Grid Monitor App

- Stores wind turbine metrics
- Checks for broken turbines
- Dispatches engineer to fix broken turbines

WindTurbine Object

- Produces turbine metrics at some frequency
- Breaks at some frequency, still emitting metrics
- Receives requests for turbine repairs
- Repairs broken turbines by setting operational status to "ok"

Run grid monitor app (FastAPI POST endpoint) in Docker

Pull from non-empty queue

turbine metrics queue

Retrieved item from queue

Store JSON dump of metrics into txt file on disk

Push TurbineMetrics object into the queue

WindTurbine submits POST requests

Run Streamlit App

Every **time_to_fail_in_seconds** change operational status to "broken"

If turbine is broken and needs repairs

If turbine is NOT broken

Dispatch engineer and put a TurbineMetrics object, for a turbine, in the queue

Continue emitting metrics

Pull item from queue, simulate a repair time, change its operational status back to OK, and reset its time passed since it was started/repaired

repairs queue