Topic: Akademy

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**INTRODUCTION**

E-learning has proved to be the best means in the corporate sector, especially when training programs are conducted by MNCs for professionals across the globe and employees are able to acquire important skills while sitting in a board room, or by having seminars, which are conducted for employees of the same or the different organizations under one roof. The schools which use E-learning technologies are a step ahead of those which still have the traditional approach towards learning.

No doubt, it is equally important to take forward the concept of non-electronic teaching with the help of books and lectures, but the importance and effectiveness of technology-based learning cannot be taken lightly or ignored completely. It is believed that the human brain can easily remember and relate to what is seen and heard via moving pictures or videos. It has also been found that visuals, apart from holding the attention of the student, are also retained by the brain for longer periods. Various sectors, including agriculture, medicine, education, services, business, and government setups are adapting to the concept of E-learning which helps in the progress of a nation.

There are two methods of delivering e-learning:

Synchronous e-learning – this is where there is a trainer or facilitator online at the same time as the learners. Learners can, therefore, interact with the other learners and the trainer through chat, audio conferencing, and/or video conferencing. This is similar to classroom-based learning, although individuals are not in the same physical location.

Asynchronous e-learning – this is where there is no trainer or facilitator involved with the learner. Instead, the learner progresses through the course or material independently. There may be features that enable interactivity, such as asking a question or communicating with other learners, but they are not in real-time

**1. SURVEY CONDUCTED**

**1.1 Field survey**

Online education enables the teacher and the student to set their own learning pace, and there is the added flexibility of setting a schedule that fits everyone’s agenda. As a result, using an online educational platform allows for a better balance of work and studies, so there is no need to give anything up.

The registered candidates can give the test from their mobile/tablet from anywhere at a given time. Also, admin can send docs, pdf, videos, and the registered users get news and notifications for the same. Once the user appears for the test via the app, the user can check the attempted, left, right, wrong questions and find out their strengths as well as a weak area of performance through the detailed analytic report. Also, one can bookmark important questions for review and solve it afterwards.

Conduct exam mobile app is user-friendly and easy to operate. The mobile app helps the aspirant to prepare for exams like Bank, SSC, IBPS RRB, UPSC, IIT-JEE, GATE, CTET, NEET, CAT, and other competitive exams

**Features from the Administrator point of view:**

1. Teachers can create assignments and schedule meets.
2. Publish the results automatically or by defining the date and time
3. Third-party integration is possible, i.e., SMS, email, online payment gateway, etc.
4. Use multiple whiteboards and tools

**Features from the User point of view:**

1. Synchronization of online test on Web and Mobile/Tablet which is accessible 24/7.
2. Question wise solution and explanation
3. Bookmark questions and review them anytime
4. Download the available Documents and Videos

**1.2 Outcome of survey:**

1. Screen sharing to another computer: It doesn’t take much for a student to do screen sharing during online exams. Because the exams are conducted remotely, the student can have a friend to log in from another computer elsewhere to access the exam questions and provide assistance or answers. Students have also used other software such as Team Viewer, where a third party can take control of the student’s computer remotely to do the exam on behalf.
2. Nowadays Students have become much smarter with digital studies. That is, they do not attend online lectures and simply join the meeting and do the things whatever they like i.e., like play GAMES, watch MOVIES, etc. This must be prevented
3. While submitting the Homework or Assignment they just copy down the assignment of their classmates or Sometimes they even directly submit the assignments of his/her friends So this must be avoided by developing such kind of feature/taking actions against it.
4. Speech to text recognition for writing long theory/ subjective answers.
5. The facility of calculator shown on exam screen
6. White list required application so that you can switch windows (e.g., Excel for accounts calculation).
7. Facility to upload scanned images related to diagrams, graphs is needed.
8. Automated Bot should be placed for online attendance and also do some manipulations on it.
9. Application restricts from visiting other websites during online examination.
10. Face Recognition and AI algorithm to detect exam malpractices.
11. All E-BOOKS should be provided.

**2. NEED OF THE PRODUCT:**

**2.1 Product needs:**

Online education is a sensible choice whether you’re a teenager or an adult. As a student, this can be a useful learning method for sharpening your skills in a difficult subject, or learning a new skill [7]

Many products are available in market for online learning and taking exams online, these products provides features of video conferencing, mcq test, etc. These products are good to use but they are not very much efficient stop cheating during examination, students can easily cheats during exams which must be prevented. This product will ensure the malpractice during exams. Also existing products does not provide detailed test analysis, so there must be feature to do so.

During exams students need to go to different websites and apps to make pdf of answer sheet which is time consuming. For exams teachers need to do lot of work to set a mcq and theory paper which could be headache, so if there is any preset question bank it will be easy for teachers to select question from there.

Student switches between different apps and tabs during exams and lectures which cannot be prevented by any of existing products.

Existing products does not provide proper mock test for proper self practice for student. Student searches different websites for notes and previous year papers.

and the most the point that this products are expensive so they become unaffordable to the needy users. There should be a product with minimum cost

So to overcome all the aabove problems we need a new product.

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**2.2 Drawbacks of existing systems**

There are lots of apps and websites available for e-learning. Some of them are unacademy ,Udemy ,Byjus , MS teams, etc. All these products are nice but there are drawbacks also.

* + - 1. They just provide video lectures and do not concentrate on their overall development.
      2. There is no feature by which students can evaluate what they have learnt.
      3. Exams held on these products are not as strict as classroom exams.
      4. When a student gives exams on these apps after finishing writing they need other apps for scanning pdf and converting word files which is time consuming.
      5. Students need to search on different websites for chapter wise notes and past years papers.
      6. Cheating prevention during online assessments is complicated
      7. Above mentioned products require subscription, so it becomes inaccessible to poor students.
      8. During online exams on such products, students cheat during exams by switching between different apps and tabs.

**3. PROBLEM FORMULATION**

**3.1 Problem Formulation:**

These tough times have forced us to impart and gain education through an online medium and there are a lot of online platforms that help the tutors and the students to impart, gain as well as visualize the knowledge. But there are some of the factors that are still a hindrance for the users and in the development of an innovative product we aim to tackle those problems efficiently and, in a user, friendly way.

The main problem in online teaching apps is that there is no guaranteed way of preventing the students from practicing any illegal ways such as copying in the tests.[4] Also, there should be an efficient way of exchange of notes and educational content across the students who are in the same standards. [5]

These are the main problems that we are trying to solve along with the inclusion of all those features that the existing online teaching apps offer.

**3.2 Product objectives:**

There are certain goals when it comes to eLearning and some of these are to:

Enhance the quality of learning and teaching

* Meet the learning style or needs of students
* Improve the efficiency and effectiveness
* Improve user-accessibility and time flexibility to engage learners in the learning process.[6]
* E-Learning is vast and an expanding platform with a huge perspective in higher education. Since there are many challenges in making eLearning effective, it is important to know how to manage it and access the resources. Taking a minute to just imagine if one is not having the roadmap to guide from start to finish is like plunging into eLearning without an effective strategy because learners would be lost in the learning content.
* Objective 1 - Provide simple, universal access to information and services for all faculty, staff, and students.
* Objective 2 - Research and provide more advanced web tools for the School of Education to enhance its web presence in a way that will reach and attract more potential students and meet our community's changing needs.
* Objective 3 - Improve the online communications ability for individuals and groups associated with the School of Education.
* Objective 4 - Expand and enhance technology support tools to meet the School of Education's current needs and expectations.
* Objective 5 - Obtain feedback from users on satisfaction levels of current services, as well as new services and implement changes accordingly.
* Objective 6 - Maintain current technology hardware, software and network infrastructure so that it is reliably available.
* Objective 7 - Enhance security awareness throughout the School of Education.
* Objective 8 – To build different portals according to the type of user using the app, for e.g.: Students, tutors, etc.
* Objective 9 – To help the students understand the concepts and topics better by implementing AI tutor according to his/her needs.
* Objective 10 – To ensure a guaranteed way of preventing malpractice by students during the online tests.[6]

**3.3 Applications of the product:**

The product having a load of useful features can be used in schools, colleges, coaching institutes especially at the tough times such as pandemics.

The product can be used in corporate sectors and companies for giving presentations, sharing important documents which remain confidential and to form groups and teams for such purposes.

The product can be used in organizing seminars and meetings especially during times like covid-19.

**Benefits to the society:**

Although you might assume that online learning serves the student first and foremost, that is not always the case. This growing trend of digital learning also translates into an improvement in society thanks to the many ways it progresses skills in communication, collaboration, technology, and education.

Using this product will aware mass populations of the working of technology used in this product and will keep them updated on what new features get added daily and what are the features of the existing apps.

The feature of malpractice prevention will promote an atmosphere of healthy and fair competition and will assure correct assessment of each student based on his/her sincere efforts. In e-learning the most important point is the time savings. This is due to the avoidance of long journeys, as well as the attribute arrival and departure to and from the study place.

The learner is no longer dependent on fixed teaching times and thus can classify the learning phases independently. He can learn during working hours, in small breaks, as well as on weekends or at night.

The learner can learn virtually anywhere like at home, at university, on the train or on the go in the park. Due to the already existing possibilities of the mobile Internet (laptop and dial-up to the Internet via mobile phone), there are almost no spatial limits to learning.

The learner can freely divide his or her learning phases according to his / her individual wishes, both in terms of length and the number of repetitions.

The same applies to the preferred learning style. This can distinguish active learners who learn best from the direct involvement with matter from passive learners whose preferred learning style is listening and watching. Long term and updatable training materials along with accurate reporting on training and automated analysis of results through tracking. In an e-learning course, the student not only learns the material of the respective field of study but also improves his media knowledge through his constant occupation with various media. This is of enormous importance in our highly technical world, so as not to miss the connection to modern technologies.

The programs are designed so that the computer can react flexibly to the respective input of the user and controls the progress of the learning program accordingly.

Unlike a book or videotape, a computer and educational software are able to provide feedback to the user, controlling their learning progress.

The presented information can be linked to each other to links. With the help of these links, the user can quickly jump back and forth between topics. This gives the learner the advantage of being able to recognize the networked structure of the knowledge faster**.**

The attendance phases can be used more intensively for practical exercises because uniform prior knowledge from the self-learning phases can be assumed. [5]

**3.4 Novelty:**

In this product there will be provision for convenient conversion of file formats according to the instructions mentioned for the submission so that the student does not need to browse for the conversion of the file.

Prevention of malpractices during the online tests by forming time sections for example in the first 15 minutes, out of 30 at least 9 questions should be solved. This will ensure that copying will be prevented as time is less.

Scanning of the face of the student to verify the identity as it ensures that the correct person is giving the exam.

Formation of a web of question banks and notes categorized according to the classes and topics so that every student belonging to the same category is benefitted. Also, ensure that the notes and documents are shared in an effective manner.

There will be a bot which will first decide the level of a new student through a small mock test and according to the beginner, intermediate and expert level the student will be provided with a course to follow to improve.

There will be a bot which will choose random multiple-choice questions from different websites by which the paper setters will be benefited a lot and also copying by using the internet will be much difficult for the students.

Separate portal for students and teachers to manage their own work and progress. There will be an AI tutor for those teachers who are not familiar with the online mode of teaching.

These were the new features that we are aiming to put in the product. These features will immensely benefit masses especially the student and teacher community.

**3.5 Scope of the project:**

The project that we have taken up includes many beneficial features. Thus, to implement the features such as AI tutors, there is a need for research on the existing AI applications and to what extent can it be improved in fulfilling our goal. There will be an immense use of machine learning to fulfil such a big app which includes everything needed for students and teachers.

**4. PROPOSED DESIGN:**

Basically, there will be four sections in our products:

**Section 1: Meet**

Students and teachers can organize meetings to study. This meet will be with some basic features of video chat.

**Section 2: Exam**

In this section students can take mock tests and can also give proper exams.

Exam can be theory or MCQ test,

If a student is appearing for any type of test during that time all the background activity will be restricted i.e., he cannot change tabs or switch apps.

During MCQ test there will be a specified amount of time for a definite number of MCQ.

By this we can reduce the possibility of cheating in exams.

**Section 3: Resources Section**

In this section students will be provided with notes and video lectures links.

Students can also store their own notes over here.

**Section 4: Convertor**

Students can use this section to convert their word files or image to pdf files which is very useful during exams.

<https://balsamiq.cloud/stdzsr4/pruf8u5/rB3E2?f=N4IgUiBcAMA0IDkpxAYWfAMlAjPA>

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Hardik Pithadiya 60004190037

Harshal Jain 60004190041

Hartik Suhagiya 60004190042

Hrithik Mistry 60004190046