DJANGO VS SYSADMIN

PYCONES, SEPTIEMBRE 2017, CÁCERES

PRUÉBALO

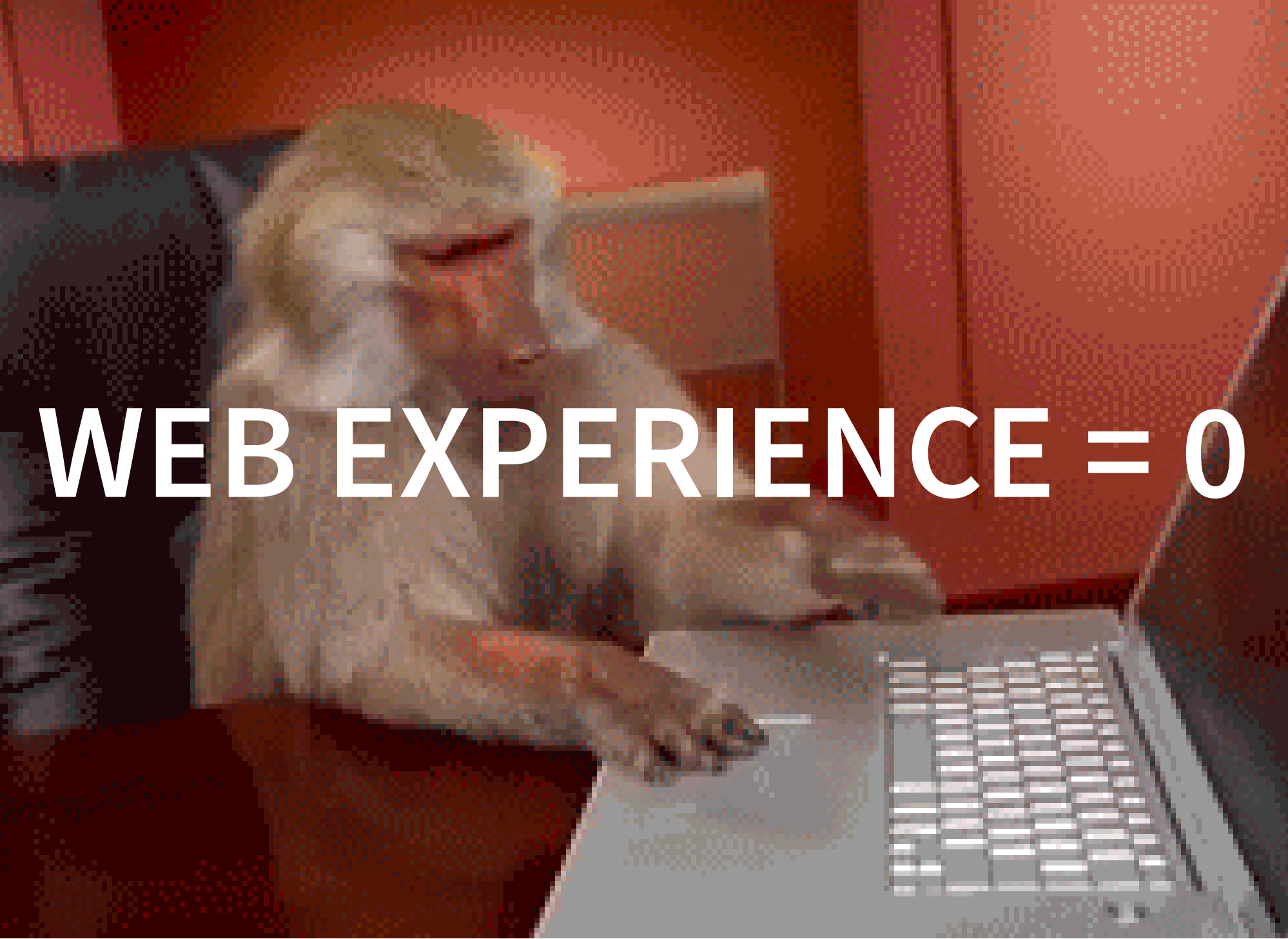
https://github.com/klashxx/PyConES2017

- Estructurada en ramas
- Incremental
- Docker

AUTOBOMBO

- Sysadmin desde 2004
- Primer programa Amstrad CPC6128

https://klashxx.github.io/about


WEB EXPERIENCE = 0

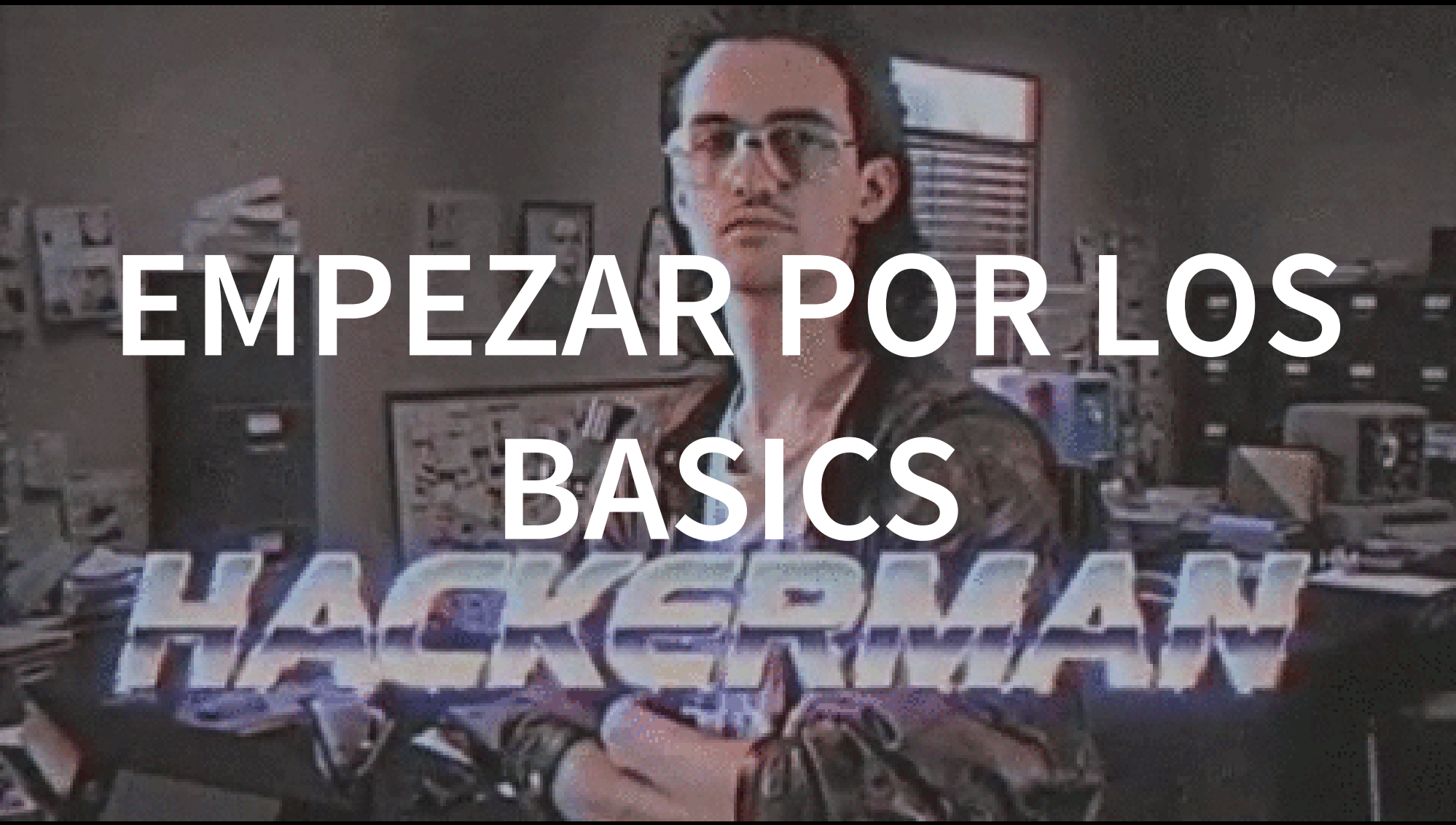
¿POR QUÉ DJANGO?

- Python
- Fiable
- ORM
- Extesible
- DRF y otras hierbas
- Admin Site


WIN OR WIN

FIRST FAIL

CMS



EMPEZAR POR LOS BASICS

DESARROLLO

- virtualenv
- Docker
- docker-compose
- Kubernetes - Docker-Swarm


DOCKER ES AMOR!

DATABASES

- PostgreSQL
- MySQL
- SQLite
- Oracle

GO FOR POSTGRESQL !

settings.py y .env

- Configuración
- Ocultar los secretos
- Variables globales

DECOUPLE

.ENV

```
SECRET_KEY=#^p^js0g91jhtarws6bp7s@r&988%%n_ok6#b)q=3s1v8-(si$
```

SETTINGS.PY

```
from decouple import config
SECRET_KEY = config('SECRET_KEY')
```

DJ DATABASE URL

.ENV

```
DB_URL=postgresql://postgres:postgres@postgres:5432/postgres
```

SETTINGS.PY

```
DATABASES = {
'default': dj_database_url.config(default=config('DB_URL')),
}
```

SECOND FAIL

LA ESTRUCTURA DEL PROYECTO

DOCS

```
mysite/
    manage.py
    mysite/
        __init__.py
        settings.py
        urls.py
        wsgi.py
    polls/
        __init__.py
        admin.py
        migrations/
                __init__.py
                0001_initial.py
        models.py
        static/
```

FIRST TRY

```
sysgate/
    manage.py
    sysgate/
        __init__.py
        settings.py
        urls.py
        wsgi.py
    account/
        __init__.py
        …
    metrics/
        __init__.py
        …
    templates/
        account/
```

F*CK YEAH

```
sysgate/
    manage.py
    sysgate/
        __init__.py
        settings.py
        urls.py
        wsgi.py
        routers.py
        account/
            __init__.py
            ...
        apps/
            __init__.py
            core/
                templatetags/
```


PRODUCTIVITY
BOOST

urls.py

- Regexp
- Modular

ROOT

```
urlpatterns = [
        url(r'^', include('apps.core.urls', namespace='core'))
        url(r'^account/', include('account.urls'), name='Auten
        url(r'^metrics/', include('apps.metrics.urls'), name='
        url(r'^manager/', include('apps.manager.urls'), name='
        url(r'^admin/', admin.site.urls),
        ]
```

CORE

```
urlpatterns = [
        url(r'^$', views.Home.as_view(), name='home'),
        ]
```

MODELOS Y VISTAS …¿DÓNDE ESTÁ EL CONTROLADOR?

- Framework «MTV». «Model», «Template» y «View»

models.py

- Clase cuyos objetos instanciados están dotados de persistencia en BD

TIPS

- managed = False
- Campo único

views.py

- Extraer datos de nuestros models.py
- NO necesitamos SQL

TIPS

- Class Based Views

template.html

- Representa los datos extraidos por la vista

```
<h1>Metrics App</h1>
<p>Bienvenid@ <strong>{{ request.user }}</strong></p>
<p>Disponibles:</p>

{% for metrica in metricas %}

{% endfor %}
<table style="border: 1px solid black;"><tbody><tr>
        <td>{{ metrica.nombre }}</td>
        <td>{{ metrica.get_tipo_display }}</td>
  </tr></tbody></table>
```

AUTENTICACIÓN Y REGISTRO

- AbstractUser
- Auth views

DRF

FIRST TRY

```
class Home(View):
        def get(self, request, *args, **kwargs):
          metricas = Metrica.objects.all().order_by('tipo')
          return render(
                  request,
                  'metrics/home.html',
                  context={'metricas': metricas})
```

```
{% for metrica in metricas %}

   {{ metrica.nombre }}
   {{ metrica.get_tipo_display }}

   {% endfor %}
```


THE WHITE HOUSE
WASHINGTON
SEPARA
EL
BACKEND
DEL
FRONTEND

SERIALIZANDO ...

```
class SerializerMetricas(serializers.ModelSerializer):
    class Meta:
        model = Metrica
        fields = '__all__'
```

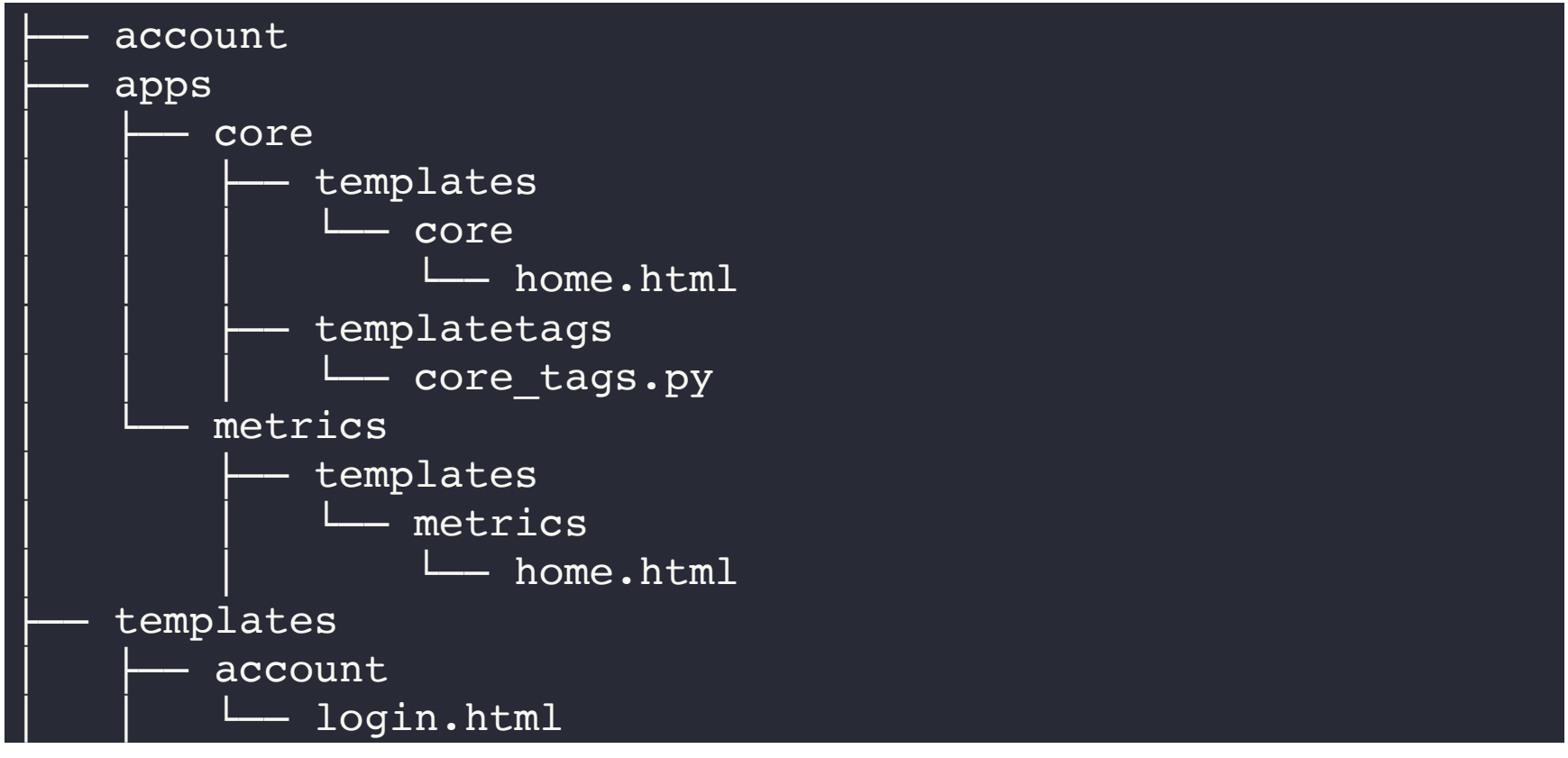
```
class MetricasViewSet(viewsets.ModelViewSet):
  serializer_class = SerializerMetricas
  http_method_names = ['get']
  filter_backends = (OrderingFilter, SearchFilter,)
  search_fields = ('tipo',)
  def get_queryset(self):
        queryset = Metrica.objects.all().order_by('tipo')
        tipo = self.request.query_params.get('tipo', None)
        if tipo is not None:
                queryset = queryset.filter(tipo=tipo)
        return queryset
```

REST API


```
{
        "nombre": "USERS",
        "long_tipo": "Custom",
        "tipo": "c",
        "alta": "2017-08-13T10:21:19.015000Z",
        "descripcion": "Return users ..."
},
{
        "nombre": "READ",
        "long_tipo": "Disk",
        "tipo": "d",
        "alta": "2017-08-13T10:15:09.516000Z",
        "descripcion": "Number of reads"
}
```


PRODUCTIVITY
BOOST INCREASED!

FRONTEND (TEMPLATING)



CONCEPTOS

- Herencia
- Lenguaje
- Custom Tags y Filtros

```
from django import template
register = template.Library()

@register.filter('en_grupo')
def en_grupo(user, group_name):
        groups = user.groups.all().values_list('name', flat=Tr
        return True if group_name in groups else False
```

```
{% extends 'base.html' %}
{% load core_tags %}
{% block content %}

{% if request.user|en_grupo:"pycones" or user.is_superuser %}
        <h1>Metrics</h1>
        <a class="btn" href="{% url 'metrics:home' %}">Acceder
{% endif %}

{% if not user.is_authenticated %}
    <button type="button" class="close"></button>Longin
{% endif %}
{% endblock %}
```


CUTE!

Y ESTO ...

¿CÓMO SE VE EN EL MÓVIL?


¿OLA K ASE?

MEJORANDO EL FRONTEND

- Bootstrap
- Javascript

```
var v = new Vue({
  delimiters: ['[[', ']]'],
  el: '#container',
  data: {
        metricas: []
  },
  mounted: function(){
        $.get('/metrics/api/v1/metricas/', function(data){
          v.metricas = data;
        })}
})
```

```
<table>
  <tbody>
        <tr v-for="metrica in metricas">
          <td>[[ metrica.nombre ]]</td>
          <td>[[ metrica.long_tipo ]]</td>
        </tr>
  </tbody>
</table>
```

PERMISOS

- Templates
- Views
- Serializers

```python
@method_decorator(login_required, name='dispatch')
class Home(UserPassesTestMixin, View):
        def test_func(self):
                return super_o_esta_en_grupo(self.request.user

        def get(self, request, *args, **kwargs):
                return render(request, 'metrics/home.html')
```

```python
class EsSuperOTienePermisosPorGrupo(BasePermission):
    def has_permission(self, request, view):
        gr_auth_map = getattr(view, 'grupos_autorizados', {})
        gr_auth = gr_auth_map.get(request.method, [])
        return any([super_o_esta_en_grupo(request.user, grupo)
                    for grupo in gr_auth])
```

DEPLOY

- NGINX
- Gunicorn
- Docker


¡MUCHAS GRACIAS!