Task 1: Environment Setup

Steps:

1. Choose a framework: Django
2. Install Django:

   pip install django
3. Set up the Django project:

   django-admin startproject obituary_project
   cd obituary_project
   django-admin startapp obituaries
4. Ensure the database service is running: use PostgreSQL.
5. Install PostgreSQL and dependencies:

   sudo apt-get install postgresql postgresql-contrib

   pip install psycopg2
6. Create a virtual environment and install dependencies:

   python -m venv venv

   source venv/bin/activate

   pip install django psycopg2

Task 2: Database Creation

Steps:

1. Open PostgreSQL and create the database:

   CREATE DATABASE obituary_platform;
2. Configure Django to use the PostgreSQL database:

```
DATABASES = {
    'default': {
        'ENGINE': 'django.db.backends.postgresql',
        'NAME': 'obituary_platform',
        'USER': 'your_username',
        'PASSWORD': 'your_password',
        'HOST': 'localhost',
        'PORT': '5432',
```

```
  }
}
```

3. Create the obituaries table

```
from django.db import models

class Obituary(models.Model):
    name = models.CharField(max_length=100)
    date_of_birth = models.DateField()
    date_of_death = models.DateField()
    content = models.TextField()
    author = models.CharField(max_length=100)
    submission_date = models.DateTimeField(auto_now_add=True)
    slug = models.SlugField(max_length=255, unique=True)
```

4. Run migrations to create the table:

   python manage.py makemigrations

   python manage.py migrate

Task 3: HTML Form Creation

Steps:

1. Create an HTML file named `obituary_form.html`:

```
<!DOCTYPE html>
<html lang="en">
<head>
  <meta charset="UTF-8">
  <meta name="viewport" content="width=device-width, initial-scale=1.0">
  <title>Submit Obituary</title>
  <link rel="stylesheet" href="{% static 'css/style.css' %}">
</head>
<body>
  <form id="obituaryForm" method="POST" action="{% url 'submit_obituary' %}">
```

```
        {% csrf_token %}
        <label for="name">Name:</label>
        <input type="text" id="name" name="name" required>
        <label for="date_of_birth">Date of Birth:</label>
        <input type="date" id="date_of_birth" name="date_of_birth" required>
        <label for="date_of_death">Date of Death:</label>
        <input type="date" id="date_of_death" name="date_of_death" required>
        <label for="content">Content:</label>
        <textarea id="content" name="content" required></textarea>
        <label for="author">Author:</label>
        <input type="text" id="author" name="author" required>
        <button type="submit">Submit</button>
    </form>
    <script src="{% static 'js/validate.js' %}"></script>
</body>
</html>
```

2. Style the form with CSS:

```
body {
    font-family: Arial, sans-serif;
    margin: 0;
    padding: 0;
    background-color: #f4f4f4;
}

form {
    max-width: 600px;
    margin: 50px auto;
```

```
    padding: 20px;
    background-color: #fff;
    box-shadow: 0 0 10px rgba(0, 0, 0, 0.1);
}

label {
    display: block;
    margin-bottom: 8px;
}

input, textarea {
    width: 100%;
    padding: 10px;
    margin-bottom: 20px;
}

button {
    padding: 10px 20px;
    background-color: #007bff;
    color: #fff;
    border: none;
    cursor: pointer;
}
```

Task 4: Backend Script for Data Submission

Steps:

1. Create the view to handle form submission in `views.py`:

```
from django.shortcuts import render, redirect
from .models import Obituary
from django.utils.text import slugify

def submit_obituary(request):
    if request.method == 'POST':
        name = request.POST['name']
        date_of_birth = request.POST['date_of_birth']
        date_of_death = request.POST['date_of_death']
        content = request.POST['content']
        author = request.POST['author']
        slug = slugify(name + '-' + date_of_death)
        Obituary.objects.create(
            name=name,
            date_of_birth=date_of_birth,
            date_of_death=date_of_death,
            content=content,
            author=author,
            slug=slug
        )
        return render(request, 'confirmation.html')
    else:
        return render(request, 'obituary_form.html')
```

2. Add the URL pattern in `urls.py`:

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

urlpatterns = [
```

```
    path('submit_obituary/', views.submit_obituary, name='submit_obituary'),
]
```

3. Create a confirmation page `confirmation.html`:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>Submission Confirmation</title>
</head>
<body>
    <h1>Thank you for your submission!</h1>
    <p>Your obituary has been submitted successfully.</p>
</body>
</html>
```

Task 5: Backend Script for Data Retrieval

Steps:

1. Create the view to retrieve and display obituaries in `views.py`:

```
def view_obituaries(request):
    obituaries = Obituary.objects.all()
    return render(request, 'view_obituaries.html', {'obituaries': obituaries})
```

2. Add the URL pattern in `urls.py`:

```
urlpatterns += [
    path('view_obituaries/', views.view_obituaries, name='view_obituaries'),
]
```

3. Create the HTML template `view_obituaries.html`:

```
<!DOCTYPE html>
<html lang="en">
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>View Obituaries</title>
    <link rel="stylesheet" href="{% static 'css/style.css' %}">
</head>
<body>
    <table>
        <thead>
            <tr>
                <th>Name</th>
                <th>Date of Birth</th>
                <th>Date of Death</th>
                <th>Content</th>
                <th>Author</th>
                <th>Submission Date</th>
            </tr>
```

```
        </thead>
        <tbody>
            {% for obituary in obituaries %}
            <tr>
                <td>{{ obituary.name }}</td>
                <td>{{ obituary.date_of_birth }}</td>
                <td>{{ obituary.date_of_death }}</td>
                <td>{{ obituary.content }}</td>
                <td>{{ obituary.author }}</td>
                <td>{{ obituary.submission_date }}</td>
            </tr>
            {% endfor %}
        </tbody>
    </table>
</body>
</html>
```

Task 6: SEO and Social Media Optimization

Steps:

1. Add meta tags dynamically in `view_obituaries.html`:

```
<head>
    <meta charset="UTF-8">
    <meta name="viewport" content="width=device-width, initial-scale=1.0">
    <title>{{ obituary.name }} - Obituary</title>
```

```
    <meta name="description" content="{{ obituary.content|truncatewords:30 }}">
    <meta name="keywords" content="obituary, {{ obituary.name }}, {{ obituary.date_of_birth }}, {{ obituary.date_of_death }}">
    <meta property="og:title" content="{{ obituary.name }} - Obituary">
    <meta property="og:description" content="{{ obituary.content|truncatewords:30 }}">
    <meta property="og:type" content="article">
</head>
```

2. Integrate social media sharing buttons: