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TASK TRACKER

A Project Report of Capstone Project - 2

Submitted by

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of

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SCHOOL OF COMPUTER SCIENCE AND ENGINEERING

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APRIL/MAY-2020

SCHOOL OF COMPUTING AND SCIENCE AND ENGINEERING

BONAFIDE CERTIFICATE

Certified that this project report "**TASK TRACKER**" is the bonafide work of "**DIVYANSH NEGI (1613105040)**" who carried out the project work under my supervision.

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1.ABSTRACT

The existing System is predicated on offline so there's limited interaction of the users with system because those users who are outside from the organisation aren't able to interact with System.In the existing System there's no audit trail and log feature.In the Existing system there's no direct communication among employees and users.In the existing system users aren't allowed to look at there task and add the task . But the developing System is web application in order that each user from outside the organisation will able to use the system.In the developing System there's thanks to log the record of the user login and performance performed by them.There is a feature of chat and email that's included within the developing System . And within the new system users are allowed to look at and add the task.

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2. INTRODUCTION

TASK: A project or a process can have multiple phases, and each phase may have multiple tasks. Task is the smallest assignable, manageable and measurable unit of work, which can be allocated to a specific team member, who has relevant skills to act upon the task.

In most corporations, companies and organizations, the number of tasks that are to be performed by the employees, more often than not, outnumber the time that is available for completion of the tasks. Employees, thus, have to balance and juggle the deadlines very cleverly and skillfully, and this is principally what necessitates a web based task tracking software.

And in any organization, Project manager need to have a good tool to keep track of the overall picture of the projects and pending assignments. It is quite easy to manage the tasks, if you have an efficient system to track the progress of the tasks. That is why, there is a **"Task Tracker System".**

Task Tracker is a web based application, which facilitates collaborative environment among team members. A web based task tracking application will provide the employee with more working time, as the time management will be done by the task tracking software itself, so employees would not have to worry about making effective time management plans and schedules to meet the various deadlines. Application that helps people better understands of a company and their work. Its work under collaborative working environment that allows the authorized users to make a task and track a task till it gets concluded.Task Tracking is employed for Better Visibility into Duties, Goals and Accomplishments. we will also divide the tasks into several sub-tasks, which might be assigned to different people. we will also use the task management tracker to watch the progress in every area of the organization.

An online Task Tracking software is advantageous because it helps to centralize the processes of a company (or an organization), that has implemented the web based task tracking software.

From a normal user's perspective, tasks can be of following three types – Assigned, Created and Escalated –

- Tasks, which has been assigned to the user
- Task, which has been created by a user.
- Task, which has been escalated (e.g. by the reporting team members) to the user.

Task tracking is an **important feature** that needs to be adopted by most companies or organizations in the present. Task tracking is helpful for project management, and has been implemented a result of the system of division of tasks, that exists throughout the hierarchy of the company (or organization).

Efficient Task Tracking System supposes managing all aspects of task including its status, priority, time, human and financial resources assignment, notifications and so on.

2.1 Profile of the problem

One must know what the problem is before it can be solved. The problem must be stated clearly, understood and agreed upon by the user and the analyst. It must state the objective the user is trying to achieve and the results that the user wants to see.

- The problem with most of the organizations is that they had not any proper time management to plan and schedule the tasks to meet the various deadlines.
- Another problem was that organization had no way to check the status, priority, time, human and financial resources assignment, notifications and so on.
- And in any organization, Project manager need to have a good tool to keep track of the overall picture of the projects and pending assignments.

The main objective of the system is to develop computerized system facilitating store all the information about the tasks that are being performed by the organization. This project is used in any organization.

2.2 Existing System

In the Existing System same tasks that I mention in the introduction (above) were done manually. But Existing Manual System has following drawbacks which are as follows:

- The slow processing due to manual procedure of tasks leads to inefficient and inconsistency of the system.
- In Existing system, there is no way to restrict unauthorized users to access to the date.
- It is very difficult to get up to date information in the existing system. If any information is required for any specific purposes, all these sorting has to be done manually and data is re-entered at some other places in the stored order.
- Existing System was very time consuming.
- Each and Every task can very cumbersome to track in any organization.

2.3 WHAT NEW IN THE SYSTEM TO DEVELOP

The existing System is based on offline so there is limited interaction of the users with system because those users who are outside from the organization are not able to interact with System.

- The developing System is web application so that each user from outside the organization will able to use the system.

In the existing System there is no audit trail and log feature

- In the developing System there is way to log the record of the user login and function performed by them

In the Existing system there is no direct communication among employees and users

- So there is a feature chat and email that is included in the developing System

In the existing system users are not allowed to view there task and add the task

- But in the new system users are allowed to view and add the task

2.4 ACCEPTANCE CRITERIA

Before designing/developing a new system, it is important to establish the acceptance criteria so that it can be evaluated according to this criterion.

The performance requirements are:

USER FRIENDLY**:** The designed system should be user friendly, understandable and easy to use so that even the native users easily learn to use the system.

FLEXIBILITY**:** It should be flexible in nature to allow likely changes and alternation in the near future.

ERROR HANDLING:The system must give response to errors in clear and precise manner as soon as an error has occurred.

INTEGRITY:The results produced by the system should be accurate and reliable.

FUNCTIONAL AND PERFORMANCE SPECIFICATIONS:The performance of the required system should be good and should fulfill the required functional specifications.

2.5 FEASIBILITY ANALYSIS

The feasibility study is basically the test of the proposed system in the light of its workability, meeting user's requirements, effective use of resources and of course, the cost effectiveness.

The feasibility study is to identify the best solution under the circumstances by identifying the effects of this solution on the organization. It includes three main questions:

1. What are the user's needs and how the candidate system does meet them?
2. What resources are available for given candidate system?
3. What are the likely impacts of the candidates system on the organization?
   Three key considerations are involved in the feasibility analysis, economical, technical, and operational

2.5.1 Economically Feasibility

Economic analysis is the most frequently used method for evaluating the effectiveness of a new system. More commonly known as cost/benefit analysis, the procedure is to determine the benefits and savings that are expected from a candidate system and compare them with costs

It is important to identify cost and benefit factors, which can be categorized as follows:

- Development costs
- Operating costs.
- The system being developed is economic with respect to user point of view point. It is cost effective in the sense that has eliminated the paper work completely.

- The system is also time effective because the track of each record and task are automated The result obtained contains minimum errors and are highly accurate as the data is required.

2.5.2 Technical feasibility

Technical feasibility concerns around the existing computer system (hardware software etc) and to what extent it supports the proposed addition. The technical feasibility addresses the questions. Is this the technology that is required to develop and the use of the project is commercially available?

- In this project we have 1 server networked with the internet. Here customer requires minimum 1 computer with the internet connection to run this project. So we can say that there is no considerable burden on the store to make this project functional

2.5.2.1. **Hardware Requirements**

- Intel Pentium processor at 500 MHz or faster
- Minimum of 364 MB available disk space for installation
- Minimum of 256 MB memory,512 MB recommended, CD-ROM drive.

2.5.2.2. **Software Requirement**

Front end

- Language Java

Back end

- The central database is based on oracle10g or Sql server 2008

2.5.3 Behavioural Feasibility

People are inherently resistant to change. And computers are known to facilitate change. An estimate should be made of how strong reaction the user staff is likely

to have towards the development of a computerized system. The system working is quite easy to use and learn due to its simple but attractive interface. User requires no special training for operating the system.

2.5.4 Legal feasibility

To determine whether the proposed system conflicts with legal requirements, e.g. a data processing system must comply with the local Data Protection Acts. Our project does not have legal issue because it is a simple and there is no legal agreement. So there was no need to do this feasibility test.

2.5.5 Schedule feasibility

A project will fail if it takes too long to be completed before it is useful. Typically this means estimating how long the system will take to develop, and if it can be completed in a given time period using some methods like payback period.

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3. MODULES AND DESIGNING OF THE PROJECT

3.1 Modules of the project

3.1.1 Admin module

The admin process is divided into sub activity which provide all the functionality of the system as one.It can add and edit the data of user if required.

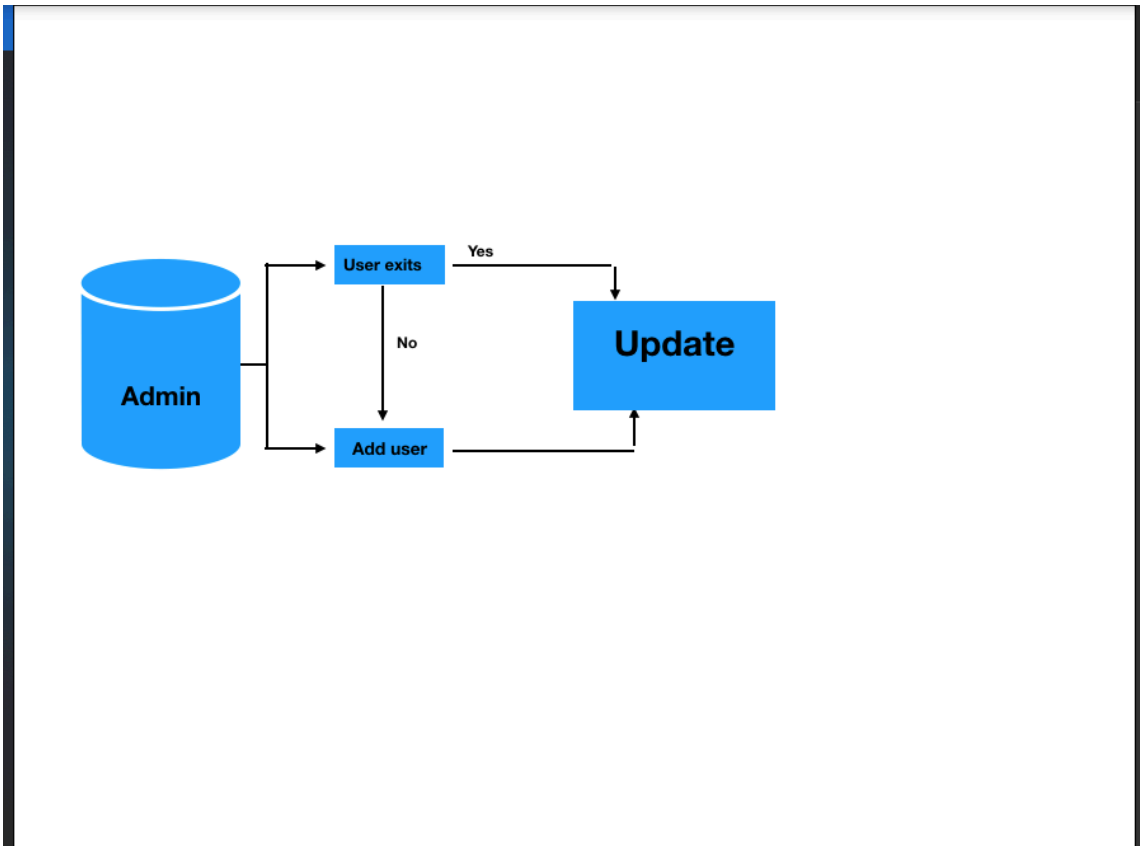


Fig.1 Admin module

3.1.2 User module

In the user module Mathematical algorithm is applied to represent he whole project status.User can check for due date of task and can send the reminder.

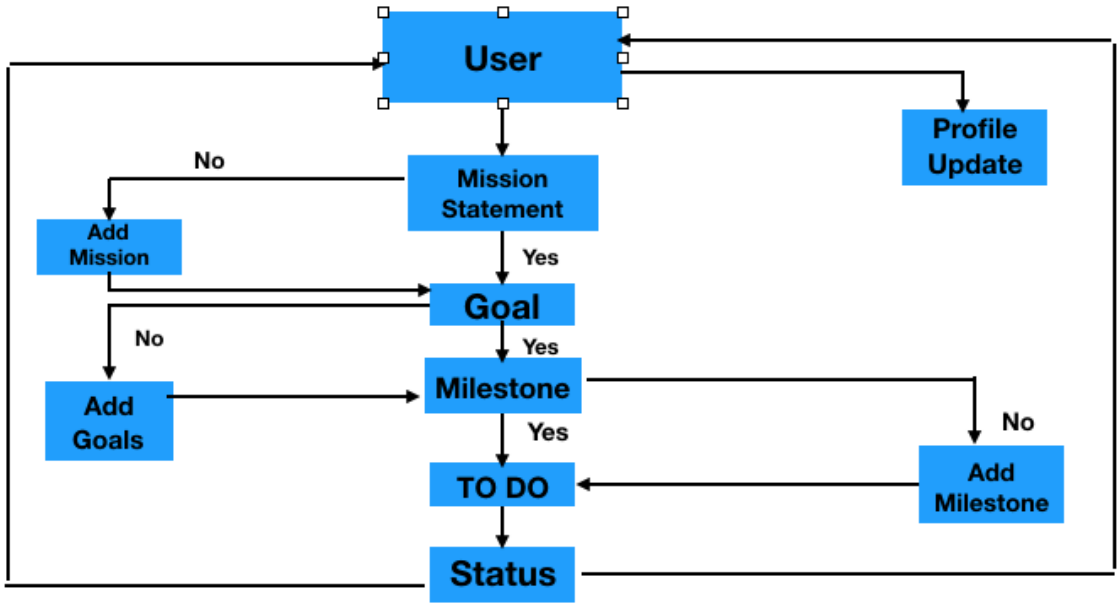


Fig.2 User module

3.2 Design

3.2.1 System Design

Based on the user requirements and the detailed analysis of the existing system, the new system must be designed. This is the phase of system designing. It is the most crucial phase in the developments of a system. The logical system design arrived at as a result of systems analysis is converted into physical system design. Normally, the design proceeds in two stages:

- Logical Design
- Physical Designing

3.2.2 Logical Design: A logical design is the CONCEPTUAL BLUEPRINT of a software application, illustrating entities, relationships, rules, and processes. logical designing describes the structure & characteristics or features, like output, input, files, database & procedures.

- Data Flow Diagram
- ER Diagram

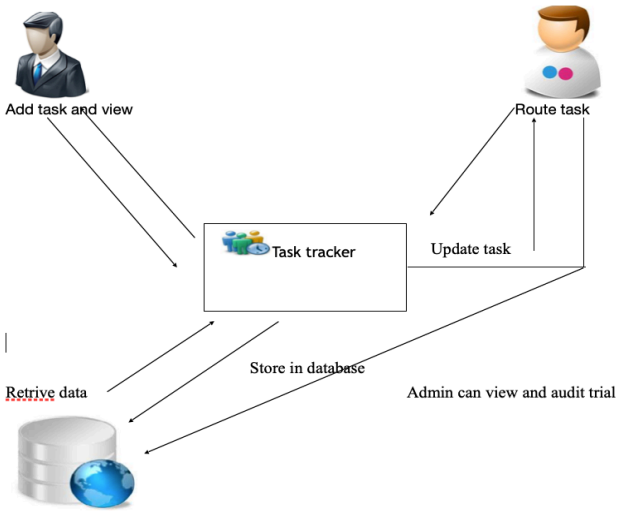


Fig.3 Logical Design

3.2.3 Physical design: The physical design, which follows the logical design, is actual software & a working system. There will be constraints like Hardware, Software, Cost, Time and Interfaces.

- Structured design is a data flow methodology.
- The graphical representation of data flow, communication & defining the modules & their relationship with each is known as Structure Chart.
- This method decomposes & modularizes the system so that the complexity & manageability will come down.
- Thus reducing the intuitive reasoning & promotes the maintainable provable systems.

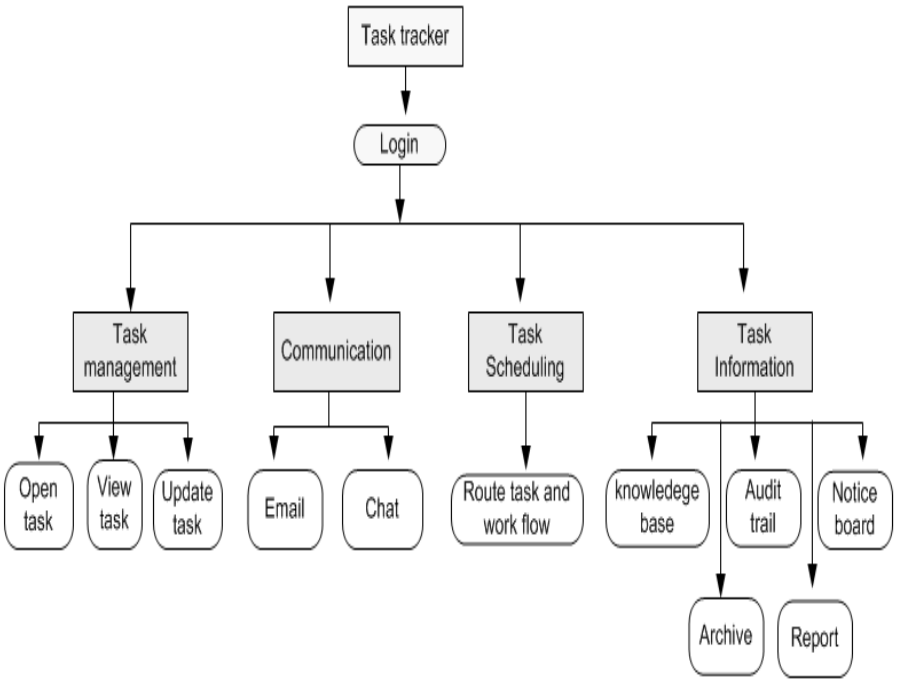


Fig.4 Physical Design

3.3 General description

The SDLC framework consists of a series of phases (or steps) that are intended to be followed in sequence by software or system designers and developers. In each phase of the System Development Life Cycle, the results of the previous phase are used.

- **Project Planning** Determines the project‘s goals and results in a high-level view of the potential project. A feasibility study may be undertaken as part of this phase.
- **Requirements Definition** Results in the creation of well-defined functions from the defined project goals. Take a look at the ultimate end-user‘s needs for the information system. In the Sashimi waterfall method, feedback can be provided back to project planners for goal modification if required.
- **Systems Design** - Project features and operations are describe in detail to include technical specifications, use of UML (when required/suitable), process diagrams, and even prototype creation along with other required documentation.
- **Implementation/Development -** One of the most costly phases of the SDLC for information systems. Shortfalls in Systems design or requirements definition can become costly in the phase if not accomplished satisfactorily.
- **Integration and testing -** A common phase that is under-funded by many corporate entities. In this phase all of the project components are integrated and tested for errors and interoperability in a special test environment.
- **Acceptance and Deployment** - Software is deployed to the customer and starts accomplishing the desired work

- **Maintenance -** The maintenance phase of the SDLC can become a project in and of itself. Future software upgrades, bug fixes, and regular maintenance are addressed during this stage which may or may not have a well-defined end state.

3.4 Specific Requirements

3.4.1. User Interfaces

User Interface describes the logical characteristics of each interface between the software product and the users. This may include sample screen images, any GUI standards or product family style guides that are to be followed, screen layout constraints, standard buttons and functions (e.g., help) that will appear on every screen, keyboard shortcuts, error message display standards, and so on.

3.4.2 Hardware Interfaces

Hardware interface describe the logical and physical characteristics of each interface between the software product and the hardware components of the system. This may include the supported device types, the nature of the data and control interactions between the software and the hardware, and communication protocols to be used.

In the project basic Hardware requirement is 10 GB HDD, and 128 MB RAM.

3.4.3 Software Interfaces

It Describe the connections between this product and other specific software components (name and version), including databases, operating systems, tools, libraries, and integrated commercial components. Identify the data items or messages coming into the system and going out and describe the purpose of each

3.4.4 Communication Interfaces

Communication interfaces describe the requirements associated with any communications functions required by this product, web browser, electronic forms, and so on. Define any pertinent message formatting

3.5 DATA FLOW DIAGRAM

Login

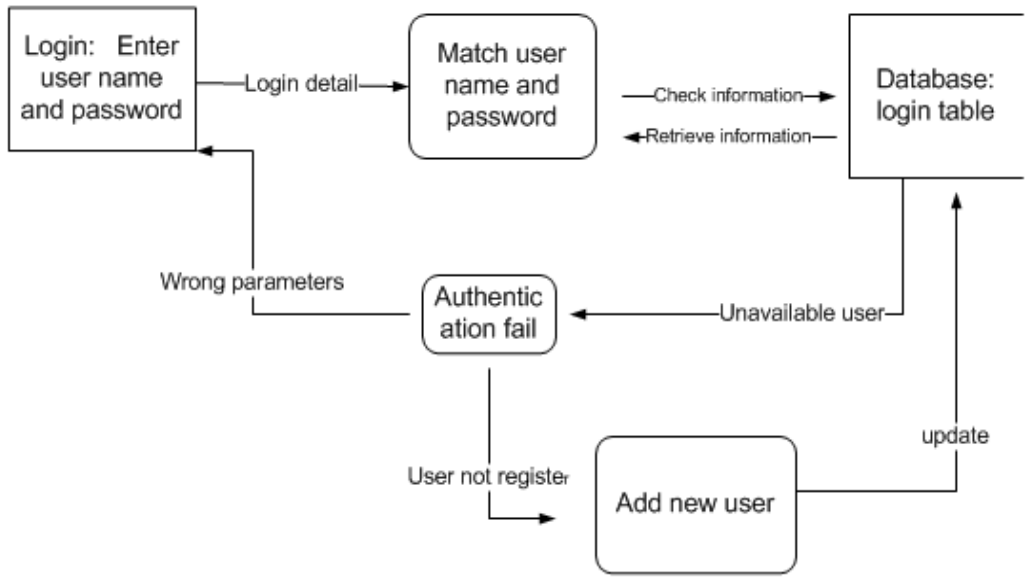


Fig.5 Login DFD

Add new user

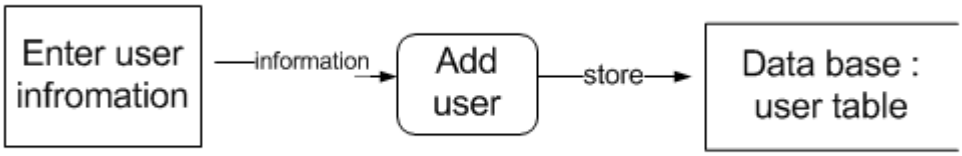


Fig.6 Add new user DFD

Task management

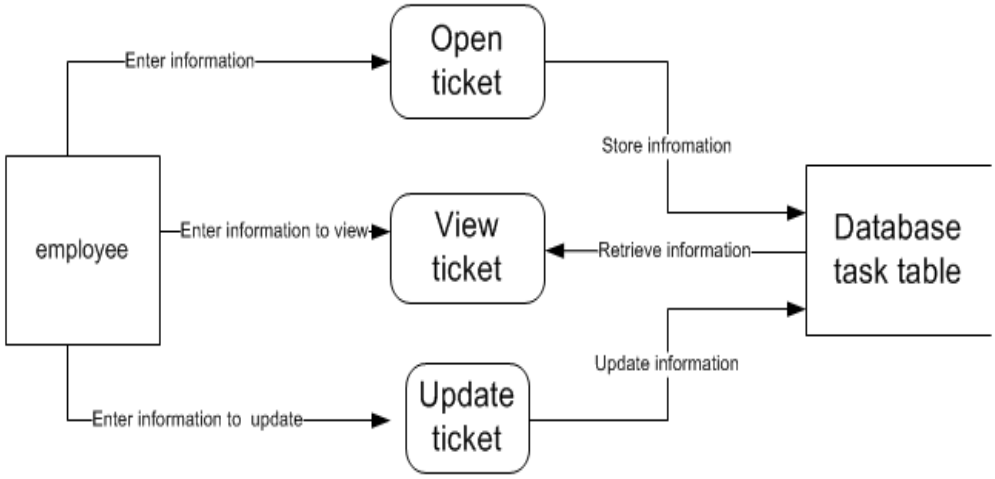


Fig.7 Task management

Add ticket

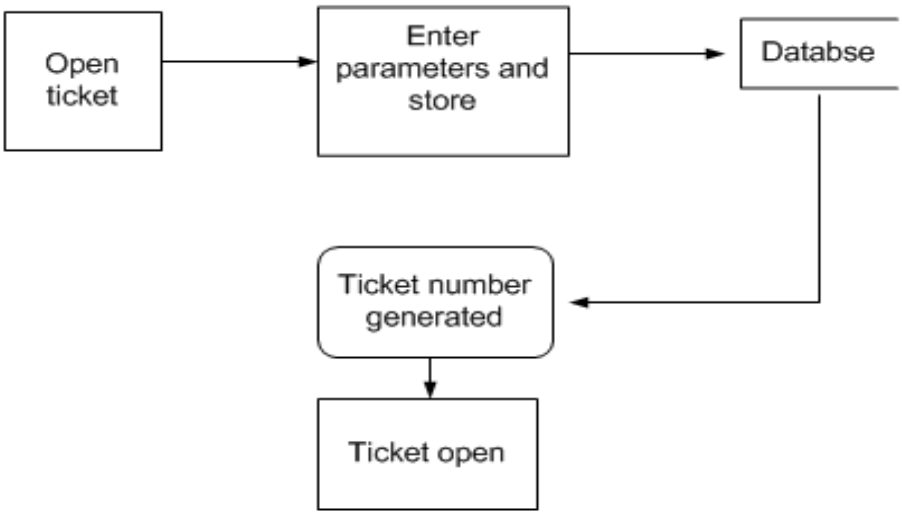


Fig. 8 Add ticket DFD

View task

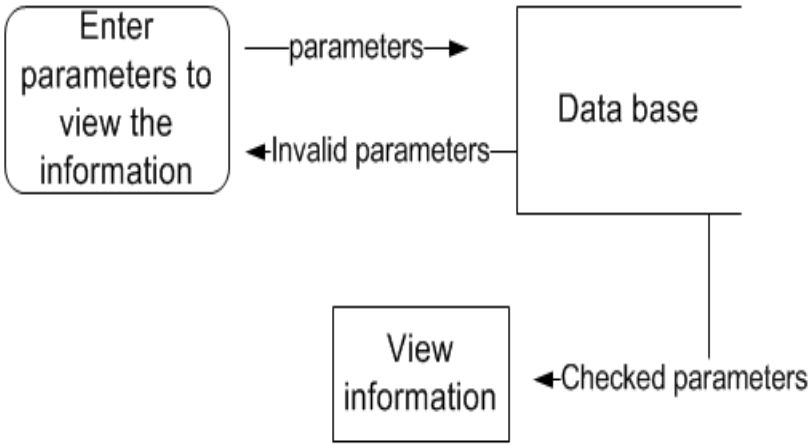


Fig. 9 View Task DFD

Update task

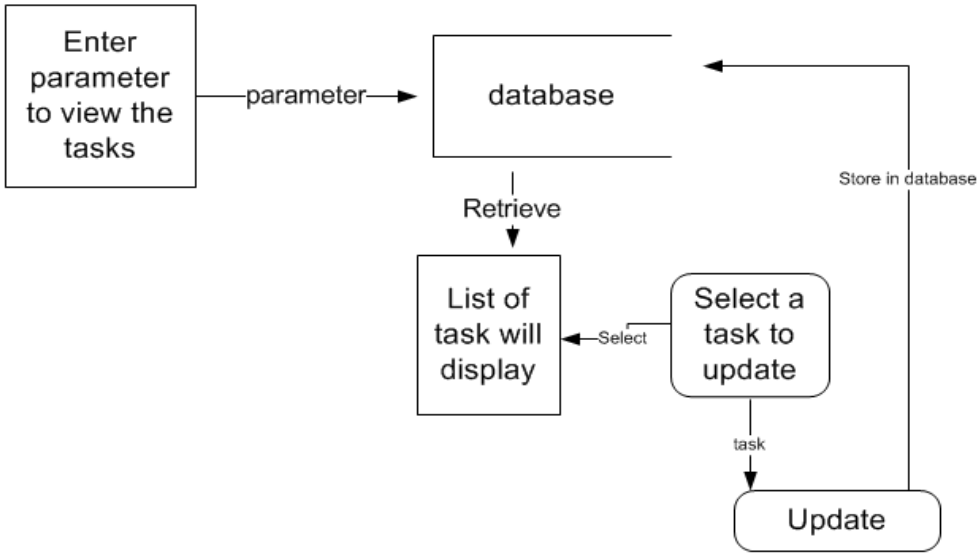


Fig.10 Update task DFD

Report

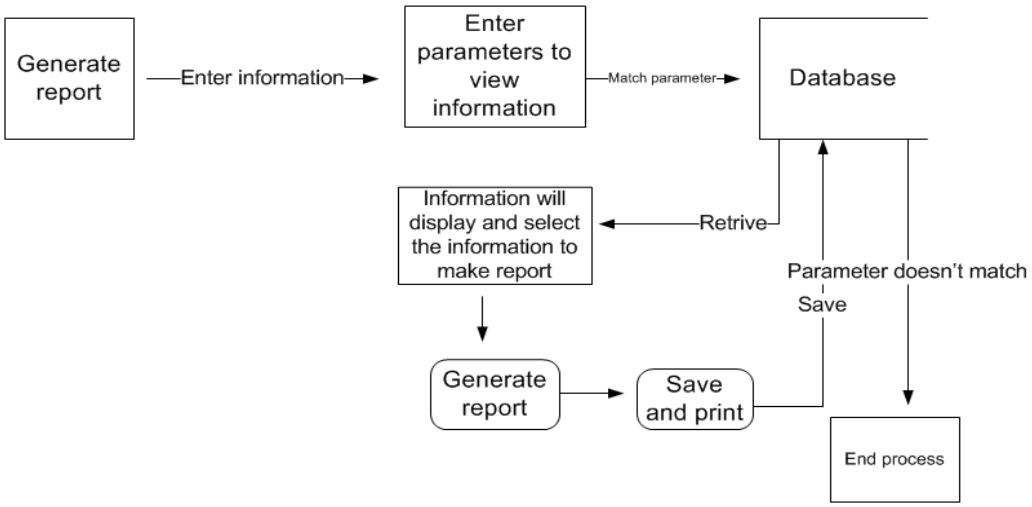


Fig.11 Report DFD

Archive

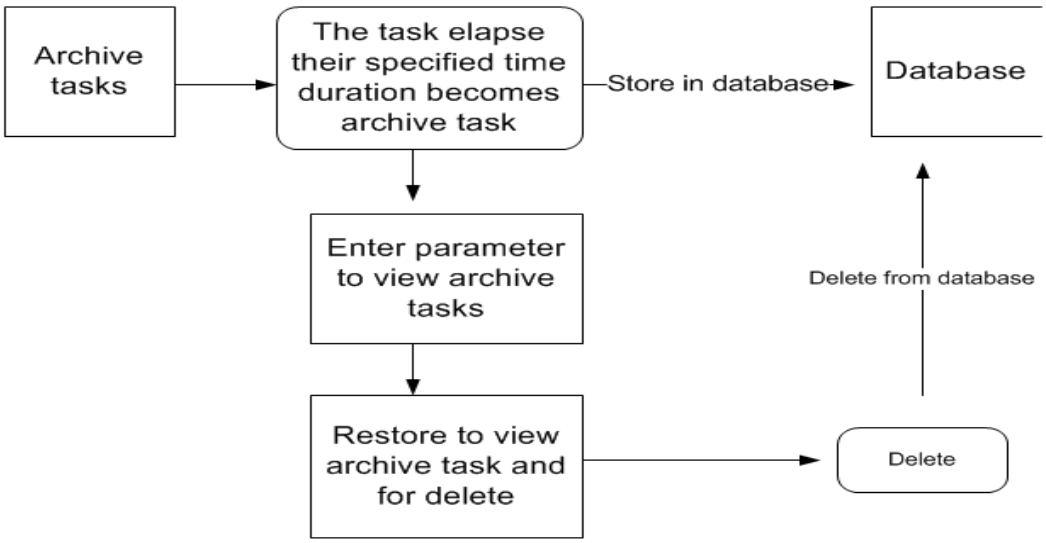


Fig.12 Archive DFD

Chat

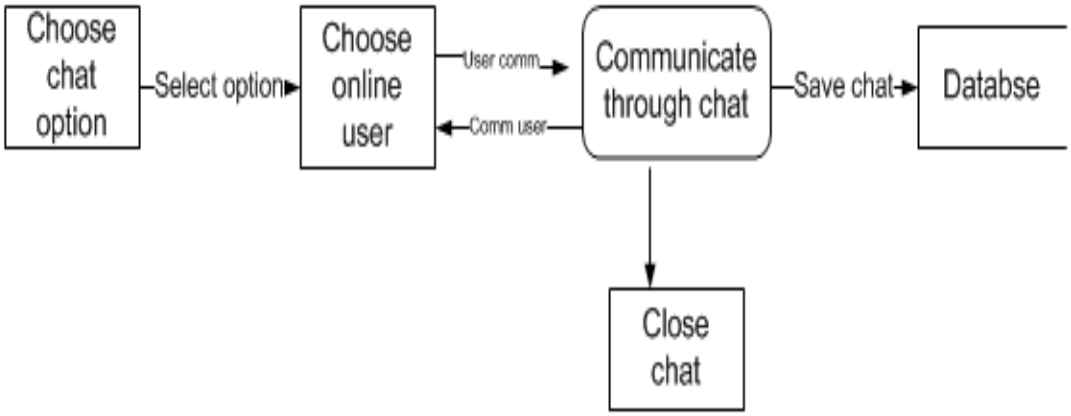


Fig.13 Chat DFD

Audit trial and log

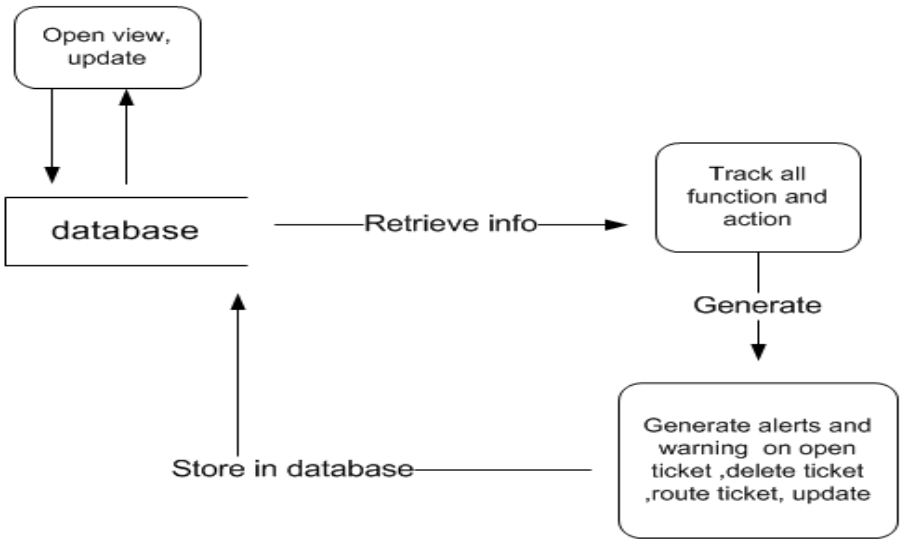


Fig.14 Audit trial and log DFD

Route task

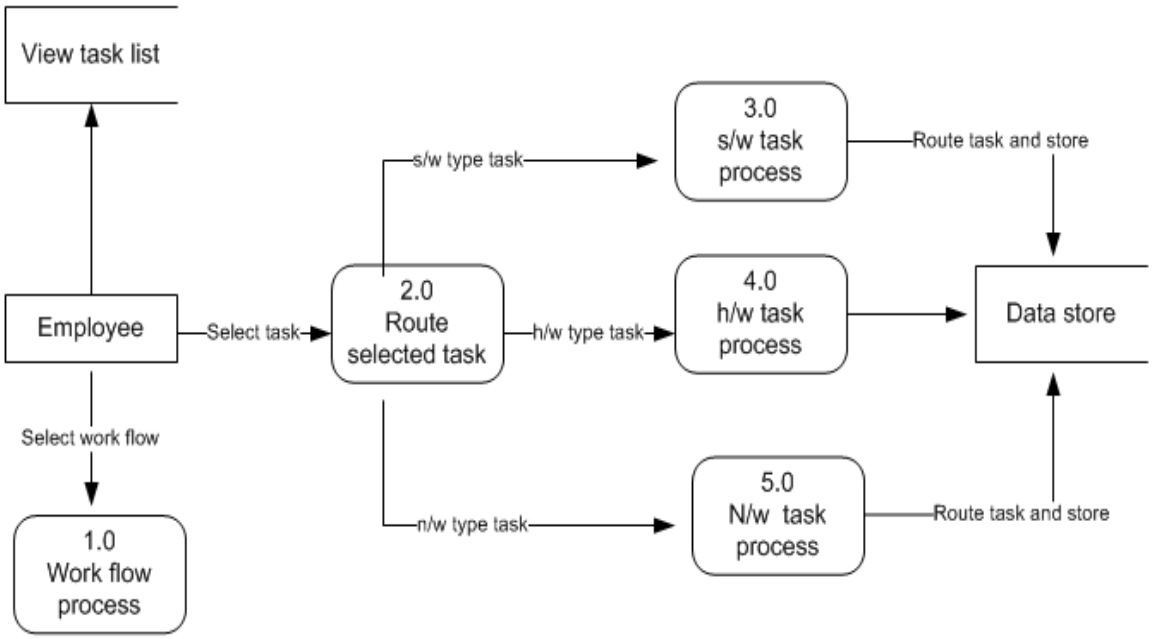


Fig.15 Route task DFD

Email

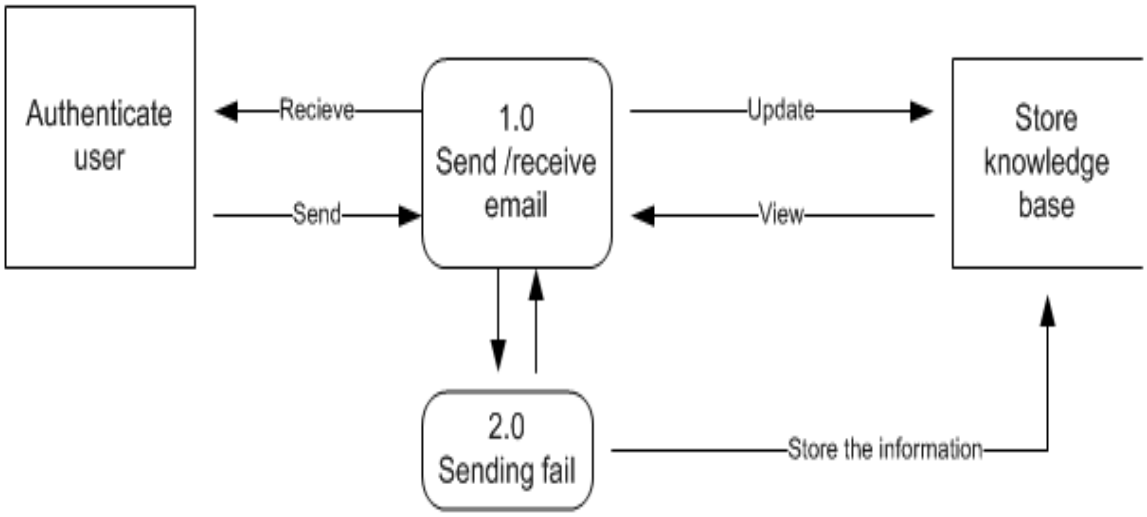


Fig. 16 Email DFD

Knowledge base

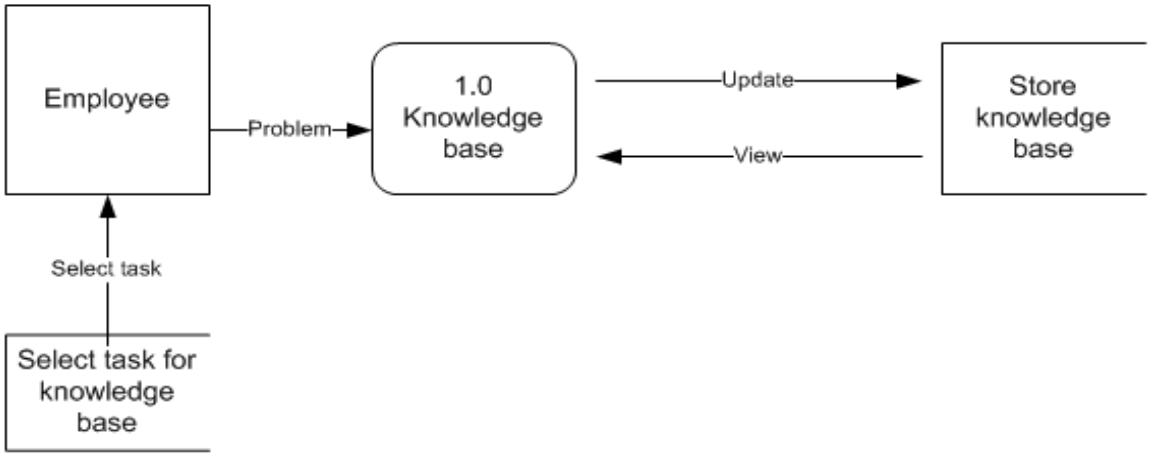


Fig.17 Knowledge base DFD

Notice board

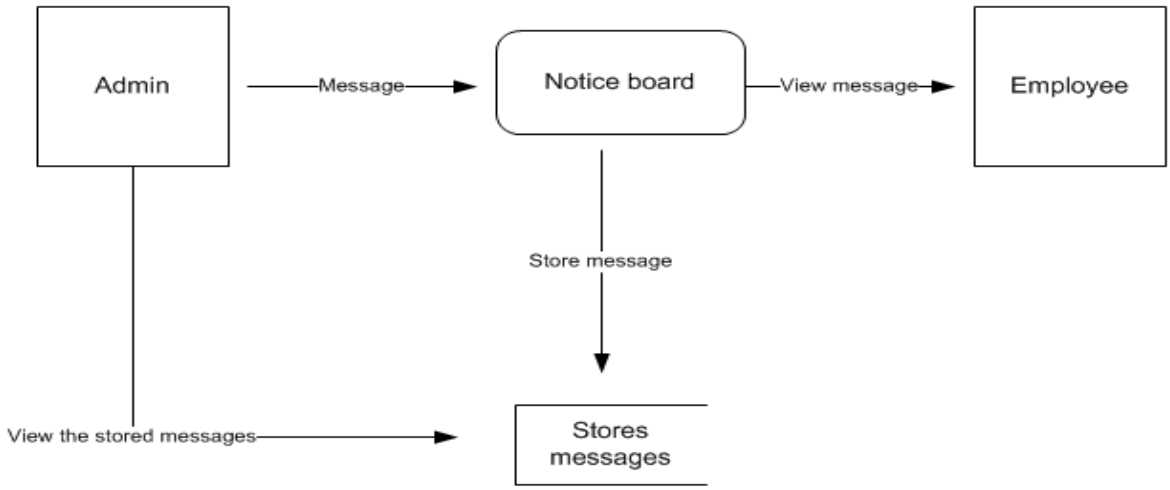


Fig.18 Notice board DFD

3.6 FLOWCHARTS

Task management

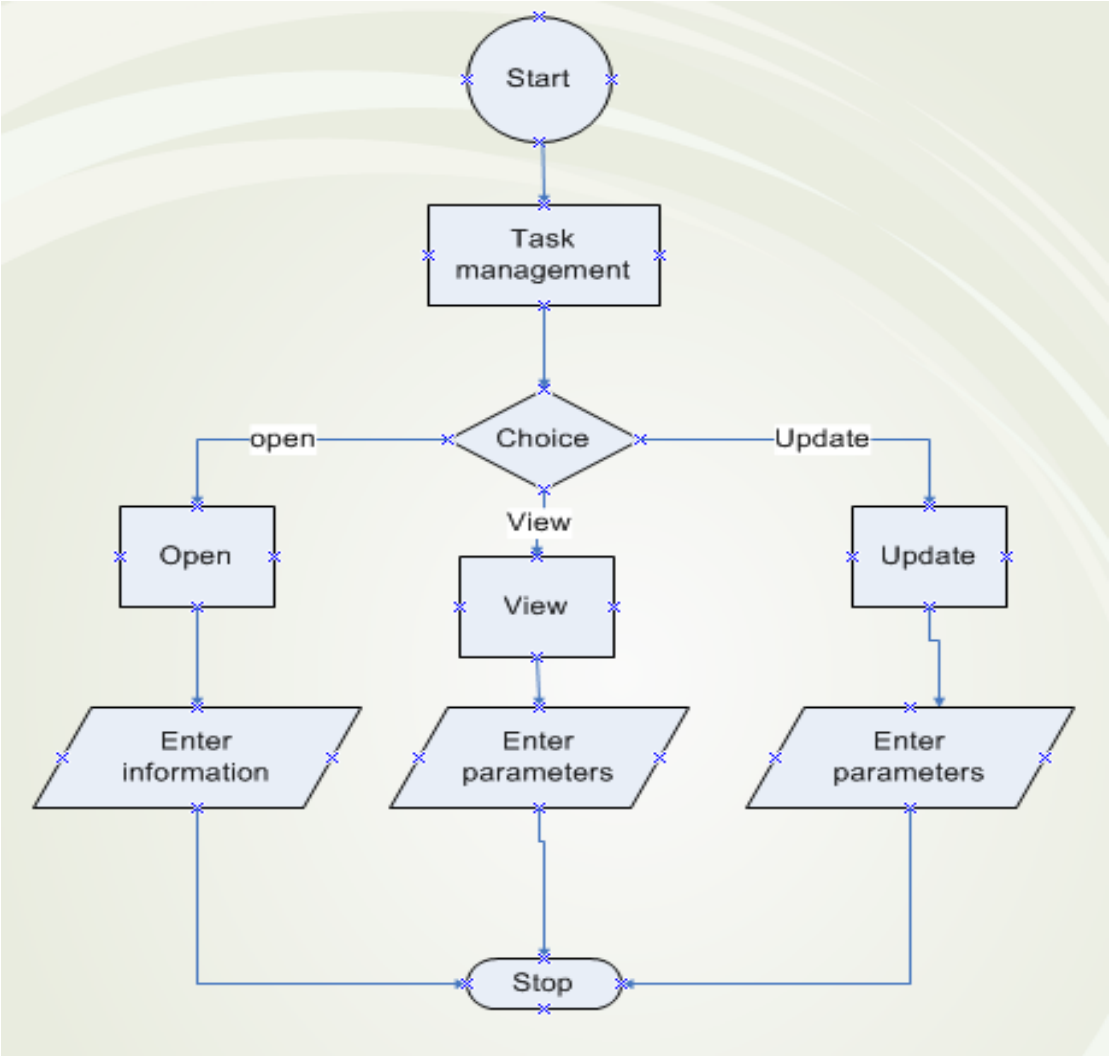


Fig. 19 Task management

Report

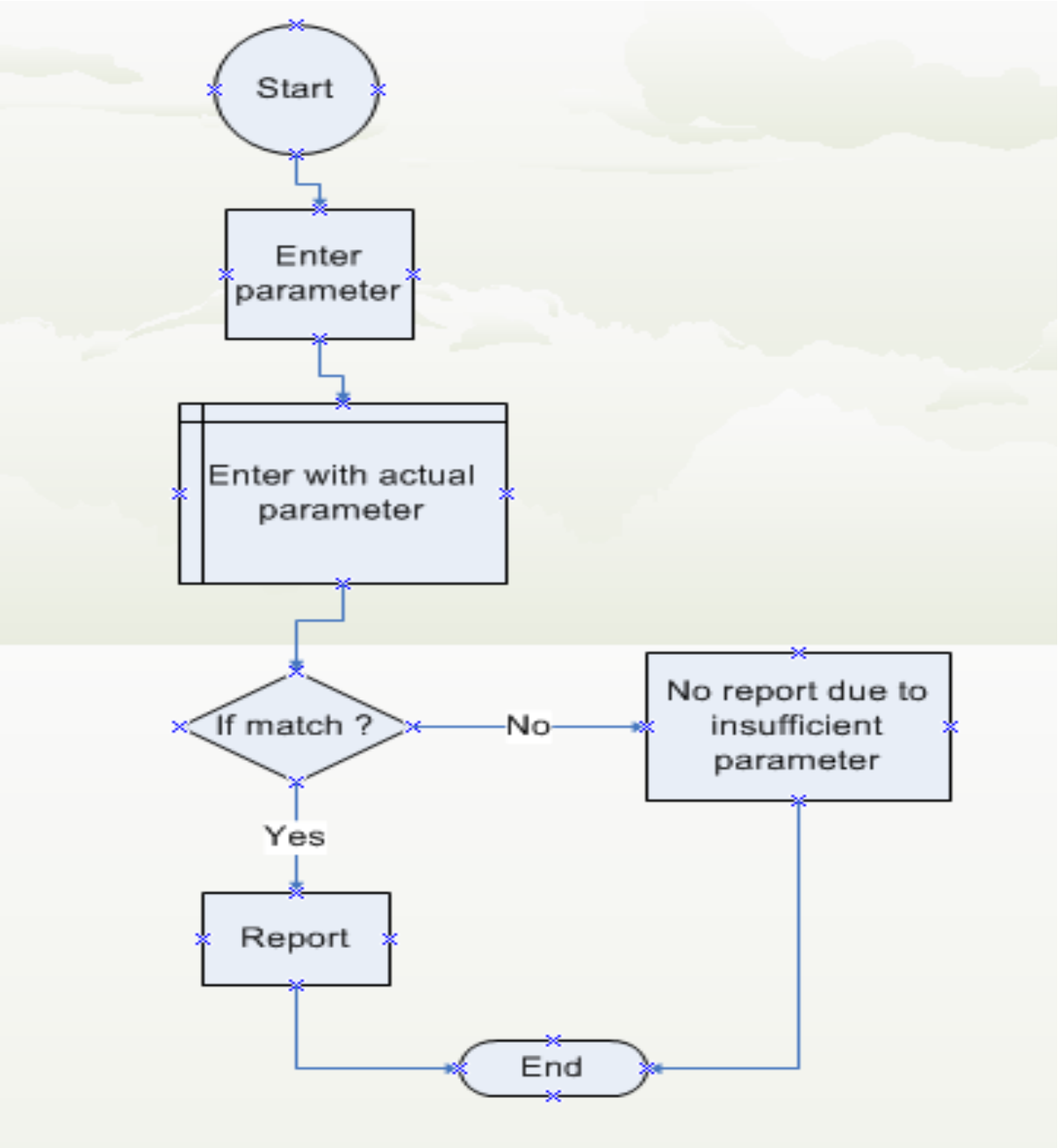


Fig. 20 Report

Chat

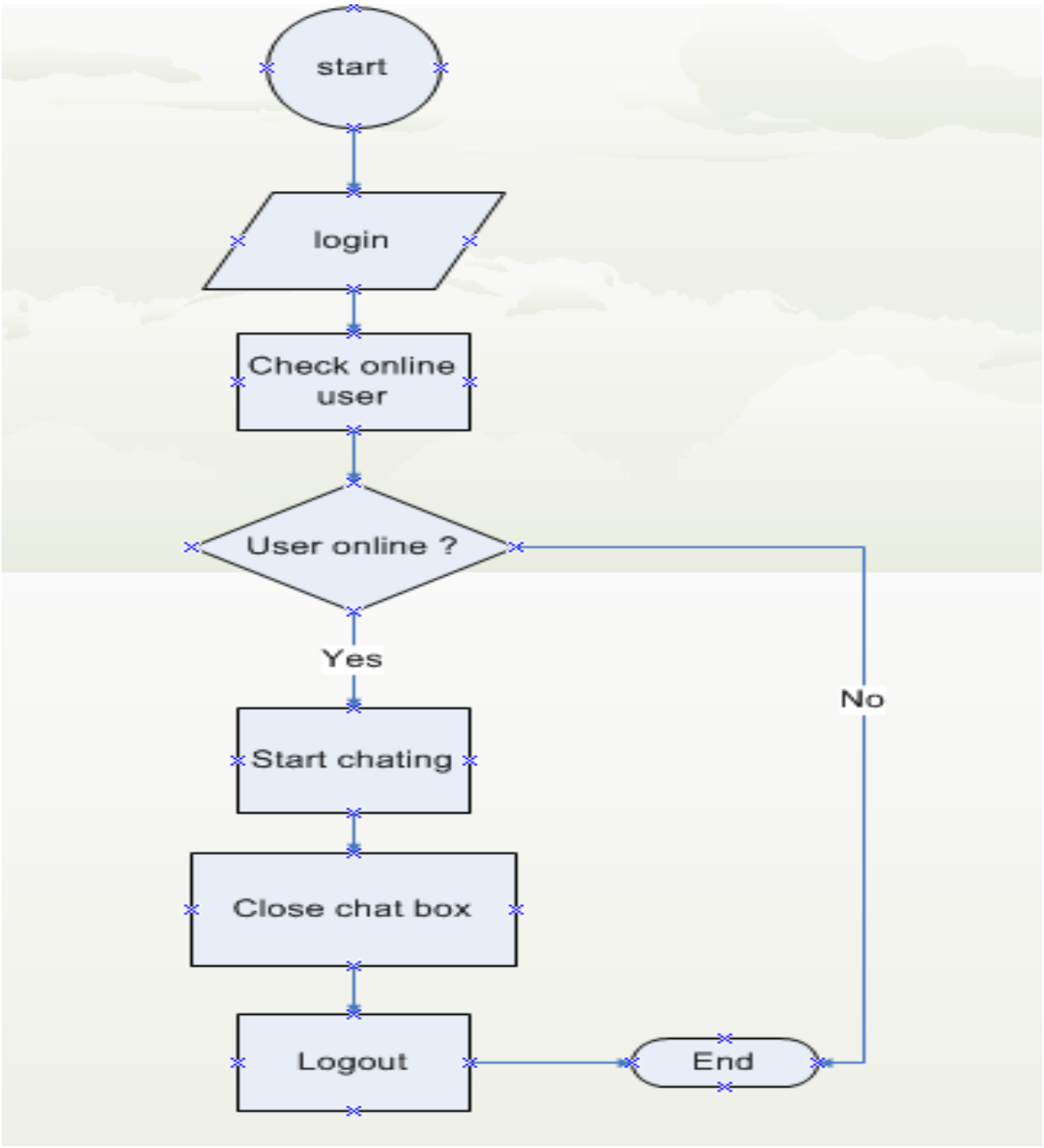


Fig.21 Chat

Archive

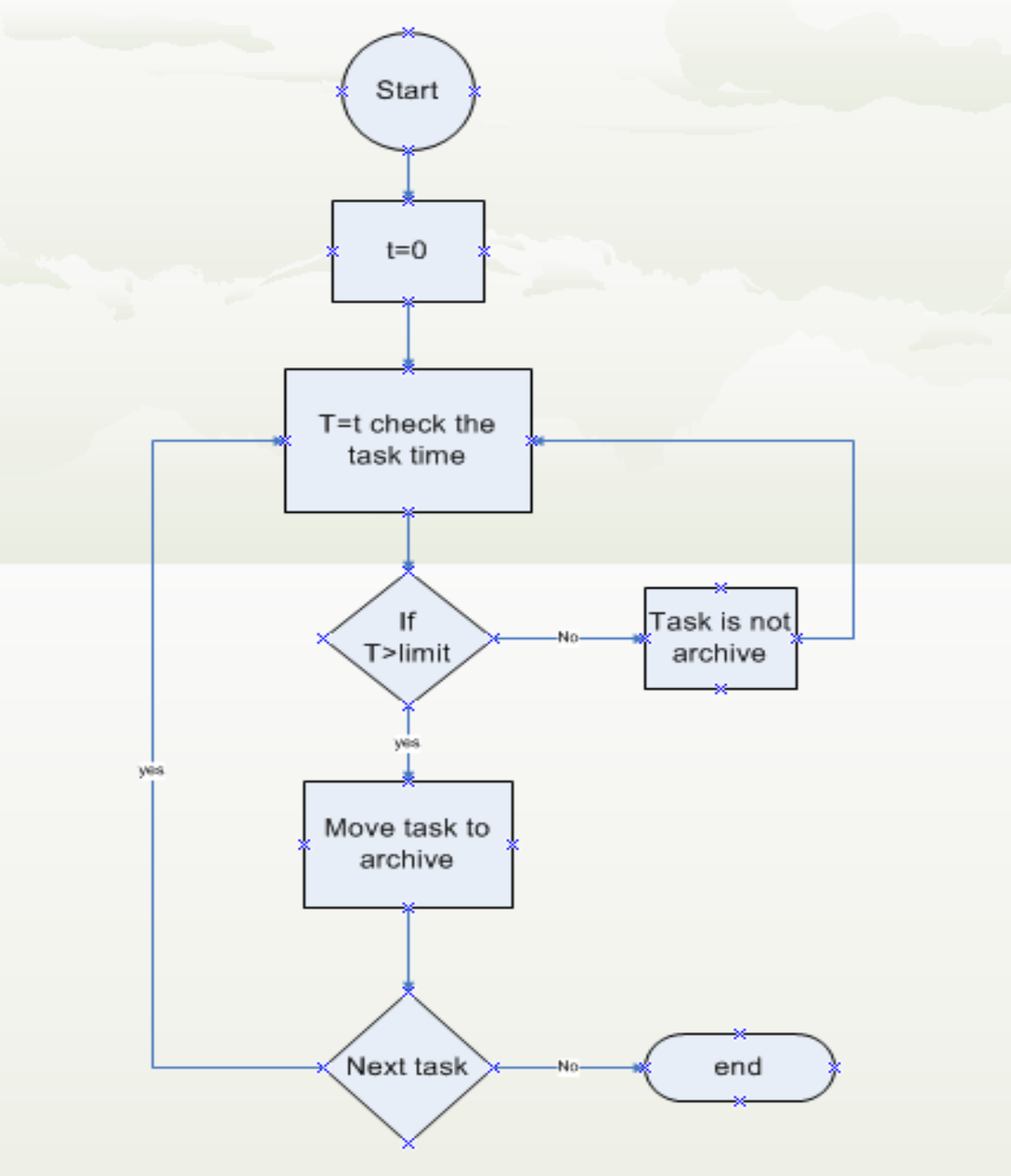


Fig.22 Archive

Audit and trial

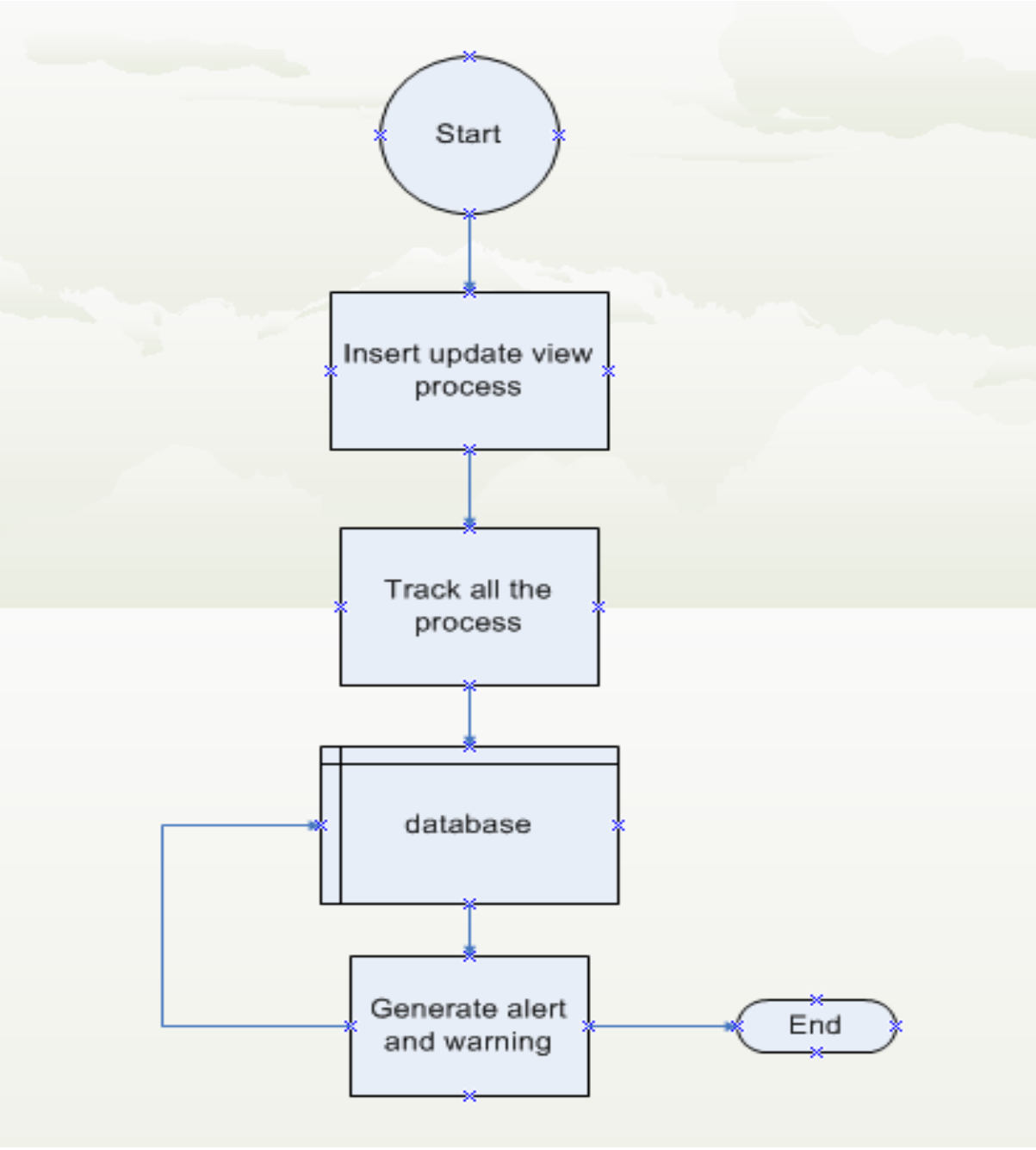


Fig.23 Audit and trial

Route task

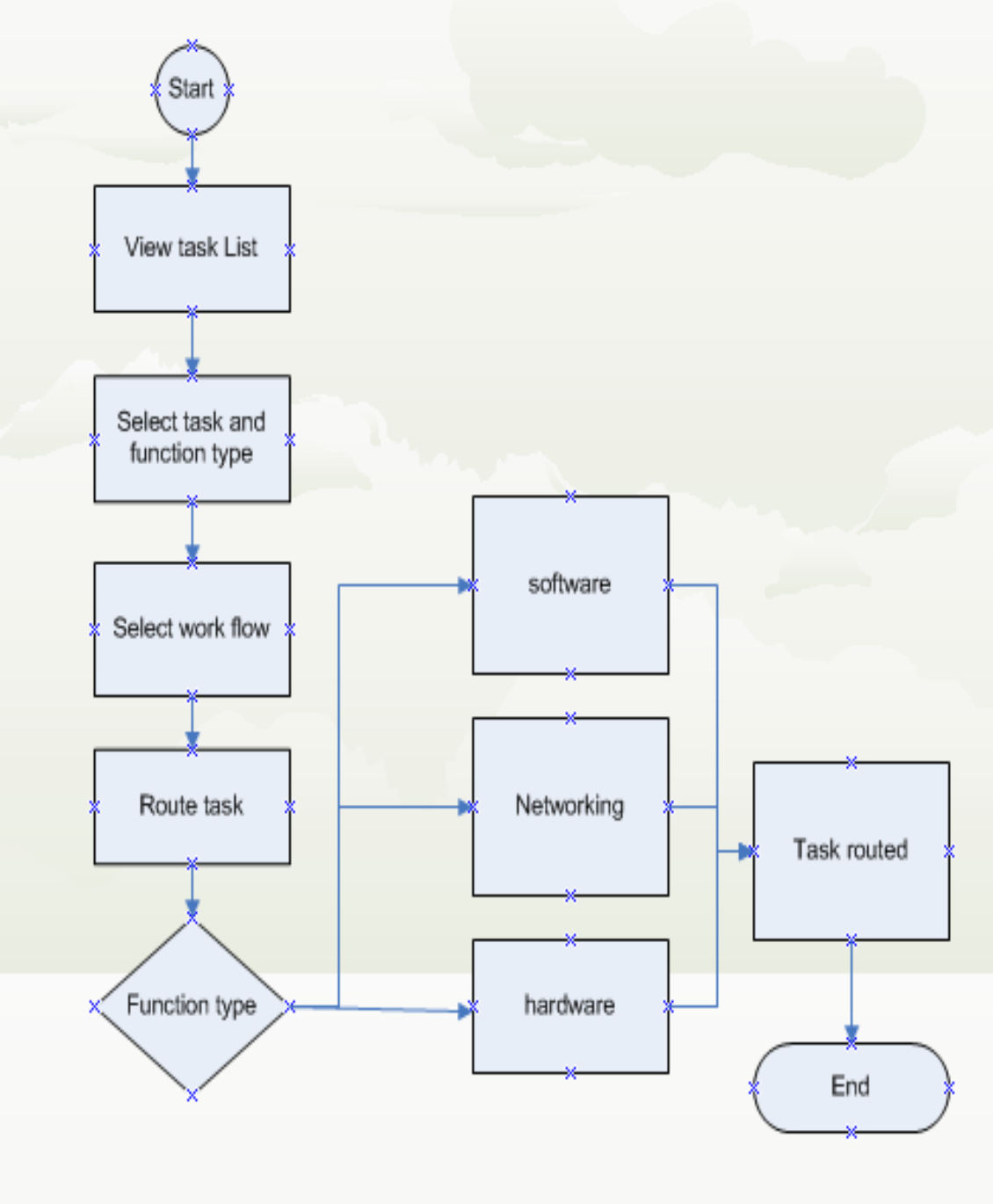


Fig. 24 Route task

Email

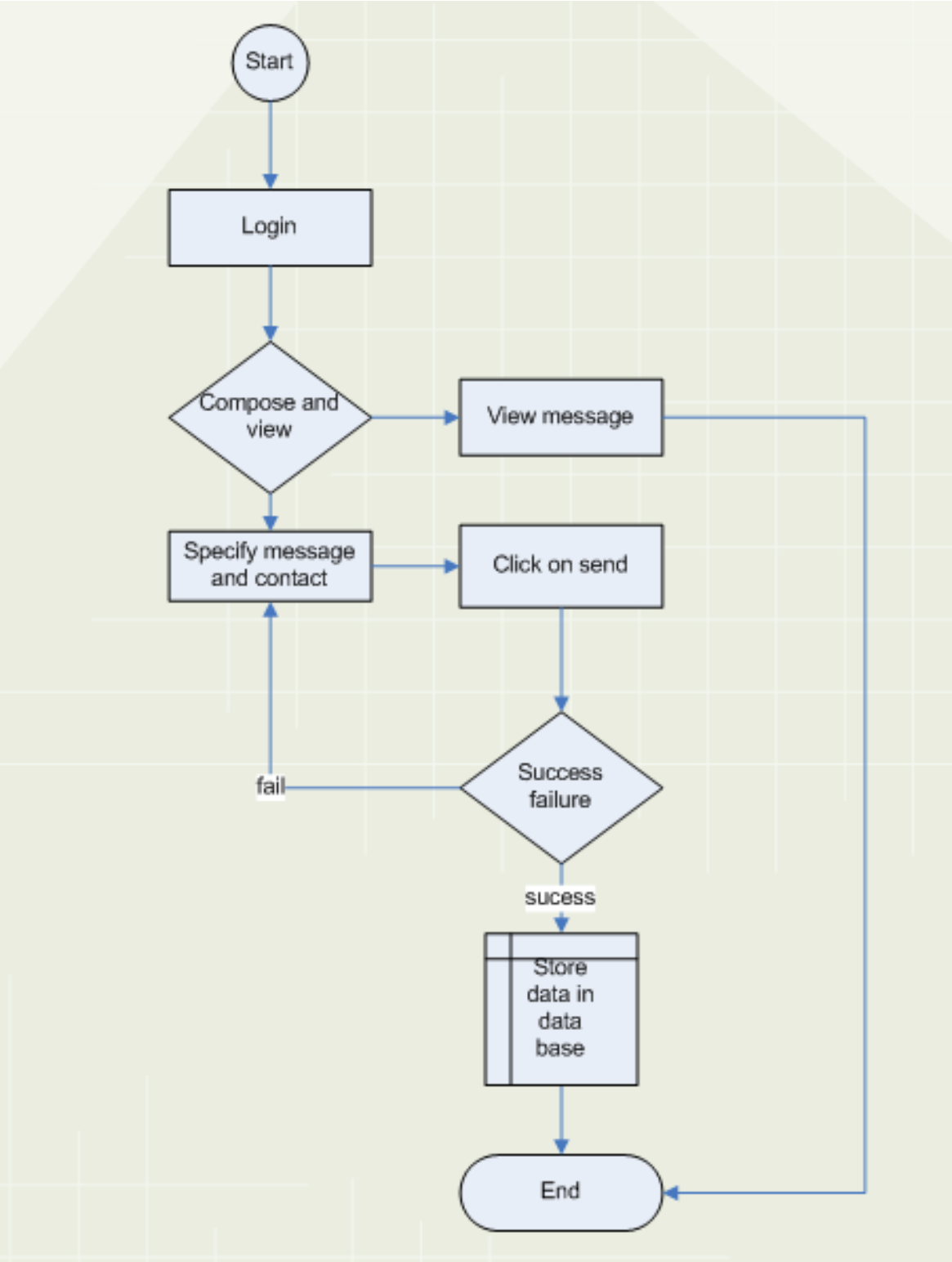


Fig. 25 Email

3.7 TESTING

Software testing is more than just error detection, Testing software is operating the software under controlled conditions, to verify that it behaves “as specified”, to detect errors, and to validate that what has been specified is what the user actually wanted.

- Verification is the checking or testing of items, including software, for conformance and consistency by evaluating the results against pre-specified requirements.
- Error Detection: Testing should intentionally attempt to make things go wrong to determine if things happen when they shouldn’t or things don’t happen when they should.
- Validation looks at the system correctness – i.e. is the process of checking that what has been specified is what the user actually wanted.

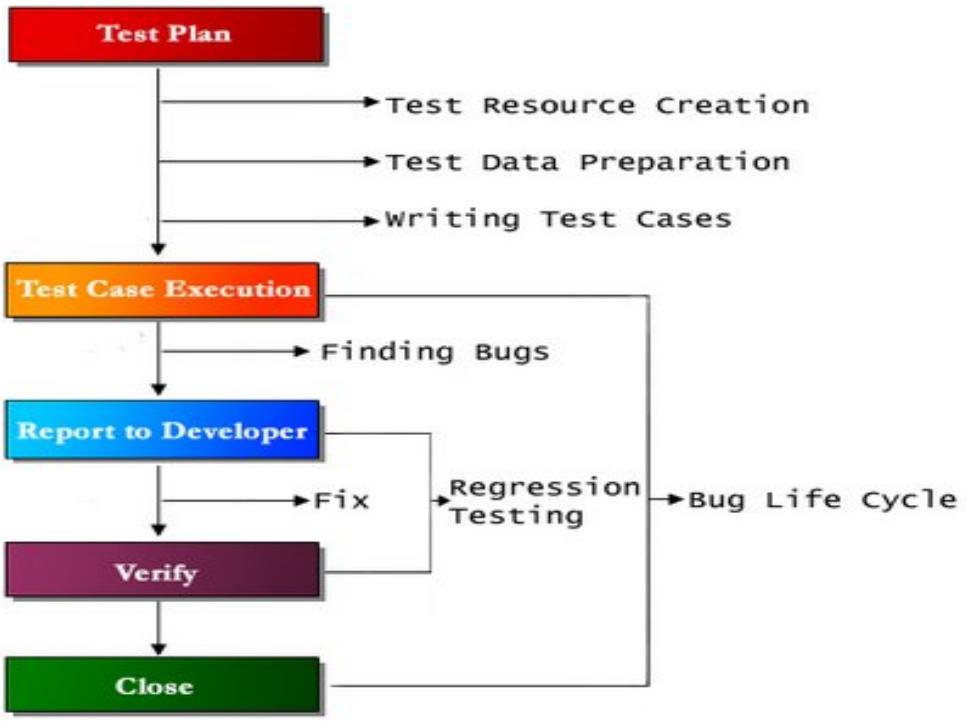


Fig. 26 Testing chart

3.7.1 Functionality testing

Functional testingof software is testing conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements. Functionality testing falls within the scope of black box testing, and as such, should require no knowledge of the inner design of the code or logic

- Functional tests validate not a simple input-to-output conversion, but a complete feature.
- For instance, a cache system can only be validated by a functional test, because it involves more than one step:
- The first time a page is requested, it is rendered; the second time, it is taken from the cache.
- So functional tests validate a process and require a scenario

Functional testing typically involves five steps:

- The identification of functions that the software is expected to perform.
- The creation of input data based on the function's specifications.
- The determination of output based on the function's specifications.
- The execution of the test case.
- The comparison of actual and expected outputs

3.7.2 Structural testing

Structural testing should be done at the unit, integration, and system levels of testing. Structural testing assures the program's statements and decisions are fully exercised by code execution. For example, it confirms that program loop constructs behave as expected at their data boundaries. For configurable software, the integrity of the data in configuration tables are evaluated for their impact on program behavior. At the unit level, structural testing also includes the identification of "dead code," which is code that cannot be reached for execution by any code pathway.

- Software structural testing is meant to challenge the decisions made by the program with test cases based on the structure and logic of the design and source code. Complete structural testing exercises the program's data structures (such as configuration tables) and its control and procedural logic at the test levels discussed below.

Structural testing should be performed after all verification testing of the units involved and before system-level structural testing.

- Figure 1 illustrates the general relationship between software verification and validation. Software verification confirms that the output of each phase of software development is true to (i.e., is consistent with) the inputs to that phase.

Performance qualification testing confirms the final software product, running in its intended hardware and environment, is consistent with the intended product as defined in the product specifications and software requirements.

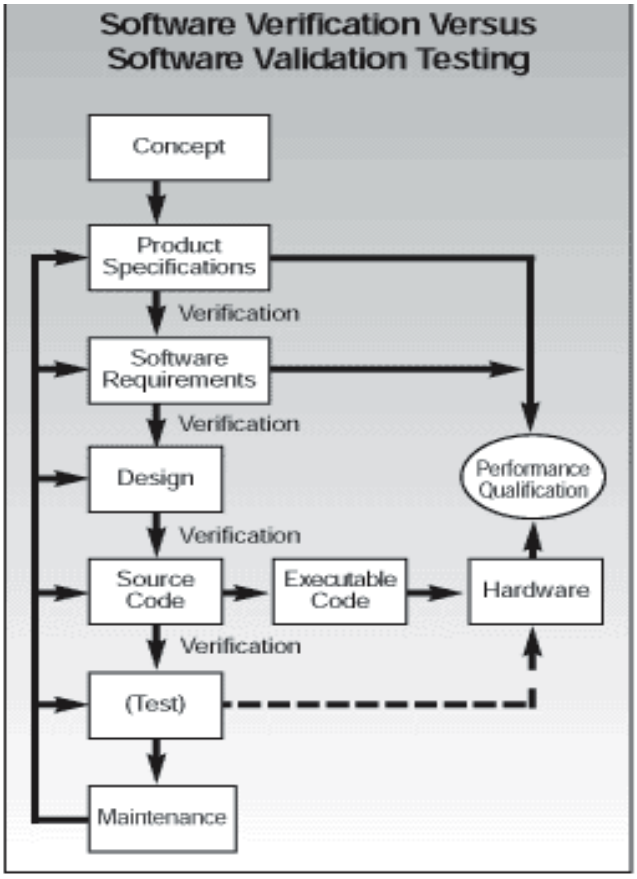


Fig.27 Structural testing

3.7.3 Level of Testing

3.7.3.1 Unit Testing

Unit testing is a procedure used to validate that a particular module of source code is working properly. The procedure is to write test cases for all functions and methods so that whenever a change causes a regression, it can be quickly identified and fixed.

- The goal of unit testing is to isolate each part of the program and show that the individual parts are correct. Unit testing provides a strict, written contract that the piece of code must satisfy. As a result, it affords several benefits
- Facilitates Change
- Simplifies Integration

- Documentation
- Separation of Interface from Implementation

Fig. 28 Unit testing

3.7.3.2. Integration Testing

Integrated System Testing (IST) is a systematic technique for validating the construction of the overall Software structure while at the same time conducting tests to uncover errors associated with interfacing. The objective is to take unit tested modules and test the overall Software structure that has been dictated by design. IST can be done either as Top down integration or Bottom up Integration

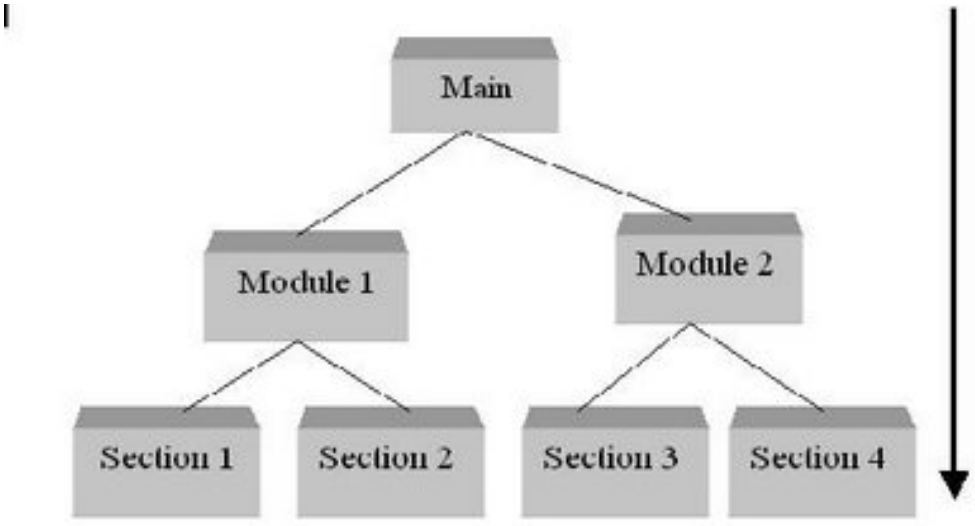


Fig. 29 Integration testing

3.7.3.3. System Testing

System testing is testing conducted on a complete, integrated system to evaluate the system's compliance with its specified requirements. System testing falls within the scope of Black box testing, and as such, should require no knowledge of the inner design of the code

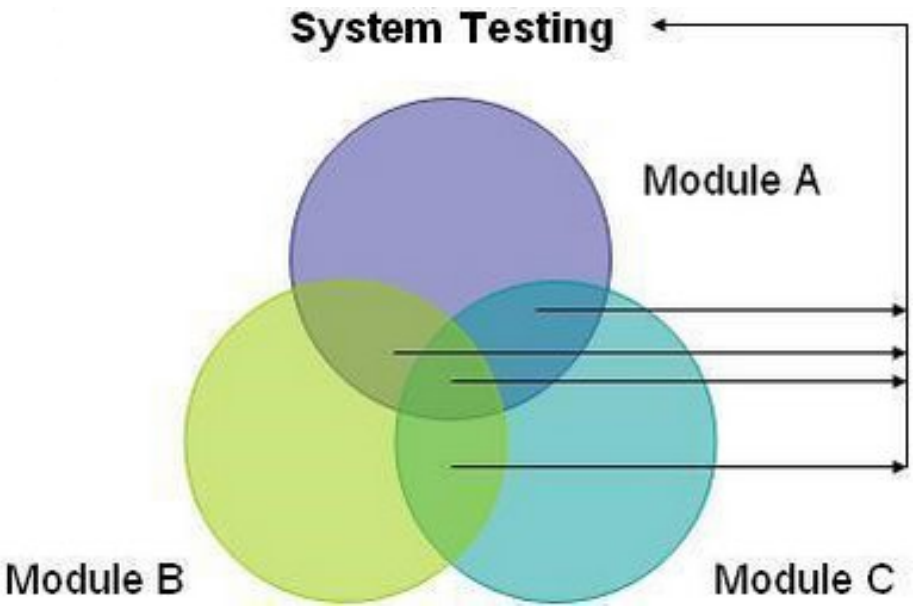


Fig.30 System testing

3.7.3.4. Acceptance Testing

User Acceptance Testing (UAT) is performed by Users or on behalf of the users to ensure that the Software functions in accordance with the Business Requirement Document. UAT focuses on the following aspects

- All functional requirements are satisfied
- All performance requirements are achieved
- Other requirements like transportability, compatibility, error recovery etc. are satisfied

- Acceptance criteria specified by the user is met

Entry Criteria

- Integration testing sign off was obtained
- Business requirements have been met or renegotiated with the Business Sponsor or representative
- UAT test scripts are ready for execution
- The testing environment is established
- Security requirements have been documented and necessary user access obtained

Exit Criteria

- UAT has been completed and approved by the user community in a transition meeting
- Change control is managing requested modifications and enhancements

3.8 Implementation

After having the user acceptance of the new system developed, the implementation phase begins. Implementation is the stage of a project during which theory is turned into practice. The major steps involved in this phase are:

- Acquisition and Installation of Hardware and Software
- Conversion
- User Training
- Documentation

The hardware and the relevant software required for running the system must be made fully operational before implementation. The conversion is also one of the

most critical and expensive activities in the system development life cycle. The data from the old system needs to be converted to operate in the new format of the new system. The database needs to be setup with security and recovery procedures fully defined.

Implementation of the project

While implementing the project specifications that was targeted by me that whether my application is platform dependent like WINDOWS dependency, any application software dependency any hardware profile dependency etc. I used it with hardware platform with following specifications:

System Software

Platform

- Window XP
- Window Vista
- Window 7

Application Software

IDE

- Net beans

RDBMS

- Sql Server 2005

Hardware Profile

- Processor INTEL PENTIUM –III/IV
- RAM 128 MB

- HDD 10 GB

3.9 Conversion Plan

- Review of the data requirements for the application for

  Completeness of the target schemas logical and physical design document

  Completeness of the semantic description of each data element required
- Development of a plan for the logical data architecture Inventory of the logical source, schema, metadata and all self-describing files

  Cross reference of target to source logical data elements

  Develop a list of missing but required data elements
- Development of a plan for the physical data architecture

  Develop a source data physical model

  Develop a cross-reference between each source and target data element
- Determine the right tools to execute the conversion
- Develop, extract, transform and load processes for each data source
- Develop cleaning process
- Determine data loading process - ODBC/JDBC - loader files

3.10 Post-Implementation and Software Maintenance

Software maintenance in software engineering is the modification of a software product after delivery to correct faults, to improve performance or other attributes, or to adapt the product to a modified environment.

Six software maintenance processes as:

- The implementation processes contains software preparation and transition activities, such as the conception and creation of the maintenance plan, the preparation for handling problems identified during development, and the follow-up on product configuration management.

- The problem and modification analysis process, which is executed once the application has become the responsibility of the maintenance group
- The process considering the implementation of the modification itself.
- The process acceptance of the modification, by confirming the modified work with the individual who submitted the request in order to make sure the modification provided a solution.

- The migration process (platform migration, for example) is exceptional, and is not part of daily maintenance tasks. If the software must be ported to another platform without any change in functionality, this process will be used and a maintenance project team is likely to be assigned to this task.

- Finally, the last maintenance process, also an event which does not occur on a daily basis, is the retirement of a piece of software.

4. Algorithm,Result and Benefit of the project

4.1. Algorithm

1.Open the TTr website login page.

2.Then we have to login through user id and password.

3.Assigning of team leader is done by project manager, and team leader will decide the module.

4.Modules will be assigned to employees.

5.After completion of modules it will be forwarded for review.

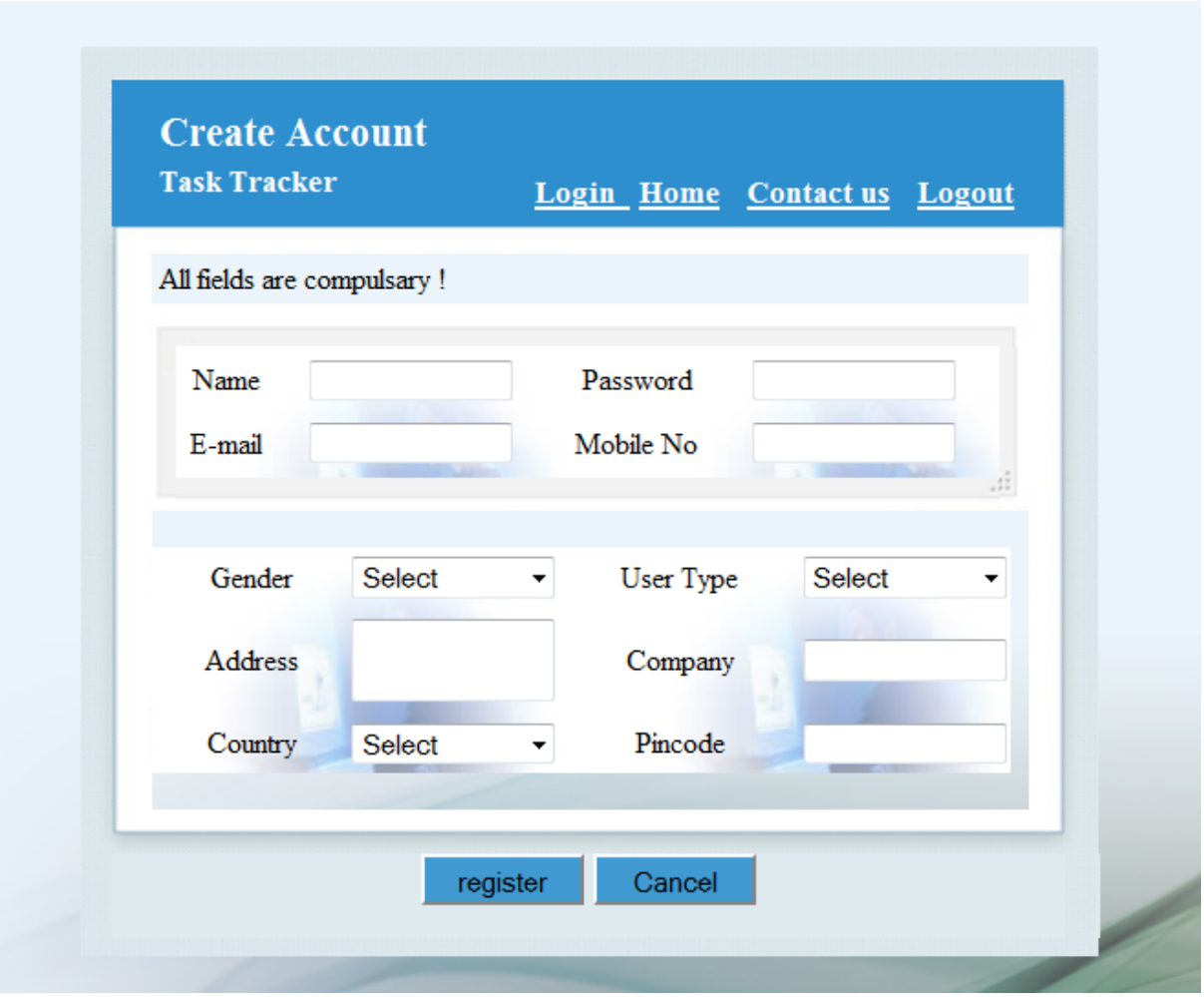
6.Team leader will review if yes then task is completed else it will be reassign.

7.After completion of all the modules correctly it will be submitted to project.

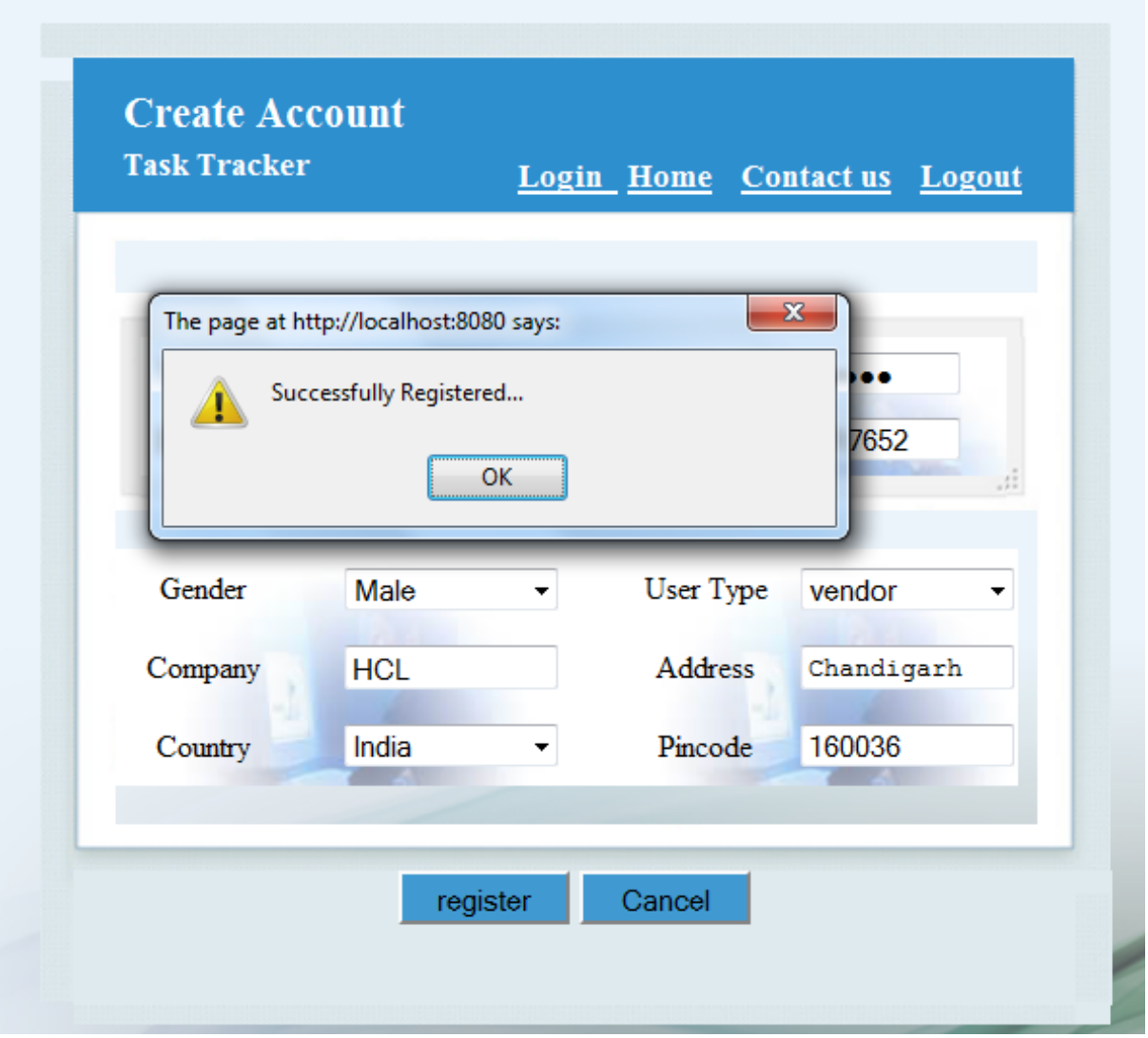
4.2 RESULT

When the user is not registered.

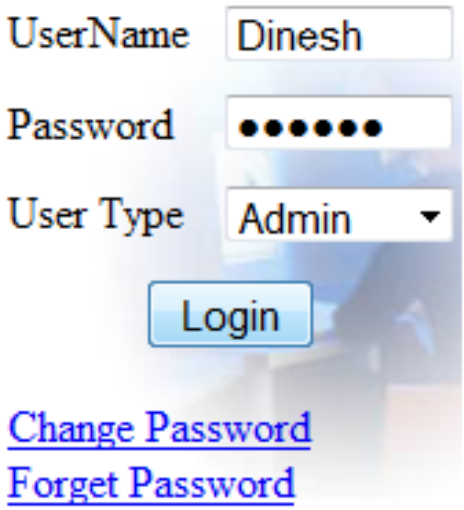
If he/she wants to use this website then he/she has to make account first. To make new account, user has to click on “Create account” Button. The following window will appear as:



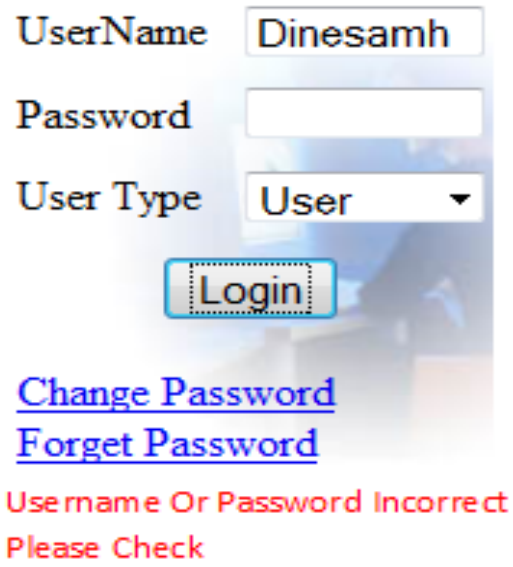
After filling the form and click on register button



Login Screen

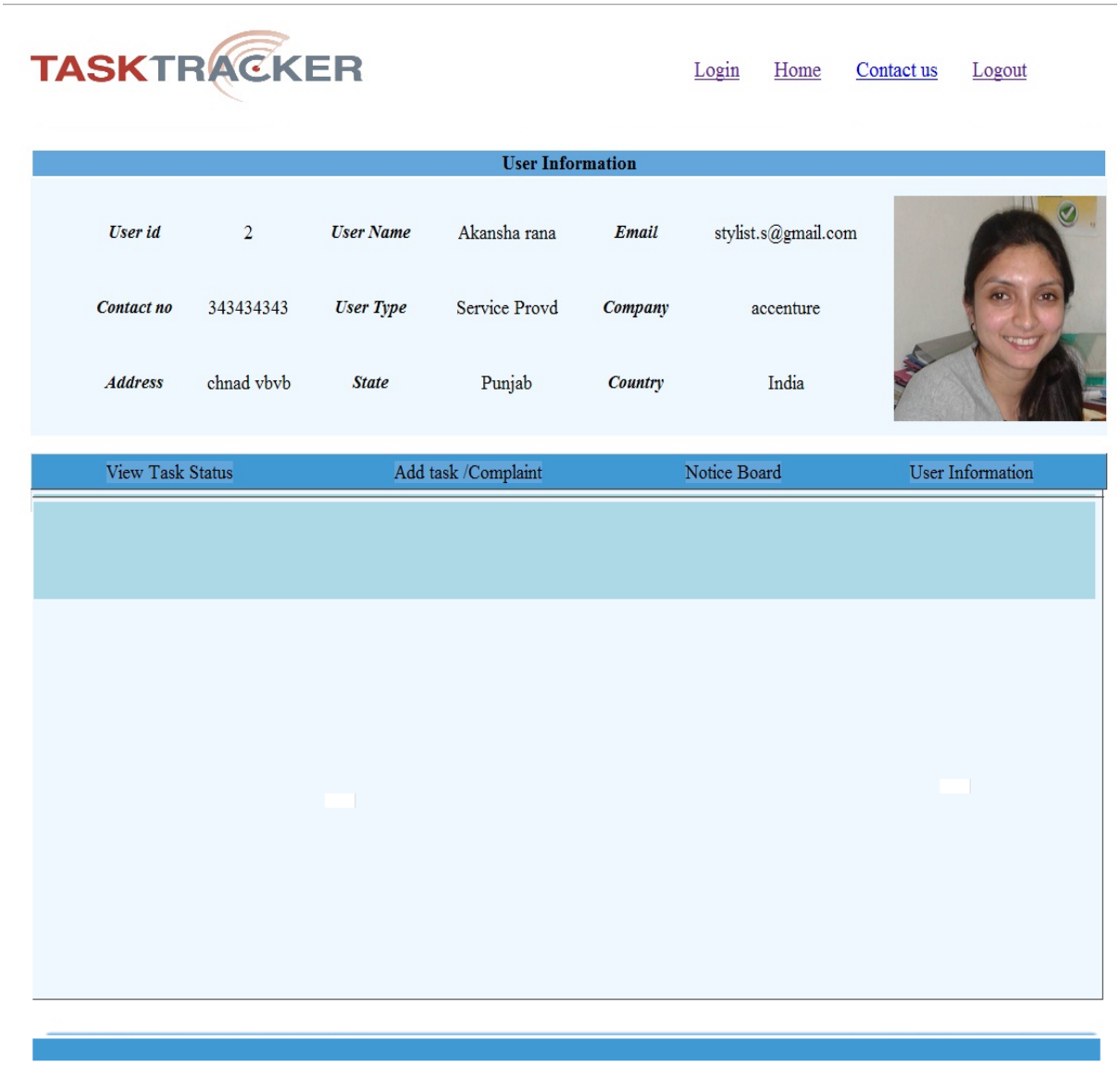


If the Parameters are incorrect then the following message will display to the user:



When the user is Authenticated and the parameters are correct the the follwing window will appear.

User Screen
If user login the user screen will be display



User can choose different options from the above screen like view task status, add task etc. He can also see the messages displayed on the notice By **clicking on View Task Status the following Window will appear**

TASKTRACKER

Login Home Contact us Logout

User Information

User id	2	***User Name***	Akansha rana	***Email***	stylist.s@gmail.com
Contact no	343434343	***User Type***	Service Provd	***Company***	accenture
Address	chnad vbvb	***State***	Punjab	***Country***	India

View Task/ My To Do List | Add Task | Notice Board | User Information

FILTER

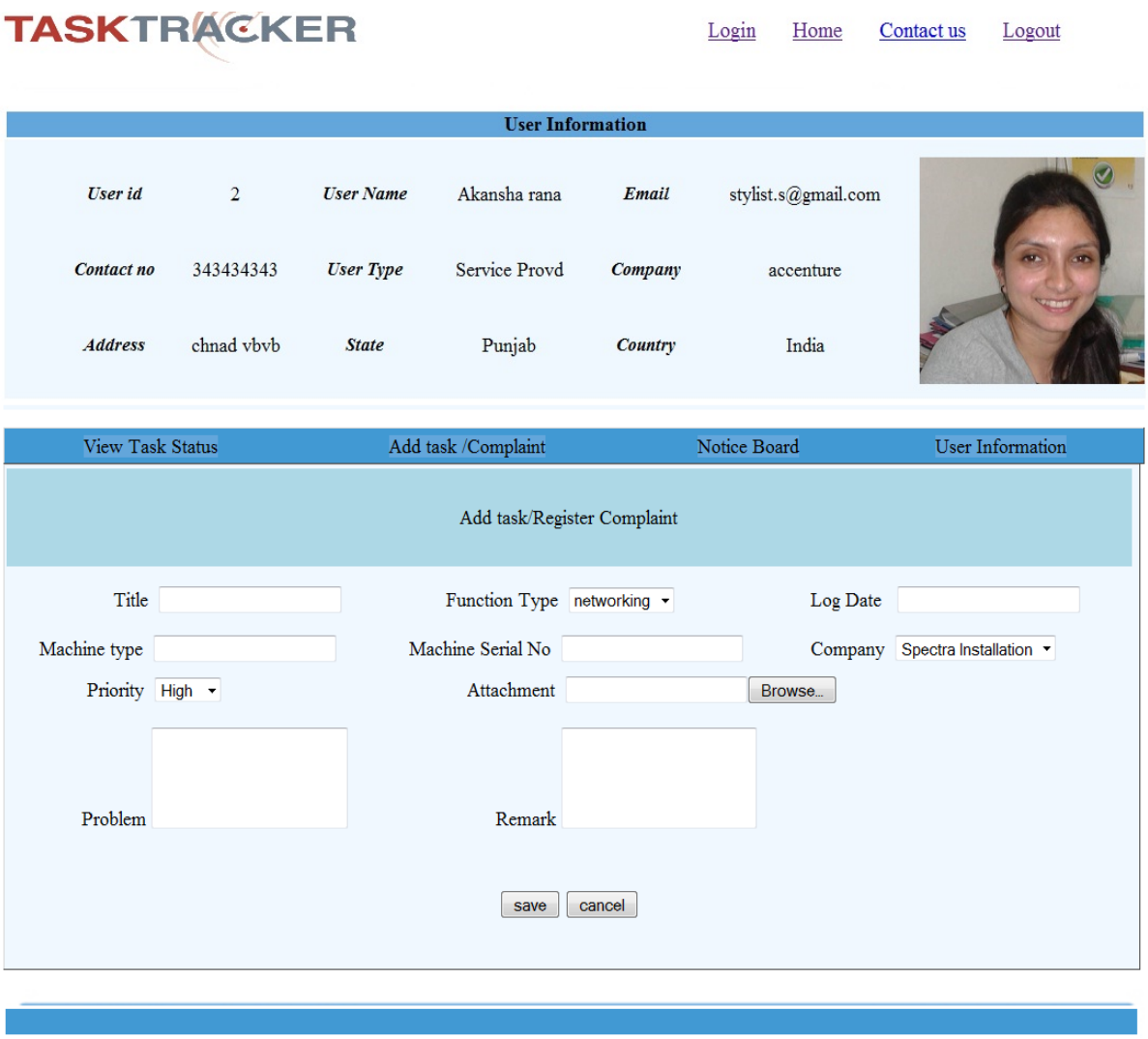
Task Id 202 Function Type networking From Date 12/4/2012 To Date 12/5/2012

Title trainee Status null Company Spectra Installation Show Cancel

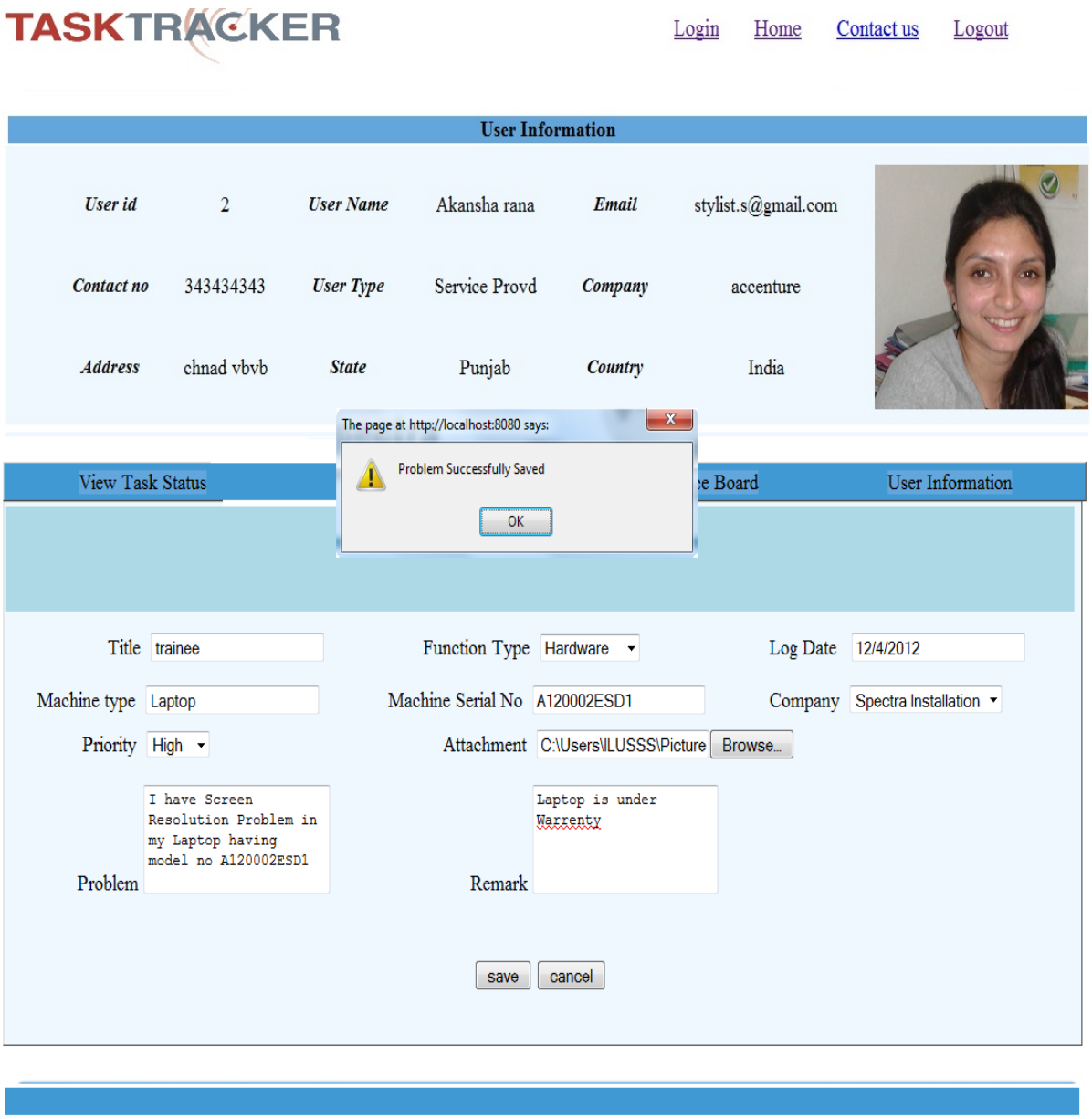
My To Do List

Task Id	*Title*	*Function Type*	*Status*
202	trainee	networking	null
203	project	Hardware	null
204	project	Hardware	null
205	smriti	networking	null
206	smriti	networking	null
207	MCA	networking	null
208	Trainee	networking	null

By clicking on Add Task/Complaint the following Window will appear.



After Filling the form and click on save button then following message will appear to the user.



4.3 Benefits of Task Tracker

- Time saving
- You can save all information in one location, which is easily accessible.
- Offers a flexible solution to managing different tasks at the same time.
- It is very cost effective
- It simplifies multi tasking
- Offers an easy and manageable solution to organize different tasks.
- Easier to work in partnership with other members of the team.

By using a **task tracking software**, you can very easily track the progress of each of your team members, without even interrupting their work and calling for meeting often.

5. Future goals of the project and Conclusion

5.1 Future goals of the project

In this project we can add many features as follows.:-

• We can add SMS alert function.

• We can add live chat facility between user and admin.

• We can also modify system as per organisation requirement.

5.2 Conclusion

There is some problem that we face if we are managing projects or any task plans in emails, spreadsheet and disconnected files, we are buried in routine work and

stay within the dark about status. it's very difficult to stay track of every task that's created by employee and assign to other employee. because the company have an outsized no of team members, so it’s dangerous to place a watch check for all the workers work.The Main purpose of the Task tracker application is to cut back human action in a corporation. it's convenient for the workers furthermore the pinnacle of dept, to manage the team and their work also. The developing project reduce the prevailing system drawbacks and improve the standard and user friendliness of the system.

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