PortEd: The Port that Connects You to the Sea of Knowledge

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Abstract: *Electronic Learning is termed as a Network that enabled the transfer of Skills & Knowledge, and the Delivery of Education is made to a large number of recipients at the same or different times. The masses of us are normally friendly with conventional teaching and learning where the teacher is teaching 30 to 40 students at a time and no one knows whether students are getting or not what is explained. So this kind of Study is averted more adequate than online Study. "portEd" is the platform using which a user can grasp all the knowledge related to academics, and programming through the free online courses as well as different features at their own pace and can experience proper supervision of Learning.*

Keywords: Electronic Learning, portEd, knowledge, Supervision.

I. INTRODUCTION

PortEd: The Port that Connects You to the Sea of Knowledge is an E-Learning Platform. This Project is developed to provide wider Education through free Online Courses related to academics and programming to the students and to overcome the difficulties faced by a student in their studies. Here, the Learner has to register themselves online and can avail of any type of course according to their interest for free related to academics and programming. "portEd" has integrated all the different features which are useful for the learner like reference materials, a dictionary facility, a Live Interaction facility with the Instructor for Doubt Clearing, and Many More. It provides proper Supervision facilities for Learners as well as Instructors. The Learner can Experience a great experience while using this platform.

II. INSIGHT PORTED

2.1 Electronic Learning

A learning system based on formalized acting but with the help of electronic resources is known as E-learning. While teaching can be based inside or outside of the study hall, the utilization of laptops and the Internet forms a vital component of E-learning. E-learning can also be entitled as a web-enabled transfer of expertise, and the carriage of education is made to a large number of beneficiaries at the same or different measure. Preliminary, it was repudiated hearty as it was assumed that this system misses the human element enforced in learning. Although, with the swift growth in technology and the evolution of learning systems, it is now cuddled by the masses. The introduction of computers was the basis of this revolution and with time, as we get hooked to smartphones, tablets, etc, these devices now have an important place in the classrooms for learning. Notebooks are gradually getting replaced by electronic instructional materials like optical discs or pen drives. Expertise can also be shared via the Internet, which is reachable 24/7, every time, at any moment. E-learning has been demonstrated to be the best means in the communal sector, mainly when coaching programs are conducted by MNCs for executives over the world and employees can acquire important skills while seated in a board room, or by having conferences, which are conducted for employees of the same or the different corporations under one umbrella. The academies which use E-learning automation are more advanced than those which still have traditional access to learning. E-learning enables relatively faster delivery cycles eLearning enables lessons and programs to roll out within a few days or weeks. This increased effectiveness also helps students learn more quickly. Beldhuis also discovered a number of electronic learning benefits from a corporate standpoint. These benefits include cost reductions, as electronic learning lowers travel and meal expenses associated with employee training. modularity, since employees can study only course sections that are relevant to their needs [7].

flexibility and accessibility, as e-learning allows learners to choose the time and place to study courses, making training outside of work hours possible

2.2 Programming Language

We have opted for the python programming language which works perfectly in collaboration in the Django framework. Python is one of the top-notch programming languages due to its ease of learning, design, and, flexibility, making it one of the most amazing programming languages. Python is dearest among many developers for its powerful prominence on legibility and efficiency, especially when collating with other languages like Java, PHP, or C++. Python's reliance on whitespace and common expressions trim out a lot of programming fat. It allows doing more with fewer lines of code next to Java or C++. Python also serves as a stepping-stone for new developers allowing them to learn new skills [11]. Python's object-oriented principles are compatible with other languages like Perl, JavaScript, Ruby, and C#.

2.3 Methodology

- **Methodological Approach** -Firstly we have selected a topic that is based on the electronic learning Platform of our interest. After studying lots of research papers we have chosen a research paper as our base paper.
- **Methods of Data Collection** - The information we have collected related to our electronic Learning Platform is from Various books of academics, programming, some other research papers, and references.
- **Analyze and Interpret** - We found that analyzing the information is very much necessary. Whatever information we have collected, we studied that and try to make a unique way to represent the information related to the academics and Programming and think to make the project in such a way that everyone can easily understand.
- After Analyzing Lots of Research Papers we realize that there is no research paper available that provides facility like Supervising the Learner, Instructor, Online Doubt Clearing System, Dictionary as well as other features in a Single Platform. Here, PortEd has to fulfill this issue.

2.3 Existing Systems

(1) Research of Online teaching management system based on artificial Intelligence -This Paper describes a system that adopts a cross-platform and low-cost B/S architecture, the background code utilizes the Python language, the front-end web structure employs the Django framework, and the entire construction process follows the Html5+CSS+JS standard. In addition, the system uses the PyCharm compiler and MySQL database during programming [1]. Finally, the system passes the black-box test during the design process, demonstrating that the functions of each module can be used normally and the practicability of the system can also be guaranteed.

(2) Learning disability Detection using LMS - This paper highlights an E-learning system created using Moodle which is an open-source Learning Management System that enables a better learning environment between the tutors and students. This system notices two learner descriptions i.e. students with a Learning Disability and without a Learning Disability using dedicated courses designed on the basis of various aspects of a learning disability student. This effort also numerous stages of our accession for informal testing utilized to catch the learning parameters for Dyslexic students. The preliminary stage i.e. data collection has two paths where the first path pertains to a smaller age group of 8-10 years with finite parameters although the second path pertains to the age group 11-13 years i.e. grades 6-8 with added parameters. Natural Language Processing has been used to perform Speech-to-Text conversion on the audio responses of the users. The analysis of these responses has been performed in python language. To detect whether the user has a learning disability (Dyslexia in this case) or not, Machine Learning is used. Two Machine Learning algorithms namely Logistic Regression and Support Vector Machine are used to perform binary classification with a learning disability (1) and non-learning disability (0) as the two classes of the dataset. The results are shown for both approaches and comparative analysis shows that the dataset generated in the final approach for capturing parameters involving natural language processing is better and more robust [2]. LR algorithm for Machine Learning shows better results as compared to Support Vector Machine for performing detection based on the generated dataset.

(3) Online Learning Management System - In this paper, the author proposed an online teaching management system, also called Tsinghua University Online Judger, which is public and universities oriented, to address the above issue [13]. Besides some basic management functions, the system mainly focuses on programming assignment grading and program assessment customization for various programming courses, which makes the system be suitable for diversities between different modules and can provide personalized programming grading services [8]. In this article, the author made his design according to the potential users of the system and proposed a design of the system's structure based on the frame using Linux+Apache+MySQL+PHP(LAMP). Especially, the author adopted C and PHP to program the online judge module. Finally, there is a simple website demo has been implemented based on OJ module, in order to demonstrate the usage of the proposed system and online judge module.

(4) Electronic Learning Platform Development Model -This paper examines and clarifies a variety of techniques for understanding or modeling how these software systems are developed. Subsequently, the practice through which a suitable candidate for an e-learning platform is selected will be outlined and the product plan detailed [5].

2.4 Proposed Work

1. We have Proposed an electronic Learning Platform that provides facilities like Supervising the Learner as well as the instructor, etc.
2. We have Integrated all the different features which are useful for the learner to study like course selection, reference materials, Dictionary facility for finding word meaning, To-do List making, and Live Interaction facility for Doubt clearing from the instructor.
3. Separate Dashboard will be there for the learner, Instructor, and Admin.
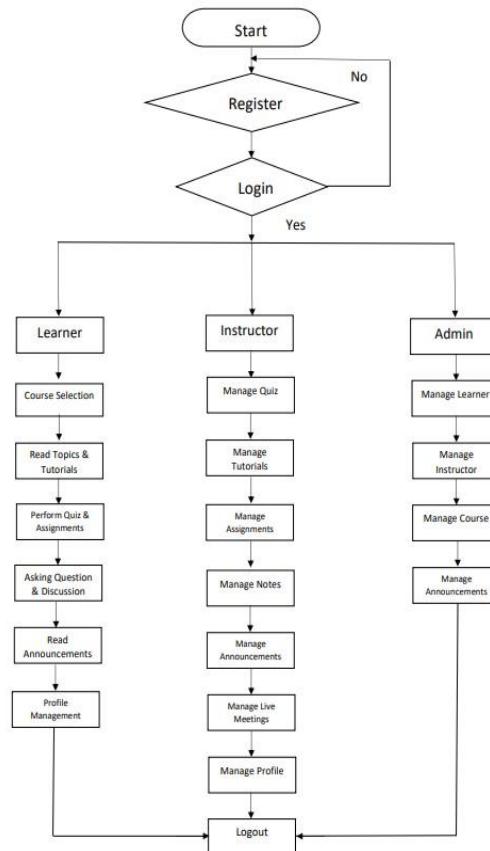4. Simple User Interface and User Friendly.

2.5 Data Flow

Fig. 1 Flow Chart

The User needs to Browse for the Platform First on to the internet and also requires a good internet connection. After coming to the platform the User can see the home page. Then as shown in Fig.1 the user needs to register themselves by providing information like Username, Password, Password Confirmation, and on which course they are interested to create their account in the Platform. Now, the User becomes the Learner. The Learner can avail of all the facilities related to study and get the personal Dashboard facility too where the learner can see the course-related information and features. Also many other study-related features too. Now coming to the instructor part, the instructor is one who teaches the Learner through tutorials and handles the tutorials, Assignments, Notes, etc. Now coming to the admin part. Here the Admin is the first User of any system responsible for creating and managing the System. They perform a wide range of tasks like creating, editing, delete courses in the platform and all other activities in it including handling both Instructor and Learner. Then, there is a Logout Button. Using this the learner can come out from the current session and then revert back to Home Page.

2.6 Components of portEd

User Registration – After Coming to the Platform, the User can see the Home Page as shown in Fig. 2. Then, the User needs to register themselves by providing their details like Username, Password, and password confirmation and select the course in which they are interested.
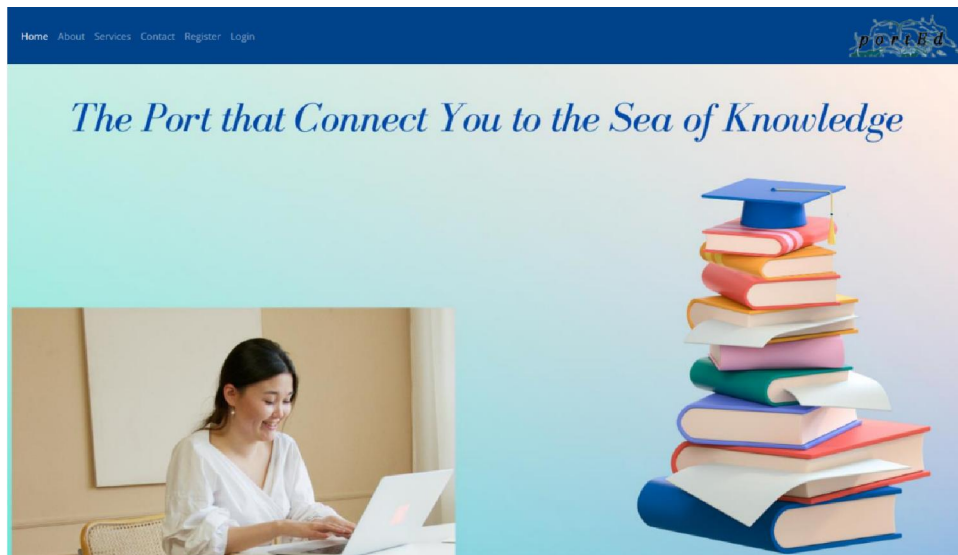

Fig. 2 Home Page

User Login – In this Login Component, the user needs to provide their details like Username, Password. After this, the Learner can avail of all the facilities that are present in the portEd.

Personal Dashboard – In this electronic Learning Platform, the learner, Instructor, and Admin will get their own Personal dashboard.

Learner – In this Component, Once the Learner registers themselves in the platform, they will be getting their personal dashboard where they can see all the details related to the course that they have selected. As shown in Fig. 3, the Learner can update the course, read topics and Tutorials, Perform quiz and assignment, ask question and discussion, read the announcement, and can also manage their profile. Apart from all these things, the Learner will get too many extra features like a Live Interaction facility through online meetings with the instructor to clear their Doubts.
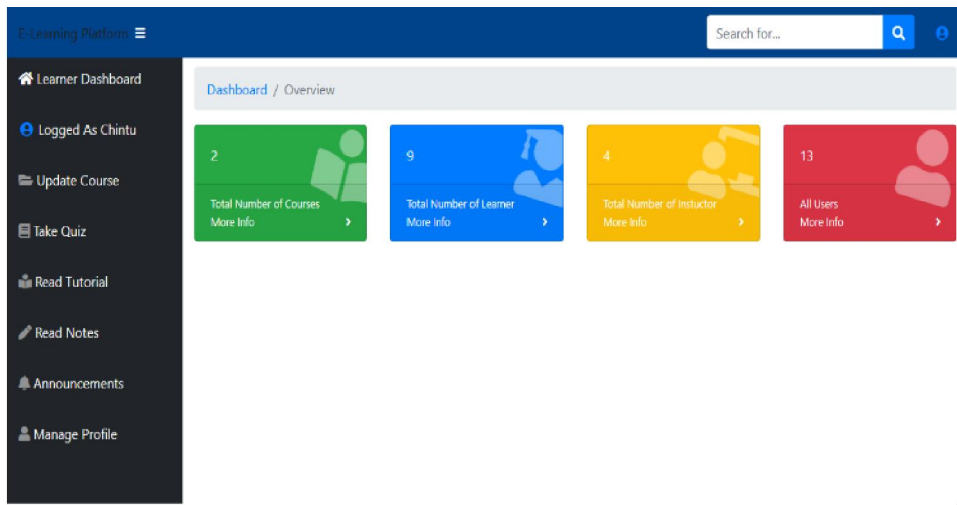
Fig. 3 Learner's Dashboard

Instructor – In this Instructor Component, an instructor is a Person who teaches the Learner through tutorials. In this Platform, as shown in Fig. 4, the instructor is also responsible for handling announcements, quizzes, live meetings for the Learner's Doubts, etc. They can also manage or update their profile.
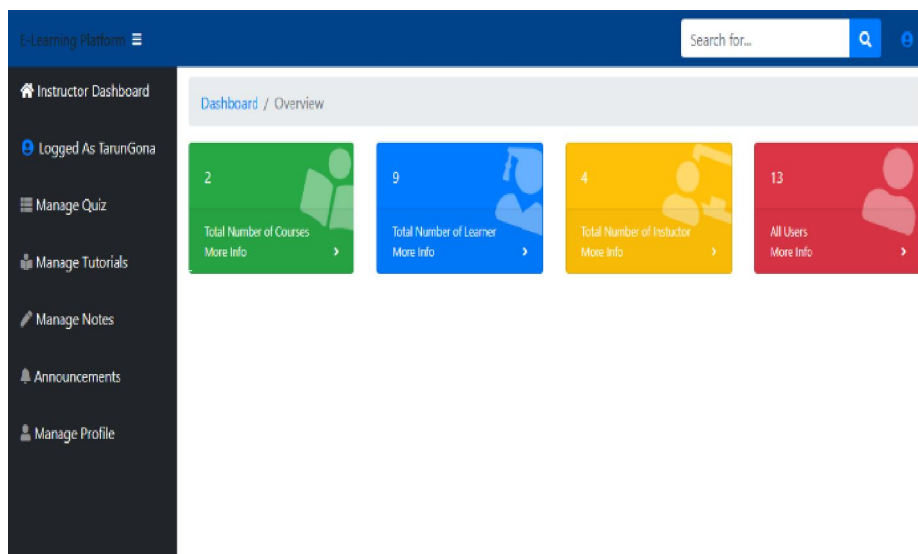

Fig. 4 Instructor's Dashboard

Admin – In this Admin Component, the Admin is the first User of any E-Learning System and is responsible for creating and Managing the Whole System. As shown in Fig. 5, they perform a wide range of tasks. Some of them are:
- Create, edit, and delete courses in the System and the activities in it.
- Create, delete the user with all their details, and profile and also manages the instructor.
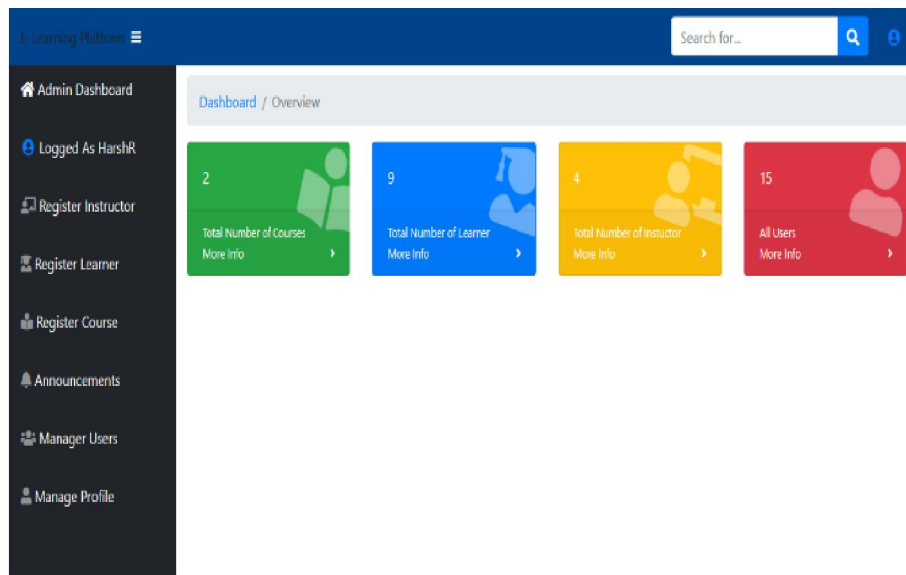- Checks activities in the course and also manages the announcements.

Fig. 5 Admin's Dashboard

Database – Here, In the Database component, we have used the SQlite3 database for our platform as it is a Django-based platform to store the data. Django provides an inbuilt database powered by SQLite. SQLite isa relational database management system accommodated in a C programming library. In disparity with many other database management systems, SQLite is not a client-server database engine. Rather, it is embedded into the end program.

Logout – By Using this Logout Component, the Learner can come out from the Current Session, and then learner will be reverted back to the Home Page.

III. CONCLUSION

PortEd provides proper management facilities for learners as well as Instructors. All Different features that are important in view of the study aspect for the learner are integrated into this platform. The learner will get a personal dashboard in which they can see their course-related features and also get live interaction using which the learner can clear their doubts from the instructor. No need to worry about switching between different platforms for the reference materials, Dictionary facility for finding word meaning. To a Subsequent extent, we can develop portEd as an android application. Increasing the features and facilities is more interesting followed by the concept of e-learning.

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