, a methodology is not proper way or a formula way to solve the problems, but it’s too much helpful for continuing the proposed or any system or project. This is help for giving a set of practices. In there are, many types of methodology which is better for our proposed system that we decide. Here explains the proposed system methodology,

We chose the “Agile Software Methodology”. The common meaning of Agile is “able to move quickly and easily”. It is used for a programming methodology to do work in easy and opportune way. This agile methodology is very necessary to complete bigger project. It is flow the way of serialized process for delivering project or complete any big project and also maintenance this easily.

The rezone of chosen the “Agile Software Methodology”

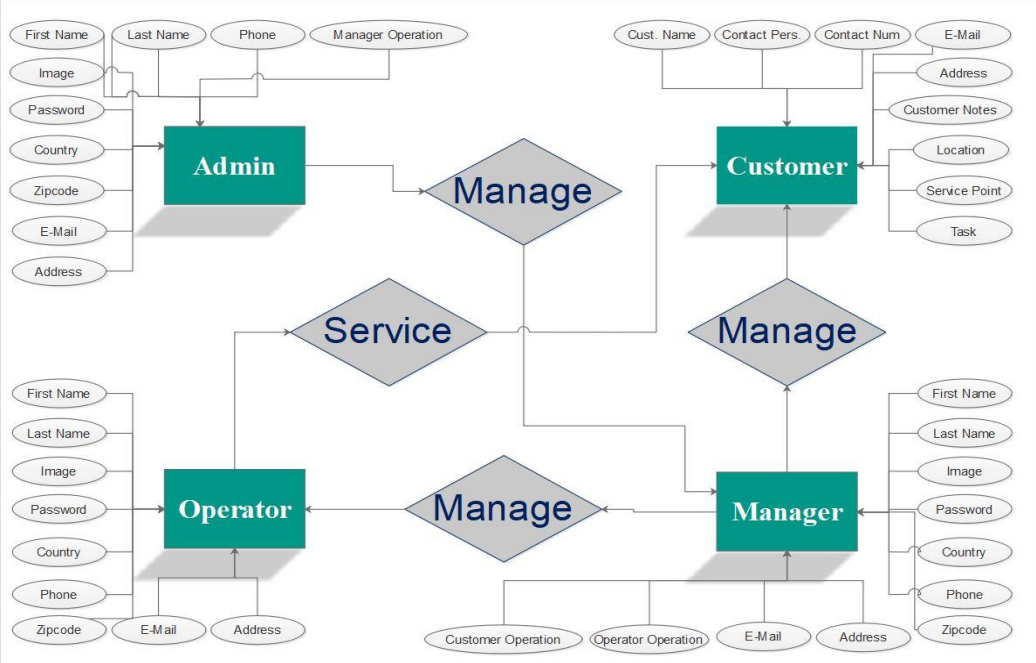
- Our firstly and highest priority is to satisfaction of the customer through early and continuous delivery of valuable services.
- This system is used for changing requirements, even we delay for development the system. Agile processes facing any change for the customer’s competitive advantage and this is only for the customer satisfaction.
- Working complete software under this system is worked frequently, it will have started from a couple of weeks to a couple of months, with complete this total a preference to the shorter timescale. This is very helpful for any project for finding any error and skip the wrong work in this system.
- Administrator, employee and customer are work at a same time in using this methodology. This is very easy for using this system for any type of user.
- Build any projects to flow this methodology to around motivated individuals. Give customer the environment and support they need, and trust them that what the need we properly complete this job.



Figure_GTRS 40: Agile Software Methodology System for any project

4.6.2 System Design Using E-R Diagram

An Entity Relationship (ER) Diagram is a type of flowchart that illustrates how "entities" such as people, objects or concepts relate to each other within a system. ER Diagrams are most often used to design or debug relational databases in the fields of software engineering, business information systems, education and research. Also known as ERDs or ER Models, they use a defined set of symbols such as rectangles, diamonds, ovals and connecting lines to depict the interconnectedness of entities, relationships and their attributes. They mirror grammatical structure, with entities as nouns and relationships as verbs. [1]



Figure_GTRS 41: E-R Diagram for GTRS

4.7 Technology

Android Jelly Been Lowest for Android Apps,Android Orio for Highest Android Apps, Any Desktop internet browser.

4.8 Development Tools

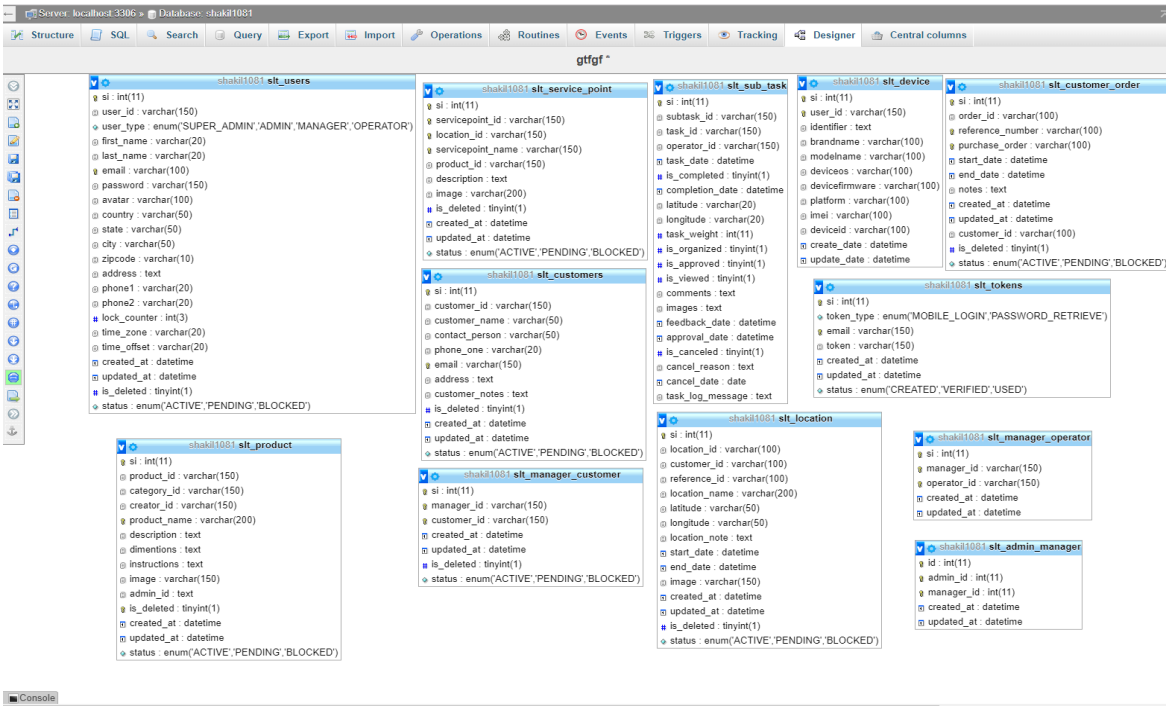
Android Studio ,Visual Code Block, Notepad ++, Sublime, Brackets, Adobe Photoshop CS5, Adobe Illustrator CS5, Android Simulator, Xampp

CHAPTER 5
IMPLEMENTATION AND TESTING

5.1 Implementation of Database

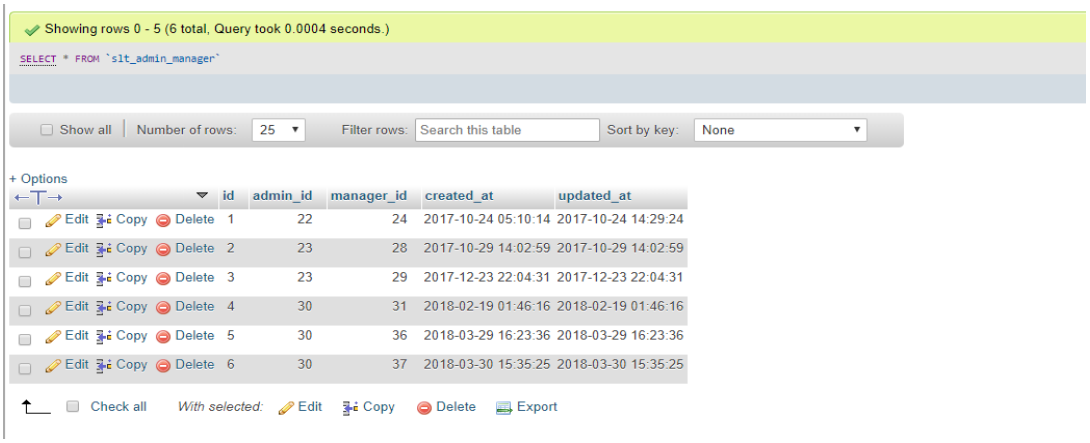
For storing a data there essential to have a database. We have to use a MySQL database for our application. In our MySQL database have fourteen table. We have used PHP server-side language for connecting our database with our GTRS application. We used a normalization database and here maintains all relation by the query. Also here all UI request, and the response is managing with PHP and JSON figure 42 are showing full database with table attribute key.

We used some table for data collecting, and some are for maintaining relation behaviour. Our database name is shakil1081.sql here all connection is supporting with Code Igniter PHP framework standards. Because our system is built with this popular framework. For processing data, we have used several data attribute.



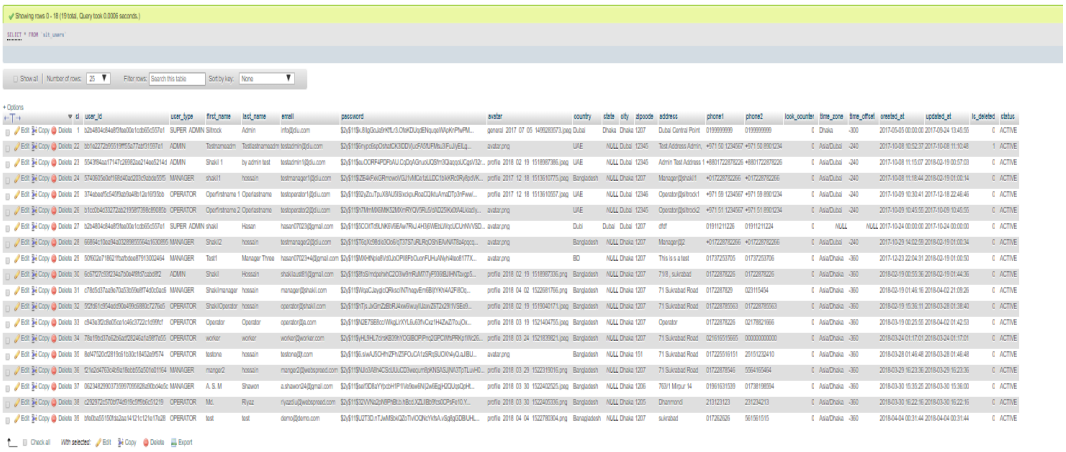
Figure_GTRS 42: Whole_Database_System

When a super admin add a manager Data will save in 2 table fig42, fig43 one for maintained relation and another one for storing manager information like name profile details, image path and statues. We have used a JSON request for uploading image and storing those data. Also when change any relation with manager and admin this table will update with last date.



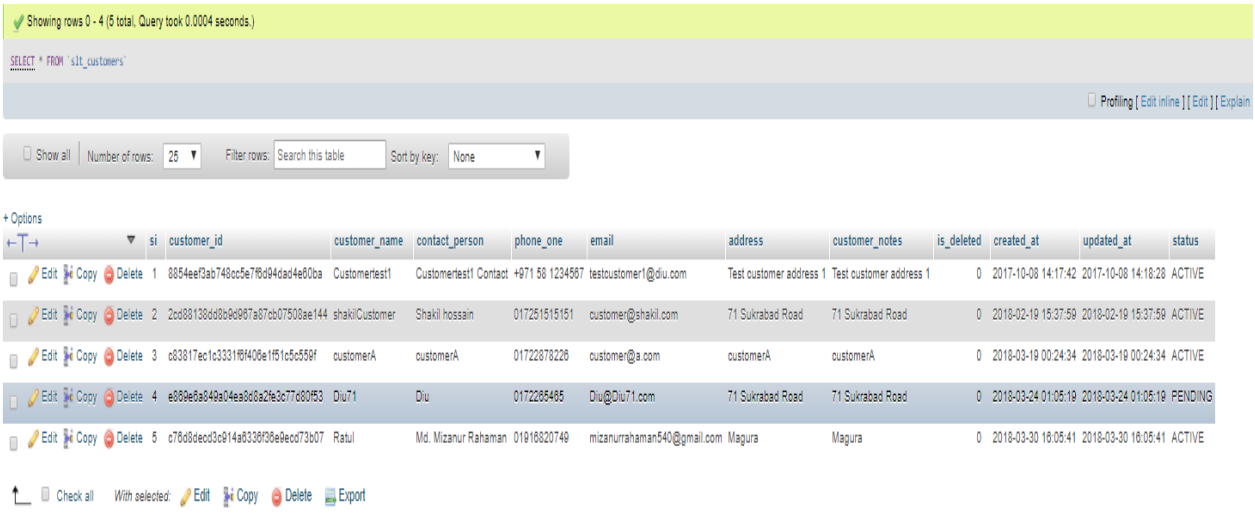
Figure_GTRS 43: Slt_admin_manager

All user information will store Slt_users table with their user type. And a user wants to update his information he or she will be able to update this table data using account update UI without login and access key it will not make possible. This table have many attribute that are with a different data type like password user type, email phone name.



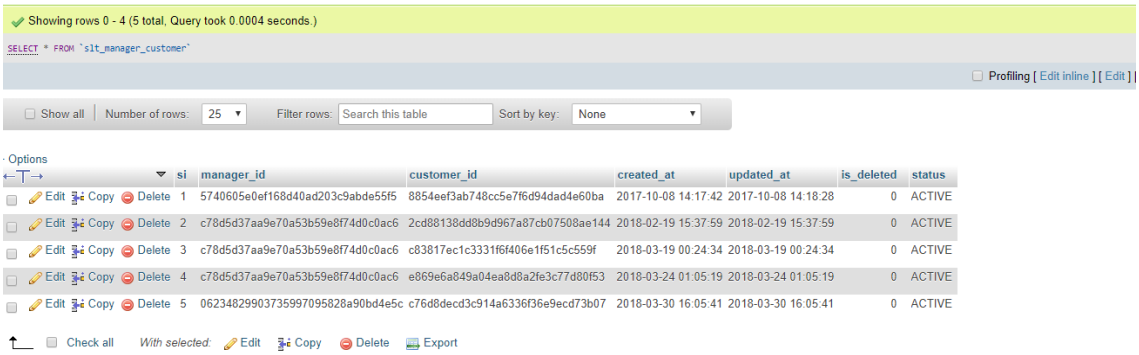
Figure_GTRS 44: Slt_users

When am manager will include by manager thous data will store in two table one is relation and another one for storing information customer is just a part of this system. Customer is used for only managerial used here customer has no access. Figure45, table is presenting customer stored information in Slt_customers table



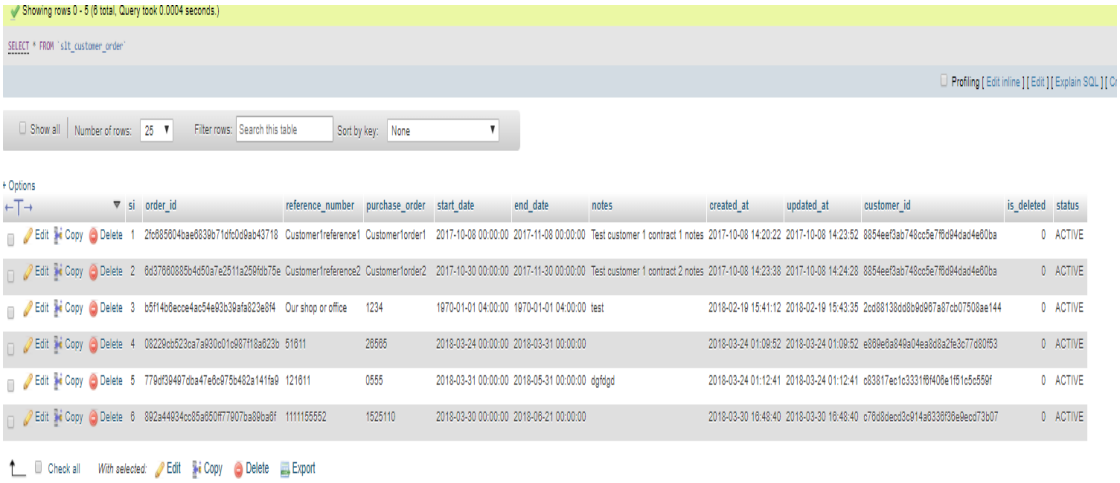
Figure_GTRS 45: Slt_customers

This table are for maintain the relationship data with customer and manager. Every customer can have one or more relationship with manager. One customer will under a manager. One manager can connect and manage many customers. If a manager won't he or she can make a active relation with a customer or dative any time.



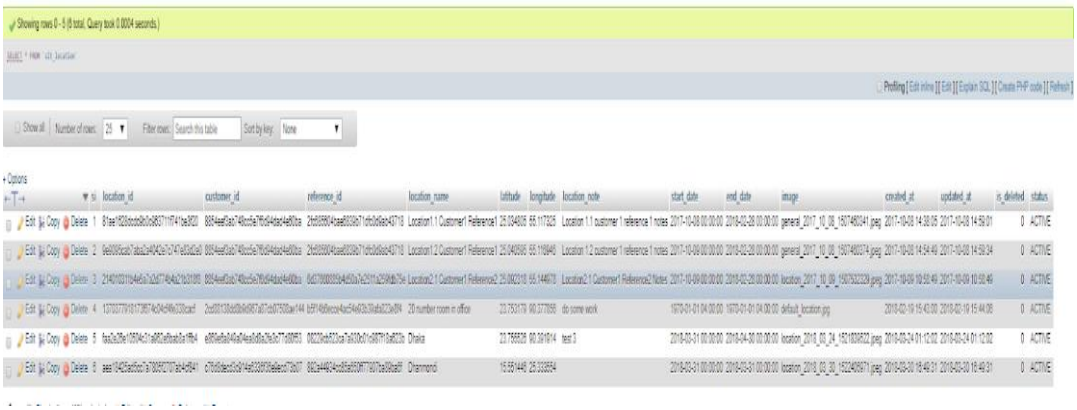
Figure_GTRS 46: Slt_manager_customer

When a customer will add in system the Slt_customer_order will be updated with customer table because customer can have a product or service location for that reason customer will get the service. This table are presenting data for a customer order for service expectancy.



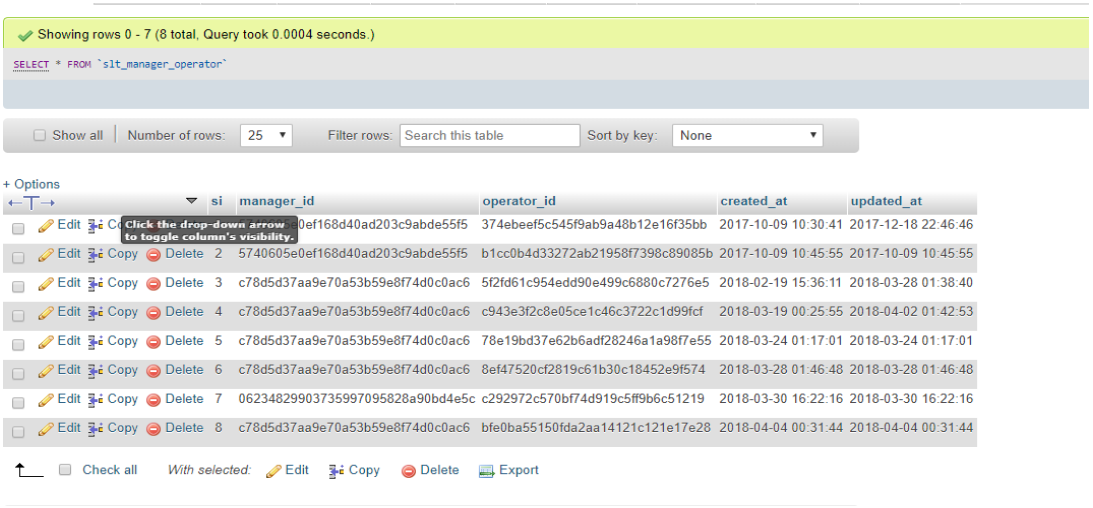
Figure_GTRS 47: Slt_customer_order

Location table will store location data for a customer service point. When a customer will add with this application there mandatory to add a service point for that customer service. One customer can have many service point location under a task. There also a potion to add image for service point image ot task image location that will easy to identify for operator.



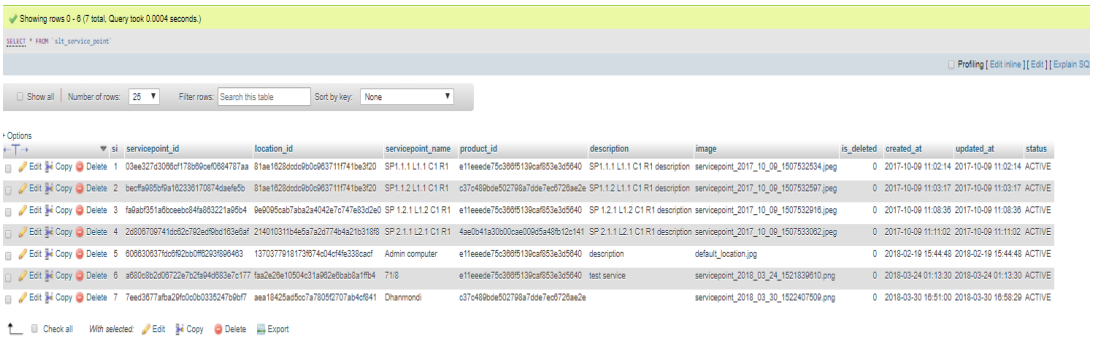
Figure_GTRS 48: Slt_location

Operator will work under manager so there has a relation with manager and operator. this table is showing the relational data with manager id and operator id and when this relation are start. manager can add any customer operator and service location. manager is only authority to add a operator for customer service.



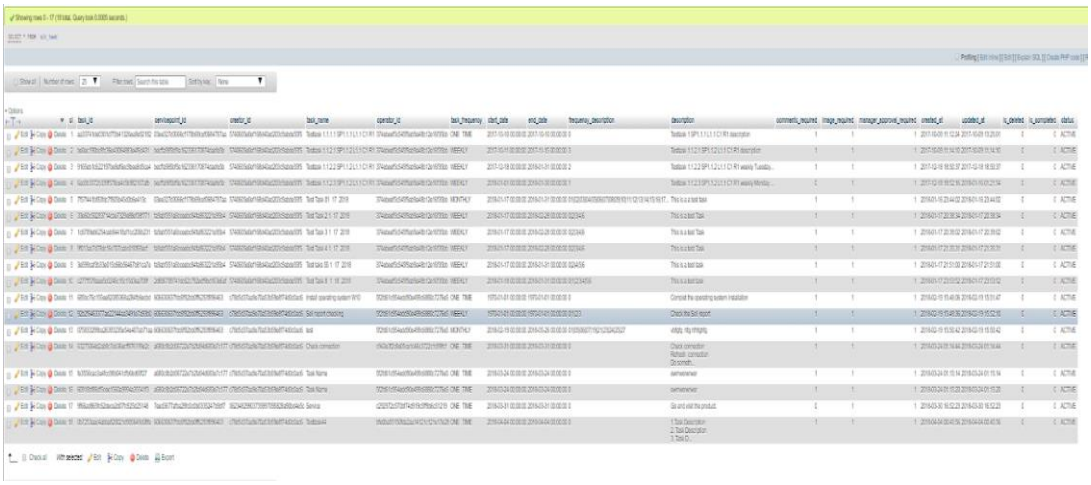
Figure_GTRS 49: Slt_manager_operator

When a task will add there need to add task location or service point. where a operator will work for the assign task . one operator can work in many task point it can be under one or more service point. it's depend with manager decision . this table are have service location data.



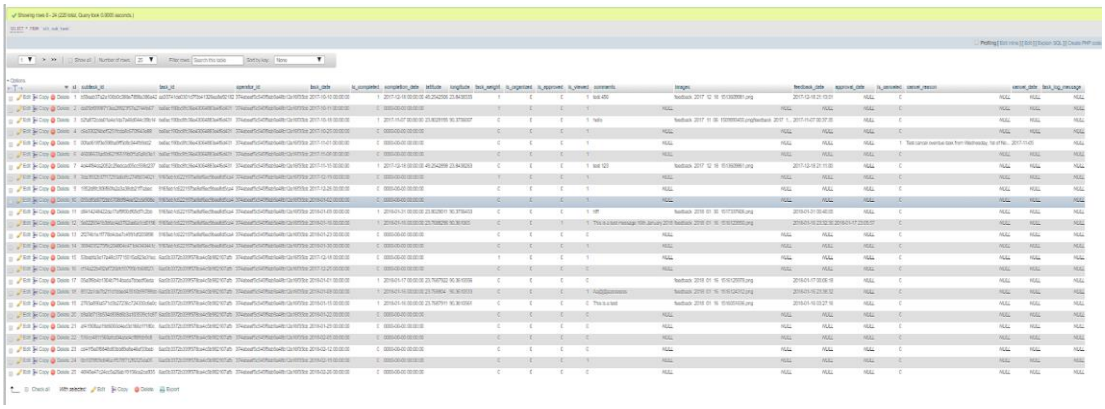
Figure_GTRS 50: Slt_service_point

This is task details table and this table name is slt_task here will store all data about a task. In a task will have several type of data like task date, location image, required information etc.



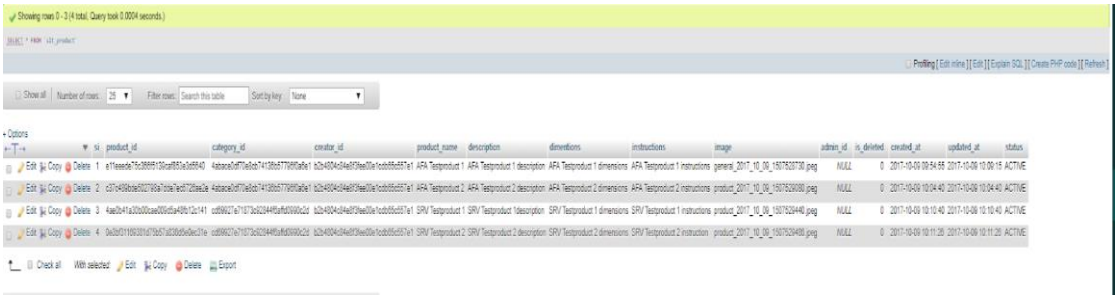
Figure_GTRS 51: Slt_task

Some time there can be subtask under a task. When a subtask will generate that data will stored in this table. Also thus data will used when report generating action will work



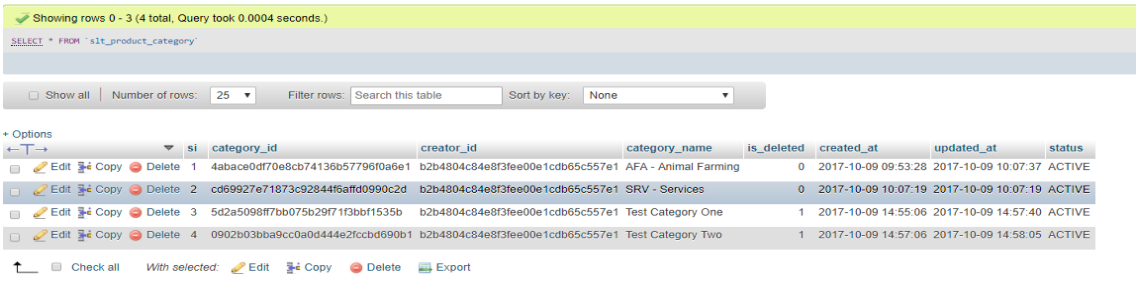
Figure_GTRS 52: Slt_sub_task

Product table will store product details with product category id status and



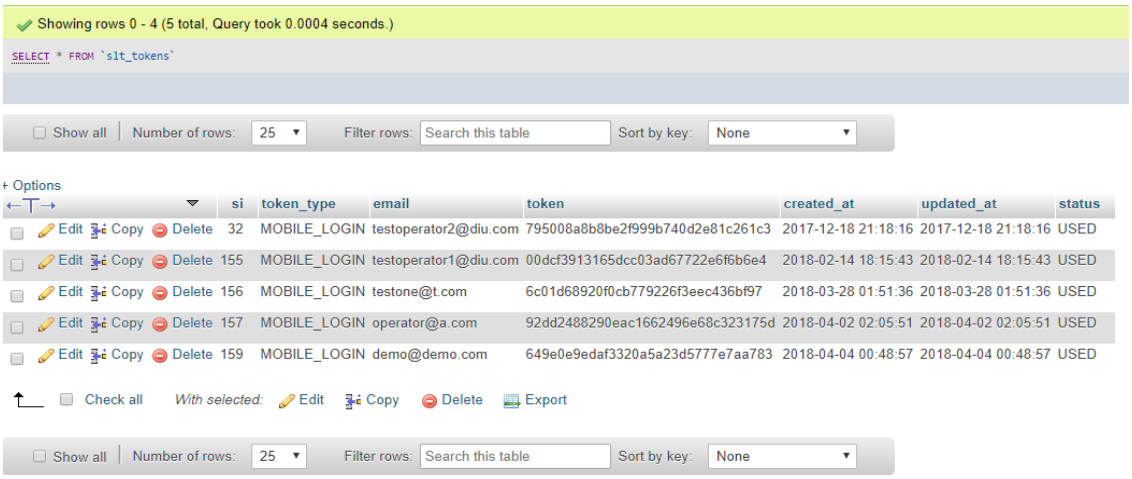
Figure_GTRS 53: Slt_product

User can create different type of category because there well have different type of product and service



Figure_GTRS 54: Slt_product_category

This table will store Access tokens for API access, user need to communication with server with provided API key



Figure_GTRS 55: Slt_tokens

5.2 Testing Implementation

At first we have understood that what implementation means. Implementation means that it's a system of the process of setting an action for the formulated any project plan. Before any project implement, the whole system of the project is must be planned. Then, we must work for plan should have been completed and our objectives of the proposed system or any project should be clear.

Now we try to discuss about the testing. Testing is the process for checking the system should be worked or not. It's a Logical process because after that process a user or developer should get only one answer running properly or not. But in any big project this testing is more effective for the project. Because in the project total feedback get to the user for development team. Then they must decide what they take to overcome the system or develop the system either improve the project. There three types of testing are including in any project what we done:

i. White Box Testing

ii. Black Box Testing

iii. Gray Box Testing

5.5 Test Results and Reports

There three testing applied on our system. And finally we get some error and then we recover this. After a long testing we ensure that it's now fully ready for service provide.

CHAPTER 6

CONCLUSION AND FUTURE SCOPE

6.1 Discussion and Conclusion

As with all the customized software, there are many new requirements that arise as time passes and the users get more intelligent and becomes aware of what they can do with the software and how it can make their life easier.

Problem with new requirement is, it's time consuming and in most cases very expensive to develop. Most software company fails if the initial system analysis is not done properly. Although it is possible to develop an open ended software, but the cost and time it will take is astronomical. So, in most cases a middle ground is taken where it is possible to allow few major changes and some minor changes.

The software is broken down into modules that can run individually and independent of each other. This is specifically done for future growth and better maintainability.

We hope to add support for different devices like Blackberry, iOS etc. We also plan to add live chat, multi-language support, tracking the operators and many more.

We want this software to be at certain level where we can sell it on international market.

6.2 Limitations

- Not for ios Operating system.
- Not for Blackberry user.
- Software will not update with android version.
- Minimum requirement for android version Lollipop.
- Offline report not allowed.
- Messaging function not applied.

6.3 Scope for Further Developments

- Integrated with Cloud Server for universal access.
- Operator movement tracking and auto alert system
- Make it an open source project
- Multi Language supported UI
- Securing the communication API
- Add a live chatting system
- Divide the project into smaller sections for modular customization.
- Increase the app caching behaviour for images
- Make the app to support all Android versions, iPhone and Blackberry.
- Make a mobile application for Complete Global Task Management System.
- Launch Our app in Google Play Store and iOS App Store.

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APPENDIX

Table_GTRS 2: Work Schedule

Date	Time Duration
10/9/2017	5 Days
17/09/2017	7 Days
24/09/2017	7 Days
28/09/2017	4 Days
8/10/2017	7 Days
15/10/2017	7 Days
22/10/2017	7 Days
29/10/2017	7 Days
05/11/2017	7 Days
26/11/2017	7 Days
03/12/2017	7 Days
10/12/2017	7 Days
27/12/2017	7 Days
01/18/2018	7 Days
01/25/2018	7 Days
02/01/2018	7 Days
02/08/2018	7 days
02/22/2018	10 Days
03/01/2018	7 days
03/15/2018	7 days
03/22/2018	7 days

Table_GTRS 3: Off Day List

Date	Duration	Reason
12 Nov - 19 Nov	7 Days	Mid Term Exam
10 Dec - 20 Dec	10 days	Final Exam
27 Dec - 10 Dec	14 Days	Vacation, Registration
11 Feb - 15 Feb	4 Days	Vacation
01 Mar - 08 Mar	7 Days	Mid Term Exam