

SECURED APPROACH TO DESIGN E- LEARNING TECHNOLOGIES

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Abstract: Service Oriented Architecture (SOA) characterizes how to incorporate broadly different applications for a world that is online and utilizes various usage stages. In this paper we propose an e-learning administration framework with Web administrations arranged system. The framework will be an open source application with customer scripting office. It additionally bolsters the cross program and it is completely incorporated with various databases; MS SQL Server, MS Access, Oracle, and LDAP. The key estimations of Interoperability, toughness, similarity, reasonability, dynamic reusability, and openness in the proposed design upgrade the future e-learning frameworks to convey all the more proficiently and share information all the more effortlessly.

Keywords: 3-Tier Architecture, Accessibility, Compatibility, Requirements, Service Oriented Architecture.

1. Introduction

Service based models take legacy application usefulness and opens it to the Internet in a dependable, exceptionally accessible, versatile, adaptable, sensible and secure way, simple and dependable web based technique to make and get to learning. Web Service innovation has developed as another worldview of conveyed figuring. The Service-based structures are layered on the highest point of standard exchange conventions for transmitting messages that at present, the most widely recognized ones are the XML-based detail SOAP (Simple Object Get to Protocol), UDDI (Universal Description, Discovery what's more, Integration), and WSDL (Web Service Description Language). E-learning is a general term used to allude to a type of learning in which the educator and understudy are isolated by space or time where the crevice

between the two is crossed over using on the web advances.

When starting to make e-learning content, the understudies' profiles and courses must be put away in the framework database and exhibited utilizing web application to encourage the usefulness of building an e-learning administration framework. The proposed framework is a propelled, 3-level, database driven utilizing Microsoft ASP.NET 3.5 with VB.NET. The framework is partitioned into a few stages; each stage portrays a number of activities. The model utilized as a part of building the framework is the "Developmental Model", since it is anything but difficult to utilize, it permits little frameworks to be created quickly, and it permits client engagement with the application.

Transformative improvement demonstrates utilizes little, incremental item discharges, visit conveyance to clients, and element plans and procedures.

In this paper the essential idea about the improvement handle in a few modules has been displayed. The principle necessities of the framework are presented with figures and the modules are appeared in points of interest. As opposed to convey the framework as a solitary conveyance, the advancement and conveyance is separated into additions with every augmentation conveying some portion of the required usefulness.

2. Main aims of the System

- Helps to improving learning accessibility that is, eliminating barriers to learning that many learners have found in traditional classrooms.
- Improving the interaction between students and instructors as the system has a

question bank facility where the students can ask questions and send them to their instructors.

- Speed up the reaching for required data and facilitate the interaction with database records.

- It keeps data secure. Each student has an account to authenticate into the system.

- It facilitates personalized delivery of content based on the individual learner's knowledge and learning preferences.

- It provides tracking and assessment of learners to measure effectiveness and compliance.

- It helps in promoting knowledge sharing through collaborative learning.

- It allows students to choose what to focus on and to take control of their own experiences.

- The number of articles and amount of information that students can access is unlimited.

- Helps in providing participants with an extensive list of summarizes of related resources that they can choose to read or archive for later use.

The greater part of exchanges with the database is produced utilizing customer scripting so as to upgrade the execution of the framework. The framework is separated into three stages: Layout, database, and web administrations. Each stage portrays particular moves made in a few areas.

2.1 Layout Phase

In this stage we will present the fundamental ideas of the web application outline offices in the framework. We need to utilize the accompanying instruments in website architecture:

- HTML.
- Java Script.
- Adobe Photoshop CS.
- AJAX custom extended controls.
- Cascading Style Sheet.

HTML, an introduction of Hypertext Mark up Language is the transcendent mark up language for Site pages. It gives a way to portray the structure of content based data in an archive — by signifying certain content as connections, headings, passages, records, et cetera — and to supplement that content with intelligent

structures, inserted pictures, furthermore, different items.

2.1 Database Phase

This stage is associated with every single other module. In this stage, Microsoft SQL Server 2008 must be used as web storing. It incorporates local support for overseeing XML information, in addition to social information.

2.2 Web Services Phase

In this stage we need to utilize web benefits as references in most database activities. For instance, the information control is done through web administrations. All web administrations are web strategies for capacities that perform particular activities. Web Services permit the framework more prominent adaptability over the Internet by permitting it to work with different frameworks through the Web as though it was a standard LAN organize. It utilizes XML to transmit the information to and from distinctive sources. Web Services can likewise be considered as a network device—objects, information sets, and even reserved articles can be passed to and from different servers.

3. System architectural design

Different learning frameworks have been produced before decade; the dominant part of these frameworks are executed either with customer server engineering or are brought together server based. The customer server and incorporated server methodologies are illustrations of understudy educator and vault driven which reflect genuine learning situations in which educators go about as the substance makers while understudies go about as the substance buyers. Our learning condition gives an interoperable, unavoidable, and consistent learning engineering to associate, coordinate, and share three noteworthy measurements of learning assets:

- Learning collaborators.
- Learning contents.
- Learning services.

Keeping in mind the end goal to give these measurements we are utilizing the three tier framework engineering.

Three-tier architecture: The 3-Tier engineering has the taking after three layers:

3.1. Presentation Layer

In this level the UI must be worked to show information to the client or acknowledge contribution from the client. It will contain controls like content boxes, dropdown records, grid views, names, and so forth.

3.2. Business Logic Layer

It fills in as a middle person for information trade between the introduction layer and the information get to layer.

3.3. Data Access Layer

In this layer the information is set to the database back and forward. This layer just interfaces with the database. We will compose the database questions or utilize put away systems to get to the information from the database or to play out any operation to the database. It will get the information from the business layer and send it to the database or get the information from the database and send it to the business layer

Security Modes: In this framework there are four modes; visitor, understudy, teacher, and manager mode.

4. Methodology

Today's e-learning standards provide a strong new framework, creating a bridge from abstract programmable components to the practical world of implementation. According to new recent studies, the e-learning standards are of value in that they support investments in:

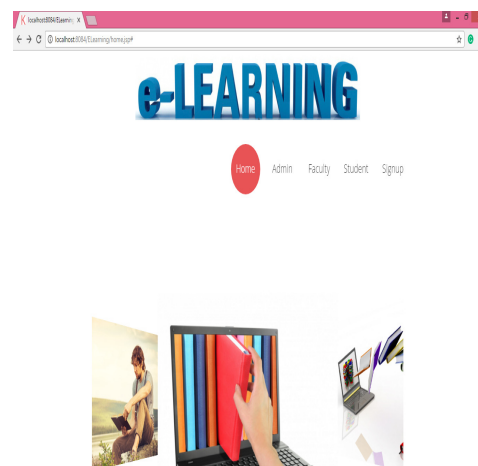
- **Interoperability:** that allows the Learning Object to communicate with management systems, databases, and web applications. This communication with a management system takes place through web transport protocols (XML data, HTTP, HTTPS, or URL encoded data). The purpose is to exchange or update metadata information about the use of the Learning Object. This may involve variables, such as learner scores, preferences, completion times, and progression, identifying which Learning Object to deliver next.
- **Durability:** e-learning content should be durable, regardless of changes or evolutions in technology. This means that new content should be added to existing content without costly redesign, reconfiguration, or recoding.
- **Compatibility:** with major technology platforms: such as Microsoft.NET and SUN Java Environment.

• **Manageability:** defined by enabling value to be assessed.

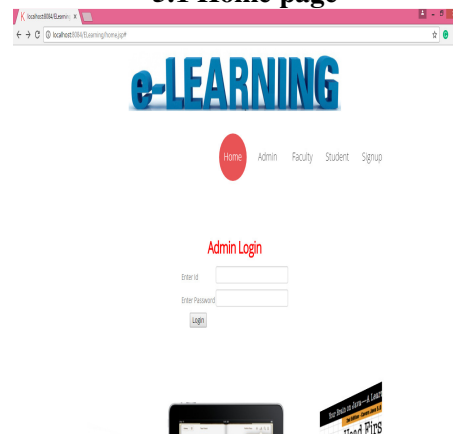
• **Dynamic Reusability:** using Learning Objects as programmable components. Content developers and learners should be able to extract relevant e-learning content such as modules from different courses and reassemble them into a new course, application, or context.

• **Accessibility:** e-learning content should be easy to find based on the classification of the content. Users should be able to locate and access instructional components from one remote location and deliver to other locations

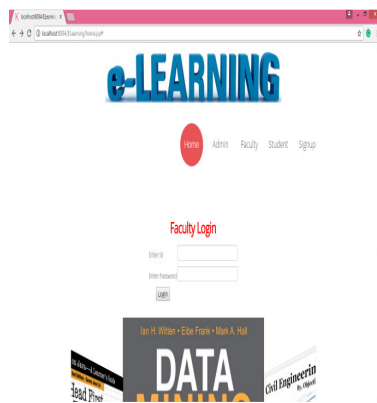
5. Outputs



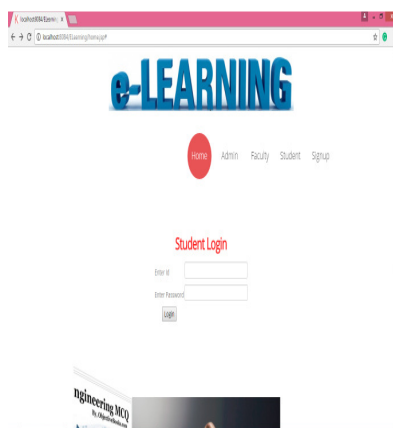
5.1 Home page



5.2 Admin login



5.3 Faculty login



5.4 Student login

6. Conclusion

As can be seen from reading this paper, by using our learning management system facilities, the geographical barriers are eliminated, opening up broader administration and education options. The system can facilitate personalized delivery of contents based on the individual learner's knowledge and learning preferences. It will provide participants with an extensive list of summaries of related resources that they can choose to read, or archive for later use. We proposed a middleware for uniform access to all thesis resources that belong to different administration areas.

We described new technologies including web services, single sign on, and AJAX and how we can use them in the development of our system. In this paper, we defined a 3-tier architectural e-learning system. The objective of this architecture is to supply a basis for designers, developers, and instructors to construct practicable strategic e-learning models suitable for their individual e-learning environments. The

proposed framework using the Web Service approach will increase the efficiency and effectiveness of collaborative learning in terms of Reusability, Interoperability, Accessibility and Modularization.

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