ISLAMIC UNIVERSITY OF TECHNOLOGY (IUT)

THE ORGANISATION OF ISLAMIC COOPERATION (OIC)

IUT FTP SERVER

BY:

MANSOUR MALLOUM 153409

ABDOULAYE AHIDJO 153410

ABDULLAHI ABDULKARIM 153419

SUPERVISED BY:

A.B.M Ashikur Rahman

Lecturer, Department of Computer Science and Engineering (CSE)

Gazipur-1704, Dhaka, Bangladesh

November-2016

CERTIFICATION

This is to certify that the work presented in this thesis paper is the outcome of the investigation carried out by the candidates under the supervision of Mr. Ashikur Rahman Lecturer Department of Computer Science and Engineering (CSE) Islamic University of Technology (IUT), Gazipur. It is also declared that neither of this thesis nor any part therefore has been submitted anywhere else for the award of any degree or diploma or for any publication.

Authors

Mansour Malloum	Abdoulaye Ahidjo	Abdullahi Abdulkarim
ID: 153409	ID: 153410	ID: 153419

Supervisor:

A.B.M. Ashikur Rahman

Lecturer, Department of CSE

ACKNOWLEDGEMENT

First and foremost, we are very much indebted to Almighty Allah, the most Merciful without whose patronage and blessing this project report would not have been successfully completed.

We would like to express our sincere gratitude to our supervisor, A.B.M ASHIKUR RAHMAN Lecturer, Department of Computer Science and Engineering (CSE) whose kind understanding, expertise, guidance, and patience, have considerably improved our graduate experience and know-how in our field of specialization. He provided us with immense guidance, technical support and constructive suggestions and in the course of time became more of a mentor than just a supervisor.

We are also grateful to him for the enormous time he has spent going through the various phases of our project work. His impressive commentaries, criticisms and observation throughout the several stages of our work have played a major role in enhancing both the quality and content of our humble work. It is thanks to his persistence, indulgence, understanding and kindness that we will ever be able to convey him our appreciation fully, but we owe him our eternal gratitude.

Our special thanks goes to Prof. Dr. M. A. Mottalib, Head of CSE Department without whose motivation and encouragement we would not have considered a graduate career in our field.

Prof. Dr. M. A. Mottalib is one professor who truly made a difference in our life; he was kind and helpful to us.

Last but not the least; we would like to thank our parents who have given us tremendous inspiration and support. Without their constant moral and financial support, we would not have been able to complete our project work.

Thank You.

DEDICATION

To our respective mothers who gave us the love of life and to whom we shall remain indebted for setting the foundation on which this thesis is based.

To our respective fathers whose love, care and faith gave us the strength to face the world without fear and weakness.

We are equally very indebted to our respective grandparents whose ancestral inspiration remains an enormous source of wisdom and guidance in everything we do in our lives.

To our respective brothers, sisters, cousins, uncles, aunts and all other members of our extended family; we shall forever remain grateful to them for their unfailing moral support, encouragement and generosity throughout our stay in Bangladesh.

Our very special thanks go to the Honorable Head of Department Prof. Dr. M. A. Mottalib and our respected supervisor A. B. M. ASHIKUR RAHMAN for their all-out help, support and encouragement.

Finally, our work is dedicated to all our friends, classmates and well-wishers with whom we really enjoyed a very friendly and cordial relationship since our arrival in Bangladesh. May Almighty bless and protect them all.

ABSTRACT

In the early days, the management of such systems was not easy any dynamic due to lack of today's technology; therefore, the implementation of this website has come with some enhancement to improve the earlier disadvantages.

The main objectives or better still the aim objectives of this project is to make it easier and more secured for the users (Students and the Teachers) to access useful resources such as uploading folders and downloading them. All these thanks to the very powerful and innovative evolution of sophisticated Information Technologies as exemplified by rapid and dynamic growth of the Internet. Our website provides all common facilities that the typical online administration does; namely: a full-fledged interactive Digital Library in addition to the usual amenities that all websites provides such as Home page module and so on.

Besides, another prominent feature of our website is an attractive gallery look implemented that looks aesthetically appealing to the users (Students, Teachers and the Admin). The system is web based which by the way provide the way for the students to get access to only the folders of their respective particular semester with many advantages. Other advantages are considered such as the availability of the system and flexibility for the users to be able to interact with the system at any time.

Table of Contents

CHAPTER 1
INTRODUCTION

1.1 BACKGROUND

FTP is a service that allows the transferring of files from one computer to another. The criteria for the transfer of files through FTP to work is the computer that will be receiving and hosting files needs to run an FTP server while the other computer that transfers or manages the files on the server will require an FTP client software. There are quite a few FTP server applications available and one of the most popular is FileZilla because it is free, open source and still actively being developed. We think the system today realize the importance of having an online presence whether that be through a website.

If an institution does not have an online presence, the chances are you could be losing valuable business to your competitors who do have effective and active online presences.

1.2 PROJECT OVERVIEW

IUT FTP SERVER is a proposed project with the aim of computerizing the actual process which handles Students and Teachers in sharing of folders and lectures. The main users of our system are the staff members which include the students, the teachers and the admin. Our main goal is to achieve an easier way for the teachers to manage folders, to communicate, and for the students to get access to the folders based their semester and exchange information with their teachers.

1.3 NECESSITY OF THE PROJECT

The Internet Age that we are now is in full mobile. However, many institutions owners have yet to adopt the methodologies of this Internet era. In fact, quite a few institutions owners do not even have such kind of websites for their schools.

1.4 WHY DO WE USE A FTP?

Firstly, FTP is a particularly unfriendly protocol when it comes to accessing data. It opens up parallel connections; a ‘command’ channel over TCP, and a ‘data’ channel over UDP. However, whilst the ports are well defined (port 20 for command and 21 for data), the actual incoming ports use a randomly-assigned port that’s negotiated as a part of the FTP channel. That means firewalls (which are a necessity in this day and age) either end up blocking FTP or have some serious deep packet inspection to try and open up the data coming back in again.

In fact, the only reason that FTP works via NAT is that the NAT device ‘knows’ about the way FTP works, and performs a juggling act to hook it together.

FTP is of course used for more than just download. One aspect is the ability to navigate through a repository, and of course to be able to upload files as well. But both of these uses are far less often used than the data acquisition across the web. There are also standardization problems the format of the output generated by ‘dir’ of ‘ls’ commands can vary, and clients have to screen-scrape the text to present a list of files.

HTTP also has many other advantages over FTP for pure downloads. FTP has always been a bit bipolar when it sees the world as either 'Binary' or 'ASCII', not the least of which is that the world has moved on from ASCII to Unicode. But realistically, a client and server know nothing of the file type that's being sent back, and it's up to the client to guess the type based on the extension. HTTP on the other hand can positively identify what the file type is as part of the response (and doesn't have to be a file on the hard disk either).

Further, HTTP provides a number of additional benefits- automatic compression of data, finding out about the type of a file without downloading it, proxy support- not to mention the ability to run over SSL with HTTP- which aren’t possible in vanilla FTP at all.

1.5 SYSTEM COMPLEXITY

The system has a well organize database which handle all the data entry by the teachers and retrieve by the students. One more thing is that admin has overall power to update other sections of the website such as updating student's information as well as teachers. Creating new student's information, teachers and courses.

1.5.1 STUDENT COMPLEXITY

Let shortly discuss about the multiple folder complexity. As stared above, this complexity is because of we are dealing with multiple number of various folders that access the vast information of this website.

1.5.2 ADMINISTRATION COMPLEXITY

This difficulty is not unconnected with the students folder complexity, in that administrator is the users that have overall power to create new students information, create new teacher, both status of the students and the teacher, that is, the current semester of the student and the folders that are accessible for him, the information of the teacher, that is, what course he is taking and so on.

The system has a well organize database which handle all the data entry the teachers and retrieve by the students. One more thing is the admin has the power to update other sections of the website such as deleting folders and other information.

CHAPTER 2
REQUIREMENT ANALYSIS

2.1 CURRENT SYSEM OF FTP

In the current system of IUT ftp, the system is not well secured. We can clarify this based on the following points of view:

- The ftp is accessible by everyone
- Everyone can delete or upload
- There is no tracking.

Now let's elaborate the above point's one after the other in details.

I. The FTP is accessible by everyone: In the, current FTP server of IUT, everyone can get access to the FTP and can be able to access any folder in the FTP, upload some files, view any file in the FTP and delete folders without any password or user ID. In other words, everyone can get access to the current system and create as many folders as they want without any restriction.

II. Everyone can delete or upload files: This is one of the major problems IUT students are facing regarding the FTP server. In the current system, the system is not well secured, with lead to no security in the FTP folders. People can upload any files or folders in the FTP, and can delete files from someone's folder. We students we faced a lot of problems when given a task in the lab or assignment in the FTP someone may just cut it or delete it, in this process the teacher has to upload it again and again because of the lack of security.

III. There is no tracking: This means that there is no tracking of the students or users who upload files, delete files or folders. So based on this, we try to develop a web based application where both the students and the teachers have to login to the system which there username and password to keep track of the system. In this case, only teachers can delete folder, create folder and view files and upload files in the FTP. Students can only

view file and download files or folders from the FTP which provide more security to the system.

2.2 PROPOSED SYSTEM

The current file management system is not only faulty and inefficient, it is also extremely difficult to use since there is no front-end interface accompanying the system. The proposed FTP Management System, developed by us, will adds an easy-to-use GUI, as well as several other functionalities that will improve the use of FTP in the University. These include a configuration database that allows the user to easily input new files or make changes to current files, a tracking database that allows the user to easily search for files based on a wide variety of criterion, a file - scheduling tool whereby the user can keep track of when specific files are due to Capital One, and an automatic notification tool which allows users to customize their options (live chat). The combination of all of these components makes the proposed FTP Managements System more manageable than the current system.

Requirements:

i. The system must be secured
ii. The system must be easy to use
iii. The students just need to collect their username and password from the admin in order to get access to the FTP.

2.3 OBJECTIVES OF FTP

Some of the objectives of FTP are:

- To give flexibility and promote sharing of computer programs, files and data
- To transfer data reliability and more efficiently over network.

- To encourage implicit or indirect use of remote computer using Internet.
- Ease integration into current operating procedures of teachers and students.

System Objectives

The proposed system aims to solve the problems of the current system and also enhance its capabilities. System objectives include:

- Decrease the number of errors that occur and improve the method that detects and handles these errors.
- Ease administration of information.
- Streamline the file transfer process by making it automated.
- Make the system more user-friendly.

2.4 FUTURES OF FTP

- Interactive Access

FTP provides an interactive interface to allow humans to interact with remote servers.

- More security

This FTP provide more security than the current system. The students can access only those course folders that he is taking in that particular semester based on the course registration that he did at the very beginning of the semester, unlike in the current system students can access all the folders in the ftp, and teacher and only have folders of the courses they are taking.

In the current system one particular student can delete or cut the content or the entire folder from the ftp without knowing with who did it.

- Authentication control

FTP requires clients to authorize themselves by sending a login name and password to the server before requesting file transfers. The server refuses access to clients that cannot provide a valid login and password.

CHAPTER 3
FEASIBILITY STUDY OVERVIEW

3.1 FEASIBILITY STUDY IN BRIEF

A feasibility study is defined as an evolution of an existing system and a way of selecting the best system that meets performance requirements. This entails identifications, description, and evolution of candidate systems and selection of the best system for the job. The feasibility study is conducted once the problem is clearly understood. It is a high level capsule version of the entire system analysis and design process. The core objective of feasibility study is to determine whether the proposed system is feasible or not and it helps to minimize the expenses of how to solve the problem and to determine, if the problem is worth solving.

The feasibility of the proposed system can be determined if the following are accomplished in different phases.

i. To create an efficient and effective backup system so that important information will never lost.
ii. To maintain a computerized database for the website.

In practical terms, while doing feasibility study, there are a number of tests that are to be performed as part of caution, better determination of favorable features and assurance of accuracy of the proposed system.

The following is a summary of the different feasibilities carried out in developing the website:

i. Technical feasibility
ii. Economic feasibility
iii. Operational feasibility

3.2 TECHNICAL FEASIBILITY

In the technical feasibility study, we had to test whether the proposed system can be developed using existing technologies or not. It is planned to implement the proposed system using PHP, JavaScript, CSS and HTML.

The project entitled IUT FTP service is technically feasible because of the following reasons:

i. All the necessary enabling technologies exist to develop the system.
ii. Existing system is so flexible that it can be easily developed and modified.
iii. System requirements, both hardware and the software is readily available and affordable by the members of the school.

3.3 ECONOMIC FEASIBILITY

Lunching a website for an IUT FTP SERVICE involves a great deal of financial issues which needs to be considered and given proper considerations. Many systems fail to reach their destination due to lack of proper budgeting and utilization of resources. A school should only adopt a new system if the cost-benefit analysis gives out a positive response even though the initial expenditure might look greater.

In short, the project is economically feasible only if tangible and intangible benefits outweigh the cost and we can say the proposed system is feasible based on the following conclusion:

i. The cost of developing a full system is reasonable and within the reach of all the users to put together.
ii. The cost of hardware and software for the application is very minimal
iii. System requirements, both hardware and software are easily available and economically sustainable in the short, medium and long term as well.

3.4 OPERATIONAL FEASIBILITY

In our IUT FTP SERVICE website, we used MySQL database. Much of the dynamic content in the website comes in real-time using the data fetched from a database. The specific information presented to a member's panel or interface is created dynamically after the user has get access to the system. To accomplish this operational exigency, the following steps were taken:

i. Some large database rich in content is queried.

ii. Relevant data are extracted from the database

iii. The extracted data are organized as a content object

iv. The content objects are transmitted to the client's environment for display.

As a result, we have designed the database to keep the efficiency and performance of the whole application at optimal levels.

CHAPTER 4

DIAGRAMS

A diagram could be defined as a graphical representation of particular process or system which describes them in a very specific way.

4.1 DATA FLOW DIAGRAM

Through a structure analysis technique called data flow diagram (DFDs), the system analysis can put together a graphical representation of data processes throughout the organization.

By using combinations of only four symbols, the systems analyst can create a pictorial depiction of processes that will eventually provide solid system documentation.

4.2 USE CASE DIAGRAM

A use case model describes what a system does without describing how the system does it; that is, it is a logical model of the system. The use case model reflects the view of the system from the perspective of a user outside of the system (i.e., the system requirements).

Use case describes three things:

- An actor that initiate an event
- The event that triggers a use case
- The use case that performs the actions triggered by the event.

ACTORS

- STUDENTS
- TEACHERS
- ADMIN

STUDENTS: Students they can be able to use a computer to access the ftp and download lectures and no particular background is required.

TEACHERS: Teachers can also be able to use a computer to upload lectures and share useful materials for academic purposes.

ADMIN: The admin can be able to keep track of the system, create new students and their academic information, and also create new teacher record.

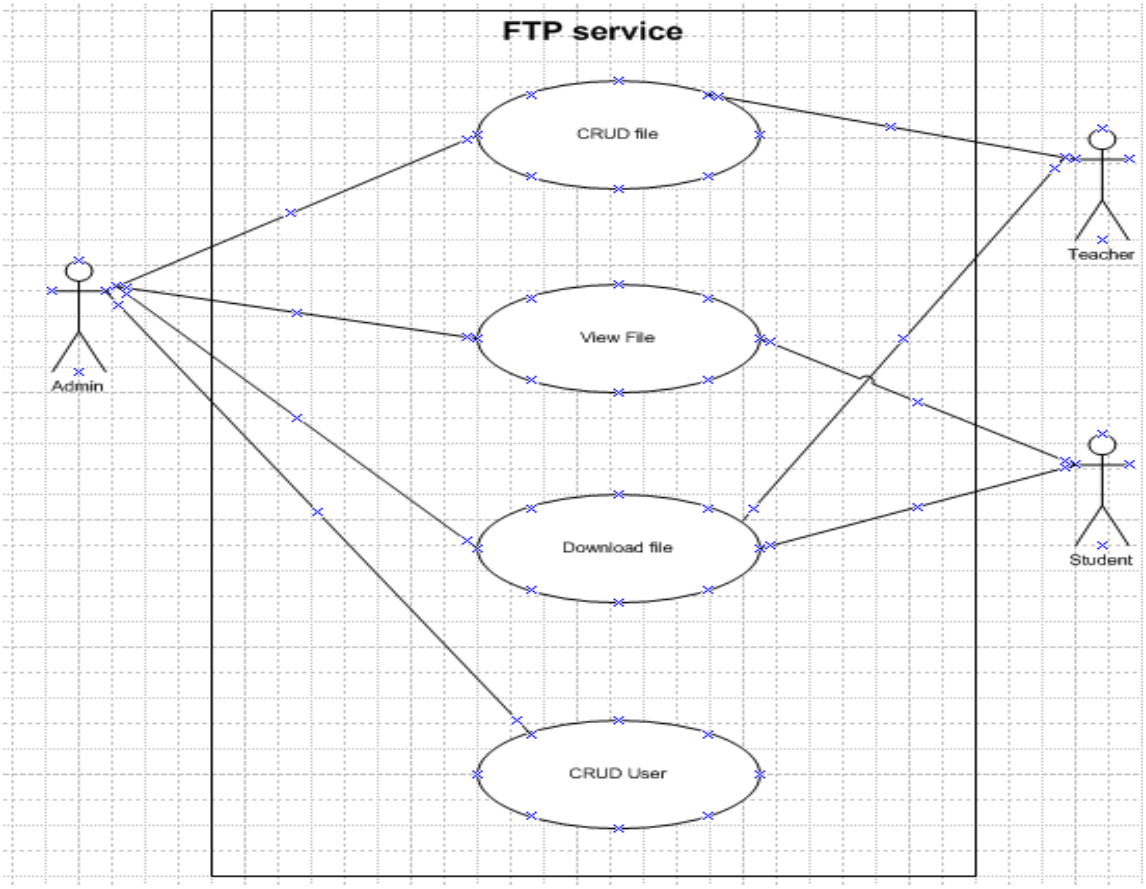


Fig. 4.2.1 FTP Use Case Diagram

GENERAL USE CASE DIAGRAM

The general Use Case Diagram describes in global what the system does. It includes the major activities that can be done using this system without describing the process behind.

4.3 ACTIVITY DIAGRAM

Activity diagrams shows the sequence of activities in a process, including sequential and parallel activities, and decisions that a made.

LOGIN ACTIVITY DIAGRAM

This is the graphical view of the sequence of activities appearing when a user is trying to login into the system.

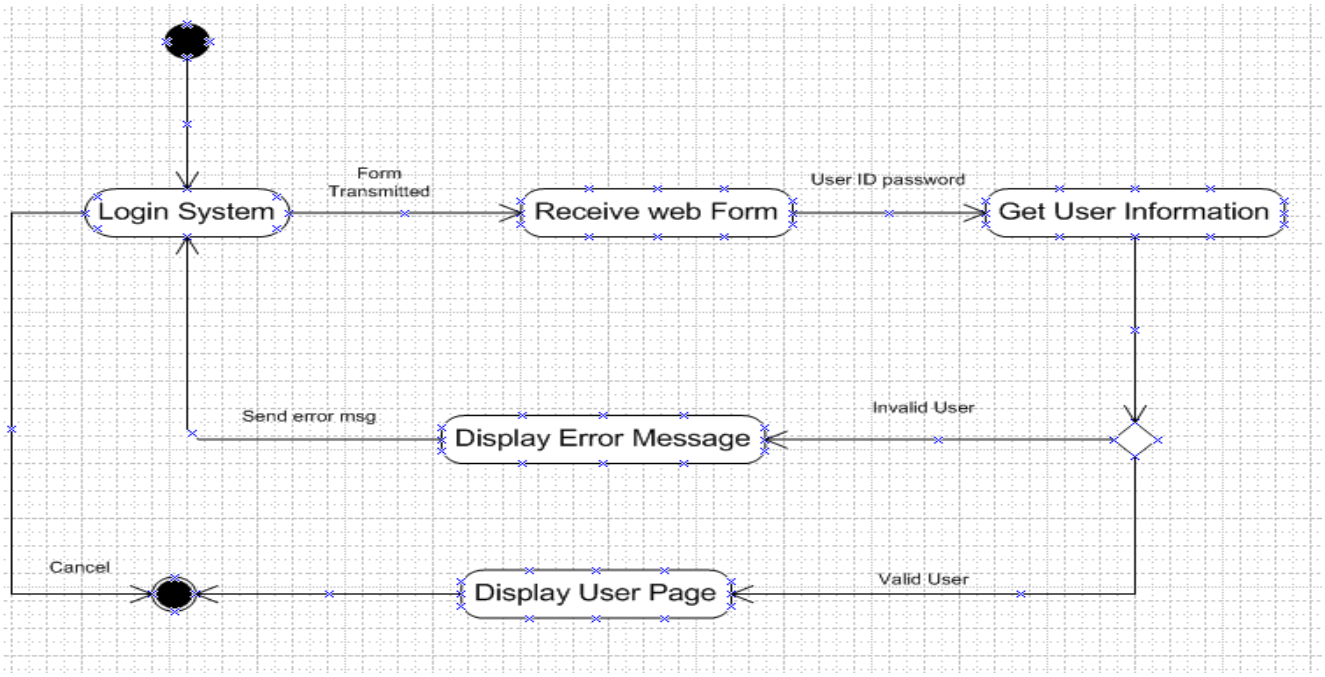


Fig. 4.3.1 Login Activity Diagram

4.4 CLASS DIAGRAM

- Set of classes
- In relationship
- May or may not contain attributes and methods

CLASSESS:

Classes are represented by a rectangle on a class diagram. In the simplest format, the rectangle may include only the class name, but may also include the attributes and methods. Attributes are what the class knows about characteristics of the objects, and methods (also called operations) are what the class knows about how to do things. Methods are small sections of code that work with the attributes.

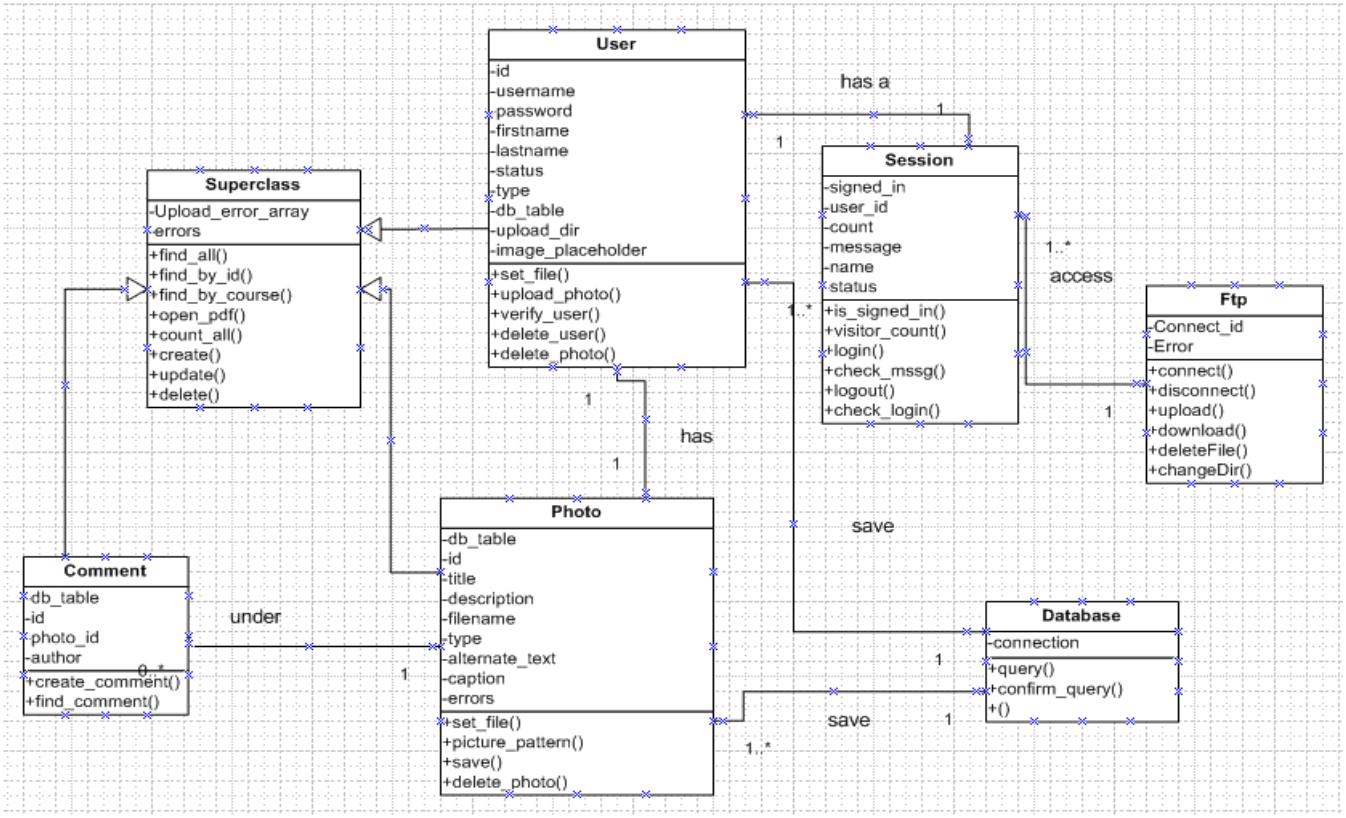


Fig. 4.4.1 FTP Class Diagram

4.5 Sequence Diagrams

Sequence diagrams can illustrate a succession of interactions between classes or object instances over time. Sequence diagrams are often used to illustrate the processing described in use case scenarios. In practice, sequence diagrams are derived from use case analysis and are used in systems design to derive the interactions, relationships, and methods of the objects in the system. Sequence diagrams are used to show the overall pattern of the activities or interactions in a use case. Each use case scenario may create one sequence diagram, although sequence diagrams are not al-ways created for minor scenarios.

The symbols used in sequence is shown below

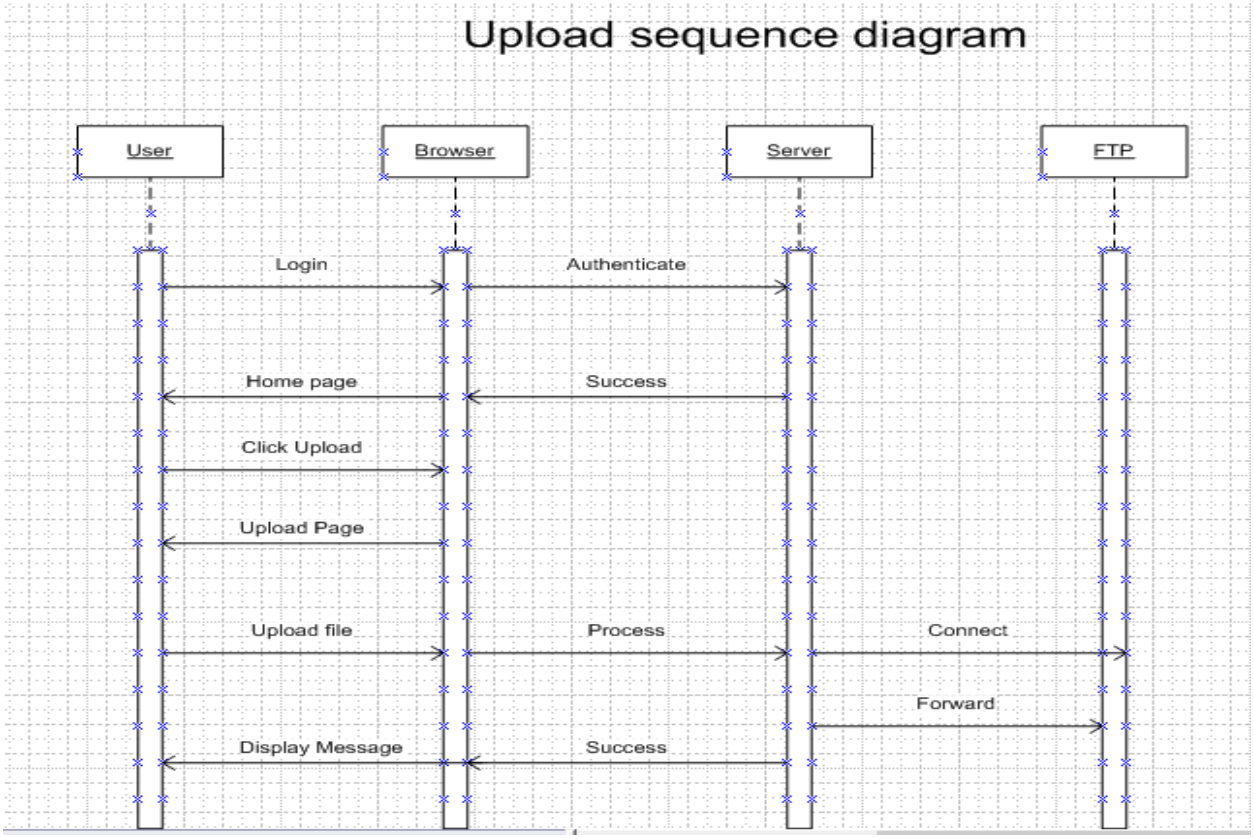


Fig. 4.5.1 Upload Sequence Diagram

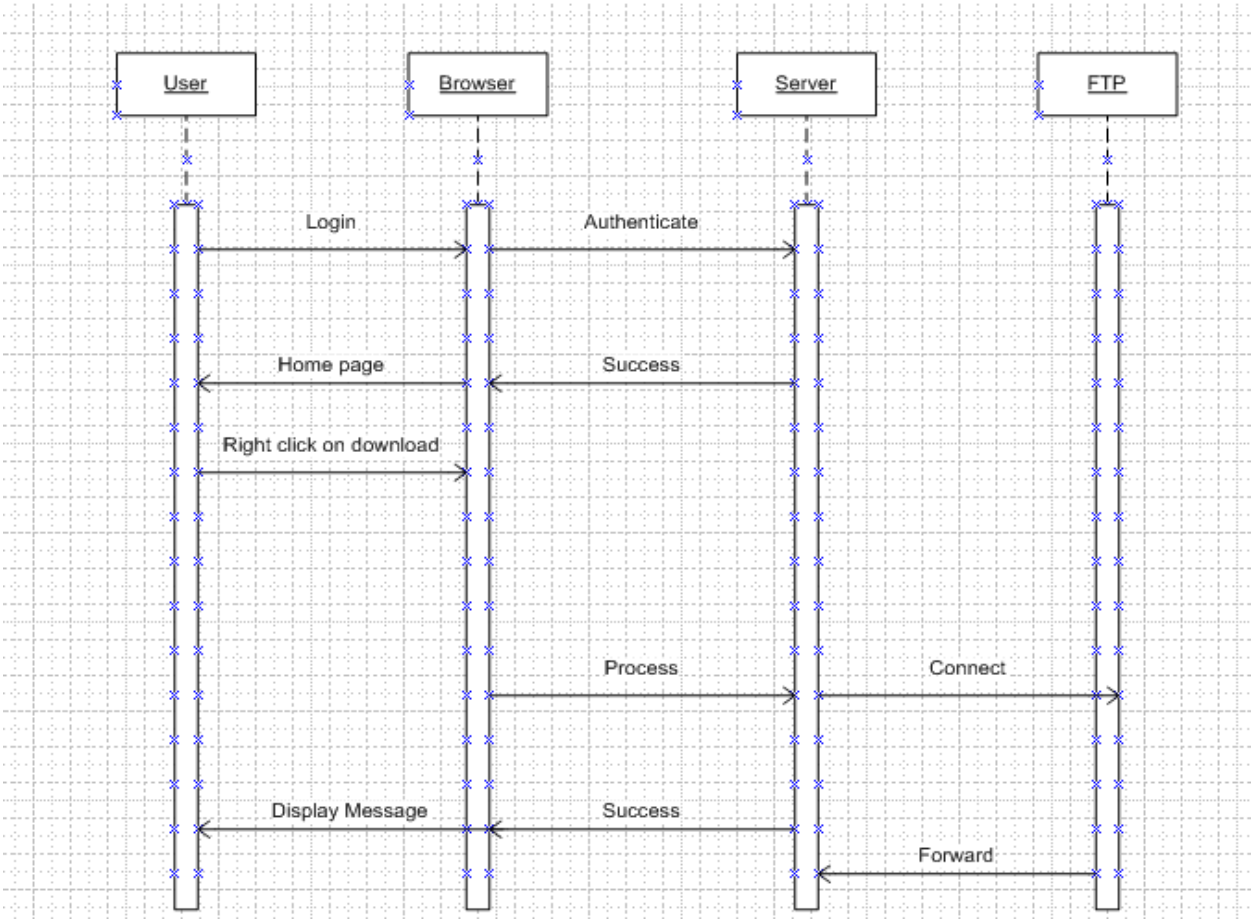


Fig. 4.5.2 Download Sequence Diagram

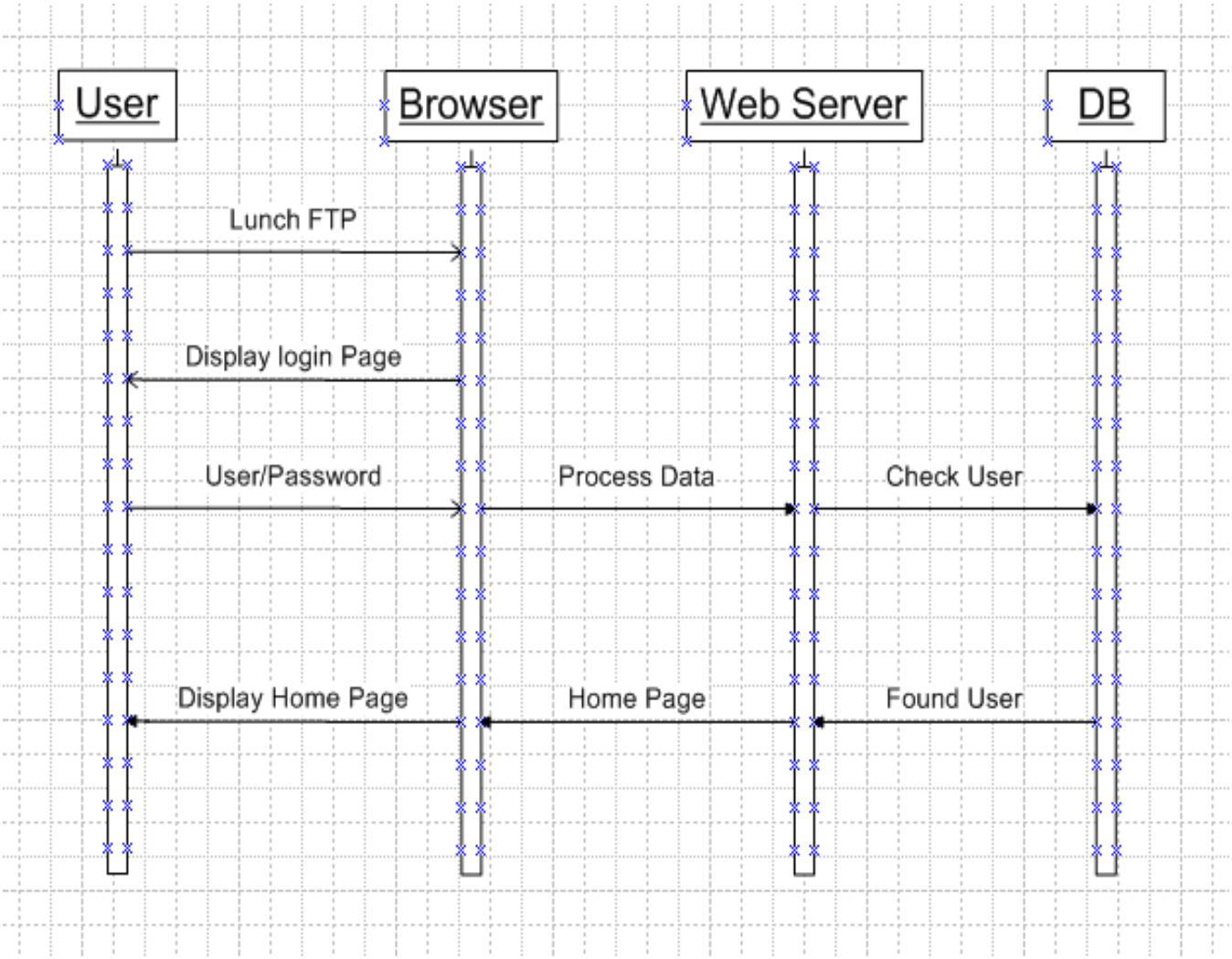


Fig. 4.5.2 Successful Login Sequence Diagram

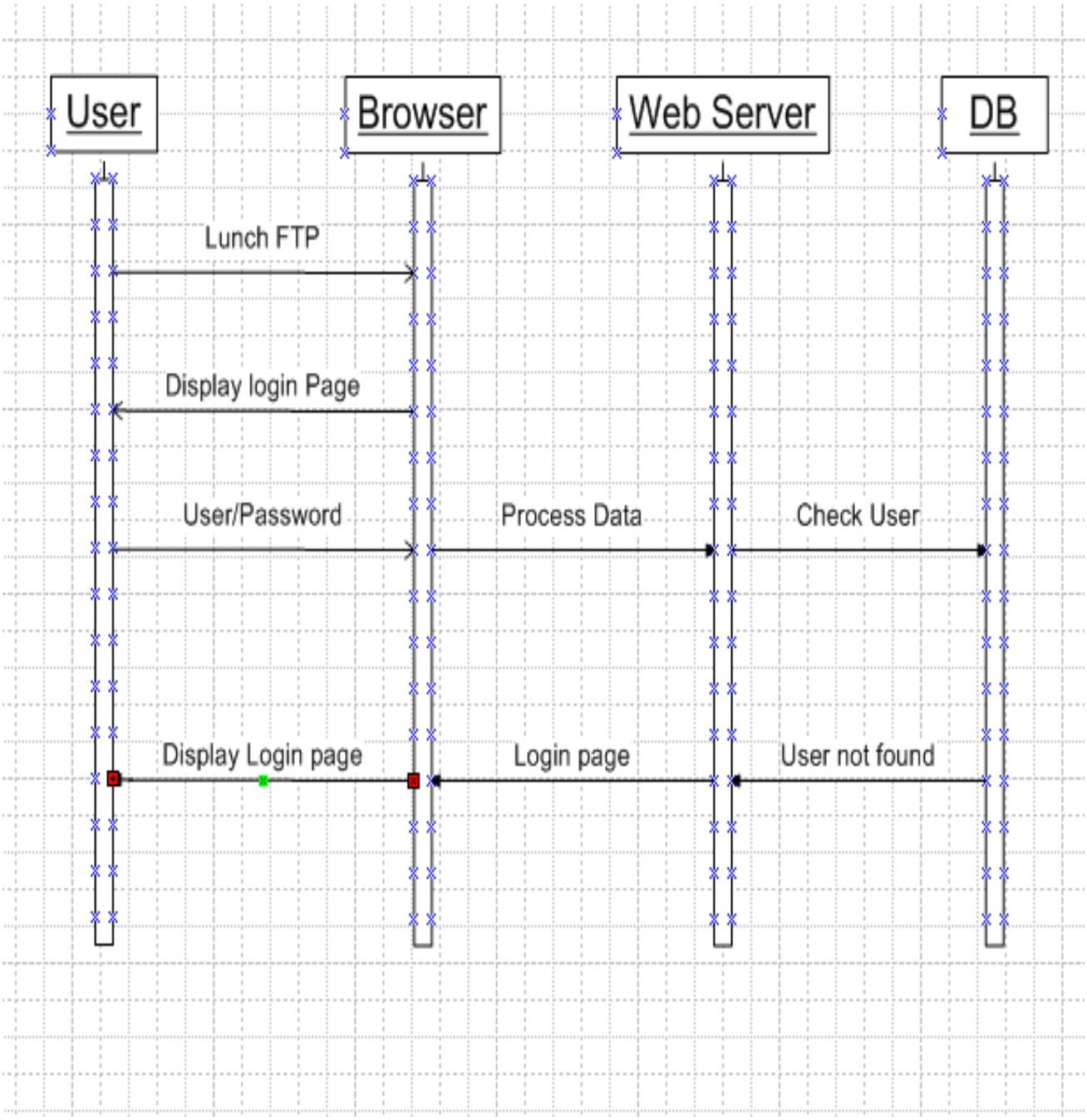


Fig. 4.5.2 Wrong Login Sequence Diagram

CHAPTER 5
LIMITATIONS & FUTURE POSSIBILITY

5.1 LIMITATIONS

-The system is implemented as a desktop application or laptop which does not allow instantaneous data exchange.

-We assumed the system is using the IUT database system for control process (information validity verification). But a change in this database would necessarily need some in our system also.

-We tried to build a peer to peer chatting between the teachers and the students which works temporarily due to LAN connection problem.

- For instance the Students, the teachers, and the admin are the only users of the system.

5.2 FUTURE POSSIBILITY

With more time transforming, this application into a web application would allow the system to satisfy all the necessary requirements in a more efficient, technical and sophisticated way (instant chat, and more attractive interface).

CHAPTER 6
SYSTEM DESIGN AND IMPLEMENTATION

6.1 TOOLS AND TECHNOLOGY USED

The tool and technology used during the development and implementation of our website include the following:

a) Programming Languages used:

- HTML
- JavaScript
- J-Query
- PHP
- CSS
- SQL
- AJAX

b) Software tools used:

- Adobe Dreamweaver
- Xampp
- MySQL Database
- Chrome Browser

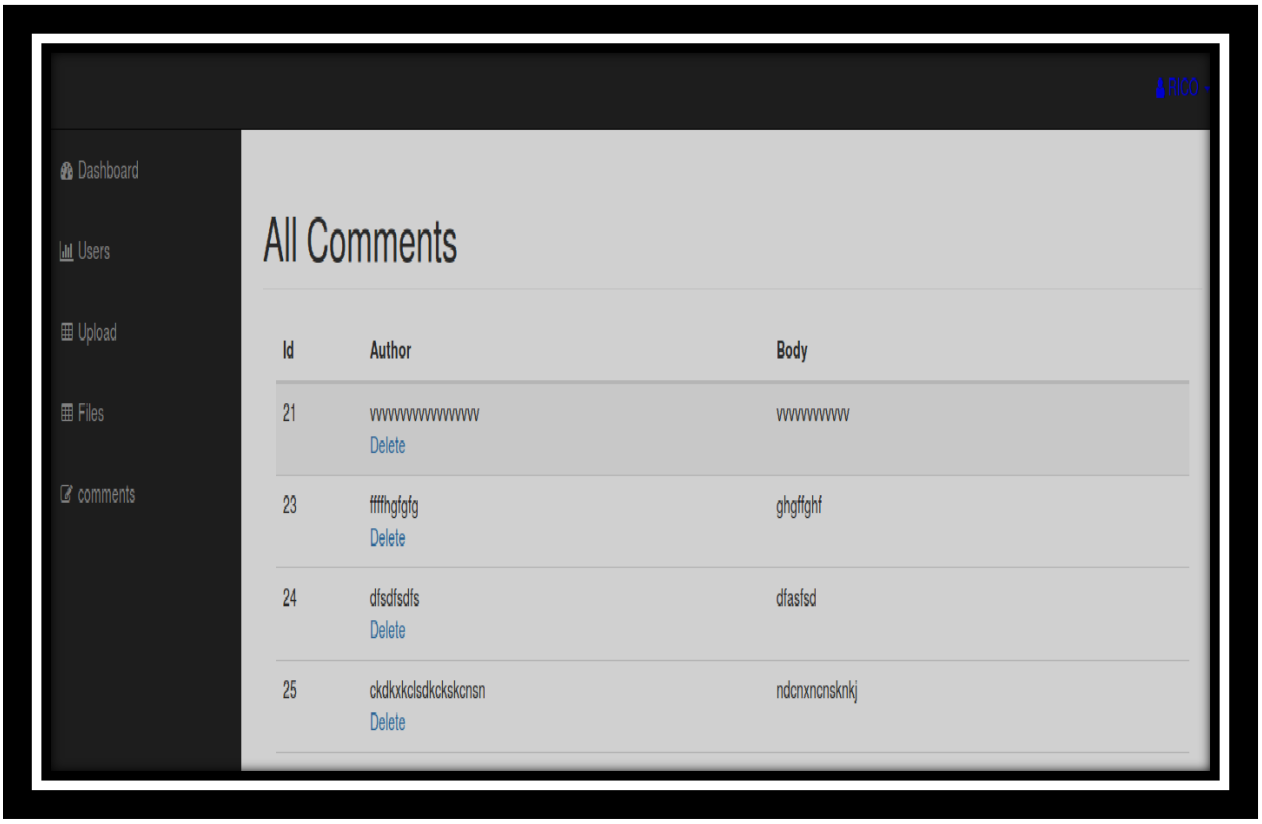
c) Platform Used:

- Windows 7

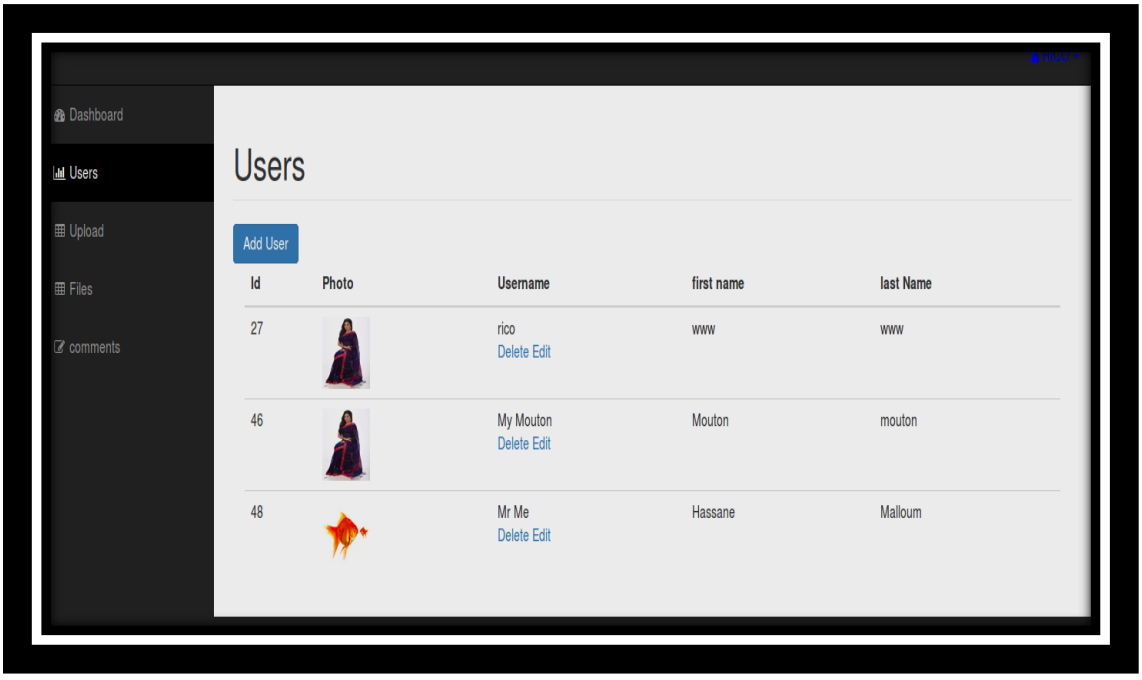
6.2 Admin Home Page

6.3 Admin Upload Page

6.4 Comments

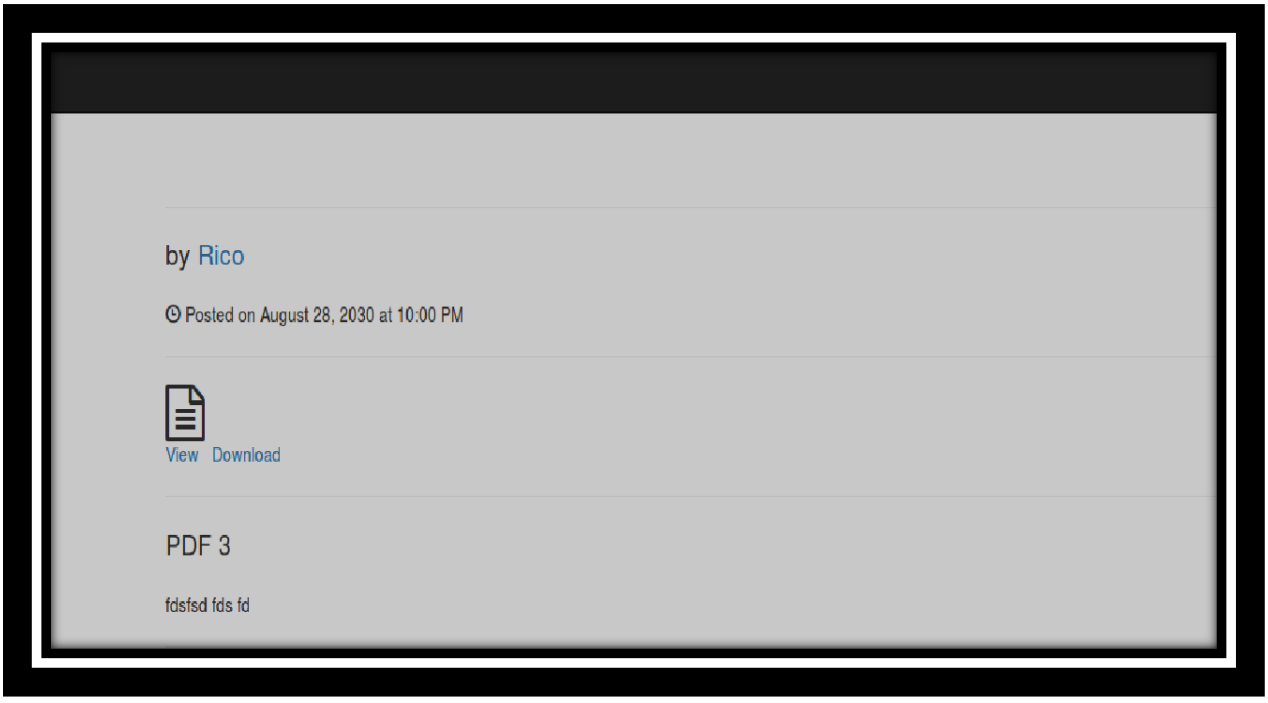


6.5 View Users

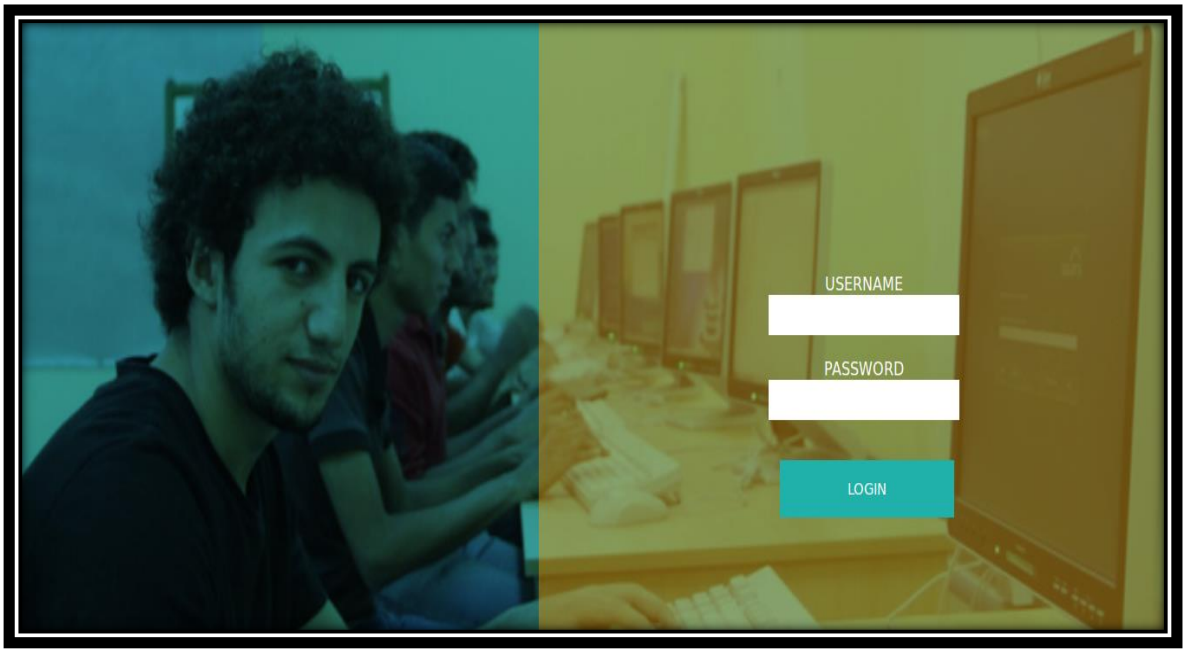


6.6 View Files

6.7 File details



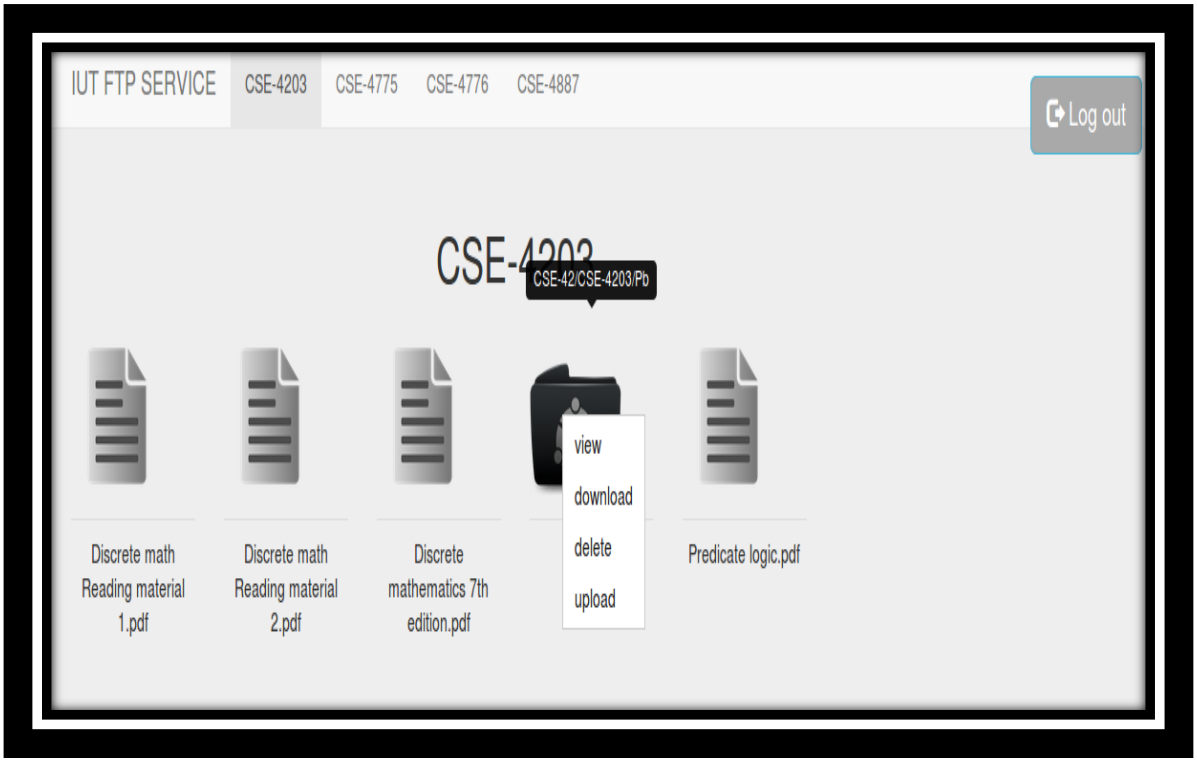
6.8 Students & Teachers Login Page



6.9 Course Folder

6.10 Student View & Download File

6.11 Teacher View, Delete, Upload and Download Page



CHAPTER 7
SYSTEM TESTING

7.1 SYSTEM TESTING AND PLAN

Testing is the debugging of the program codes of a candidate system, it is one of the most critical aspects of computer programming, without a program that works and runs properly and efficiently, the system would never produce an output for which it is designed and implemented.

Testing is best performed when users are asked to assist in identifying all errors and bugs. The sample date are used for testing. It is not the quality of data used that matters most in testing. Testing of our website was aimed at ensuring that is was accurately and efficiently functioning before the beginning of live operation commands.

7.2 Code Testing

This examines the logic of the program and its code implementation. It also tests the efficiency of the different algorithms implemented in the project. Execution time and space required were the two main factors being tested here. For example, the logic for updating various sample data and with the sample files and directories were tested and verified accordingly.

Also we tested the Database connection code written in PHP for compatibility with the IIS Server on Windows 8.1 Platform and we found it to be operational and functionally compatible.

7.3 Specification Testing

Carrying out the specification testing means specifying what the program should do and how it should perform under various conditions and then verifies all these specifications as per the algorithms implemented in the programs. Accordingly, test cases for various scenarios and combination of conditions in all the modules are tested and found to be satisfactorily functioning at optimum levels.

For example, the code segment used in implementing the uploading of photos and articles has been optimized so that it performs within a minimum amount of time.

7.4 Unit Testing

In unit testing we test each module individually and integrate it with the overall system. Unit testing focuses on verification efforts of the smallest unit of the software design in the module. The module of the system is tested separately. This testing is carried out during the programming stage itself, in the testing step each module is found to work properly and at optimum level vis-à-vis the expected output from the module. There are some validation checks for fields also which have tested and verified.

For example, the validation check is done for varying user input given by the user in order to verify the validity of the data entered and no validation errors were found in the system.

7.5 System Testing

Once the individual module testing was completed, all the different modules were assembled and integrated to perform as a system. We used the top-down testing approach for our website, where we began from the upper level module right to the lower level module. This approach was carried out to check whether the entire system is performing satisfactorily and it was found to be so.

7.6 Correction Evidence

Data can be lost across an interface, one module can have an adverse effect on the other sub-functions or modules when combined and may not produce the desired or expected output. Correction action is the systematic testing for constructing the undiscovered errors within the system's interface. This testing technique was done with sufficient sample data. The developed system has run successfully with the sample data. The need for such an integrated test is to evaluate the overall system performance and prove the consistency and integrity of the website's functionality.

7.7 Output Testing

After performance of the validation testing, the next step is output testing. The output displayed or generated by the system under consideration is tested by asking the user about the format required by the system. The output format on the screen is found to be correct as format was designed in the system phase according to the user needs. Hence output testing does not result in any correction or modification of the system.

CHAPTER 8
EVALUATION AND CONCLUSION

8.1 Evaluation of the project objectives

The IUT FTP SYSTEM website is a new system which has to be run to see whether it works efficiently and perfectly. After running it for a few days we are now sure that the new system's purpose is maintained. Software evaluation and selection can become an innovative issue by some measures and considerations. We are therefore satisfied with the way that the IUT FTP SYSTEM website is working and addressing the needs of users (Students and Teachers) in many ways. We are satisfied with the following objectives that have been achieved:

- The system contains various types of user-defined checking method like user's account, integrity, and inconsistency.
- The system is capable checks each and every data being input by performing the above mentioned methods.
- The site has an attractive, flexible and efficient interface.
- Now for the primary version, we have designed the website efficiently, aesthetically appealing and given it all the flexibility it requires. We have emphasized on function rather than just designing attractive interfaces.
- Generating errors –the minimum error generated by a system is clearly defined by the system and our system also fulfills this criterion.
- Stimulation- the experience of working in a team made us to perform better and have more enthusiasm to work even harder.
- Learning- we all acquired new knowledge and insights from each other and this has helped us enormously in realizing our work in time and with time and no major hitches.

8.2 Evaluation by Real Users

During last decade, the use of an assortment of usability inspection methods has become prevalent as project schedule become shorter and budgets become tighter. In general, the

expense and effort involved in testing the real end users has been viewed by the development of IUT FTP SYSTEM website as independence to software development.

To find out how well the system works a questionnaire was created by us during the running and testing phases of the website development. This questionnaire has been designed in an easy way so that the participating users can answer them only by writing the points into the answer sheet. From the answers we would be able to judge if the proposed system has been up to the desired standard or there are still any functioned lapses and lacunae in it.

Some of the Questions we asked the real end users include among others:

I. How do you access the amenities provided by the website?
II. Do you find the modalities of accessing the website user-friendly enough?
III. Does the website satisfy all the needs and requirements you have initially specified?
IV. What else do you think should be added to the website?

So far, the evaluation by the real end users has attained a very satisfactory level after so many rounds of adjustments, modifications and improvements in the initial friendly and dynamic in all its functional aspects.

8.3 Problems Faced During System Implementation

The problems we faced while implementing the project started right from the design of the architecture of the website itself. These includes among others:

- Complexities and difficulties related to prototyping, gathering of user requirements and adjusting the website according to their changing needs.
- Integrating the difficulties modules of the website also turned out to be a very challenging task during our work.
- Then came to the problem of coding where we faced numerous syntax errors related to the various programming languages we used.

8.4 SYSYEM SECURITY

Security is one of the most aspects that focused during the development of our website; there are several threads we're able to exposed them and used concrete solution that our website is secured.

8.4.1 SQL Injection

SQL injection attacks are extremely simple to defend against, but many applications are still vulnerable. Consider the following SQL statement:

For example, depending on the database you are using, it might be possible to send multiple queries to the database server in a single call. Thus, a user can potentially terminate the existing query with a semicolon and follow this with a query of the user's choosing.

MSQL, until recently, does not allow multiple queries, so this particular risk is mitigated. Never versions of MySQL allow multiple queries, but the corresponding PHP extension (ext/mysqli) requires that you use a separate function if you want to send multiple queries (mysqli_multi_query () instead of mysqli_query ()). Only allowing a single query is safer, because it limits what an attacker can potentially do.

Protecting against SQL injection is easy:

Data Filtering

This cannot be overstressed. With good data filtering in place, most security concerns are mitigated, and some are practically eliminated.

Quote your data

If your database allows it (MySQL does), put a single quote around all values in your SQL statements, regardless of the data type.

Escape your data

Sometimes valid data can unintentionally interfere with the format of the SQL statement itself. Use mysql_escape_string () or an escaping function native to your particular database. If there isn't a specific one, addslashes () is a good last resort.

8.4.2 Session Hijacking

Arguably the most common session attack, session hijacking refers to all attacks that attempt to gain access to another user's session.

As with session fixation, if your session mechanism only consists of session start (), you are vulnerable, although the exploit isn't as simple.

Rather than focusing on how to keep the session identifier from being captured, we are going to focus on how to make such a capture less problematic. The goal is to complicate impersonation, since every complication increases security. To do this, we will examine the steps necessary to successfully hijack a session. In each scenario, we will assume that the session identifiers have been compromised.

With the most simplistic mechanism, a valid session identifier is all that is needed to successfully hijack a session. In order to improve this, we need to see if there is anything extra in an HTTP request that we use for extra identification.

Solution to this we give each an individual session_id which is unique to every individual so any session hijack will not be possible and this also improve the level of our security in the website.

```
//Check if username session is NOT set then this page will jump to login page

If(!isset($_SESSION['username'])){

Header('Location: login/index.php');

}
```

8.4.3 Validation

One of the most important part of the security system is not allowing garbage data to be stored inside the database, to that we need to validate each data that user may provide during either login or accessing folder we user two ways to do that by using server side and client side validations.

8.4.3.1 Client side Validation

When we start out validation, we went to make it as easy as possible for the user to fix the problem with the least additional load on our servers. This leans towards doing the client-side validation first, then server-side later if we have time. Client-side validation is faster, typically looks prettier, often has better association between messages and inputs, and just generally looks like the better choice from the product owner or customer perspective.

8.4.3.2 Server Side Validation

Why we use the server side validation between a user may try to turn off his JavaScript on the browser which will make our website vulnerable to some attackers in other to have solid security system we need a backend where user has no authority in changing the security system. Sever side validation is very important.

8.5 Future Work

Future work is what we intend to do in future to improve our website, make it more modern and integrate some of the most recent technologies that would have evolved by then. These future plans among others include:

- Use of Advanced security system: Security is a big issue in all online project especially in social networking sites where privacy of individuals need to be kept confidential. We intend to use higher levels of security in future to keep private message secret and protect the profile information of our members from theft.

- Greater user friendliness: it must be easily accessible, more flexible and very easy to use even by non-computer literates.
- More powerful database like Oracle will be used in future.