

The background of the page features an abstract design. It includes three sets of concentric circles in various shades of blue. One large set is in the top right, a medium set is in the center, and another large set is in the bottom right. Thin blue lines intersect the page diagonally, creating a sense of movement and structure.

STUDENT COMMUNICATION SYSTEM

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PROJECT FEASIBILITY

❖ *Testing Project Feasibility :*

The preliminary investigations examine project feasibility, the likelihood the system will be useful to users. Feasibility study is that kind of study by which we can decide that the whole project is really beneficial for human or not. Because months or years of effort, thousands or millions of rupees be averted if an ill-conceived system is recognized early in the definition phase.

- **Following three types of feasibility study tests STUDENT DATABASE MANAGEMENT which is a net-based system :**

1. Technical Feasibility :

This is concerned with specifying equipment and software that will successfully satisfy the user requirement. In examining technical feasibility, configuration of the system is given more importance than the actual make of hardware. The technical needs of the system may vary considerably, but might include:

- The facility to produce outputs in a given time.
- Response time under certain conditions
- Ability to process a certain volume of transaction at a particular speed.
- Facility to communicate data to distant location.

STUDENT DATABASE MANAGEMENT SYSTEM is technically feasible as it can be built in any hardware. The project can be developed in any hardware environment based on Intel Pentium processors as well as other higher range of processors. Thus the project is technically feasible. Further the project can be developed under Windows XP or Windows7, Windows 8 operating

systems. Thus on behalf of the operating system the project is feasible. It can Produce many outputs in a specified time interval. Its response time is good and via net it provides the facility to communicate data to distant location.

2. Economic Feasibility :

Economic analysis is the most frequently used technique for evaluating the effectiveness of a proposed system. Most commonly known as cost/benefit analysis; the procedure is to determine the benefits and saving that are expected from a proposed system and compare them with costs. If benefits outweigh costs, a decision is taken to design and implement the system. Otherwise, further justification or alternative in the proposed system will have to be made if it is to have a chance of being approved. This is an ongoing effort that improves in accuracy at each phase of the system life cycle.

My project STUDENT DATABASE MANAGEMENT SYSTEM that can be developed technically and that will be used by the net surfers is profitable for the site. Based on the minimum hardware and software requirement the cost of the project is much less compared to the benefits obtained from it. Thus the project is economical feasible.

III. Operational Feasibility :

Proposed projects are operationally feasible if they can be turned into information systems that will meet the operating requirements. Operational feasibility covers two aspects. One is a technical performance aspects and the other is acceptance within the organization. Technical performance includes issues such as determining whether the system can provide the right information, and whether the system can be organized so that it always

delivers this information at the right place and on time. Acceptance revolves around the current system and its personnel. Operational feasibility must Determine how the proposed system will fit in with the current operations and what, if any, job restructuring and retraining may be needed to implement the system. The evaluation must then determine the general attitudes and skills of existing personnel and whether any such restructuring of jobs will be acceptable to the current users. **Student Communication System** is operationally is feasible as its users need not be highly qualified persons. Common people can easily access the site and enjoy the user-friendly environment of the site.

SOFTWARE ENGINEERING PARADIGM APPLIED

Software engineering is the establishment and use of sound engineering principles in order to obtain economically software that is reliable and works efficiently on real machines. It is a layered technology. Software engineering tools provide automated or semi-automated support for the process and the methods. When tools are integrated so that another can use information created by one tool, a system for the support of software development, called computer-aided software engineering is established. Software engineering methods provide the technical details for building software. Methods encompass a broad array of tasks that include requirements analysis, design, program construction, testing and support.

To solve actual problems in an industry setting, software engineer or a team of engineers must incorporate a development strategy that encompasses the process, methods and tools and the generic phases.

This strategy is often referred to as process model or a software engineering paradigm. A process model for software engineering is chosen based on the nature of the project and application, the methods and tools to be used, and the controls and deliverables that are required.

My project 'STUDENT DATABASE MANAGEMENT' that is a web-based project has been developed to meet the different kind of net users with different tastes and preferences.

All software development problems can be characterized as a problem-solving loop in which four distinct stages are encountered: status quo, problem definition, technical development and solution integration. Status quo represents the current state of affairs, problem definition identifies the specific problem through the application of some technology and solution integration delivers the results to those who requested the solution in the first place.

Realistically, it is difficult to compartmentalize activities because cross talk occurs within and across stages. Yet this simplified view leads to very

Important idea: regardless of the process model that is chosen for software Project, all of the stages status quo, problem definition, technical development and solution integration – coexist simultaneously at some level of detail. A definition of the software engineering from the economic and human perspective is given by Boehm (BoeSI) by combining the dictionary's definition of engineering with its definition software. His definition states: -

“Software engineering is the application of science and mathematic by which the capabilities of computer equipment are made useful to man via computer programs, procedures and associated documents”.

Objectives :

The basic objective of Software Engineering to develop method and procedures for software development that can scale up for large systems and that can be used to consistency produce high quality software at low cost and with a small cycle time. The basic approach of software engineering takes is to separate the development process from the development product (i.e. the software). The premise is that the development process controls the quality, scalability, consistency and productivity. Hence to satisfy the objectives we must focus on the software process.

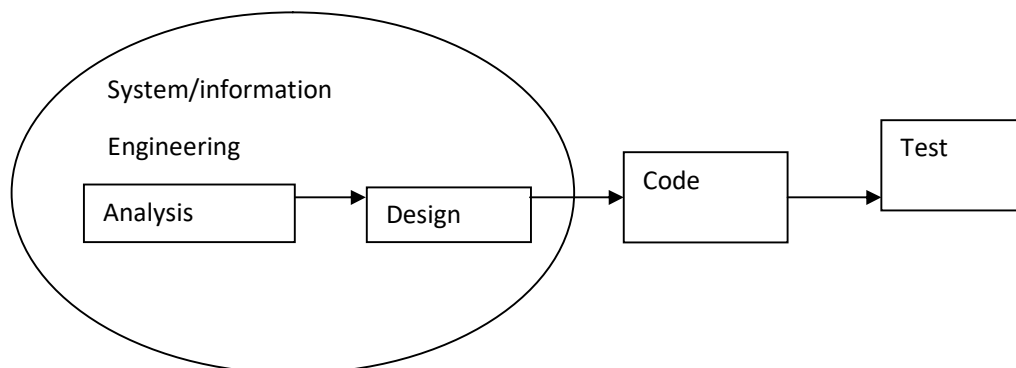
A development process consists of various phases, each ending with a defined output. The main reason for having a phased process is that it breaks the problem of developing software into successfully performing a set of phases, each handling a different concern of software development. Various Process models have been proposed for developing software. However in general we can say that any problem solving in software must consists of three activities: Requirement specification for understanding and clearly starting the problem, design for deciding a plan for solution, coding for implementing the planned solution, and testing for verifying the programs.

❖ Types of Model :

There are several software development process models. A development process model specifies some activities that, according to the model, should be performed and the order in which they should be performed. Some of the most popular models are – **Waterfall Model**, Prototyping Model, Incremental Model, Spiral Model and RAD (Rapid Application Development) Model etc. In the development of our software we followed the specifications of the “**Waterfall Model**”.

WATER FALL MODEL :

This model is used in this system because it is suggest a systematic , sequential approach to software development that begins at the system level and progress through analysis, design, coding, testing and support.



❖ System / information engineering and modeling:

This system view is essential when software must interact with other elements such as hardware, people, and database. System engineering and analysis encompasses requirements gathering at the system level with a small amount of top-level design and analysis.

❖ Software requirement analysis:

The requirements gathering process is intensified and focused specifically on software. Requirements for both system and the software are documented and reviewed with the user.

Design :

software design is actually a multi-step process that focuses on four distinct attributes of program: data structure, software architecture, interface representation, and procedural detail. The design process translates requirements into a representation of the software that can be accessed for quality before coding begins.

Code generation :

The design must be translated into machine-readable form. The code generation step performs this task.

Testing :

Once code has been generated program testing begins. This testing process focuses on the logical internals of the software, ensuring that all statements have been tested and on the functional externals: that is coding tested to uncover errors and ensure that defined input will produce actual results that agree with required results.

Support :

Software will undoubtedly undergo changes after it is delivered to the customer. Software change will occur because errors have been encountered, this software is adapted to accommodate changes in external environment.

The waterfall model is the oldest and the most widely used paradigm for software engineering.

Linear ordering of activities has some important consequences. First to clearly identify the end of phase and the beginning of the next, some certification mechanism has to be employed at the end of each phase. This usually done by some verification and validation means that will ensure that the output of a

phase is consistent with its input (which is the output of the previous phase), and that the output of the phase is Consistent with the all requirements of the system.

Abstraction is a tool that provides a design to consider a component at an abstraction level, without worrying about the details of the implementation of the component. Any component provides some services to its environment. An abstraction of a component describes the external behavior of that component without worrying about the details that produces the behavior. There are two common abstraction mechanisms for the software system - functional abstraction and data abstraction.

In functional abstraction, the system structure is expressed in terms of the functional interaction of the different parts.

In data abstraction, data is not treated simply as objects with some predefined operations on them. The operations defined on a data object are the only operations that can be performed on that object, the internals of it are hidden; only the operations on the object are visible. Data abstraction forms the basis of object - oriented design. In using this abstraction, a system is viewed as a set of objects providing some services. Hence the decomposition is done with respect to the objects the system contains.

In this data abstraction mechanism is used. The main reason to do this was because data abstraction forms the basis of the object-oriented design. As

per the requirement specification, to design the system, object oriented methodology appeared to be the right choice. “Design - “ The process of applying various techniques and principles for the purpose of defining a device, a process or a system in sufficient detail to permit its physical realization “ - is out of analysis. The designer’s goal is to produce a model or a representation of entity that will later be built. Software design sits at the technical kernel of software engineering and is applied regardless of development paradigm used - as Roger S. Pressman says. There are two types of design namely

- ✓ Preliminary design
- ✓ Detailed design

The preliminary design consists of data and structure design where the later consists of the input and output design.

In this software design I have given special attention to effective modular design. The whole project is split into different modules such that they need less functional dependencies. The “Student Management” is splitted into various modules **namely *Student Database Module***. Each module consists of its own inputs and outputs. Validations for the input data are designed common for all the modules. Modularization increases the integrity and efficiency of the system. But care must be taken to avoid nesting of modules to higher levels, as it increases the complexity of the system. Designing will be done in three steps:

- ✓ **Input design**
- ✓ **Output design**
- ✓ **Database design**

❖ **Software and Hardware Requirement Specification**

Every engineered and manufactured product must be specified in some fashion. As a product becomes more complicated it will require more detailed specification. S_TUTORIAL, which is a web based solution, needs to be configured in a proper manner. The server configurations must be properly worked out. It is the server that will have to ultimately scale up as and when the number of users start increasing. This section is the introduction of the environment to the system where the system runs. There are two types of interactions, firstly at the time of design phase and secondly at the time of running the system.

Following are the required specifications :

➤ **Hardware Specification :**

The decision to acquire computer hardware or software must be handled in the same way as any other business decision. The variety of size and types of computing resources available puts a burden on the analyst who must select suitable hardware, software or services and advise the top management accordingly. There are various important factors, which should be considered prior to system selection. They are:

Define system capabilities that make sense for the business.

Specify the magnitude of the problem; that is, clearly whether selection entail a few peripherals or a major decision concerning the main frame.

Assess the competence of the in-house staff.

Hardware and software should be considered as a package.

Develop a time frame for the selection process.

Provide user indoctrination.

- **As per the hardware requirement to my system I recommend the following to develop the web application :**

Processor	:	Pentium IV
Ethernet	:	Windows compatible Ethernet card
Video	:	800 x 600, 256 colors Recommended
Clock Speed	:	2.4 GHz
Cache	:	1mb L2 Cache
Mouse	:	Microsoft Mouse or compatible device
Modem	:	Internal/External
RAM	:	1024 Mb DDR RAM (1Gb)
HDD	:	80 Gb
Processor	:	Pentium IV
Ethernet	:	Windows compatible Ethernet card
Video	:	800 x 600, 256 colors Recommended
Clock Speed	:	2.4 GHz
Cache	:	1mb L2 Cache
Mouse	:	Microsoft Mouse or compatible device
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Cache	:	1mb L2 Cache
Mouse	:	Microsoft Mouse or compatible device
Modem	:	Internal/External
RAM	:	1024 Mb DDR RAM (1Gb)
HDD	:	80 Gb

Software Specification:

The IEEE standards recognize the fact that the different projects may require their requirements to be organized differently, that is, there is no one method that is suitable for all projects.

Software selection is a critical aspect of system development. There are two ways of acquiring software: custom-made or “off-the-shelf” package. Today, there is great demand for these packages because they are quite cheap. There are other benefits also.

A good package can get the system running quickly.

MIS personal are released for other projects.

‘Home-grown’ software can take more time and its cost cannot be predicted.

Package can be tested before purchasing it.

It can be observed that price alone cannot determine the quality of software. A systematic review is crucial for selecting the desired software.

Prior to selecting the software, the project team must set up criteria for selection. The criteria for software selection are:

- ✓ **Reliability:** gives consistent results without any failure for a specified time period.
- ✓ **Functionality:** functions to standards.
- ✓ **Capacity:** satisfies volume requirements of the user.
- ✓ **Flexibility:** adapts to the changing needs.
- ✓ **Usability:** is user-friendly.
- ✓ **Security:** maintains integrity and prevents unauthorized user.
- ✓ **Performance:** delivers the results as expected.
- ✓ **Serviceability:** has good documentation and vendor support.
- ✓ **Ownership:** has right to modify and share use to package.
- ✓ **Minimal cost:** is justified and affordable for intended application.

As per the hardware requirement to my system I recommend the following to develop the web application :

Operating System	:	Windows 7, Windows XP
Web Server	:	IIS
RDBMS Server	:	SQL Server
Programming Lang/Scripts	:	C# with ASP.NET

About System :

Web server :

Web servers are software that manage Web pages and make them available to client browsers via a local network or over the Internet , the Web server and browsers are usually on two different machines, possibly

many miles apart. While there are many web servers available (the common ones being Apache, Ispanets's Enterprise server, Internet Information Services (IIS)) we have decided to use IIS as web server.

➤ **Operating Systems Windows 2000 and XP :**

In my web based application we are using IIS as a web server that comes with windows 2000,XP Professional and Windows 2003. windows2000 and XP are the most widely known operating system for the personal computers, and also the most flexible one to operate, so there is no reason to go for others. So I have used this operating system to make my system flexible.

➤ **About VB.NET :**

VB.NET is built specifically for the .NET Framework, and much has been written about it. Given all the hype, some people might wonder why they should choose VB.NET over C#. Although both VB.NET and C# projects are created in the Visual Studio.NET environment, VB.NET was created specifically for VB developers and has a number of unique features that make it a great choice for building .NET applications. VB.NET is still the only language in VS.NET that includes background compilation, which means that it can flag errors immediately, while we type. VB.NET is the only .NET language that supports late binding. In the VS.NET IDE, VB.NET provides a dropdown list at the top of the code window with all the objects and events; the IDE does not provide this functionality for any other language.

VB.NET is also unique for providing default values for optional parameters, and for having a collection of the controls available to the developer. The basic syntax of VB.NET is similar to VB, so we already know how to declare variables, set up loops, and so on. As we can see, VB.NET has some advantages over the other .NET languages. Many people have looked at VB.NET and grumbled about the changes. There are significant changes to the language: a new optional error handling structure, namespaces, true inheritance, free threading, and many others.

➤ **What are ASP.NET ?**

- ASP.NET is the name of the Microsoft technology used for web site development.
- ASP.NET is NOT a programming language like C# or VB.NET
- ASP.NET development requires a programming language like C# or VB.NET to write code.
- ASP stands for Active Server Pages.
- There are several other technologies exist for web development (Eg: PHP). ASP.NET is the technology from Microsoft and it he widely used one.
- ASP.NET technology comes with a rich set of components and controls that make the web development very easy.
- Visual Studio .NET is the editor from Microsoft which helps you develop ASP.NET web sites faster and easily.
- IIS is the web server from Microsoft which supports ASP.NET. To develop ASP.NET web sites, you must have IIS installed in your computer.
- In ASP.NET programming, a web page is developed using HTML and a .NET programming language like C#, VB.NET .
- We choose here .NET language to develop ASP.NET So, now it must be clear that ASP.NET is not a programming language and it requires a language like C# or VB.NET to develop ASP.NET web sites. Here we uses ASP.NET with code C# in back end.

➤ What is SQL SERVER ?

SQL Server is a relational database management system produced by Microsoft. It supports a superset of Structured Query Language SQL, the most common database language. It is commonly used by businesses for small to medium sized databases, and in the past 5 years large enterprise databases, and competes with other relational database products for this market segment.

SQL Server is easy to manage and provides a separate OLAP engine. It is the ideal database for web applications written in Asp/Asp.Net as well.

SQL Server currently runs only on the Windows operating systems, no plans for porting it to other platforms has been disclosed. The code base for **Microsoft SQL Server** originated in Sybase SQL Server, and was Microsoft's entry to the enterprise-level database market, competing against Oracle, IBM, and Sybase. Microsoft, Sybase and Ashton-Tate teamed up to create and market the first version named SQL Server 4.2 for OS/2 (about 1989) which was essentially the same as Sybase SQL Server 4.0 on Unix, VMS, etc. Microsoft SQL Server for NT v4.2 was shipped around 1992 (available bundled with Microsoft OS/2 version 1.3) and was a simple port from OS/2 to NT. Microsoft SQL Server v6.5 was the first version of SQL Server that was architected for NT and did

Not include any direction from Sybase.

About the time Windows NT was coming out, Sybase and Microsoft parted ways and pursued their own design and marketing schemes. Microsoft negotiated exclusive rights to all versions of SQL Server written for Microsoft operating systems. Later, Sybase changed the name of its product to Adaptive Server Enterprise to avoid confusion with **Microsoft SQL Server**. Until 1994 Microsoft's SQL Server carried three Sybase copyright notices as an indication of its origin.

In our Project we use SQL Server 2010 for Database. The characteristics of it is given bellow :

- SQL Server is a client/server based relational database management system
- Runs on Windows xp Professional, Windows 7 or Windows 8
- Included in BackOffice product family
- Include in .Net Servers family

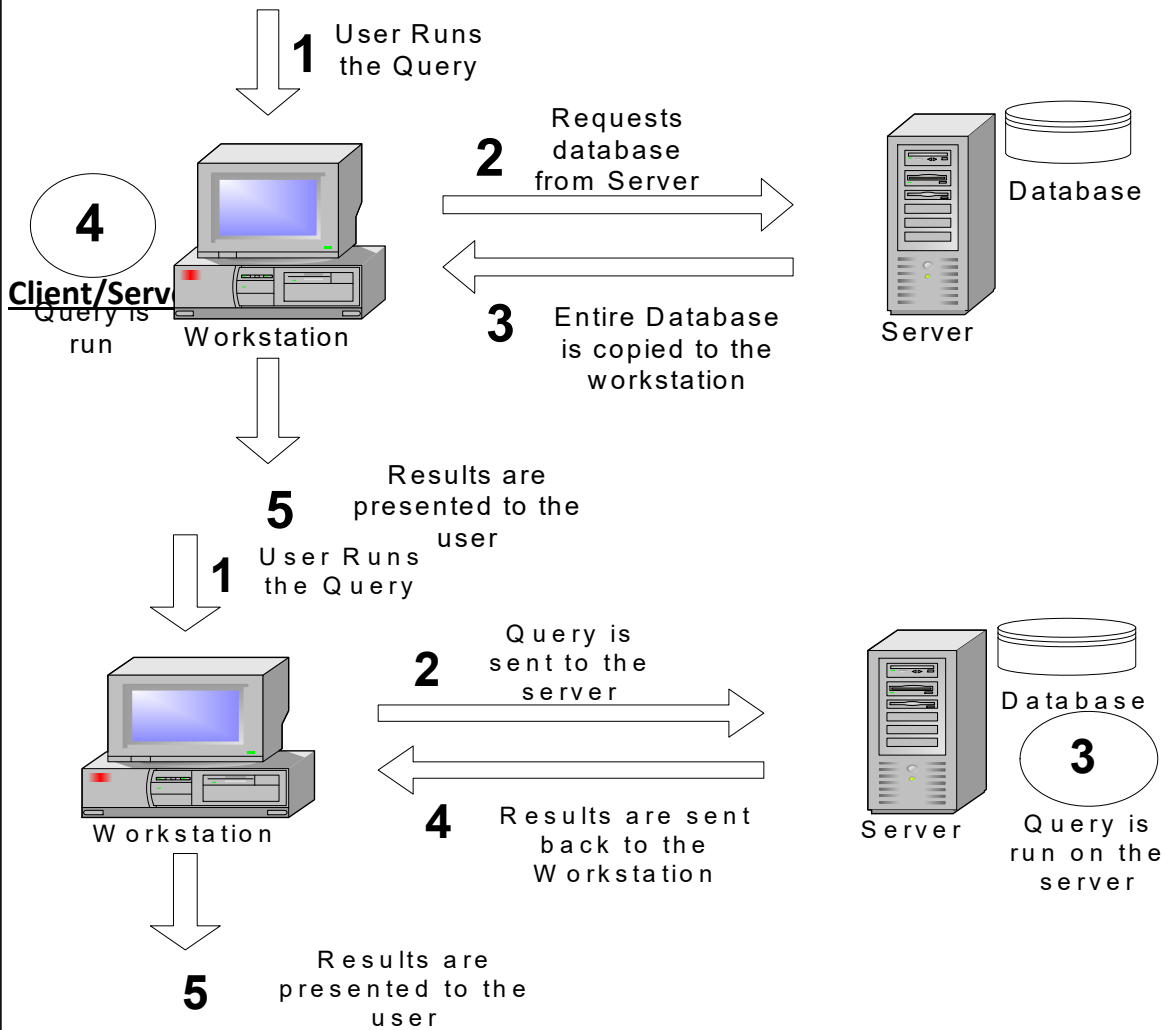
Available Features of Server & Client:

Server Side

- Database Engine
- Security
- Fault-tolerance
- Performance
- Concurrency

Client Side

- User Interface
- Forms
- Reports
- Queries

Desktop Databases :

Software Requirements for Visual Studio Application Lifecycle Management Features

Visual Studio 2010

Updated: March 2012

By using this topic, you can determine which versions of Windows, SQL Server, and SharePoint Products are compatible with features for application-lifecycle management (ALM) in Visual Studio 2010.

This topic provides information about software requirements for ALM features in the following products:

- [Visual Studio Premium and Ultimate](#)
- [Visual Studio Test Professional 2010](#)
- [Visual Studio Team Foundation Server 2010](#)
- [Microsoft Visual Studio Agents 2010](#)
- [Team Explorer Everywhere 2010](#)
-

Visual Studio 2010 Premium and Ultimate

You can find ALM features in Visual Studio 2010 Premium, Visual Studio 2010 Ultimate, and Visual Studio Test Professional 2010. For a list of features that are available in each edition, see [Application Lifecycle Management Features in Visual Studio 2010](#).

You can install Visual Studio 2010 Premium and Visual Studio 2010 Ultimate on a computer that is running any operating system in the following table.

Version	32-bit 64-bit	
Windows XP, excluding Starter Edition	Yes	N/A
Windows Vista with Service Pack 2 (SP2), excluding Starter Edition	Yes	Yes
Windows 7	Yes	Yes
Windows Server 2003 SP2	Yes	Yes
Windows Server 2003 R2	Yes	Yes
Windows Server 2008 SP2	Yes	Yes
Windows Server 2008 R2	N/A	Yes

For information about Visual Studio Express editions, see the following page on the Microsoft website: [Microsoft/Express Support](#).

Visual Studio Test Professional 2010

You can install Visual Studio Test Professional 2010 on a computer that is running any operating system in the following table.

Operating system	32-bit 64-bit	
Windows Server 2008 R2	N/A	Yes
Windows Server 2008 SP2	Yes	Yes
Windows Server 2003 R2	Yes	Yes
Windows Server 2003 SP2	Yes	Yes
Windows 7	Yes	Yes
Windows Vista SP2, excluding Starter Edition	Yes	Yes
Windows XP SP3, excluding Starter Edition	Yes	N/A

To use Visual Studio Test Professional 2010, you must also install Visual Studio Team Foundation Server 2010.

Caution

To use all the functionality in Test Professional 2010, you cannot run Team Foundation Server 2010 on a computer that is running Windows 7 Home Edition.

Visual Studio Team Foundation Server 2010

In this section, you can determine which versions of the operating systems, SQL Server, and SharePoint Products are compatible with Team Foundation Server 2010. For information about side-by-side installation and backward compatibility, see [Compatibility between Team Foundation Clients and Team Foundation Server](#).

Tip

For best results, we recommend that you install the application-tier and data-tier components of Team Foundation on computers that are running server operating systems.

Client Operating Systems

You can install Team Foundation Server on a computer that is running any operating system in the following table.

Important

You can install some components of Team Foundation, such as Team Foundation Server Proxy, only on a computer that is running a server operating system. If you install Team Foundation Server on a computer that is running a client operating system, you cannot create reports or team project portals.

Version	32-bit	64-bit
Windows Vista Home Premium SP2	Yes	Yes
Windows Vista Business SP2	Yes	Yes
Windows Vista Enterprise SP2	Yes	Yes
Windows Vista Ultimate SP2	Yes	Yes
Windows 7 Home Premium*	Yes	
Windows 7 Professional*	Yes	Yes
Windows 7 Ultimate*	Yes	Yes

*If you are installing Team Foundation Server on a computer that is running Windows 7, an issue that originates in HTTP.sys may affect network connectivity. For more information, see the following page on the Microsoft website: [A file does not download from an IIS 7.5 server that is running Windows 7 or Windows Server 2008 R2.](#)

Server Operating Systems

You can install Team Foundation Server on a computer that is running any operating system in the following table.

Version	32-bit	64-bit
Windows Server 2003 Datacenter Edition with SP2	Yes	Team Foundation Build Service only
Windows Server 2003 Enterprise Edition with SP2	Yes	Team Foundation Build Service only
Windows Server 2003 Standard Edition SP2	Yes	Team Foundation Build Service only
Windows Server 2008 with SP2*	Yes	Yes, excluding Itanium-based editions
Windows Server 2008 R2	Yes	Yes, excluding Itanium-based editions
Windows Server 2003 R2 Datacenter Edition	Yes	Team Foundation Build Service only
Windows Server 2003 R2 Enterprise Edition	Yes	Team Foundation Build Service only
Windows Server 2003 R2 Standard Edition	Yes	Team Foundation Build Service only
Windows Server 2003 R2 Datacenter Edition with SP2	Yes	Team Foundation Build Service only
Windows Server 2003 R2 Enterprise Edition with SP2	Yes	Team Foundation Build Service only
Windows Server 2003 R2 Standard Edition with SP2	Yes	Team Foundation Build Service only

*If you are installing Team Foundation Server on Windows Server 2008 R2, an issue that originates in HTTP.sys may affect network connectivity. For more information, see the following

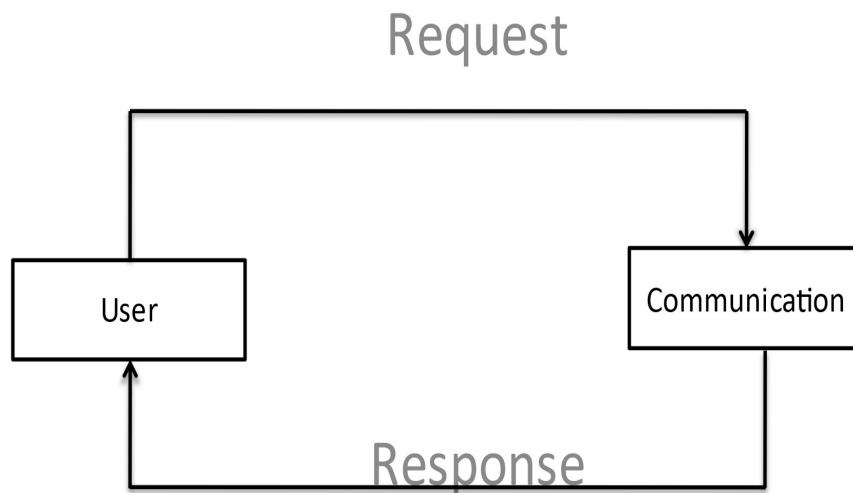
is running Windows 7 or Windows Server 2008 R2.

SQL Server :Team Foundation Server 2010 is compatible with the Express, Standard, and Enterprise editions of the following releases of SQL Server:

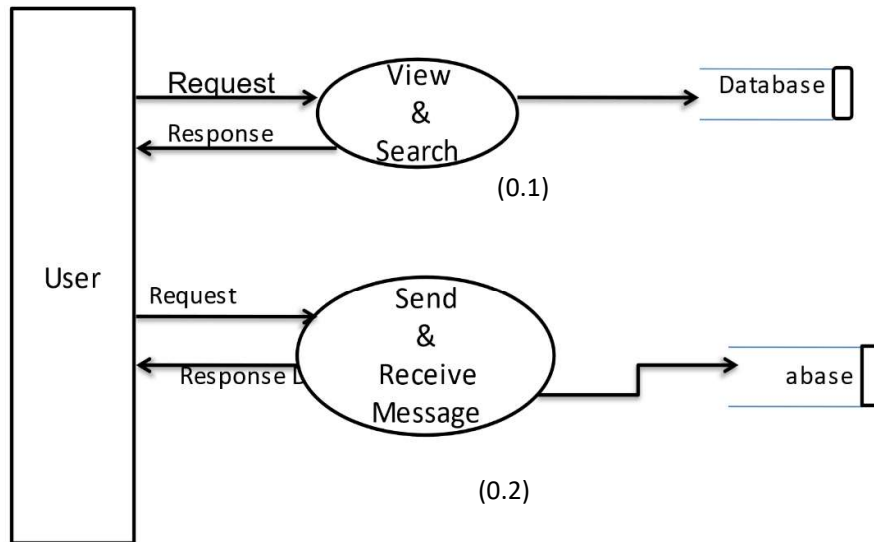
- SQL Server 2008 R2 Service Pack 1
- SQL Server 2008 R2
- SQL Server 2008 Service Pack 3
- SQL Server 2008 Service Pack 2
- SQL Server 2008 Service Pack 1
- SQL Server 2008

CONTEXT LEVEL DFD

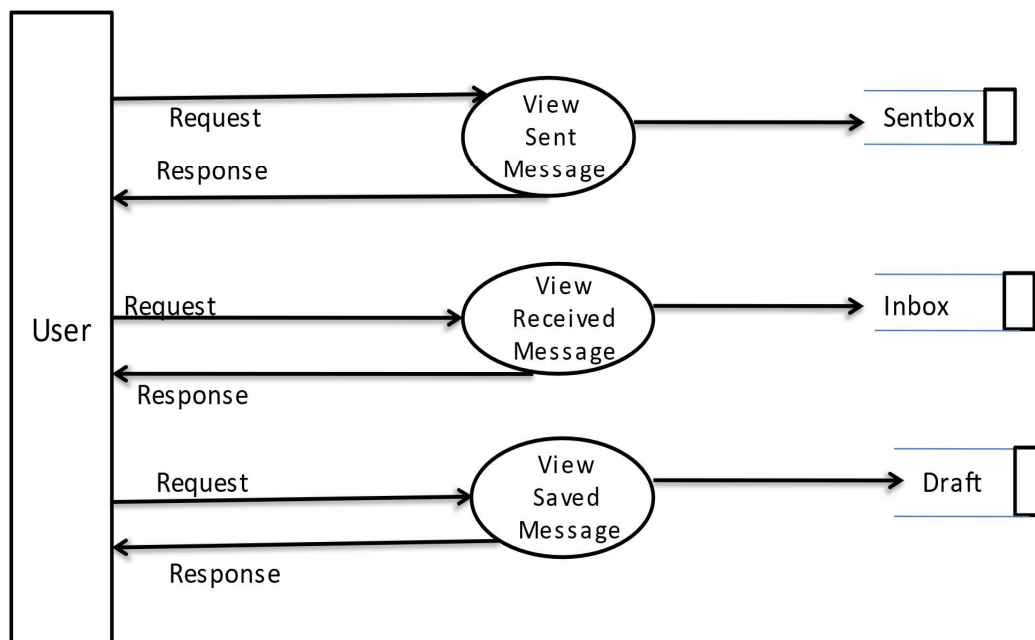
Level 0 DFD For User



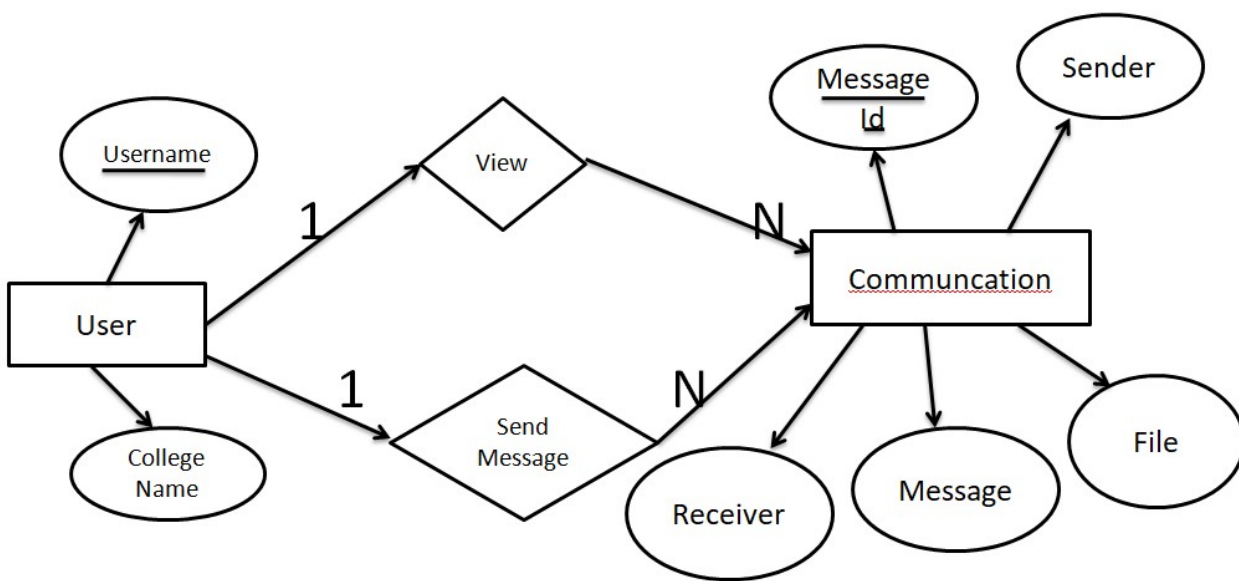
Level 1 DFD For Diagram



LEVEL 2 DFD FOR DIAGRAM



ENTITY-RELATIONSHIP DIAGRAM



SNAPSHOT OF REGISTRATION PAGE

localhost:1029/Communication1 x +

localhost:1029/Communication1/Registration.aspx

STUDENT COMMUNICATION MANAGEMENT

REGISTRATION PAGE

Personal Information **Education Information** **Other Information**

[Home](#)
[Message](#)
[Edit Profile](#)

Student Enroll

Student ID	<input type="text" value="2015"/>
Email ID	<input type="text" value="saloni@gmail.com"/>
Phone No.	<input type="text" value="9874885218"/>
Username	<input type="text" value="Saloni44"/>
Password	<input type="password" value="Enter Password"/>
Confirm Password	<input type="password"/>

Fields Marked With * are Mandatory

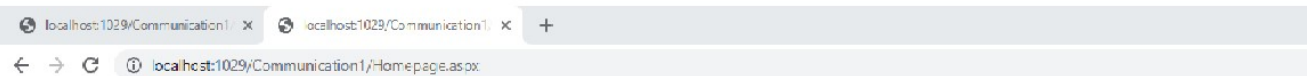
Please Proceed

[Click Here To Login](#)

Student Management

Type here to search

SNAPSHOT OF HOME PAGE



STUDENT DETAILS

[Login](#)[Message](#)

BASIC INFORMATION

Student ID	2015
UserName	Saloni44
Email ID	saloni@gmail.com
Phone No	9874885218

[See More](#)[Home](#)
[Message](#)
[Edit](#)
[Profile](#)

What You Want To See First

Choose From List

Choose

[Show Details](#)

TESTING PURPOSE :

Testing is usually performed for the following purposes:

- **To improve the quality :**

As computers and software are used in critical application, the outcome of a bug can be severe. Bugs can cause huge losses. Bugs can kill. Bugs can cause disasters. In a computerized embedded world, the quality and reliability of software is a matter of life and death. The imperfection of human nature makes it almost impossible to make a moderately complex program correct the first time. Finding the problem and get them fixed, is the purpose of the debugging in programming phase

- **For Validation & Verification :**

Testing serve another purpose of verification & validation. It can serve as metrics. Testers can make claims based on interpretation of the testing result, which either the product works under certain situation, or it does not work. We can also compare the quality among different product under the same specification, based on result from the same test.

- **For reliability estimation :**

Software reliability has important relation with many aspect of software including the structure, and the amount of testing it has been subjected to. Based on an operational profile (an estimate of the relative frequency of use of various input to the program), testing can serve as a statistical sampling to gain failure data for reliability estimation.

TESTING METHOD

- **White Box or Structural Testing :**

White box method relies on intimate knowledge of the code and a procedural design to derive the test cases. It is most widely utilized in unit testing to determine all possible paths within a module, to execute all loops and to test all logical expression.

Code Inspection :

The program were inspected in small steps. Any question during the spec were discussed with the goal to detect fault. A lot of faults were found just by inspecting the code.

Walk Through :

The work through and code inspection technique are related to each other. The main difference is that the participants are supposed to think about good test for the program during their preparation, when a talkthrough is planned. In the meeting we executed those test manually on sheet of paper.

Loop Testing:

A typical spot for a semantic bug in most programming language are the loops. They make the testing difficult due to the significantly increased number of possible paths, and they often contain bugs within the loop condition which are hard to find. We checked the condition of a loop at three different times, when the loop is entered, during its execution, and when the loop is left, to make the loops bugs free much as possible.

Domain Testing :

The test important white box testing method we encountered is domain testing. The goal is to check value by a variable, a condition, or an index , and to prove that they are outside the specified or valid range. It also contain checking that the program accept only valid input, because it is unlikely to get reasonable result if idiocy has been entered.

The some of the check that we have done are given below:

1. Have all the variable used been initialized correctly ?
2. Have all the interface used been implement correctly ?
3. Are all the indices used to access an array lest?
4. Are session object create correctly and get attribute, set attribute properly?
5. Are all dealer value convert correctly?
6. Are all the argument in a comparison of the same type?
7. Are all Boolean expression correct? Check logical operand like false and true?
8. Are there any "off by one" situation, like a loop which is executed too often, or a field index of an array which is increased by one?
9. Are JVM to MYSQL server 5 connect properly?

Black Box or Functional Testing :

Black box on the other hand focus on the overall functionality of the software. That is why it is the chosen method for designing test cases used in functional testing. This method allows the functional testing to uncover fault like the incorrect or missing function, error in any of the interfaces, error in data structure or database and error related to performance and program initialization or termination.

Function testing :

It is usually the first black –box test. The main goal is to find the divergences between the specification -a precise description of the program behavior from the users point of view – or design and the coded product. We did this in the following way:

First this specification was analyzed. For each program's input field, the allowable inputs were written down. We divided the possible input which were tested.

1. Are all database work properly?

System & Performance testing :

Here the focus is on the whole application and its environment. Therefore the program was taken completely. The main goal is rather to demonstrate the discrepancies of the product from its requirement and its documentation. Performance testing, a part of system testing tries to show the application is not able fulfill its task in the amount of time it is supposed to.

Conclusion

Proposed testing automation method allows test cases generation and execution at any stage of program under testing creation, because of opportunity to choose controlled program variables. Besides regression testing is available if testing system will save previous tests. Documenting component structure provides further enhancement. During the research work some new ideas about working scheme improvement appeared. Implemented component can be used for automatic documentation creation in different information systems and also for generating document templates which further can be elaborated to end document by documentation developer.

FUTURE SCOPE & FURTHER ENHANCEMENT

- ❖ I would like to add many different types of features in our website .
- ❖ I would like to launch a android app for our website in future.

