**Objective 2 Report**

**Users to see all users who are currently logged in**

* It is up to you what feature(s) you want to implement for this requirement, though there should be a way to see all other logged in users.
* It is ok if this list only reloads when the page is loaded/reloaded

**online\_users/tests/**

We use the TestCase class imported from django.test to write tests to check whether our online user activity is functional. Django uses pythons built-in unittest.TestCase class as a base for their TestCase class.

test\_middleware.py

Used to test our request/response cycle and interaction with the frontend for our online users.

test\_model.py

Used to test the functionality of our OnlineUserActivity model and it’s interactions with the database.

Links:

* <https://docs.djangoproject.com/en/3.2/topics/testing/>
* <https://github.com/django/django/blob/c4ee3b208a2c95a5102b5e4fa789b10f8ee29b84/django/test/testcases.py#L1174>

**online\_users/**

middleware.py

Updates the OnlineUserActivity database whenever an authenticated user makes an HTTP request. It uses the built-in MiddlewareMixin for request/response processing. The MiddlewareMixin itself converts old middleware in modern middleware.

Links:

* <https://docs.djangoproject.com/en/3.2/topics/http/middleware/>
* <https://github.com/django/django/blob/c4ee3b208a2c95a5102b5e4fa789b10f8ee29b84/django/utils/deprecation.py#L88>

admin.py

The model registers our OnlineUserActivity as well as creates an OnlineUserActivityAdmin model for the admins before registering it to the admin site. We can use the Django user friendly gui to create OnlineUserActivity objects in the database to test its functionality.

Links

* <https://docs.djangoproject.com/en/3.2/ref/contrib/admin/>
* <https://github.com/django/django/blob/c4ee3b208a2c95a5102b5e4fa789b10f8ee29b84/django/contrib/admin/options.py#L551>

models.py

It’s a model with which we judge how data is exchange with our database. It creates OnlineUserActivity objects in the database and update them by the last activity using the update\_user\_activity method or retrieves the OnlineUserActivity object whose last\_activity was within the last 15 minutes (which is the default time) using the get\_user\_activities method.

The OnlineUserActivity model uses the built-in model from django.db to set and retrieve data from the database using the Object-Relational Mapper (ORM). The API for ORM is provided in the github link below. The model also uses the internal django timezone module to set the correct timezone for users last activity.

Links:

* <https://github.com/django/django/blob/c4ee3b208a2c95a5102b5e4fa789b10f8ee29b84/django/db/models/query.py>
* <https://github.com/django/django/blob/c4ee3b208a2c95a5102b5e4fa789b10f8ee29b84/django/utils/timezone.py>
* <https://docs.djangoproject.com/en/3.2/topics/db/queries/>