Django Project
(Video-Authenticator)

1. Project and App Setup

1.1. CREATE DJANGO PROJECT AND APP:
(TERMINAL)

```
django-admin startproject videoauthenticator
cd videoauthenticator
python manage.py startapp videos
```

2. Project Settings

2.1. ADD APP AND CONFIGURE MEDIA FILES IN VIDEOAUTHENTICATOR/ SETTINGS.PY :

```python
from pathlib import Path
import os

BASE_DIR = Path(__file__).resolve().parent.parent

# Add 'videos' to INSTALLED_APPS
INSTALLED_APPS = [
    # default Django apps...
    'videos',
]

# Media files (for video uploads)
MEDIA_URL = '/media/'
MEDIA_ROOT = os.path.join(BASE_DIR, 'media')

# Templates (make sure context processors are included!)
TEMPLATES = [
    {
        'BACKEND': 'django.template.backends.django.DjangoTemplates',
        'DIRS': [os.path.join(BASE_DIR, 'templates')],
        'APP_DIRS': True,
        'OPTIONS': {
            'context_processors': [
                'django.template.context_processors.debug',
                'django.template.context_processors.request',
                'django.contrib.auth.context_processors.auth',
```

```
            'django.contrib.messages.context_processors.messages',
        ],
    },
},
]

ROOT_URLCONF = 'videoauthenticator.urls'
```

3. Video Model and Migration

3.1. DEFINE THE MODEL IN VIDEOS/MODELS.PY :

```
from django.db import models
from django.contrib.auth.models import User

class Video(models.Model):
    title = models.CharField(max_length=200)
    description = models.TextField(blank=True)
    file = models.FileField(upload_to='videos/')
    uploaded_at = models.DateTimeField(auto_now_add=True)
    uploaded_by = models.ForeignKey(User, on_delete=models.CASCADE)
    verification_status = models.CharField(max_length=20, default='Pending')

    def __str__(self):
        return self.title
```

3.2. REGISTER MODEL ADMIN IN VIDEOS/ADMIN.PY :

```
from django.contrib import admin
from .models import Video

admin.site.register(Video)
```

3.3. MAKE AND APPLY MIGRATIONS:
(TERMINAL)
```
python manage.py makemigrations
python manage.py migrate
```

4. Forms and Utils

4.1. CREATE FORMS IN VIDEOS/FORMS.PY :

```python
from django import forms
from .models import Video

class VideoForm(forms.ModelForm):
    class Meta:
        model = Video
        fields = ['title', 'description', 'file']
```

4.2. CREATE A PLACEHOLDER VERIFICATION CHECKER IN VIDEOS/UTILS.PY :

```python
import random

def verify_video(file_path):
    return random.choice(['Real', 'Fake', 'Unknown'])
```

5. Views
5.1. MODIFY VIDEOS/VIEWS.PY :

```python
from django.shortcuts import render, redirect
from django.contrib.auth.decorators import login_required
from .models import Video
from .forms import VideoForm
from .utils import verify_video

def video_list(request):
    videos = Video.objects.all()
    return render(request, 'videos/video_list.html', {'videos': videos})

@login_required
def video_upload(request):
    if request.method == 'POST':
        form = VideoForm(request.POST, request.FILES)
        if form.is_valid():
            video = form.save(commit=False)
            video.uploaded_by = request.user
            video.save()
```

```python
        # Run the verification
        video.verification_status = verify_video(video.file.path)
        video.save()
        return redirect('video_list')
    else:
        form = VideoForm()
    return render(request, 'videos/video_upload.html', {'form': form})
```

6. URLs

6.1. ADD VIDEOS/URLS.PY :

```python
from django.urls import path
from . import views

urlpatterns = [
    path('', views.video_list, name='video_list'),
    path('upload/', views.video_upload, name='video_upload'),
]
```

6.2. MAIN PROJECT URLS IN VIDEOAUTHENTICATOR/URLS.PY :

```python
from django.contrib import admin
from django.urls import path, include
from django.conf import settings
from django.conf.urls.static import static
from django.views.generic import RedirectView

urlpatterns = [
    path('admin/', admin.site.urls),
    path('videos/', include('videos.urls')),
    path('', RedirectView.as_view(url='/videos/')),
]

if settings.DEBUG:
    urlpatterns += static(settings.MEDIA_URL,
document_root=settings.MEDIA_ROOT)
```

7. Templates

7.1. TEMPLATES/BASE.HTML (PROJECT-LEVEL):

```html
<!DOCTYPE html>
<html>
<head>
    <title>Video Authenticator</title>
</head>
<body>
  <div class="container">
    {% if user.is_authenticated %}
      <p>Welcome, {{ user.username }} | <a href="{% url 'logout' %}">Logout</a></p>
    {% else %}
      <p><a href="{% url 'login' %}">Login</a></p>
    {% endif %}
    {% block content %}{% endblock %}
  </div>
</body>
</html>
```

7.2. VIDEOS/TEMPLATES/VIDEOS/VIDEO_LIST.HTML :

```html
{% extends 'base.html' %}
{% block content %}
  <h1>Uploaded Videos</h1>
  <a href="{% url 'video_upload' %}">Upload New Video</a>
  <ul>
    {% for video in videos %}
      <li>
        <h3>{{ video.title }}</h3>
        <p>{{ video.description }}</p>
        <p><b>Verification Status:</b> {{ video.verification_status }}</p>
        <video width="320" controls>
          <source src="{{ video.file.url }}" type="video/mp4">
        </video>
      </li>
    {% empty %}
      <li>No videos uploaded yet.</li>
```

```
  {% endfor %}
 </ul>
{% endblock %}
```

7.3. VIDEOS/TEMPLATES/VIDEOS/VIDEO_UPLOAD.HTML :

```
{% extends 'base.html' %}
{% block content %}
 <h1>Upload Video</h1>
 <form method="post" enctype="multipart/form-data">
  {% csrf_token %}
  {{ form.as_p }}
  <button type="submit">Upload</button>
 </form>
{% endblock %}
```

7.4. TEMPLATES/LOGIN.HTML :

```
{% extends 'base.html' %}
{% block content %}
 <h2>Login</h2>
 <form method="post">
  {% csrf_token %}
  {{ form.as_p }}
  <button type="submit">Login</button>
 </form>
{% endblock %}
```

8. Authentication URLs

Add in your main urls.py for login/logout:
```
from django.contrib.auth import views as auth_views

urlpatterns += [
    path('accounts/login/',
auth_views.LoginView.as_view(template_name='login.html'), name='login'),
    path('accounts/logout/',
auth_views.LogoutView.as_view(next_page='login'), name='logout'),
]
```

9. Running the Project

- ACTIVATE YOUR VIRTUALENV, INSTALL DJANGO, AND RUN:
(TERMINAL)

```
python manage.py runserver
```