**1. INTRODUCTION**

At Course Portal, our courses range from Basic Computing, Professional IT, Personal Development and Business Skills, designed to provide the training, skills and accreditations to give you an advantage for personal and professional success.

When students enter this site, he feels that he was threaded into an intellectual environment. He acquires the knowledge of General Information, Academics, Seminars, and even some live Projects. And the special feature that is the Expert System is also included especially for the students who are at professional courses to select their project satisfactorily and successfully. Here at Online Course Portal the students can directly plan and create online learning activities. This will include not only learning how to develop online units or lessons using traditional content, but also an exploration and instruction on the use of the vast array of resources available via our site.

Online Course portalis your key to harnessing the power of the internet. This unique and revolutionary model allows you to learn various courses online. Since time immemorial, mankind has acquired knowledge and has been able to put it to constructive use, to earn one's livelihood and money. Web site providesan opportunity that will not only quench your thirst for knowledge and education, but will bring you face to face with the vast powerhouse of information and opportunity, the Internet, besides presenting you an opportunity to earn and achieve financial freedom.Online Course Portal invites you to be a part of this noble cause, to educate and learn.

**1.1 Purpose:**

In this system, our main purpose is to reduce the user interaction with different applications. The main goals are as follows:

* Providing an online education website for students
* Providing learning of courses through online
* Providing writing exams online
  1. **Scope:**

Online Course Portal is an Online Education package for all the learning of the students aspiring to be high class professional. Constants personalization of candidate learning process and frequently interacting with the online expert give Online Course portal subscriber an edge over other students.

Online Course Portal worked on two modes: Online and Offline. In online mode, user for first time should be connected to internet and if they had valid username and password they are able to download study material, concern tests containing different pattern of questions and Online Course Portal tools get stored at local hard disk make utilized of package. Report of his test conduct is get updated to elearn server directly. If user in offline mode (had already material downloaded) read material and conduct test, result get stored at local hard disc. When again user get connect to Internet then that stored data get uploaded to Portal server. In turn Online portal server get generate reports based on his information stored at Expert System, part from this portal server have updated study material, question banks.

**1.3 Need for System**

**Existing System**

Online Course Portal is an Online Education package for all the learning of the students aspiring to be high class professional. Constants personalization of candidate learning process and frequently interacting with the online expert give Online Course portal subscriber an edge over other students.

Online Course Portal worked on two modes: Online and Offline. In online mode, user for first time should be connected to internet and if they had valid username and password they are able to download study material, concern tests containing different pattern of questions and Online Course Portal tools get stored at local hard disk make utilized of package. Report of his test conduct is get updated to elearn server directly. If user in offline mode (had already material downloaded) read material and conduct test, result get stored at local hard disc. When again user get connect to Internet then that stored data get uploaded to Portal server. In turn Online portal server get generate reports based on his information stored at Expert System, part from this portal server have updated study material, question banks.

**Disadvantages**

It is not an online system there is no candidate learning process. It does not provide any references about previous missed classes.

* It is high expensive process.
* This process is time consume process.
* Does not provide appropriate messages indicating errors or instructions.

**Proposed System**

The proposed product has two components:

Course Portal Server: This is a central repository where deployment of software and course portal study data is done. All clients present in the intranet contact the server to download the latest updates in software and study material etc.

Client: Client consists of a front-end to enable students to study and test them selves on various topics.

**Advantages**

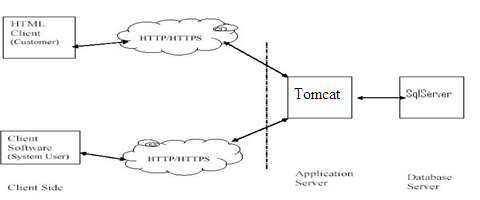
* Provide appropriate messages indicating errors or instructions
* Navigation is simple
* Similar pattern of design in all screens
* Accept various parameters incase of reports
* Presentable format
* No complexities

**2. SOFTWARE REQUIEREMENT ANALYSIS AND SPECIFICATION**

**2.1 Productive Perspective**

This system provides an easy way of storing all the business details at a centralized location (database) with proper security. This system also provides an easy way of user management, setting different access roles to users and changing the passwords of the users. This application helps in storing the user for performing his activities very fast and effectively. By using this application there should be no difficulty for the company people to maintain information in online database. This system also provides various types of reports to users. It can also generate different kinds of reports based on different requirements of the company to know current status and helps in taking the future decision.

The web pages (XHTML) are present to provide the user interface on customer client side. Communication between customer and server is provided through HTTP/HTTPS protocols. The Client Software is to provide the user interface on system user client side and for this TCP/IP protocols are used.



**Fig 2.1:** Client /Server Model

**2.2 Product Function:**

This above functionality can be classified into of 3 modules. They are as follows:

* + Administrator
  + Student

## Banker

* + Faculty

**2.2.1 Administrator**

It has been already said that the project will be under the control of the Supervisor. He plays the role of a protégé and even as an organizer. He supervises the member’s list and does any cancellations if required, makes up data entries and test settings.

To be concise, he maintains the list of the users who have account information in it, if so; he can perform any changes in his account information. If not, he will be provided with new account information to register as a member in it and this is done with the knowledge of JSP. The Membership Registration form is designed using HTML.

This is completely designed using the knowledge of Artificial Intelligence. For the intellectual students who are in professional courses, they can select their project easily by taking attempt an adaptive test conducted by our Expert System. Here the questions will be related to their academic subjects and the project is decided based on their skills. And the list of courses will be displayed and thus it becomes malleable to the students to select a course.

Expert system is knowledge-based system, which get stored students reports generated from test for further processing. As many reports generated more efficient conclusion able to drawn. Expert system work for major aspects: 1.Identifies the interest of the student whether like visual or audio way of questioning. 2. Learning speed, capacity based on his/her performance. Hence it is called as performance analyzer which help the student learn better and faster by customizing the learning process by his/her preferred learning style, this enhances the student understanding of the student and leverage the student performance.

**Administrator Roles**

* Administrator maintains entire web site
* Adds new courses, enables and disable courses
* Uploads notes, courses and set permissions to various users
* Set examinations papers
* Conducts Examinations
* Mailing Communication
* Reports

**2.1.2 Student**

* These users Join on Self Interest directly.
* Selection of Courses can be done.
* Payment of fee through e-banking/DD etc. can be done.
* Payment of fee through e-banking/DD login/passwords are created.
* Learn course, write exam and get certificate.
* Mailing Communications.

**2.1.3 Banker**

* Receives payment of users and communicate to the admin.
* Received payments are sent to admin for giving acceptance to the course.
* Provides detailed reports of all payments made by students.

**2.1.4 Faculty**

* Joins on Self Interest directly
* Conduct classes & Clarify students doubts
* Mailing Communications to members.

**2.3 User Constraints**

These are the requirements that are not directly related to the functionality of the system. These should be considered as mandatory when the system is developed. The following Constraints were arrived at the system:

* The system should be available and the Users can use the system from their respective locations.
* For gaining entry into the system the users should be registered and should be able use login & passwords for gaining access to the system.
* The system should be able to accept more number of users.
* The system should be easy to understand and organized in a structured way.
* There should be no limitation about the hardware platform that is to be used to run the system.

**2.4 Software Requirements:**

Operating system : Windows XP or Windows 7, Windows 8.

Coding Language : Java 7.0

Data Base : MySQL

Web Server : Tomcat 6.0

**2.5 Hardware Requirements**

Processing System : Intel I3 Processor/more

Hard Disk : 160 GB

Ram : 4 GB

**2.6 NON-Functional Requirements :**

**Performance Requirements**

No external factor influences performance as the application is standalone. Higher memory is recommended for faster execution. However, when executed from intranet or internet good bandwidth, less congestion and shortest route to reach the server would enhance the performance.

**User Interfaces:**

* User Interface is a GUI developed using JSP

**Software Interface:**

* The main processing is done in J2SE using Swings and ion and until ape, and the programming environment java is used.
* **Security:** The web server and database server should be protected from hacking, virus etc.
* **Reliability:** Including all hardware, and software, will satisfactorily perform the task for which it was designed or intended.
* **Portability:** It can perform on multiple platforms or instantly accessed from the Internet, a desktop or network.
* **Scalability:** Scalability is the property of a system to handle a growing amount of work by adding resources to the system.

**SDLC (Software Development Life Cycle) Methodologies:**

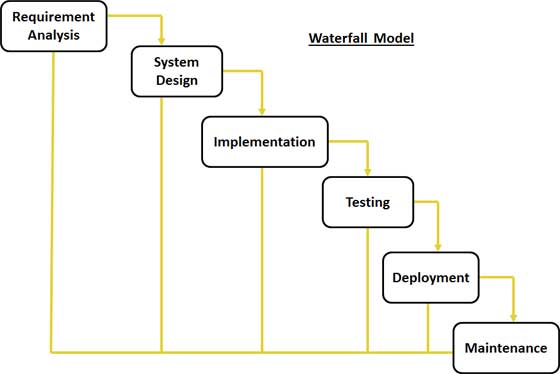
This document play a vital role in the development of life cycle (SDLC) as it describes the complete requirement of the system. It means for use by developers and will be the basic during testing phase. Any changes made to the requirements in the future will have to go through formal change approval process.

The Waterfall Model was first Process Model to be introduced. It is also referred to as a linear-sequential life cycle model. It is very simple to understand and use. In a waterfall model, each phase must be completed before the next phase can begin and there is no overlapping in the phases. Waterfall model is the earliest SDLC approach that was used for software development.

The waterfall Model illustrates the software development process in a linear sequential flow; hence it is also referred to as a linear-sequential life cycle model. This means that any phase in the development process begins only if the previous phase is complete. In waterfall model phases do not overlap.

**Waterfall Model design**

Waterfall approach was first SDLC Model to be used widely in Software Engineering to ensure success of the project. In "The Waterfall" approach, the whole process of software development is divided into separate phases. In Waterfall model, typically, the outcome of one phase acts as the input for the next phase sequentially. Following is a diagrammatic representation of different phases of waterfall model.



**Fig 2.6: Waterfall Model**

**The sequential phases in Waterfall model are**:

**Requirement Gathering and analysis:** All possible requirements of the system to be developed are captured in this phase and documented in a requirement specification document.

**System Design:** The requirement specifications from first phase are studied in this phase and system design is prepared. System Design helps in specifying hardware and system requirements and also helps in defining overall system architecture.

**Implementation:** With inputs from system design, the system is first developed in small programs called units, which are integrated in the next phase. Each unit is developed and tested for its functionality which is referred to as Unit Testing.

**Integration and Testing:** All the units developed in the implementation phase are integrated into a system after testing of each unit. Post integration the entire system is tested for any faults and failures.

**Deployment of system:** Once the functional and non-functional testing is done, the product is deployed in the customer environment or released into the market.

**Maintenance:** There are some issues which come up in the client environment. To fix those issues patches are released. Also to enhance the product some better versions are released. Maintenance is done to deliver these changes in the customer environment. All these phases are cascaded to each other in which progress is seen as flowing steadily downwards (like a waterfall) through the phases. The next phase is started only after the defined set of goals are achieved for previous phase and it is signed off, so the name "Waterfall Model". In this model phases do not overlap.

**Waterfall Model Application**

Every software developed is different and requires a suitable SDLC approach to be followed based on the internal and external factors. Some situations where the use of Waterfall model is most appropriate are:

* Requirements are very well documented, clear and fixed.
* Product definition is stable.
* Technology is understood and is not dynamic.
* There are no ambiguous requirements.
* Ample resources with required expertise are available to support the product.

.