

Simple Course Management System

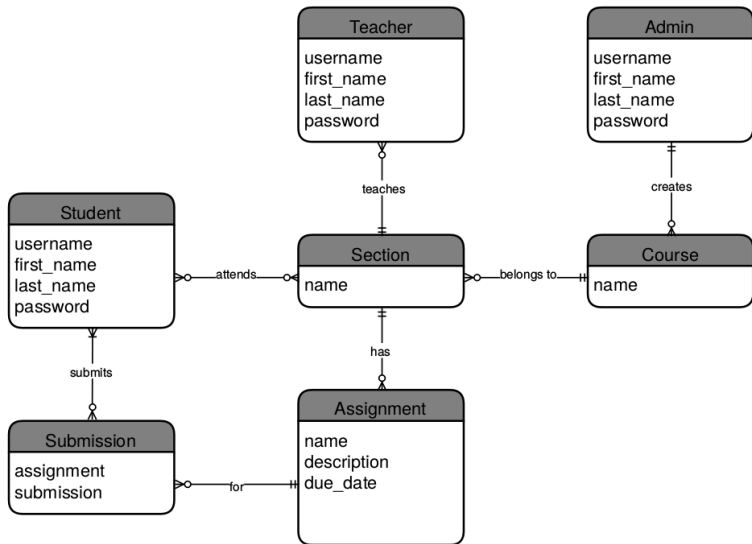
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Implementation Technology

- ▶ Python
- ▶ Django
- ▶ Postgres

Conceptual Data Model



Model

```
class Assignment(models.Model):  
    name = models.CharField(max_length=255)  
    section = models.ForeignKey('courses.Section',  
                                related_name='assignments')  
    description = models.TextField()  
    due_date = models.DateTimeField()  
  
    def __str__(self):  
        return str(self.section) + " - " + self.name
```

View

```
@login_required
@get_request_user
def user_profile(request, user):
    sections = []
    assignments = []
    if user.is_teacher():
        sections = Section.objects.filter(teacher=user.id)
        context = {'user': user, 'sections': sections}
    elif user.is_student():
        due_assignments = []
        sections = Section.objects.select_related('course')\
            .prefetch_related('assignments').filter(students=user.id)
        for section in sections:
            assignments.extend(section.assignments.all())
        for assignment in assignments:
            if assignment.due_date > timezone.now():
                due_assignments.append(assignment)
        context = {'user': user, 'sections': sections,
            'assignments': assignments, 'due_assignments': due_assignments}

    return render(request, 'users/profile.html', context)
```

Template

```
{% if user %}
{% if user.is_student and not enrolled %}
<h3>Join the Section</h3>
<form action="{% url 'courses:enroll' section.id %}" method="post">
    {% csrf_token %}
    <input type="submit" value="Join" />
</form>
{% elif user.is_admin %}
<h3>Add students to section</h3>
<form action="{% url 'courses:enroll' section.id %}" method="post">
    {% csrf_token %}
    <label for="student_id">Student</label><br />
    <select name=student_id id=student_id >
    {% for student in students %}
        <option value={{student.id}}>{{student}}</option>
    {% endfor %}
    </select>
    <input type="submit" value="Add student" />
</form>
{% endif %}
{% endif %}
```

What we learned

- ▶ Python & Django are very powerful
- ▶