Diligent Robotics

Software Engineer Technical Review

Backend Problem Definition

Imagine a situation with the following 3 requirements

1. Robot tasks need to be requested and viewed by several different clients
2. We need to be able to dispatch tasks to the robot with the requested tasks from the customer.
3. To optimize, tasks should be dispatched with the following order constraints:
    a. Higher priority tasks should be executed before lower priority tasks
    b. Within a priority level, tasks with shorter execution times should be dispatched before tasks with longer execution times

Questions

1. What components may be required to accomplish this on a high level? (think in terms of storage, background tasks, etc.)
   What kind of tooling, frameworks, design patterns, etc would you use for these requirements in a production-setting?
2. Implement/program the process that dispatches tasks while satisfying the order constraints. Don’t worry about the direct communication between robots and this service. Focus on the logic of this service instead. (programming language of your choice, add any util functions if necessary) For the sake of this exercise, using an in-memory data store is fine, we're looking for the logic mostly.