Revision Number: 1.5

Revision Date: March 18, 2019

CarLocation Module Technical Specification

Technical Reference Manual

Content

[1 Module Details 4](#_Toc3838316)

[2 Component Design 6](#_Toc3838317)

[2.1 Best way 6](#_Toc3838318)

[2.1 Component Definitions 9](#_Toc3838319)

[2.2 Sequence Interaction 10](#_Toc3838320)

[3 Domain Model Definition 10](#_Toc3838321)

[4 API Definitions 12](#_Toc3838322)

[4.1 Method Header’s 13](#_Toc3838323)

[5 Service Response data 13](#_Toc3838324)

[5.1 Detailed errors 13](#_Toc3838325)

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Author | | Santiago Vladimir Román | | | | | |
| Approval | |  | | | |  | |
| Comments | |  | | | | | |
| History | | | | | | | |
| Document version | Item | | Type | Date | Responsible | | Comments |
| 1.0 |  | | Initial Document | 18/03/19 | Vladimir RC | | Initial document |

# Module Details

This module implicates the functionality for tracking geolocalization of vehicles

|  |  |
| --- | --- |
| Module Name | CarLocation |
| Type: |  |
| Criticality Rating | *-* |
| Risk Level | *-* |
| Business Owner |  |
| Service Owner |  |
| Architect Name |  |
| Technical Owner |  |
| Operations Owner |  |

# Component Design

## Best way

This design involves a creation of event processors a separate the Query process and Command process over and event sourcing paradigm

A taxi send its location with a valid token to a Gateway, this sends the information to a command services that perform the information to a historical database (CarLocationHistorical), then completes information with taxi data and converts this to an event and its sent to a Queue processor that emits this information to a 2 subscribers, one with the responsibility of call a put a current position over Query service in a materialized view in a CarLocationDB and other that publish a hook that notifies to web site the change position o caridentifier

This notification its processed by web site user and perform a request with the current location 

For this scope the solution consider No Queue Processors



## Component Definitions

**GBM.CarLocation.Gateway.Api:**

API Gateway for Access to services to Command & Query actions, implements the securitypoint over JWT

**GBM.CarLocation.Track.Command.Api**

It’s a Command API to report the current position of taxi

**GBM.CarLocation.Track.Query.Apis:**

Query for Request Location Information

**GBM.HookProvider.Api:**

Hook provider that receive a publish from Command API and notifies to subscribers like Web Page

**CarLocationDB:**

Documental data base, store the final state Position of car locations and the historical positions updates from Cars

The system implements a MongoDB data base

## Sequence Interaction



# Domain Model Definition

CarLocation Entity

|  |  |  |
| --- | --- | --- |
| Field | Type | Description |
| **{** |  |  |
| "\_id" **:** "0000010101010"**,** | string | Unique Id for Register |
| "Location" **:** **{** | Location | Geoposition |
| "Latitude" **:** 1.0**,** | long | Latitude of Geoposition |
| "Longitude" **:** 1.0**,** | long | Longitude of Geoposition |
| "Altitude" **:** 1.0 | long | Altitude of Geoposition |
| **},** |  |  |
| "CarIdentifier" **:** "1286-1231-312"**,** | string | Car Id reference for Car Domain Entity |
| "LastUpdatedDate" **:** "2019-03-19T03:39:10.845+0000” | DateTime | Last Time of insert /updated the register |
| **}** |  |  |

CarLocationHistory Object Value

|  |  |  |
| --- | --- | --- |
| Fiel | Type | Description |
| **{** |  |  |
| "\_id" : "e73b543e-1486-45e9-85f4-72eba6f5feb5", | string | Unique Id for Register |
| "CarIdentifier" : "1286-1231-312", | string | Car Id reference for Car Domain Entity |
| "InsertedDate" : "2019-03-19T03:39:10.845+0000", | DateTime | Inserted register DateTime |
| "Field" : "Item", | json/string | Afected Field of Final State Register |
| "Event" : "Insert", | string | Event Associated Name |
| "EventContent" : "{\"Latitude\":1.0,\"Longitude\":1.0,\"Altitude\":1.0}" |  | Event Asociated Content to perform |
| } |  |  |

**Example of persisted Data**

**CarLocation Final State Document**

**{**

"\_id" **:** "0000010101010"**,**

"Location" **:** **{**

"Latitude" **:** 123.31230163574219**,**

"Longitude" **:** 212.1230010986328**,**

"Altitude" **:** 123.12300109863281

**},**

"CarIdentifier" **:** "1286-1231-312"**,**

"LastUpdatedDate" **:** ISODate**(**"2019-03-19T03:48:25.134+0000"**)**

**}**

**CarLocationHistoric**

**{**

"\_id" **:** "e73b543e-1486-45e9-85f4-72eba6f5feb5"**,**

"CarIdentifier" **:** "1286-1231-312"**,**

"InsertedDate" **:** ISODate**(**"2019-03-19T03:39:10.845+0000"**),**

"Field" **:** "Item"**,**

"Event" **:** "Insert"**,**

"EventContent" **:** "{\"Latitude\":1.0,\"Longitude\":1.0,\"Altitude\":1.0}"

**}**

**{**

"\_id" **:** "73a0c6f8-a909-45ed-a794-ef0cc81830b7"**,**

"CarIdentifier" **:** "1286-1231-312"**,**

"InsertedDate" **:** ISODate**(**"2019-03-19T03:48:25.020+0000"**),**

"Field" **:** "Location"**,**

"Event" **:** "UpdateLocation"**,**

"EventContent" **:** "{\"Latitude\":123.3123,\"Longitude\":212.123,\"Altitude\":123.123}"

**}**

# API Definitions

All API’s use swagger to see scaffolding Documentation

To se the definitions use the generic format uri of swagger:

|  |
| --- |
| Instaled Service: http://server:port/{ServiceName}/swagger |
| Localhost: http://localhost:port/swagger |

## Method Header’s

Only Gateway Service have Authentication Headers for security in JWT style

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Field** | **Data type** | **Max Length** | **IsMandatory** | **Description** | **Example Values** |
| Authorization | JWT | max | true | Security | “dqf23dqwesa.asdfasf23r.asdf23ref” |

# Service Response data

## Detailed errors

All response can have a detailed error list by status Code, for operations with list processed the Status code would return a Status code 200 but maybe some items in list have errors and this detail its in an array list of errors on the response body

Example:

|  |  |
| --- | --- |
| **Status Code Response** | **Body** |
| 200 | { |
| "Identifier": "783768231238127", |
| "Latitude": 123.3123, |
| "Longitude": 21334, |
| } |
| 400 | {"errors":[{"code":1, "Message":"Generic Error"}]} |
| 400 | {"errors":[{"code":134, "description":"Cant access to repository"}]} |
| 401 | {"errors":[{"code":20, "description":"invalid authorization Token"}]} |
| 500 | {"errors":[{"code":0, "description":"Something went wrong. Please try again later."}]} |