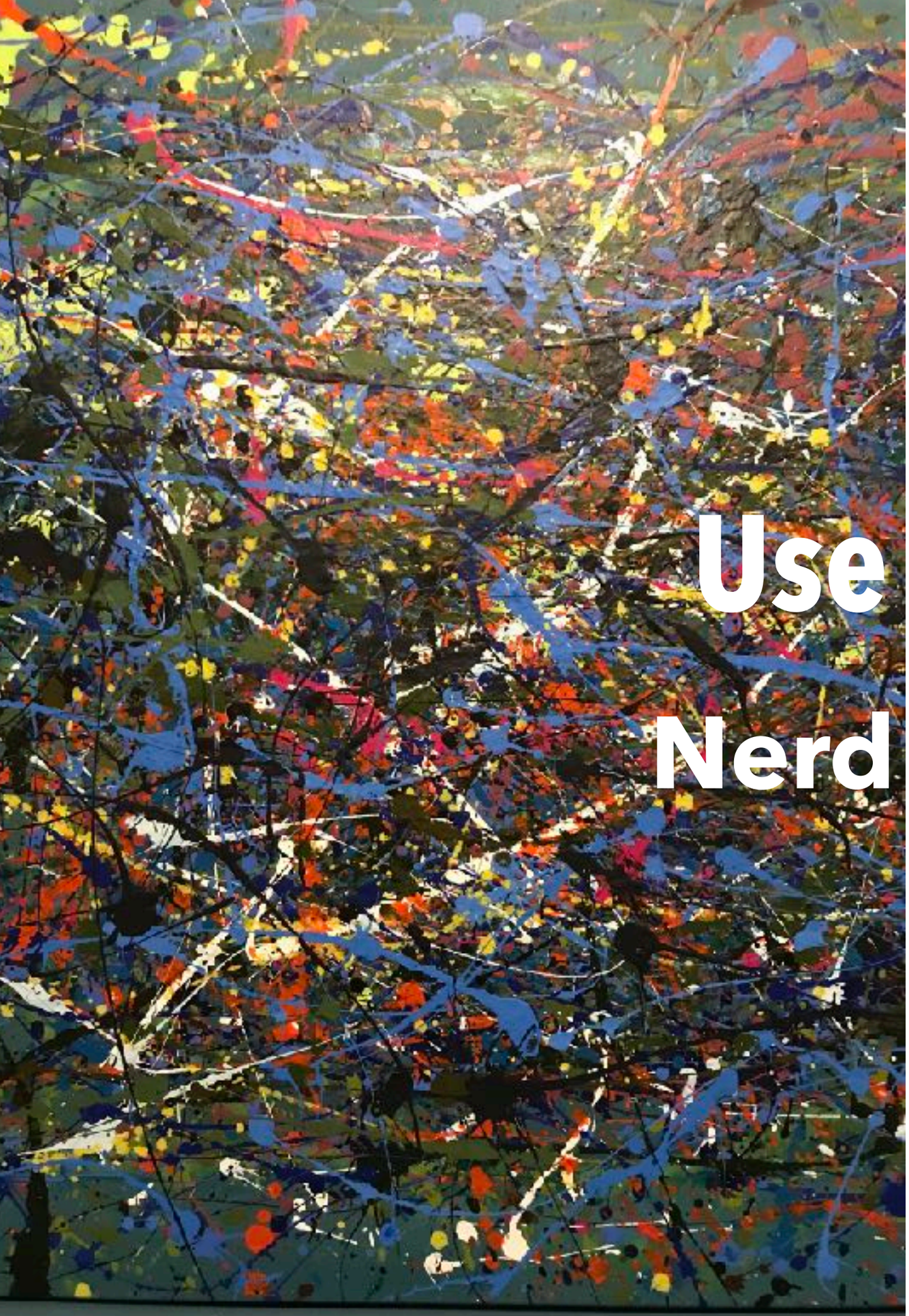
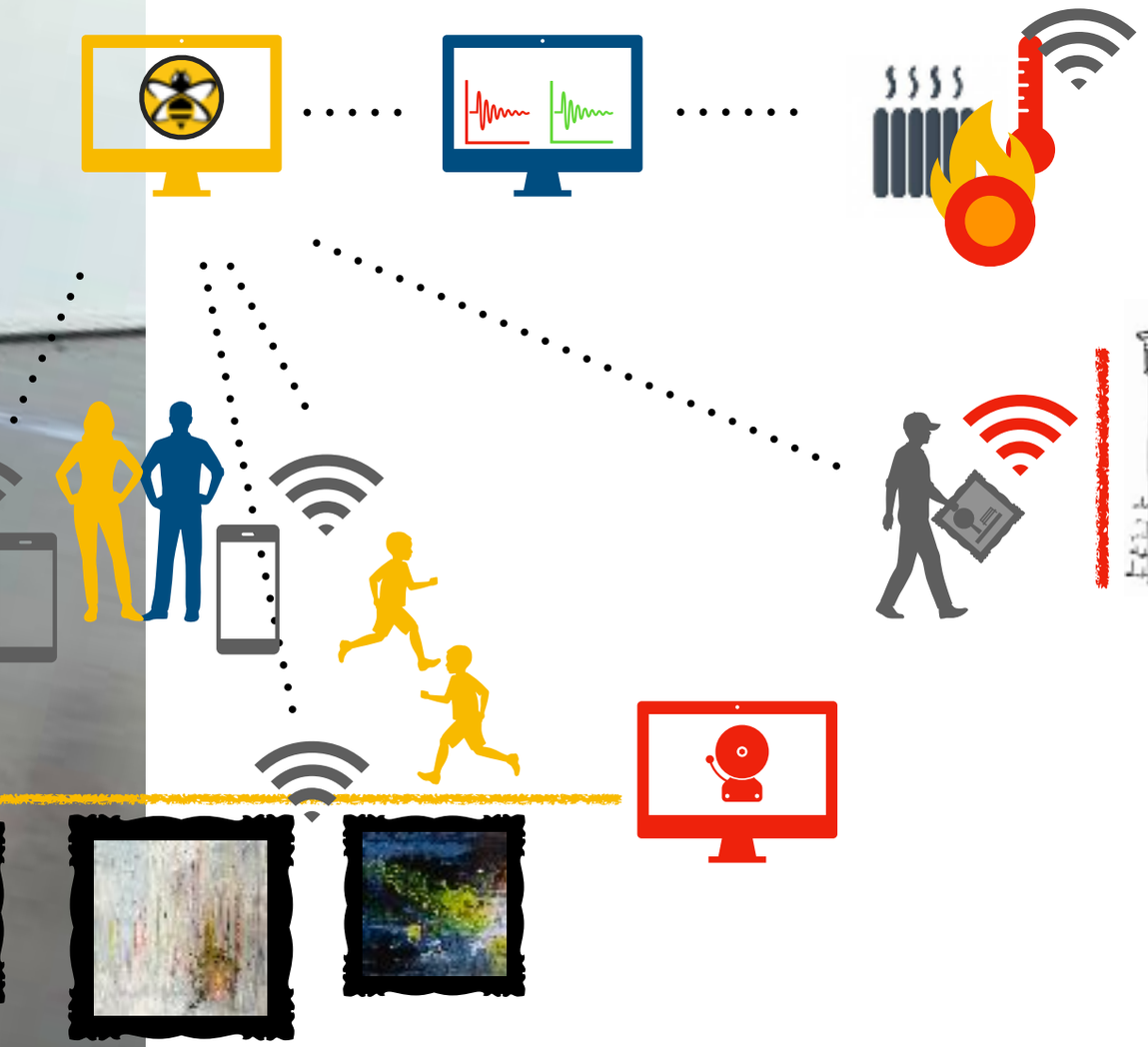


Use Case

Nerd Art

The *Nerd-Art* Exhibition

Very expensive paintings from famous artist will be shown and must be secured. Many interested Visitors are expected.



Used Tools

MQTT CLI

MQTT FX client

HIVEMQ
MQTT CLIENT

Use case - Visitor Information

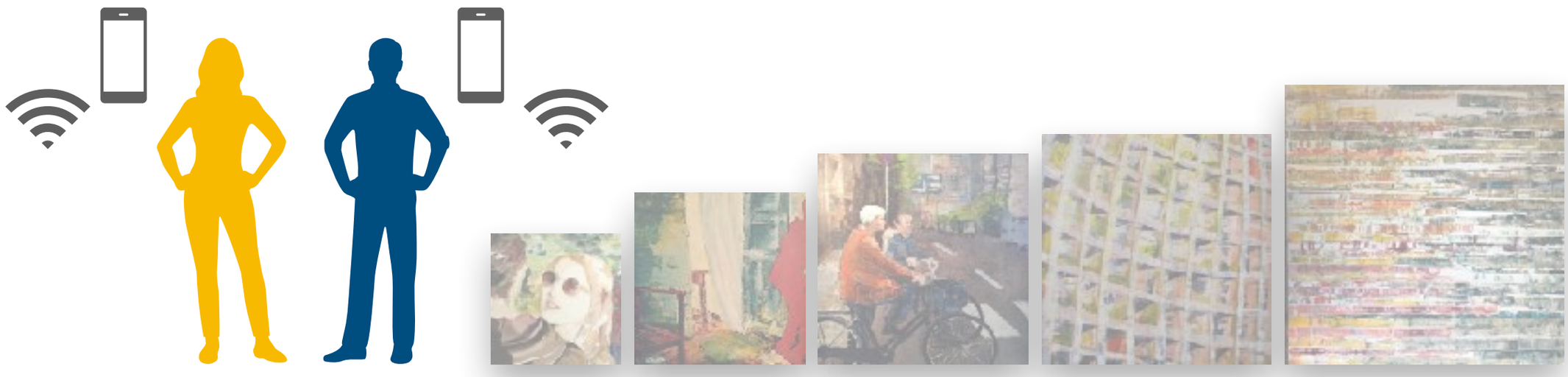
The Visitor have to be informed about the Artists, Pictures and further background Information, depending on interests.

- You'r a Visitors, personalizing your experience by entering your interests into the handheld device that is handed to you at the entrance.
- Based on what you enter, interesting information and facts for the chosen topics will be received.

Components involved

In order to achieve our desired behavior, we need the following components with MQTT capabilities

- A handheld device for visitors (MQTT Client) -> HiveMQ MQTT Client Library
- An information server, periodically publishing facts on certain topics (MQTT Client) -> HiveMQ MQTT Client Library
- An MQTT broker as the central communications hub (public broker buildingiot.hivemq.com)



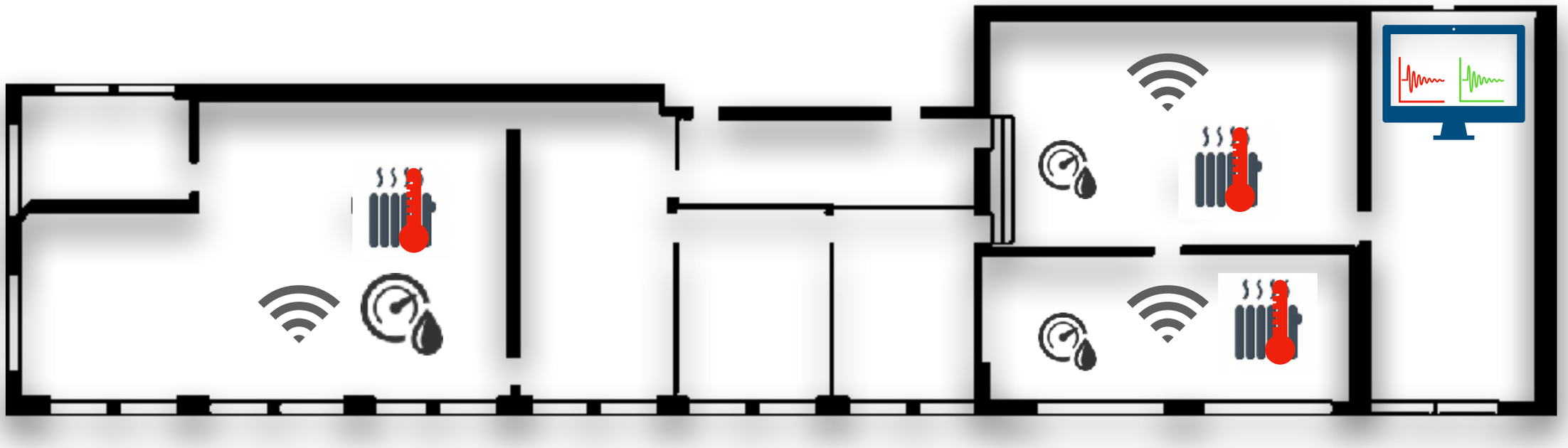
Use case - Climate control

Automated control to ensure optimal temperature and humidity in exhibition rooms.

- Humidity and Temperature sensors periodically send values to broker on
- Backend service analyzes these values. In case of a mismatch the backend service send commands to the corresponding air conditioning unit or humidity regulator
- Smart AC (air conditioning unit) and HC (humidity control unit) listen on individual command topics

Components involved

- Smart sensors for temperature and humidity (MQTT Client – HiveMQ MQTT Client Library)
- Smart controls for air conditioning and heater (MQTT Client – mosquitto_sub client)
- Backend service, controlling and adjusting temperature and humidity – HiveMQ MQTT Client Library



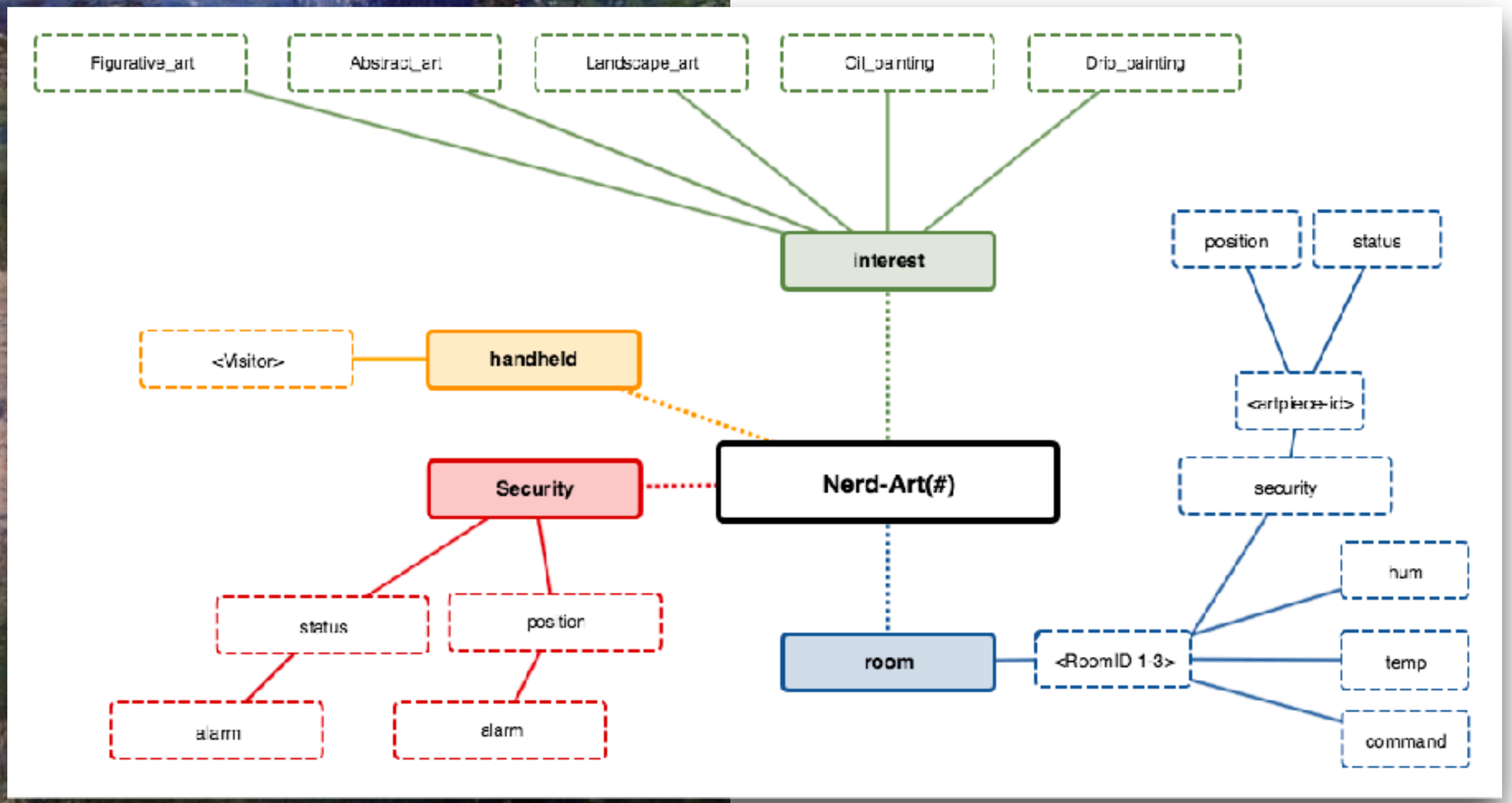
Use case - Stop the thief

- Art pieces are equipped with small smart devices that have MQTT and GPS capabilities.
- Periodically these devices transmit their current coordinates and a status.
- In the security control room there is backend service connected to a monitoring dashboard.
- This service check coordinates sent by the pieces.
- In case of an offline status message or a mismatch in coordinates an alarm is triggered.

Components involved

- GPS chip with MQTT module (MQTT Client — HiveMQ MQTT Client Library)
- A MQTT Client for backend security service (MQTT Client — HiveMQ MQTT Client Library)
- A monitoring dashboard MQTT.fx

Used Topics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Landscape_art
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Security
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status
position
alarm
alarm

Have Fun

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