**CASE STUDY**

1. **Project Structure**

markdown

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gas\_utility/

├── gas\_utility/

│ ├── \_\_init\_\_.py

│ ├── settings.py

│ ├── urls.py

│ ├── wsgi.py

├── service\_requests/

│ ├── migrations/

│ ├── \_\_init\_\_.py

│ ├── admin.py

│ ├── apps.py

│ ├── models.py

│ ├── tests.py

│ ├── views.py

│ ├── urls.py

│ └── forms.py

├── templates/

│ ├── submit\_request.html

│ └── track\_requests.html

├── manage.py

1. **Settings Configuration** Update your settings.py to include the app:

python

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# gas\_utility/settings.py

INSTALLED\_APPS = [

...

'service\_requests',

'django.contrib.staticfiles', # Required for serving static files

]

MEDIA\_URL = '/media/'

MEDIA\_ROOT = BASE\_DIR / # Create a media directory in your base dir

1. **Models** Create the service request model.

python

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# service\_requests/models.py

from django.db import models

from django.contrib.auth.models import User

class ServiceRequest(models.Model):

SERVICE\_TYPES = [

('repair', 'Repair'),

('installation', 'Installation'),

('maintenance', 'Maintenance'),

]

user = models.ForeignKey(User, on\_delete=models.CASCADE)

service\_type = models.CharField(max\_length=50, choices=SERVICE\_TYPES)

details = models.TextField()

attachment = models.FileField(upload\_to='attachments/', null=True, blank=True)

status = models.CharField(max\_length=20, default='Pending')

created\_at = models.DateTimeField(auto\_now\_add=True)

resolved\_at = models.DateTimeField(null=True, blank=True)

def str\_\_(self):

return f"{self.service\_type} request by {self.user.username}"

1. **Forms** Create a form for service requests.

python

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# service\_requests/forms.py

from django import forms

from .models import ServiceRequest

class ServiceRequestForm(forms.ModelForm):

class Meta:

model = ServiceRequest

fields = ['service\_type', 'details', 'attachment']

1. **Views** Implement views for submitting and tracking requests.

python

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# service\_requests/views.py

from django.shortcuts import render, redirect

from .models import ServiceRequest

from .forms import ServiceRequestForm

def submit\_request(request):

if request.method == 'POST':

form = ServiceRequestForm(request.POST, request.FILES)

if form.is\_valid():

service\_request = form.save(commit=False)

service\_request.user = request.user

service\_request.save()

return redirect('request\_success')

else:

form = ServiceRequestForm()

return render(request, 'submit\_request.html', {'form': form})

def track\_requests(request):

requests = ServiceRequest.objects.filter(user=request.user)

return render(request, 'track\_requests.html', {'requests': requests})

def request\_success(request):

return render(request, 'request\_success.html')

1. **URLs** Set up the application URLs.

python

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# service\_requests/urls.py

from django.urls import path

from .views import submit\_request, track\_requests, request\_success

urlpatterns = [

path('submit/', submit\_request, name='submit\_request'),

path('track/', track\_requests, name='track\_requests'),

path('success/', request\_success, name='request\_success'),

]

Update the main project URL configuration:

python

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# gas\_utility/urls.py

from django.contrib import admin

from django.urls import path, include

from django.conf import settings

from django.conf.urls.static import static

urlpatterns = [

path('admin/', admin.site.urls),

path('service\_requests/', include('service\_requests.urls')),

] + static(settings.MEDIA\_URL, document\_root=settings.MEDIA\_ROOT)

1. **Templates** Create HTML templates for the application.

**submit\_request.html**

html

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<h2>Submit a Service Request</h2>

<form method="post" enctype="multipart/form-data">

{% csrf\_token %}

{{ form.as\_p }}

<button type="submit">Submit</button>

</form>

**track\_requests.html**

html

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<h2>Your Service Requests</h2>

<ul>

{% for request in requests %}

<li>{{ request.service\_type }} - {{ request.status }} (Submitted on: {{ request.created\_at }})</li>

{% empty %}

<li>No requests found.</li>

{% endfor %}

</ul>

**request\_success.html**

html

Copy code

<h2>Request Submitted Successfully!</h2>

<p>Your service request has been submitted. Thank you!</p>

<a href="{% url 'track\_requests' %}">Track your requests</a>

1. **Admin Configuration** Register the model in the admin interface.

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# service\_requests/admin.py

from django.contrib import admin

from .models import ServiceRequest

admin.site.register(ServiceRequest)

**Final Steps**

1. **Create Database Migrations** Run the following commands to set up the database:

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python manage.py makemigrations

python manage.py migrate

1. **Create a Superuser** To access the Django admin panel:

bash

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python manage.py createsuperuser

1. **Run the Development Server** Start the server with:

bash

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python manage.py runserver

1. **Access the Application**
   * Navigate to http://127.0.0.1:8000/service\_requests/submit/ to submit a service request.
   * Navigate to http://127.0.0.1:8000/service\_requests/track/ to track your service requests.

**Conclusion**

This code provides a functional Django application for a gas utility company that allows customers to submit and track service requests. You can extend this application by adding features like user authentication, email notifications, and a more comprehensive admin interface