Evolution of Online Learning System

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ABSTRACT: Education is an important aspect in a country's growth, whether it be economic, social, or technological. E- Learning, or Online Education System, is a continually changing technology. Due to the effect of new technology and global Internet penetration, online education has been continuously de- veloping in its different forms throughout the world. In the mid- 1980s, the IT (information technology) sector introduced the first computer-based training (CBT), which allowed students to access study materials stored on CD-ROMs. Web-based training (WBT) encouraged interactive online learning using digital information stored on CD-ROMs and massive servers around the turn of the century, when broadband access was established and internet usage was growing.

KEYWORDS: Online Education System, Virtual Learning Envi- ronment, E-Learning, Discussion Forum, Query Resolution

I. INTRODUCTION

Sometimes new learners, programmers and many others are stuck on problems while coding and programming or have queries. Studies show that every learner and programmer while developing it, passes through a phase i.e getting unresolved error and stuck on that phase and not moving further on to the next phase or an unresolved query resulting in a paused work.

With this platform software provides a full WYSIWYG ["What You See Is What You Get"] user interface when editing online, with various options for formatting provided as the user edits over rich text format. Once an entry is posted, it can be recommended and shared by other people who can also like or dislike and comment on the solution to one's query and can even get help for solving their queries. They can also answer the query from others if they have a solution.

Currently, there exist many applications which are similar to "Inquire" but not exactly the same as our application. Our ap- plication differs in features. The already existing Applications are StackoverFlow, CodeProject, Quora, Medium and Hash n Node.

In above applications any user can join but in "Inquire" we have a special feature where the users belonging to a specific organization can join it. Our application basically provides an online discussion platform as well as a learning system for the members of any specific organization.

II. PROBLEM STATEMENT

In today's, world where we are heading towards digitalisation organizations too need there specific discussion forums over the internet or a platform where one can post their queries and the others who know the solution can solve them whether it's an institution or a firm everyone faces the issue of an unresolved query and are unaware about whom to ask.

III. RESEARCH QUESTIONS

Through this study, the researcher hopes to provide answers to the following questions:
1- How the Online Learning System Evolved?
2- What are the existing Platforms?
3- What features do they offer?
4- What are the problems faced due to unresolved queries?
5- How can the issues be resolved by Introduction of the new features?

IV. THE EVOLUTION - LITERATURE REVIEW

The cloud, tablet computing, learning through social platforms, developments in learning

analytics, MOOCs, and wearable technology are some of the technological advancements that have helped e-Learning grow since 2011.

It will be fascinating to watch what the next several years have in store for e-Learning.

Firstly, this chapter shall focus on discussing what is meant by e-learning, and how the definition of E-learning has been developed up until the present day. Second, it will explore the advantages and disadvantages of e-learning, as well as e- learning in Higher Education and how we might benefit from it.

This chapter also compares and contrasts two of the most frequent models for technological innovation adoption, as well as the stages via which technological innovation can occur.

It is argued that a society's strength is heavily influenced by its knowledge stock and how effectively it can utilize existing information to develop new knowledge (Bennett, et al., 2008).

Traditional learning styles, according to Bhalalusesa et al., (2013), are delaying the presentation of knowledge in the mod- ern day. As a result, internet applications can be successfully integrated into blended learning, e-learning, and m-learning methodologies used in this digital era of education (Elzawi et at., 2013B).

"In a market where pricing no longer defines competitiveness, keeping up with new information and understanding how to utilize it is "mission critical" for both businesses and consumers, the big beating up on the small, but rather by the fast running past the slow," according to Ruttenbur et al (2000, p15). They went on to say, "Providing individuals with the information and skills they need to compete effectively in the economy." They also stress the importance of education and training institutions grasping this notion of training and education in order to give ways of qualifying individuals with sufficient skills to meet the demands of today's society. Fur-thermore, they claim that many traditional learning approaches are ineffective in today's knowledge-based industries.

This paper will concentrate on the advancement of e-learning in Libyan higher education. There is evidence that Libya is still in the early phases of e-learning adoption; therefore, as stated by writers from countries with greater experience with e-learning adoption, it is critical to explore the factors influencing e-learning development. The purpose of this study is to become familiar with the guidelines and paths for investigating e-learning development aspects in Libya.

E-learning is defined by Stockley (2005) as "the electronic delivery method of a learning, training, or education pro- gramme, incorporating the use of a computer or electronic device (e.g. a mobile phone) for providing training, or learning material." 2005 (Stockley). Also, according to Oblinger and Hawkins (2005), e-learning has evolved from being a wholly online course to using technology to provide selected parts or the entire course, regardless of location or time. This means that students can be local, traveling, or learning from afar (Oblinger and Hawkins, 2005).

Nonetheless, other specialists in the field, such as Dublin and Cross (2003) and Oblinger and Hawkins (2005), disagree over the definition of e-learning, claiming that no single definition is accepted by all researchers. "Everyone knows what you mean when you talk about e-Learning," Oblinger and Hawkins said, "yet the phrase e-learning means different things to different individuals" (Oblinger and Hawkins, 2005). In 2004, Heinze and Procter, as well as Zemsky and Massy, addressed the same issue, adding, "Yet, e-learning is a notion in search of consistent definition." They claimed that there is no universally acknowledged concept of e-learning (Zemsky and Massy) (2004).

In conclusion, new technologies such as computer networks, interactive media, digital technologies, and the internet greatly expand the reach of e-learning. It allows students to communi-cate and interact with one another as well as with their teachers at any time, and it has created a universal market.

As a result, many institutions have been interested in e- learning systems, and the e-learning business has continued to expand (Harun, 2001). Industry researchers estimated the size of the e-learning market in the United States to be 3 billion dollars in 2003; by 2005, it had grown to over 15 billion dollars, 18 billion dollars in 2010, and is anticipated to reach 24 billion dollars by 2015. (Adkins, 2013).

The benefits of employing e-learning technologies in current educational institutions were stated by Carayannis (2015).

When compared to traditional learning, e-learning greatly reduces the time required to locate knowledge. It also has online resources, databases, periodicals, journals, and other publications. If a student is having problems understanding a certain aspect of their assignment, having rapid access to supplemental, unrestricted, and mainly free material online makes discovering solutions much easier.

The first benefit of e-learning is that those features can po- tentially maximize the time spent actually learning rather than hunting for information. There are also several advantages, including reduced training costs and the ability to use education packages more quickly without having to wait for a training representative.

Also, can provide fast feedback on training. This implies that e-learning provides a diverse set of options that should be investigated, and so the claim is that e-learning can be classified into three broad categories:

E-learning is a type of distance education: The majority of authors in this field agree that the term e-learning refers to remote education or education given through the internet.

E-learning is a web-based transaction facility: It was highlighted by some writers that the services provided by Learning Management Systems (LMS) represent a second major e-learning achievement. The LMS plan includes a comprehensive range of options and communication tools to support lecturers' and students' interactions, as well as everyday activities that aid in the learning process.

E-learning is electronically facilitated learning: E-learning stands for "electronic assisted learning," and it refers to the content of e-learning courses rather than the electronic system, focusing on the design of e-books, CD-ROMs, and Web sites, as well as evaluation and electronic examinations.

Even though all of those instruments have natural variations, they are all mediated electronically (Zemsky and Massy, 2004).

This paper might provide a succinct description of e-learning based on the conclusion that most definitions indicate, which focuses on the distribution method rather than the learning process. Those definitions looked at e-learning in terms of its many distribution choices, but they overlooked the learning process.

The definition proposed by the Council on Open and Distance Learning Quality did not, however, neglect the learning pro- cess issue; while the definition included the term produced, the statement "effective learning process created..." indicates that learning occurs. On the other hand, an e-learning system might provide all sorts of services and support tools; nevertheless, the output may not be learning.

From this perspective, e-learning may be referred to as [e- education], but it cannot be characterized as e-learning as the process of interacting with electronically mediated educational resources unless and until learning occurs.This paper accepts the definition developed by Mason and Rennie in 2006, which is as follows: "e-learning is the successful learning process achieved by integrating digitally provided information with Support and assistance for learning." 13-15 in Mason and Rennie (2006).

TABLE 1. LITERATURE REVIEW (EXISTING PLATFORMS)

S. No.	Product	Publisher	Year Released
1.	StackOverflow	Stack Exchange	2008
2.	CodeProject	The Code Project	2008
3.	Quora	Quora, Inc.	2010
4.	Medium	A Medium Corporation	2012

V. PROPOSED METHODOLOGY

In today's, world where we are heading towards digitalisation organizations too need there specific discussion forums over the internet or a platform where one can post their queries and the others who know the solution can solve them whether it's an institution or a firm everyone faces the issue of an unresolved query and are unaware about whom to ask.

To resolve the issue we have proposed a cross platform titled **"Inquire"**.

Inquire's goal is to be a solution for such a problem, for each systematically organized query page to become the best possible resource for people of a specific organization who too have the same query or to help others if they have a solution for the raised query.

Inquire allows users to create personalized homepages that feature the things they want to learn more about by following topics, questions, people and boards.

VI. IMPLEMENTATION

Welcome Screen will be displayed as soon as we open the application. Then the user has to login/register to access the application. Create is used to raise the query by the user (creator) and to write blogs for which some features are required and so provided such as Update for updating queries and blogs, Delete to delete any blog or query, To share one's views about the feasibility of the solution they may use Comment and Like/Dislike can be used to like or dislike a post or blog by some other user.
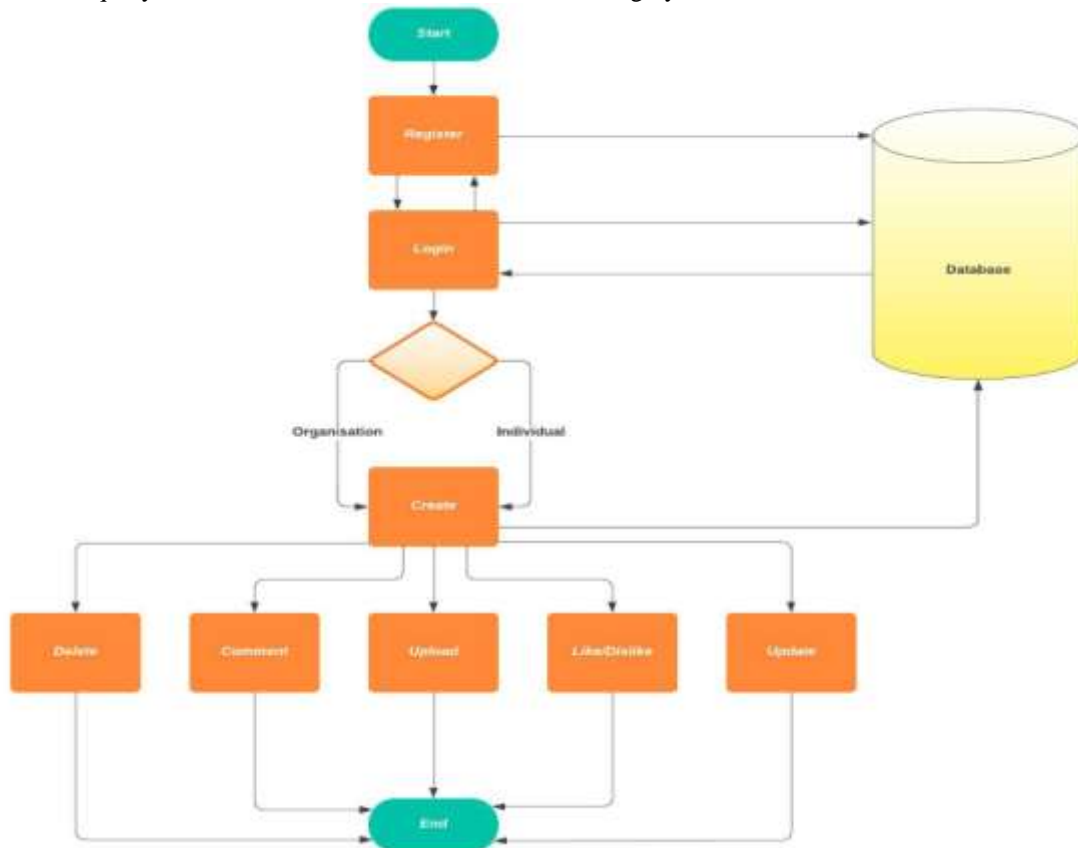

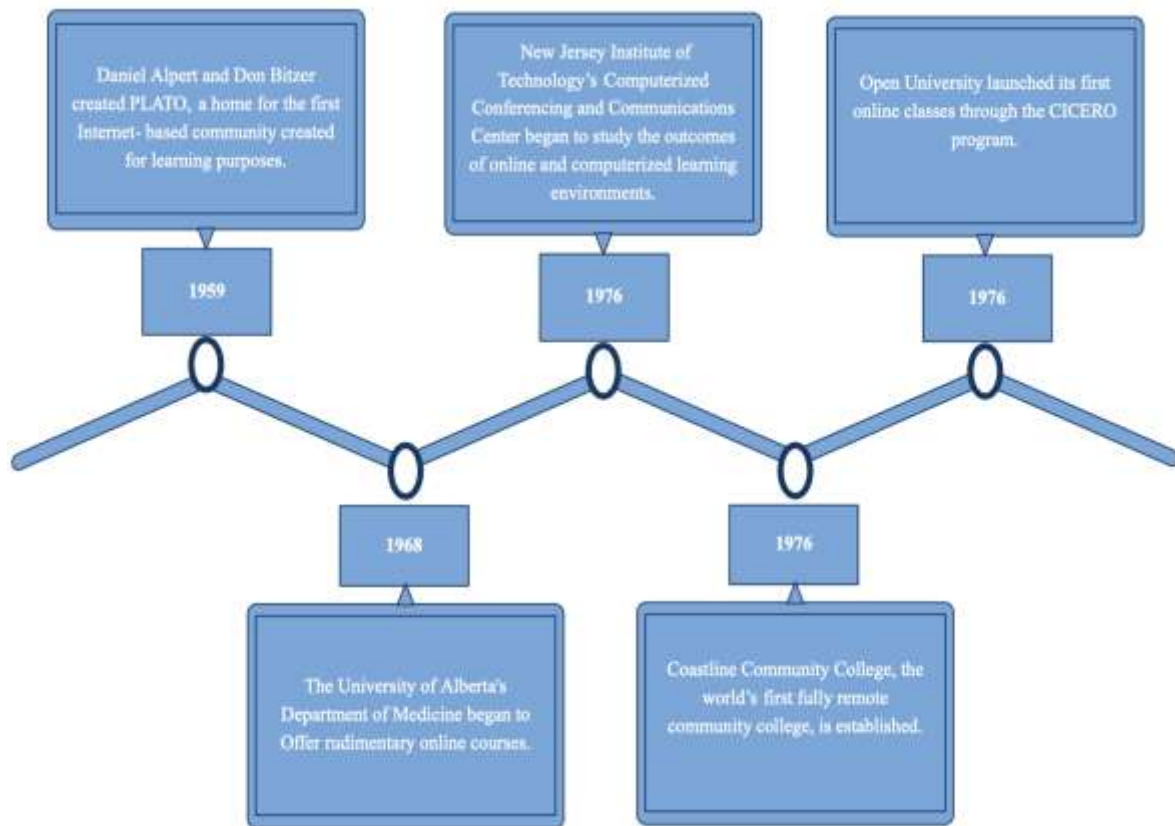**Figure 1. Flowchart for Inquire (Our Proposed System)**

Figure 2. Timeline of Early Online Pioneers

HISTORY
Of e-LEARNING

1924	THE FIRST "TESTING MACHINE"
1954	THE FIRST "TEACHING MACHINE"
1960	COMPUTER-BASED TRAINING
1966	C.A.I. IN SCHOOLS
1969	ARPANET HERALDS INTERNET
1970	COMPUTER MOUSE & G.U.I.
1980s	PC's BEGIN WITH THE FIRST MAC
1990s	THE FIRST "DIGITAL NATIVE"
2000s	BUSINESSES ADOPT e-LEARNING
2010+	SOCIAL, ONLINE LEARNING

Figure 3. History of e-Learning

VII. THEORY

About the Project

Specific discussion forums over the internet or a platform where one can post their queries and the others who know the solution can solve them whether it's an institution or a firm. Everyone faces the issue of an unresolved query and are unaware about whom to ask. So, to solve this problem we introduce our application titled "Inquire".

Inquire allows users to create personalized homepages that feature the things they want to learn more about by following topics, questions, people and boards. People of a specific organization who have some query can post it there and the other one from the same organization can help if he/she knows the solution for the raised query.

Technology involved:

Cross - platform Application: Cross - platform application development is about building a single application that can run on various operating systems, instead of developing different app versions for each platform.

Front-End Tools:

React-Native: It is an open-source UI software framework created by Meta Platforms, Inc. It allows developers to use the React framework beside native platform features to create applications for Android, Android TV, iOS, macOS, tvOS, Web, Windows, and UWP.

JSX: JSX stands for JavaScript XML allowing us to write HTML in React. It also makes writing and adding HTML in React much easier.

BackEnd Tools:

Node Js: It is a cross-platform, open-source back-end JavaScript runtime environment which uses the V8 engine for executing JavaScript code outside of a web browser.

Express Js: It is a Node.js web application framework offering a comprehensive range of functionality for both online and mobile apps.

Google FireBase: Google Firebase is a platform for building mobile and online applications. It started out as an independent corporation in 2011. In 2014, Google purchased the platform, which is now their primary app development platform.

PostMan: It is an application used for API testing. It's an HTTP client that uses a graphical user interface to test HTTP queries, allowing us to get various forms of replies that must then be validated.

VIII. CONCLUSION

Evolution of the Online Learning System is a very vast area to be covered and it still requires additional features. Our Application is proposed to be a more open alternative to earlier existing applications.

This application serves as a platform for users to ask and answer questions, and through membership and active partic- ipation, they may earn good ratings within their organization.

Advantages:

It will accept only technical queries and will be helpful for organizations or institutions by providing a virtual platform to raise queries and get the solution within the organization. Full access to the device, in software and hardware and Direct Communication and Engagement with users to provide Enhanced user experience.

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