



BUDDY DOME



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INTRODUCTION

The Project Idea is to design & develop a learning website with the purpose of providing different tools and functions .

This website is a Learning website for cloud .This is an open website, anyone can use it for cloud learning.It contains different different levels .This website can also be used by people who have zero knowledge and those people who have intermediate level advanced knowledge can also use it.We are hosting our Project on Cloud Due to which we will also get the advantages of cloud.

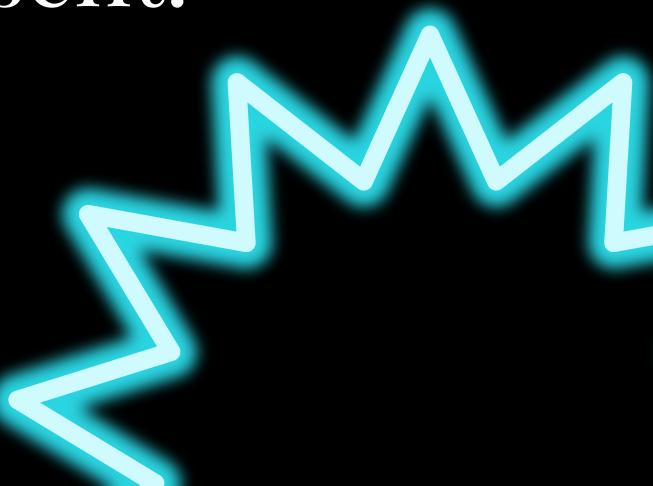


OBJECTIVE

This website provides an engaging student experience with a single point of access and hub to all applications, information, and content. There is a lack of contribution in learning websites. There is also a problem in knowledge sharing in learning websites.

With the help of this website, any user can provide Learning Videos and Learning Content for Cloud by himself if he wants. With the help of this website, the user can provide his own blogs and send his content to the website. Very few platforms are available for cloud learning at present.

This website will help a lot in cloud learning.



REAL-TIME USAGE

This website is very useful for learners. Schools and colleges can use this website for cloud learning for their students. Companies can also use this website to learn cloud to their employees.

If someone wants to learn cloud by himself then he can also learn cloud from this website. Anyone can use this website to increase their cloud related knowledge. Will keep getting updates of events, Our application can be used to find a suggested role in the world of cloud computing.

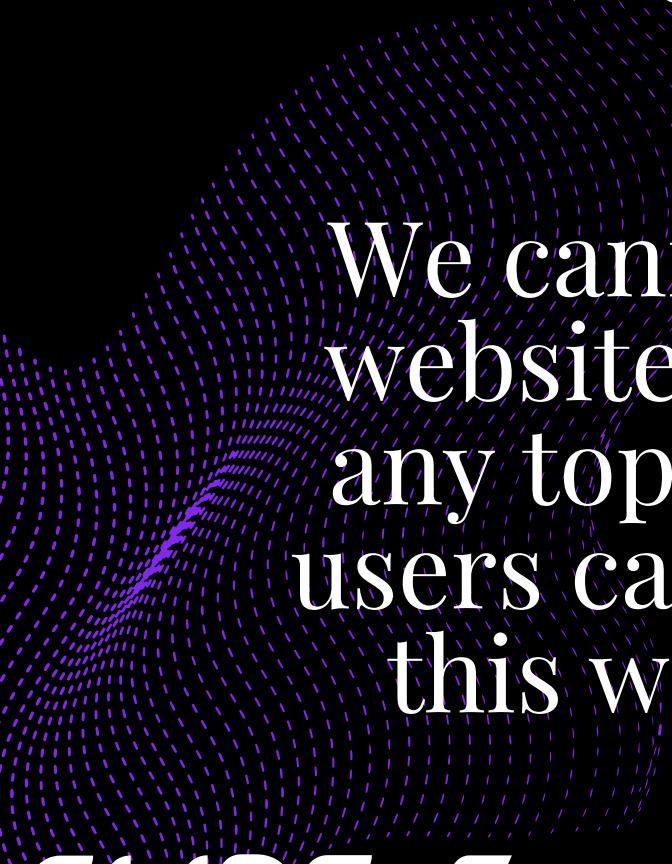




LITERATURE REVIEW



A well designed learning website will help the user to get access to different backend resources One of the major challenge is to build a learning website which is updated regularly with the latest information and also is ready to adapt to the increasing services the redesigning of website content can help to improve technologies that provide in the website



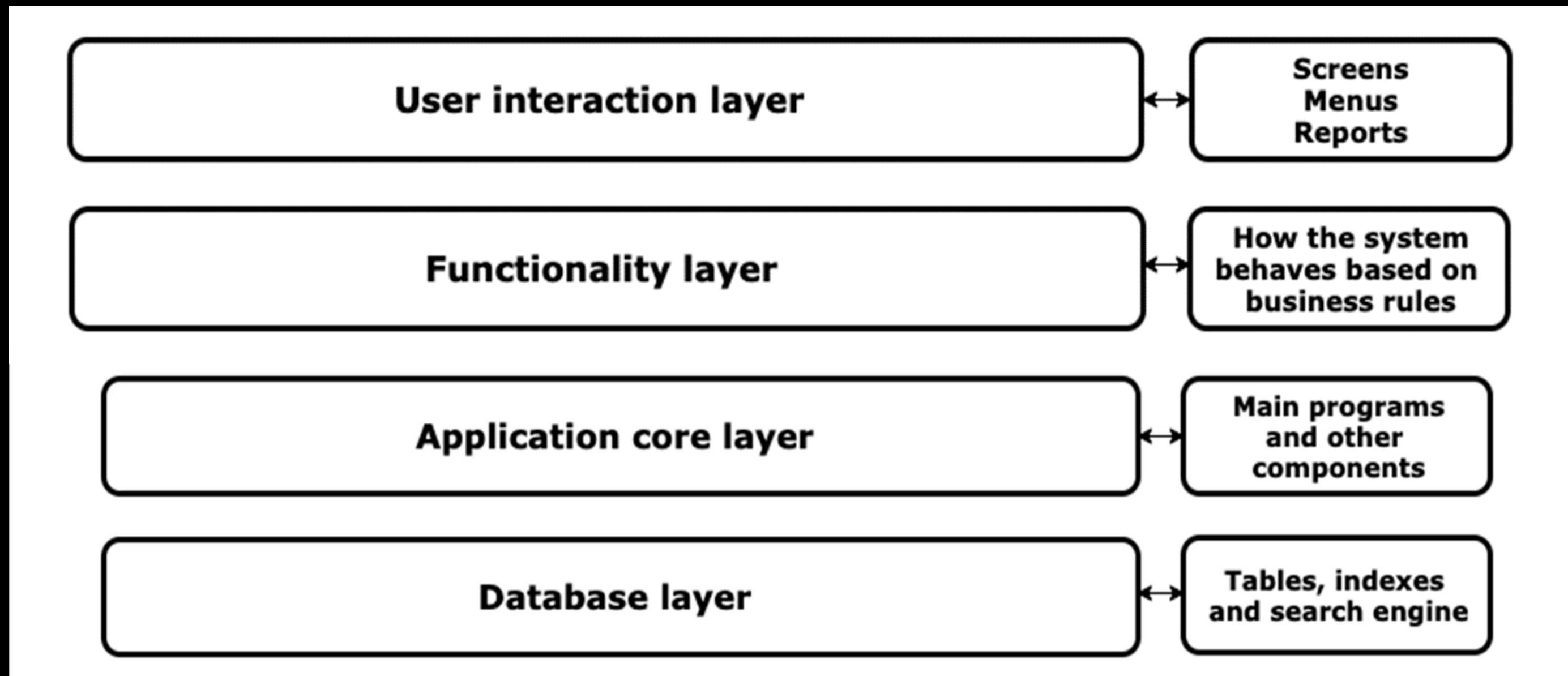
We cannot discuss among ourselves in any learning websites, in this website we have also added a discussion page, where we can discuss any topic amongst ourselves, connect with community experts. Here users can post their own blogs and users can see each other's blogs. In this website we can discuss to each other on any topic and how to integrate it with cloud.



METHODOLOGY

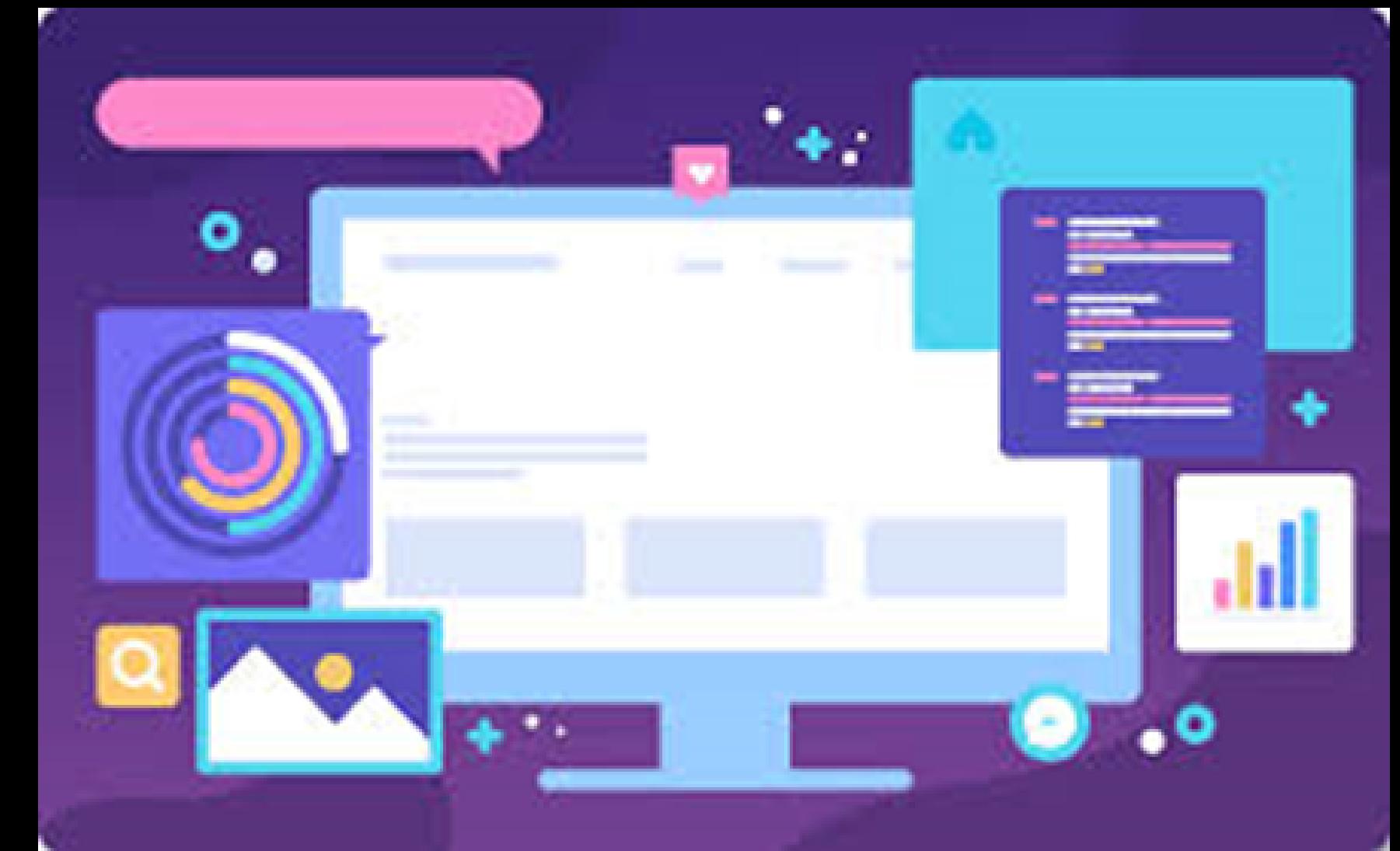
- INFORMATION ARCHITECTURE
- USER EXPERIENCE DESIGN
- VISUAL DESIGN
- DEVELOPMENT
- DEPLOYMENT AND MAINTENANCE

SYSTEM ARCHITECTURE



1. USER INTERACTION LAYER

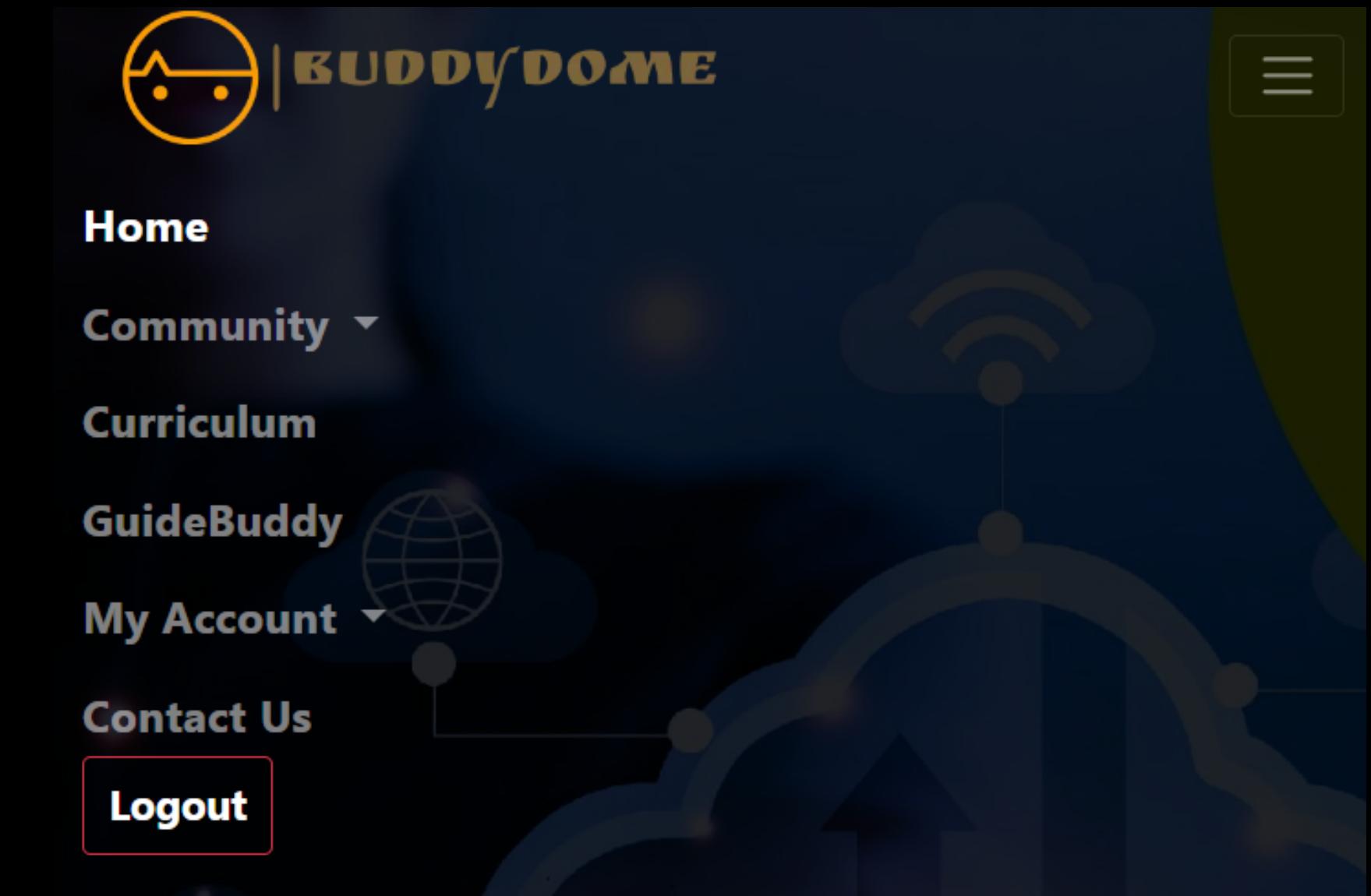
- THIS IS THE LAYER THAT INTERACTS WITH USERS THROUGH SCREENS, FORMS, MENUS, REPORTS, ETC.
- IT IS THE MOST VISIBLE LAYER OF THE APPLICATION.
- IT DEFINES HOW THE APPLICATION LOOKS.



Static files consisting of images, CSS are rendered to AWS S3 bucket

2. FUNCTIONALITY LAYER

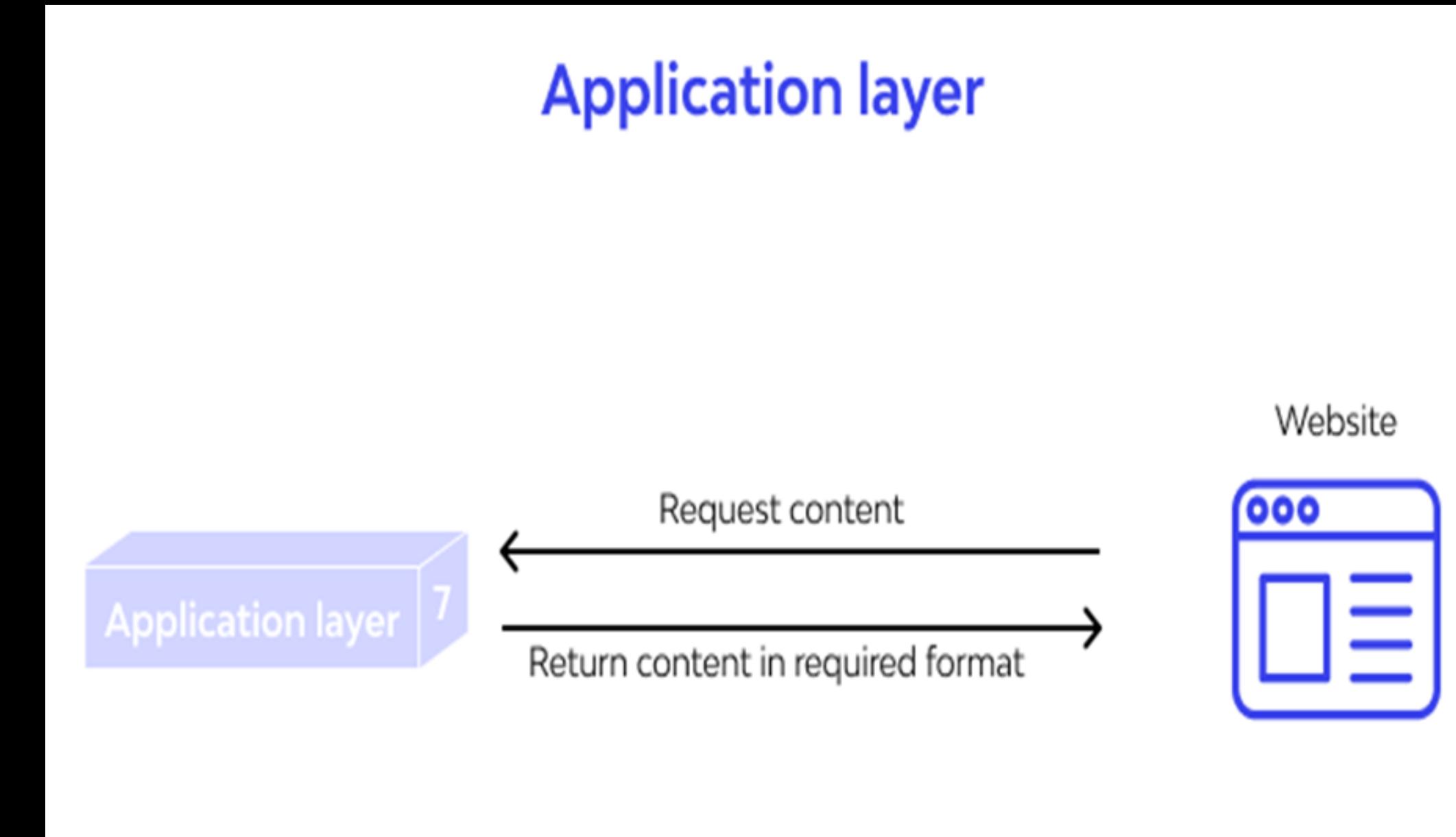
- THIS IS THE LAYER THAT PRESENTS THE FUNCTIONS, METHODS, AND PROCEDURES.
- IT DETERMINES HOW THE BUTTONS WORK, AND HOW THE SYSTEM NAVIGATES THROUGH SCREENS.



3. APPLICATION CORE LAYER

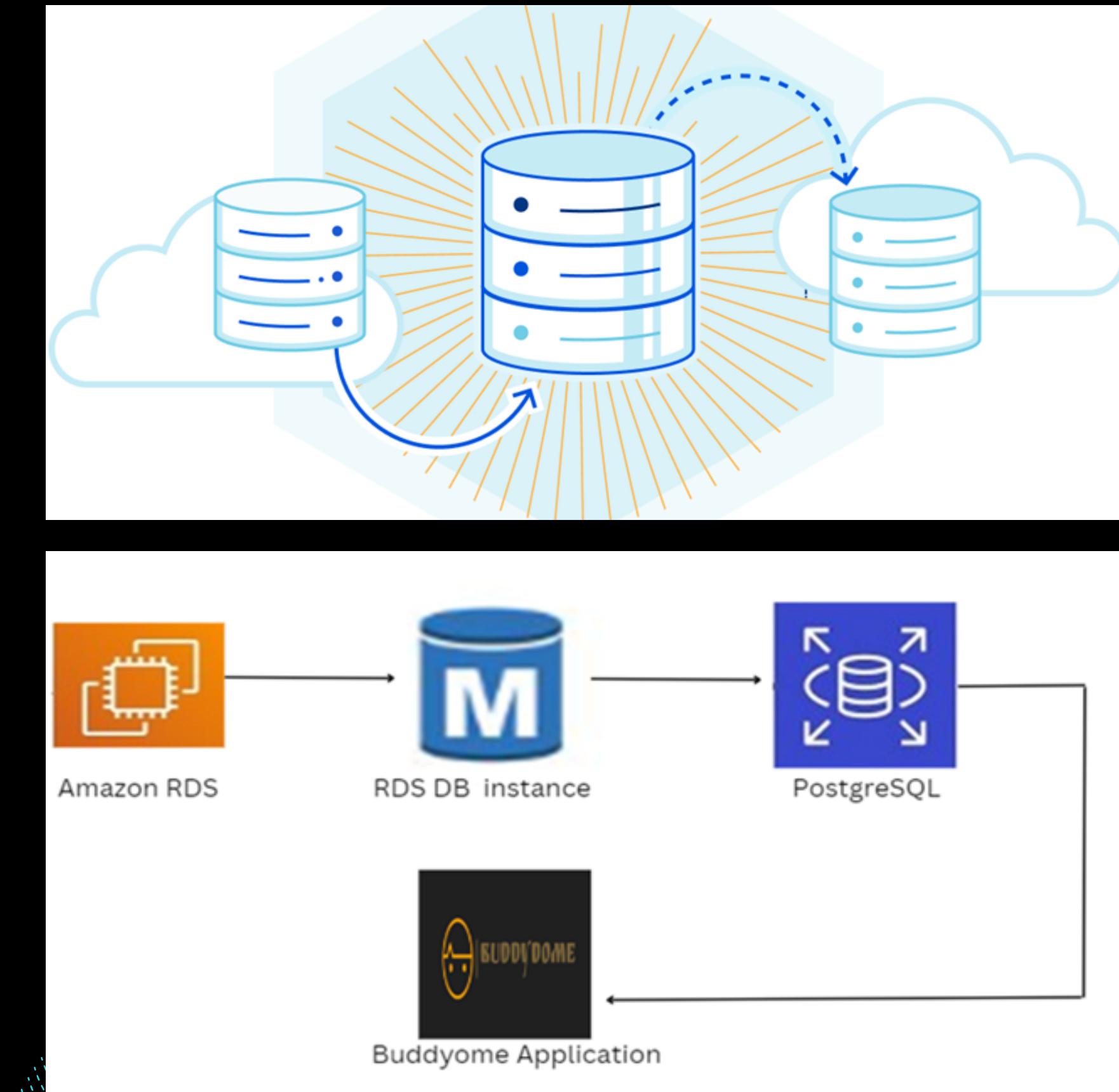
- THIS LAYER CONTAINS THE MAIN PROGRAMS, CODE DEFINITIONS, AND BASIC FUNCTIONS OF THE APPLICATION.
- PROGRAMMERS WORK IN THIS LAYER MOST OF THE TIME.

Connectivity with AWS cloud services,
writing programs to connect our
storage/ database to our application



4. DATABASE LAYER

- THIS LAYER CONTAINS THE TABLES, INDEXES, AND DATA MANAGED BY THE APPLICATION.
- SEARCHES AND INSERT/DELETE/UPDATE OPERATIONS ARE EXECUTED HERE.
- EXAMPLE-ACCOUNT TYPE, COURSES, LEVELS ETC.





Amazon RDS



PostgreSQL

Database Instance

Instance

Configuration

DB instance ID

database-1

Engine version

13.7

DB name

djangope2

License model

Postgresql License

Option groups

default:postgres-13 In sync

Amazon Resource Name (ARN)

arn:aws:rds:ap-south-1:882471162210:db:database-1

Resource ID

db-7CTTRFKWQYLNZ2JGBMGPWK4AC4

Created time

January 10, 2023, 01:59 (UTC+05:30)

Instance class

Instance class

db.t3.micro

vCPU

2

RAM

1 GB

Availability

Master username

djangope

IAM DB authentication

Not enabled

Multi-AZ

No

Secondary Zone

-

Storage

Encryption

Enabled

AWS KMS key

[aws/rds](#)

Storage type

General Purpose SSD (gp2)

Storage

20 GiB

Provisioned IOPS

-

Storage throughput

-

Storage autoscaling

Enabled

Maximum storage threshold

25 GiB

Connectivity & security

Endpoint & port

Endpoint

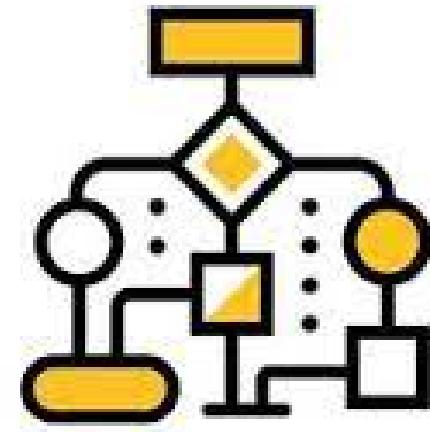
database-1.cbw5rxvx0i1x.ap-south-1.rds.amazonaws.com

Port

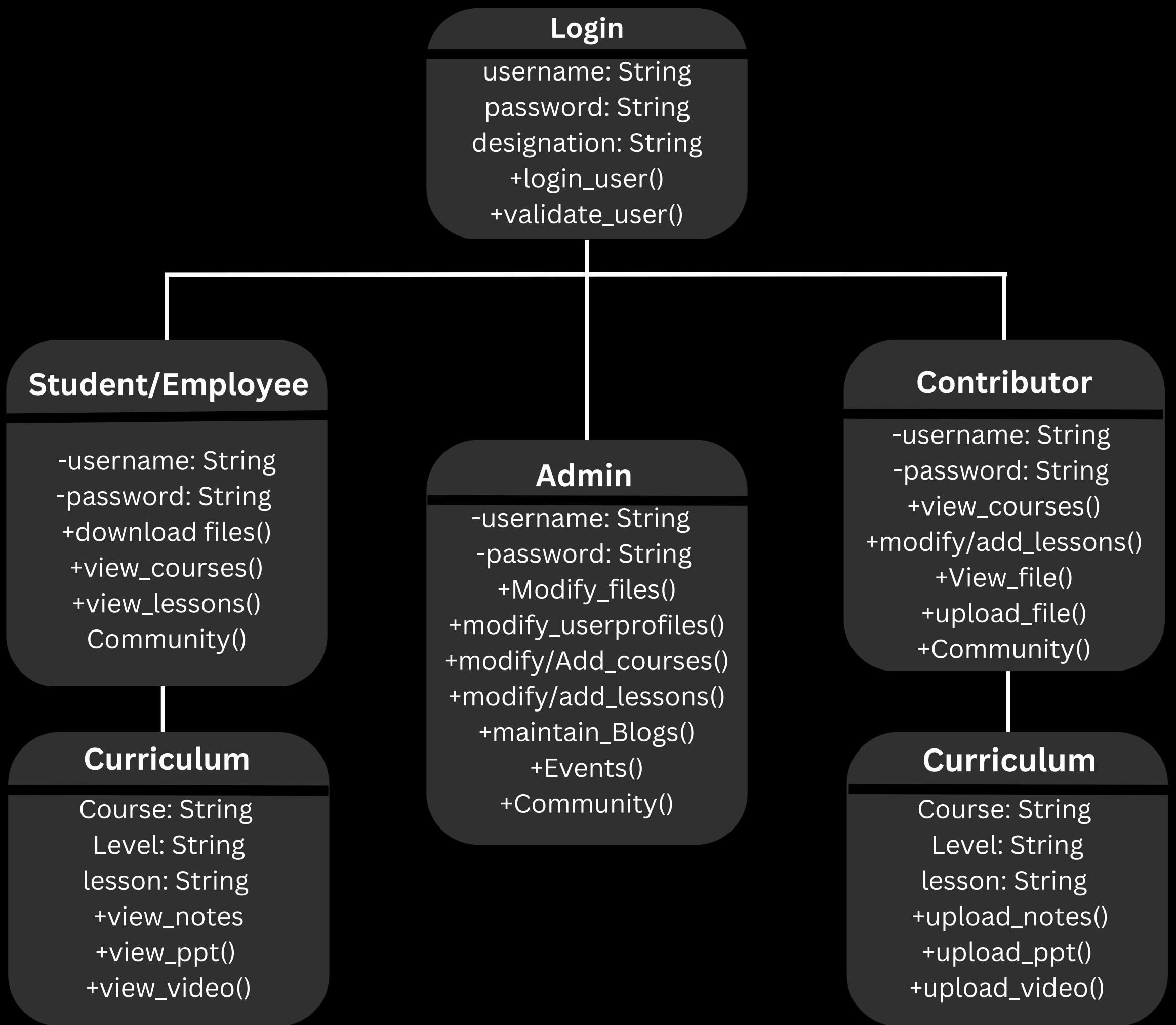
5432

Inbound rules

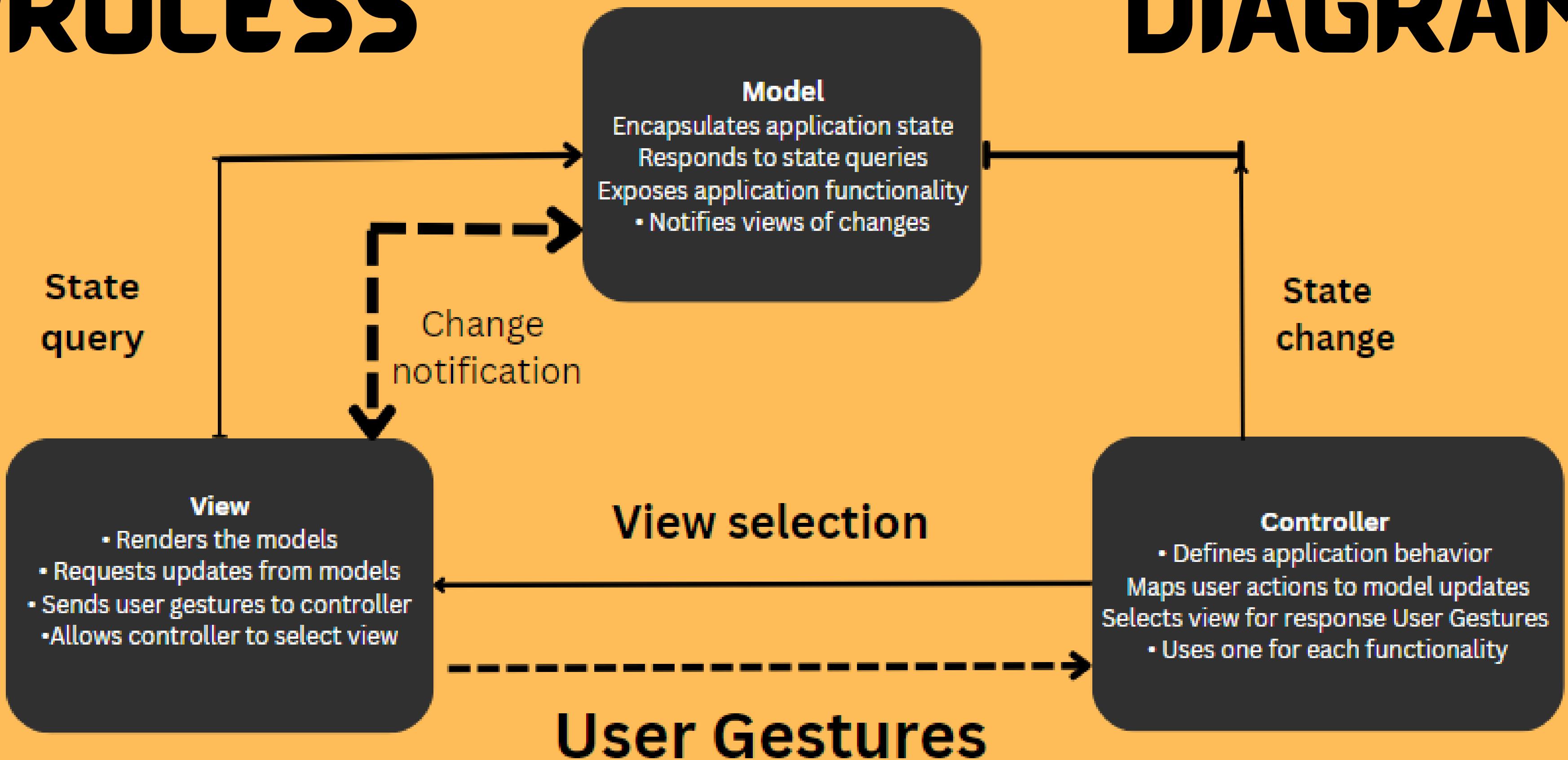
Security group rule ID	Type	Protocol	Port range	Source
sgr-0b6e65d17553bf425	Custom TCP	TCP	8000	Anywh...
sgr-00d942a536ae59193	PostgreSQL	TCP	5432	Anywh...



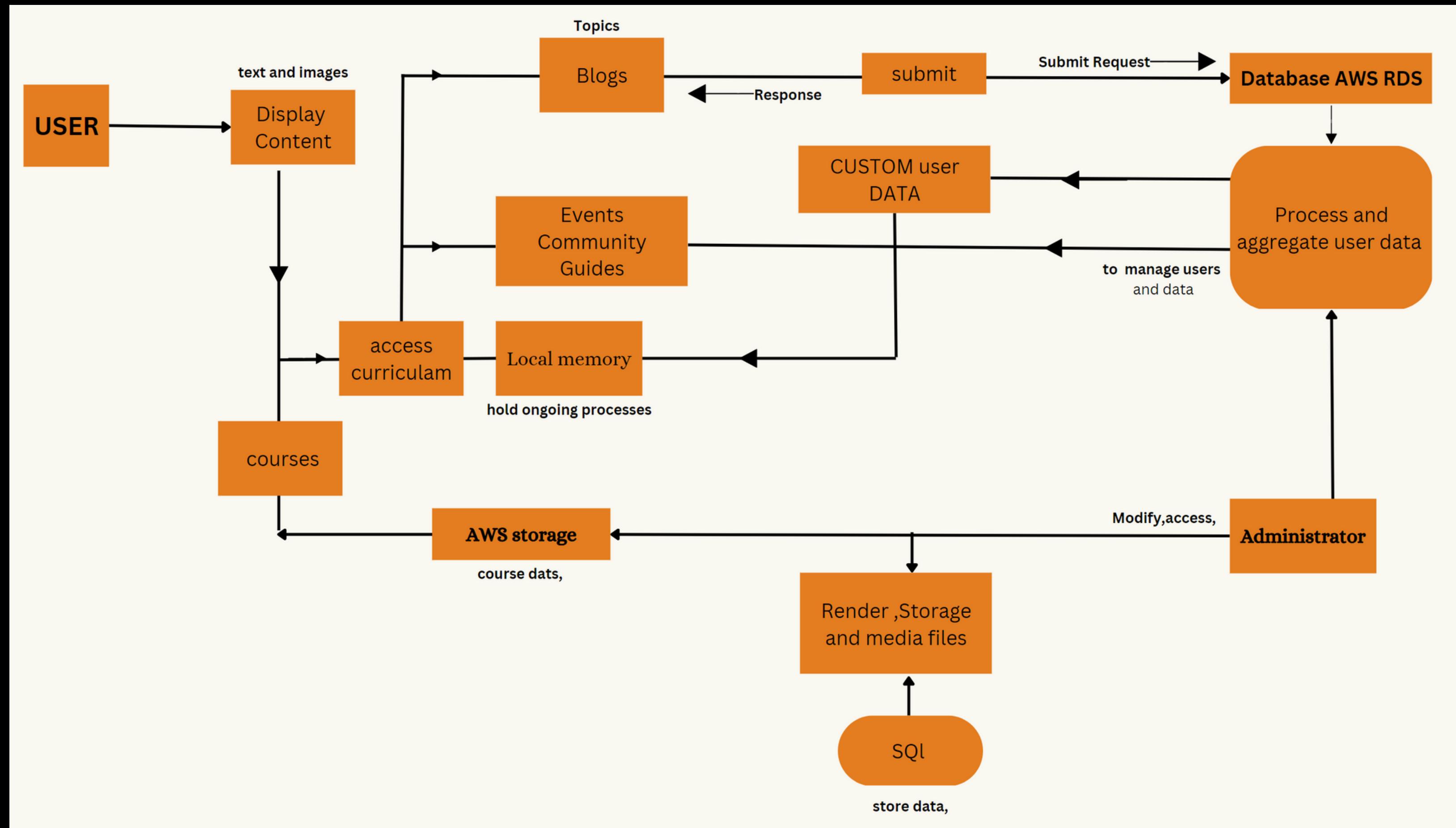
CLASS DIAGRAM



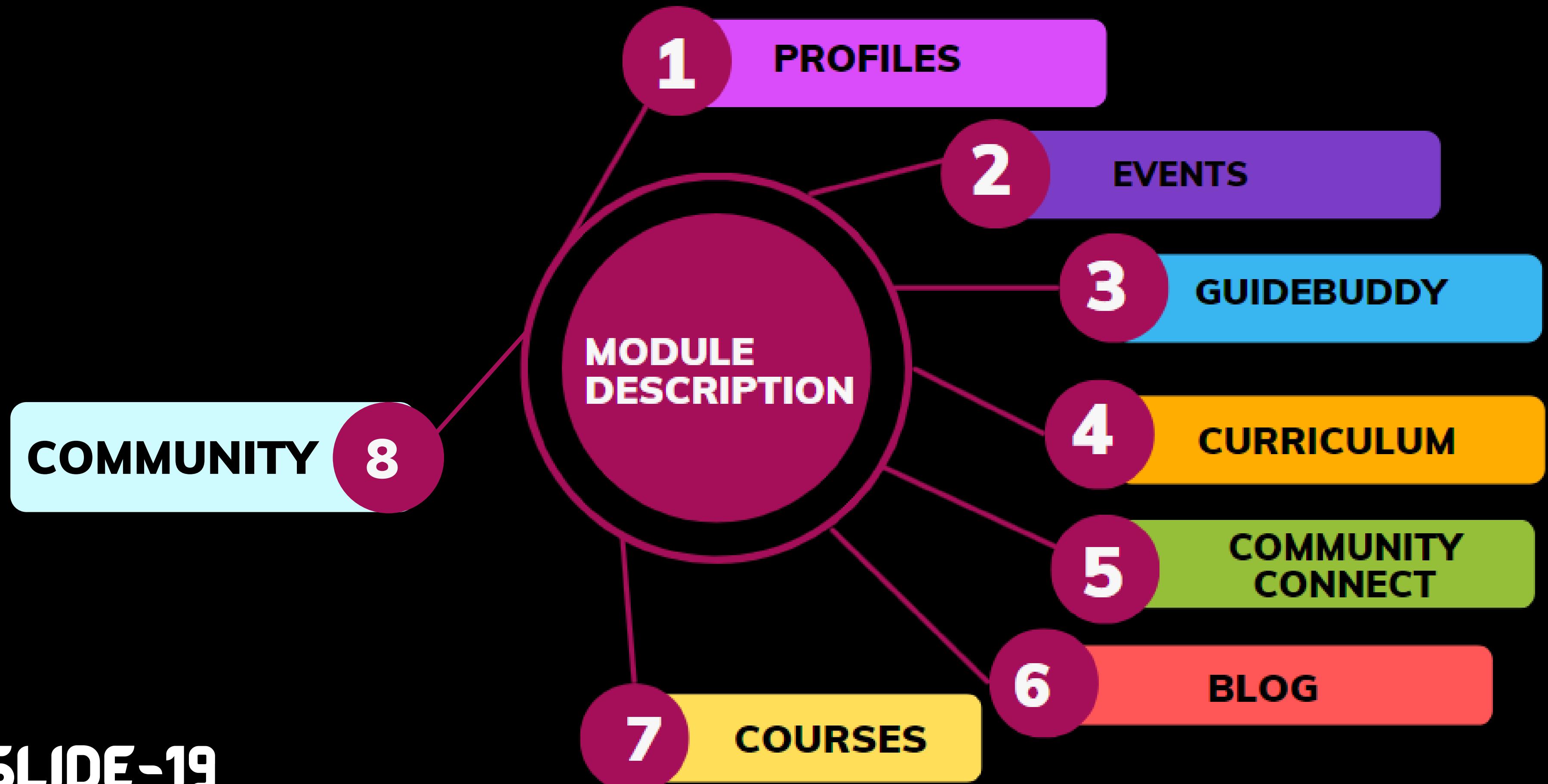
PROCESS



DATA FLOW DIAGRAM



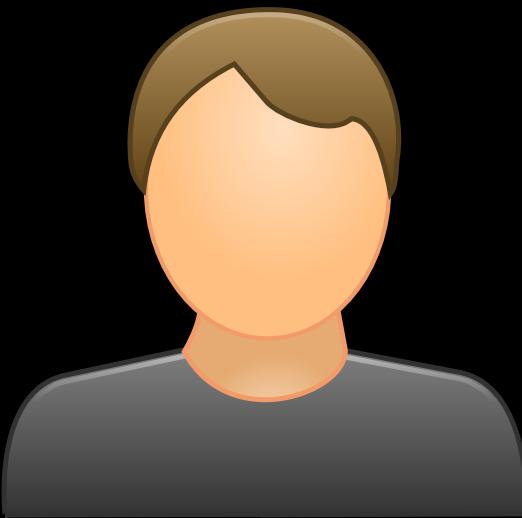
PROJECT MODULE DESCRIPTION



PROJECT MODULE DESCRIPTION

1. PROFILES:

It contains different user profiles like student or employee



Registration

Fill the form:

Username*

Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

First name

Last name

Email*

Password*

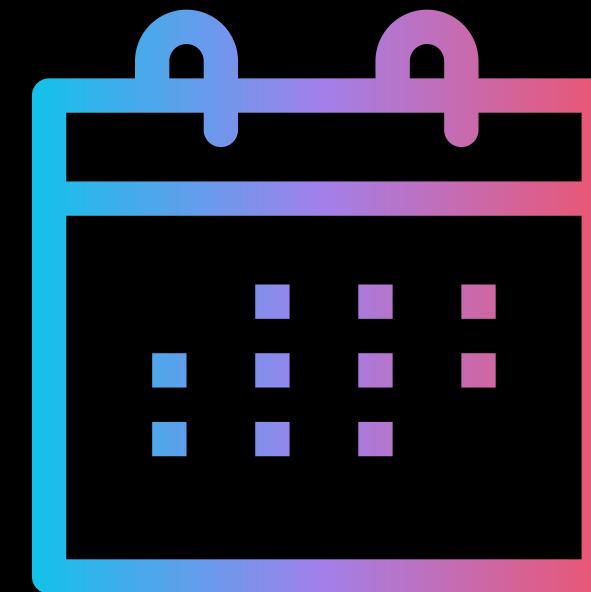
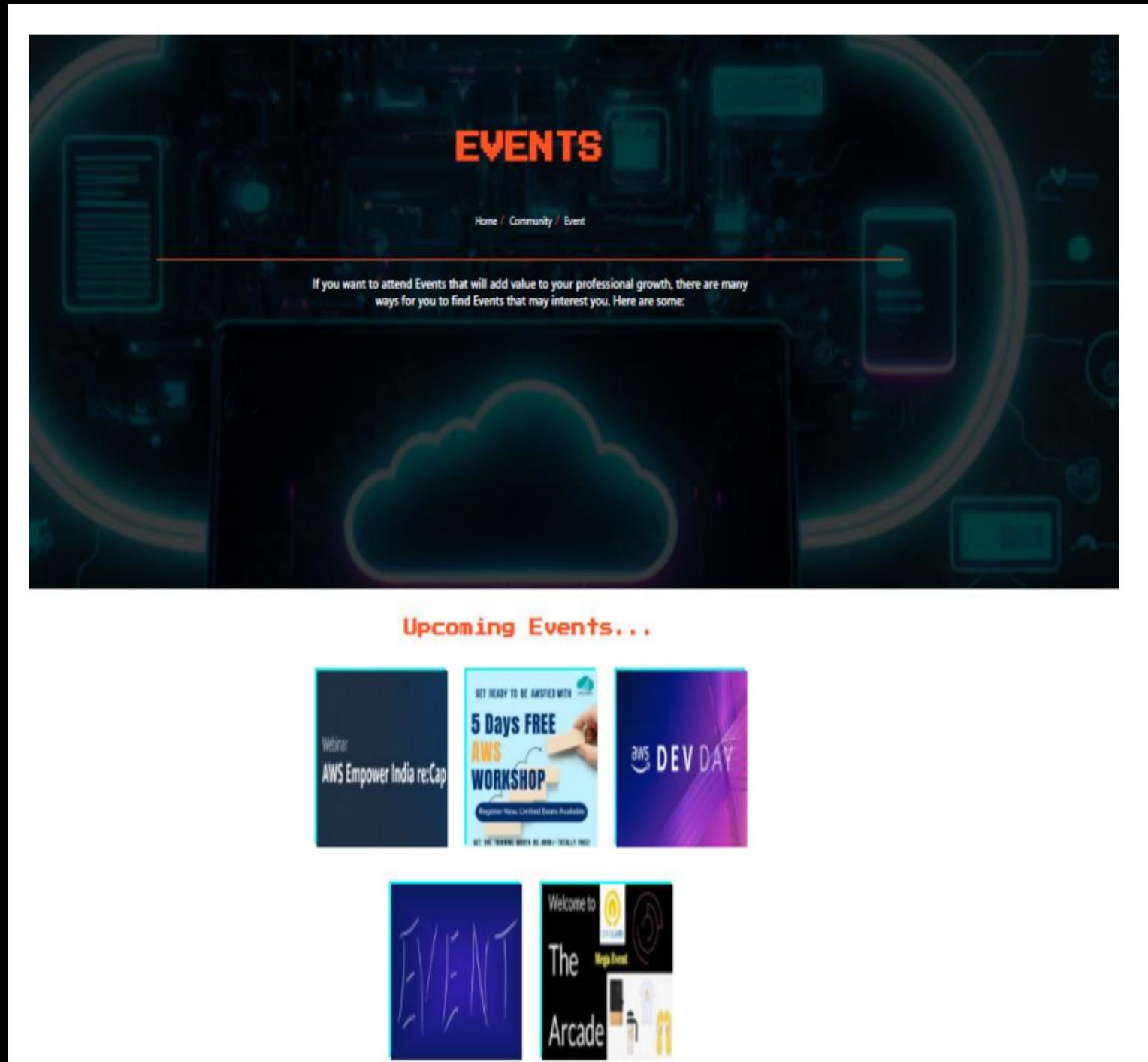
Password confirmation*

Enter the same password as before, for verification.

Bio

User type*

PROJECT MODULE DESCRIPTION



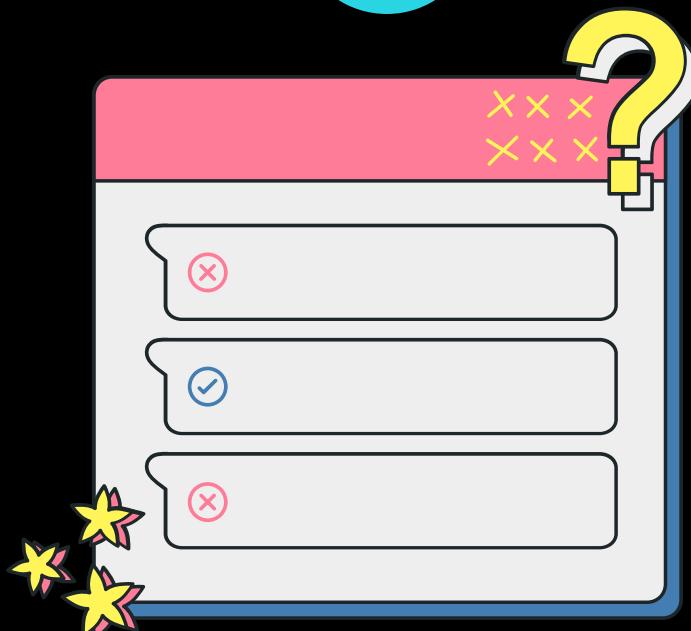
2.EVENTS:

This module will have a simple explore feature where the users will be able to see various upcoming events where they can participate and learn many things

PROJECT MODULE DESCRIPTION

3. GUIDEBUDDY:

We provide a QUIZ for user to know their CLOUD role and learn according to it and enhance them eventually

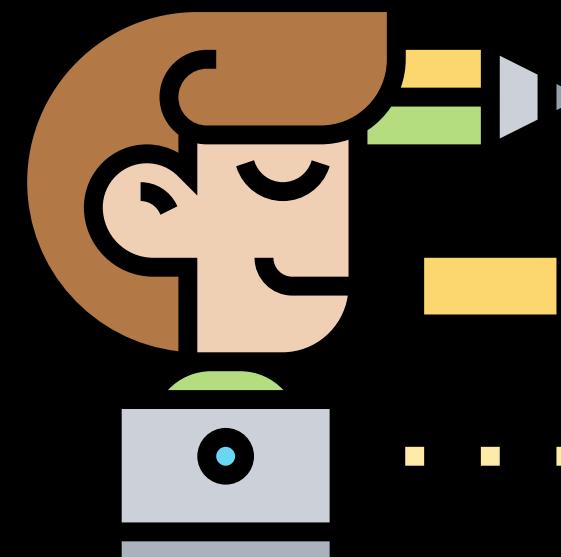


The screenshot shows the 'Guide Buddy' website. The header features the 'Guide Buddy' logo and navigation links for Home, Community, and Guide Buddy. A sub-header asks, 'Are you confused about your role in the world Cloud? Are you in the need of a guidance? Don't Worry Guide Buddy Will Help You.' Below this is a 'Role Buddy' section with the text 'Take Quiz and Find Your Role in the Cloud—even if you're not Technical'. It explains that the quiz will help users explore options for roles in cloud computing and provides some getting started tips. A green 'Take Quiz' button is visible. At the bottom, there's a section titled 'BuddyDome's Guide Library' with three items: 'AWS Solutions Architect', 'AWS DevOps', and 'AWS EC2 Windows Instance'.

PROJECT MODULE DESCRIPTION

4.CURRICULUM:

In this module, the User will have details of courses, levels, notes & lesson with its contents



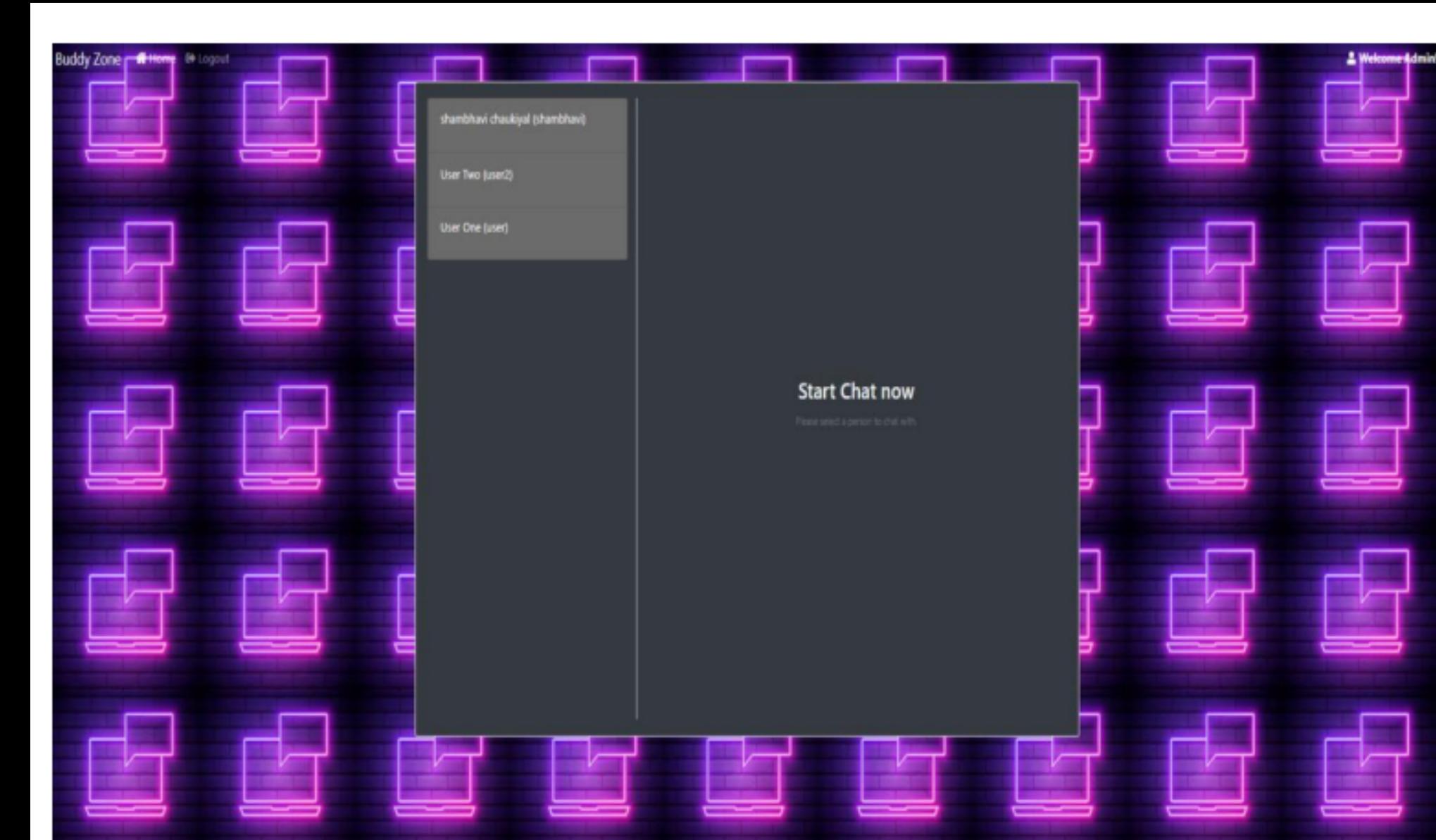
The screenshot shows a digital interface with a dark background featuring a glowing blue circuit board pattern. At the top right, the word "Subjects" is written in red. Below it, a navigation bar shows "Home / Curriculum / Level1". A large white cloud shape contains the text "Subject are given below enjoy learning!". Inside the cloud, there are two course options: "Master The Clouds" and "Choose a Course that you want to learn".

The screenshot shows a digital interface with a dark background. At the top right, the text "Dive Into Learning" is written in red. Below it, a message says "Select the appropriate course among the available courses below !". A box labeled "Level1" contains the text "Beginner Friendly Courses" and a blue button labeled "Lets get started".

PROJECT MODULE DESCRIPTION

5:COMMUNITY CONNECT

In this module, Users will be share their thoughts and discuss in the community and support each other



PROJECT MODULE DESCRIPTION

The screenshot shows a dark-themed web page titled 'Blogs'. At the top, it says 'submitted by the users of BuddyDome. Our hearty thanks to the contributors who have created these blogs and shared them with the community in the spirit of free learning and knowledge sharing.' Below this, there's a message: 'Are you interested in your blog listed here? Do share your blog Submit your Blog Now!' with a green 'Submit blog' button. The background features a futuristic circuit board design with glowing blue lights. At the bottom, there are three thumbnail cards: 'Intro TO basic of web development' (by Cloud Computing), 'Google Cloud' (by Cloud Computing), and 'AWS CLI vs. AWS CloudShell' (by AWS).



6:BLOG

In this module, Users will be able to have search methods and simply read the different blogs that are available

PROJECT MODULE DESCRIPTION

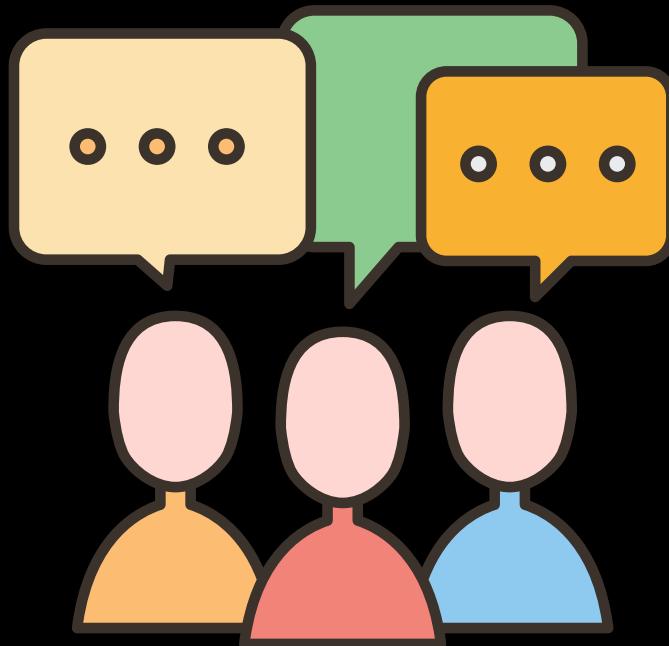
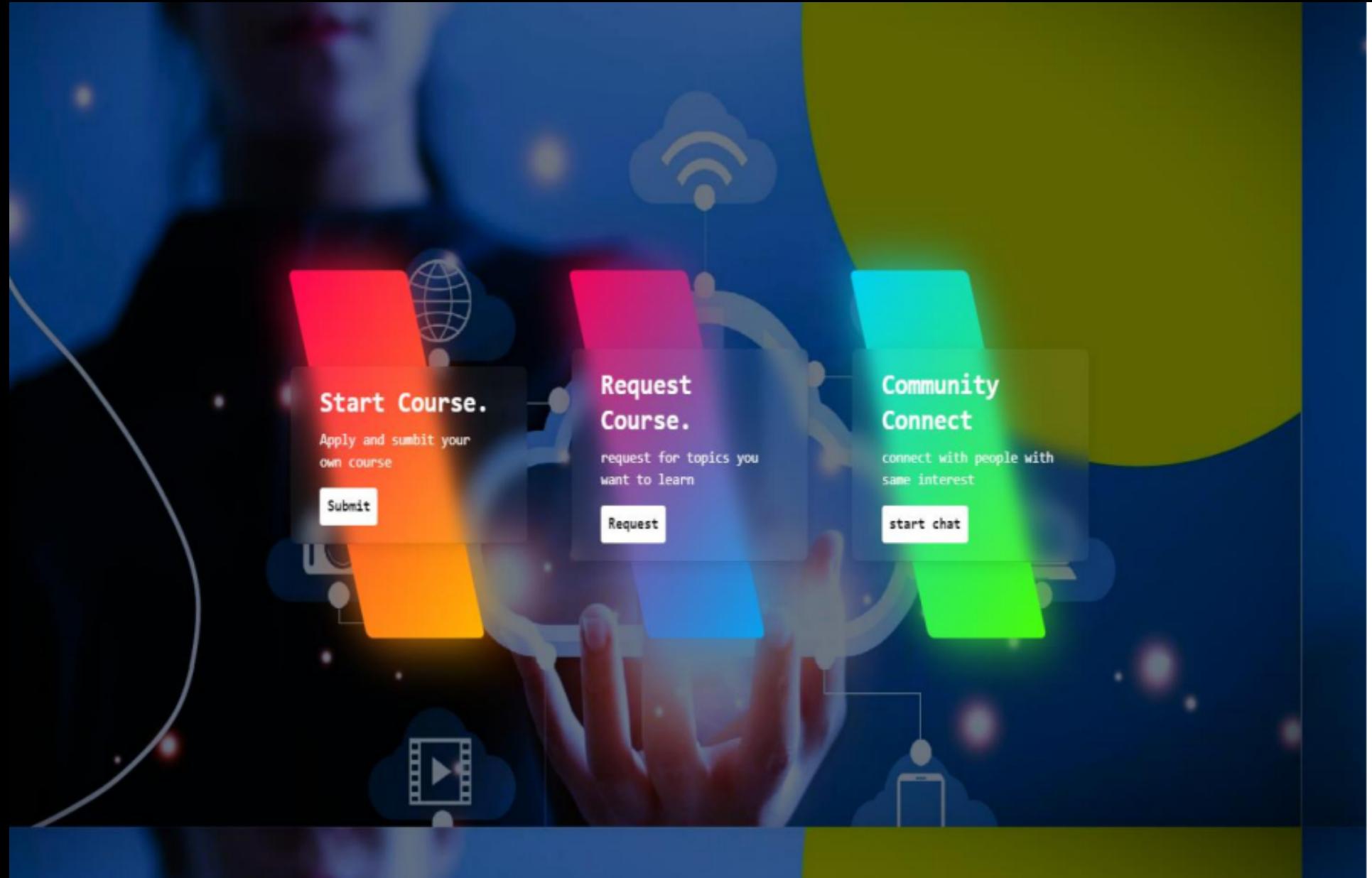
The screenshot shows a user interface for a learning platform. At the top, there's a navigation bar with 'Courses' in red, followed by 'Home / Curriculum / Courses'. Below this is a large button labeled 'Dive Into the Learning'. The main area features two boxes: 'Level2' (for fundamental knowledge) and 'Level1' (beginner friendly courses). Each box has a 'Let's get started' button.



7. COURSES:

Here Different courses are organised according to the levels a user want

PROJECT MODULE DESCRIPTION

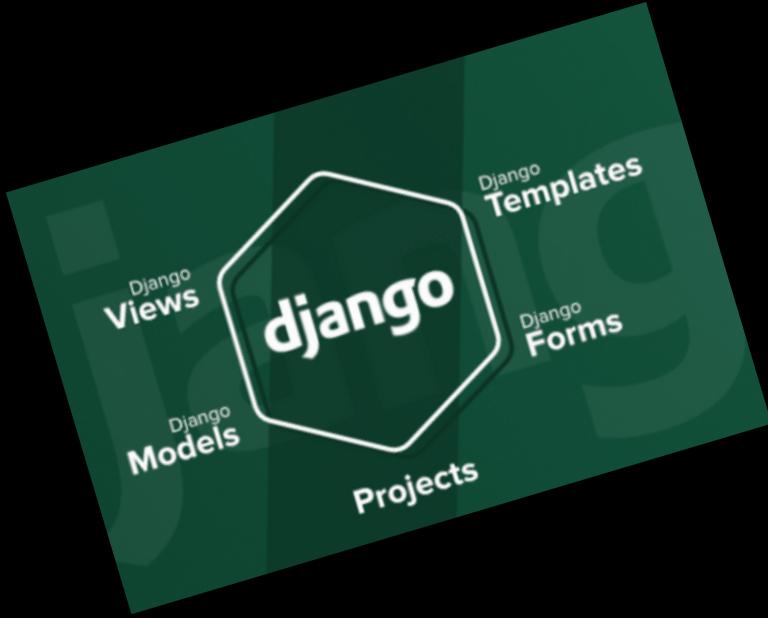


8. COMMUNITY:

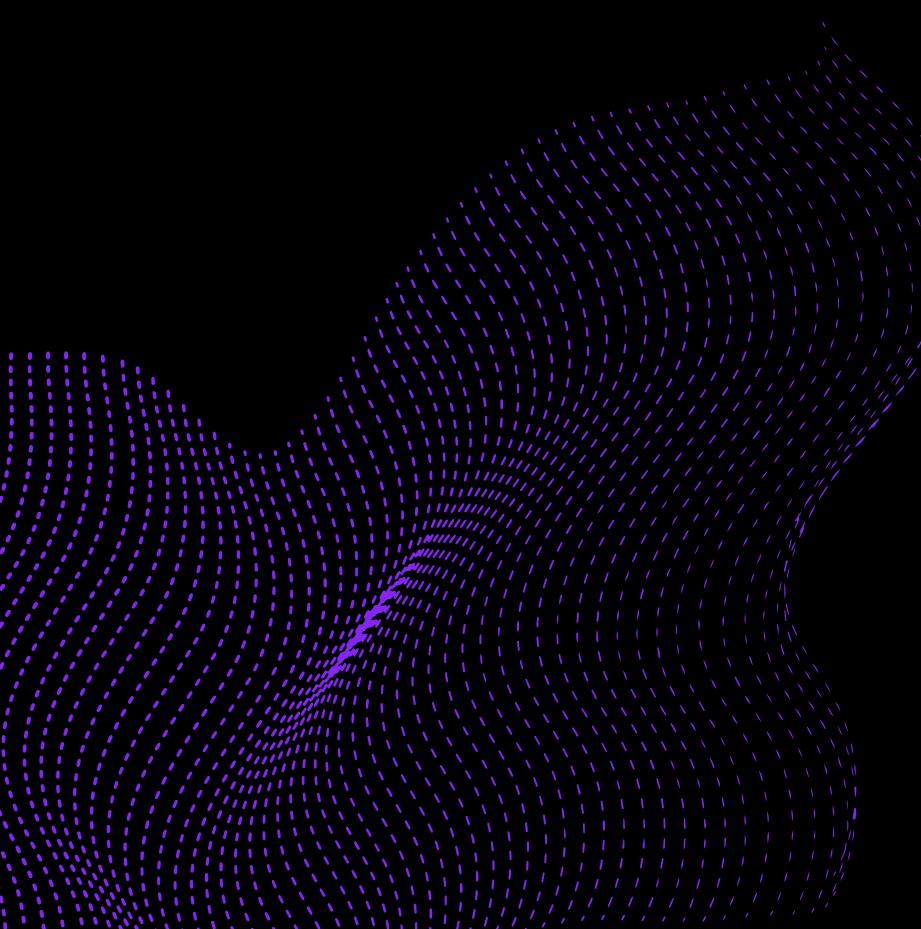
Here Users can request for any course, event, blog or any new additional content that they want in the website

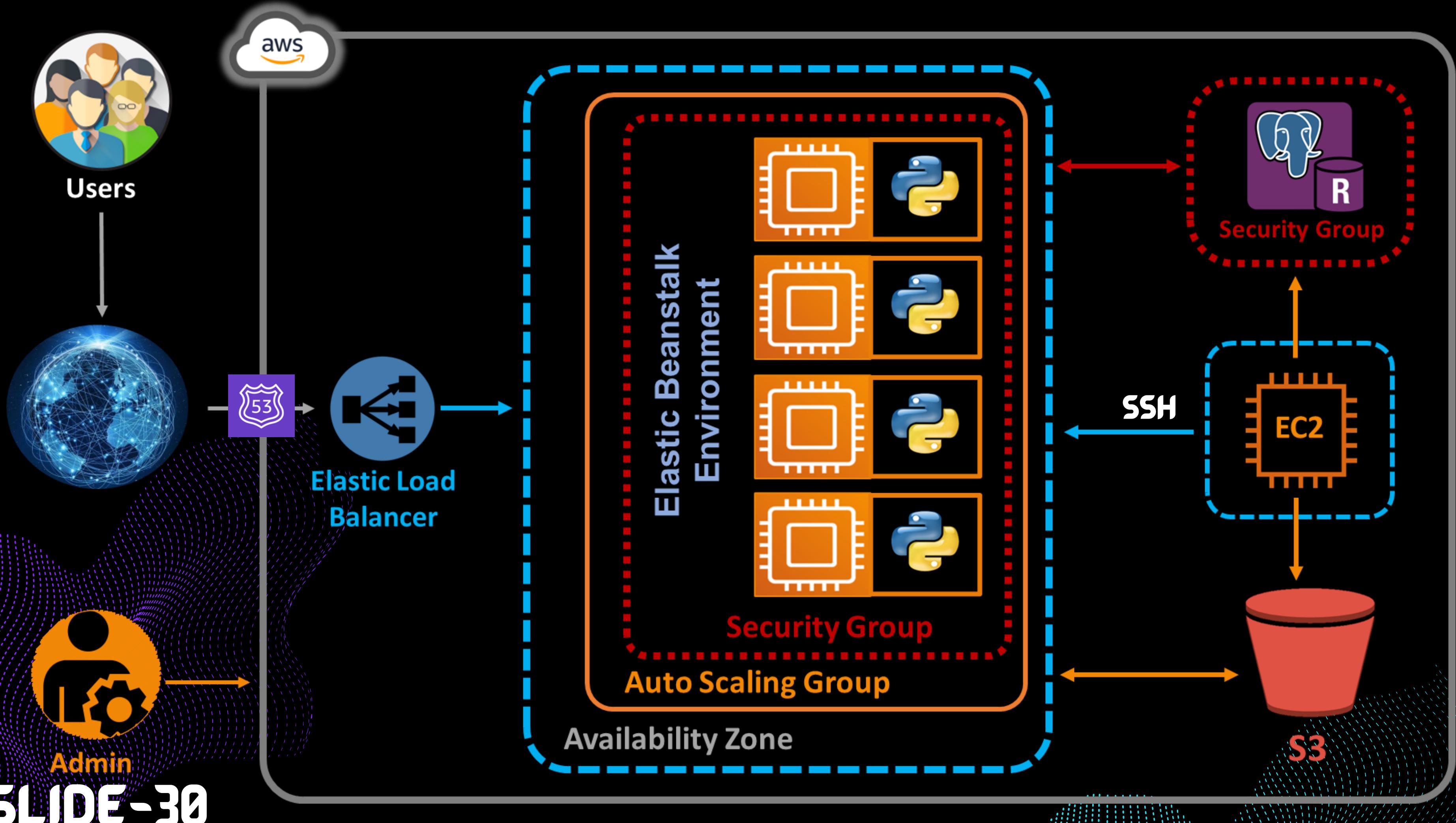
SOFTWARE REQUIREMENTS

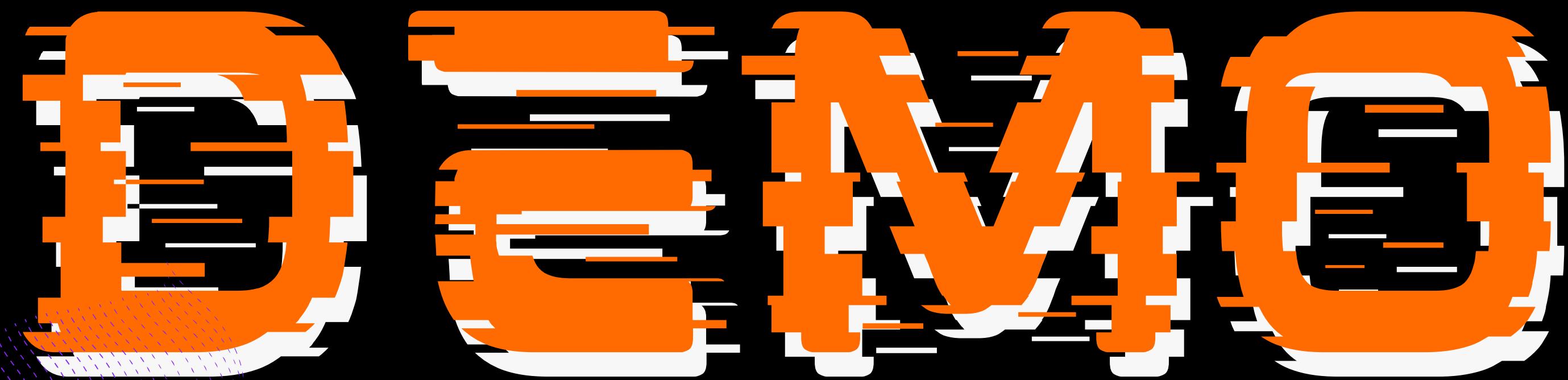
- Pycharm
- Django
- HTML / CSS
- JavaScript
- Language: Python 3.8 Environment
- AWS Account
- Web Browser: Any of Mozilla, Microsoft Edge, Google Chrome, etc.
- Filezilla



CLOUD ARCHITECTURE







LIMITATIONS

- **USER MANAGEMENT**: PERFORMANCE ISSUES WITH HIGH USER TRAFFIC.
- **SECURITY CONCERNS**: UNSECURED 'HTTP' PROTOCOL, RISK OF DATA BREACHES AND SENSITIVE INFORMATION EXPOSURE.
- **SCALABILITY**: 4 INSTANCE LIMIT DURING HIGH TRAFFIC, POTENTIAL FOR SERVER OVERLOAD.
- **DATABASE INSTABILITY**: POSSIBLE DATA LOSS IN CASE OF DATABASE INSTANCE TERMINATION.
- **LIMITED MOBILE SUPPORT**: PLATFORM NOT OPTIMIZED FOR MOBILE ACCESS.

FUTURE ENHANCEMENTS

- **USER EXP.**: IMPROVING USER EXP. WITH NEW FEATURES, TOOLS FOR ENGAGEMENT.
- **SECURITY**: UPGRADED TO 'HTTPS' FOR SECURE CONNECTION, PROTECTION OF USER DATA.
- **SCALABILITY**: SCALING INFRASTRUCTURE TO HANDLE HIGH TRAFFIC, FAST & RESPONSIVE.
- **AI**: INCORPORATING AI & ML TO ENHANCE PLATFORM, PERSONALIZE LEARNING EXP.
- **MOBILE**: OPTIMIZING FOR MOBILE DEVICES, WIDER REACH & ACCESSIBILITY.

REFERENCES



What is Django? - Django Software Explained - AWS

What is Django how and why businesses use Django, and how to use Django with AWS.

 Amazon Web Services



Getting Started with Elastic Load Balancing

Elastic Load Balancing automatically distributes incoming application traffic across multiple targets in one or more Availability Zones.

 Amazon Web Services



Deploying a Django application to Elastic Beanstalk

Read conceptual and detailed instructions for using AWS Elastic Beanstalk to quickly deploy and manage applications in the AWS cloud without worrying about the...

 AWS Elastic Beanstalk



AWS RDS PostgreSQL Instance for Django Project Django.How

AWS RDS PostgreSQL Instance for Django Project Django.How Python Django Development Guide and Resources

d.h europeitoutsourcing.com /

Thank
you!