



# SRM University AP

Department of Computer Science And Engineering.

Software Engineering Project Report on

“Self-Learning Tracker”

CSE-C

Anjana Nallanagula- AP19110010340

Lasya Nagamilla - AP19110010365

Bhavana Tondupalli-AP19110010482

## **Table of contents:**

1. Abstract.
2. Introduction.
3. Literature review.
4. System Requirements.
5. Proposed scheme.
6. Results/Screenshots
7. Conclusion.
8. References.

## **Abstract:**

Students need to improve their self-learning, it develops their knowledge and perception. Studying on your own will have more impact than listening. Practicing is very important when coming to math in high school and coding in engineering. So, considering all these factors, a self-learning tracker is implemented. It has several features where users can do all the related work in one place. Users can refer to materials, watch videos of different courses available, can share their thoughts or views on a particular course, can check their knowledge in a course by taking a quiz and can make a list of to-do, etc. Users can also take some tips to have a motivation for studying or practicing available on the website.

## **Introduction:-**

A self-learning tracker facilitates the users to track their progress with a good spirit to learn better. It is most useful when students are working on a sequential task. This website helps users to explore the courses in different sectors whether it can be programming, core, etc. Users can view the course, study the course, take the test, and view the score of the test. The website includes login verification of users and tracks the user using the database. This website starts with a login page where the user is asked to fill in the email address and password, on the verification user is redirected to the home page. In the case of a new user, it is redirected to the signup page where the user is asked to fill in the details like user name, college, course, email, and password. The home page contains courses, to-do, blogs, and practice columns. Courses have course descriptions, subtopics including materials and video links, quiz. The website is developed using python, flask framework, Html, CSS, JavaScript, Bootstrap as a front end, MySQL database, and PHP to connect the front end and database. Blog, an online journal, or informational content displaying information to express themselves. It allows users to add their thoughts and can see the posts shared by other users.

## **Literature review:-**

There are many websites which provide us with many resources for self-learning. We can improve our skills in many areas and use to educate ourselves. Some of famous websites which has high no of users and best resources : -

1. Khan academy - It is one of the most popular websites among students. It's goal is to provide online tools to educate students in various fields from basic to advanced.
2. Coursera - It offers wide range of programs including how to learn playing guitar, art classes and programming. You can have a professor who will monitor your progress.
3. W3 schools - It is another familiar website where you can easily learn and get well-organized content with many tutorials to learn from.
4. Udemy - It is similar to coursera but allow users to build custom courses from lessons. It also includes working with top professionals.

## **System Requirements:**

There are various hardware components with which the machine is required to interact. Various hardware interface requirements that need to be fulfilled for the successful functioning of the software is as follows:

Processor- Intel Pentium 4 or later

Memory- 2Gb minimum, 4Gb recommended

In order to perform various different functions, this software needs to interact with various other software. So there are certain software interface requirements that need to be fulfilled which are listed as follows:

The database used to keep a record of user accounts shall be the Mysql.

Web Browser- Most web applications and software depend on web technologies to make use of the default browsers. (Chrome)

Screen resolution- 1280\*1024 or larger

Application Window size- 1024\*680 or larger

Internet Connection- Required to access the website

## **Propose Scheme:**

The self-learning tracker is designed to provide learners with a product that they can use to access multiple courses, practice links, and give quizzes. The users can also track their tasks using the to-do functionality of the system. Using the blog functionality users can share their ideas with other users about various technologies.

The login page is displayed when the user accesses the system using the URL. If the user is accessing the website for the first time, he or she can register on the system's database to access the functionalities of the website. The user's account page is displayed after the login, from this account page they can click on the edit option to edit their details or access the home page.

The home page contains links to multiple pages like courses, blog, tips, and practice. It also provides access to the to-do, feedback, account, and contact-us pages. The course page can direct the user to the pages of different technologies like Python, SQL, C++, and Data Structures and Algorithms. These subject-specific courses contain links to all the materials and videos of the respective technology. They also contain a link to provide the quiz access to the user where they can test their knowledge of the course.

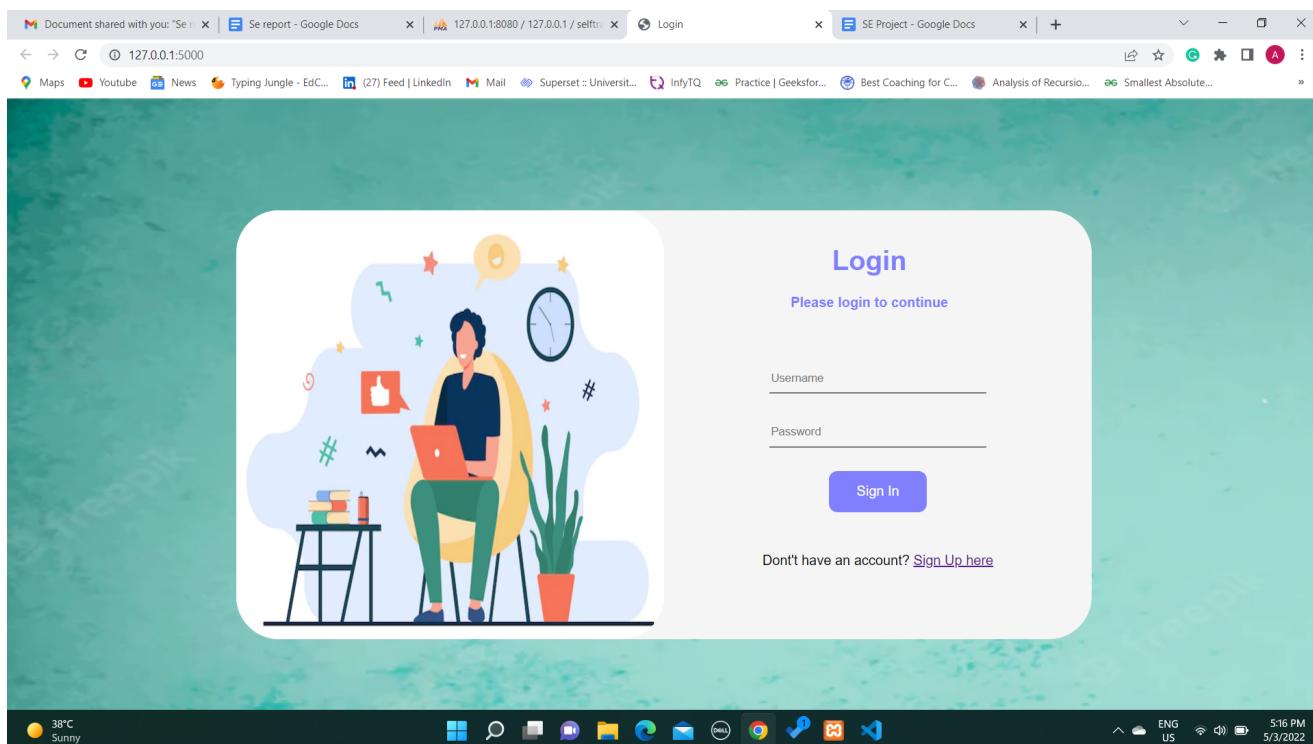
The practice page contains links to external websites where the user can practice to improve their knowledge of the respective technology. Using the to-do functionality the user can store all their tasks and check them when completed. These tasks are stored in the database which can be retrieved when the user wants to view his or her tasks. The feedback enables the user to provide their view on the website, the users can share their suggestions, compliments, and things they want to be changed using this functionality. The contact-us page provides links to various social media websites the user uses to contact the website owners.

The blog page of the website is used to display all the blog content posted by users which is available on the system's database. The user can add a post with the add post option available below the blog posts, they can share the topic and description of the blog. The user can view all of his or her posts using the view personal posts option. This functionality enables users to communicate with each other and share their views on multiple technologies and topics.

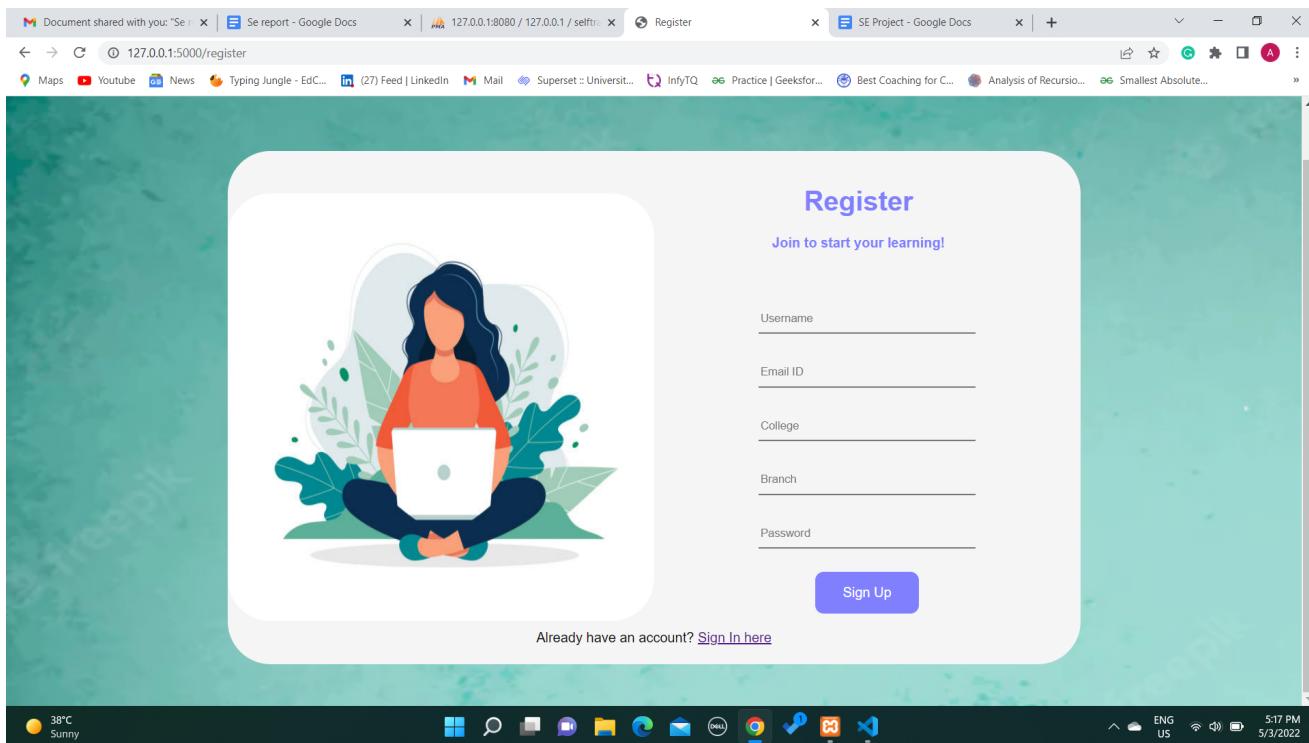
This website is designed to provide all the resources required for learning in a single place that the user can utilize to learn technology efficiently. More functionalities like enabling commenting and likes on the blog posts, enabling users to add a course can be incorporated into the website to make it more efficient.

## Results / Screenshots:

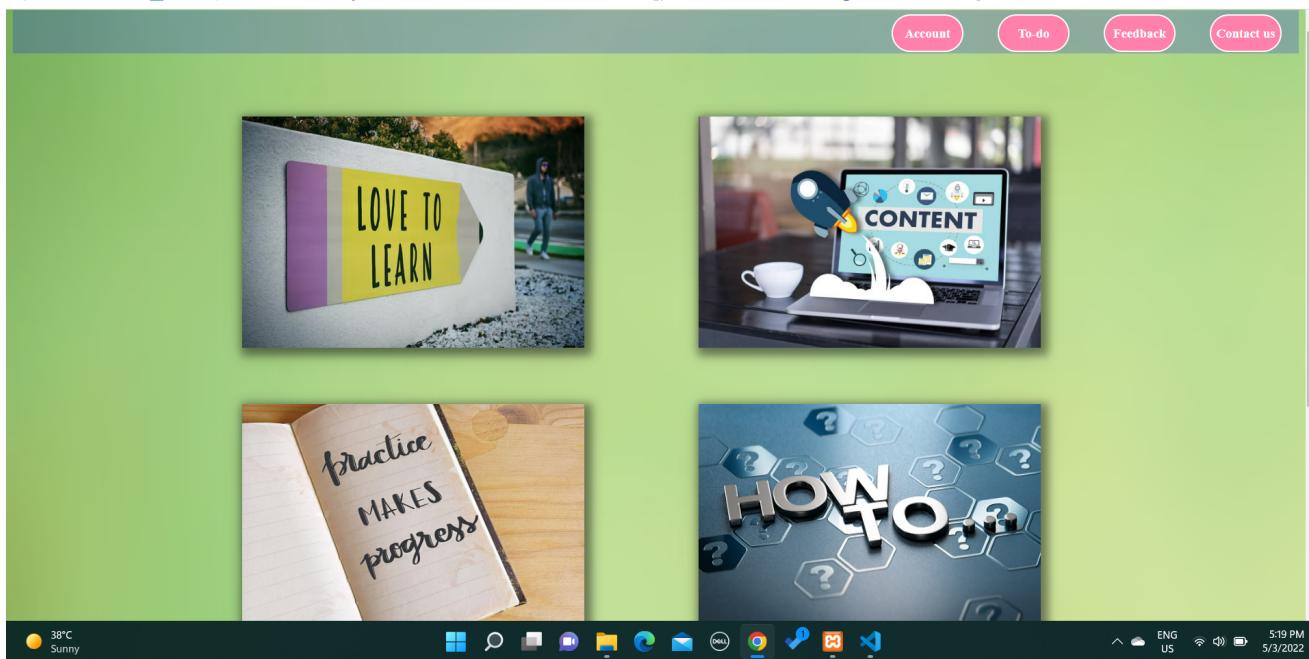
### Login Page:



## Sign Up Page:



## Home Page:



## Blog Page:

View your posts [CHANDLER'S POSTS](#)

ID	User	Description	Topic	Date
b2	smapap19110010340	sajldn	c++	2022-04-21
b3	skk	cajkjn	c	2022-04-21
b4	fwdcms	dsc	java	2022-04-21
b6	wwsd	wdca	html	2022-04-21
b7	saadc	ac	css	2022-04-21
b8	cdaad	dsfsc	javascript	2022-04-22
b9	sheldon	dcskjnfkjenvn	sql	2022-04-23

Have something to share? [ADD POST](#)

38°C Sunny ENG US 5:21 PM 5/3/2022

## Courses:



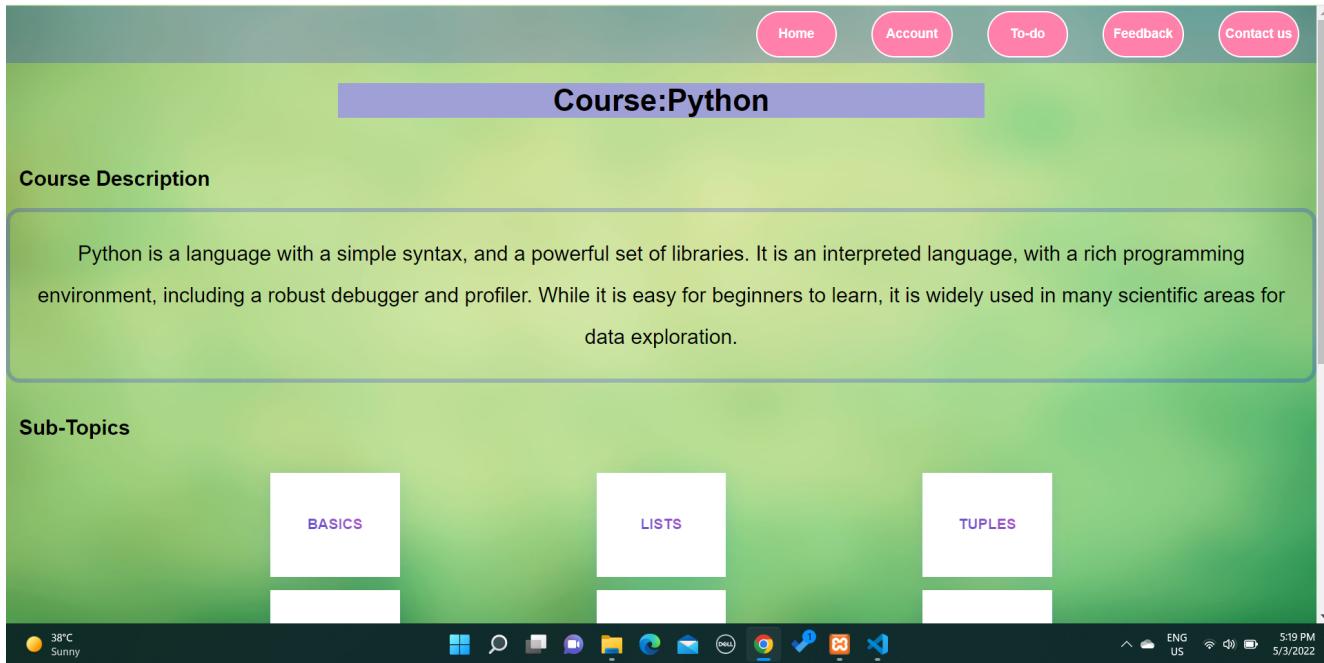






38°C Sunny ENG US 5:19 PM 5/3/2022

## Python Course:



The screenshot shows a web browser window with a green header bar containing five rounded rectangular buttons labeled "Home", "Account", "To-do", "Feedback", and "Contact us". Below the header is a purple horizontal bar with the text "Course:Python". The main content area has a light green background. A section titled "Course Description" contains a paragraph about Python's syntax and its use in scientific areas. Below this is a section titled "Sub-Topics" with three white boxes labeled "BASICS", "LISTS", and "TUPLES". At the bottom of the screen is a dark taskbar showing various icons for system functions like weather, search, and file operations, along with the date and time (5/3/2022) and battery status.

Course Description

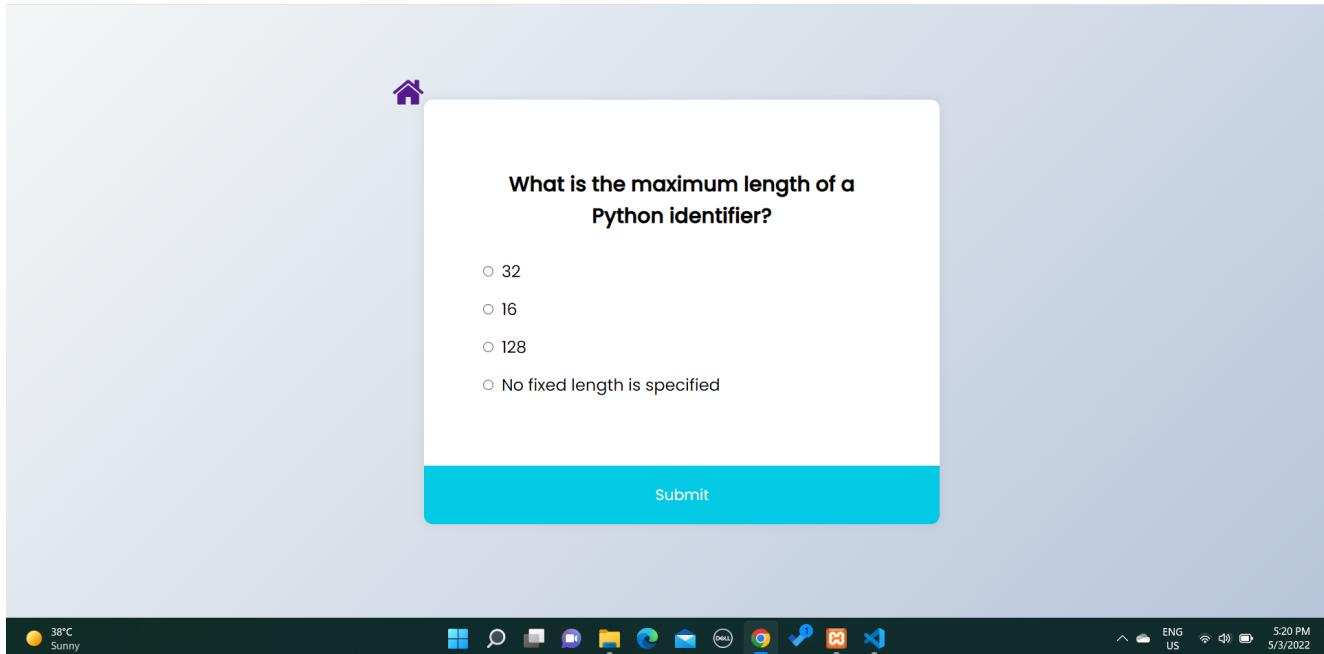
Python is a language with a simple syntax, and a powerful set of libraries. It is an interpreted language, with a rich programming environment, including a robust debugger and profiler. While it is easy for beginners to learn, it is widely used in many scientific areas for data exploration.

Sub-Topics

BASICS    LISTS    TUPLES

38°C Sunny    ENG US    5:19 PM    5/3/2022

## Quiz Page:



The screenshot shows a quiz interface. At the top left is a purple house icon. The main content area is a white box containing a question: "What is the maximum length of a Python identifier?" followed by four options: "32", "16", "128", and "No fixed length is specified". At the bottom of this box is a blue button labeled "Submit". Below the white box is a dark blue footer bar with various system icons and the text "38°C Sunny", "ENG US", "5:20 PM", and "5/3/2022".

What is the maximum length of a Python identifier?

32  
 16  
 128  
 No fixed length is specified

Submit

38°C Sunny    ENG US    5:20 PM    5/3/2022

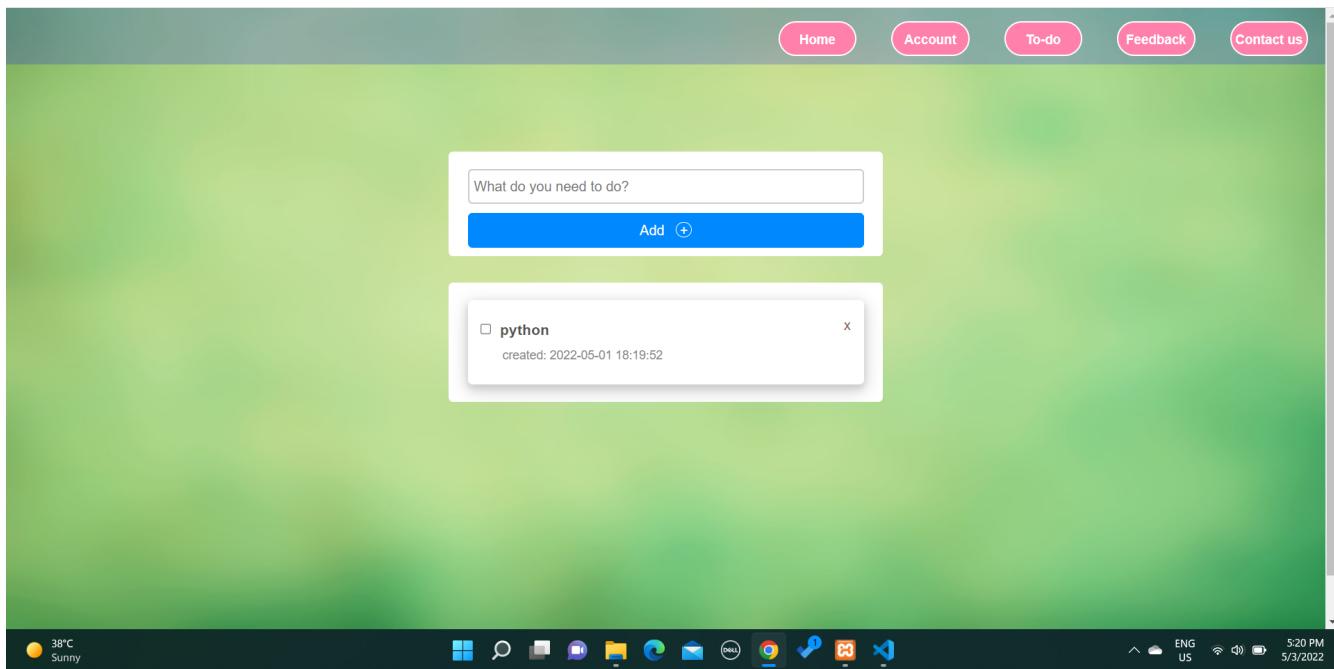
## Tips Page:

The screenshot shows a web page with a green header bar containing five pink rounded rectangular buttons labeled "Home", "Account", "To-do", "Feedback", and "Contact us". Below the header, a large text area contains the heading "Here are some tips to make a plan of study" in bold black font. Underneath this text is a photograph of a wooden ruler standing vertically, with its segments spelling out "FOCUS" (F, O, C, U, S). Below the image is the caption "Focus On The Fundamentals" in bold black font. At the bottom of the page is a dark blue Windows-style taskbar with various icons for weather, system, and productivity.

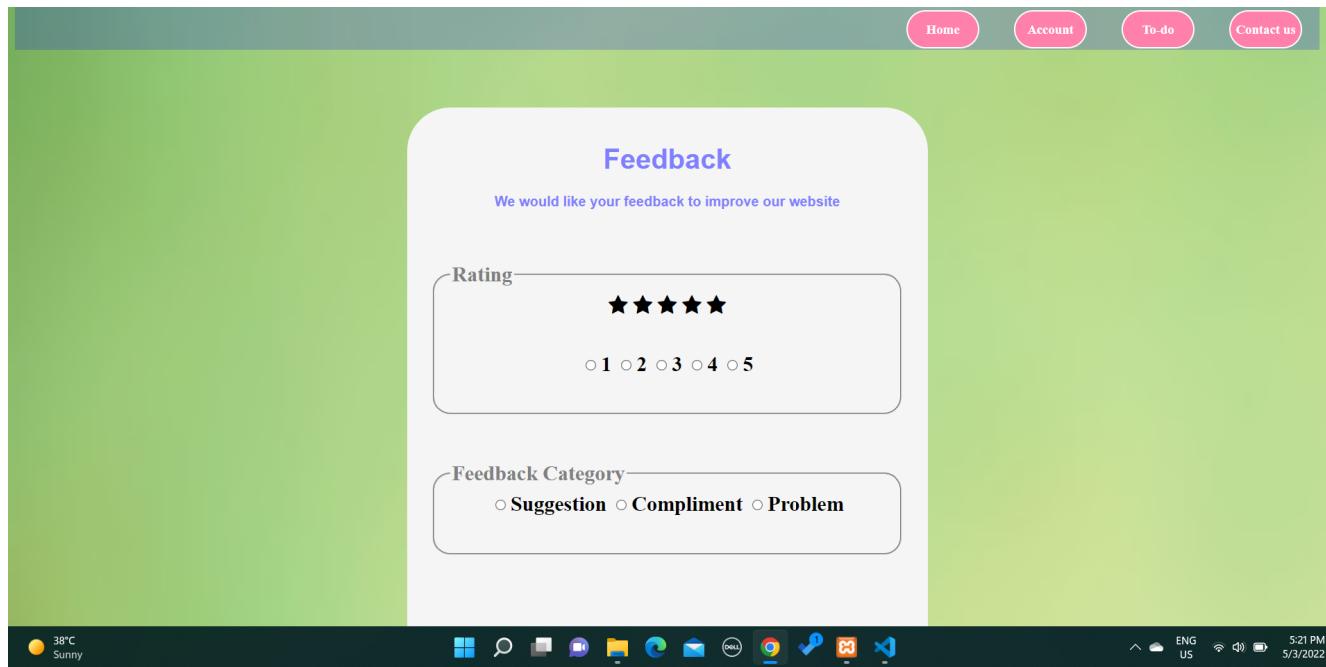
## Account Page:

The screenshot shows a web page with a green header bar containing five pink rounded rectangular buttons labeled "Home", "Account", "To-do", "Feedback", and "Contact us". The main content area features a dark grey rectangular box containing the message "Logged in successfully!" above a user icon. Below the icon, the text "Username : chandler", "Email : chandler123@gmail.com", "College : srm ap", and "Branch : cse" is displayed. At the bottom of the box are two red rectangular buttons labeled "EDIT" and "LOGOUT". At the very bottom of the page is a dark blue Windows-style taskbar with various icons for weather, system, and productivity.

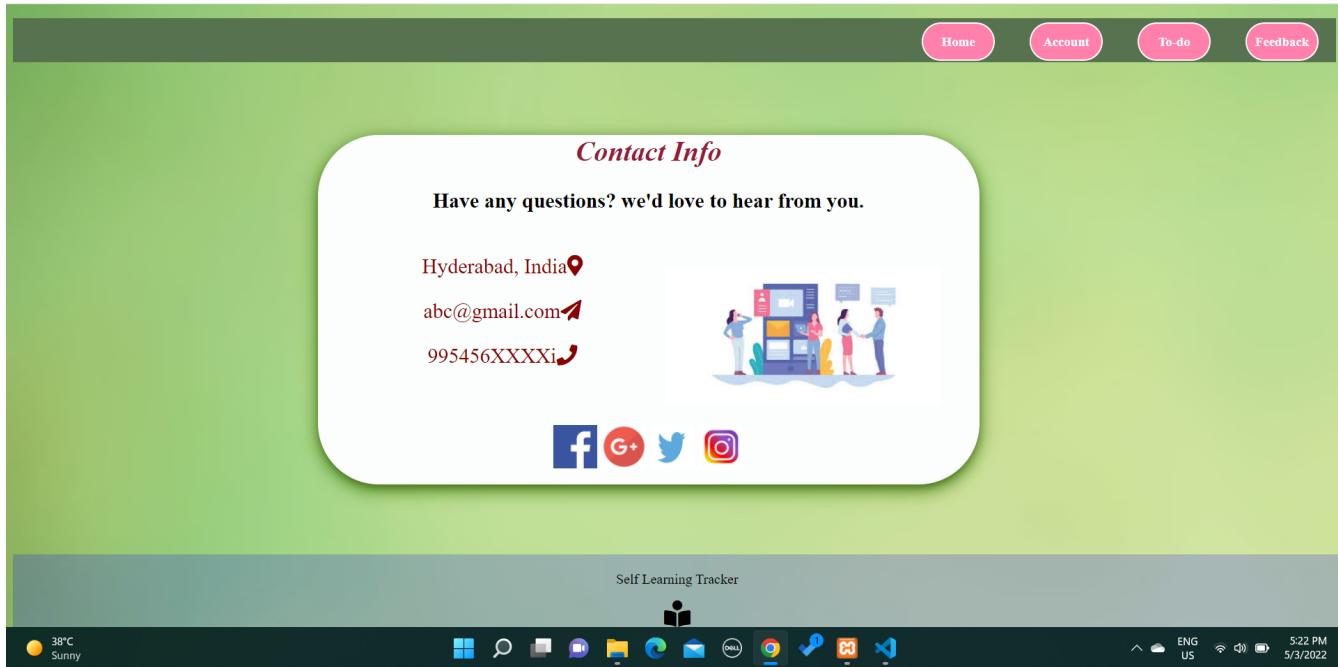
## To-Do Page:



## Feedback Page:



## Contact Us Page:



**Contact Info**

Have any questions? we'd love to hear from you.

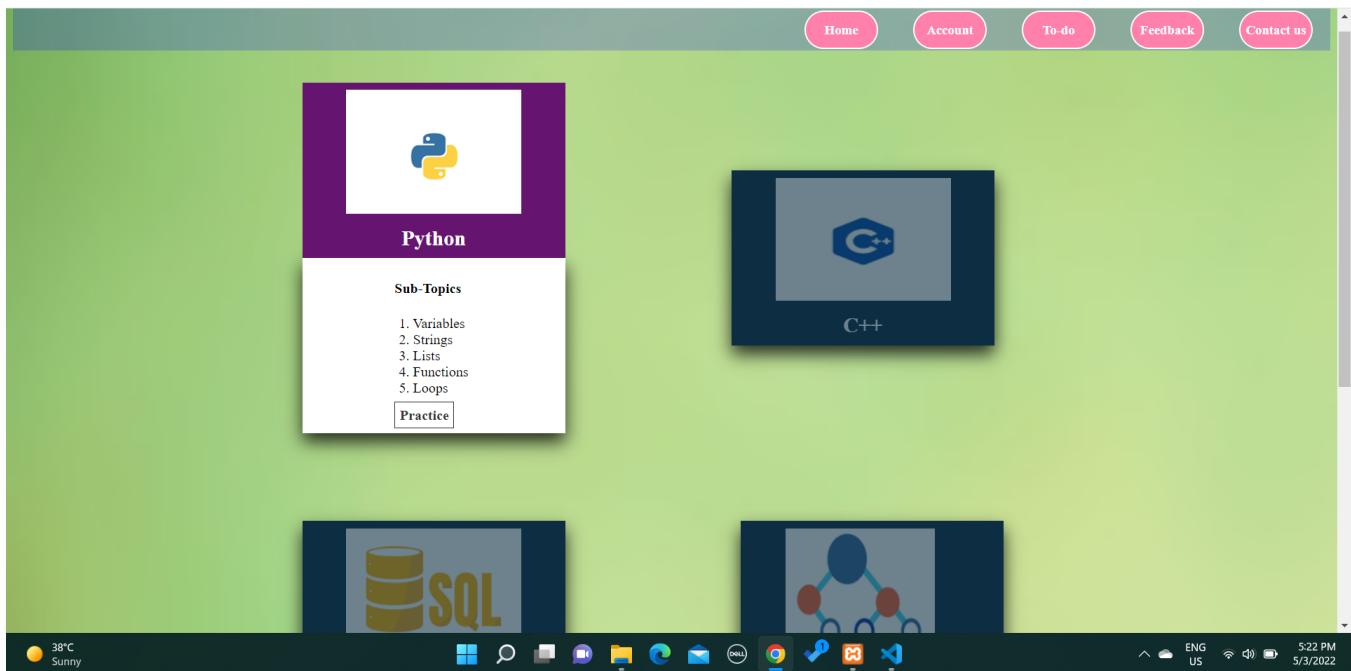
Hyderabad, India📍  
abc@gmail.com✉️  
995456XXXX📱

fb G+ Twitter Instagram

Self Learning Tracker

38°C Sunny ENG US 5/3/2022 5:22 PM

## Practice Page:



Python

Sub-Topics

1. Variables
2. Strings
3. Lists
4. Functions
5. Loops

Practice

C++

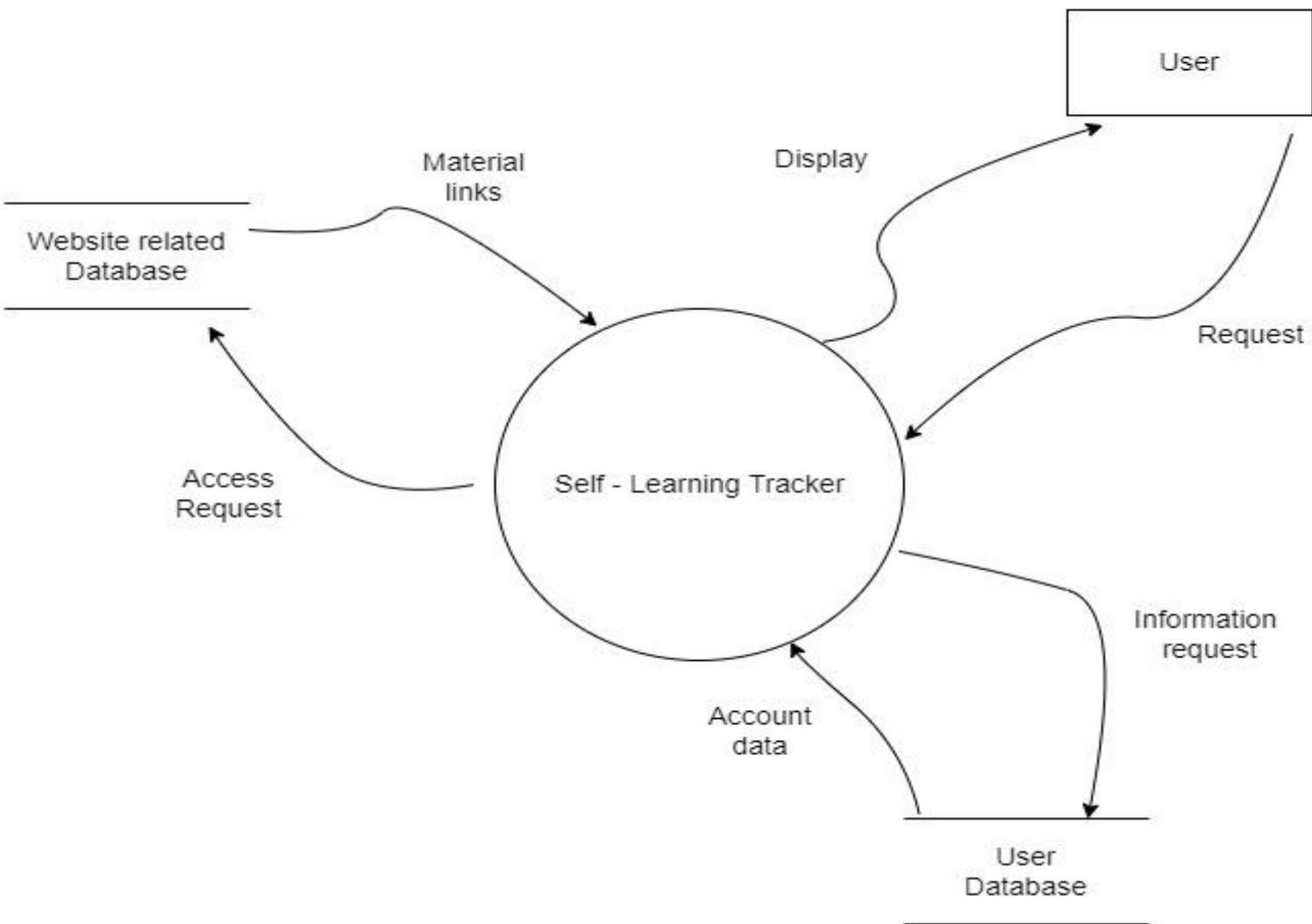
SQL

Data Structures

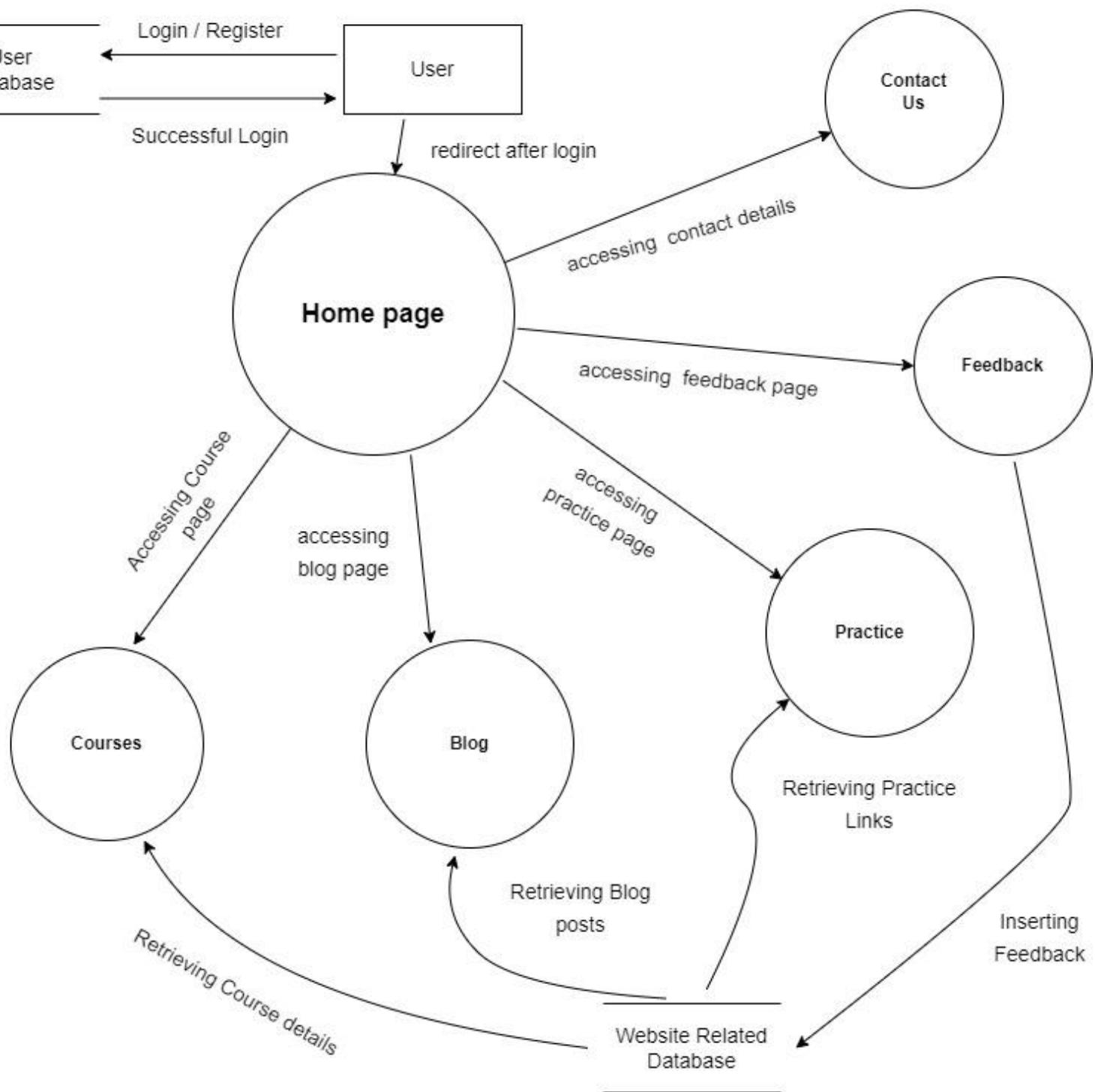
Self Learning Tracker

38°C Sunny ENG US 5/3/2022 5:22 PM

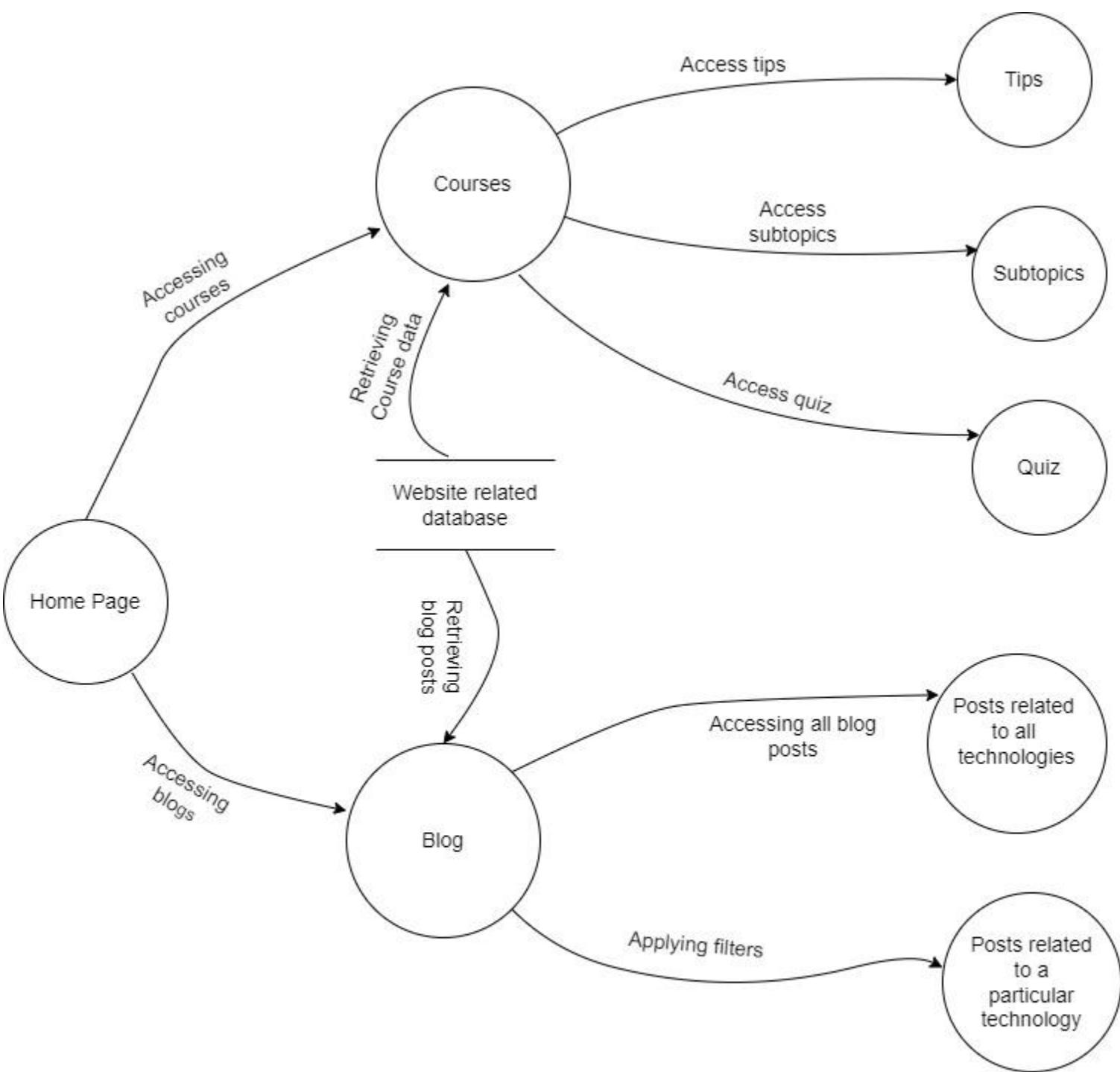
## Diagrams:



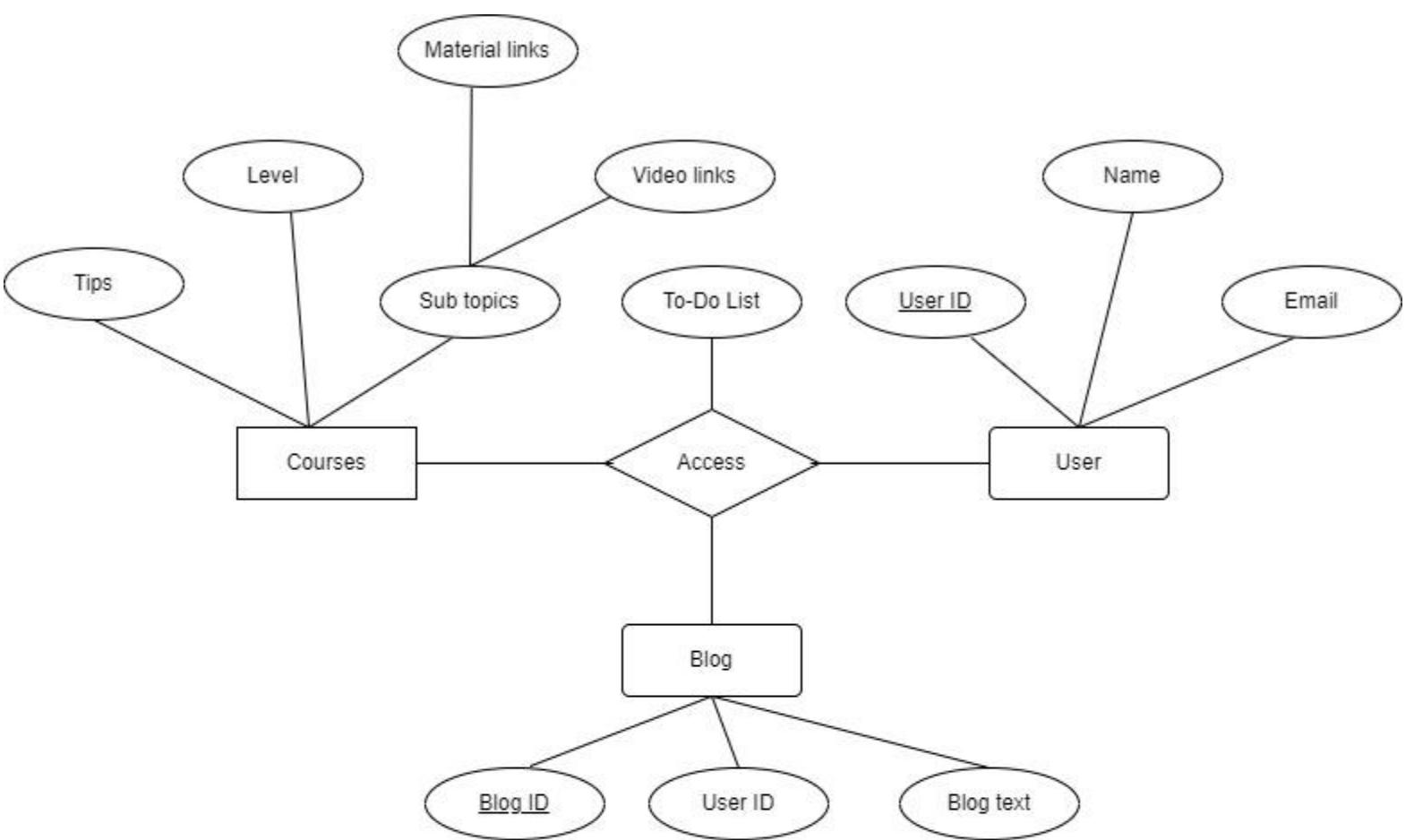
## Context Diagram



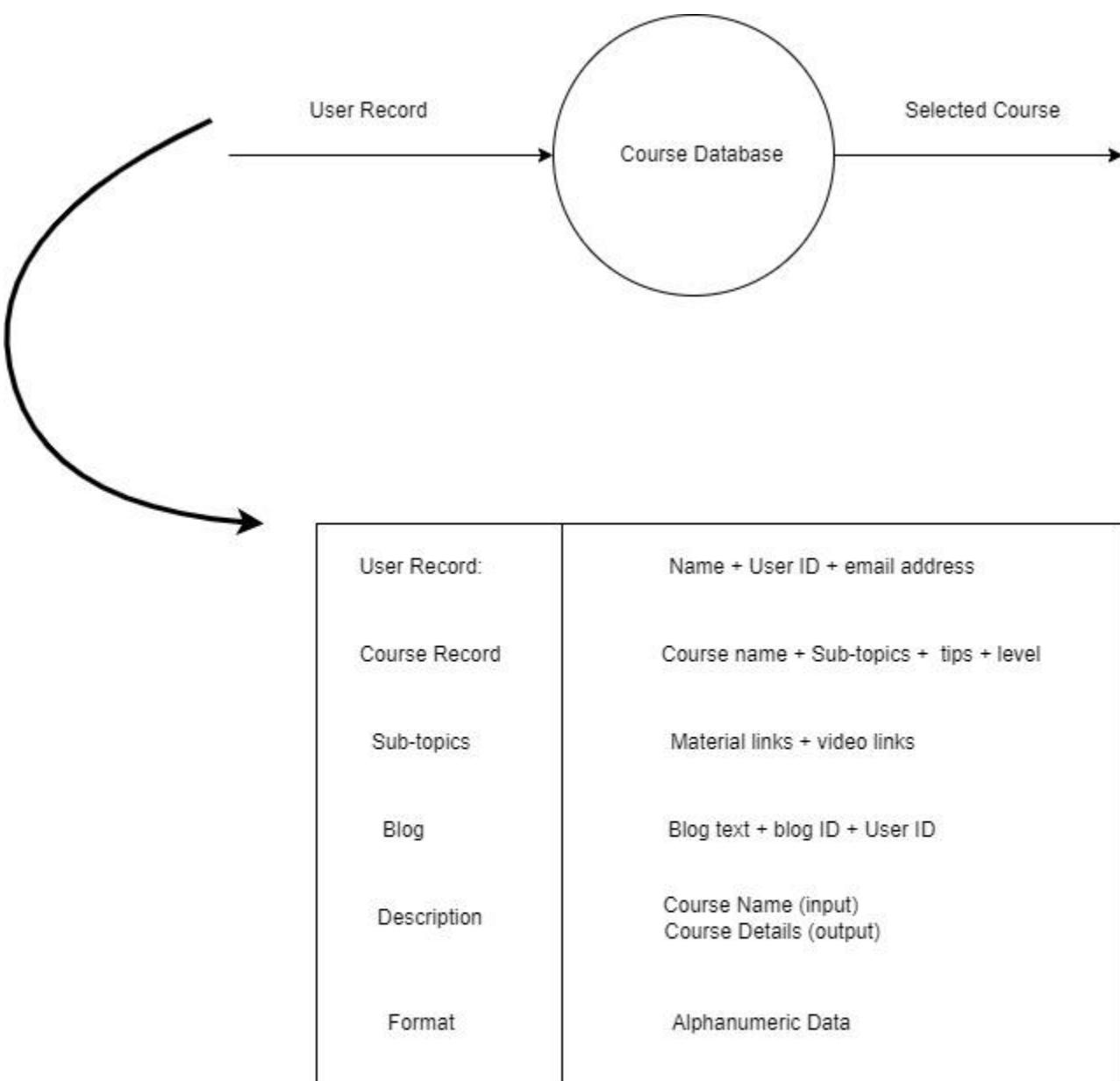
**Level-0 Data Flow Diagram**



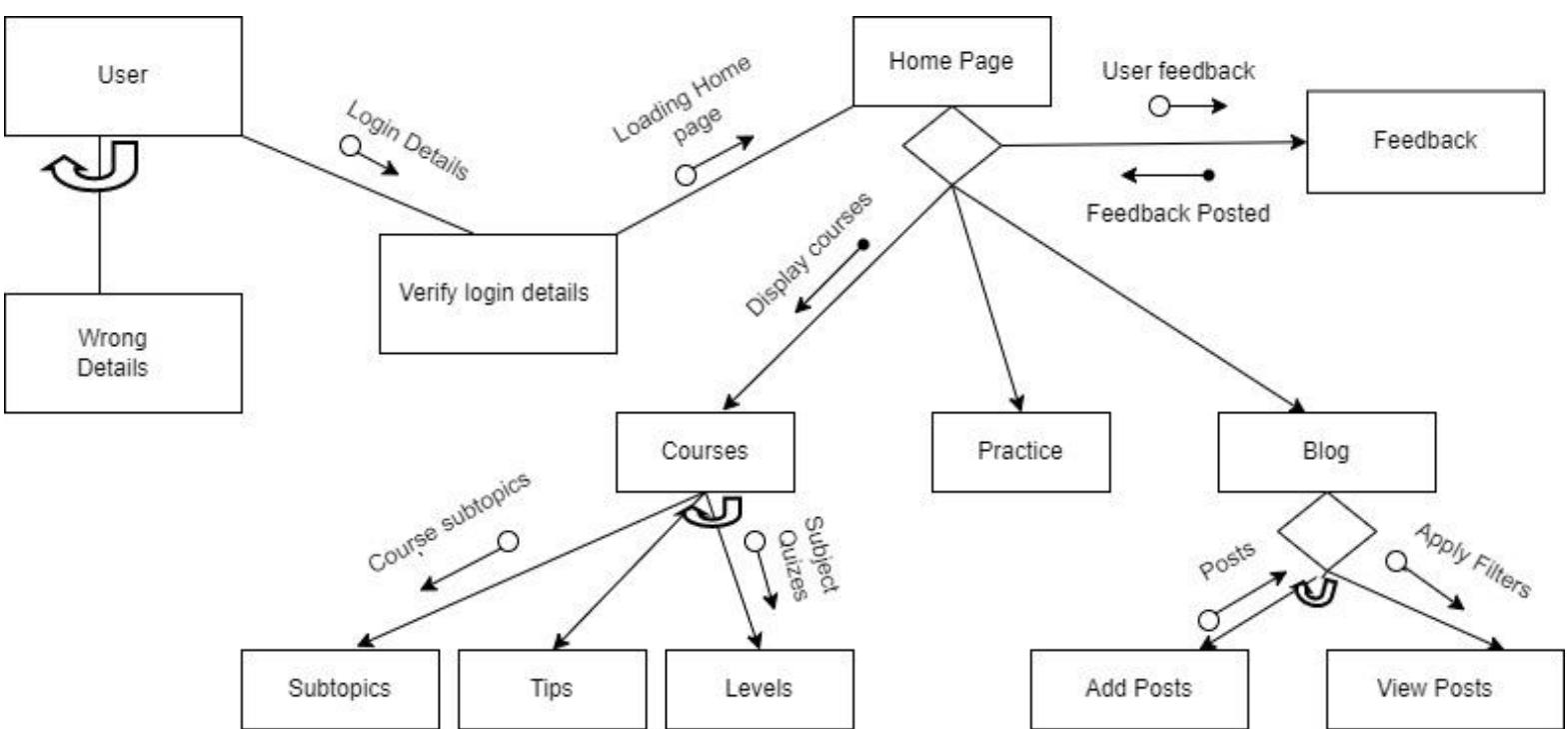
**Level 1 Data Flow Diagram**



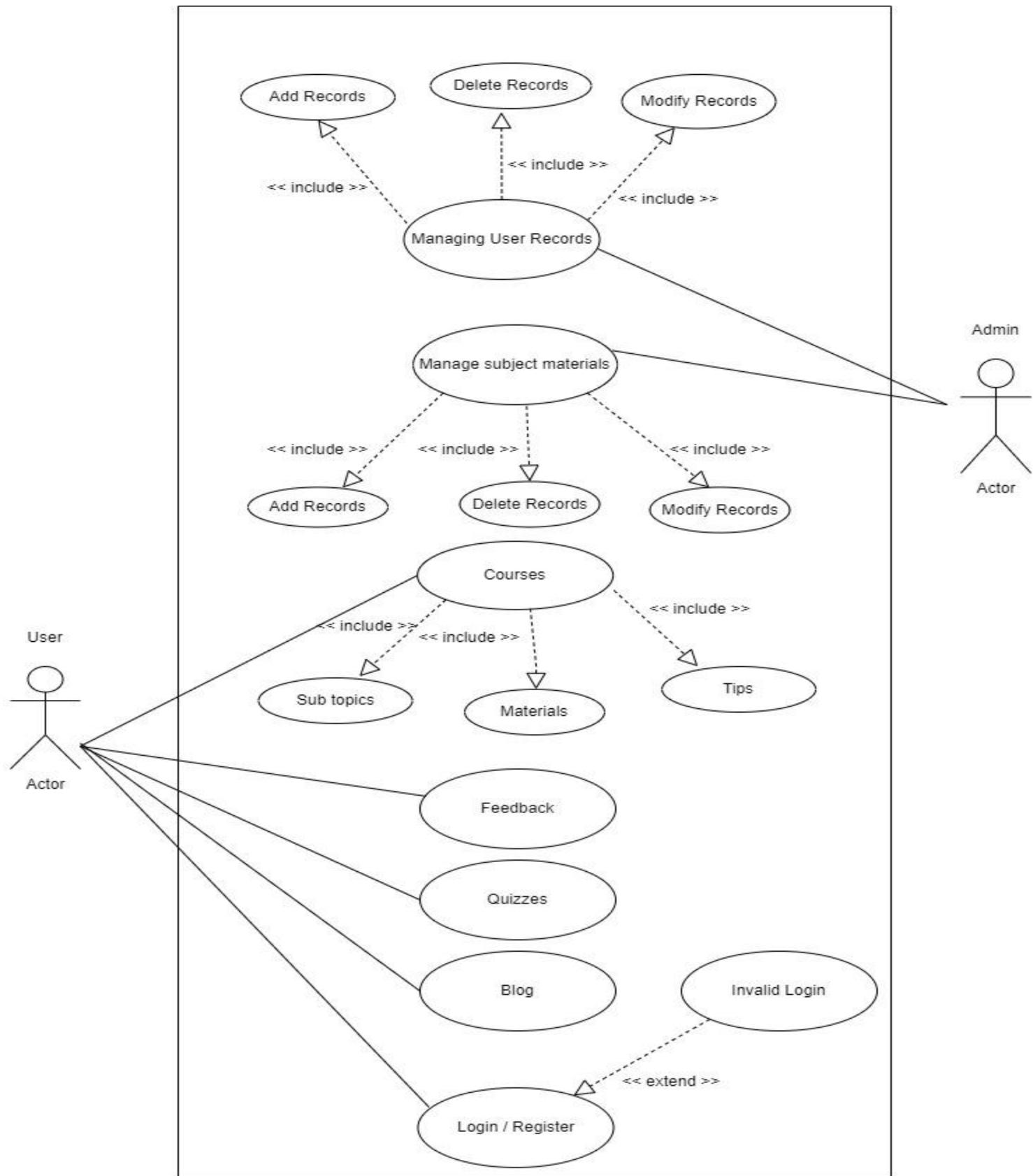
## Entity Relationship Diagram



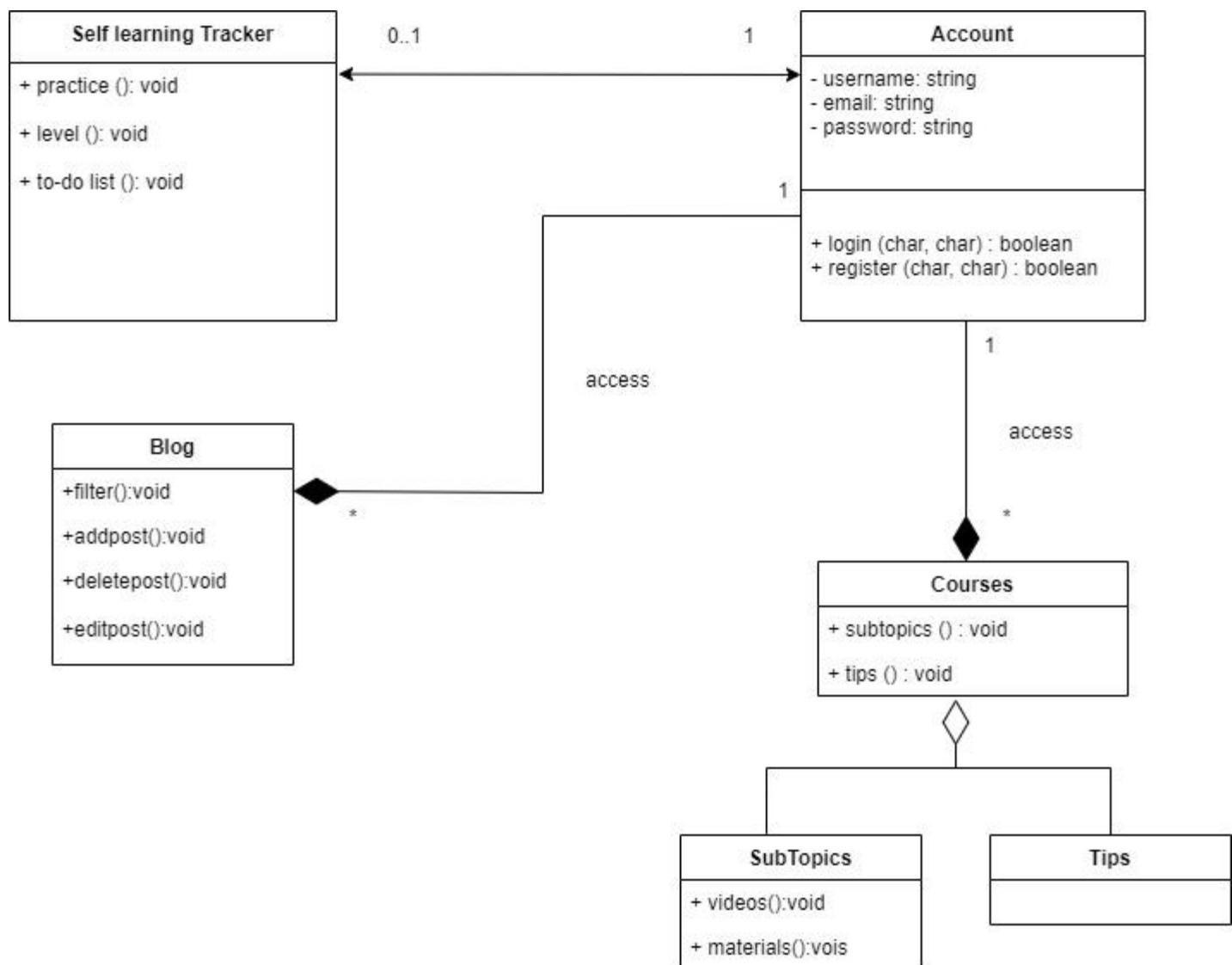
## Data Dictionary



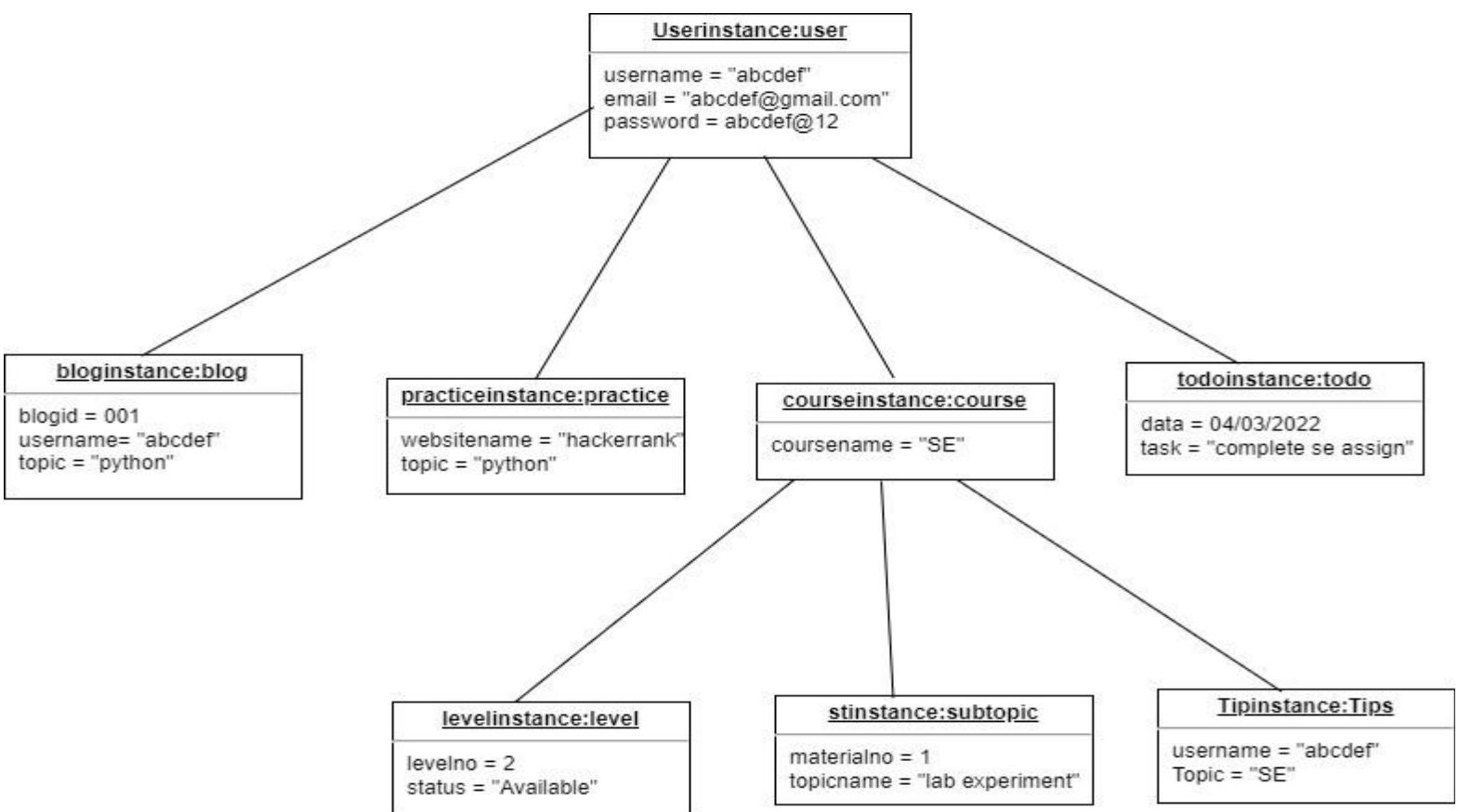
## Structural Chart



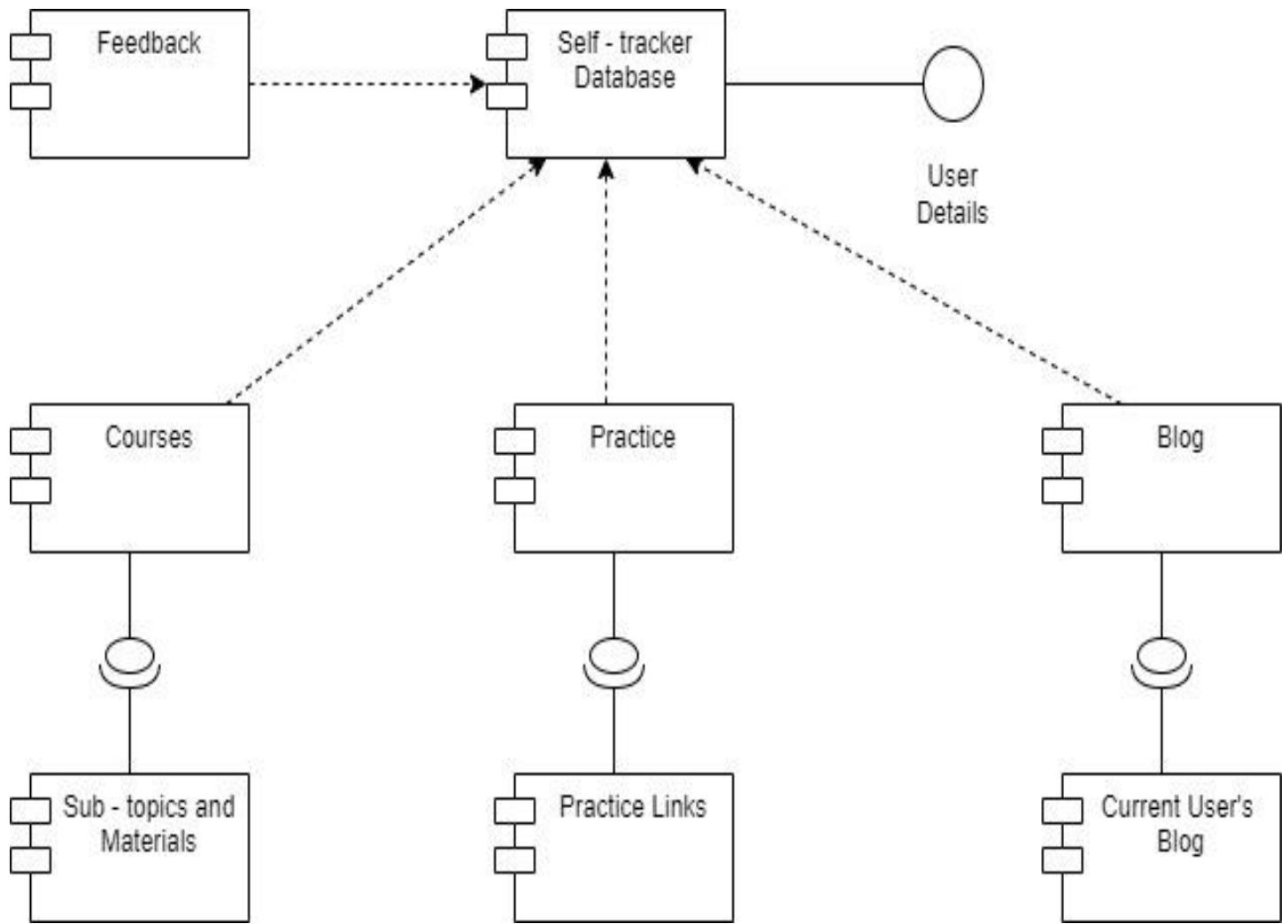
## Use Case Diagram



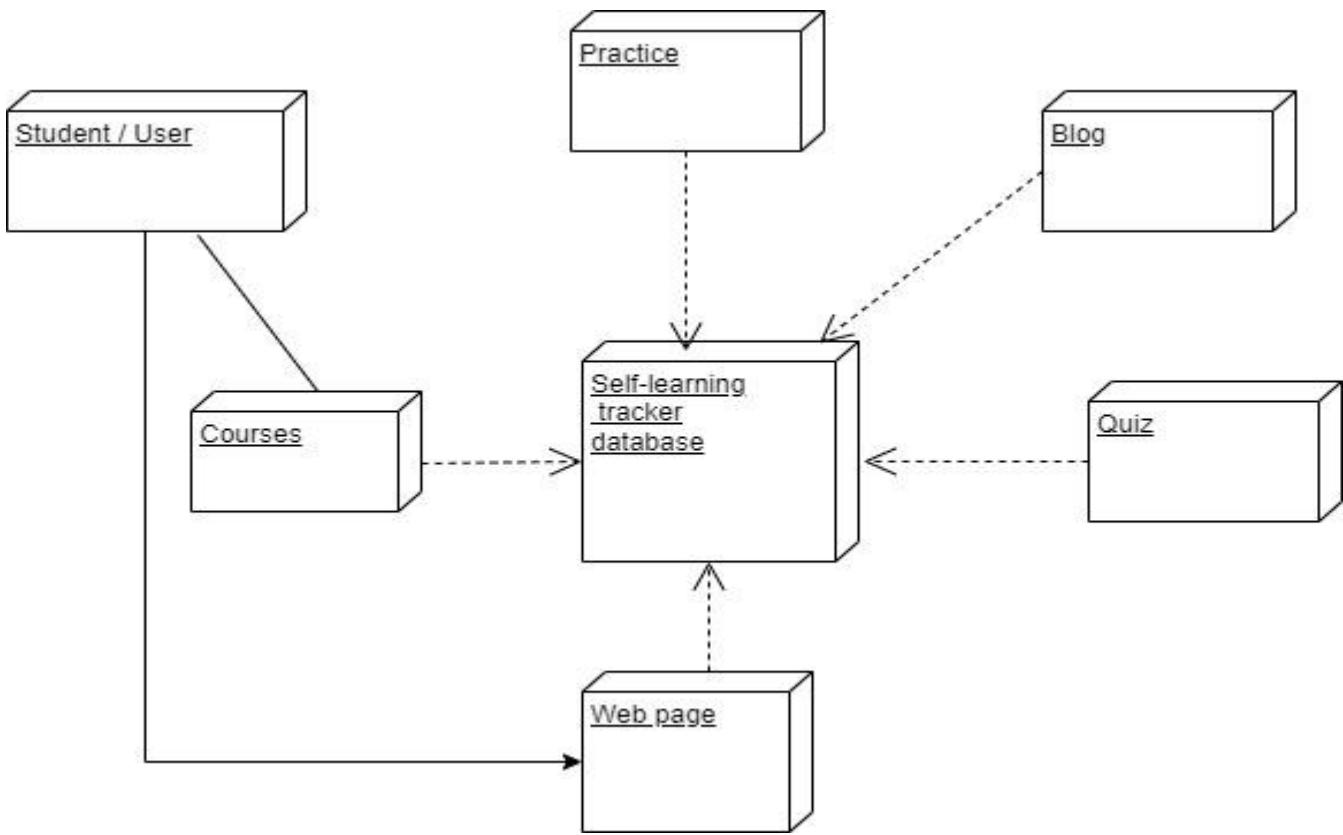
## Class Diagram



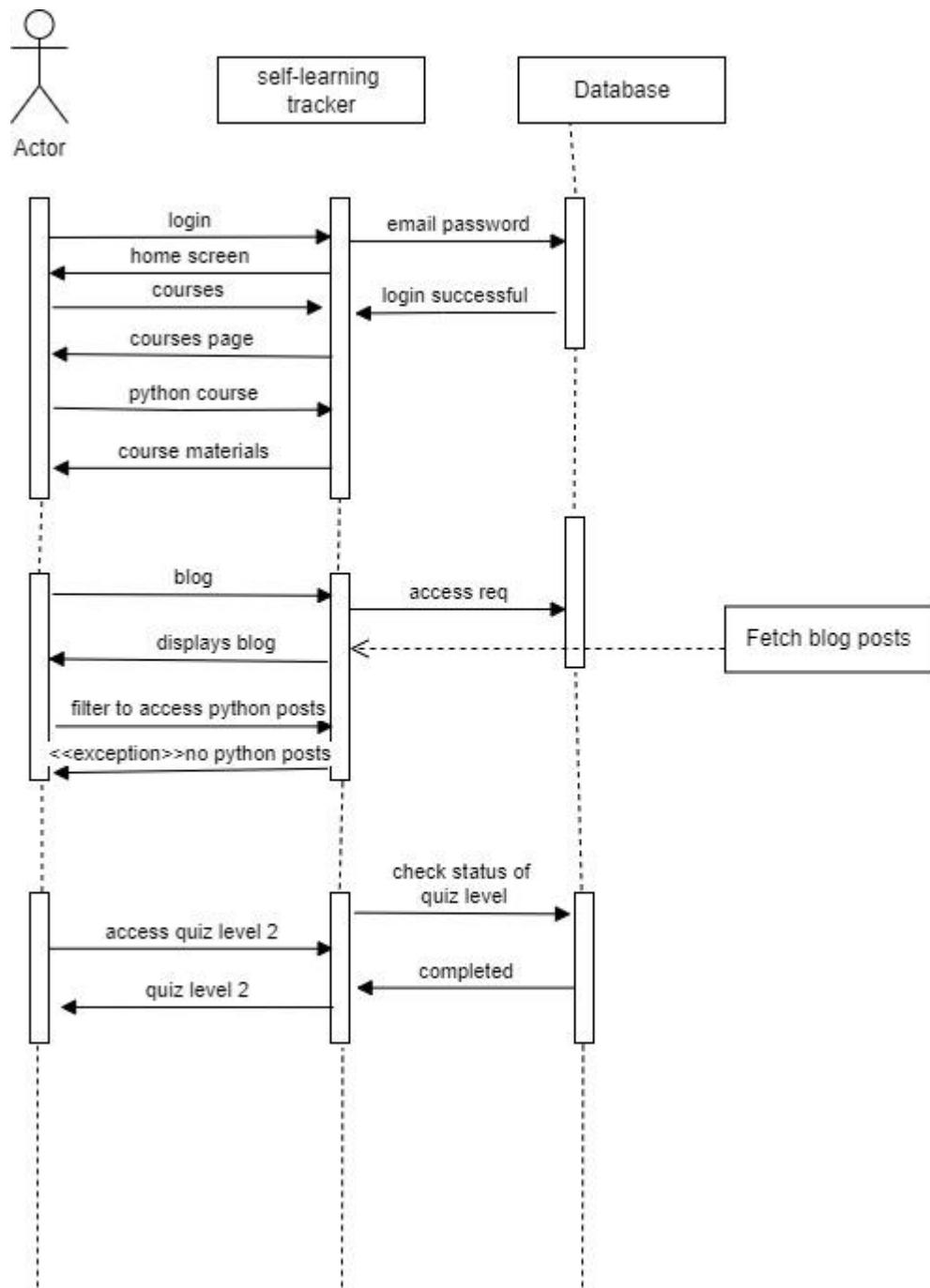
Object Diagram



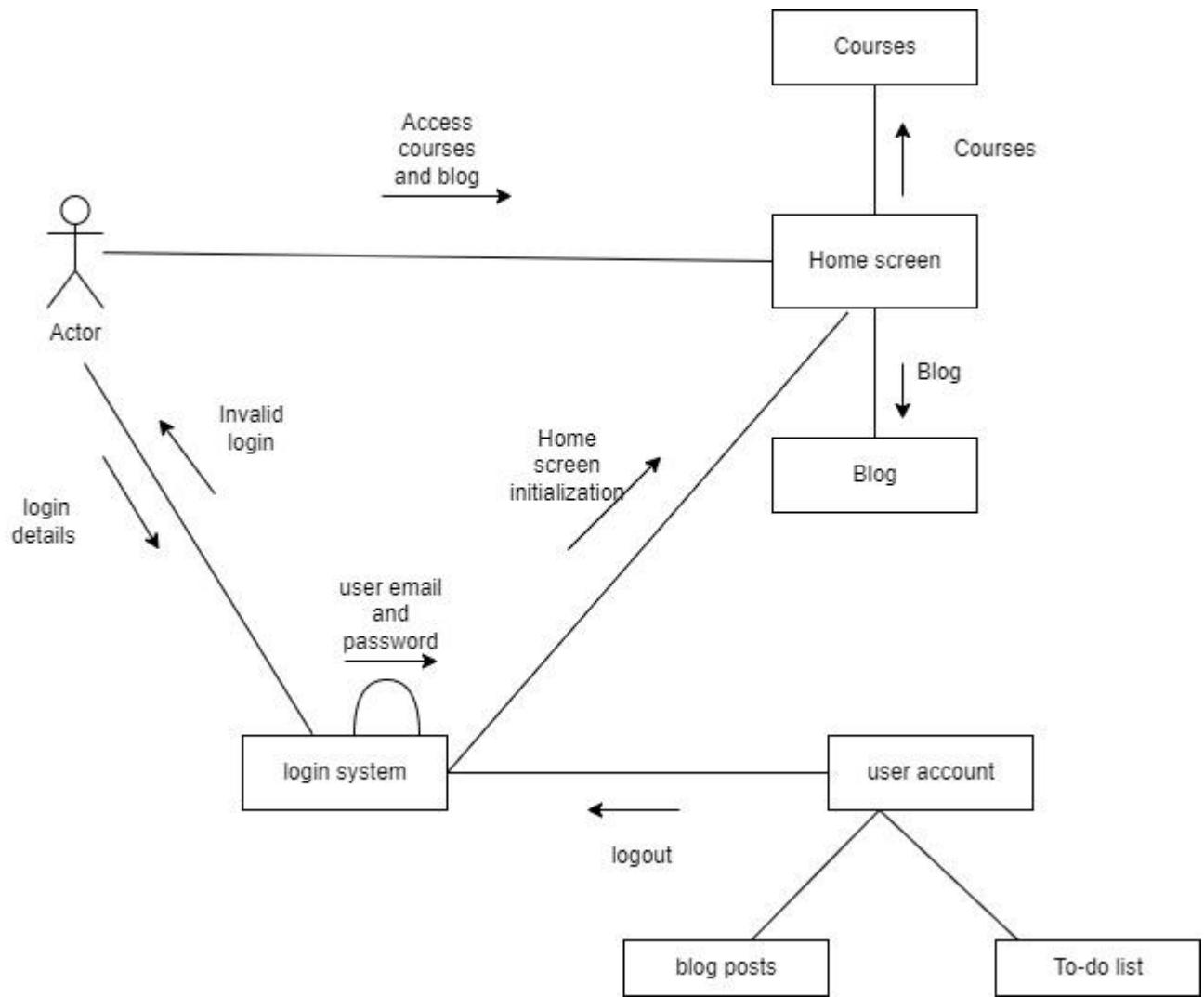
**Component Diagram**



**Deployment Diagram**



## Sequence Diagram



**Collaboration Diagram**

## **Conclusion:**

Self-learning enables you to learn what you want, when you want, and how you want. It has the ability to drive the learning process and this tends to be more effective than instructional and traditional learning. Self-learning tracker helps users to achieve that and make a progress of their study by learning themselves using the features provided in the website. It helps users to learn more efficiently and discover more about the topics they are studying.

## **References:**

- <https://elearningindustry.com/9-killer-resources-for-online-self-education>
- <https://support.google.com/webdesigner/answer/3232604?hl=en>