

Struts4Embedded

Software Architecture Overview

MP3 Player w/ Remote Access via WIFI & Ethernet

Using STM32F769i Discover Board, ChibiOS, LWIP, MQTT, Node-RED, ElasticSearch, AWS IOT & Mosquitto

ActionEvent is similar to the implementation of the *Command Pattern*. Simply it's a data structure containing data about the event(i.e. which button was clicked, its name, the triggering source) plus a pointer to a function that later will be executed to service this event.
This AEs are created in ISRs (step 3.0), and pumped into a queue (3.2) when triggered by user actions/events. Later the worker threads (step 3.4) pulls one AE at a time from the queue, and executes their respective action (function pointer). The **BEST** design if the queue is a blocking priority queue (not yet implemented), and the AEs are pulled out based on a user defined priority, and later executed by Worker Executor Thread Pool that blocks on this priority queue. In the Java domain, this pattern has been implemented in Spring Integration and Camel frameworks; please consult online documentation for more details about this pattern.



AWS IOT



ElasticSearch NOSQL DB
Used to store unstructured Data



User Dashboard w/ charts & user interface

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