**[E-Learning System](https://drive.google.com/drive/folders/131ugLeHcMDk0srYV3buhjfb0A5y85Qmh" \t "_blank)**

* **ABSTRACT**

The twentieth century was shaped by sweeping changes in communication technologies. The emergence and use of information technology is the century’s most significant development affecting scholarly communication. The application of computers to information processing has brought several products and services to the scenes. Consequently, the academic community has undergone tremendous changes during these years, assuming new dimensions influenced by technology-driven applications. Libraries have witnessed a great metamorphosis in recent years both in their collection development and in their service structures. Thus Libraries are using technology to improve the management of scholarly information to strengthen and speed access to scholarly information not held locally. Over the last several years a significant transformation has been noticed in collection development policies and practices. “the transition from print to electronic medium apart from resulting in a growth of electronic information, has provided users with new tools and applications for information seeking and retrieval. Electronic resources are invaluable research tools that complement the print-based resources in a traditional library setting. writes that electronic resources are invaluable research tools that complement the print – based resources in a traditional library setting. Their advantages, according to her include: access to information that might be restricted to the user due to geographical location or finances, access to more current information, and provision of extensive links to additional resources related contents. This rapid emergence and development of electronic information technologies therefore makes it possible to envision radically different ways of organizing the collections and services the library has traditionally provided. While libraries approach a crisis point in financing collection development, these new technologies offer possible ways to mitigate costs and revolutionize ways to access information.

* **INTRODUCTION**

In this new era of electronics, we know the concept of e-learning which does not include the use of paper and pen.

E-Learning is the computer and network enabled transfer of skills and knowledge. It includes out- classroom & in-classroom educational experiences via technology. E­ Learning is naturally suited to distance learning and flexible learning. It is available anywhere, anytime. It is a self-paced interactive instructive presented over the Internet

to browser equipped learners. The E-Learning solution is empowering, engaging, effective and economical.

Early E-Learning systems, based on computer based learning (CBL) & training often attempted to replicate autocratic teaching styles whereby the role of the e-Learning systems was to transfer knowledge, as opposed to the systems developed later which

were based on computer supportive collaborative learning (CSCL) which encouraged the shared development of knowledge. Nowadays, it is an increasing trend to create virtual learning environment (VLE).

* **Modules:**

The system comprises of 3 major modules with their sub-modules as follows:

1. **Student/Learner**

* **Login:** Can **login** his account using **i**d and **p**assword.
* **Main Menu:** Will have **access** of main menu
* **Update:** Can **update** his course interests.
* **Quiz:** Can **take** a quiz and see their **results**
* **Announcements:** Can **see** the Announcements
* **Tutorial:** Can **read** Tutorials.
* **Notes:** Can **read** previous and uploaded notes.
* **Manage Profile:** Can **view** or **update** a profile.

2. **Faculty/Instructor**

* **Login:** Can **login** his account using **i**d and **p**assword.
* **Main Menu:** Will have **access** of main menu
* **Manage Quiz:** Can **add** or **list** the quizzes and **view** results.
* **Manage Tutorials:** Can **add** or **list** the Tutorials.
* **Manage Notes:** Can **add** or **update** notes
* **Announcements:** Can **post** and **list** announcements
* **Manage Profile:** Can **view** or **update** a profile.

3. **Admin**

* **Login:** Admin can **login** using credentials.
* **Main Menu:** Will have **access** of main menu
* **Manage Faculty:** Can **register** faculties.
* **Manage Learners:** Admin can **register** students.
* **Register Course:** Admincan **register** and **add** new courses
* **Announcements:** Can **post** , **list** or **delete** announcements
* **Manage Users:** Can **add** or **remove** users or **create** another admin
* **Manage Profile:** Can **view** or **update** a profile.
* **A Systematic Literature Review**
* **INTRODUCTION**

With the improvement in the technology and E-Learning methods have played a vital role changing the atmosphere over the learning paradigms. MOOC is the new trend in the internet and has rapidly gained much popularity. MOOC are Massive Open Online Courses, that are available online, anytime, anywhere and anybody can be benefited from it. These courses are massive in size may be 4 to 12 weeks long. Students have to register themselves online to avail these courses and weekly they need to spend 6 to 8 hours. These courses mostly aim to promote higher education, employee development and executive education. These courses are conceptualized and designed by various well known universities and MOOC platform vendors across the globe. Major players are Nptel, Coursera, edx, Khan Academy, Udacity. Reputed universities from all over the world offer these MOOCs.

* **LITERATURE SURVEY**

1. *Title : eLearn central- the journey to e-learning*

*Author : Lubica Stuchlikova, Jana Benkovska*

Description: They have build up a brand new portal

based on the newest Moodle version available then.

They have prepared new courses for their portal

following the latest e-learning know-how and

standards and have updated the previous courses

from their previous portal "eLearn central”

(http://ec.elf.stuba.sk),transfer them to new portal

"eLearn central" (<http://kme.elf.stuba.sklmoodle>)

where they will undergo the review process by

specialists in given fields to be published. *A 3-level*

*Model for implementing MOOC in India.*

1. *Title: A 3-level Model for implementing MOOC in India*

Authors : Aman Sharma & Rinkle Rani

Description: This paper has proposed a vision for implementing MOOCs in Indian education system using BLMM as a base for the improvement. It first describes the general scenario of MOOCs in India and later will proposed three level implementation models for Indian education system. Their proposed Model has a vision to affect the Indian education system in a way that along with quality learning experience, individual could pursue their interest.

1. *Title : Design an Active E-Iearning System*

Authors : Chun-Xia Qi, Hui- Bao Cui, Chang-Vi Li Vue-Xing Sun

Description: The objective of this paper is to design a kind of

active e - learning system with the design basis including

students' requirements, related experiences and system

design engineering are analyzed firstly. And then they

proposed the workflow of the system and designed the

function modules of the active e-Learning system.

* **PLATFORM & LANGUAGE**

The main focus within this project is to avail the implementation of full stack concept and design & develop an E-learn system. Full-stack really is referring to the 'stack' everything from low-level programming, system- administration, and much more, to that higher level, front-end, web-development, stuff. It should allow intimate familiarity to the developer with version control systems in order to be able to reliably produce backups and shareable collaborative collection of code tracked for changes across time.

* **PLATFORM**

The first step was to choose a good reliable language and a platform for the implementation of the proposed system. I selected DJANGO platform. Developers have built Django Web framework in high-level Python language that allows rapid development and pragmatic design implementation in the web designing. Django is built with the foucs of allowing ease in the development process without creating inflictions of Web development, so one can focus on writing apps without needing to reinvent the wheel. It’s 100% free and open source to all the developers and for extending the Django framework as well as the private web development. This has been designed in a way to help the developers make an application as fast as possible. From idea to production and release, Django helps in making it both cost effective and efficient. These aspects help in carrying out the web development process completely. Security related errors and mistakes are prevented in the Django environment. Developers tend to commit mistakes like cross-site request forgery , SQL injection, cross-site scripting and clickjacking. To meet the heaviest traffic demand, the benefits of Django framework can be seen. Therefore, the busiest sites use this medium to quickly meet the traffic demands. Content management, scientific computing platforms, and even big organizations, all these aspects are very efficiently managed by the use of Django. More detailed data is available at https:/[/www.djangoproje](http://www.djangoproject.com/)c[t.com/](http://www.djangoproject.com/)

* **CONCLUSION**

With the increase in the internet availability and ease of access the computer has become a common resource in human world. With this E-learning becomes increasingly viable and accessible. E-learning has made a lot of significant changes in the way we learn making it more effective and measurable. Ample number of interactive courses easing the way of E-Learning implementation. Allowing only one language will also give an edge over better creativity as well as flexibility. This paper has been proposed as a vision for implementing E-Learning system developed based on the full-stack concept.

* **PROPOSED METHODOLOGY**

In formal education system there is a curriculum(content) that needs to be learnt by learners. Some of the examples of techniques or methods of this type of learning are lectures, inquiry-based learning, project-based learning and problem based learning. These different methods carry some inherent advantages and disadvantages. For example:, most educators use lecturing since it is practical in time but is instructor-centered(instructor to students), it becomes difficult for learners and create motivational problems

E-learning is the prominent solution to these kind of disadvantages

* **TECHNIQUE TO BE USED:**

These are the 10 different types of e-learning:

Computer Managed Learning (CML)

Computer Assisted Instruction (CAI)

Synchronous Online Learning

Asynchronous Online Learning

Fixed E-Learning

Adaptive E-Learning

Linear E-Learning

Interactive Online Learning

Individual Online Learning

Collaborative Online Learning

Our project is based on Asynchronous Online Learning Technique

This learning system not only helps alleviate the “[Zoom fatigue](https://www.panopto.com/blog/video-messages-your-best-weapon-in-the-battle-against-zoom-fatigue/)”

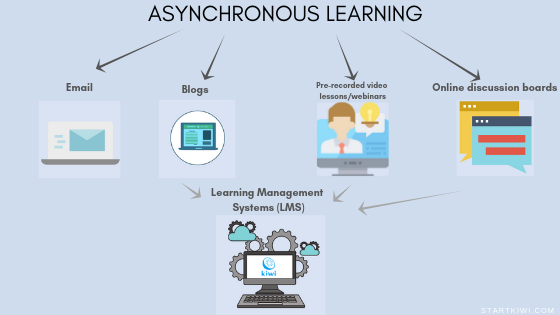
that can lead them to disengage, but also offers flexibility to

personalize learning to suit their specific needs. Asynchronous

learning offers a decisively effective learning experience that

enables students to benefit from the following:

* Never miss a class
* Learn at any pace
* Personalize and optimize the learning experience
* Revisit lessons as needed to improve comprehension and retention
* Take advantage of extra time to process, practice, and respond
* Adapt learning to self-accommodate for a disability



* **FLOWCHART/BLOCK DIAGRAM**

**E-LEARNING SYSTEM**

STUDENT/LEARNER

INSTRUCTOR/FACULTY

ADMINISTRATOR

New User

Registration

User

Authentication

##### **MINIMUM DJANGO REQUIREMENTS**

* **Memory:** 4GB
* **Graphic Card:** AMD Radeon R5 M230
* **CPU:** Intel Core i3-2340UE
* **File Size:** 3 GB
* **OS:** Windows 7,8,8.1
* **SOFTWARE REQUIREMENTS SPECIFICATIONS**
* Microsoft Visual Studio Code 2010
* Django 3.2
* HTML, CSS & JAVASCRIPT
* Internet explorer 6.0, Chrome or any Supported browser
* **HARDWARE REQUIREMENTS SPECIFICATIONS**
* For Client Side:
* Pentium 4
* 256MB RAM
* 1 GB HDD
* For Server Side:
* Xenon based or higher end server
* 4GB RAM
* 200GB disk space
* **REQUIRED MODULES & PACKAGES**
* **dj-database-url ==** 0.5.0
* **Django ==** 3.2.10
* **django-heroku ==** 0.3.1
* **gunicorn ==** 20.0.4
* **nltk ==** 3.4.5
* **Pillow ==** 7.0.0
* **psycopg2 ==** 2.8.4
* **pycryptodome ==** 3.9.4
* **pytz ==** 2019.3
* **six ==** 1.14.0
* **sqlparse ==** 0.3.0
* **whitenoise ==** 5.0.1
* **References**
* [**https://shsu-ir.tdl.org/shsu-ir/bitstream/handle/20.500.11875/1164/0781.pdf?sequence=1**](https://shsu-ir.tdl.org/shsu-ir/bitstream/handle/20.500.11875/1164/0781.pdf?sequence=1)
* [**https://ieeexplore.ieee.org/document/6208293/**](https://ieeexplore.ieee.org/document/6208293/)
* **https://ieeexplore.ieee.org/document/4679917/**
* **Citations**
* [**https://www.researchgate.net/publication/271498741\_eLearn\_central\_-\_the\_journey\_to\_e-learning**](https://www.researchgate.net/publication/271498741_eLearn_central_-_the_journey_to_e-learning)
* [**https://www.researchgate.net/publication/322797545\_A\_3\_level\_model\_for\_implementing\_MOOC\_in\_India**](https://www.researchgate.net/publication/322797545_A_3_level_model_for_implementing_MOOC_in_India)
* **https://core.ac.uk/download/pdf/230495046.pdf**