DBMS report project

computer engineer (Savitribai Phule Pune University)

PROJECT REPORT ON

‘Time And Productivity Analysis Tool’

SUBMITTED TO THE SAVITRIBAI PHULE PUNE UNIVERSITY, PUNE

SUBMITTED BY

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2020- 2021

Sinhgad Institutes

CERTIFICATE

This is to certify that the project report entitled

" Time And Productivity Analysis Tool"

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is a bonafide work carried out by her/ him under the supervision of **Prof. M.B. Tamboli** and it is approved for the partial fulfillment of the requirement of University of Pune as a part Database Management Lab work syllabus (Third year Computer Engineering).

(Prof. M.B. Tamboli)	**(Dr. P. N. Mahalle)**
Department of Computer Engineering	Head, Department of Computer Engineering

ACKNOWLDGEMENT

It is my proud privilege and duty to acknowledgement the kind of help and guidance received from several people in the preparation of this report. It would not have been possible to prepare this report in this form without their valuable help, co-operation and guidance.

First and the foremost, We wish to record my sincere gratitude to the management of this college and to our Respected Principal for his constant support and encouragement in the preparation of this report and for the availability of library and laboratory facilities needed to prepare this report .My sincere thanks to Dr. P.N. Mahalle Head of Engineering Computer Department for his valuable suggestions and guidance throughout the preparation of this report.

We express our sincere gratitude to my guide Prof .Mr. M.B. Tamboli for guiding us in investigations of this project and in carrying out experimental work. Our numerous discussions were extremely helpful. We hold him in esteem for guidance, encouragement and inspiration received form Sir.

Last but not the least we wish to thanks my parents for financing my studies and helping me throughout my life for achieving perfection and excellence. Their personal help in making this report and seminar worth presentation is gratefully acknowledged.

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Chapter 1

Introduction

The Time and Productivity Analysis Tool is aimed at developing a system, which manages the activity of "Student Tasks". The main objective of the proposed system is to provide information instantly as and when it is required. The main objective is to make the information details more efficient and effective. This system should maintain different data files, so tha11t the data can be retrieved easily and in an efficient manner. The system is very interactive. It should ensure process integration to the desired extent, various reports should be generated as the need be. This system should also ensure that there is no redundancy in the recorded data. This project is aimed at developing an Effort Tracker System that is of importance to a college or institution. The Time and Productivity Analysis Tool is used to track the Students activities and summarize all related activities with the total hours spent and efficiency utilized and generate a report for the same.

- Advantages:-
  - The Application will control the Activities done by Student on Laboratory Computer
  - Teacher would be able to track each task of Students.

Chapter 2

Project Plans

We've created an application for student task tracking system for that first of all we've used NetBeans IDE 10.0 and eclipse. This software gives a simply drag and drop properties and methods related to particular program.

First we have create a window which includes three main tabs for working: 1.Admin Activity 2.Search 3.Export .On the same window we create four tabs which include 1.Register Student 2.Logged Student 3.Change Password etc.

- Admin Activity:-Here the Admin can view the details about the every logged in student. And see the performance of every student in particular way of time.
- Search:-In these tab you can search the particular student with their student Id and enter the particular date for view the performed tasks done by the particular student.
- Export:-Exporting the data means whatever task you done, by using tables in Excel.
- Register Student:-Here you have to write the information about the particular student Which consist of the following parameters like Name, Password, Username, Email etc. and register the student in database.
- Logged Student:-Here the every logged students Username and Logged time will be shown in the tabular format, and this data will store in the xml file using tags.
- Change Password:-If any student forget the password you can change the password by using this tab. This ids done only by admin.

Here, we've created the Client-Server architecture to communicate with the different clients in the same local area network.

Sr No	Topic	Time Duration
1	Project Topic	1Week
2	Project Plan	3Weeks
3	Project Design	5Weeks
4	System Development	2Weeks
5	System Testing	5Days
6	Report	1Week

Table No: 2.1 Project Plan

Chapter 3

Project Requirements

- **Hardware and Software Specifications:**

  - **Software Specifications:-**

Content	Description
Operating System	Windows 10
IDE	Apache netbeans IDE 10.0
User Interface	Java
Programming Language	Java
Database	MySQL
Networking Protocol	TCP/IP
Client-side Programming	Java

Table No: 3.1

Fig no.: 3.1

- **Hardware Specifications:-**

Content	**Description**
Hard Disk	20 GB(Min) 40 GB(Max)
Ram	1GB(Min)
Processor	Pentium

Table No: 3.2

Chapter 4

Project Design

In first window row wise it consist of three tabs which include Admin activity to see the all register student. Search tab for the searching particular student logged into the application and view the task that student has performed. Export tab which is use to view the performance of a particular student with the help of the graphical presentation format with the help of the tables in the excel or graphs or pie charts etc.

When particular student logged into the application the entry of the every student will save into the xml file. In the column wise format four tabs are present

4.1 Risk Projection

Risk Projection, also called risk estimation, attempts to rate each risk in two ways. 1:-the likehood or probability that the risk is real and 2. The consequences of the problems associated with the risk. The project planner, along with other managers and technical staff, performs four risk projection steps:

1. Establish a scale that reflects the perceived likehood of a risk.

2. Delineate the consequences of the risk.

3. Estimate the impact of the risk on the project and the product.

4. Note the overall accuracy of the risk projection so that there will be no misunderstandings.

Sr.No	Risks	Probability	Impact
1	Size estimate may be significantly low	60%	2
2	Larger number of students than planned	30%	3
3	Less reuse than planned	70%	2
4	Admin will change requirements	80%	2
5	Technology will not meet requirements	30%	1
6	Lack of training on Application	80%	3
7	Admin inexperienced	30%	2

Impact:-

1:-Catastrophic

2:-Critical

3:-Marginal

4:-Negligible

4.2. Feasibility Study

A feasibility study is performed by a company when they want to know whether a project is possible given certain circumstances. Feasibility studies are undertaken under many circumstances – to find out whether a company has enough money for a project, to find out whether the product being created will sell, or to see if there are enough human resources for the project. A good feasibility study will show the strengths and deficits before the project is planned or budgeted for. By doing the research beforehand, companies can save money and resources in the long run by avoiding projects that are not feasible.

Feasibility study consist of the following types:-

1. Technical feasibility:-

Technical feasibility involves evaluation of their hardware, software, and other technology requirements of the proposed system. Here we use the software's like Apache netbeans IDE 10.0, JDK 11.0, MySQL database and programming language java is used here for these application.

2. Operational feasibility:-

This measures how well your company will be able to solve problems and take advantage of opportunities that are presented during the course of the project. Operational feasibility studies also a project plan satisfies the requirements identified in the requirements analysis phase of system development. In these application when admin search for the particular student tracking tasks, admin can get the all proper details of that particular student with the proper date wise format as well as student can get the email about their performance. So both student and admin satisfies the requirements.

3. Financial feasibility:-

Given the financial resources of the company, is the project something that can be completed? The financial feasibility study is more commonly called the cost/benefit analysis.

4. Resource feasibility:-

Do you have enough resources, what resources will be required, what facilities will be required for the project, etc. For these application resource like two pc's are require as we used the client server communication as well as facilities like admin can get the information about the tracking tasks of every student. And student can get the proper performance about their practical's improvements by sending the email.

4.3. Behavioural and Functional Description

1. UML Use-case Diagram:-

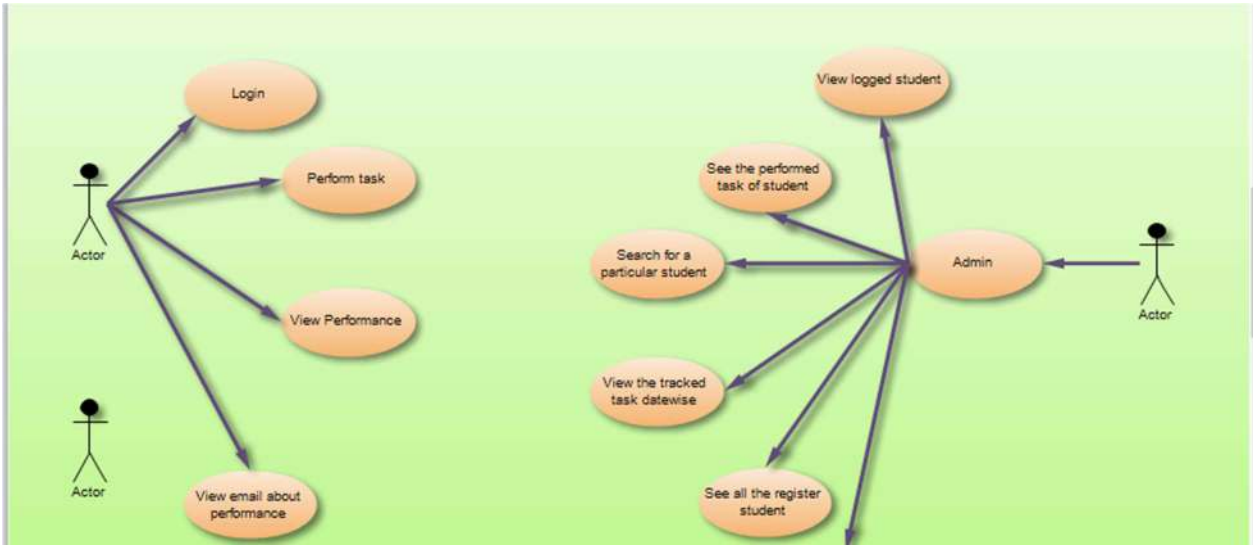


Fig 4.3.1

2. UML Activity Diagram:-

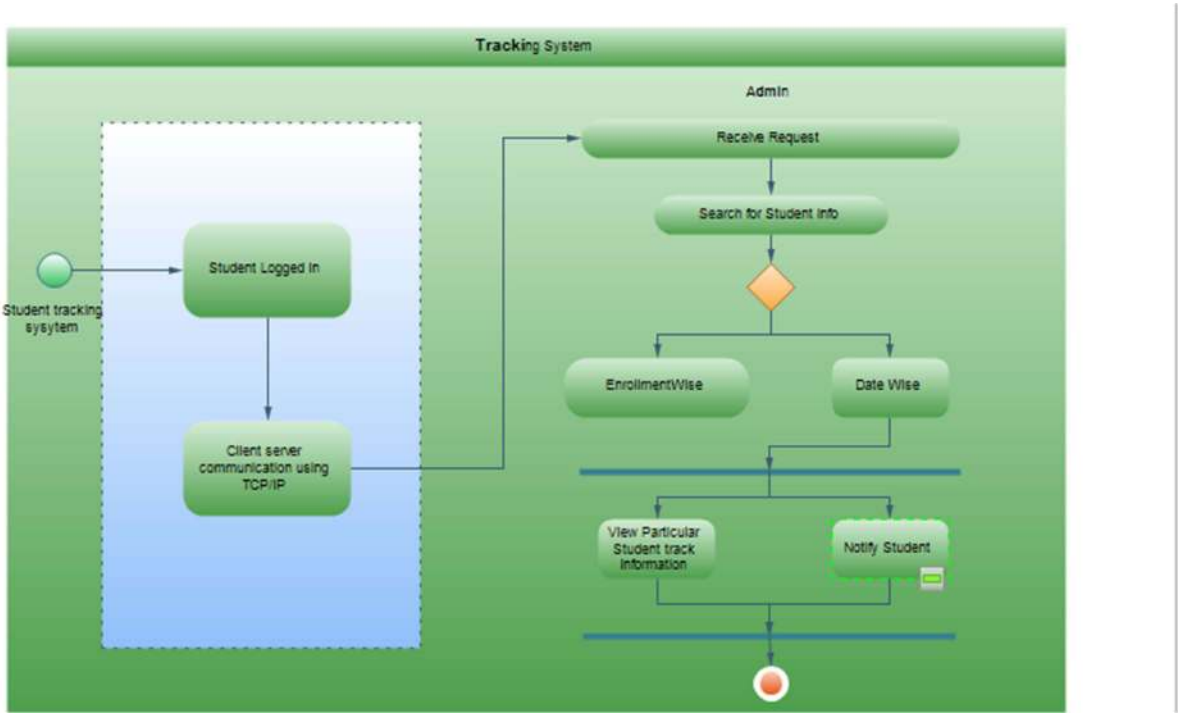


Fig 4.3.2

3. UML Deployment Diagram:-

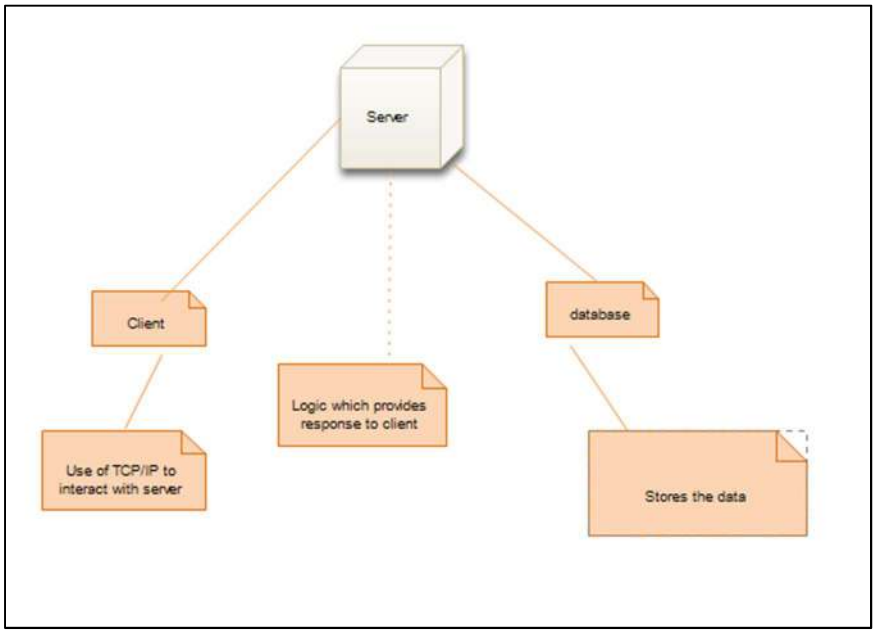


Fig 4.3.3

4.4. Data Flow Diagrams

1. DFD Level 0:-

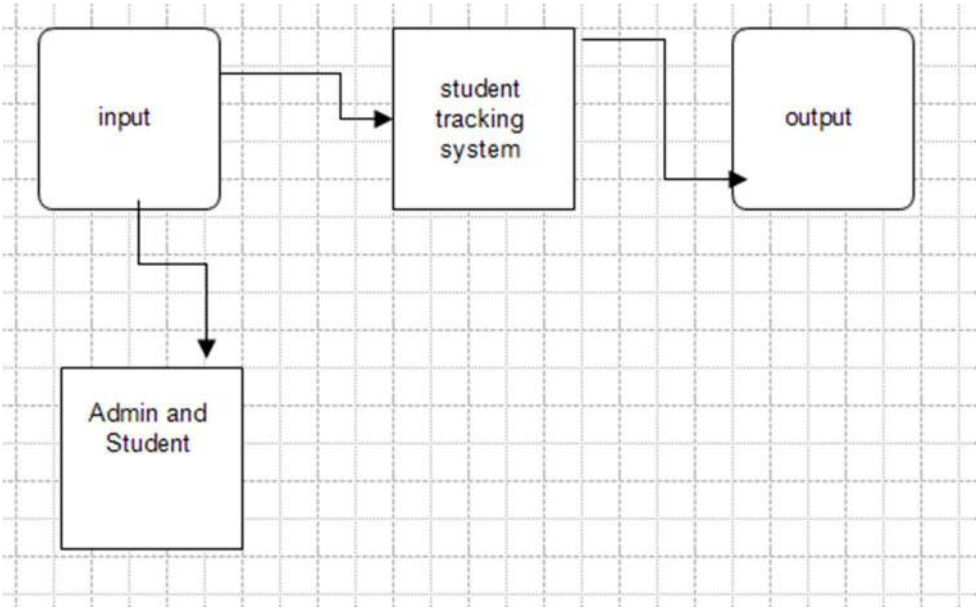


Fig 4.4.1

2. DFD Level 1:-

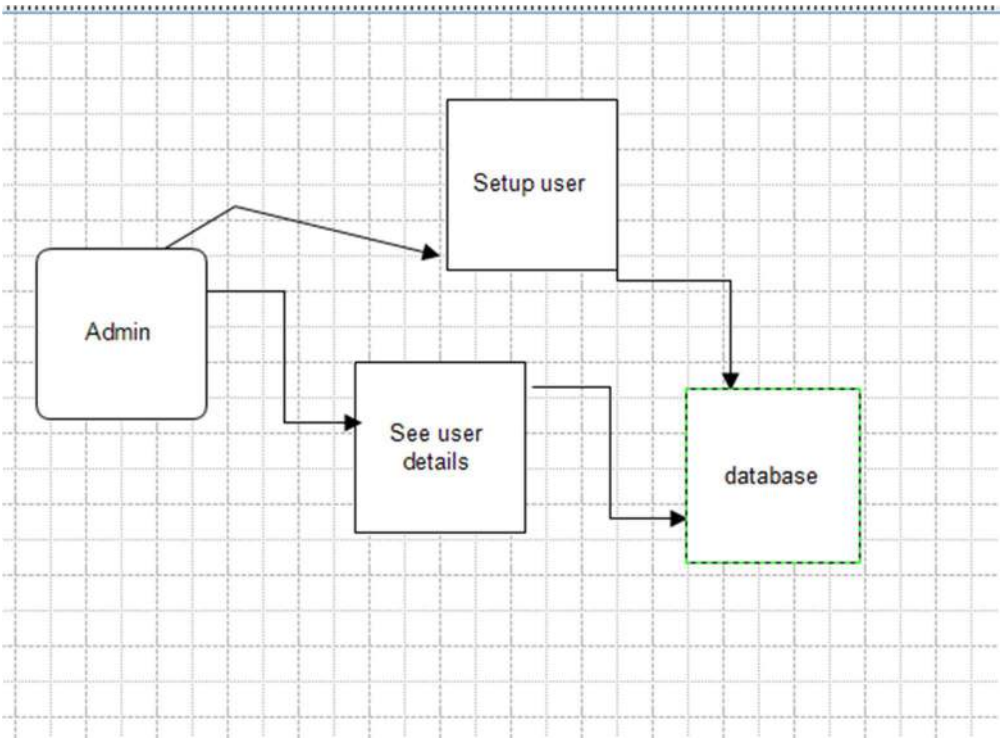


Fig 4.4.2

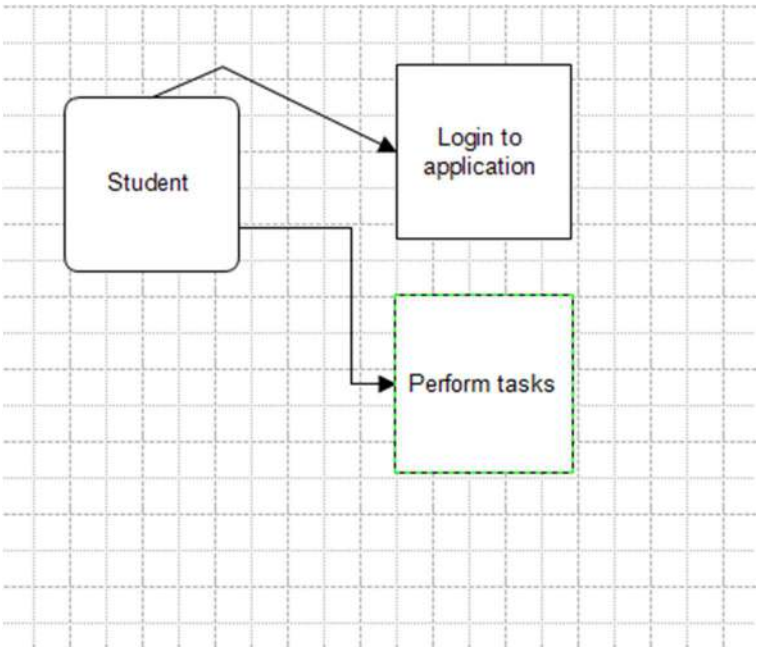


Fig 4.4.3

3. DFD Level 2:-

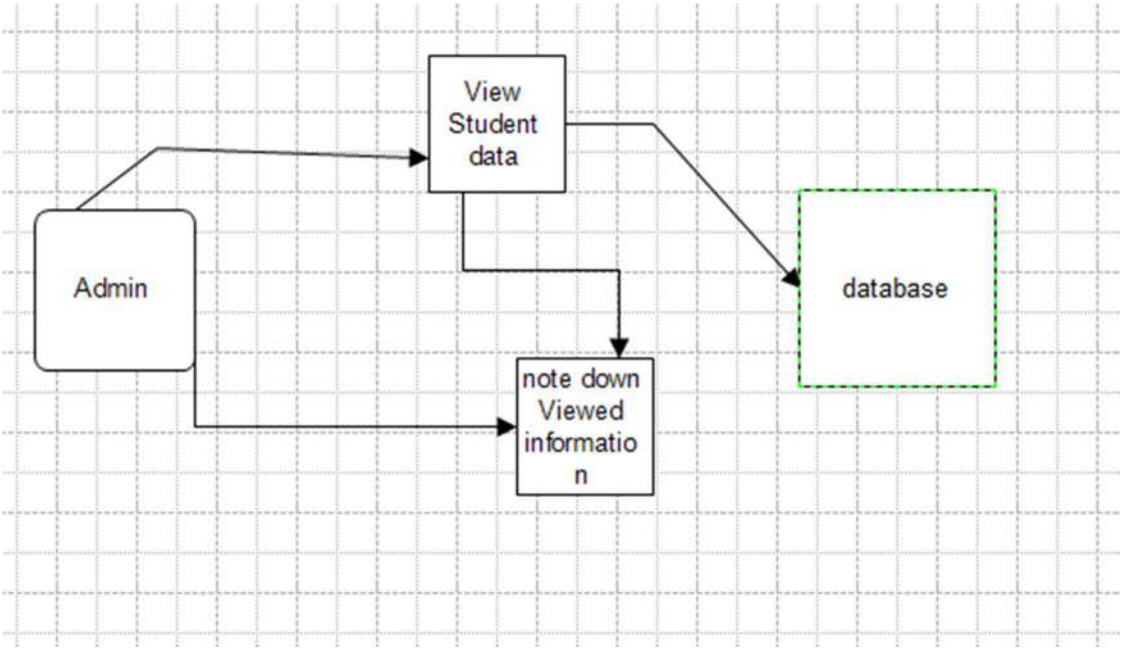


Fig 4.4.4

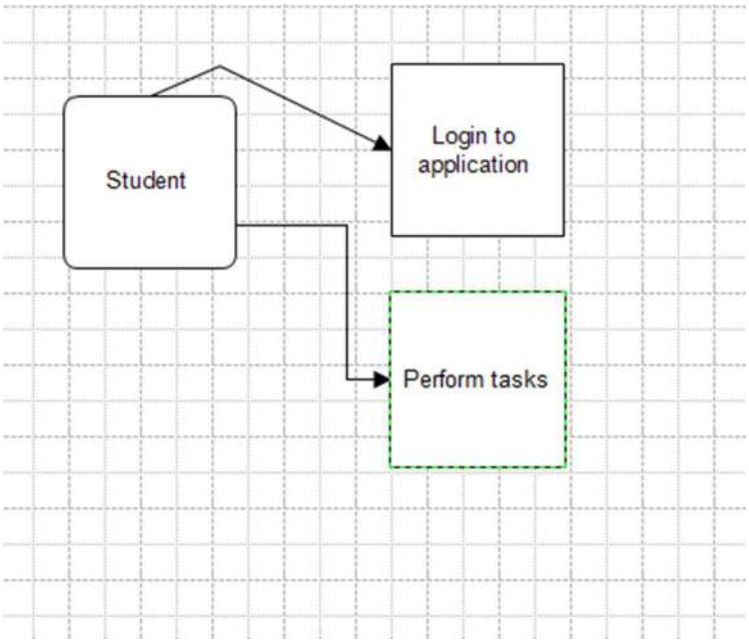


Fig 4.4.4

ER-Diagram :

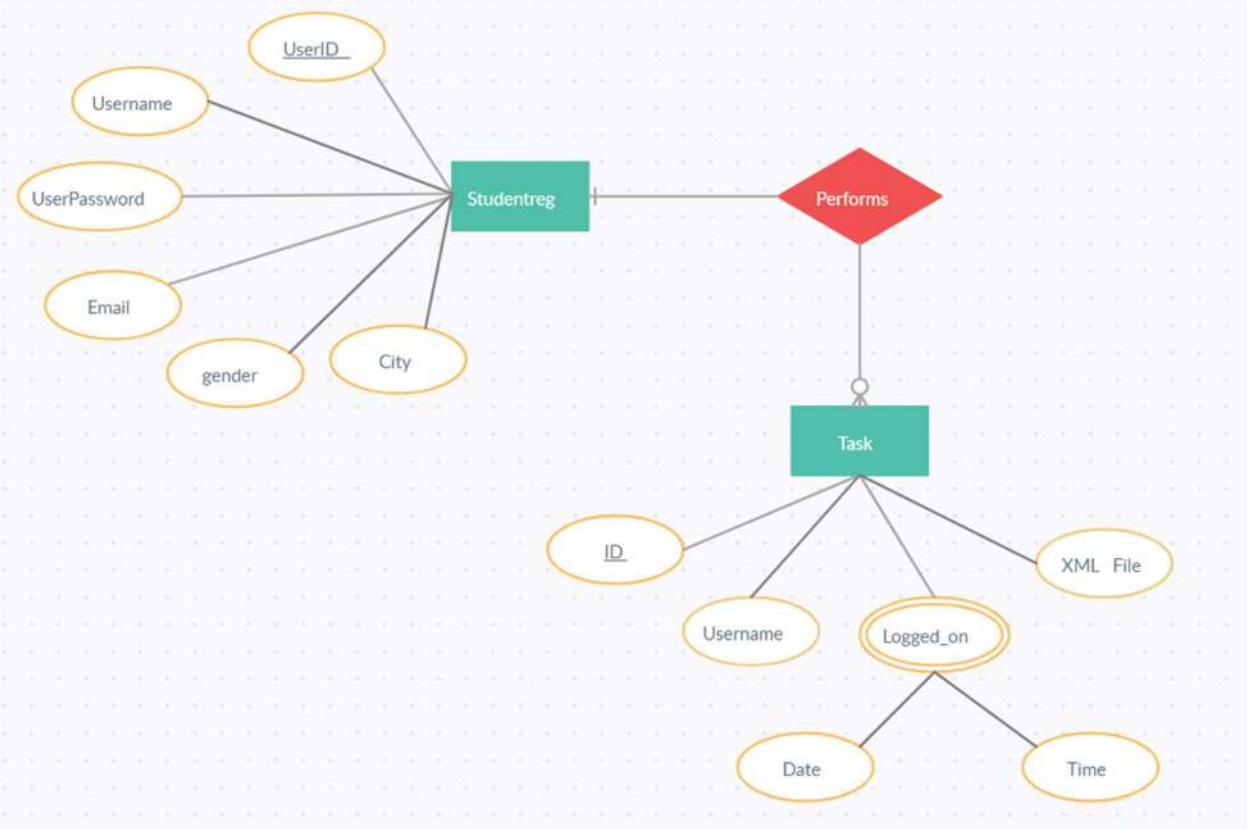
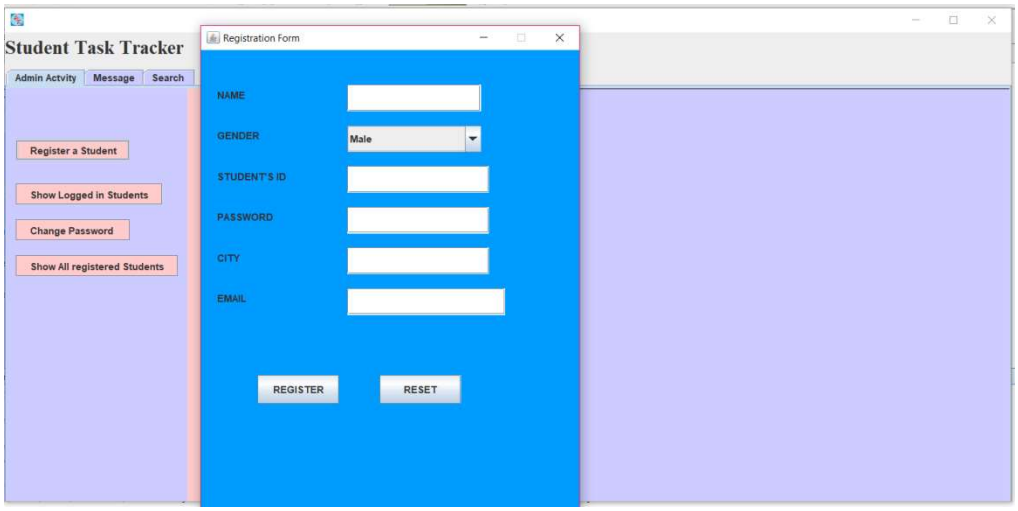
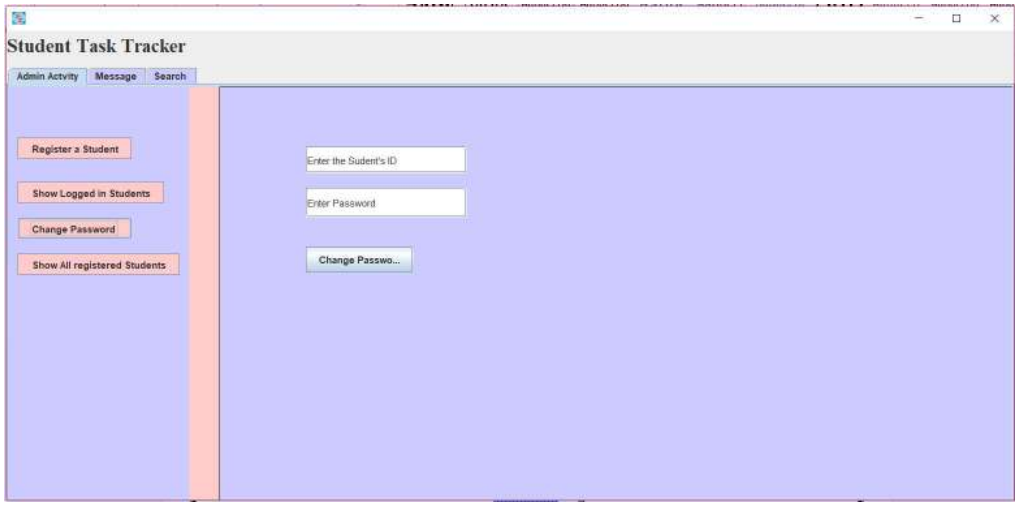


Fig. 4.5.1 (Student data and tasks table)

4.5. Screen Shots

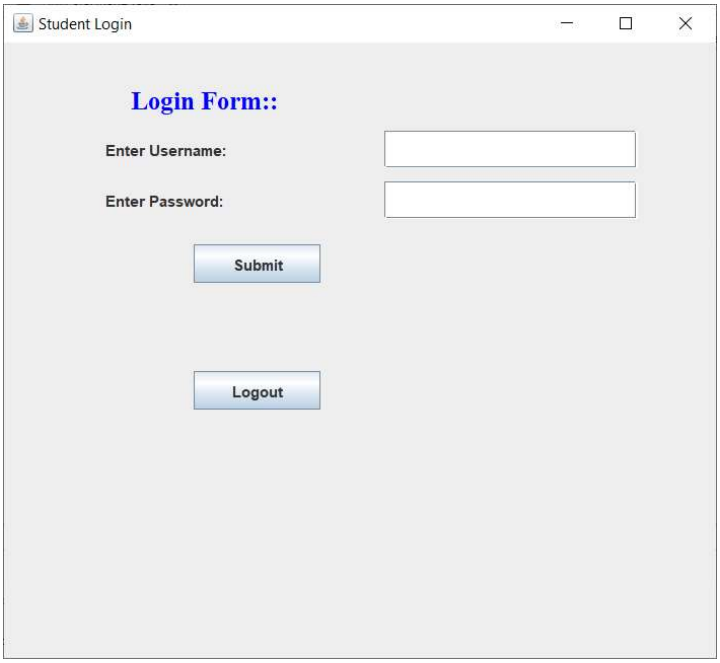


Screen Shot 1 :Student's Registration

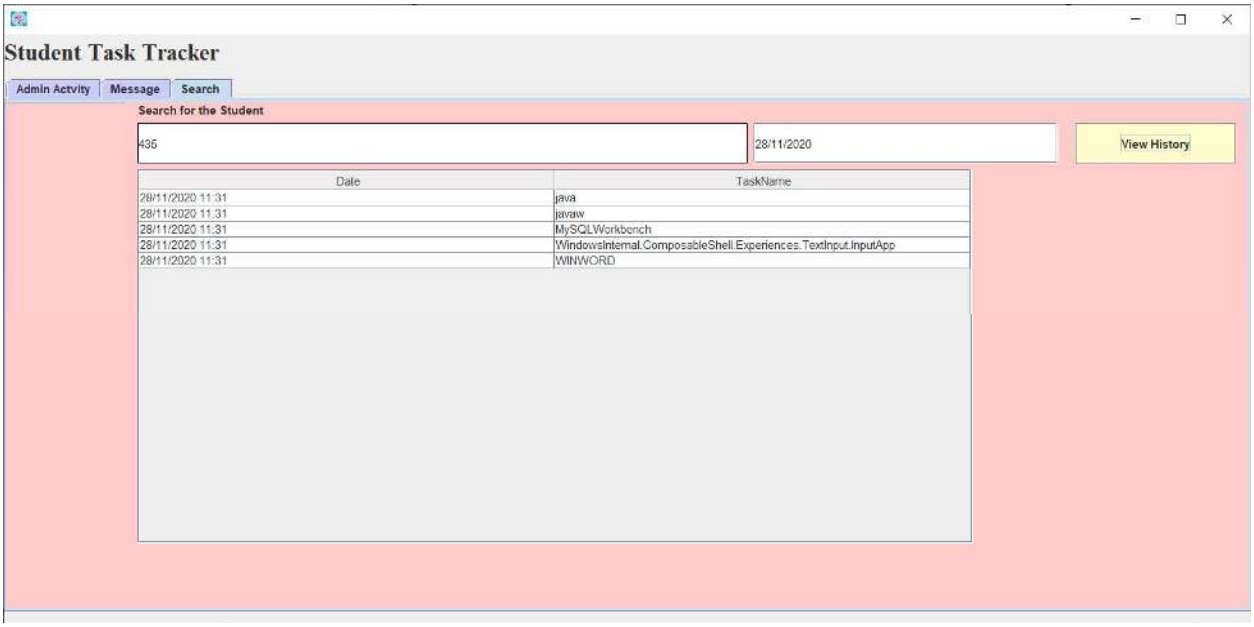


Screen Shot 2:Change Password of Student

Screen Shot 3 : Displaying all Registered Students

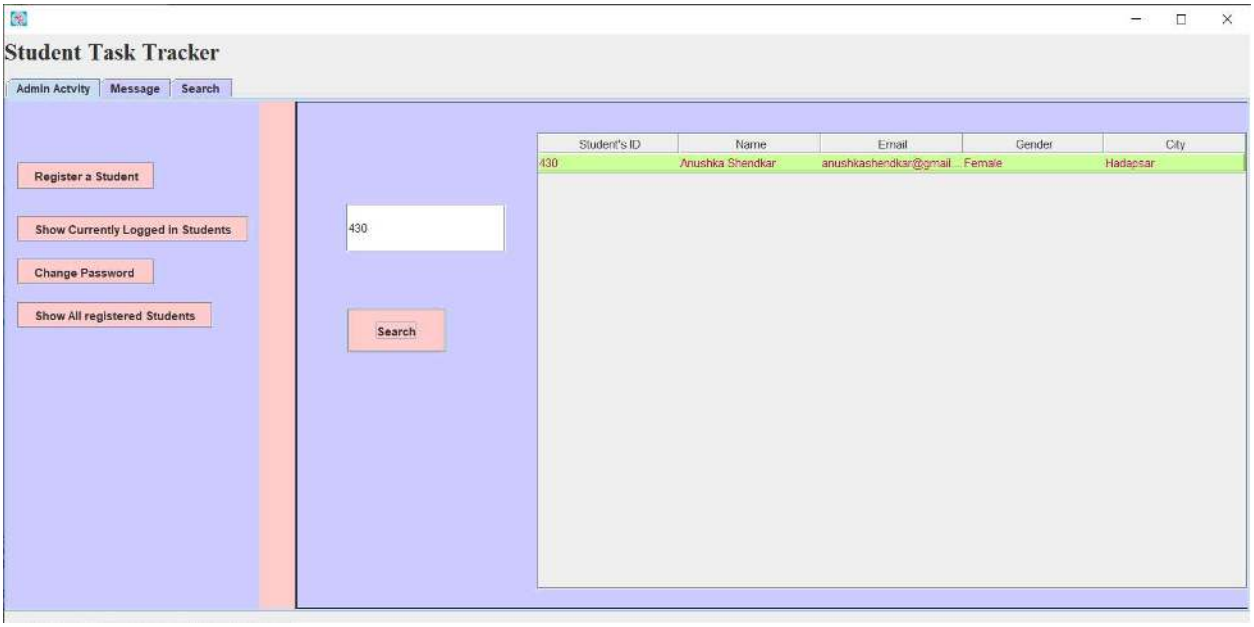


Screen Shot 4 : Student Login



Screen Shot 5 : Students tasks

Screen Shot 6 : Sending mail to the particular student



Screen Shot 7 : search a student

Chapter 5

System Development

Sr.No	Tasks	Duration
1	Login page using swing and awt in java	1 Day
2	Validation for login page	1 Day
3	Database for Storing the logged student	1 Day
4	Exporting the data into the excel sheet	12 Hours
5	Client and server implementation	1 Day
6	Sending the email to particular student by Admin	6 Hours
7	Search the tracking tasks of particular student by id and date	6 Hours
8	Running the whole application with client and server	1 minute
9	Making report of Application	1 Day

Table 5.1

System Development Plan

An effective System Development Life Cycle (SDLC) should result in a high quality system that meets customer expectations, reaches completion within time and cost evaluations, and works effectively and efficiently in the current and planned information technology infrastructure

System Development Life Cycle (SDLC) is a conceptual model which i System Development Life Cycle includes policies and procedures for developing or altering systems throughout their life cycles.

SDLC is used by analysis to develop an information system. SDLC includes the following activities:

1. Requirements
2. Design
3. Implementation
4. Testing
5. Deployment
6. Operations
7. Maintenance

- Main Roles:-

1. Defining and understanding the requirement of user through various fact finding techniques.

2. Prioritizing the requirements by obtaining user consensus.

3. Maintains analysis and evaluation to arrive at appropriate system which is more user friendly.

4. Gathering the facts or information and acquires the opinions of users.

5. Suggests many flexible alternative solutions, pick the best solution, and quantify cost and benefits.

6. Draw certain specifications which are easily understood by users and programmer in precise and detailed form.

7. Implemented the logical design of system which must be modular.

8. Plan the periodicity for evaluation after it has been used for some time, and modify the system as needed.

As above table shows the step by step methods of system development i.e. how the system is developed in small module. “Time and Productivity Analysis Tool” is divided into small modules which consist of the login page, validation for the login page, creating the database, search for the particular student by using its id and date for viewing the tasks that he/she performed, sending the email to the particular student about their performance etc. are some of the steps which comes under the development of the tool or application.

Chapter 6

System Testing

System Testing is the testing of a complete and fully integrated software product. Usually, software is only one element of a longer computer based system. It is a series of different tests whose sole purpose is to exercise the full computer-based system.

- ❖ Two categories of software testing:-
  - Black-Box Testing
  - White – Box-Testing
- ➢ System test fails under the black-box testing category of software testing.
- ➢ White-box testing is the testing of the internal workings or code of a software application. In contrast, black box or system testing is the opposite. System test involves the external workings of the software from the user's perspective.

- ❖ System Testing involves testing the software code for following.
  - Testing the fully integrated applications including external peripherals in order to check how components interact with one another and with the system as a whole. This is also called End to End testing scenario.
  - Verify through testing of every input in the application to check for desired outputs.
  - Testing of the user's experience with the application.

Software Testing Hierarchy:-

Software Testing Hierarchy consist of the following categories.

1. Unit Testing :- Testing performed on each module or block of code during development.

Unit Testing is normally done by the programmer who writes the code i.e. the syntax of the program, logic of code, language of the code used etc.

2. Integration Testing:-This Testing involves testing of each individual code module. One piece of software contain several modules which are often created by several different programmers. For example: Here it consist of the different modules like-login window, database for all the logged in students, sending email about their performance, client-server communication, search for the particular student to see the tasks etc.

3. System Testing:-Testing done by a professional testing agent on the completed software product.

4. Acceptance Testing:-Beta Testing of the product done by the actual end users.

5. Usability Testing:-Usability Testing mainly focuses on the user's ease to use the application, flexibility in handling the controls. For example:- Is student is able to login to the application or not?, Is student have given the option as change password i.e. whenever student forget the password? Etc.

6. Load Testing:-Load Testing is necessary to know that a software solution will perform under real life loads.

7. Regression Testing:- Regression Testing involves testing done to make sure none of the changes made over the course of the development process have caused new bugs. It also makes sure no old bugs appear from the addition of the new software modules over time.

8. Recovery Testing:-Recovery Testing is done to demonstrate a software solution is reliable , trustworthy and can successfully recoup from possible crashes.

9. Migration Testing:-Migration Testing is done to ensure that the software can be moved from older system infrastructure to current system infrastructures without any issues.

10. Functional Testing:-Also known as functional completeness testing. Functional Testing involves trying to think of any possible missing functions. Testers might make a list of additional Functionalities that a product could have to improve it during functional testing.

Chapter 7

Conclusion

The Time and Productivity Analysis Tool was successfully designed and is tested for accuracy and quality. During this project we have accomplished all the objectives and this project meets the needs of the institution. The developed project will be used in searching, retrieving and generating information for the concerned requests. The advantages that are with this proposed system are reduced entry work, Easy retrieval of information, Reduced errors due to human intervention, User friendly screens to enter the data, Portable and flexible for further enhancement . And Fast finding of information requested.

Chapter 8

Future Scope

This application will useful for the teachers as well as students for their good working. Student will understands about their practical knowledge or in which subject they have to improve their practical knowledge. Teachers will also understand about the practical's of every student i.e. what a particular Student is performing during their practical sessions or which software's he/she opens. We will also send message to a particular student about their performance in the labs, but here we implemented the sending email to the particular student about their performance which will send by admin to the particular student.

Chapter 9

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- https://dev.mysql.com/doc/connector-j/5.1/en/connector-j-usagenotes-connect-drivermanager.html