MOXIEWORLD

MQTT

MQTT implementation for industrial asset tracking and indoor positioning

Internet of Things solutions for the industrial world

MQ Telemetry Transport or Message Queuing Telemetry Transport is a very simple messaging protocol, designed specifically for devices constrained by limited and low bandwidth. This allows MQTT clients to be small and require minimal resources to operate - perfect for Internet of Things devices. MQTT uses a publish/subscribe communication pattern that is useful and beneficial for machine-to-machine communication and IoT. The protocol involves two types of subjects: a client and a broker. A **client** is any device that runs a MQTT library and connects to a broker over a network. A **broker** is a 'server' that receives all messages from clients and routes the messages to other clients who have subscribed to the message topic.

Communication between the broker and client is organized in a hierarchy of **topics**. These topics can be thought of as folders and sub-folders: if a client is **subscribed** to a specific folder (topic), they will receive any messages and changes within that folder. For example, if a client sends a message with the topic "moxieworld/factory/level01/lights", the broker will receive the message and route it to any other clients that are subscribed to the same topic "moxieworld/factory/level01/lights". This method of communication allows for easy organization and grouping, large amounts of information to be transmitted in small packets of data, and multiple clients to reliably receive the information, resulting in an effective means of communication for Internet of Things objects.

MoxieWorld Indoor Positioning relies on MQTT for quick and efficient communication between Tags, Anchors, and the MoxieWorld app. When a Tag's position changes, it publishes its new coordinates and other information to its specific topic. Any client subscribed to that topic will receive the updated information. The information will be utilized in various ways: update an objects location in the MoxieWorld 3D mini-map; stored and used for historical information; plotted and graphed for real-time information.

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Efficient messaging protocols for a more efficient industry

How do we use MQTT?

Moxie IoT's MQTT implementation gives you access to real-time asset information right at your fingertips. Opening the MoxieWorld app provides management, maintenance, operators, etc. with an overview of critical information to help your operation run faster and smoother.

All data transfered and gathered by Moxie IoT's anchors, tags, and servers are touched by MQTT. MQTT allows us to provide real-time updates to position, health, functions, and many other properties of industrial equipment and machinery.

The robustness of MQTT provides accurate and reliable data transmission throughout offices, warehouses, shipping yards, etc. so your products and equipment can be tracked and monitored throughout the entire work site. Moxie's MQTT implementation connects you to all assets, all products, all the time.

The power of connections.

MQTT's ability to keep everything connected is robust and powerful - the days of losing time and efficiency because of misplaced assets or products are gone. Floor managers will never have to worry or ask an operator where a forklift was left; operators can easiliy confirm if a mill, CNC, lathe, etc. has been turned on, and know exactly which piece of equipment it is and where it is located; maintenance can determine exactly what machinery needs to be fixed and where it is- Moxie's Machine Health can even help identify what went wrong and what needs to be corrected.

Connecting every aspect of your industrial workflow and knowing the when, what, where of every asset will help increase efficiency, decrease downtime and maintenance, and allow you to better serve your customers.

MQTT is a simple and intuitive messaging protocol, and is invaluable for the Industrial Internet of Things.

Small amounts of data

Fast speeds = real-time info

Easy setup & implementation