НАЦИОНАЛЬНЫЙ ИССЛЕДОВАТЕЛЬСКИЙ УНИВЕРСИТЕТ ИТМО

Дисциплина: Основы веб-программирования

Отчет по лабораторной работе №1
Вариант 1

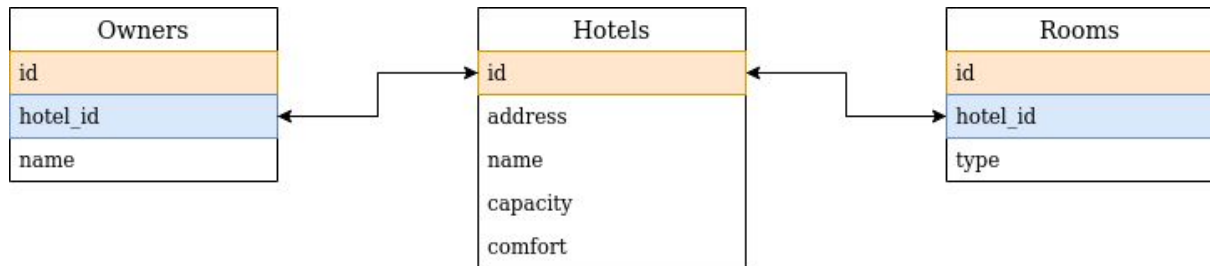Создание сайта на Django

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2020 г.

Выполнение работы:

Модель данных:

models.py:

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

# Create your models here.
class Hotel(models.Model):
    address = models.CharField(max_length=50)
    name = models.CharField(max_length=50)
    capacity = models.IntegerField()
    comfort = models.CharField(max_length=50)

    def __str__(self):
        return "{}, {}".format(self.name, self.address)


class Owner(models.Model):
    hotel = models.ForeignKey(Hotel, on_delete=models.CASCADE)
    name = models.CharField(max_length=50)

    def __str__(self):
        return "{}: {}".format(self.name, self.hotel)


class Room(models.Model):
    ROOMTYPES = [
        ('1', '1 person'),
        ('2', '2 persons'),
        ('3', '3 persons')
    ]

    hotel = models.ForeignKey(Hotel, on_delete=models.CASCADE)
    room_type = models.CharField(choices=ROOMTYPES, default='1', max_length=1)

    def __str__(self):
        return "Room in {} room is for {}".format(self.hotel, self.get_room_type_display())
```

```python
class HotelComment(models.Model):
    HOTELRATING = [
        ('1', '1'),
        ('2', '2'),
        ('3', '3'),
        ('4', '4'),
        ('5', '5'),
        ('6', '6'),
        ('7', '7'),
        ('8', '8'),
        ('9', '9'),
        ('10', '10')
    ]
    hotel = models.ForeignKey(Hotel, on_delete=models.CASCADE)

    period_start = models.DateField()
    period_end = models.DateField()
    text = models.CharField(max_length=1024)
    rating = models.CharField(choices=HOTELRATING, default='1', max_length=2)
    user = models.ForeignKey(User, on_delete=models.CASCADE)
```

forms.py:

```python
from django import forms
from .models import HotelComment
from django.contrib.auth.models import User


class CommentForm(forms.ModelForm):
    class Meta:
        model = HotelComment
        fields = [
            "period_start",
            "period_end",
            "text",
            "rating"
        ]
        widgets = {
            "period_start": forms.DateInput(attrs={'type': 'date'}),
            "period_end": forms.DateInput(attrs={'type': 'date'})
        }


class UserForm(forms.ModelForm):
    password = forms.CharField(widget=forms.PasswordInput())
    class Meta():
        model = User
        fields = ('username', 'password', 'email', 'first_name', 'last_name')
```

views.py:

```python
from django.shortcuts import render
from .models import *
from django.http import Http404, HttpResponseRedirect, HttpResponse
from django.views.generic.list import ListView
from .forms import *
from django.contrib.auth import authenticate, login
from django.contrib.auth.decorators import login_required

# Create your views here.
class HotelView(ListView):
    model = Hotel

    def get(self, request):
        context = {}

        try:
            context["hotels"] = Hotel.objects.all()
        except Flight.DoesNotExist:
            raise Http404("Hotel does not exist")

        return render(request, 'hotels.html', context)
```

```python
@login_required
def hotel_info(request, hotel_id):
    try:
        hotel = Hotel.objects.get(pk=hotel_id)
    except Hotel.DoesNotExist:
        raise Http404("Hotel does not exist")

    try:
        rooms = Room.objects.filter(hotel=hotel_id).all()
    except Room.DoesNotExist:
        pass

    try:
        comments = HotelComment.objects.filter(hotel=hotel_id).all()
    except HotelComment.DoesNotExist:
        pass

    if request.POST.get('user'):
        user_id = int(request.POST.get('user'))

    form = CommentForm(request.POST)

    if form.is_valid():

        new_form = form.save(commit=False)
        new_form.post = form
        new_form.hotel_id = hotel_id
        new_form.user_id = user_id
        new_form.save()

        return HttpResponseRedirect('/hotels/{}/'.format(hotel_id))

    return render(request, 'hotel.html', {'hotel': hotel, 'rooms': rooms, 'comments': comments, 'form': form})
```

```python
def register(request):
    registered = False

    if request.method == 'POST':

        create_user_form = UserForm(data=request.POST)

        if create_user_form.is_valid():

            user = create_user_form.save()
            user.set_password(user.password)
            user.save()
            registered = True

        else:

            print(create_user_form.errors)
    else:

        create_user_form = UserForm()

    return render(request,'register.html', {'create_user_form': create_user_form, 'registered': registered})


def user_login(request):
    if request.method == 'POST':

        username = request.POST.get('username')
        password = request.POST.get('password')

        user = authenticate(username=username, password=password)

        if user:

            if user.is_active:
                login(request, user)
                return HttpResponseRedirect('/hotels/')

            else:
                return HttpResponse("Your account was inactive.")

        else:
            return HttpResponse("Invalid login")

    else:
        return render(request, 'login.html', {})
```

Регистрация и авторизация использовались стандартные. Если пользователь не зашёл на сайт с логином и паролем, то он не сможет оставить комментарий.

urls.py:

```python
from django.contrib import admin
from django.urls import path, include
from .views import *

urlpatterns = [
    path('hotels/', HotelView.as_view()),
    path('hotels/<int:hotel_id>/', hotel_info),
    path('accounts/login/', user_login),
    path('accounts/register/', register)
]
```

Страница, где выводятся все отели:

Hotels:

Друзья у Дома Книги, Санкт-Петербург, наб. канала Грибоедова, 19
Show more information

Друзья на Банковском - отель и хостел, Санкт-Петербург, Банковский пер., д. 3
Show more information

Страница с подробной информацией по отелю:

Hotel:

Друзья у Дома Книги, Санкт-Петербург, наб. канала Грибоедова, 19

Rooms:

Room in Друзья у Дома Книги, Санкт-Петербург, наб. канала Грибоедова, 19 room is for 1 person

Room in Друзья у Дома Книги, Санкт-Петербург, наб. канала Грибоедова, 19 room is for 2 persons

Rating: 10/10

Period: April 1, 2020 -

Authored by: stasia

Всё отлично!

Add new comment:

• This field is required.

Period start: `дд . мм . гггг`

• This field is required.

Period end: `дд . мм . гггг`

• This field is required.

Text: [   ]

• This field is required.

Rating: `1 ⌄`

[Submit Query]

Страница регистрации:

Username: [   ] Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Password: [   ]

Email address: [   ]

First name: [   ]

Last name: [   ]

[Register]

Регистрирую Иванова Ивана:

Username: [ivan] Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.

Password: [•••••]

Email address: [ivan@gmail.com]

First name: [ivan]

Last name: [ivanov]

[Register]

После регистрации выводится:

Thanks for registration! Now you can login

Логинюсь и добавляю комментарий от него:

Hotel:

Друзья у Дома Книги, Санкт-Петербург, наб. канала Грибоедова, 19

Rooms:

Room in Друзья у Дома Книги, Санкт-Петербург, наб. канала Грибоедова, 19 room is for 1 person

Room in Друзья у Дома Книги, Санкт-Петербург, наб. канала Грибоедова, 19 room is for 2 persons

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Rating: 10/10

Period: April 1, 2020 -

Authored by: stasia

Всё отлично!

Rating: 6/10

Period: March 31, 2020 -

Authored by: ivan

Душ сломан у вас и вай-фай плохо ловит!

Add new comment:

- This field is required.

Period start: [дд . мм . гггг]

- This field is required.

Period end: [дд . мм . гггг]

- This field is required.

Text: [   ]

- This field is required.

Rating: [1 ▾]

[Submit Query]