

Data Science for Sustainable Construction Materials

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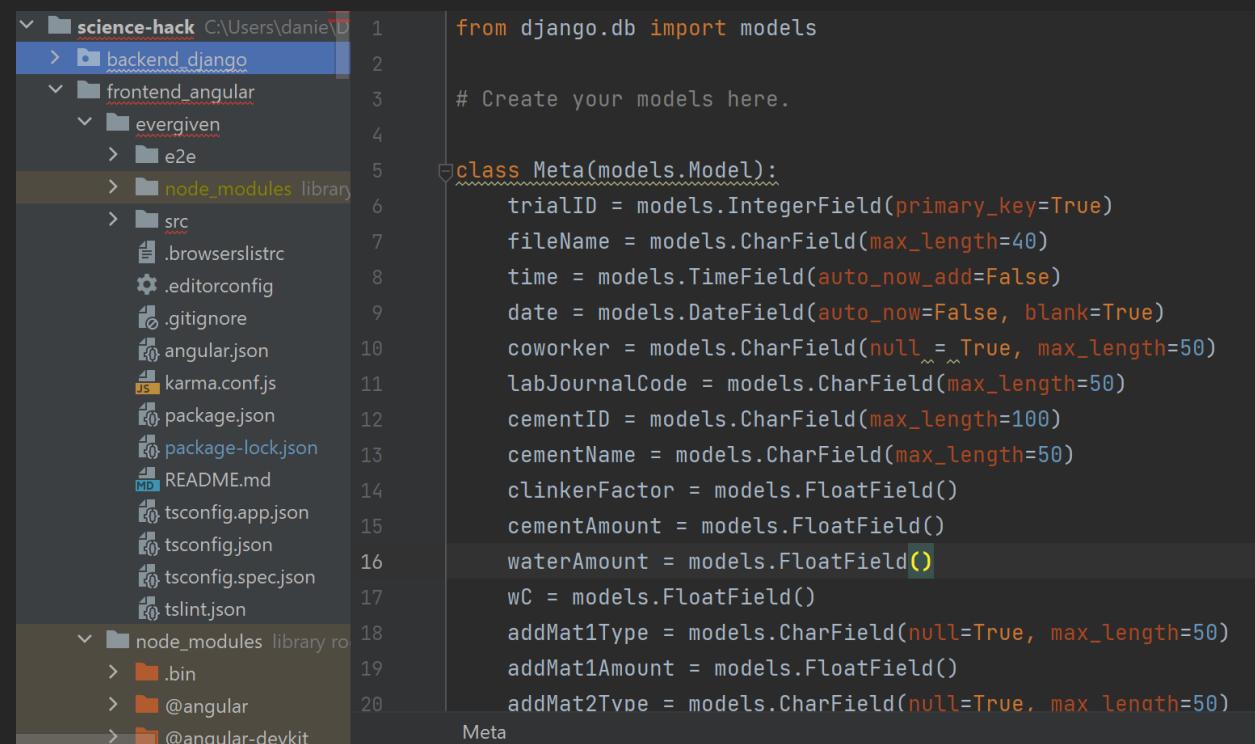


Cenvi – Cement for Environment

- Web-Based
- User friendly interaction with collected data
- Quick search through the data
- Built in Visualization function

Outline & Implementation

- Easy to use user interface
- Integrated Database
- Front-End: Angular
- Back-End: Django
- Database: PostgreSQL



The image shows a code editor with a file tree on the left and a code editor on the right. The file tree shows a project structure with folders like 'backend_django', 'frontend_angular', 'node_modules', and 'src'. The code editor displays a Python file named 'Meta.py' containing a Django model definition:

```
from django.db import models

# Create your models here.

class Meta(models.Model):
    trialID = models.IntegerField(primary_key=True)
    fileName = models.CharField(max_length=40)
    time = models.TimeField(auto_now_add=False)
    date = models.DateField(auto_now=False, blank=True)
    coworker = models.CharField(null=True, max_length=50)
    labJournalCode = models.CharField(max_length=50)
    cementID = models.CharField(max_length=100)
    cementName = models.CharField(max_length=50)
    clinkerFactor = models.FloatField()
    cementAmount = models.FloatField()
    waterAmount = models.FloatField()
    wC = models.FloatField()
    addMat1Type = models.CharField(null=True, max_length=50)
    addMat1Amount = models.FloatField()
    addMat2Type = models.CharField(null=True, max_length=50)
```

User Interface

Home Upload Login/Logout

Date: dd/mm/yyyy

Time: -- : --

Coworker: Coworker

Lab Journal Code: Lab Journal Code

Instrument ID: Instrument ID

Cement ID:

Cement Name:

Clinker Factor:

Cement Amount:

Water Amount(g):

W.C.:

Add. Mat. Type1: additional Mat1 Type Add. Mat. Type1 Amount: additional Mat1 Amount

Add. Mat. Type2: additional Mat2 Type Add. Mat. Type2 Amount: additional Mat2 Amount

Add. Param: additional Param Add. Param. Value: additional Param Value

mixing Time(sec): mixing Time

mixing Protocol: mixing Protocol

Temperature(°C): Temperature

Drag and drop file here

or

Browse for file

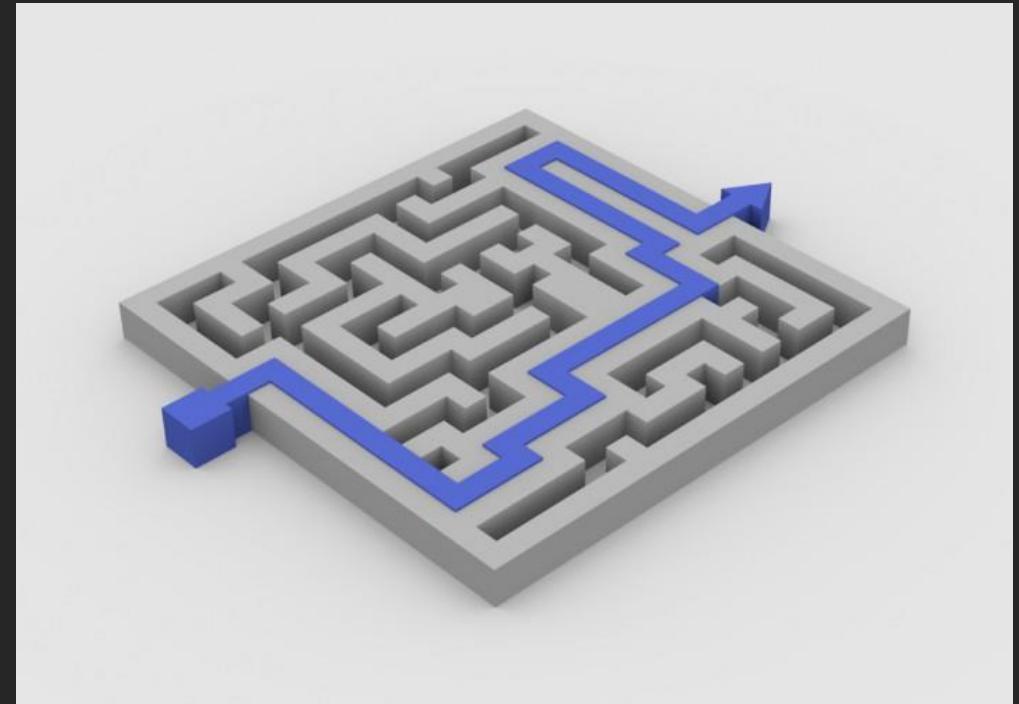
Upload Image File

Functionalities

- Search
 - Upload
 - Visualization
 - Comparison

Impact of Cenvi

- Supports the research progress by making data interaction easier
- Conclusions from the data can be drawn quicker, thus allowing for a more targeted approach



**“Great things are not done by impulse but by
a series of small things brought together”**

- Vincent Van Gogh