

API Documentation

Campus View API (Minute)

API Endpoint: <http://localhost:8000/api/v1/campus/datetime/2021-03-01T13:00/?granularity=minute>

Return Value: Returns amount of devices connected to each building at specific minute of time specified in endpoint

Campus (Update)

GET /campus/datetime/{datetime_str}/ Campus View campus_occupancy

Parameters

Name	Description
datetime_str * required string (path)	Date in simplified ISO 8601 date and time format e.g. 2021-03-01T10:30 = March 1st, 2021 10:30 a.m. <input type="text" value="2021-03-01T13:00"/>
granularity string (query)	Time Granularity (minute or hour) If parameter is not specified, default is hour granularity <input type="text" value="minute"/>

Cancel

200

Response body

```
{
  "data": [
    {
      "date": "2019-02-28",
      "building": "PRIN",
      "building_lat": 42.384059,
      "building_long": -72.528867,
      "connection_count": 52
    },
    {
      "date": "2019-02-28",
      "building": "BKDC",
      "building_lat": 42.381875,
      "building_long": -72.529885,
      "connection_count": 17
    },
    {
      "date": "2019-02-28",
      "building": "SC",
      "building_lat": 42.389545,
      "building_long": -72.529299,
      "connection_count": 2
    },
    {
      "date": "2019-02-28"
    }
  ]
}
```

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Campus View API (Hour)

API Endpoint: <http://localhost:8000/api/v1/campus/datetime/2021-03-01T13:00/?granularity=hour>

Return Value: Returns amount of devices that connected to each building on campus within hour with start time being specified in parameter

GET

/campus/datetime/{datetime_str}/

Campus View

campus_occupancy

Parameters

Cancel

Name	Description
datetime_str * required string (path)	Date in simplified ISO 8601 date and time format e.g. 2021-03-01T10:30 = March 1st, 2021 10:30 a.m.
	<input type="text" value="2021-03-01T13:00"/>
granularity string (query)	Time Granularity (minute or hour) If parameter is not specified, default is hour granularity
	<input type="text" value="hour"/>

Code

Details

200

Response body

```
{
  "data": [
    {
      "date": "2019-02-28",
      "building": "PIER",
      "building_lat": 42.38138,
      "building_long": -72.530921,
      "connection_count": 101
    },
    {
      "date": "2019-02-28",
      "building": "PRIN",
      "building_lat": 42.384059,
      "building_long": -72.528867,
      "connection_count": 70
    },
    {
      "date": "2019-02-28",
      "building": "BKDC",
      "building_lat": 42.381875,
      "building_long": -72.529885,
      "connection_count": 28
    },
    {
      "date": "2019-02-28"
    }
  ]
}
```

Building View API (Minute)

API Endpoint: <http://localhost:8000/api/v1/building/LSL/datetime/2021-03-01T13:00/?granularity=minute>

Return Value: Returns amount of devices that connected to specified building at specific minute specified in endpoint

Building (Update)

GET

/building/{building}/datetime/{datetime_str}/

Building View

building_occupancy

Parameters

Cancel

Name	Description
building * required string (path)	Building on UMass Amherst Campus, in abbreviated form e.g. KNWL = Knowlton Hall
	<input type="text" value="LSL"/>
datetime_str * required string (path)	Date in simplified ISO 8601 date and time format e.g. 2021-03-01T10:30 = March 1st, 2021 10:30 a.m.
	<input type="text" value="2021-03-01T13:00"/>
granularity string (query)	Time Granularity (minute or hour) If parameter is not specified, default is hour granularity
	<input type="text" value="minute"/>

Code	Details
200	Response body <pre>{ "data": { "building": "LSL", "building_lat": 42.392024, "building_long": -72.523855, "connection_count": 35 } }</pre>

Building View API (Hour)

API Endpoint: <http://localhost:8000/api/v1/building/LSL/datetime/2021-03-01T13:00/?granularity=hour>

Return Value: Returns amount of devices that connected to each building on campus within hour with start time being specified in parameter + average time and standard deviation of time spent at building

Building (Update)

GET /building/{building}/datetime/{datetime_str}/ Building View building_occupancy

Parameters Cancel

Name	Description
building * required string (path)	Building on UMass Amherst Campus, in abbreviated form e.g. KNWL = Knowlton Hall <input type="text" value="LSL"/>
datetime_str * required string (path)	Date in simplified ISO 8601 date and time format e.g. 2021-03-01T10:30 = March 1st, 2021 10:30 a.m. <input type="text" value="2021-03-01T13:00"/>
granularity string (query)	Time Granularity (minute or hour) If parameter is not specified, default is hour granularity <input type="text" value="hour"/>

Code	Details
200	Response body <pre>{ "data": { "building": "LSL", "building_lat": 42.392024, "building_long": -72.523855, "average": 37.9, "standard_deviation": 22.5, "connection_count": 51 } }</pre>

Access Point View API (Minute & Floor 5)

API Endpoint: http://localhost:8000/api/v1/building/LSL/datetime/2021-03-01T13:00/access_point/?level=5&granularity=minute

Return Value: Returns amount of devices that connected to access points of specified building at a specified floor and time from endpoint

Access Point (Update)

GET /building/{building}/datetime/{datetime_str}/access_point/ Access Point View access_point_occupancy

Parameters

Name

Description

datetime_str * required

string

(path)

Date in simplified ISO 8601 date and time format
e.g. 2021-03-01T10:30 = March 1st, 2021 10:30 a.m.

2021-03-01T13:00

building * required

string

(path)

Building abbreviation from UMass Amherst campus

LSL

level

integer

(query)

Floor Level
If floor level not specified, default is 1st floor of building

5

granularity

string

(query)

Time Granularity (minute or hour)
If parameter is not specified, default is hour granularity

minute

Cancel

Code

Details

200

Response body

```
{
  "data": [
    {
      "date": "2019-02-28",
      "access_point": "LSL-S540-1",
      "connection_count": 1,
      "building_lat": 42.392155639318474,
      "building_long": -72.5237615593268
    },
    {
      "date": "2019-02-28",
      "access_point": "LSL-N560C-1",
      "connection_count": 3,
      "building_lat": 42.392310688378785,
      "building_long": -72.52403717553342
    },
    {
      "date": "2019-02-28",
      "access_point": "LSL-N540-1",
      "connection_count": 1,
      "building_lat": 42.39263478211423,
      "building_long": -72.5239181749668
    },
    {
      "date": "2019-02-28"
    }
  ]
}
```

Access Point View API (Hour & Floor 5)

API Endpoint: http://localhost:8000/api/v1/building/LSL/datetime/2021-03-01T13:00/access_point/?level=5&granularity=hour

Return Value: Returns amount of devices that were connected to access points of the specific building and floor within hour with start time being specified in parameter

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Access Point (Update)

GET

/building/{building}/datetime/{datetime_str}/access_point/

Access Point View

access_point_occupancy

Parameters

Cancel

Name	Description
datetime_str * required string (path)	Date in simplified ISO 8601 date and time format e.g. 2021-03-01T10:30 = March 1st, 2021 10:30 a.m. <input type="text" value="2021-03-01T13:00"/>
building * required string (path)	Building abbreviation from UMass Amherst campus <input type="text" value="LSL"/>
level integer (query)	Floor Level If floor level not specified, default is 1st floor of building <input type="text" value="5"/>
granularity string (query)	Time Granularity (minute or hour) If parameter is not specified, default is hour granularity <input type="text" value="hour"/>

Code

Details

200

Response body

```
{
  "data": [
    {
      "date": "2019-02-28",
      "access_point": "LSL-N599L-1",
      "connection_count": 2,
      "building_lat": 42.392215070425834,
      "building_long": -72.52379034506785
    },
    {
      "date": "2019-02-28",
      "access_point": "LSL-S540-1",
      "connection_count": 3,
      "building_lat": 42.392155639318474,
      "building_long": -72.5237615593268
    },
    {
      "date": "2019-02-28",
      "access_point": "LSL-N560C-1",
      "connection_count": 4,
      "building_lat": 42.392310688378785,
      "building_long": -72.52403717553342
    },
    {
      "date": "2019-02-28"
    }
  ]
}
```

Route Trajectory

API Endpoint: <http://172.20.10.3:8000/api/v1/trajectory/Y4kGl.FiowcKk0z8xyTEjU/date/2013-11-29/>

Return Value: Returns list of buildings that device stayed in for more than 10 minutes on specific date

Trajectory

GET

/trajectory/{device_id}/date/{date_str}/

Trajectory Data

user_trajectory

Parameters

Cancel

Name	Description
<div>device_id</div> <div>string</div> <div>(path)</div>	<div>Device id as read from csv file without "#" at the beginning and end e.g. Y4kGl.FiowcKk0z8xyTEjU instead of #Y4kGl.FiowcKk0z8xyTEjU#</div> <div>Y4kGl.FiowcKk0z8xyTEjU</div>
<div>date_str</div> <div>string</div> <div>(path)</div>	<div>Date in simplified ISO 8601 date format e.g. 2013-11-29 = November 29th, 2013</div> <div>2013-11-29</div>

Code

Details

200

Response body

```
"data": [
  [
    {
      "building": "DRA",
      "building_lat": 42.392516,
      "building_long": -72.528405,
      "start_time": "3:49 am",
      "end_time": "4:07 am",
      "total_time": 18
    },
    {
      "building": "LAPT",
      "building_lat": 42.383416,
      "building_long": -72.525621,
      "start_time": "5:36 am",
      "end_time": "5:50 am",
      "total_time": 14
    },
    {
      "building": "HOLD",
      "building_lat": 42.392793,
      "building_long": -72.530913,
      "start_time": "5:52 am",
      "end_time": "6:24 am",
      "total_time": 32
    }
  ]
]
```

In []: