

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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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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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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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 be 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 first 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.

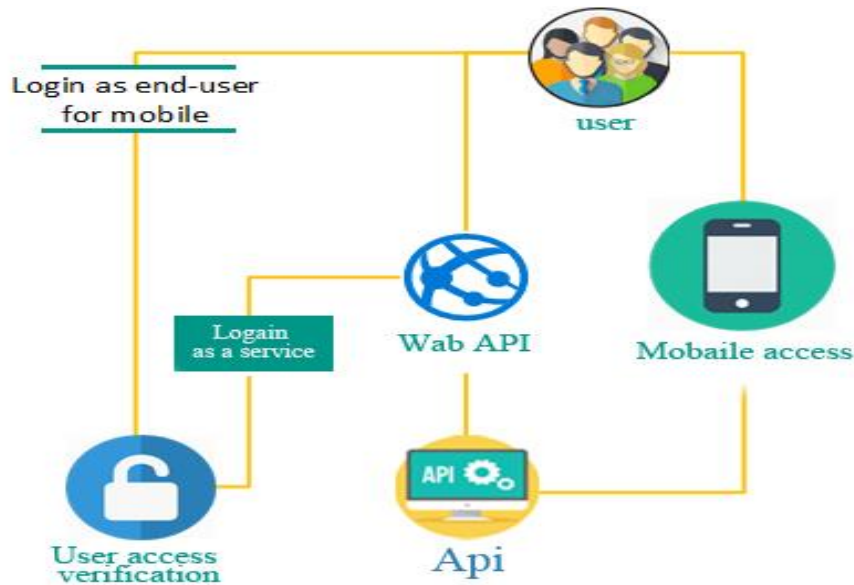
The entire implementation of our application is using visual code studio block and android studio. JAVA code for app work and PHP code for web and API implementation we use MySQL for storing the data most of the action are working with ajax request. We try to reduce redirect user and switching the interface. 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.

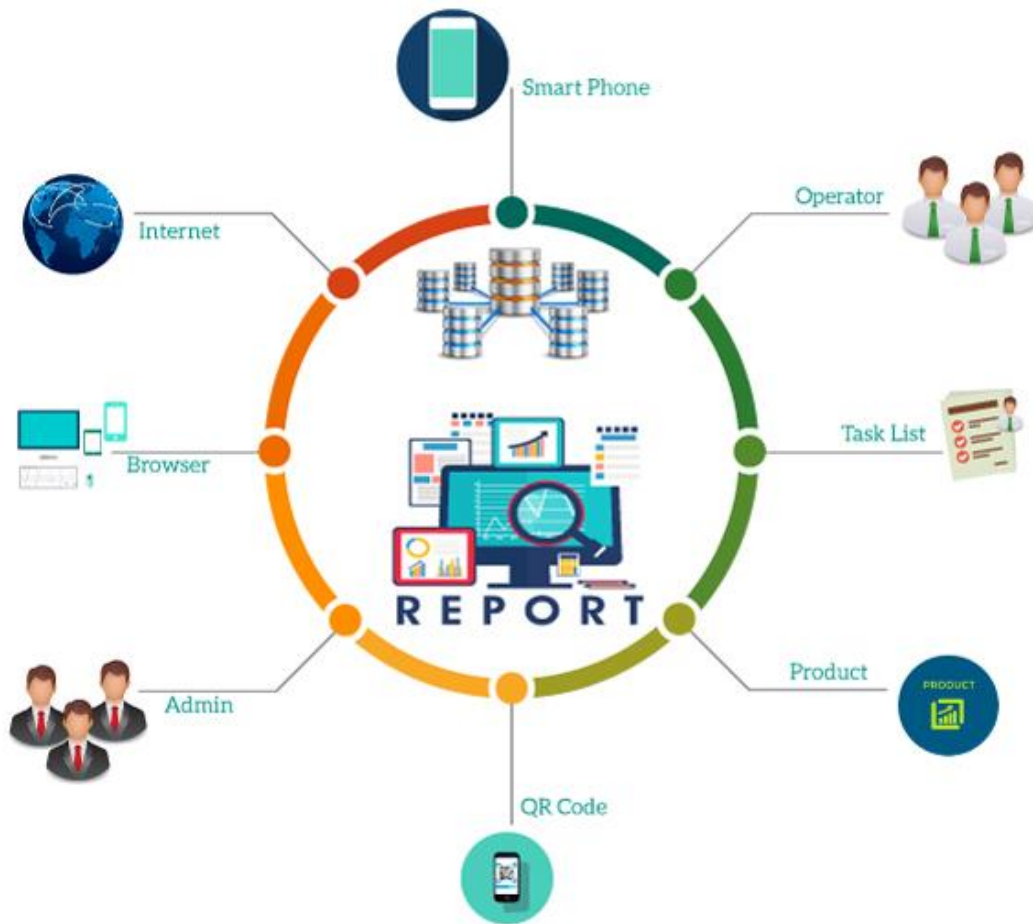
2.5 Challenges

- ✿ 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	<p>+</p> <p>Add/Edit/View details of customer</p> <p>Add/Edit/View details of location</p> <p>Add/Edit/View details of service point</p>	<p>+</p> <p>View details of customer</p> <p>View details of location</p> <p>View details of service point</p>	<p>+</p> <p>Add/Edit/View details of customer</p> <p>Add/Edit/View details of location</p> <p>Add/Edit/View details of service point</p> <p>Product can only be selected when the service point is created.</p>	-
Tasks List	<p>+</p> <p>Edit/View details of service points</p> <p>Edit/View details of tasks</p>	<p>+</p> <p>View details of service points</p> <p>View details of tasks</p>	<p>+</p> <p>Edit/View details of service points</p> <p>Edit/View details of tasks</p>	<p>+</p> <p>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</p>

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

		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.	

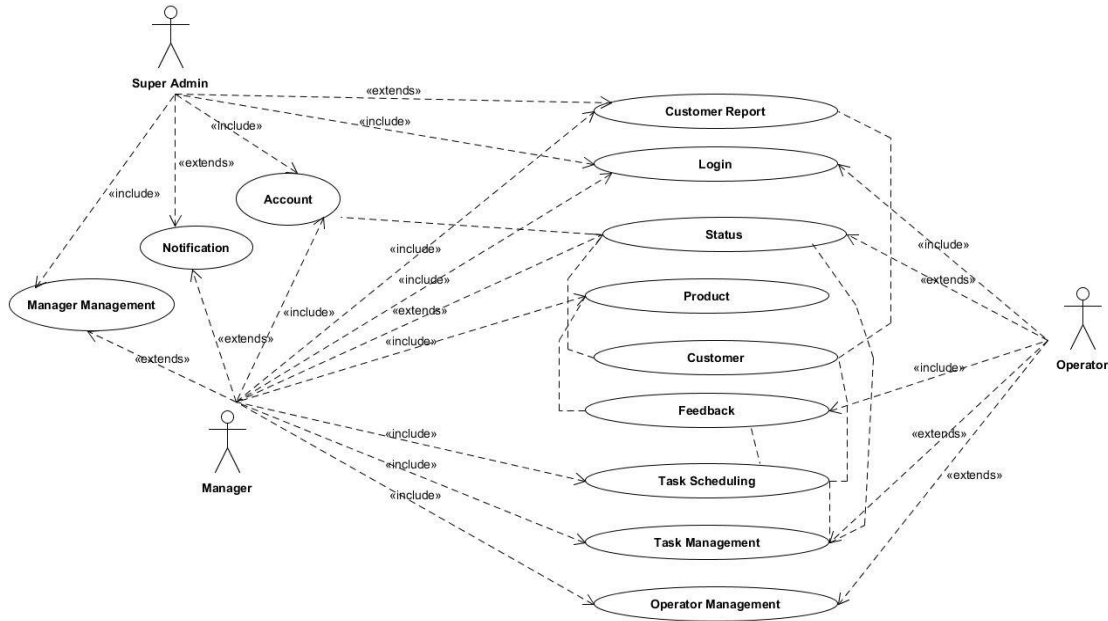
3.4 Use Case Modelling and Description

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 Support

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

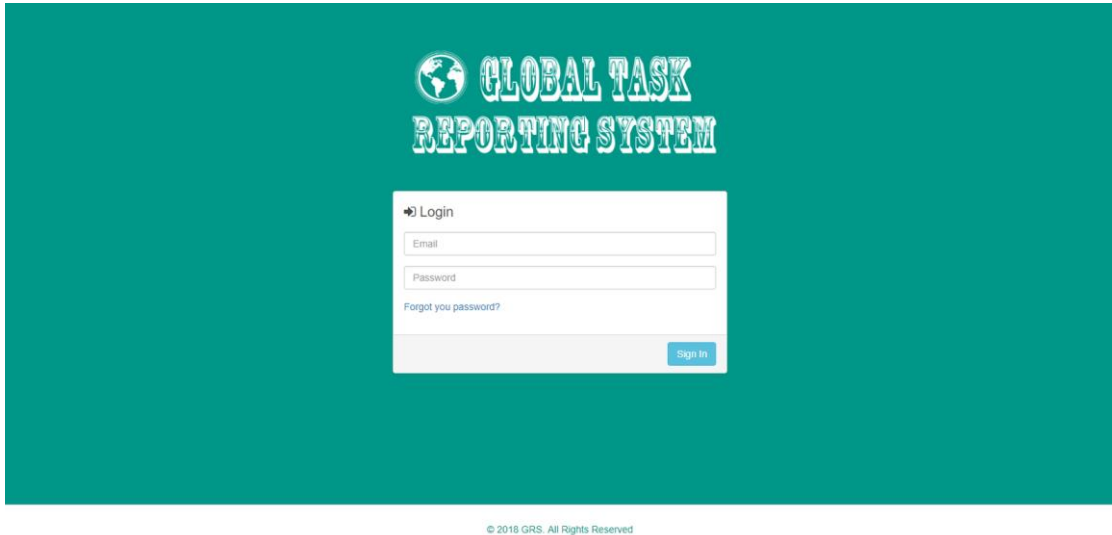
- ✿ First study about the company work.
- ✿ Then what type of work or which work done by company.
- ✿ Must memories that which type of user are used this system.
- ✿ How many users use this system daily, monthly, yearly.
- ✿ Must remember design is fully user friendly.
- ✿ There no complex design allows.
- ✿ 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

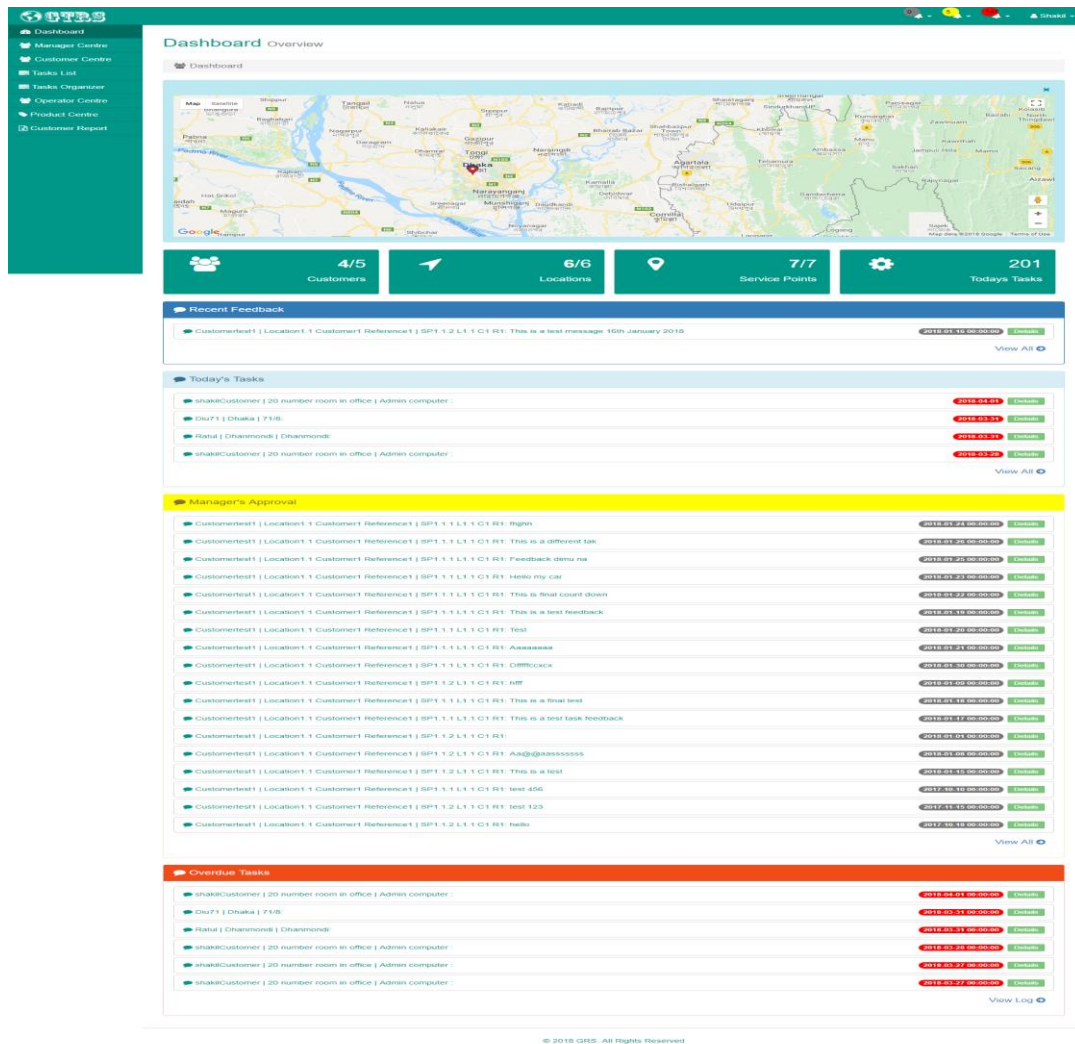


Figure_GTRS 4: Login_Page_Server_Side

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 administrator through the login interface then get the access in whole system for an admin. In this dashboard admin all those operations which we implement in this system.



Figure_GTRS 5: Admin_Dashboard/Login_Page

4.2.3 Add Manager

This is the function for an admin. An 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 is no automatic registration system. In this process the admin provides the manager an e-mail & also a password which is given by the admin. After login a manager can change his information.

The screenshot shows the 'Add Manager' form in the GTRS system. The form is titled 'Add Manager' and is located under the 'Manager Centre' menu. The form fields are as follows:

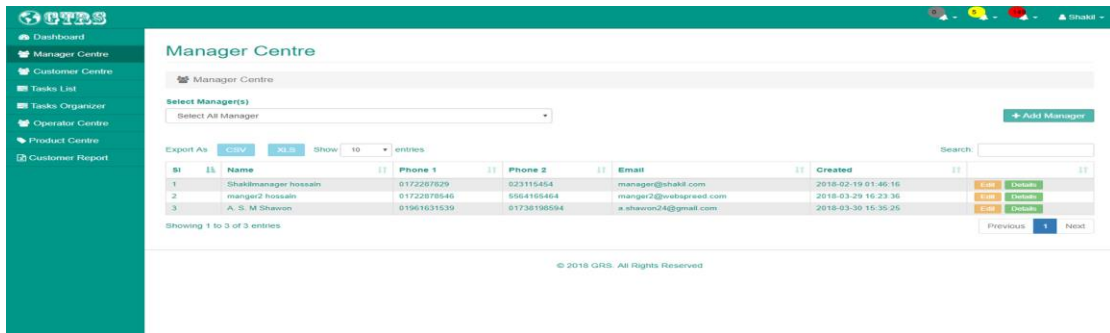
- First Name*: A. S. M
- Last Name*: Shawon
- Phone1*: 01961631539
- Phone2*: 01738198594
- Email*: a.shawon24@gmail.com
- Address: 763/1 Mirpur 14
- Zip Code: 1206
- City*: City*
- Country*: Country*
- Password*: Password*
- Password Again*: Password Again*
- Profile Image: A small profile picture is shown, with an 'Upload Image' button below it.
- Status: Active

A 'Save' button is located at the bottom right of the form. The footer of the page reads '© 2016 GRS. All Rights Reserved'.

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.

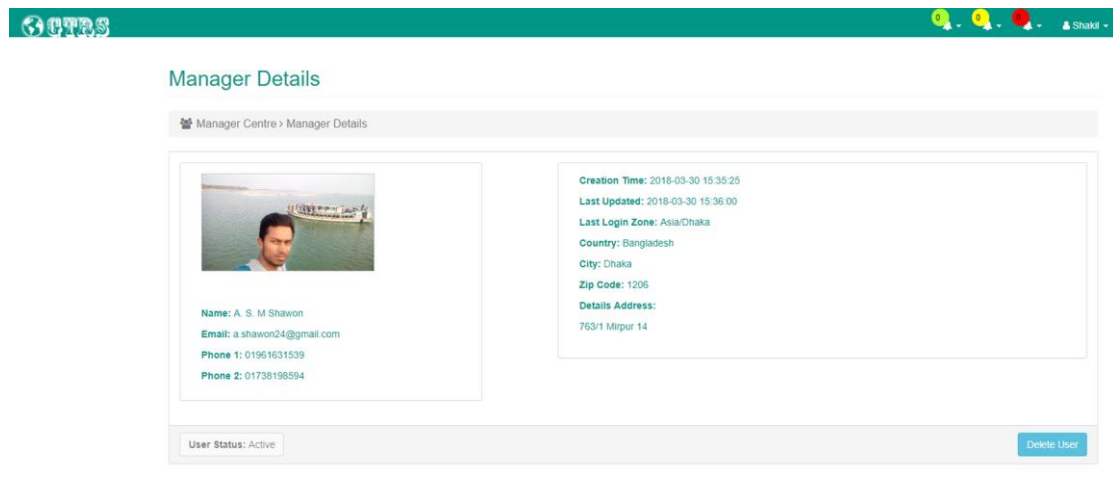


The screenshot shows the 'Manager Centre' interface. It includes a sidebar with navigation options like Dashboard, Manager Centre, Customer Centre, Tasks List, Tasks Organizer, Operator Centre, Product Centre, and Customer Report. The main content area displays a table of managers with columns for S/N, Name, Phone 1, Phone 2, Email, and Created. There are also buttons for 'Add Manager', 'Export As' (CSV, XLS), and 'Show' (10 entries). A search bar is present on the right.

S/N	Name	Phone 1	Phone 2	Email	Created	
1	Shakimanager hassain	0172267829	023115454	manager@shakil.com	2018-02-19 01:46:16	Edit Details
2	manager2 hassain	01722878546	0564168464	manager2@vubagreed.com	2018-03-29 16:23:36	Edit Details
3	A. S. M Shawon	01961631539	01738198594	a.shawon24@gmail.com	2018-03-30 15:35:25	Edit Details

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.



The screenshot shows the 'Manager Details' page for a specific manager. It features a profile picture, contact information, and a list of details. The 'User Status' is shown as 'Active'.

Field	Value
Name	A. S. M Shawon
Email	a.shawon24@gmail.com
Phone 1	01961631539
Phone 2	01738198594
Creation Time	2018-03-30 15:35:25
Last Updated	2018-03-30 15:36:00
Last Login Zone	Asia/Dhaka
Country	Bangladesh
City	Dhaka
Zip Code	1206
Details Address	763/1 Mirpur 14

Figure_GTRS 8: Admin_View_Manager_Details

4.2.5 Customer Centre List

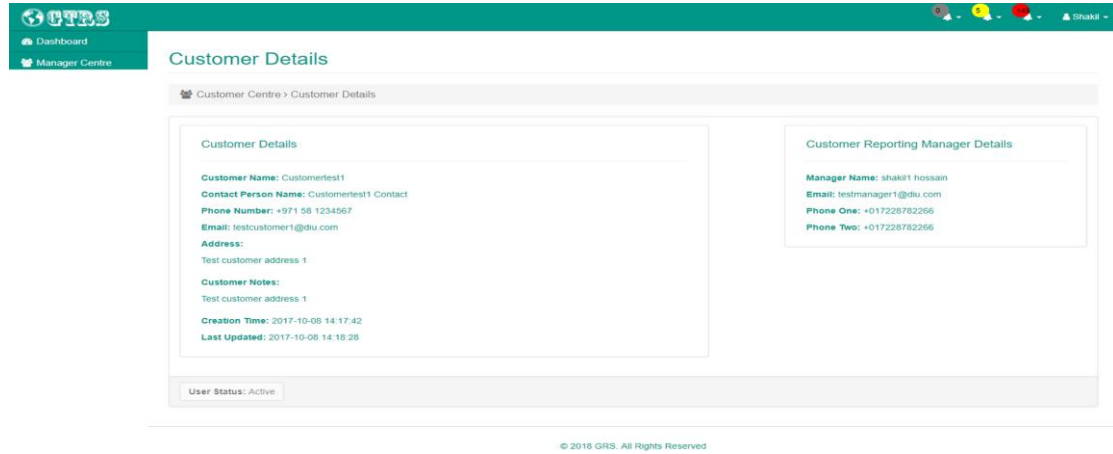
This user interface is viewing total customer in our system. And also their point viewing in Google Map. And also known how the worked. And also know about their details. In fig9, admin view their customer point in google map in their organization.

The screenshot displays the GTRS Customer Centre interface. On the left is a navigation menu with options like Dashboard, Manager Centre, Customer Centre, Tasks List, Tasks Organizer, Operator Centre, Product Centre, and Customer Report. The main area is titled 'Customer Centre' and features a 'Select Customer(s)' dropdown menu. Below this is a Google Map of Dhaka, Bangladesh, with several location pins. At the bottom of the map area are two buttons: '6 Locations' and '7 Service Points'. Below the map is a table with columns for Customer Name, Our Reference, Location Name, Service Point Name, and Action Buttons. The table contains several rows of data, including customer references and their associated locations and service points. A search bar is located at the top right of the table area. At the bottom of the interface, it shows 'Showing 1 to 24 of 24 entries' and a copyright notice '© 2018 GRS. All Rights Reserved'.

Customer Name	Our Reference	Location Name	Service Point Name	Action Buttons
Customerrefst1	Customerreference1	Location1.1 Customer1 Reference1	SP 1.1.1 L1.1 C1 R1	Details
		Location1.2 Customer1 Reference1	SP 1.1.2 L1.1 C1 R1	Details
		Location2.1 Customer1 Reference2	SP 1.2.1 L1.2 C1 R1	Details
Customerreference2			SP 2.1.1 L2.1 C1 R1	Details
shakiiCustomer	Our shop or office	20 number room in office	Admin computer	Details
customerA	121611			Details
Diu71	51611	Dhaka		Details
Ratul	111155052	Dhanmondi	71/B	Details
			Dhanmondi	Details

Figure_GTRS 9: Admin_View_Customer_Center_List

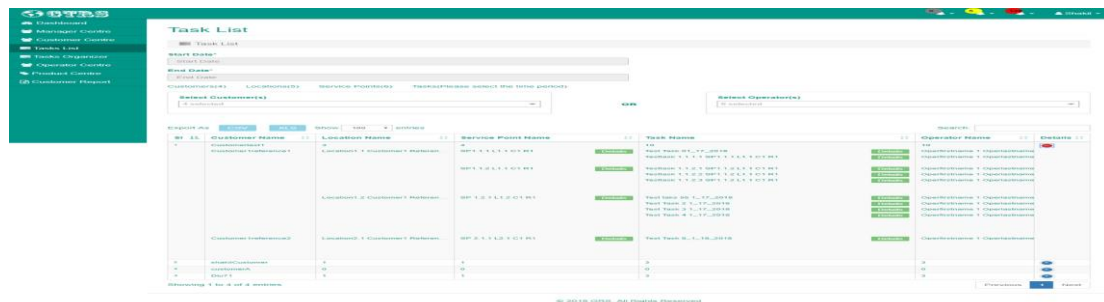
In fig10, Admin view details about any customer and also known about which manager is handled this customer.



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 proposed system.

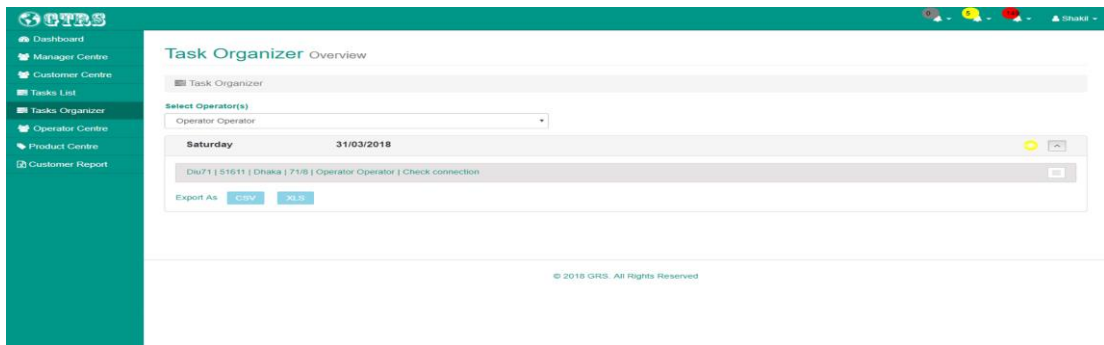
The screenshot displays the 'Details' view for a task in the GTRS system. The interface includes a sidebar with navigation options like Dashboard, Manager Centre, Customer Centre, Task List, Task Organizer, Operator Centre, Product Centre, and Customer Report. The main content area is titled 'Task List > Details' and features a map showing the task location in Singapore. Below the map, there is a 'Task Duration' of 17th Jan, 2018 to 31st Jan, 2018, and a list of task details including Customer Name, Location Name, Operator Name, Service Point Name, Product Name, Task Name, Task Type, and Task Description. A QR code is also displayed, with a 'View QR' button below it. At the bottom, there is a table showing feedback entries with columns for Scheduled Date, Feedback Date, Feedback Provided, Task Stage, and Action.

Scheduled Date	Feedback Date	Feedback Provided	Task Stage	Action
2018-01-17	2018-01-20	Yes	Completed	Details
2018-01-18	2018-01-20	Yes	Completed	Details
2018-01-19	2018-02-04	Yes	New Feedback	Details
2018-01-20	2018-02-04	Yes	New Feedback	Details
2018-01-21	2018-02-04	Yes	Completed	Details
2018-01-22	2018-02-04	Yes	Completed	Details
2018-01-23	2018-02-05	Yes	Completed	Details
2018-01-24	2018-02-07	Yes	Completed	Details
2018-01-25	2018-02-06	Yes	Completed	Details
2018-01-26	2018-02-06	Yes	Completed	Details
2018-01-27	Feedback not provided	No	Task Not Completed	Details
2018-01-28	Feedback not provided	No	Task Not Completed	Details
2018-01-29	Feedback not provided	No	Task Not Completed	Details
2018-01-30	2018-02-04	Yes	Completed	Details
2018-01-31	Feedback not provided	No	Task Not Completed	Details

Figure_GTRS 12: Admin_View_Task_List_Details

4.2.7 Task Organization

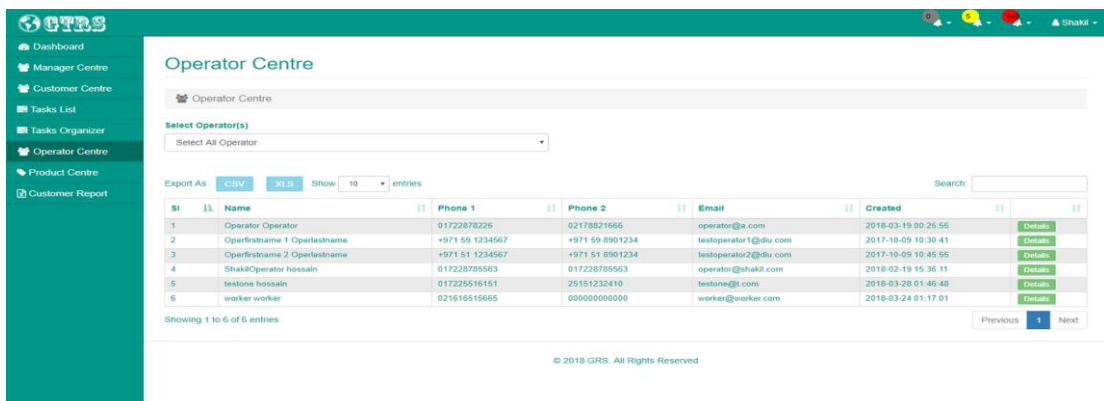
In task organization, the main function is, if any task not complete on his bounded time then an admin or a manager can re-task this task which are not completed by the operator. In there, usage is too easy just drag and swap the task which will see here. And after swapping fault task will re-task for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

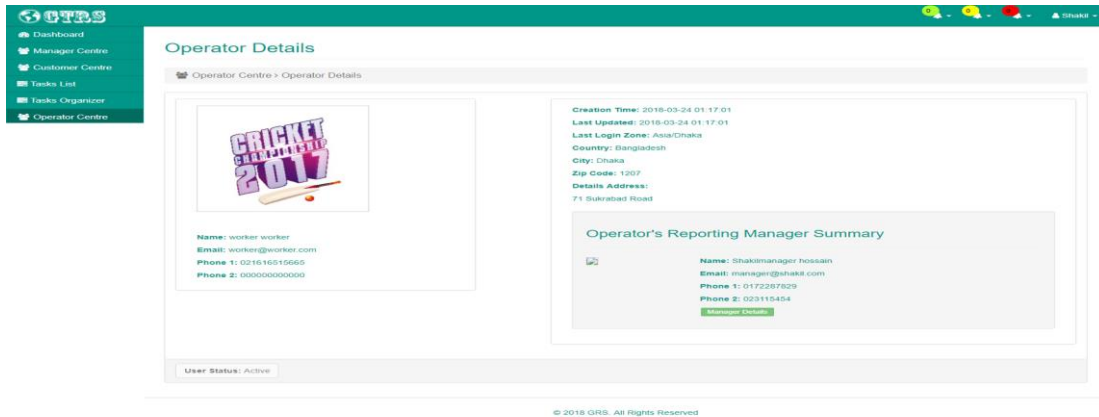
4.2.8 Operator Centre

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

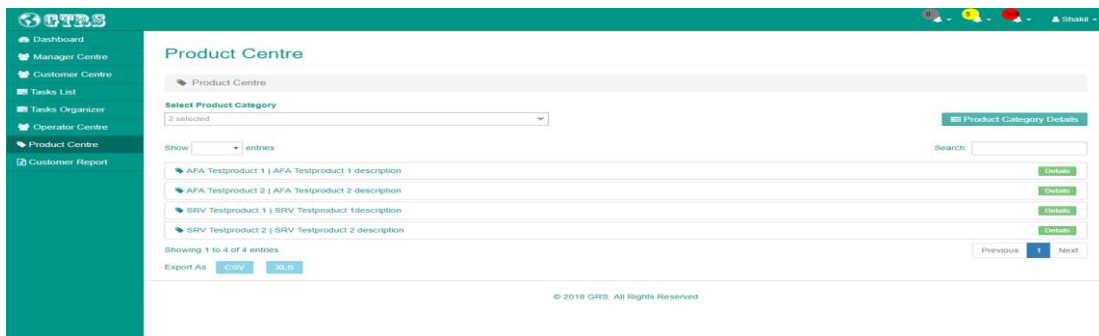
And here in fig15, there admin show details about an operator. He sees the image, address, which city, phone number and anything else of an operator. All information is confirmed by the operator himself.



Figure_GTRS 15: Admin_View_Operator_Details

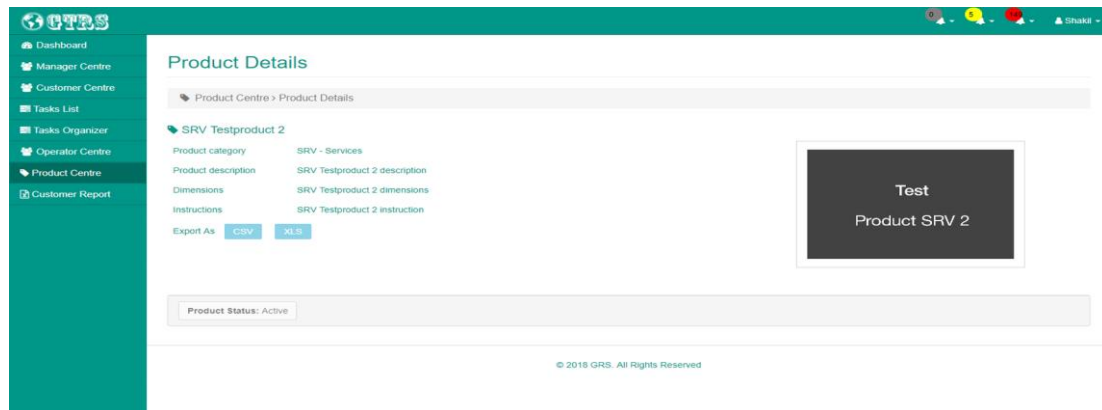
4.2.9 Product Centre

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

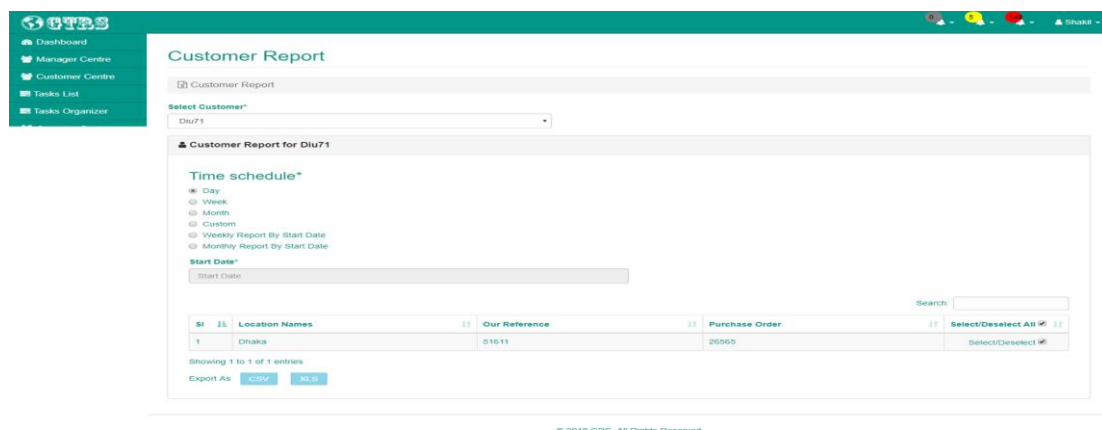
And in fig17, here the details about any product. Here we saw product name, category, some description about the selected product, and the especial thing is we seen through here the quantity and the different location of selling product.



Figure_GTRS 17: Admin_View_Product_Details

4.2.10 Customer Report

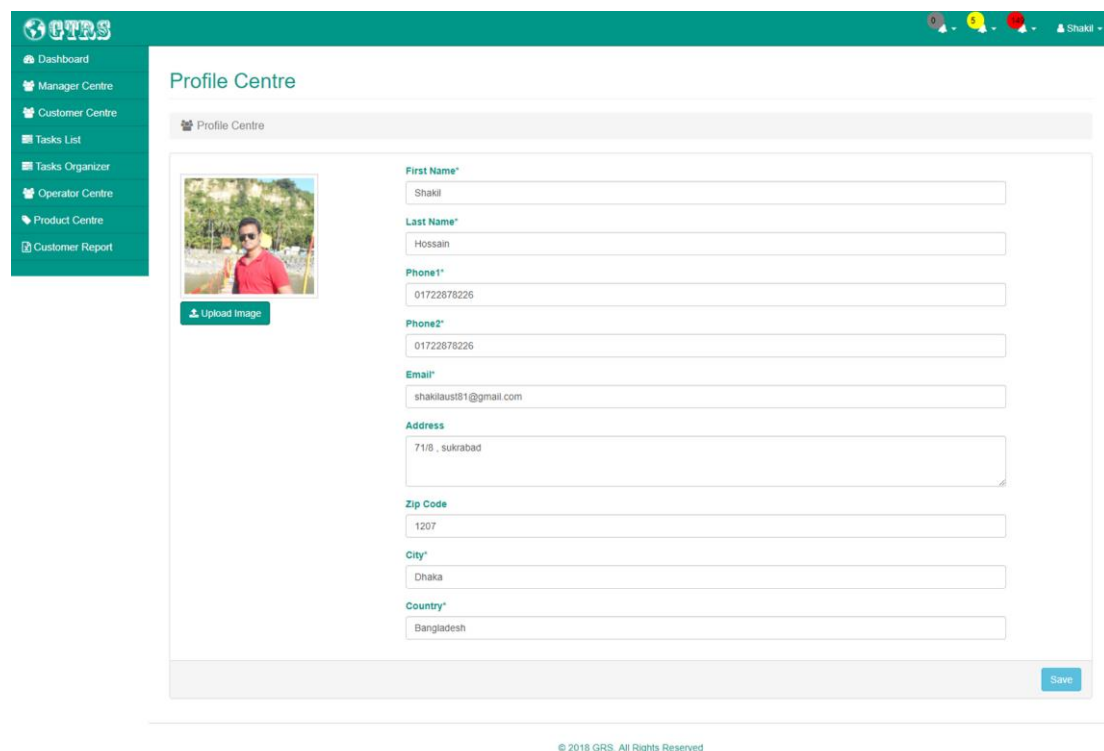
In this customer report admin sees the feedback of the tasks which is submitted by the operator after completing any task. In there, only viewing the feedback. There many functions of viewing, which task of feedback he wants to see, is it daily or weekly or monthly either yearly. Without that he also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

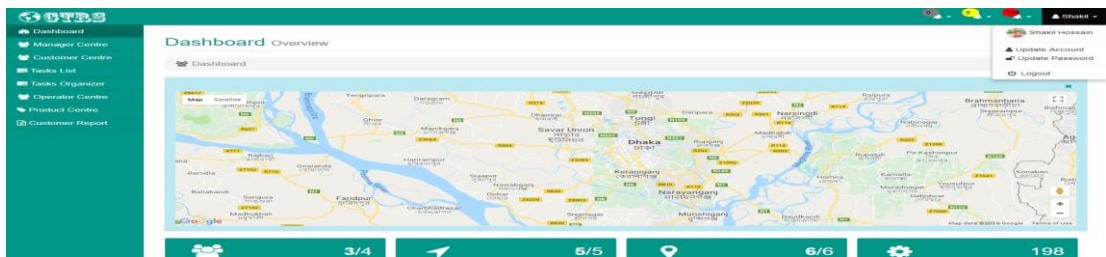


The screenshot displays the 'Profile Centre' interface within the GTRS system. On the left is a teal sidebar menu with options: Dashboard, Manager Centre, Customer Centre, Tasks List, Tasks Organizer, Operator Centre, Product Centre, and Customer Report. The main content area is titled 'Profile Centre' and contains a profile card for 'Shakil'. The card includes a profile picture of a man in a red shirt and sunglasses, with an 'Upload Image' button below it. To the right of the image is a form with the following fields: First Name* (Shakil), Last Name* (Hossain), Phone1* (01722678226), Phone2* (01722678226), Email* (shakilaustr1@gmail.com), Address (71/8, sukrabad), Zip Code (1207), City* (Dhaka), and Country* (Bangladesh). A 'Save' button is located at the bottom right of the form. At the bottom of the page, there is a copyright notice: '© 2018 GRS. All Rights Reserved'.

Figure_GTRS 19: Admin_View/Update_Profile

4.2.12 Notification

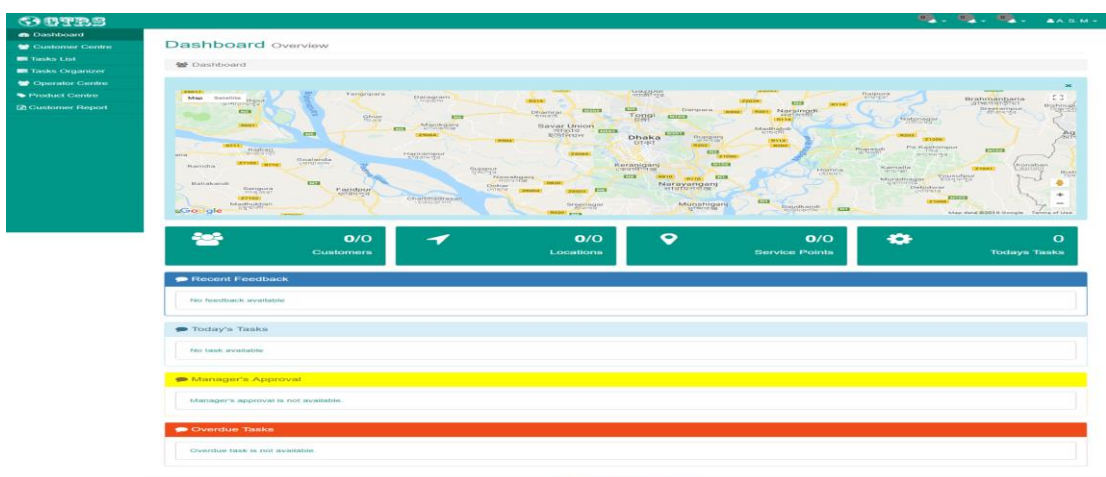
The top or the header section of this system seen 3 alarm. One is for manager approval, one is for operator approval and the finally is for the notification is get the feedback of customer which come after any task complete in any operator of this system. This notification is for two types of user. As 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

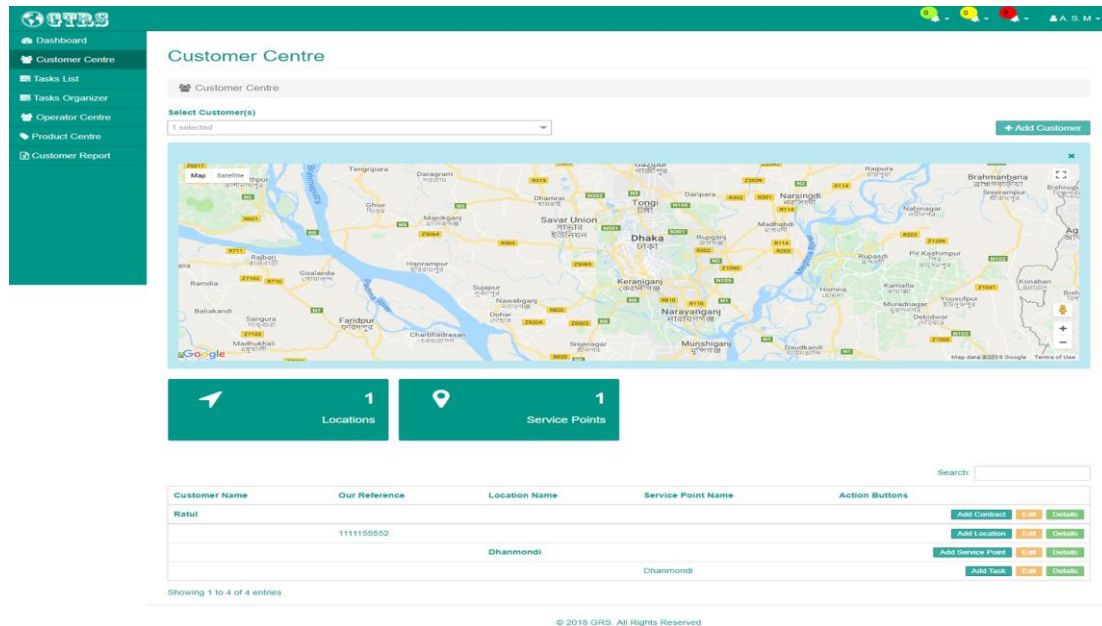
This is the dashboard for the manager in our proposed system. After the verified e-mail address and the password which provide the system admin or organizational admin through the login interface then get the access to the whole system for a manager. In this dashboard a manager view all those operations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



Figure_GTRS 21: Manager_Dashboard

4.2.14 Customer Centre List

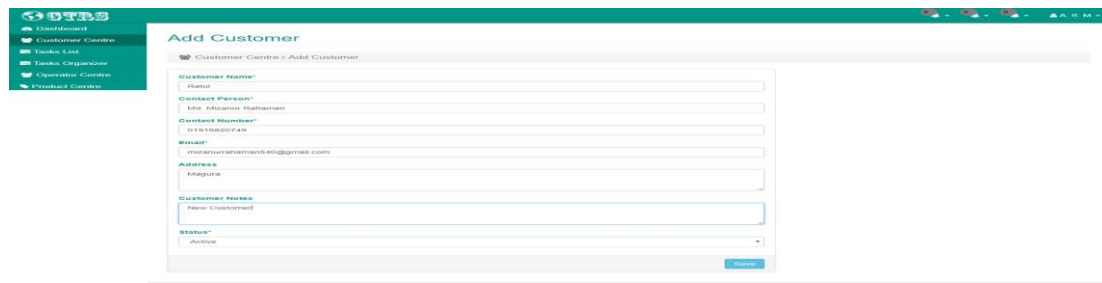
This user interface is viewing total customer in our system. And also their point viewing in Google Map. And also known how the worked. And also know about their details. In fig22, manager views their customer point in google map in their organization. This is same as admin customer centre list.



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.

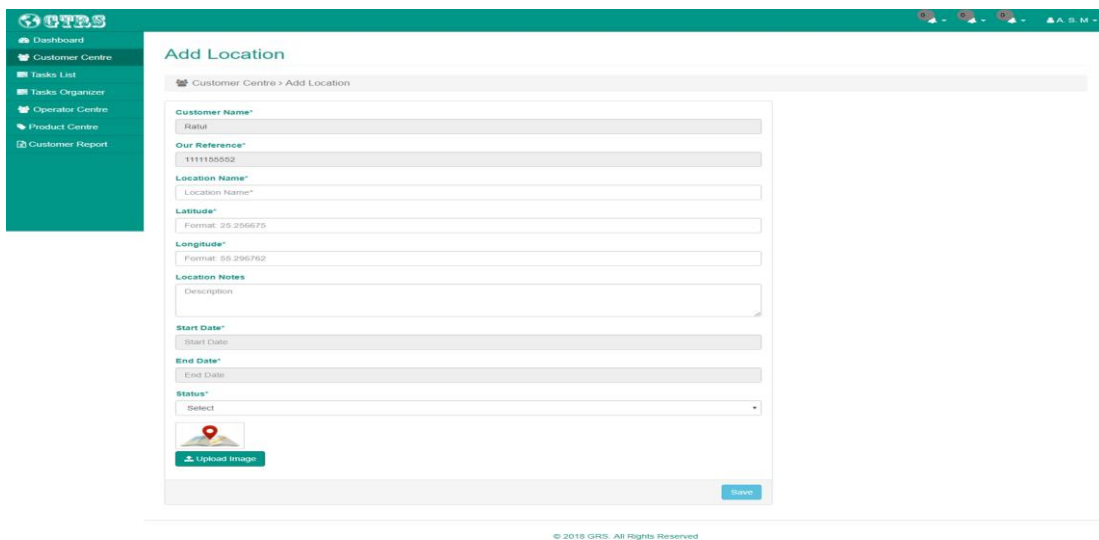


The screenshot shows the 'Add Contract' form in the GTRS system. The form is titled 'Customer Centre > Add Contract' and contains several input fields: 'Customer Name*' (with 'Rafal' entered), 'Our Reference*' (with 'Reference Number*' entered), 'Purchase Order' (with 'Purchase Order' entered), 'Start Date*' (with 'Start Date' entered), 'End Date*' (with 'End Date' entered), 'Order Notes' (with 'Description' entered), and 'Status*' (with 'Select' entered). A 'Save' button is located at the bottom right of the form. The GTRS logo and navigation menu are visible on the left side of the screen.

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.

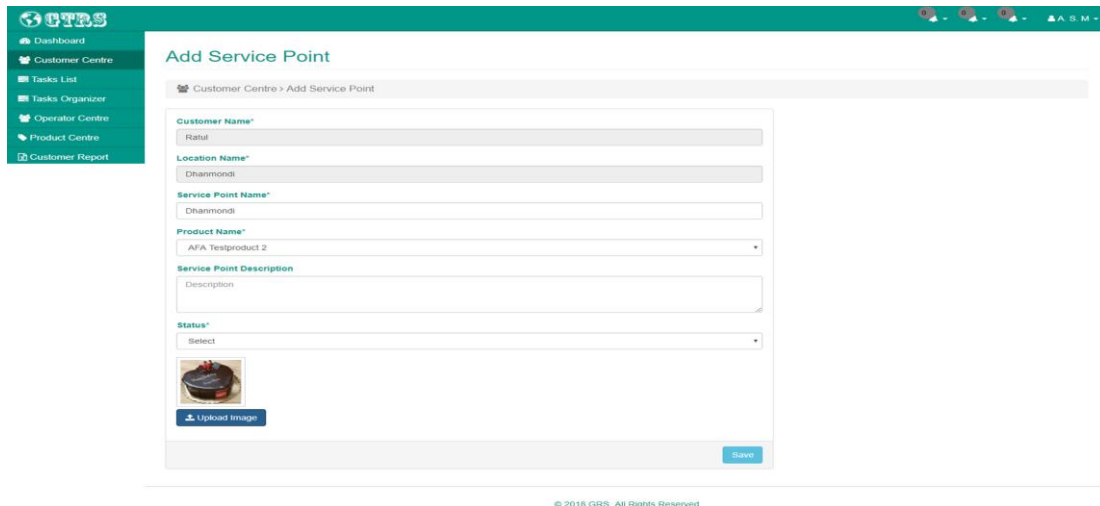
In this fig manager add customer location with latitude and longitude. and also he decides that the task is active or pending.



The screenshot shows the 'Add Location' form in the GTRS system. The form is titled 'Customer Centre > Add Location' and contains several input fields: 'Customer Name*' (with 'Rafal' entered), 'Our Reference*' (with '1111155552' entered), 'Location Name*' (with 'Location Name*' entered), 'Latitude*' (with 'Format: 25.255675' entered), 'Longitude*' (with 'Format: 55.296762' entered), 'Location Notes' (with 'Description' entered), 'Start Date*' (with 'Start Date' entered), 'End Date*' (with 'End Date' entered), and 'Status*' (with 'Select' entered). There is also an 'Upload image' button with a location pin icon. A 'Save' button is located at the bottom right of the form. The GTRS logo and navigation menu are visible on the left side of the screen.

Figure_GTRS 25: Manager_Add_Customer_Location

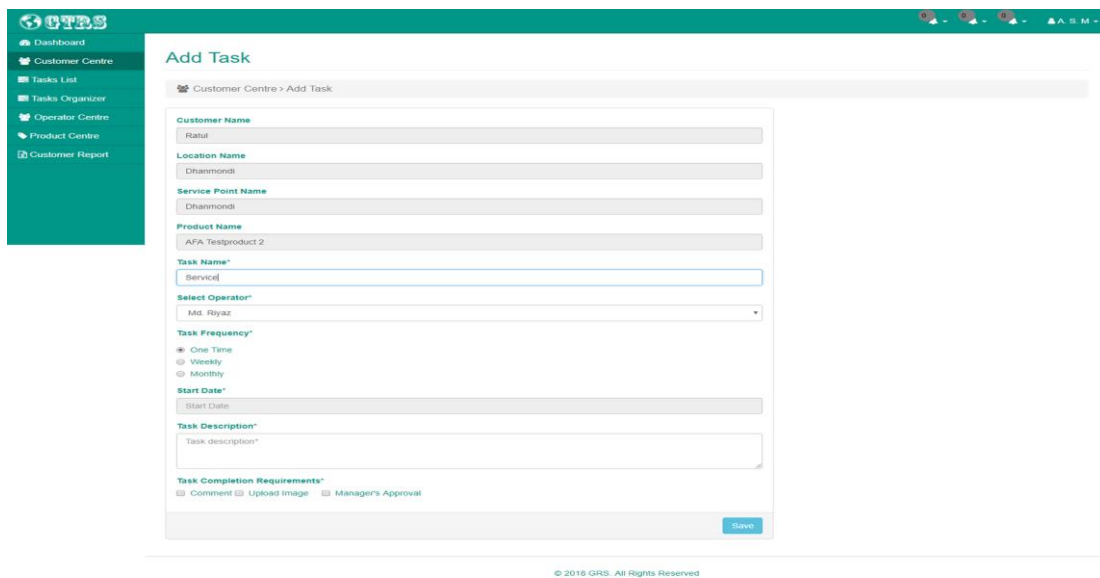
In this fig manager add customers service point and the place name. And also if he wants then upload an image for operator



The screenshot shows the 'Add Service Point' form in the GTRS system. The form is titled 'Add Service Point' and is located under 'Customer Centre > Add Service Point'. It contains several input fields: 'Customer Name*' (Ratul), 'Location Name*' (Dhanmondi), 'Service Point Name*' (Dhanmondi), 'Product Name*' (AFA Testproduct 2), 'Service Point Description' (Description), and 'Status*' (Select). There is also an 'Upload Image' button and a 'Save' button at the bottom right. The footer of the page reads '© 2018 GRS. All Rights Reserved'.

Figure_GTRS 26: Manager_Add_Customer_Service_Point

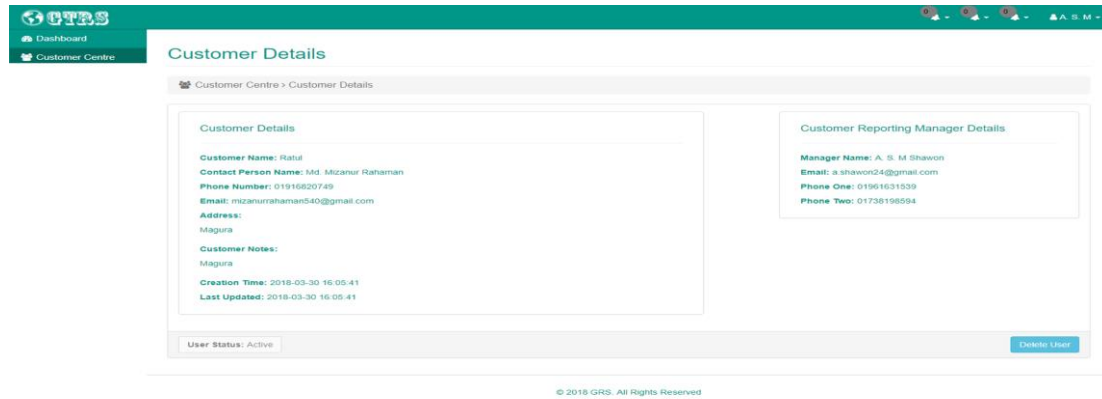
In this fig manager finally provide task for an operator. And there an important thing in this part that, the task is one time or more than one time. Manger selected this from here.



The screenshot shows the 'Add Task' form in the GTRS system. The form is titled 'Add Task' and is located under 'Customer Centre > Add Task'. It contains several input fields: 'Customer Name' (Ratul), 'Location Name' (Dhanmondi), 'Service Point Name' (Dhanmondi), 'Product Name' (AFA Testproduct 2), 'Task Name*' (Service), 'Select Operator*' (Md. Ryaz), 'Task Frequency*' (One Time), 'Start Date*', 'Task Description*' (Task description*), and 'Task Completion Requirements*' (Comment, Upload image, Manager's Approval). There is also a 'Save' button at the bottom right. The footer of the page reads '© 2018 GRS. All Rights Reserved'.

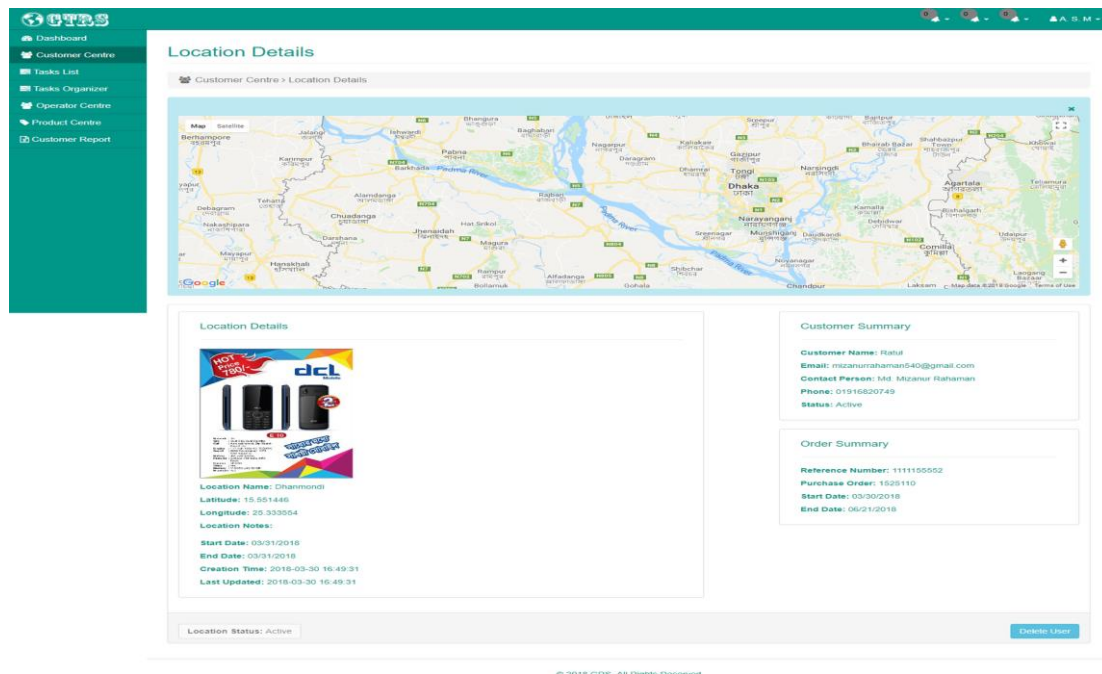
Figure_GTRS 27: Manager_Add_Customer_Task

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.

The screenshot shows the 'Add Operator' form in the GTRS system. The form is titled 'Add Operator' and is located under the 'Operator Centre' menu. The form fields are as follows:

- First Name*: MD
- Last Name*: Riyaz
- Phone1*: 01811211511
- Phone2*: 01811527585
- Email*: riyazdu@webspeed.com
- Address: Dhanmondi
- Zip Code: 1205
- City*: Dhaka
- Country*: Bangladesh
- Password*: [masked]
- Password Again*: [masked]
- Profile Image: [Image] Upload Image
- Status*: Active

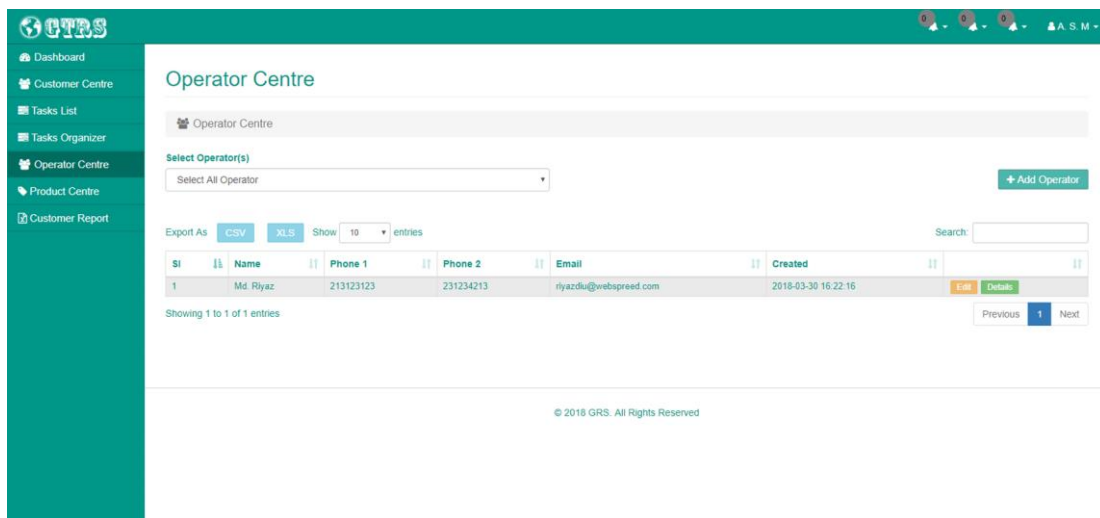
A 'Save' button is located at the bottom right of the form.

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Figure_GTRS 30: Manager_Add_Operator

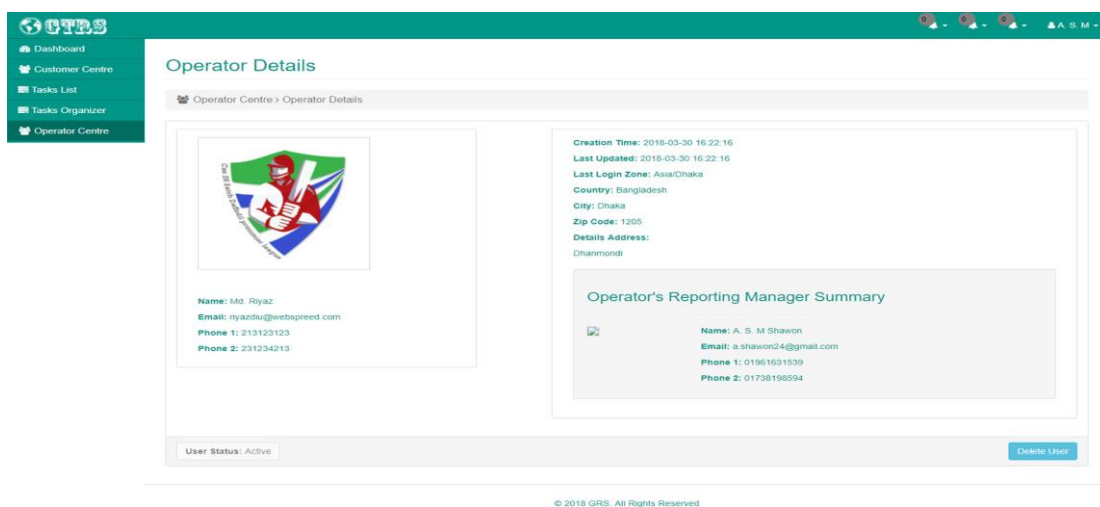
4.2.17 Operator List

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

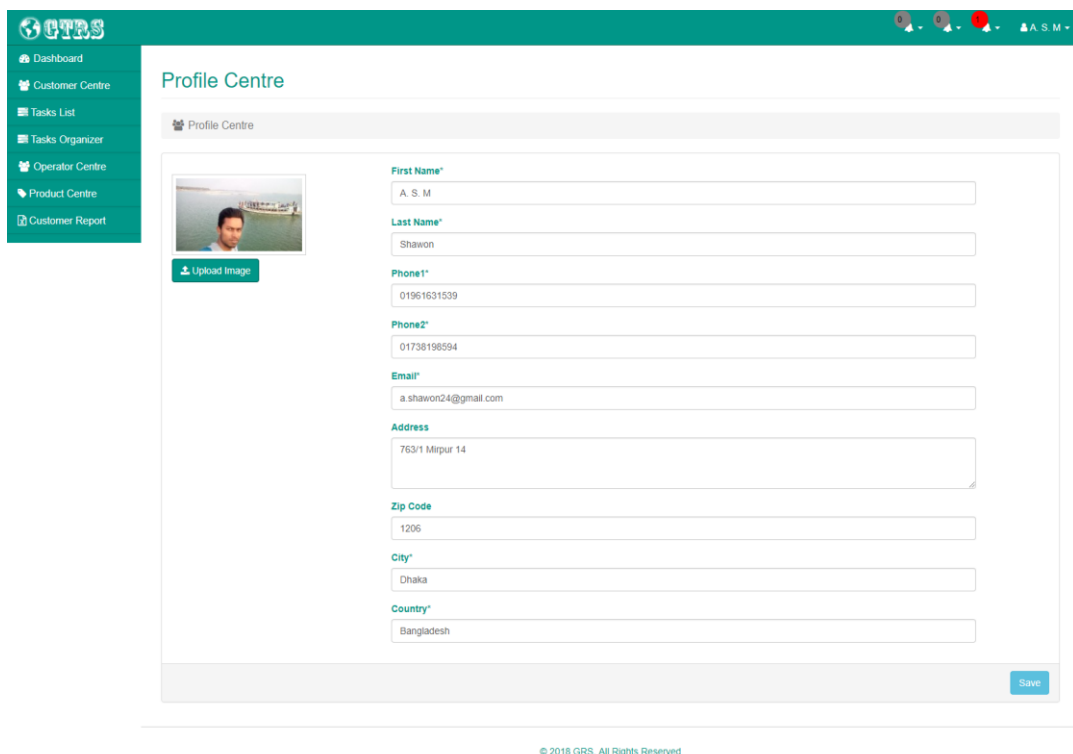
This is for operator details layout. This section admin or manager can view the operator details.



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.



The screenshot shows the 'Profile Centre' page in the GTRS system. On the left is a navigation menu with options: Dashboard, Customer Centre, Tasks List, Tasks Organizer, Operator Centre, Product Centre, and Customer Report. The main content area is titled 'Profile Centre' and contains a form for updating user information. The form includes a profile picture placeholder with an 'Upload Image' button and several input fields: First Name (A. S. M), Last Name (Shawon), Phone1 (01951631539), Phone2 (01738198594), Email (a.shawon24@gmail.com), Address (763/1 Mirpur 14), Zip Code (1206), City (Dhaka), and Country (Bangladesh). A 'Save' button is located at the bottom right of the form. At the bottom of the page, there is a copyright notice: '© 2018 GRS. All Rights Reserved'.

Figure_GTRS 33: Manager_Update_Profile

4.3 Android Front End Design

4.3.1 App in Phone:

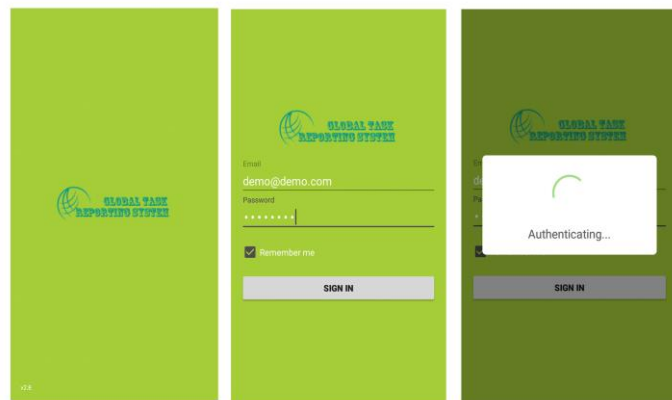
In android phone we need apk file for install. After installing the software it should be in your app category. In this fig(1a), after install our software on an android device the seen the system on this fig. In this software a user must connect to our service or fully connected our system. This is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



Figure_GTRS 34: App_Desplay_In_App_Store_Phone

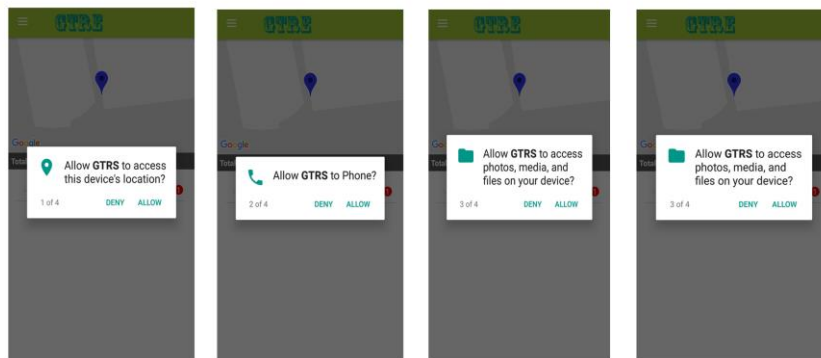
4.3.2 Login Page:

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

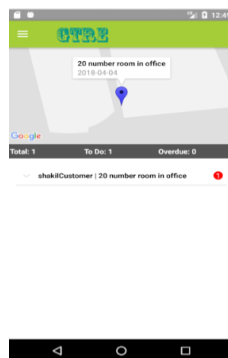
After login application the system of the application wanted to access some other device include with your phone. Firstly, location service for tracking GTRS or system tracking system. Phone calls because of the messaging or notification system. Then want to camera access for QR code detect and also 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

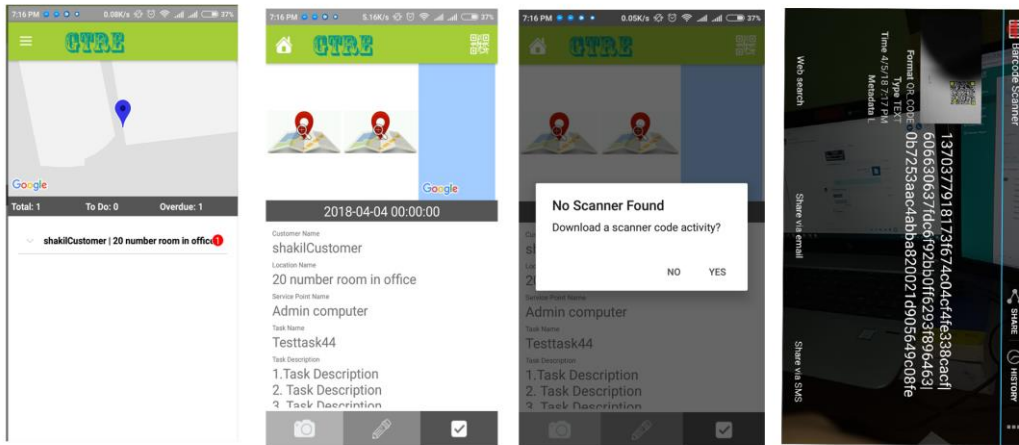
After login the system and also allowed all access what the application need, then the user see how many tasks for him today. And also seen their location. In here fig(4.3.4), we saw the whole system.



Figure_GTRS 37: Application_Task_List_UI

4.3.5 Task Details

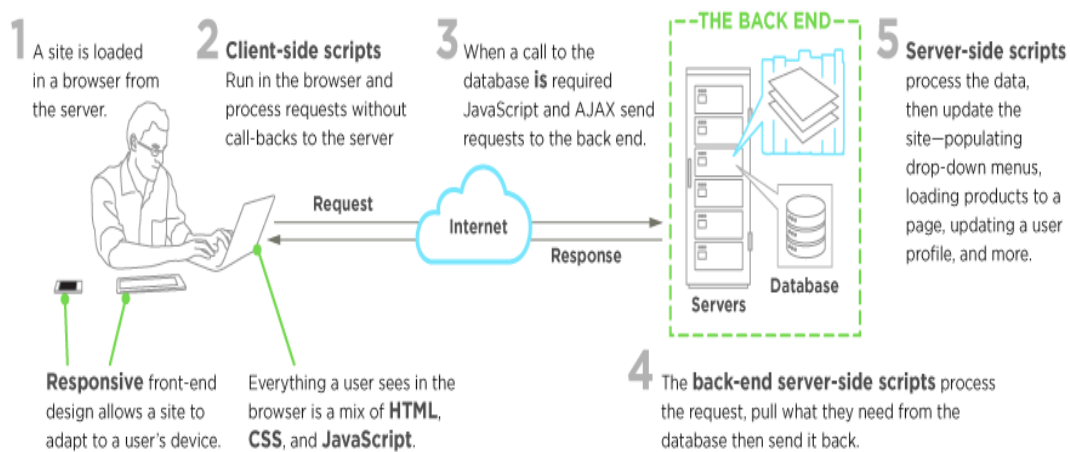
In here user views the task details of any task. With the location and task description. After complete operator task, he must have submitted the report with helping this system or this application.



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 form 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.

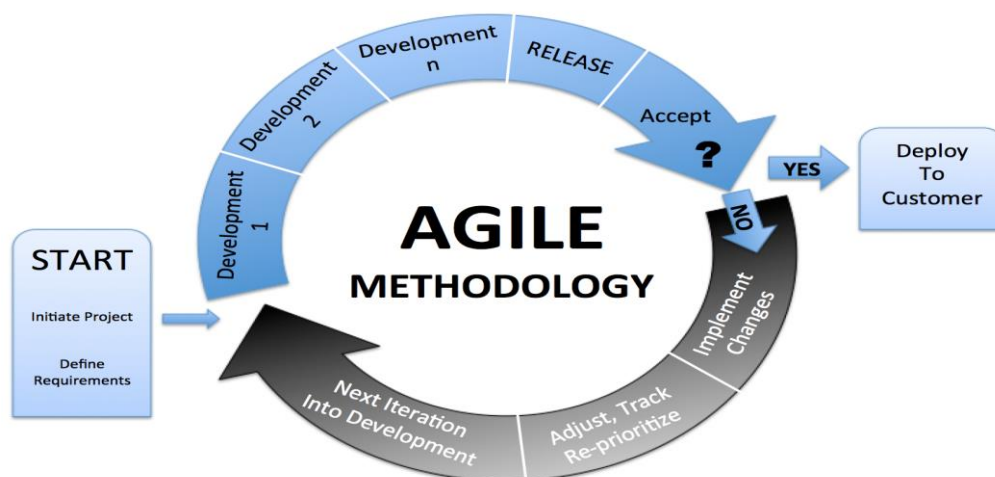
4.6.1 Methodology

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 reason of chosen the “Agile Software Methodology”

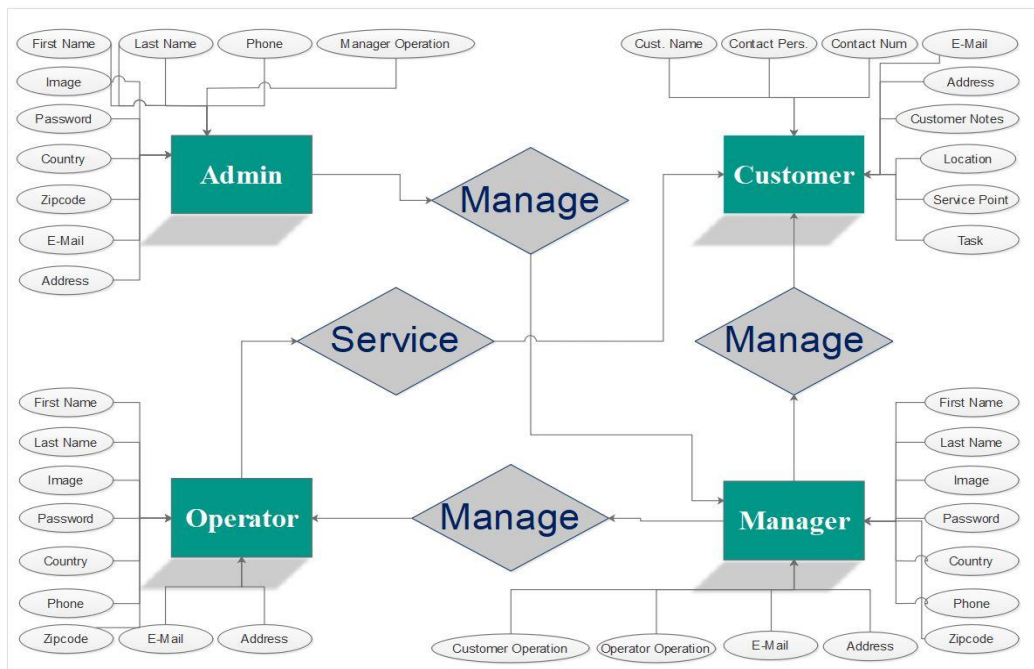
- Our firstly and highest priority is to satisfaction of the customer through early and continuous delivery of valuable services.
- This system is used for changing requirements, even we delay for development the system. Agile processes facing any change for the customer’s competitive advantage and this 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

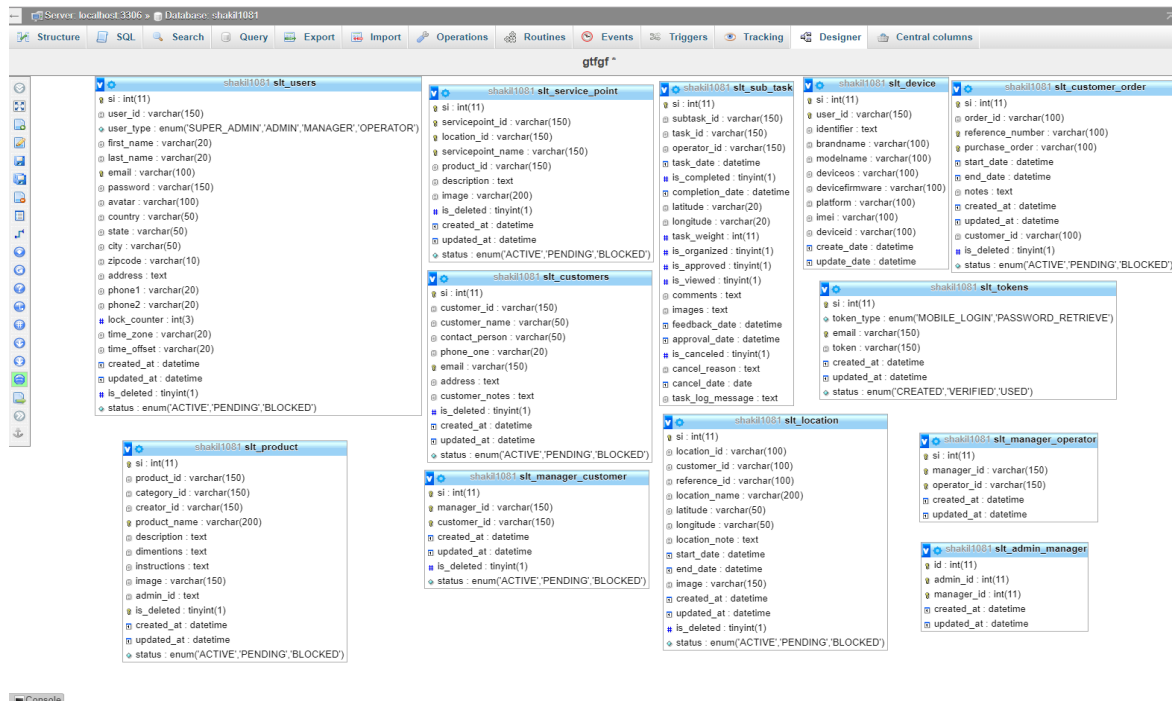
CHAPTER 5

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 statuses. 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.

Showing rows 0 - 5 (6 total, Query took 0.0004 seconds.)

```
SELECT * FROM `slt_admin_manager`
```

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

	id	admin_id	manager_id	created_at	updated_at
<input type="checkbox"/>	1	22	24	2017-10-24 05:10:14	2017-10-24 14:29:24
<input type="checkbox"/>	2	23	28	2017-10-29 14:02:59	2017-10-29 14:02:59
<input type="checkbox"/>	3	23	29	2017-12-23 22:04:31	2017-12-23 22:04:31
<input type="checkbox"/>	4	30	31	2018-02-19 01:46:16	2018-02-19 01:46:16
<input type="checkbox"/>	5	30	36	2018-03-29 16:23:36	2018-03-29 16:23:36
<input type="checkbox"/>	6	30	37	2018-03-30 15:35:25	2018-03-30 15:35:25

Options: Check all | With selected: Edit | Copy | Delete | Export

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.

Showing rows 0 - 18 (30 total, Query took 0.0003 seconds.)

```
SELECT * FROM `slt_users`
```

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

	id	user_id	user_name	email	password	user_type	phone	address	phone	phone	last_login	img_size	img_path	status	is_active
<input type="checkbox"/>	1	1	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	2	2	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	3	3	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	4	4	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	5	5	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	6	6	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	7	7	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	8	8	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	9	9	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	10	10	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	11	11	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	12	12	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	13	13	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	14	14	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	15	15	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	16	16	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	17	17	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	18	18	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	19	19	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	20	20	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	21	21	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	22	22	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	23	23	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	24	24	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE
<input type="checkbox"/>	25	25	Admin	admin@demo.com	admin	Admin	01711111111	Dhaka, Dhaka 1207	01711111111	01711111111	2017-10-24 05:10:14	100x100	100x100	ACTIVE	ACTIVE

Options: Check all | With selected: Edit | Copy | Delete | Export

Figure_GTRS 44: Slt_users

When an 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

Showing rows 0 - 4 (5 total, Query took 0.0004 seconds)

SELECT * FROM `slt_customers`

Number of rows: 25 Filter rows: Search this table Sort by key: None

si	customer_id	customer_name	contact_person	phone_one	email	address	customer_notes	is_deleted	created_at	updated_at	status
1	8854eef3ab749cc5e7f6d94dad4e60ba	CustomerTest1	CustomerTest1 Contact	+971 58 1234567	testcustomer1@diu.com	Test customer address 1	Test customer address 1	0	2017-10-08 14:17:42	2017-10-08 14:18:28	ACTIVE
2	2cd88138dd8b9d967a87cb07508ae144	shakilCustomer	Shakil hossain	017261515151	customer@shakil.com	71 Sukrabad Road	71 Sukrabad Road	0	2018-02-19 15:37:59	2018-02-19 15:37:59	ACTIVE
3	c83817ec1c3331f6406e1f51c5c559f	customerA	customerA	01722678226	customer@a.com	customerA	customerA	0	2018-03-19 00:24:34	2018-03-19 00:24:34	ACTIVE
4	e869e6a849a04ea8d8a2fe3c77d80f53	Diu71	Diu	0172268465	Diu@Diu71.com	71 Sukrabad Road	71 Sukrabad Road	0	2018-03-24 01:05:19	2018-03-24 01:05:19	PENDING
5	c76d8dec3c914a6336f6e9ecd73b07	Ratul	Md. Mizanur Rahaman	01916820749	mizanurrahman540@gmail.com	Magura	Magura	0	2018-03-30 16:05:41	2018-03-30 16:05:41	ACTIVE

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.

Showing rows 0 - 4 (5 total, Query took 0.0004 seconds)

SELECT * FROM `slt_manager_customer`

Number of rows: 25 Filter rows: Search this table Sort by key: None

si	manager_id	customer_id	created_at	updated_at	is_deleted	status
1	5740605e0ef168d40ad203c9abde55f5	8854eef3ab748cc5e7f6d94dad4e60ba	2017-10-08 14:17:42	2017-10-08 14:18:28	0	ACTIVE
2	c78d5d37aa9e70a53b59e8f74d0c0ac6	2cd88138dd8b9d967a87cb07508ae144	2018-02-19 15:37:59	2018-02-19 15:37:59	0	ACTIVE
3	c78d5d37aa9e70a53b59e8f74d0c0ac6	c83817ec1c3331f6406e1f51c5c559f	2018-03-19 00:24:34	2018-03-19 00:24:34	0	ACTIVE
4	c78d5d37aa9e70a53b59e8f74d0c0ac6	e869e6a849a04ea8d8a2fe3c77d80f53	2018-03-24 01:05:19	2018-03-24 01:05:19	0	ACTIVE
5	06234829903735997095828a90bd4e5c	c76d8dec3c914a6336f6e9ecd73b07	2018-03-30 16:05:41	2018-03-30 16:05:41	0	ACTIVE

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.

order_id	reference_number	purchase_order	start_date	end_date	notes	created_at	updated_at	customer_id	is_deleted	status
1	CustomerReference1	CustomerOrder1	2017-10-08 00:00:00	2017-11-08 00:00:00	Test customer 1 contract 1 notes	2017-10-08 14:20:22	2017-10-08 14:23:52	8054ee58b748cc5e76d94ad4e80ba	0	ACTIVE
2	CustomerReference2	CustomerOrder2	2017-10-30 00:00:00	2017-11-30 00:00:00	Test customer 1 contract 2 notes	2017-10-08 14:23:38	2017-10-08 14:24:28	8054ee58b748cc5e76d94ad4e80ba	0	ACTIVE
3	Our shop or office	1234	1970-01-01 04:00:00	1970-01-01 04:00:00	test	2018-02-19 15:41:12	2018-02-19 15:43:35	2cc081330c8b8b9907a07cb07500ae144	0	ACTIVE
4	28565		2018-03-24 00:00:00	2018-03-31 00:00:00		2018-03-24 01:09:52	2018-03-24 01:09:52	e089ea3a49a04ea868a2e3c77d80f53	0	ACTIVE
5	0555		2018-03-31 00:00:00	2018-05-31 00:00:00	opfygd	2018-03-24 01:12:41	2018-03-24 01:12:41	c83917ec1c33316f409a1f51c5c559f	0	ACTIVE
6	1525110		2018-03-30 00:00:00	2018-06-21 00:00:00		2018-03-30 18:48:40	2018-03-30 18:48:40	c7608decc3c9149c9330939e9e0c73c07	0	ACTIVE

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.

location_id	customer_id	reference_id	location_name	latitude	longitude	location_note	start_date	end_date	image	created_at	updated_at	is_deleted	status
1	CustomerReference1	CustomerOrder1	Location 1	15.044015	55.117325	Location 1 customer 1 reference 1 notes	2017-10-08 00:00:00	2018-02-28 00:00:00	general_2017_10_08_163748034.jpg	2017-10-08 14:30:55	2017-10-08 14:30:55	0	ACTIVE
2	CustomerReference2	CustomerOrder2	Location 2	25.049395	55.116949	Location 2 customer 1 reference 1 notes	2017-10-08 00:00:00	2018-02-28 00:00:00	general_2017_10_08_163748034.jpg	2017-10-08 14:34:49	2017-10-08 14:30:54	0	ACTIVE
3	Our shop or office	1234	Location 3	25.002210	55.144070	Location 2 1 Customer 1 Reference 2 notes	2017-10-08 00:00:00	2018-02-28 00:00:00	location_2017_10_08_150733323.jpg	2017-10-08 16:59:49	2017-10-08 16:59:49	0	ACTIVE
4	28565		20 number room n office	22.753170	90.377059	do some work	1970-01-01 04:00:00	1970-01-01 04:00:00	default_location.jpg	2018-02-19 15:43:00	2018-02-19 15:44:08	0	ACTIVE
5	0555		Draka	22.756528	90.381614	test 3	2018-02-21 00:00:00	2018-04-30 00:00:00	location_2018_02_24_152103832.jpg	2018-04-24 01:12:02	2018-03-24 01:12:02	0	ACTIVE
6	1525110		Diamond	16.591449	28.333594		2018-02-21 00:00:00	2018-05-31 00:00:00	location_2018_02_20_152249571.jpg	2018-04-20 16:48:01	2018-04-20 16:48:01	0	ACTIVE

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.

Showing rows 0 - 7 (8 total, Query took 0.0004 seconds.)

SELECT * FROM `slt_manager_operator`

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

	si	manager_id	operator_id	created_at	updated_at
<input type="checkbox"/>	Edit Copy Delete	1	0ef168d40ad203c9abde55f5	374ebee5c545f9ab9a48b12e16f35bb	2017-10-09 10:30:41 2017-12-18 22:46:46
<input type="checkbox"/>	Edit Copy Delete	2	5740605e0ef168d40ad203c9abde55f5	b1cc0b4d33272ab21958f7398c89085b	2017-10-09 10:45:55 2017-10-09 10:45:55
<input type="checkbox"/>	Edit Copy Delete	3	c78d5d37aa9e70a53b59e8f74d0c0ac6	5f2fd61c954edd90e499c6880c7276e5	2018-02-19 15:36:11 2018-03-28 01:38:40
<input type="checkbox"/>	Edit Copy Delete	4	c78d5d37aa9e70a53b59e8f74d0c0ac6	c943e3f2c8e05ce1c46c3722c1d99fcf	2018-03-19 00:25:55 2018-04-02 01:42:53
<input type="checkbox"/>	Edit Copy Delete	5	c78d5d37aa9e70a53b59e8f74d0c0ac6	78e19bd37e62b6ad28246a1a98f7e55	2018-03-24 01:17:01 2018-03-24 01:17:01
<input type="checkbox"/>	Edit Copy Delete	6	c78d5d37aa9e70a53b59e8f74d0c0ac6	8ef47520cf2819c61b30c18452e9f574	2018-03-28 01:46:48 2018-03-28 01:46:48
<input type="checkbox"/>	Edit Copy Delete	7	06234829903735997095828a90bd4e5c	c292972c570bf74d919c5f9b6c51219	2018-03-30 16:22:16 2018-03-30 16:22:16
<input type="checkbox"/>	Edit Copy Delete	8	c78d5d37aa9e70a53b59e8f74d0c0ac6	bfe0ba55150fda2aa14121c121e17e28	2018-04-04 00:31:44 2018-04-04 00:31:44

Check all | With selected: Edit Copy Delete Export

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.

Showing rows 0 - 8 (7 total, Query took 0.0004 seconds.)

SELECT * FROM `slt_service_point`

Show all | Number of rows: 25 | Filter rows: Search this table | Sort by key: None

	si	servicepoint_id	location_id	servicepoint_name	product_id	description	image	is_deleted	created_at	updated_at	status
<input type="checkbox"/>	Edit Copy Delete	1	03ae32765060f17809e0c664787aa	81ae162800c90c963711f741be3c20	SP1.1.1.L1.C1.R1	e11eeede75c38995193ca8f93a3e5640	SP1.1.1.L1.C1.R1 description	0	2017-10-09 11:02:14	2017-10-09 11:02:14	ACTIVE
<input type="checkbox"/>	Edit Copy Delete	2	bee9a059fa162338170874d4e4e5b	81ae162800c90c963711f741be3c20	SP1.1.2.L1.C1.R1	c37c4890de502788a7d9e7ed728a2e	SP1.1.2.L1.C1.R1 description	0	2017-10-09 11:03:17	2017-10-09 11:03:17	ACTIVE
<input type="checkbox"/>	Edit Copy Delete	3	f8ae9f551af0ee0c949893221a9e54	9e9095cab7aba2a4542a7c747e633ca0	SP 1.2.1.L1.2.C1.R1	e11eeede75c38995193ca8f93a3e5640	SP 1.2.1.L1.2.C1.R1 description	0	2017-10-09 11:08:36	2017-10-09 11:08:36	ACTIVE
<input type="checkbox"/>	Edit Copy Delete	4	2e680709741d0c26792eef90c193e6af	2140103114e6a7a2677404a2163198	SP 2.1.1.L2.C1.R1	4ae2b41a30000cae00e05e48b12e141	SP 2.1.1.L2.C1.R1 description	0	2017-10-09 11:11:02	2017-10-09 11:11:02	ACTIVE
<input type="checkbox"/>	Edit Copy Delete	5	8008308376c9f92bc98239999493	1370377919173874c04d44e333caef	Admin computer	e11eeede75c38995193ca8f93a3e5640	description	0	2018-02-19 15:44:48	2018-02-19 15:44:48	ACTIVE
<input type="checkbox"/>	Edit Copy Delete	6	a80c0c2d26072267c2ba4a8833c7c1177	fa2c2e29e10504c31a92c2e0a0a1f8b4	7110	e11eeede75c38995193ca8f93a3e5640	test service	0	2018-03-24 01:13:30	2018-03-24 01:13:30	ACTIVE
<input type="checkbox"/>	Edit Copy Delete	7	7eed3877afba29fc0c0c333247b90f	aaa18423a5c0c7a78092f2079ab4c0841	Diamond	c37c4890de502788a7d9e7ed728a2e	servicepoint_2018_03_30_1822407509.png	0	2018-03-30 18:51:00	2018-03-30 18:58:29	ACTIVE

Check all | With selected: Edit Copy Delete Export

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.

ID	Task ID	Location	Task Name	Status	Description
1	11111111111111111111	Task 1	Task 1	ACTIVE	Task 1
2	11111111111111111111	Task 2	Task 2	ACTIVE	Task 2
3	11111111111111111111	Task 3	Task 3	ACTIVE	Task 3
4	11111111111111111111	Task 4	Task 4	ACTIVE	Task 4
5	11111111111111111111	Task 5	Task 5	ACTIVE	Task 5
6	11111111111111111111	Task 6	Task 6	ACTIVE	Task 6
7	11111111111111111111	Task 7	Task 7	ACTIVE	Task 7
8	11111111111111111111	Task 8	Task 8	ACTIVE	Task 8
9	11111111111111111111	Task 9	Task 9	ACTIVE	Task 9
10	11111111111111111111	Task 10	Task 10	ACTIVE	Task 10

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 this data will used when report generating action will work

ID	Subtask ID	Task ID	Subtask Name	Status	Description
1	11111111111111111111	11111111111111111111	Subtask 1	ACTIVE	Subtask 1
2	11111111111111111111	11111111111111111111	Subtask 2	ACTIVE	Subtask 2
3	11111111111111111111	11111111111111111111	Subtask 3	ACTIVE	Subtask 3
4	11111111111111111111	11111111111111111111	Subtask 4	ACTIVE	Subtask 4
5	11111111111111111111	11111111111111111111	Subtask 5	ACTIVE	Subtask 5
6	11111111111111111111	11111111111111111111	Subtask 6	ACTIVE	Subtask 6
7	11111111111111111111	11111111111111111111	Subtask 7	ACTIVE	Subtask 7
8	11111111111111111111	11111111111111111111	Subtask 8	ACTIVE	Subtask 8
9	11111111111111111111	11111111111111111111	Subtask 9	ACTIVE	Subtask 9
10	11111111111111111111	11111111111111111111	Subtask 10	ACTIVE	Subtask 10

Figure_GTRS 52: Slt_sub_task

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

Showing rows 0 - 3 (4 total, Query took 0.0004 seconds.)

```
SELECT * FROM slit_product
```

product_id	category_id	creator_id	product_name	description	dimensions	instructions	image	address_id	is_deleted	created_at	updated_at	status
1	1	b2b4804c84e8f3fee00e1cddb65c557e1	APF Testproduct 1	APF Testproduct 1 description	APF Testproduct 1 dimensions	APF Testproduct 1 instructions	product_2017_10_09_107530730.png	NULL	0	2017-10-09 09:54:55	2017-10-09 10:09:15	ACTIVE
2	2	b2b4804c84e8f3fee00e1cddb65c557e1	APF Testproduct 2	APF Testproduct 2 description	APF Testproduct 2 dimensions	APF Testproduct 2 instructions	product_2017_10_09_107530690.png	NULL	0	2017-10-09 10:04:40	2017-10-09 10:04:40	ACTIVE
3	3	b2b4804c84e8f3fee00e1cddb65c557e1	SRV Testproduct 1	SRV Testproduct 1 description	SRV Testproduct 1 dimensions	SRV Testproduct 1 instructions	product_2017_10_09_107532940.png	NULL	0	2017-10-09 10:10:40	2017-10-09 10:10:40	ACTIVE

Figure_GTRS 53: Slit_product

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

Showing rows 0 - 3 (4 total, Query took 0.0004 seconds.)

```
SELECT * FROM slit_product_category
```

category_id	creator_id	category_name	is_deleted	created_at	updated_at	status
1	b2b4804c84e8f3fee00e1cddb65c557e1	APF - Animal Farming	0	2017-10-09 09:53:28	2017-10-09 10:07:37	ACTIVE
2	b2b4804c84e8f3fee00e1cddb65c557e1	SRV - Services	0	2017-10-09 10:07:19	2017-10-09 10:07:19	ACTIVE
3	b2b4804c84e8f3fee00e1cddb65c557e1	Test Category One	1	2017-10-09 14:55:06	2017-10-09 14:57:40	ACTIVE
4	b2b4804c84e8f3fee00e1cddb65c557e1	Test Category Two	1	2017-10-09 14:57:06	2017-10-09 14:58:05	ACTIVE

Figure_GTRS 54: Slit_product_category

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

Showing rows 0 - 4 (5 total, Query took 0.0004 seconds.)

```
SELECT * FROM `slit_tokens`
```

token_type	email	token	created_at	updated_at	status
MOBILE_LOGIN	testoperator2@diu.com	795008a8b8be2f999b740d2e81c261c3	2017-12-18 21:18:16	2017-12-18 21:18:16	USED
MOBILE_LOGIN	testoperator1@diu.com	00dcf3913165dcc03ad67722e6f6b6e4	2018-02-14 18:15:43	2018-02-14 18:15:43	USED
MOBILE_LOGIN	testone@t.com	6c01d68920f0cb779226f3eec436bf97	2018-03-28 01:51:36	2018-03-28 01:51:36	USED
MOBILE_LOGIN	operator@a.com	92dd2488290eac1662496e68c323175d	2018-04-02 02:05:51	2018-04-02 02:05:51	USED
MOBILE_LOGIN	demo@demo.com	649e0e9edaf3320a5a23d5777e7aa783	2018-04-04 00:48:57	2018-04-04 00:48:57	USED

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