



ÇANKAYA UNIVERSITY

FACULTY OF ENGINEERING COMPUTER ENGINEERING DEPARTMENT

# Project Report

Version 2

CENG 408

***ANKADES-Educational Social Sharing Platform***

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## Table Of Contents

<b>1.Introduction .....</b>	<b>3</b>
<b>1.1.Problem Statement .....</b>	<b>5</b>
<b>1.2 Scope .....</b>	<b>5</b>
<b>1.3 Related Works .....</b>	<b>5</b>
<b>1.4 Glossary .....</b>	<b>6</b>
<b>2. SRS.....</b>	<b>8</b>
<b>2.1 Description .....</b>	<b>8</b>
<b>2.1.1. Perspective .....</b>	<b>8</b>
<b>2.1.2. Development Methodology .....</b>	<b>8</b>
<b>2.2 Requirements Specification .....</b>	<b>8</b>
<b>2.2.1. External Interface Requirements.....</b>	<b>8</b>
<b>2.2.2. Functional Requirements .....</b>	<b>8</b>
<b>2.2.3. Non-Functional Requirements .....</b>	<b>12</b>
<b>3. SDD .....</b>	<b>12</b>
<b>4. Test Plan .....</b>	<b>40</b>
<b>5. Conclusion.....</b>	<b>41</b>

## Abstract

Nowadays there are many personal and educational institutions. Educational platforms and virtual laboratories are becoming an increasingly important component in the teaching process, especially for technical teaching. Nowadays, the development of educational technology knowledge provides an advantage in preventing deficiencies and providing effective information learning. Developing a forum and social platform system accessible to educators and students will help improve this quality of education. ANKADES Educational Social Sharing Platform (AESSP) provides information about the course, and the students can access open resources here for their research. In general, these systems are actively used abroad, there is no using of such a system in Turkey. The aim of this project is to create a social platform and a learning platform where everyone can access the data they want. This will be an easily accessible platform for all instructors, students and anyone who can use this system.

**Key Words:** *E-Conferencing, E-Learning, Managed Learning Environment, , Virtual Learning environment*

### Özet:

Bugünlerde birçok kişisel ve eğitim veren platformlar var. Eğitim platformları ve sanal laboratuvarlar, özellikle teknik öğretim için öğretim sürecinde giderek daha önemli bir bileşen haline gelmektedir. Günümüzde, eğitim teknolojisi bilgisinin geliştirilmesi, eksikliklerin önlenmesinde ve etkili bilgi öğreniminin sağlanmasında bir avantaj sağlamaktadır. Eğitimciler ve öğrenciler için erişilebilir bir forum ve sosyal platform sistemi geliştirmek, bu eğitim kalitesinin iyileştirilmesine yardımcı olacaktır. ANKADES Eğitimsel Sosyal Paylaşım Platformu (AESSP) ders hakkında bilgi verir ve öğrenciler araştırmaları için açık kaynaklara buradan erişebilirler. Genel olarak, bu sistemler yurtdışında aktif olarak kullanılmaktadır, Türkiye'de böyle bir sistem kullanılmamaktadır. Bu projenin amacı, herkesin istediği verilere erişebileceği bir sosyal platform ve bir öğrenme platformu oluşturmaktır. Bu, tüm öğretmenler, öğrenciler ve bu sistemi kullanabilen herkes için kolay erişilebilir bir platform olacaktır.

**Anahtar Kelimeler:** E-Konferans, E-Öğrenme, Yönetilen Öğrenme Ortamı, Sanal Öğrenme Ortamı

## 1. Introduction

Web-based learning is one way to learn, using web-based technologies or tools in a learning process. In other words, learner uses mainly computers to interact with the teacher, other students and learning material.

Web-based learning is often referred to as online learning because it contains online course content. This system is common in the evolving Internet era. Communication via e-mail, video conferencing and live narration is possible on the web. These web-based courses are encouraging for learning. It is possible to reach these web-based learning sites on the Internet network. Learning is provided as printed course materials.

The virtual learning environment (VLE) is a learning platform that facilitates the student's learning experience. The main components of the VLE package are; easy-to-learn discussions, internet connections for chat, and web publishing. Provides an interactive learning. In general, VLE users use a teacher ID and a student ID. Teachers follow the student in the same way. The teacher has the authority to create the content that the student needs to learn.

New features in this system include learning environments such as wikis, blogs, tests, online training videos. These systems usually work with servers and allow students to learn on multimedia or web pages. In some programs, the virtual learning environment may resemble a face-to-face classroom environment, and even students can provide one-to-one dialogue with teachers. Students can show what teachers understand from their ideas. Today, many virtual learning environments provide teachers with the ability to test and share important documents (vocabulary, pdf information) directly to students, as well as to share multimedia files such as video and audio files.

A “virtual” learning environment (VLE) or managed learning environment (MLE) is an all in one teaching and learning software package. A VLE typically combines functions such as discussion boards, chat rooms, online assessment, tracking of students' use of the web, and course administration. VLEs act as any other learning environment in that they distribute information to learners. VLEs can, for example, enable learners to collaborate on projects and share information. However, the focus of web based courses must always be on the learner—technology is not the issue, nor necessarily the answer.[1]

The first step in designing a web-based course. The web is a gathering by combining it with a discussion forum. There are many online resources on how to design web-based learning programs.

Various programming languages can be used to create Web Based Learning. However, when applying this technology, the performance of the selected language in practice should be considered.

C ++, Java, Rust, Go, Python, C #, PHP, Ruby are commonly used languages in image processing, but the most preferred language is Python in today's technologies.[2]

There are many technologies to improve the quality of materials provided by teachers and various content producers. For example, software such as PowerPoint or Flash makes any presentation look great. These software allow us to add some graphically rich and quality content.

According to [3], the advantages and disadvantages can be listed as:

### ***Advantages***

- Linking resources in many different formats. The ability to organize this can be an effective way of delivering course materials
- Fast access to resources
- Can encourage independent and active learning
- Provide a useful source of supplementary materials for traditional programs
- A complementary and active resource is provided where applicable

### ***Disadvantages***

- Computer insufficiency can create difficulties for students.
- Users may have difficulty accessing site content due to insufficient equipment.
- The media used may not be eligible.
- The accuracy and quality of information may vary, so a current and clean environment is required.

## **1.1. Problem Statement**

In the field of software, it was observed that the information encountered during various researches was mostly in foreign languages. In these studies, the accuracy of the information obtained is not always clear. It takes time to understand the research topic in a foreign language. Time is also spent to distinguish the accuracy of the information encountered. It was aimed to close this lack of resources in the native language and to make a system that confirms the accuracy of the information.

## **1.2 Scope**

Ankades is an educational platform. Users will be able to create a blog platform on the category of education as a social media tool. Users will be able to share articles, photos or videos by category due to lack of material or information. This platform will be divided into blog and forum. In the blog section, users will be able to share their articles and various resources. In the Forum section, members can ask each other questions and answer questions. Approved answers will also appear in the forum. Each user will be able to edit their own panel. Super users will be able to make any changes to the site. In this platform, in addition to the competencies, there will be credit for asking and answering questions. Each member will be credited a credit point to the user account after registration. These credits will allow users to post topics in the forum. Members of the forum will be allowed to ask questions as much as their credits..

## **1.3 Related Works**

There are lots of MLE and VLE platforms such as Chegg, Codecademy, Stackoverflow, Wikipedia, Khan Academy. Chegg contains licensed books, and questions for the evaluation

of books. The access is provided after a fee is paid. However, not all questions are answered here. This leads to limited access. Codecademy provides information on programming only. People can question about software in Stackoverflow. Users can be asked questions in many areas of the site. Stackoverflow answers can be verified by users. Another platform is Wikipedia. The information shared here is popular. Known general truths are shared, there is no accuracy criterion. It is a sharing site for general culture. There will be verified information on the site. At Khan Academy, only mathematical articles and videos are available. The user will have access to various articles for each category opened on the site. As a result of our research, e-learning resources in the field of software are not available in our native language at all. In this study, it is aimed to create a web based platform that people can use in this field. On the other sites reviewed, it was observed that resources were limited in various ways (such as payment of fees). In this platform, there will be a credit system in which users may earn own credits by their own effort.

#### 1.4 Glossary

Term	Definition
<b>E-conferencing</b>	It is a system that is used to talk online. nowadays it is used to prevent the need for travel.
<b>E-learning</b>	It is a way of learning through internet tools (video watching, accessing resources).
<b>HTML:</b> (hypertext markup language)	A widely used language for creating web pages. HTML files can also contain links to other file types, including word-processed files, spreadsheets, presentation slides, and other web pages.
<b>Hyperlinks:</b>	Clicking within the site is to provide the transition to a different web page.
<b>Internet:</b>	A global computer network. (for example, web or email systems). Computers connect to the Internet, other computers through the host computers that are connected via modem and network connections.
<b>Internet service provider (ISP):</b>	Home users often access the internet through an internet service provider that hosts a PC network that is constantly connected to the internet.

<b>Ethernet:</b>	It is usually a computer network that shares information within an organization. Access normally requires a password and is limited to a specific user range.
<b>Managed learning environment (MLE):</b>	Usually has an integrated function, providing administrative tools, such as student records, and linking with other management information systems .
<b>Search engines :</b>	Can be used to help to find information.
<b>Video streaming:</b>	The process by which video images are able to be stored and downloaded on the web.
<b>Virtual learning environment (VLE):</b>	A set of electronic teaching and learning tools.  Principal components include systems that can map a curriculum, track student activity, and provide online student support and electronic communication.
<b>World wide web (web):</b>	Use of the internet to present various types of information. Websites or home pages may be accessed with the aid of a browser program .
<b>Block Diagram :</b>	The type of schema which components in the system are displayed in blocks
<b>UML Diagram:</b>	Unified Modelling Language
<b>Database :</b>	A structured set of data that is organized to be easily accessed and managed.

## 2. SRS

### Description

#### 2.1.1. Perspective

This project has been determined according to web based learning that article research will be actively used and access to the correct information and also the logic of a social platform. This app will be developed in accordance with higher education and those doing research at various level.

#### 2.1.2. Development Methodology

Since the analysis and design stages are very detailed in the waterfall model, these steps take a long time. However, the coding and testing steps are very short, as the requirements and design are clearly defined during the analysis and design phases. The number of errors during the test phase is very small. therefore we decided to use the waterfall methodology.

## Requirements Specification

### External Interface Requirements

#### **User Interfaces**

The user interface will be worked on any operating system. Any web browser will run the project.

#### **Hardware Interfaces**

This software requires internet and computer.

#### **Software Interfaces**

There are no external software interface requirements.

#### **Communications Interfaces**

There are no external communications interface requirements

### Functional Requirements

- The system shall enable its users to register on the system .
- The system shall enable all users to have a guideline about the system.
- The system shall enable its users to login in to the system.
- The system shall enable its users to view posts on the system without authentication
- The system shall enable its users to view questions on the system without authentication



- The system shall enable its users to view comments on the system without authentication.
- The system shall enable its authenticated users to write comments on the system.
- The system shall enable its authenticated users to ask questions on the system.
- The system shall enable its authenticated users to share posts on the system.
- The system shall enable its authenticated users to edit their profile information.
- The system shall enable its authenticated users to earn credits for answering a question.
- The system shall enable its authenticated users to edit their shared posts.
- The system shall enable its authenticated users to edit their shared posts tag.
- The system shall enable its authenticated users to edit their comments.
- The system shall enable its authenticated users to edit their questions.
- The system shall enable its authenticated users to have a control panel to see and edit their activities on the system.
- The system shall enable its all users to contact with the admin.
- The system shall enable its authenticated users to take quizzes.
- The system shall enable its authenticated users to take quiz earn credits.
- The system shall enable its authenticated users to join courses.
- The system shall enable its authenticated users to search courses.
- The system shall enable its authenticated users to send request to admin to open a course.
- The system shall enable its authenticated users to view quiz results.
- The system shall enable its authenticated users to view other users profile .
- The system shall enable its authenticated users to search article.
- The system shall enable its authenticated users to create article.
- The system shall enable its authenticated users to edit article.
- The system shall enable its authenticated users to view article comments .
- The system shall enable its authenticated users to like article.
- The system shall enable its authenticated users to can respond to comments.
- The system shall enable its authenticated users to
- The system shall enable its users view categories .
- The system shall enable its users to view articles.
- The system shall enable its users to view posts.
- The system shall enable admin user to specify a user to open a course.
- The system shall enable its specified users to open a course.
- The system shall enable its specified users to edit a course.
- The system shall enable its specified users to specify price of a course.
- The system shall provides user's information.
- The system requires that the user agreement be approved.

## Operations of Administrator Use Case

Admin:

- Admin determines user privileges.
- Admin determines user fines.
- Admin can modify the system.
- Admin can display the system interface.
- Admin determines user credits.

#### Moderator:

- The moderator can open category, edit, delete.
- The moderator organizes, deletes and asks questions.
- The moderator approves and activates the article of non-teacher members.
- The moderator can comment, edit comments, and delete members' comments.
- The moderator may impose penalties on the members.
- The moderator can contact the users.
- The moderator can create a course.
- The moderator can add students to the course.
- The moderator can arrange a course.
- The moderator can create, edit, and delete quizzes.
- The moderator can approve the correct answer to the quiz.
- The moderator can confirm the correct answer to the questions.
- The moderator can submit a subcategory request.
- The moderator sets the price.
- The moderator can hide the posts (article-course).

#### Non-member:

- Non-members can become members of the system.
- Non-members can login to the system after becoming a member.
- Non-members can see the articles, search the system.
- Non-members can see and search questions.
- Non-members cannot see the answers to the questions.
- Non-members can search for courses, see the title and summary video.
- Non-members can search and see categories.
- Non-members can see the course prices.
- Non-members can see frequently asked questions.

#### Teacher:

- The teacher can create a course.
- The teacher can add students to the course.
- The teacher can arrange a course.
- The teacher can create, edit, and delete quizzes.
- The teacher can approve the correct answer to the quiz.

- The teacher can confirm the correct answer to the questions.
- The teacher can submit a subcategory request.
- The teacher sets the price.
- The teacher can hide the posts (article-course).
- The teacher can register to the system.
- The teacher can login.
- Teachers can read articles.
- Teachers can comment on articles.
- The teacher can communicate with other students and teachers.
- The teacher can ask questions and answer questions.
- Teacher can edit profile information.
- Teachers can share questions and articles on their own page.
- Teacher can edit the posts they have shared (question, article).
- Teachers can edit the tags of shared posts.
- Teachers can edit comments.
- Teachers can edit their own questions.
- The teacher can edit posts from the control panel.
- The teacher can communicate with the teacher, admin, students and moderator.
- The teacher can see all categories.
- The teacher can see all the articles.
- The teacher can see all the questions.
- Teachers can attend courses.
- Teachers can send a request to open a course to admin.
- Teachers can search for courses.
- The teacher can view the results of the quiz.
- The teacher can view the profile of other users.
- Teachers can search for articles.
- The teacher can search for articles.
- Teachers can edit their own article.
- Teachers can see the comments of the article.
- The teacher may like the article.
- The teacher can confirm the correct answer.

### Student:

- The student can register to the system.
- The student can login.
- Students can read articles.
- Students can comment on articles.
- The student can communicate with other students and teachers.
- The student can ask questions and answer questions.
- Student can edit profile information.
- Students can share questions and articles on their own page.
- The student can earn credit by answering the question.
- The student loses credit for every question student asks.
- Students can edit the posts they have shared (question, article).

- Students can edit the tags of shared posts.
- Students can edit comments.
- Students can edit their own questions.
- The student can edit posts from the control panel.
- The student can communicate with the teacher, admin, students and moderator.
- The student can see all categories.
- The student can see all the articles.
- The student can see all the questions.
- Students can enter the quiz.
- Students can earn credits from the quiz.
- Students can attend courses.
- Students can send a request to open a course to admin.
- Students can search for courses.
- The student can view the results of the quiz.
- The student can view the profile of other users.
- Students can search for articles.
- The student can search for articles.
- Students can edit their own article.
- Students can see the comments of the article.
- The student may like the article.
- If the student answers the question correctly, he / she earns credit.
- The student can confirm the correct answer.

## Non-Functional Requirements

Some important non-functional requirements are listed below.

**Accessibility:** Entry Records must be kept in the database.

**Usability:** The system's bandwidth must be large for users to be able to move around the site comfortably.

**Performance:** The system should work flawlessly and should not have any delays.

**Safety:** The information of the members on the site and the information within the site must be protected on a secure basis. A contract is provided to the user for the protection and reliability of this information. To use the application, the user must confirm this agreement. The first of these, when there is any unauthorized sharing, the owner of the resource can complain about this sharing. There will be various sanctions on the person who shares this resource.

1. Updated data shall be persistent in 0.15 seconds for all users.
2. The system shall be accesible for all users for 7/24.
3. The system shall keep its data integrity for all users with the help of django framework.
4. The average response time of the system shall be 0.10 seconds.
5. The system shall provide its security by the help of jwt for both client and server side.
6. The security of the data in database shall be provided by sha256 and salt encryption.
7. The system shall have a user-friendly user interface that guide the users for any actions.
8. The system shall work on macOS, Linux and Windows operating systems.
9. The system shall use a filter system for course contents in order to prevent any ethical issues.
10. The system shall use a report system for contents to make sure non of the contents breaks the system terms of use.

### III. SDD

## ANKADES Web Page Architecture Design

### Class Diagram

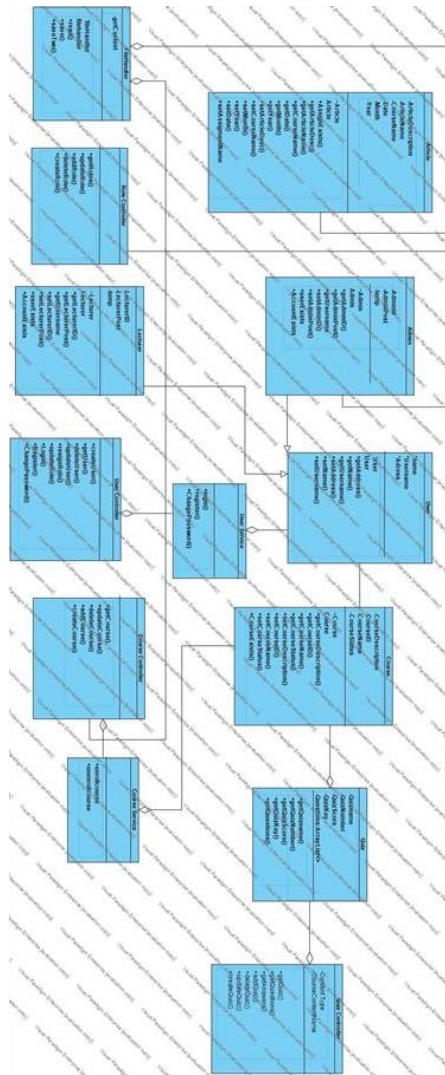
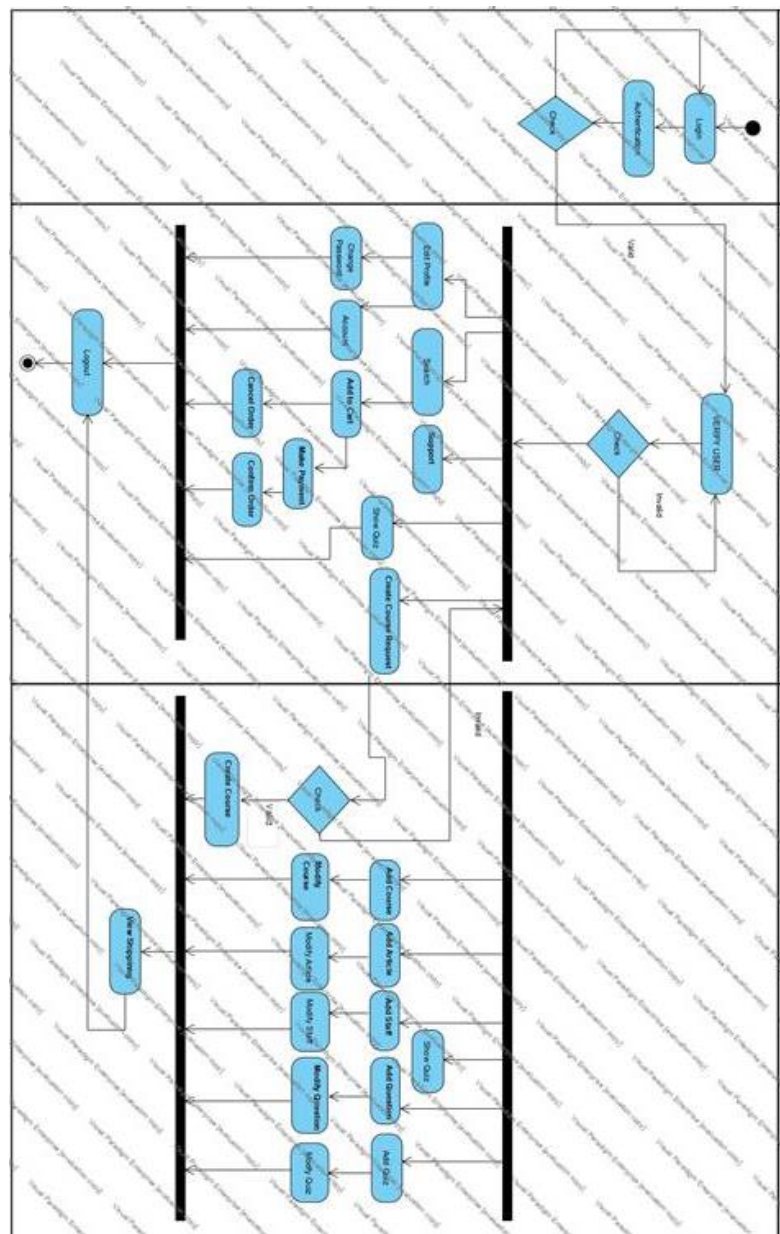


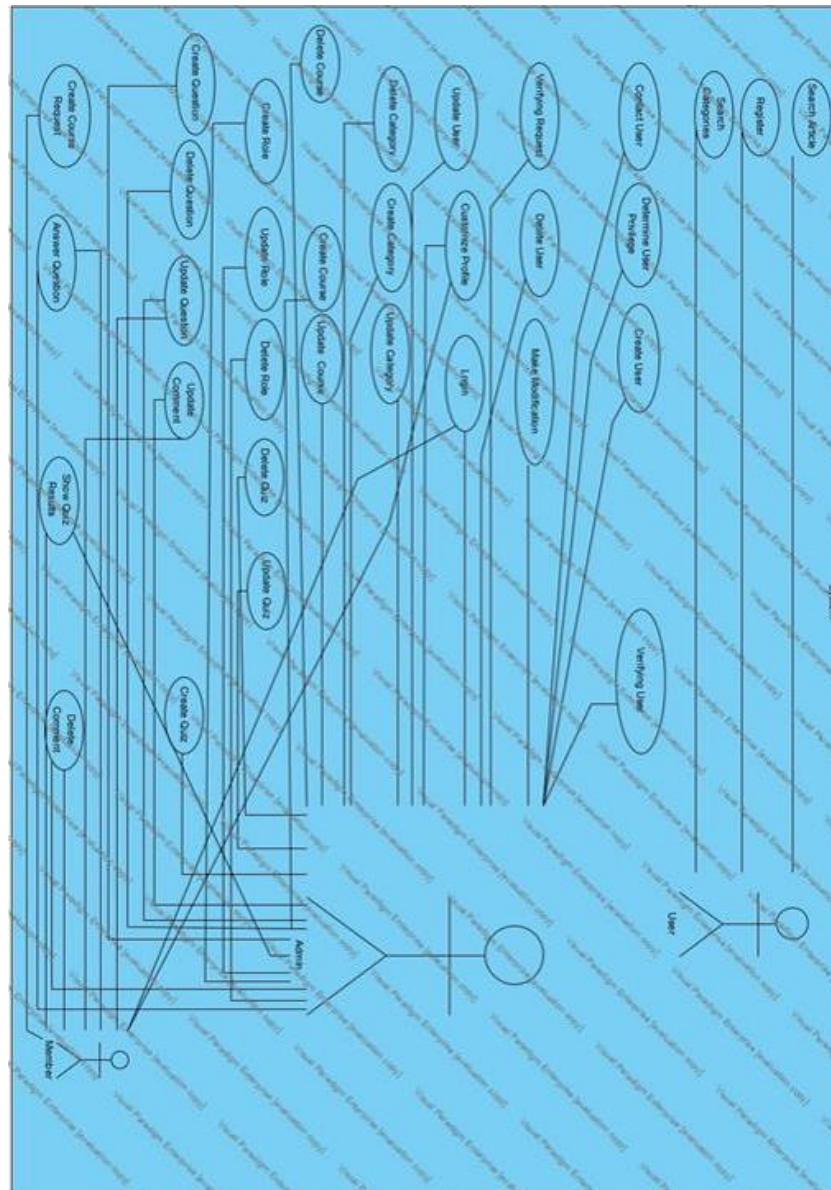
Figure 1 Class Diagram

### Activity Diagram



*Figure 2 Activity Diagram*

## Use Case Relations



*Figure 3 Use Case Relations*



# ANKADES Education System UI DESIGN

## UI DESIGN

The User Interface (UI) design is made to explain the interactions between the user (not registered) / registered user and the system. The UI design system:

Home page:

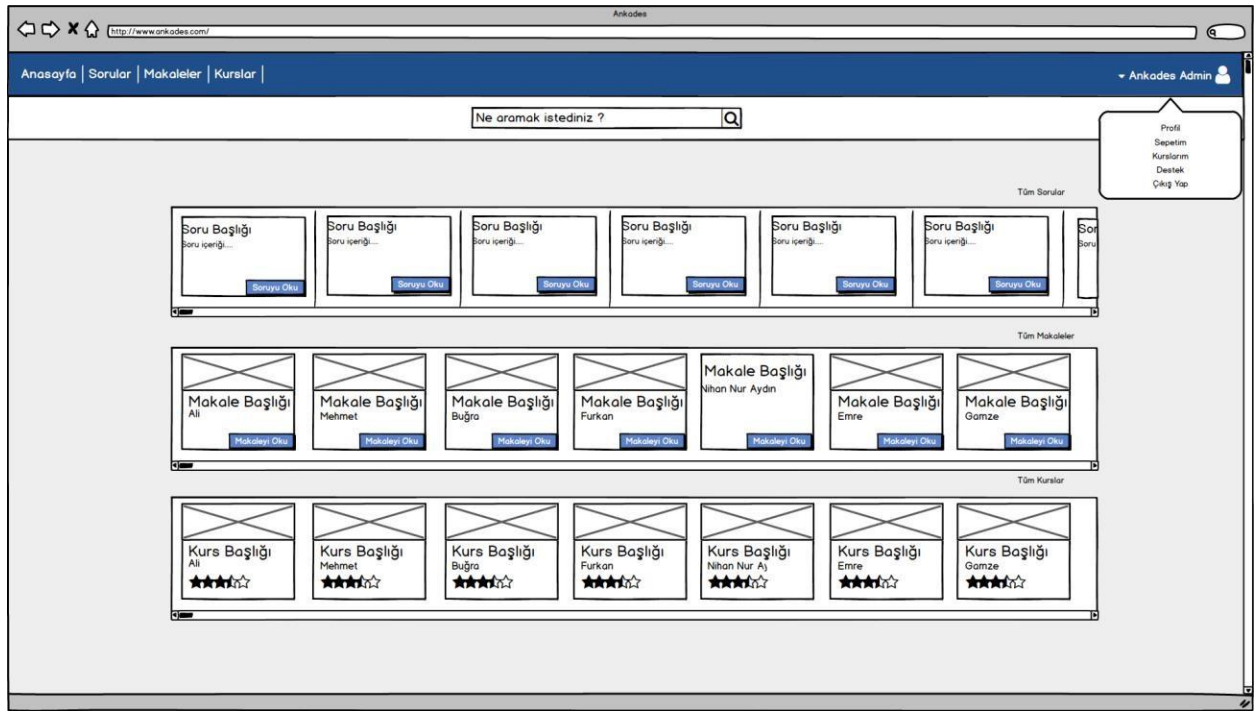


Figure 4 Home Page

Articles, questions, and courses will be visible to users in Figure 4.

## Support Page:

The screenshot shows a web browser window with the URL <http://www.ankades.com/destek>. The page has a blue header with navigation links: [Anasayfa](#), [Sorular](#), [Makaleler](#), and [Kurslar](#). On the right, there is a user profile icon labeled "Ankades Admin". Below the header, there is a search bar with the placeholder text "Ne aramak istediniz ?". The main content area is titled "Destek" and contains a form with the following fields: "Başlık \*" (Title) and "Açıklama" (Description). The "Açıklama" field has a rich text editor toolbar with options for bold, italic, underline, text color, background color, bulleted list, numbered list, link, and unlink. Below the form, there is a "Resim / Video Ekle" (Add Image / Video) button and a "Gönder" (Send) button.

*Figure 5 Support Page*

This is the form page where users can contact the admin they live in. In Figure 5, In this process, the subject content description and picture video will be able to add.

## Login page:

The screenshot shows a web browser window with the URL <http://www.ankades.com/giris-yap>. The page has a blue header with navigation links: [Anasayfa](#), [Sorular](#), [Makaleler](#), and [Kurslar](#). On the right, there are links for [Giriş Yap](#) and [Kayıt Ol](#). The main content area is titled "GİRİŞ YAP" and contains a form with the following fields: "Kullanıcı Adı veya Eposta" (Username or Email) and "Şifre" (Password). Below the form, there is a checkbox labeled "Beni Hatırla" (Remember me) and a "Giriş Yap" (Login) button. At the bottom of the form, there is a link for "Hesabınız yok mu? [Kayıt Olun](#) veya [Şifremi unuttum](#)". The footer of the page contains the text "Tüm Hakları Saklıdır."

*Figure 6 Login Page*

In Figure 6, The user will be able to change the user name or e-mail address password and save the login information to his computer from the Remember me button.

## Account Settings Page:

The screenshot shows a web browser window with the URL <http://www.ankades.com/hesap/iletisim-bilgilerim>. The page title is "Ankades İletişim Bilgilerim". The navigation bar includes "Anasayfa", "Sorular", "Makaleler", and "Kurslar". A search bar contains the text "Ne aramak istediniz ?". The main content area is titled "Hesap Ayarları" and contains several input fields for social media links: Facebook, Instagram, Youtube, Google+, LinkedIn, Twitter, and Glt. A "Güncelle" button is at the bottom of these fields. On the right, a sidebar menu lists: "Makalelerim", "Sorularım", "Kurslarım", "Profil Güncelle", "Şifre Güncelle", "İletişim Bilgilerim", and "Çıkış Yap".

Figure 7 Account Settings Page

The screenshot shows a web browser window with the URL <http://www.ankades.com/hesap/profil-guncelle>. The page title is "Ankades Profil Güncelle". The navigation bar is the same as the previous page. A search bar contains the text "Ne aramak istediniz ?". The main content area is titled "Hesap Ayarları" and contains input fields for "Kullanıcı adı \*", "E-posta adresi", "Ad", "Soyad", and "Adres Bilginiz". A "Güncelle" button is at the bottom of these fields. A note below the "Kullanıcı adı" field states: "Zorunlu. 150 karakter ya da daha az olmak. Sadece harfler, rakamlar ve @/./+/-/\_ karakterleri kullanılabilir." On the right, a sidebar menu lists: "Makalelerim", "Sorularım", "Kurslarım", "Profil Güncelle", "Şifre Güncelle", "İletişim Bilgilerim", and "Çıkış Yap".

Figure 7 Account Settings Page

http://www.ankades.com/hesap/sifre-guncelle

Anasayfa | Sorular | Makaleler | Kurallar

Ne aramak istediniz ?

Hesap Ayarları

Şifre \*

Şifre Tekrar \*

Güncelle

Makalelerim

Sorularım

Kurslarım

Profil Güncelle

Şifre Güncelle

İletişim Bilgilerim

Çıkış Yap

Figure 7 .1 Account Settings Page - Password Change

In Figure 7, The user will be able to add their social media accounts here (Facebook, Instagram, Youtube, Google, LinkedIn, Twitter, Github).

The user will be able to edit this page if they have entered incorrect information (such as name and surname).

In Figure 7 , The user will be able to update the password on this page.

The user can enter address information on this page for convenience in billing.

## Register Page:

KAYIT OL

Kullanıcı Adı

Email

Ad

Soyad

Şifre

Şifre Tekrar

☐ Kullanıcı sözleşmesini okudum, kabul ediyorum

[Kayıt Ol](#)

Zaten bir hesabınız var mı? [Giriş yap](#)

Tüm Hakları Saklıdır

Figure 8 Register Page

In Figure 8, The user will fill in his unique username and required information. The user who does not approve the User Agreement will not be able to register to the system.

## Basket Page:

Ne aramak istediniz ?

Sepetim

Başlık	Fiyat	İşlem
Başlık 1	39.99 ₺	✕ Çıkar
Başlık 2	99.99 ₺	✕ Çıkar

Sepet

Siparişlerim

Adres Bilgilerim

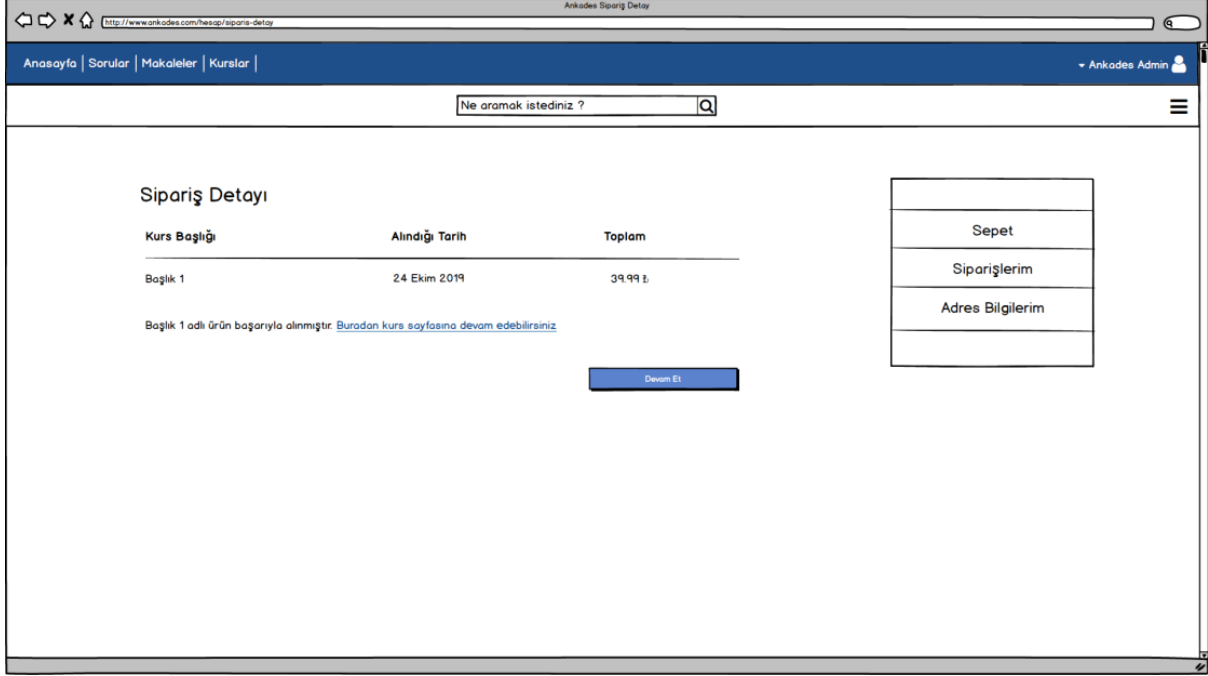
Sepet Toplamı

Toplam: 139.98 ₺

[Onayla](#)

*Figure 9 Basket Page*

User Card information will be entered on this Figure 9 (this page will include the course and payment stages of the user)



*Figure 10 Payment Detail Page*

In this Figure 10, the user will be able to see the course prices, the total basket, and remove items from the basket.

## Course Category Page:

The screenshot shows a web browser displaying the course category page for 'Django ile Web Geliştirme'. The page has a dark blue header with navigation links: 'Anasayfa', 'Sorular', 'Makaleler', 'Kurslar', and a user profile 'AnkaDes Admin'. Below the header is a search bar with the text 'Ne aramak istediniz ?'. The main content area is titled 'Django ile Web Geliştirme' and includes a description, a star rating (4.5), and statistics: 'Son Güncelleme: 12 Aralık 2019', '489,073 Öğrenci', and '146,408 Rating'. A sidebar on the right shows the course price '₺ 39.99', a 'Sepete Ekle' button, a 'Hemen Satıl Al' button, and course details: 'Kurs İçeriği', '415 Saat video anlatım', '2 Makale', '81 İndirilebilir içerik', and 'Ömür boyu erişim'. The main content area features a section titled 'Öğrenecekleriniz' with two columns of text describing the course content. Below this is a table listing the course modules and their durations:

Kursun Giriş	4 Ders	10:25
+ Python Objeleri ve Veri Yapıları	5 Ders	42:41
+ Döngüler	12 Ders	55:27
+ Fonksiyonlar	10 Ders	01:10:49
+ Veritabanı Bağlantısı	8 Ders	01:14:16
+ Django Framework ile Web Geliştirme	46 Ders	06:32:38

Below the table is a 'Devamı' link. The page also includes an 'Açıklama' section with two paragraphs of placeholder text. At the bottom, there is a 'Yorumlar' section with two user comments and a 'Yorum Yapın' form.

Figure 11 Course Category Page

In this Figure 11 will contain course information (Course date, duration, course information, comments, course description).

## Edit Course Page:

Ne aramak istediniz ?

### Kurs Düzenle

Başlık \*

Slug \*

Yeni Fiyat \*

İndirim Tutarı

Kategori \*

Etiketler

Açıklama

Güncelle

- Makalelerim
- Sorularım
- Kurslarım
- Profil Güncelle
- Şifre Güncelle
- İletişim Bilgilerim
- Çıkış Yap

Figure 12 Edit Course Page

In this Figure 12 will be open to authorized users in the system. The authorized person on this page will edit the course information.

## Add Course Page:

Ne aramak istediniz ?

### Kurs Ekle

Başlık \*

Slug \*

Fiyat \*

Kategori \*

Etiketler

Açıklama

Güncelle

- Makalelerim
- Sorularım
- Kurslarım
- Profil Güncelle
- Şifre Güncelle
- İletişim Bilgilerim
- Çıkış Yap



Figure 13 Add Course Page

In this Figure 13 will be open to authorized users in the system. From here the user will determine the course information and the course fee.

### Course Categories Page:

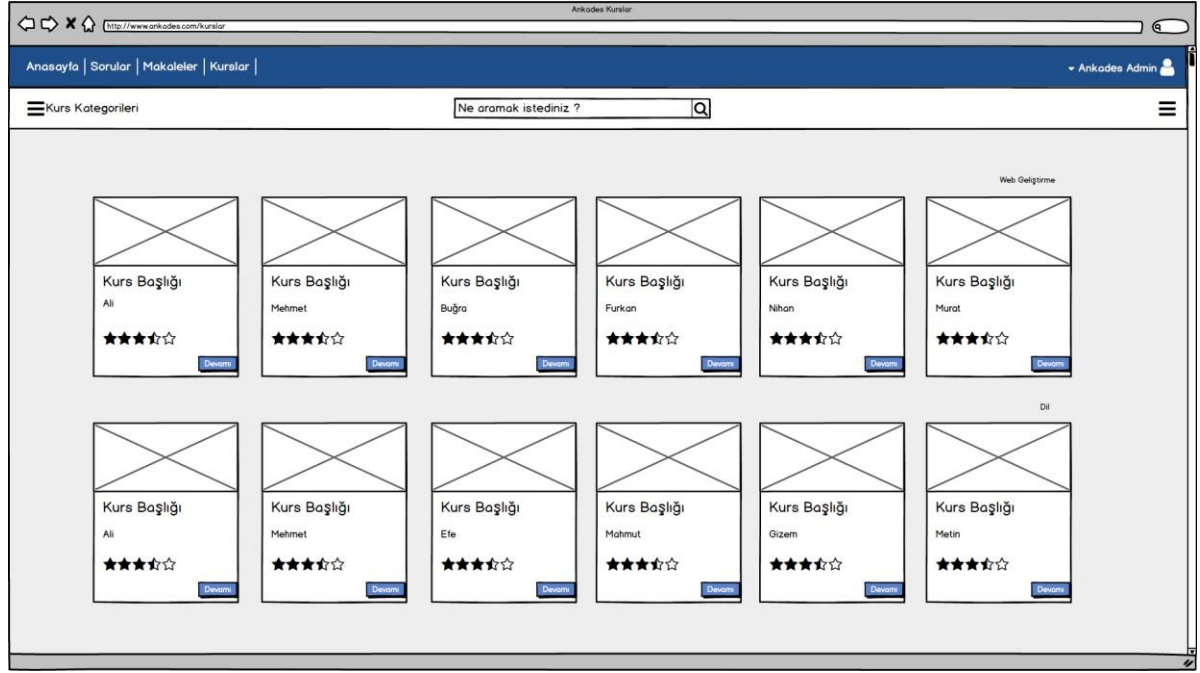


Figure 14 Course Categories Page

In this Figure 14, the Course Categories in the system are shown.

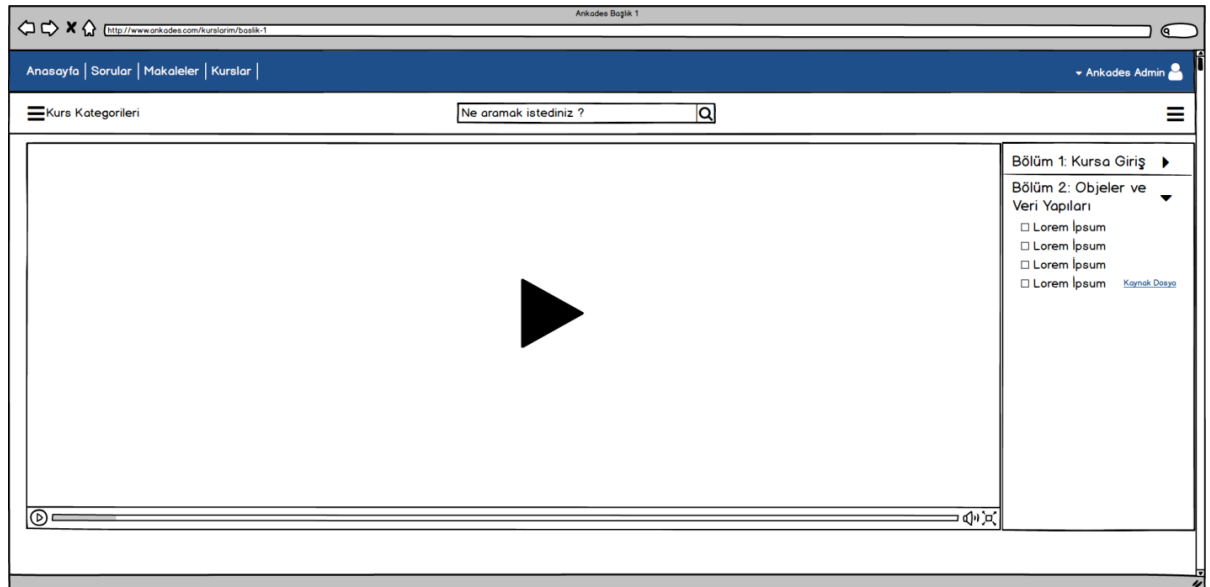


Figure 15 Course Detail Page

In this Figure 15 will contain the contents of the courses purchased and the videos and information of the content section of the courses. The course contents followed by the user will appear ticked. The user will be able to search this page for ease of access.

## Article Categories Page:



Figure 16 Article Categories Page

In this Figure 16, the user will be able to view, like and comment on the article in the system and respond to comments.

## Add Article Page:

http://www.ankades.com/hesap/makale-ekle

Anasayfa | Sorular | Makaleler | Kurslar | Ankades Admin

Ne aramak istediniz ?

### Makale Ekle

Başlık \*

Slug \*

Kategori \*

Etiketler

Açıklama

Resim / Video Ekle

Ekle

- Makalelerim
- Sorularım
- Kurslarım
- Profil Güncelle
- Şifre Güncelle
- İletişim Bilgilerim
- Çıkış Yap

Figure 17 Add Article Page

In this Figure 17 will be open to authorized users in the system. Article information and category will be determined and added to the system.

## Article Editing Page:

http://www.ankades.com/hesap/makale-guncelle

Anasayfa | Sorular | Makaleler | Kurslar | Ankades Admin

Ne aramak istediniz ?

### Makale Düzenle

Başlık \*

Slug \*

Kategori \*

Etiketler

Açıklama

Resim / Video Ekle

Güncelle

- Makalelerim
- Sorularım
- Kurslarım
- Profil Güncelle
- Şifre Güncelle
- İletişim Bilgilerim
- Çıkış Yap

Figure 18 Article Editing Page

In this Figure 18 will be open to authorized users in the system. The user will be able to edit his article on this page.

## Article Category Page:

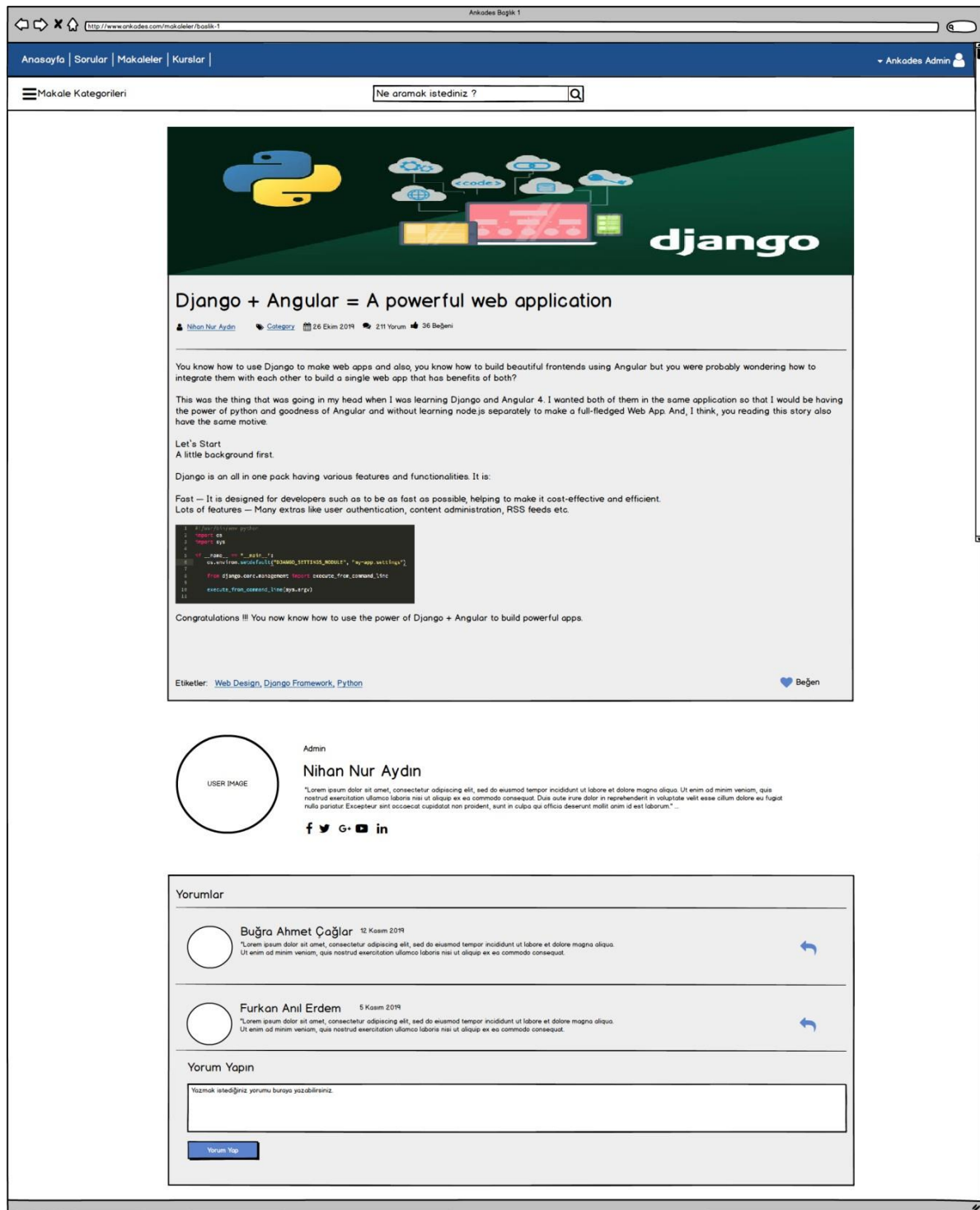


Figure 19 Article Category Page

In this Figure 19 the user will be able to view the articles and see the necessary information about the article.

## Article Management Page:

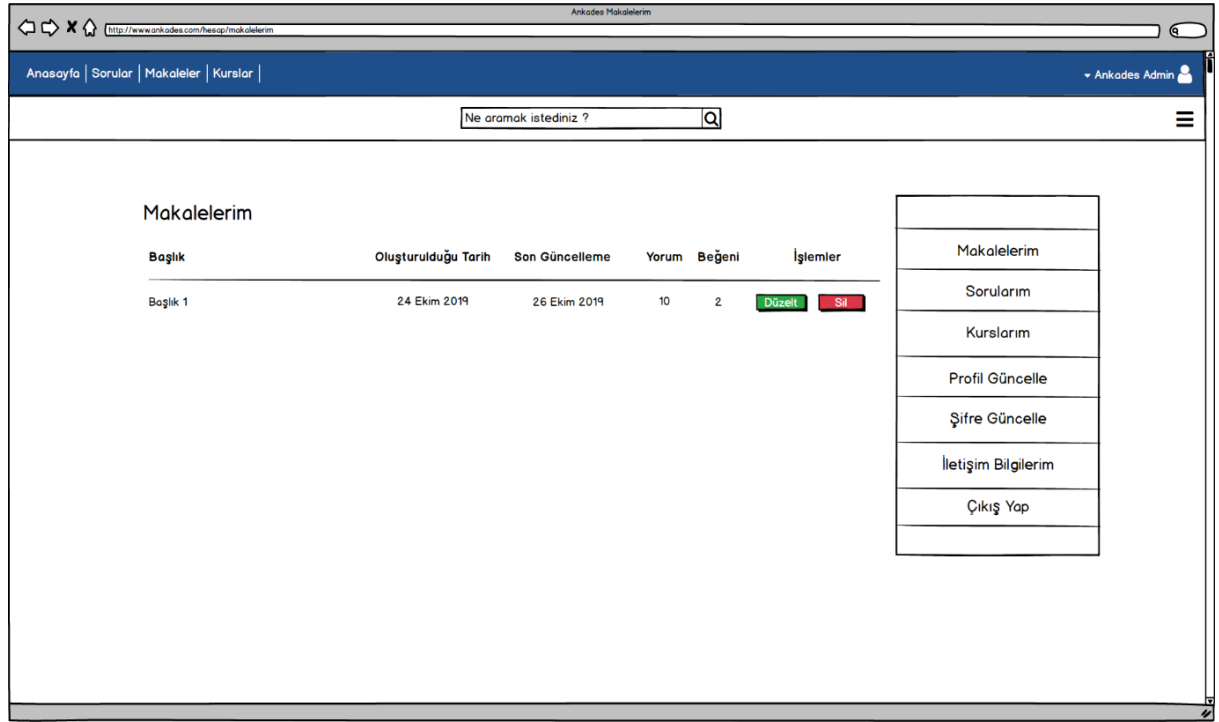


Figure 20 Article Managment Page

How much article has been viewed, number of comments, number of likes and edit and delete from in Figure 20.

## Purchased Courses Page:

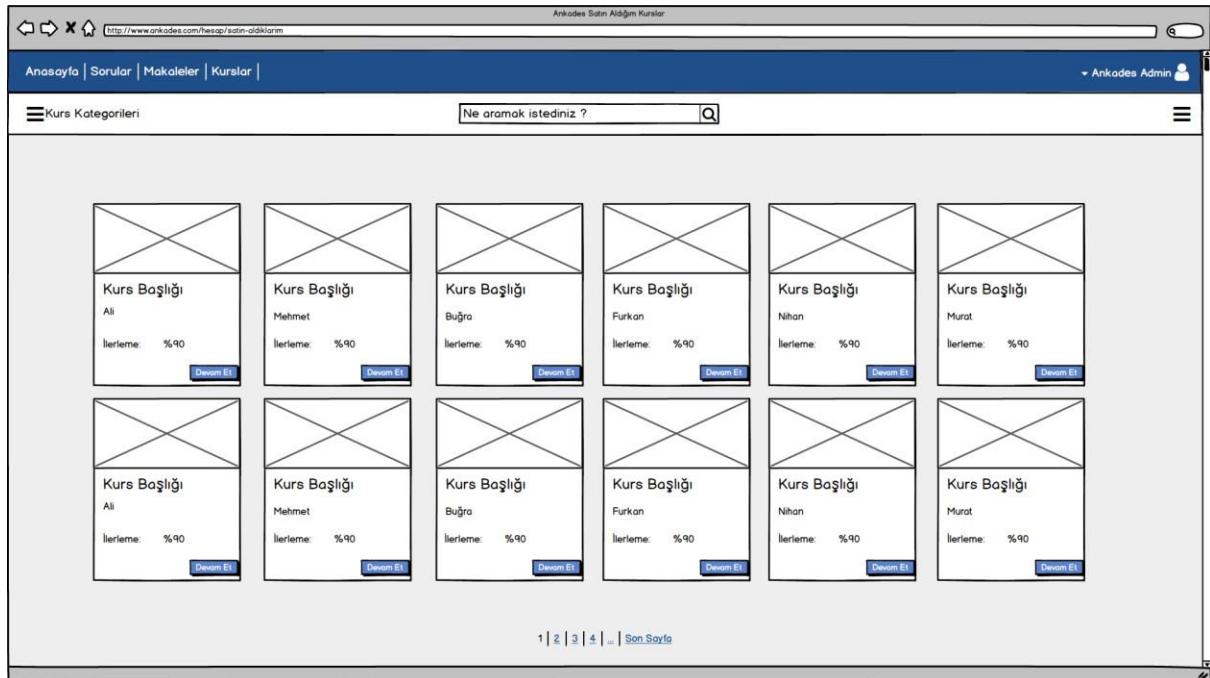


Figure 21 Purchased Courses Page

The user will be able to see all his / her courses from in Figure 21.

## Order Detail Page:

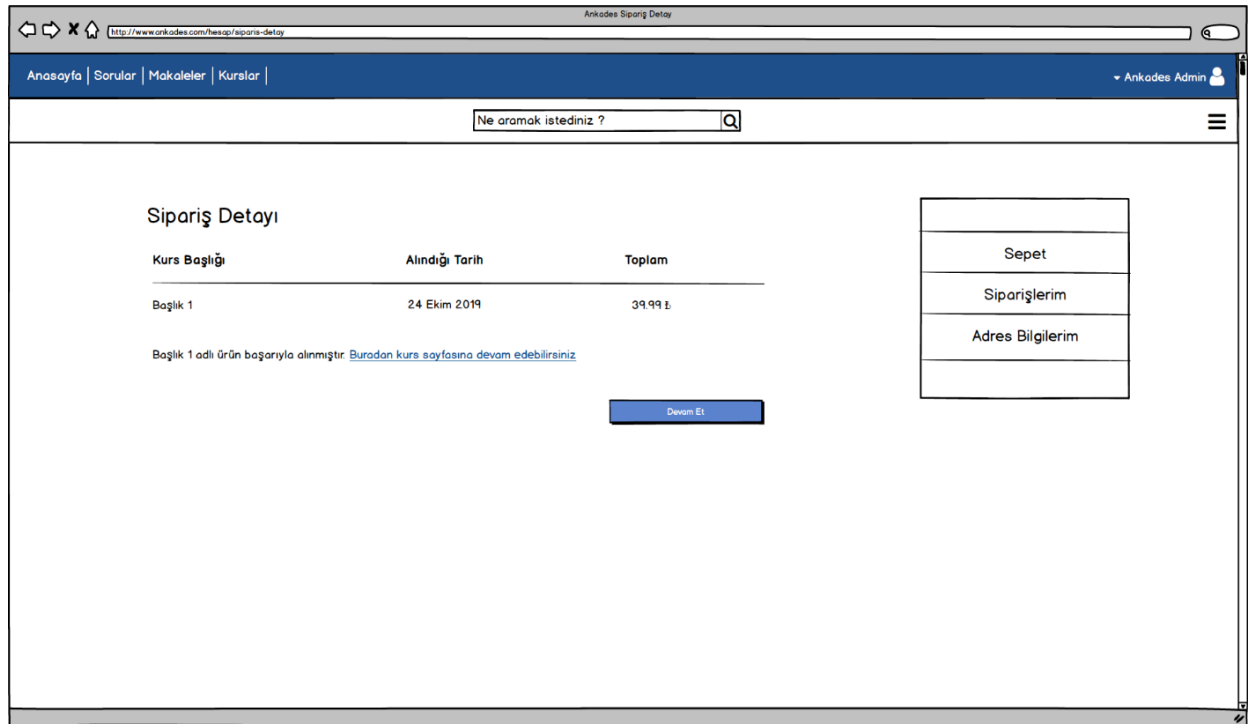


Figure 22 Order Detail Page

From In this Figure 22, the user will be able to see which courses he bought on which date.

## Question Categories Page:

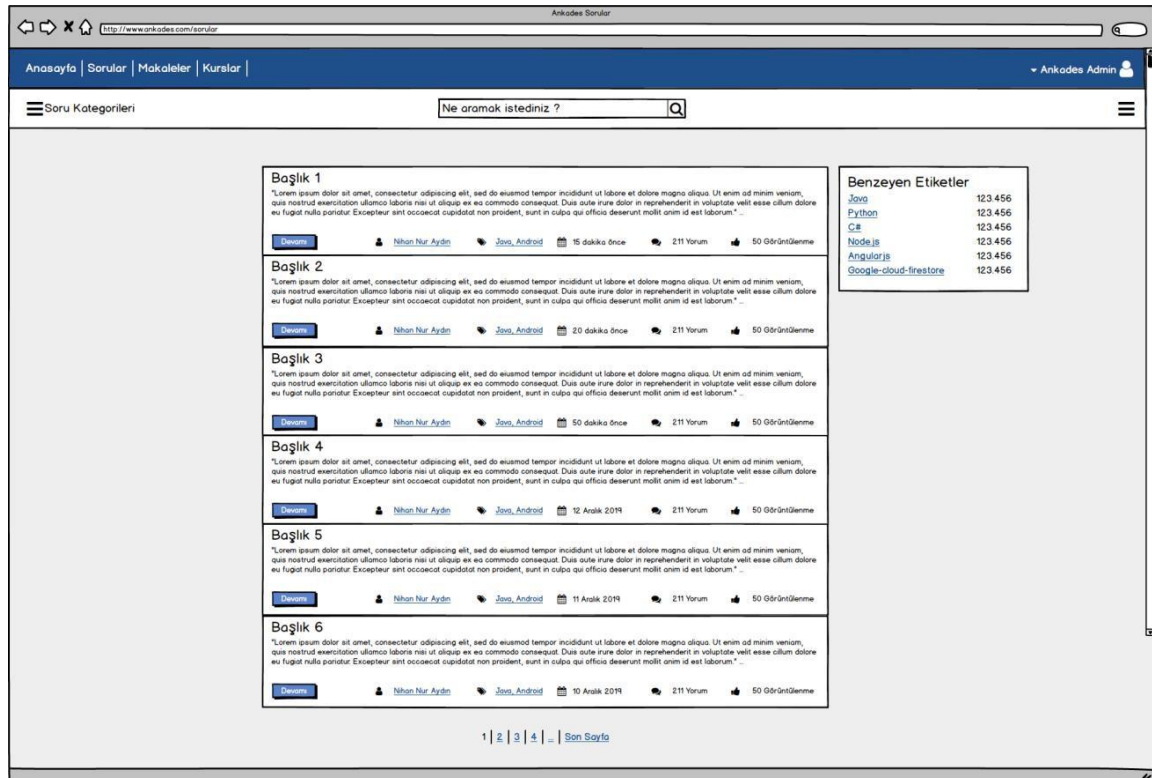


Figure 23 Question Categories Page

The user will see and answer the questions in the relevant category in Figure 23. Questions and answers asked on this page will be approved and published by admin.

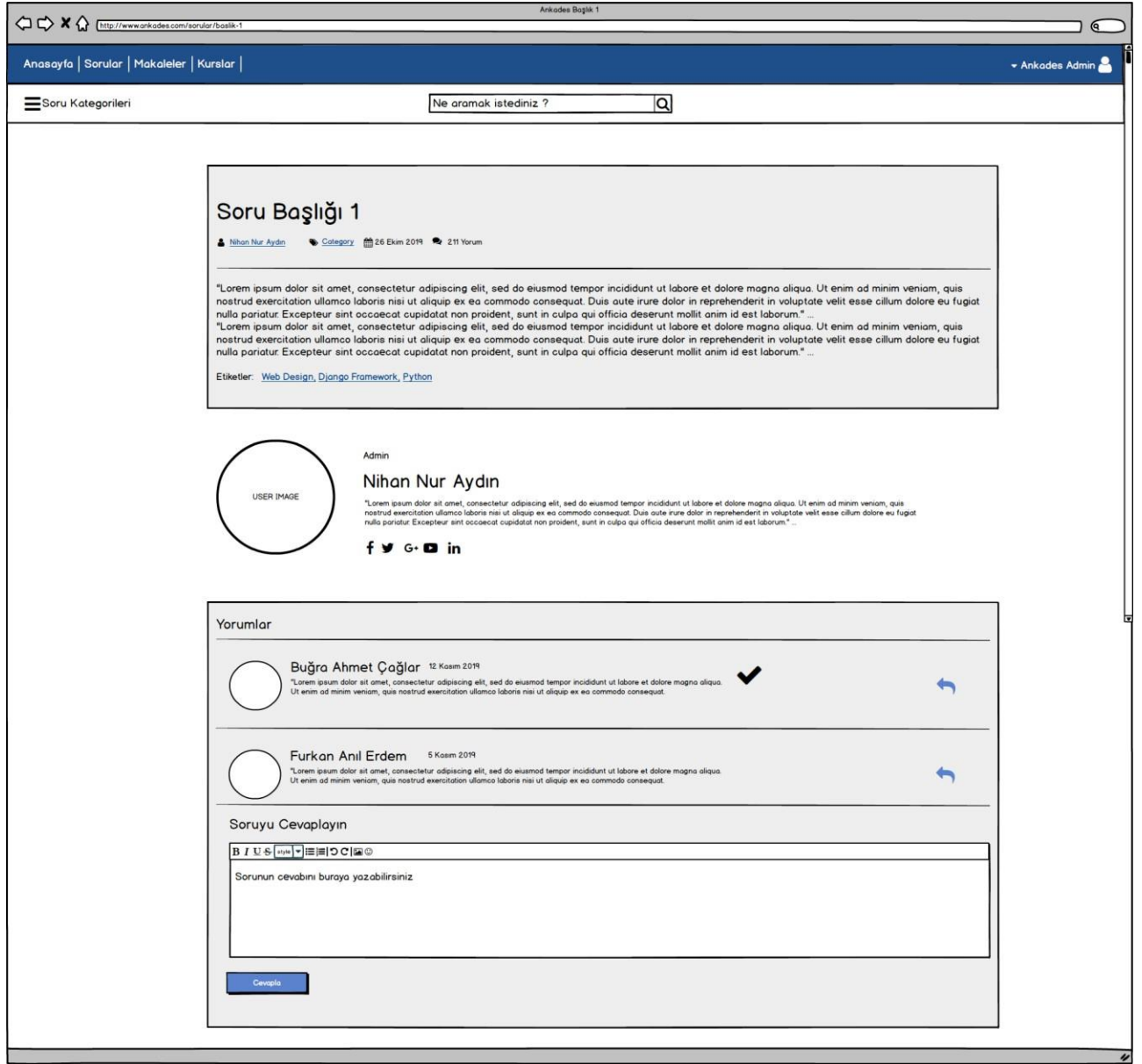


Figure 24 Question Page

In this Figure 24, the user will be able to see all the questions under which the topic is opened and detailed information.

(opening date, number of likes, question creator, number of likes, number of comments) The user will be able to view tags similar to this topic.

## Database Design



Figure 25 Database Design



## User Log-in Sequence Diagram

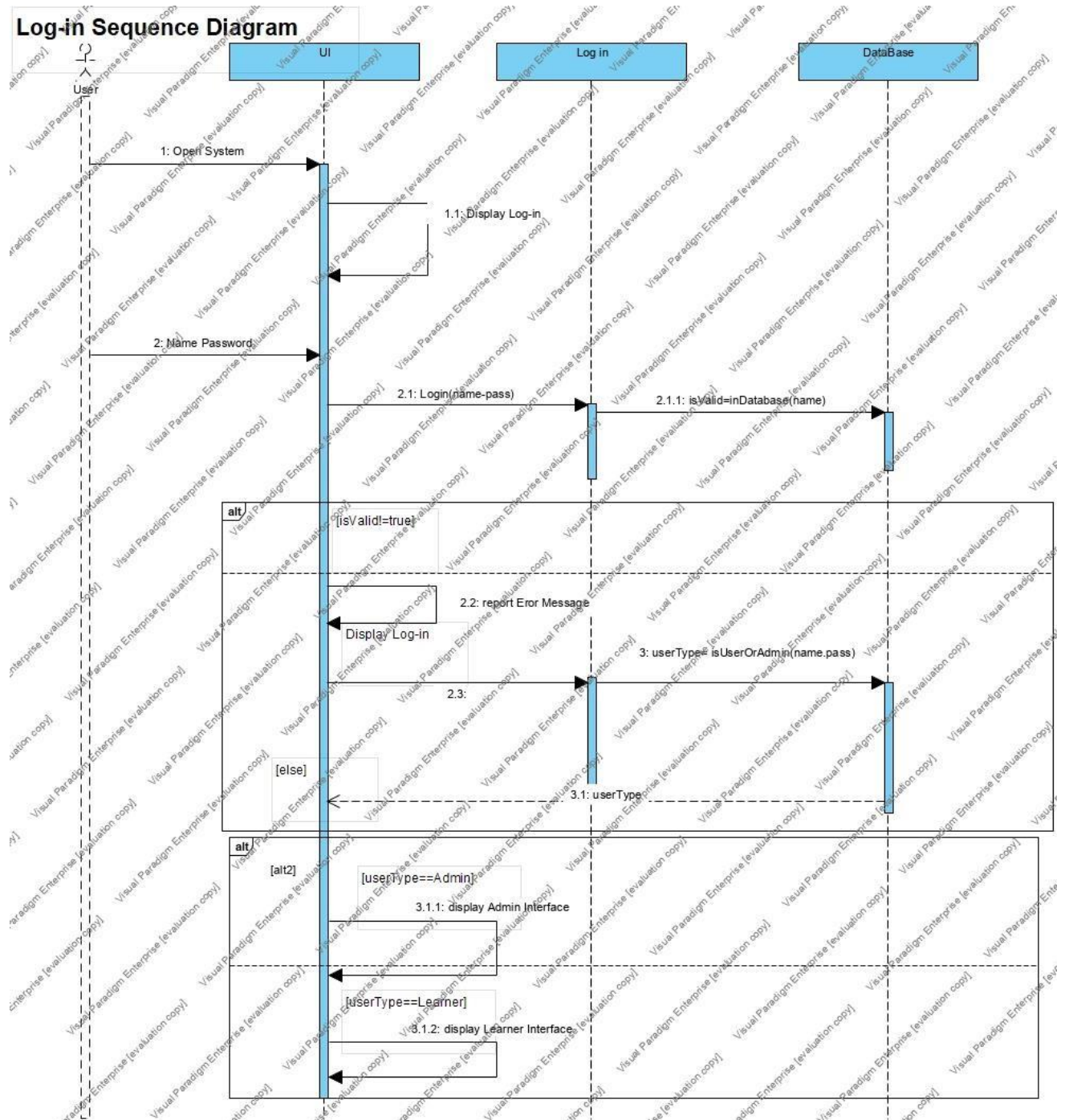


Figure 26 Sequence Log-in Diagram

In Figure 26 above, in the User Sequence diagram, there are the steps of the users in the log-in phase. It shows the relationship between log-in and database that occurs when logging in.

If the user is not registered to the system or has entered the wrong password in the system, this includes the steps forwarding back to the user.

## **Architecture Design of ANKADES Education System Web Application**

### **Register User Role Page**

**Name:** Register a User Role Page

**Description:** There is one button and some text boxes. Admin enters the fields like name, surname, username and password. After finishing this, admin clicks the register button.

**Actor:** Admin

**Precondition:** None

**Operations:** Admin enter the fields then click the register button.

**Arguments:** Fields of registered staff.

**Returns:** None

**Pre-condition:** Click the 'Register a Staff' page button.

**Post-condition:** New staff registered successfully.

**Exceptions:** If staff has already existing or the fields are empty, web page gives an error message.

#### **Basic Sequence:**

1. Admin enters the fields.
2. Admin clicks the register button.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** Low

### **Login Page**

**Name:** Login Page

**Description:** When admin enter their usernames and passwords or a registered member click the login button, system directs the form pages according to the type of user. This page is Login Page.

**Actor:** Admin, Member

**Precondition:** Admin and member must open the web site.

**Operations:** If valid username and password has typed, member and admin can login..

**Arguments:** Username and password.

**Returns:** If login fails gives an error message.

**Pre-condition:** Click the 'Login' button.

**Post-condition:** Login is successfully.

**Exceptions:** If username or password is wrong, admin and member cannot login and web page gives an error message.

**Basic Sequence:**

1. Member must register to system by admin if s/he doesn't have an account.
2. Member shall login to the system by entering his/her username and password.
3. System directs the form pages according to the type of user.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** High

## Admin Page

**Name:** Admin Page

**Description:** There are some buttons named as register a admin, list of all courses, show courses, add an course, update a course, list of all questions, show questions , update questions , add questions, add article , edit article , show all article ,update article, update user information, logout. By clicking these buttons, system directs the admin to form pages.

**Actor:** Admin

**Precondition:** Admin must be login.

**Operations:** Admin can reach other form pages with clicking buttons.

**Arguments:** None

**Returns:** None

**Pre-condition:** Click the button.

**Post-condition:** None

**Exceptions:** If clicked form page does not exist, admin cannot reach that form pages, and web page gives an error message.

**Basic Sequence:**

1. Admin clicks the button.
2. System directs the form pages according to the clicked button.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** High

## Create a Component (Course,Quiz,Article,Question,Comment)

**Name:** Create a Component Page

**Description:** There is a button, three dropdown lists and file uploader. Admin or member choose the block, component and upload new plan. After finishing this, admin or member click the create button.

**Actor:** Admin, Member

**Precondition:** If the plan of the component changed.

**Operations:** Admin or member can update a component plan.

**Arguments:** None

**Returns:** None

**Pre-condition:** Click the 'Create a Couse' page.

**Post-condition:** Course created successfully.

**Exceptions:** If database connection failed, web page gives an error message.

### Basic Sequence:

1. Admin or member click the 'Create a Couse' button in the form page.
2. Admin or member choose a block, compoent and create the new plan.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** Middle

## Update Component Page(Course,Quiz,Article,Question,Comment)

**Name:** Update Component Page

**Description:** There is a button, three dropdown lists and file uploader. Admin or member choose the block, component upload new plan. After finishing this, admin clicks the update button.

**Actor:** Admin, Member

**Precondition:** If the plan of the component changed.

**Operations:** Admin can update a component plan.

**Arguments:** Component

**Returns:** Component

**Pre-condition:** Click the 'Update a Component' page.

**Post-condition:** Component updated successfully.

**Exceptions:** If database connection failed, web page gives an error message.

**Basic Sequence:**

3. Admin or member click the 'Update a Component' button in the form page.
4. Admin or member choose a block, component and upload the new plan.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** Middle

## Delete Component Page(Course,Quiz,Article,Question,Comment)

**Name:** Delete Component Page

**Description:** Admin or member select component. After finishing selection, admin or member click the delete button.

**Actor:** Admin, Member

**Precondition:** Item must be selected.

**Operations:** Admin or member can delete a component.

**Arguments:** Component

**Returns:** None

**Pre-condition:** Click the 'Delete a Component' page.

**Post-condition:** Component deleted successfully.

**Exceptions:** If database connection failed, web page gives an error message.

**Basic Sequence:**

1. Admin or member click the 'Delete a Component' button in the form page.
2. Admin or member choose component , delete component.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** Middle

## Update User Information

**Name:** Update User Information Page

**Description:** When member or admin want to change their information like username, passwords and room then, clicks the update button.

**Actor:** Admin, Member.

**Precondition:** Admin or member shall be login.

**Operations:** User changed his/her information then click the update button.

**Arguments:** Fields for change.

**Returns:** None

**Pre-condition:** None

**Post-condition:** Updated successful.

**Exceptions:** If database connection failed or the fields are empty, web page gives an error message.

### Basic Sequence:

1. User enter the fields.
2. User clicks the update button.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** Low

## Test Plan, Test Design Specifications and Test Cases

### 1.1 Version Control

Version No	Description of Changes	Date
1.0	First Version	3 March 2020
2.0	Second Version	27 April 2020

### 1.2 Overview

The use case of the ANKADES Educational Social Sharing Platform, users name as staff and admin which had been determined in SDD & SRS document will be tested.

### 1.3 Scope

This document encapsulates the test plan of the use cases, test design specifications and the test cases correspond to test plan.

### 1.4 Terminology

Acronym	Definition
UI	User Interface
AM	Admin Mode
MM	Moderator Mode
TM	Teacher Mode
UM	User Mode

## 2. FEATURES TO BE TESTED

This section lists and gives a brief description of all the major features to be tested. For each major feature there will be a Test Design Specification added at the end of this document.

### 2.1 User Interface (UI)

In project, user interface components are used. The UI part is divided into admin page and edit page. Every part of the UI also includes smaller parts. UI part includes testing of the functions of UI components which are used in the project such as buttons, panel, text, images, etc.

### 2.2 Admin Mode (AM)

This part includes test cases and test plan of Admin Mode. Admin Mode includes buttons such as register a staff, asset operations like, add, remove and update contents, list of all users. Testing of the stated requirements will occur in this document.

## **2.3 Moderator Mode & Teacher Mode (MM & TM )**

This part includes test cases and test plan of Staff Mode. Staff Mode includes buttons such as list of all article page. Also, editing user details, article , question and Testing of the stated requirements will occur in this document.

## **3. ITEM PASS/FAIL CRITERIA**

### **3.1 Exit Criteria**

- 100% of the test cases are executed
- 99.9% of the test cases passed
- All High and Medium Priority test cases passed



## 4. TEST DESIGN SPECIFICATIONS

### 4.1 User Interface (UI)

#### 4.1.1 Sub-features to be tested

##### 4.1.1.1 Login Button

Admin or staff can enter to system with selecting “Login” button. After login button selected, displayed admin page or index page.

##### 4.1.1.2 Sign-Up Button

The User selecting Sign-Up Button shows the registering page and filling personal details before the clicking sign up button.

##### 4.1.1.3 Register Staff Button

After pressing this button, the admin will be redirect to the register staff page.

##### 4.1.1.4 Add Staff Button

After the necessary fields are fill in the staff registration page, this button is pressed and the registration process is completed.

##### 4.1.1.5 Add Question Button

After pressing this button, All Users redirected to the add question page.

##### 4.1.1.6 Add Article Button

After pressing this button, Admin or Teacher creating article.

##### 4.1.1.7 Add Course Button

After pressing this button, Admin redirected creating Course page.

#### **4.1.1.8 Add School Button**

After pressing this button, Admin redirected add school page.

#### **4.1.1.9 Add Exam Button**

After pressing this button, Admin redirected add exam page.

#### **4.1.1.10 Add Department Button**

After pressing this button, Admin redirected add department page.

#### **4.1.1.11 Add User Permission Button**

After pressing this button, Admin show's user permissions and redirected editing page

#### **4.1.1.12 Add Reports Button**

After pressing this button, Admin all reporting issues all of the topics page

#### **4.1.1.13 Update Privacy Button**

After pressing this button, Admin redirected editing privacy settings page

#### **4.1.1.14 Show Reports Button**

After pressing this button, Admin redirected show's user reports and editing user roles page

#### **4.1.1.15 Show Logs Button**

After pressing this button, Admin show's user logs in the system

#### **4.1.1.16 Show Active User Button**

After pressing this button, Admin show's user who is online in the system.

#### **4.1.1.17 Show All Users Button**

After pressing this button, Admin show's all users in the system.

#### **4.1.1.18 Show All Shared Topics Button**

After this button is pressed, options related to show's all shared topics are open.

#### **4.1.1.19 Asset Operations Button - Add Asset Button**

Clicking this button will redirect to the asset add page.

#### **4.1.1.20 Asset Operations Button - Remove Asset Button**

Clicking this button will redirect to the asset remove page.

#### **4.1.1.21 Asset Operations Button - Create Asset Button**

Clicking this button will redirect to the asset create page

#### **4.1.1.22 List All Assets Button**

When the button clicked, all assets and assets pieces are list.

#### **4.1.1.23 Exit Button**

Clicking this button will end the user's session.

## 4.1.2 Test Cases

TC ID	Requirements	Priority	Scenario Description
LGN_BTN.01	3.2.1	H	Select "LOGIN" button. After selecting, user page will be displayed.

TC ID	Requirements	Priority	Scenario Description
UI_SIGN_BTN.01	3.2.1	L	Select "Sign Up" button. After selecting, the user will be redirected to the staff adding page.

TC ID	Requirements	Priority	Scenario Description
UI. ADPR_BTN.01	3.2.1	H	Select "Permission" button. After selecting, the user will be added by admin.

TC ID	Requirements	Priority	Scenario Description
UI. PNL_BTN.01	3.2.1	L	Select "Panel " button. After selecting, the admin or moderator will be redirected to the admin panel operations page.

## ANKADES EDUCATIONAL SOCIAL SHARING PLATFORM

TC ID	Requirements	Priority	Scenario Description
UI.AMADDPRM_BTN.01	3.2.2	L	Select “Add Permission” button. After selecting, The admin will be redirected to the user permissions page.

TC ID	Requirements	Priority	Scenario Description
UI. AMRMV_BTN	3.2.2	L	Select “Remove Course” button. After selecting, The user will be redirected to the asset removing page.

TC ID	Requirements	Priority	Scenario Description
UI.AMCRT_BTN	3.2.2	L	Select “Course Create”. After selecting, The admin will be redirected to the course creating page.

TC ID	Requirements	Priority	Scenario Description
UI.LAAP_BTN	3.2.2	L	Select “List All Permissions” button. After selecting, The admin will be redirected to the permission listing page.

TC ID	Requirements	Priority	Scenario Description
UI. EXT_BTTN.01	3.2.3	L	Select “Exit” button. After selecting, The user will be out of the system.

## ANKADES EDUCATIONAL SOCIAL SHARING PLATFORM

TC ID	Requirements	Priority	Scenario Description
ADDSTAFF_BTN. 01	3.2.1	H	After the necessary fields are fill in the staff registration page, this button is pressed and the registration process is completed.
TC ID	Requirements	Priority	Scenario Description
ADDQS_BTN. 01	3.2.1	H	After pressing this button, All Users redirected to the add question page.
TC ID	Requirements	Priority	Scenario Description
ADDARTC_BTN. 01	3.2.1	H	After pressing this button, Admin or Teacher creating article.
TC ID	Requirements	Priority	Scenario Description
ADDCS_BTN. 01	3.2.1	H	After pressing this button, Admin redirected creating Course page.
TC ID	Requirements	Priority	Scenario Description
ADDSCH_BTN. 01	3.2.1	H	After pressing this button, Admin redirected add school page..
TC ID	Requirements	Priority	Scenario Description

# ANKADES EDUCATIONAL SOCIAL SHARING PLATFORM

ADDRPTS_BTN. 01	3.2.1	H	After pressing this button, Admin all reporting issues all of the topics page
--------------------	-------	---	---

TC ID	Requirements	Priority	Scenario Description
ADDPRV_BTN. 01	3.2.1	H	After pressing this button, Admin redirected editing privacy settings page

TC ID	Requirements	Priority	Scenario Description
ADDSHWL_BTN. 01	3.2.1	H	After pressing this button, Admin redirected show's user reports and editing user roles page



## 5. Detailed Test Cases

### Register User Role Page

**Name:** Register a User Role Page

**Description:** There is one button and some text boxes. Admin enters the fields like name, surname, username and password. After finishing this, admin clicks the register button.

**Actor:** Admin

**Precondition:** None

**Operations:** Admin enter the fields then click the register button.

**Arguments:** Fields of registered staff.

**Returns:** None

**Pre-condition:** Click the 'Register a Staff' page button.

**Post-condition:** New staff registered successfully.

**Exceptions:** If staff has already existing or the fields are empty, web page gives an error message.

**Basic Sequence:**

1. Admin enters the fields.

2. Admin clicks the register button.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** Low

### Login Page

**Name:** Login Page

**Description:** When admin enter their usernames and passwords or a registered member click the login button, system directs the form pages according to the type of user. This page is Login Page.

**Actor:** Admin, Member

**Precondition:** Admin and member must open the web site.

**Operations:** If valid username and password has typed, member and admin can login..

**Arguments:** Username and password.

**Returns:** If login fails gives an error message.

**Pre-condition:** Click the 'Login' button.

**Post-condition:** Login is successfully.

**Exceptions:** If username or password is wrong, admin and member cannot login and web page gives an error message.

**Basic Sequence:**

1. Member must register to system by admin if s/he doesn't have an account.
2. Member shall login to the system by entering his/her username and password.
3. System directs the form pages according to the type of user.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** High

## Admin Page

**Name:** Admin Page

**Description:** There are some buttons named as register a admin, list of all courses, show courses, add an course, update a course, list of all questions, show questions , update questions , add questions, add article , edit article , show all article ,update article, update user information, logout. By clicking these buttons, system directs the admin to form pages.

**Actor:** Admin

**Precondition:** Admin must be login.

**Operations:** Admin can reach other form pages with clicking buttons.

**Arguments:** None

**Returns:** None

**Pre-condition:** Click the button.

**Post-condition:** None

**Exceptions:** If clicked form page does not exist, admin cannot reach that form pages, and web page gives an error message.

**Basic Sequence:**

1. Admin clicks the button.
2. System directs the form pages according to the clicked button.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** High

## Create a Component (Course,Quiz,Article,Question,Comment)

**Name:** Create a Component Page

**Description:** There is a button, three dropdown lists and file uploader. Admin or member choose the block, component and upload new plan. After finishing this, admin or member click the create button.

**Actor:** Admin, Member

**Precondition:** If the plan of the component changed.

**Operations:** Admin or member can update a component plan.

**Arguments:** None

**Returns:** None

**Pre-condition:** Click the 'Create a Course' page.

**Post-condition:** Course created successfully.

**Exceptions:** If database connection failed, web page gives an error message.

**Basic Sequence:**

1. Admin or member click the 'Create a Course' button in the form page.
2. Admin or member choose a block, component and create the new plan.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** Middle

#### Update Component Page(Course,Quiz,Article,Question,Comment)

**Name:** Update Component Page

**Description:** There is a button, three dropdown lists and file uploader. Admin or member choose the block, component upload new plan. After finishing this, admin clicks the update button.

**Actor:** Admin, Member

**Precondition:** If the plan of the component changed.

**Operations:** Admin can update a component plan.

**Arguments:** Component

**Returns:** Component

**Pre-condition:** Click the 'Update a Component' page.

**Post-condition:** Component updated successfully.

**Exceptions:** If database connection failed, web page gives an error message.

**Basic Sequence:**

1. Admin or member click the 'Update a Component' button in the form page.
2. Admin or member choose a block, component and upload the new plan.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** Middle

Delete Component Page(Course,Quiz,Article,Question,Comment)

**Name:** Delete Component Page

**Description:** Admin or member select component. After finishing selection, admin or member click the delete button.

**Actor:** Admin, Member

**Precondition:** Item must be selected.

**Operations:** Admin or member can delete a component.

**Arguments:** Component

**Returns:** None

**Pre-condition:** Click the 'Delete a Component' page.

**Post-condition:** Component deleted successfully.

**Exceptions:** If database connection failed, web page gives an error message.

**Basic Sequence:**

1. Admin or member click the 'Delete a Component' button in the form page.
2. Admin or member choose component , delete component.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** Middle

## Update User Information

**Name:** Update User Information Page

**Description:** When member or admin want to change their information like username, passwords and room then, clicks the update button.

**Actor:** Admin, Member.

**Precondition:** Admin or member shall be login.

**Operations:** User changed his/her information then click the update button.

**Arguments:** Fields for change.

**Returns:** None

**Pre-condition:** None

**Post-condition:** Updated successful.

**Exceptions:** If database connection failed or the fields are empty, web page gives an error message.

**Basic Sequence:**

1. User enter the fields.
2. User clicks the update button.

**Exception:** Internet and database connection can be fail.

**Post Conditions:** None

**Priority:** Low

## Conclusion

This document contains information about our project titled “Ankades Educational Social Sharing Platform”. In this project, we aimed to create an interactive training platform with Course Question Article and Exam archives. In the project, we thought it would be logical to create a platform where user-based access is easy. Our goal, unlike other platforms, is to have an active data platform that Turkish and student can access. In order to develop the project, we have done a lot of research about the field of use and similar projects. We analyzed similar projects and tried to understand which features keep them effective and first. We have learned a lot about how to develop a project that includes a training network. After the research section, we got feedback from many developers. An SRS document and an SDD document are prepared on these requirements. During this period, we developed a basic prototype of the project, and we are still developing and testing on it. After the requirements are determined, the design of the developing product is prepared and we explained this design in an SDD document. As a result of our research, it is our goal to create a user-based system that aims to provide the student with the accuracy of the effective information, aiming to reach the information that he / she is looking for and ask questions actively whenever he needs it, but realizes it under ethical rules. We have no doubt that this system will create a comfortable education network for students in the future. By adding different education languages, you can move in different directions and can be used better in different fields of study (paid education).

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