



E-Learning: An Online Learning App for Teaching-Learning

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Abstract: E-Learning is the concept of providing educational videos to students. As there are no videos related to theoretical part of some subjects, our proposed system is designed to provide solution to this problem. In this system students can get their doubts cleared, get solution to their difficulties and learn from video based tutorials. This application's contents are related to RTMNU Computer Science and Engineering syllabus. Android studio is used to make the Application, which will run on Android phones. YouTube API is used for storage purpose. Speech to text is used to save the Expert's time. In this we convert the video's speech into text so that they can read it. Either they can accept the video or reject it. This application provides an effective way of learning and can exchange their knowledge by sharing videos.

Keywords: E-Learning, API, Android studio, effective learning.

I. INTRODUCTION

E-learning is a rapidly growing, the effects of which we can trace back to the 1980s and even well before that. E-learning offers the ability to share material in all kinds of formats such as videos, slideshows etc. E-learning can best be defined as the science of learning without using paper printed instructional material. E-learning is the use of telecommunication technology to deliver information for education and training. With the progress of information and communication technology development, E-learning is emerging as the paradigm of modern education. The great advantages of E-learning include liberating interactions between learners and instructors, from limitations of time and space through the asynchronous and synchronous learning network model

The word E-learning is used synonymously with virtual knowledge, online education, computer-based training, web-based knowledge, and networked education. But we are making an application where online educational videos are provided for CSE engineers. E-Learning also offers greater collaboration and global opportunities to the learners. It makes it easy to grasp the content. It has drifted the method of learning imparted to the students. It is the method of teaching purely through technology.

As there are not much videos provided for CSE students according to syllabus. There are some students who can clear their doubts whereas some student hesitates to ask the same. So we are trying to implement an application where we can solve all the queries by watching the videos uploaded on our application. We are also providing to upload their related videos. This links different concepts and visualization of topics helps students to retain the terminologies. Visualisation is the best way to adapt something we can clear our concepts by visualising it.

Uploading content is done by the expert after checking the content of the video. We are using speech to text converter with the help of YouTube. Where YouTube generates caption automatically. This provides security for viewers as they get the correct information on the particular topic.

II. PROPOSED WORK

In E-Learning Application two modules are designed: - User login and Expert login.

a. *User login*

Students have to register themselves into the application to create an account after registering successfully they can see available videos and can upload the videos they want to share.

b. *Expert login*

Expert login is there who is expert of every subjects and check the content of videos that is uploaded by the user. If it is having valid content then can be uploaded.

E-learning application has been developed using Android studio where we have created two modules user and admin login. Users have to register themselves and watch or upload the video. Expert is having rights to accept the video and upload the video. XML and Java are used as Android studio allows Java and Kotlin for backend, XML for frontend. Here user will have to enter username and password for login. If the user does not have an account then they have to register themselves which will be uploaded in the database. After login, they will have to select year and then subject on which they want to watch video or upload video.

Admin module is again divided into two parts i.e. view list and Approved video. List view shows the videos which are approved by the expert. The user send the link of the video which will be seen by the expert and approve it.

XML language is used for creating the user interface and JAVA is used for connecting the UI, database, and the storage part i.e. You-Tube API. For watching videos on application we have developed a video player which plays the videos. There are two ways to design UI in android studio by using drag and drop or by typing the code. We have to select the basic design of user interface. There are various layouts in XML such as linear layout, constraint layout etc. but we are using linear layout and we can set buttons text view in our UI. After creating UI it is connected to each other so java is used for connectivity by using a keyword "INTENT".

You Tube API have predefined code which is to be copied and written in our code so that it gets implemented in E-Learning application. Same with video player it is also having a predefined code which will implement a video player in E-Learning application. Database is to be written in the code as it is not having any drivers which can be connected with our android application. We can run on any device to check whether it is working or not. Following figure shows the proposed work of E-Learning.

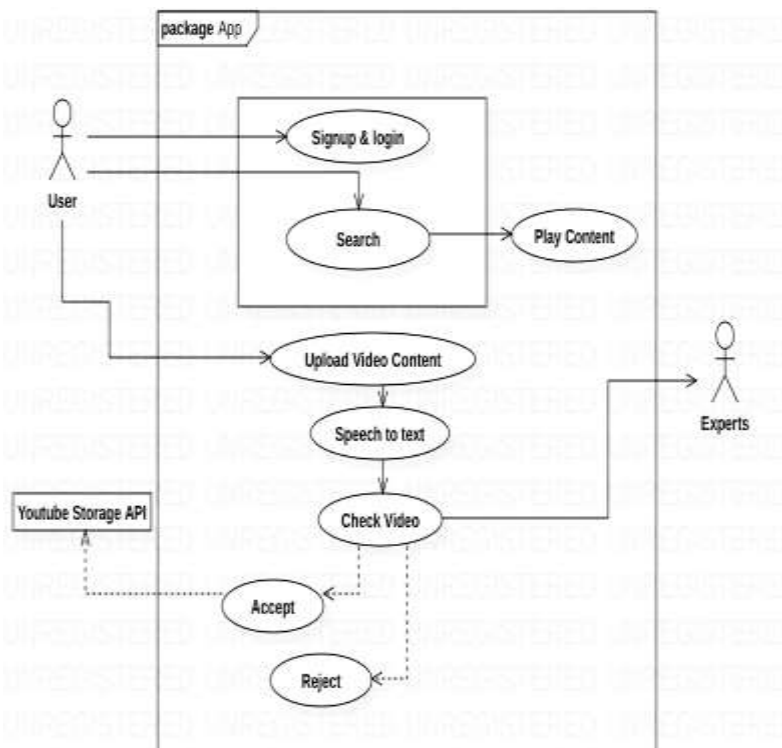


Figure 1: STAR-UML for E-learning

III. IMPLEMENTATION RESULTS

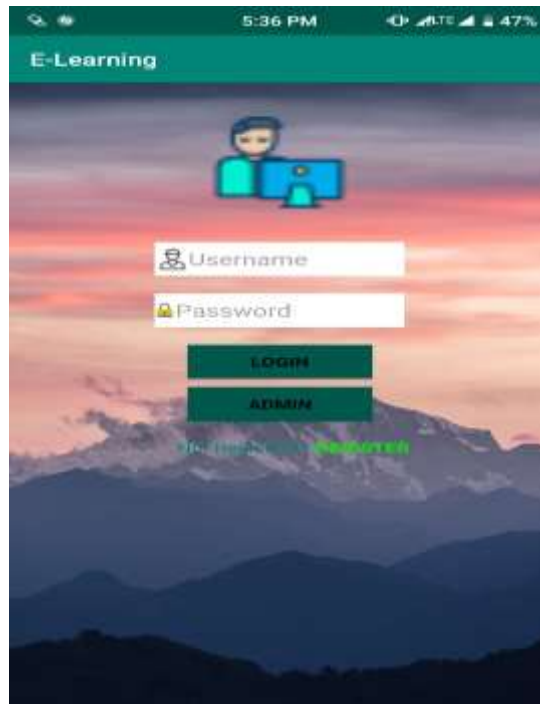


Figure 2: USER LOGIN

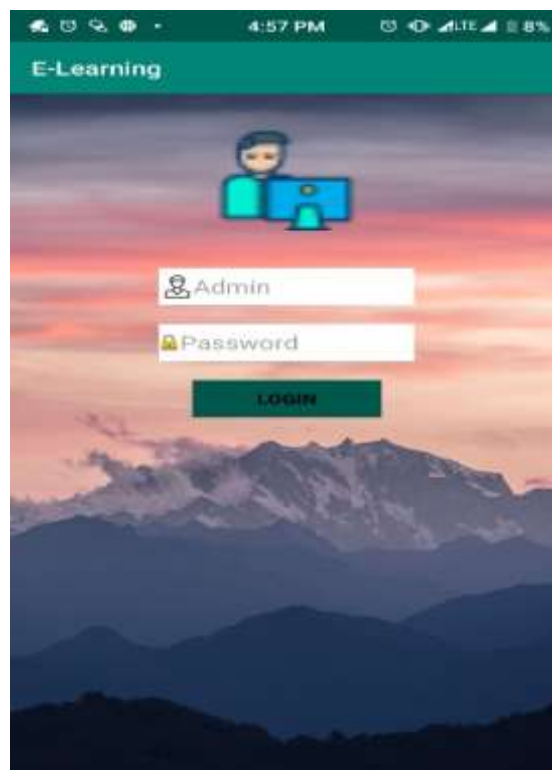


Figure 3: ADMIN LOGIN

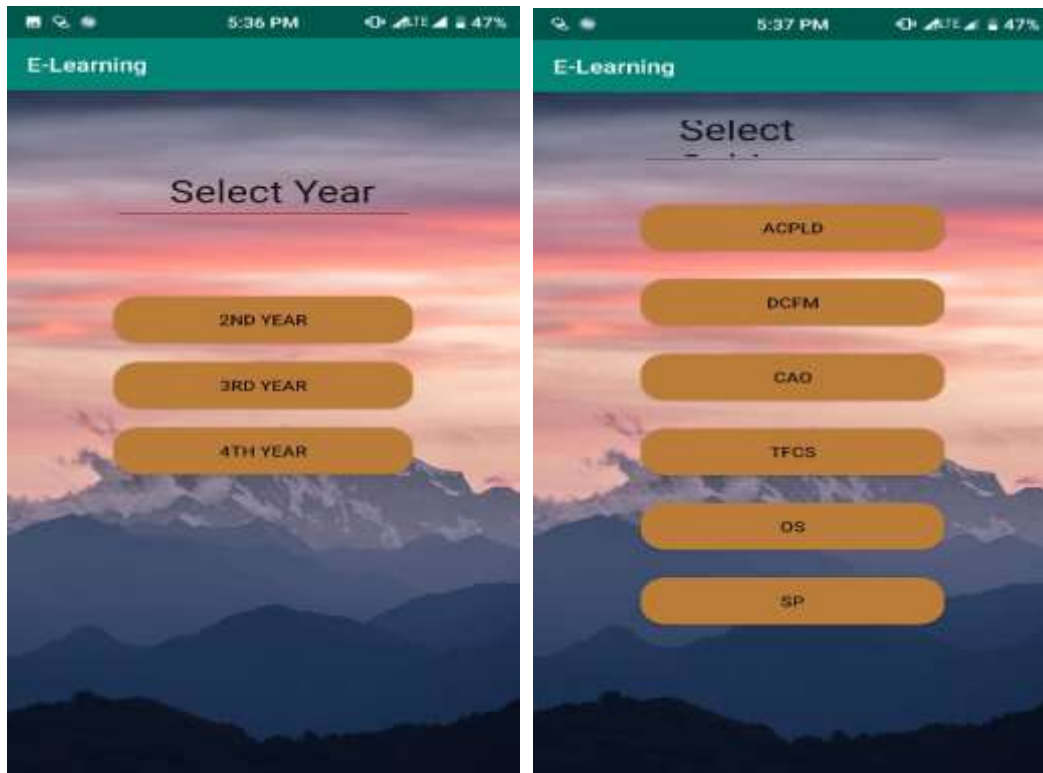


Figure 4: Year of study and Subject names

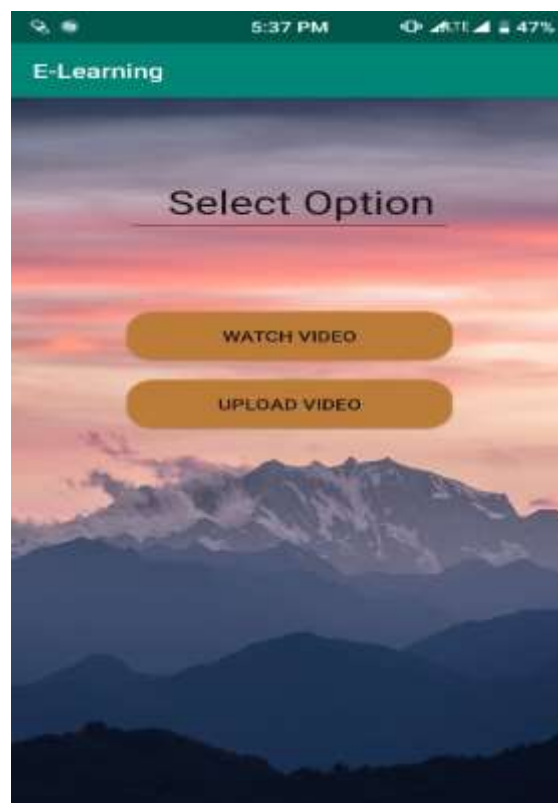


Figure 5: WATCH/UPLOAD VIDEO

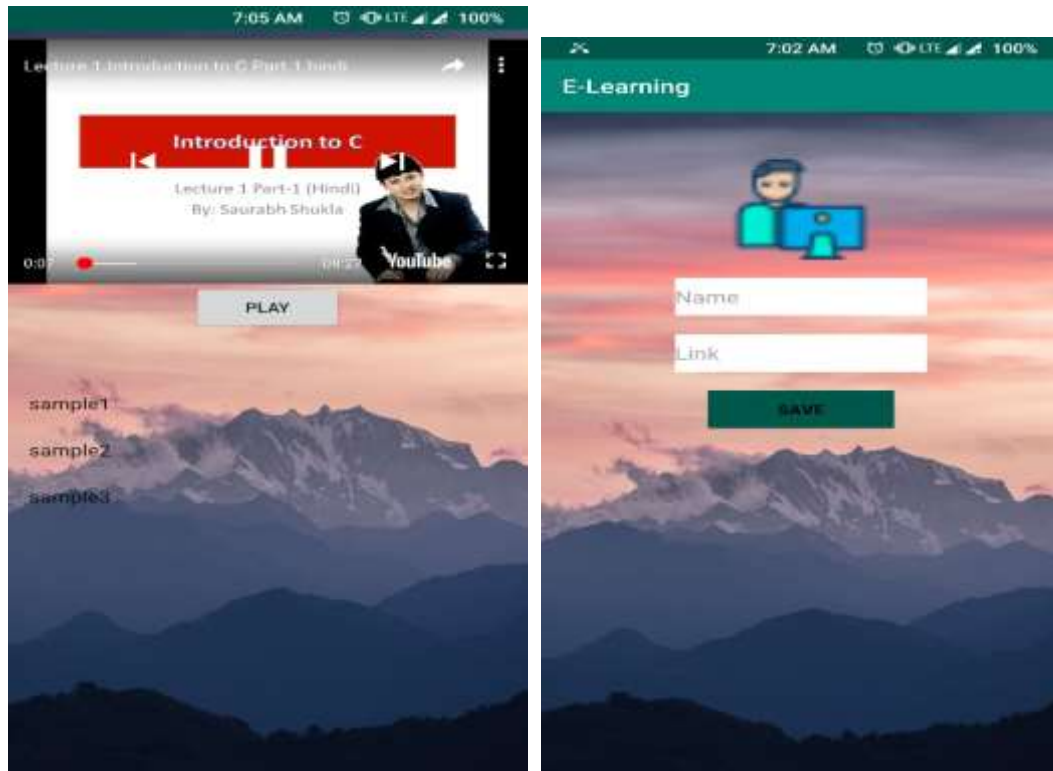


Figure 6: VIDEO PLAYER UPLOADED VIDEO

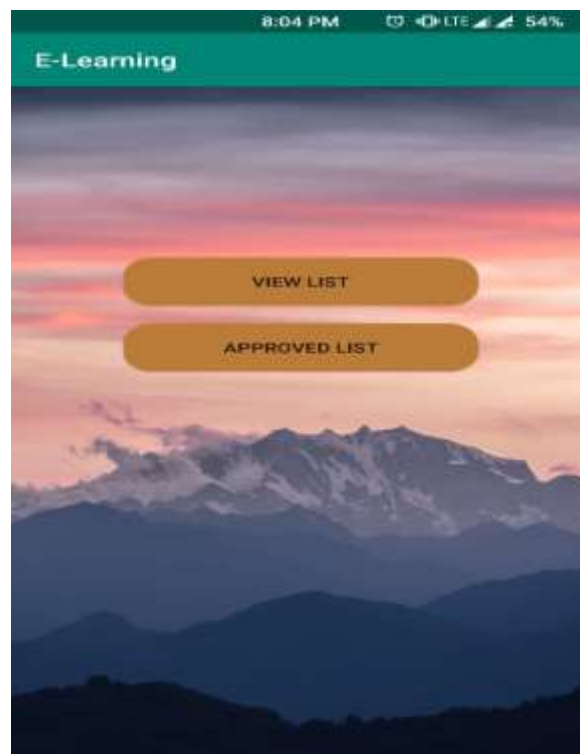


Figure 7: VIEW/APPROVED VIDEO LIST

**IV. CONCLUSION**

The concept of E-learning is getting very popular these days, as many universities are offering degree and diploma programs through E-learning mode. In proposed work E-Learning android app is developed for providing a better and convenient way for learning and gaining knowledge for particular subject in required year of study in computer science & Engineering. Subject wise video tutorials are provided in proposed application. User can watch these videos whenever they want, which will help in clearing there concepts. It supports android device having version Icecream sandwich and above (minimum API level 16). It acquires less memory space. Videos are stored on cloud. Videos are focused only on RTMNU's syllabus. User can also share the videos by different means like Whatsapp, Gmail, Messaging apps etc. If each learner is given a tablet with the course content fed in it, which would be much more attractive, enjoyable and thoughtful decision to take in the present era of modernization. Thus, the day is not far away when E-learning will become the future popular method of education throughout the world.

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