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YUNIBESITHI YA PRETORIA

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NAVUP  
TESTING REPORT

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ANDRIOD-GIS

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GITHUB [HTTPS://GITHUB.COM/SIRJOSH/ANDROID-GIS.GIT](https://github.com/SirJosh/Android-GIS.git)

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# 1 Introduction

## 1.1 Scope

Services to gather, maintain, persist and provide information related to the world serviced by the system. It is about the creation and maintenance of a GIS Map of the campus by using WiFi signal strengths and other available sources of GIS information. This module provide services to search for locations such as landmarks, buildings as well as venues such as offices, lecture halls, labs, etc.

## 2 Functional Requirements

### 2.1 Create Functionality

#### 2.1.1 Add a location

Pass/Fail	Mark (10)	Reason
✓	8	this is some text that is a lot of text can you -lease wraparound so it omdfshjvafkdghjvnadhjkbknadf vjh,kandfb vadfbadfbfsf

### 2.2 Remove Functionality

#### 2.2.1 Remove location

Pass/Fail	Mark (10)	Reason
✓	8	this is some text that is a lot of text can you -lease wraparound so it omdfshjvafkdghjvnadhjkbknadf vjh,kandfb vadfbadfbfsf

### 2.3 Update Functionality

#### 2.3.1 Update location

Pass/Fail	Mark (10)	Reason
✓	8	this is some text that is a lot of text can you -lease wraparound so it omdfshjvafkdghjvnadhjkbknadf vjh,kandfb vadfbadfbfsf

## 2.4 Request Functionality

### 2.4.1 Get all locations

Pass/Fail	Mark (10)	Reason
✓	8	<p>The retrieve all locations request returns all the location's stored within the database on campus. The request works when new locations are added. Thus showing that the database performs the request correctly. This also holds true when you call this function multiple times sequentially.</p> <p>Overall the function performs what it is defined to do, without causing strain on the database.</p>

```
//var assert = require('assert');
//var locations = require('../controllers/locations/locations');
//var http_mocks = require('node-mocks-http');
var should = require('should');
var needle = require('needle');

describe('Location READ function: ', function() {
  it('Should retrieve all Locations: ', function(done) {
    needle.get('localhost:3000/locations', function(err, res) {
      if (err) { return console.error(err.message); }

      res.statusCode.should.equal(200)
      res.body.should.have.property('data');

      // to display body content
      //for(var i=0; i < res.body.data.length; i++) console.log(res.body.data[i]);

      done();
    });
  });
});
```

Figure 1: Test code for display all locations

```
{
  "data": [
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e708a",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "IT",
        "lat": -25.755864,
        "lng": 28.233146,
        "level": 2,
        "ground": 233
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e708b",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "IT",
        "lat": -25.755872,
        "lng": 28.233055,
        "level": 2,
        "ground": 233
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e708c",
      "attributes": {
        "location_type": "Cafeteria",
        "room": "N/A",
        "building": "IT",
        "lat": -25.755705,
        "lng": 28.23345,
        "level": 4,
        "ground": 433
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e708d",
      "attributes": {
        "location_type": "Catwalk",
        "room": "N/A",
        "building": "EMB",
        "lat": -25.755607,
        "lng": 28.233481,
        "level": 4,
        "ground": 433
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e708e",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "EMB",
        "lat": -25.755393,
        "lng": 28.233289,
        "level": 2,
        "ground": 233
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e708f",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "Centenary",
        "lat": -25.753976,
        "lng": 28.232996,
        "level": 1,
        "ground": 133
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e7090",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "Thuto",
        "lat": -25.752888,
        "lng": 28.231594,
        "level": 1,
        "ground": 133
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e7091",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "Student Services",
        "lat": -25.755237,
        "lng": 28.232293,
        "level": 1,
        "ground": 133
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e7092",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "Humanities",
        "lat": -25.755533,
        "lng": 28.230773,
        "level": 3,
        "ground": 333
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e7093",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "Merensky Library",
        "lat": -25.755384,
        "lng": 28.230537,
        "level": 3,
        "ground": 333
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e7094",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "Theology",
        "lat": -25.755046,
        "lng": 28.229466,
        "level": 1,
        "ground": 133
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e7095",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "Chemistry",
        "lat": -25.755052,
        "lng": 28.230763,
        "level": 1,
        "ground": 133
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e7096",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "EMB",
        "lat": -25.755062,
        "lng": 28.232988,
        "level": 2,
        "ground": 233
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e7097",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "EMB",
        "lat": -25.755207,
        "lng": 28.232936,
        "level": 2,
        "ground": 233
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e7098",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "Piazza",
        "lat": -25.754648,
        "lng": 28.232036,
        "level": 0,
        "ground": 033
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e7099",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "Piazza",
        "lat": -25.754266,
        "lng": 28.231505,
        "level": 0,
        "ground": 033
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e709a",
      "attributes": {
        "location_type": "Entrance",
        "room": "N/A",
        "building": "Piazza",
        "lat": -25.753976,
        "lng": 28.231567,
        "level": 0,
        "ground": 033
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e709b",
      "attributes": {
        "location_type": "Point",
        "room": "N/A",
        "building": "N/A",
        "lat": -25.755355,
        "lng": 28.232237,
        "level": 0,
        "ground": 033
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e709c",
      "attributes": {
        "location_type": "Point",
        "room": "N/A",
        "building": "N/A",
        "lat": -25.755274,
        "lng": 28.231658,
        "level": 0,
        "ground": 033
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e709d",
      "attributes": {
        "location_type": "Point",
        "room": "N/A",
        "building": "N/A",
        "lat": -25.755211,
        "lng": 28.231305,
        "level": 0,
        "ground": 033
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e709e",
      "attributes": {
        "location_type": "Point",
        "room": "N/A",
        "building": "N/A",
        "lat": -25.755137,
        "lng": 28.230924,
        "level": 0,
        "ground": 033
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e709f",
      "attributes": {
        "location_type": "Point",
        "room": "N/A",
        "building": "N/A",
        "lat": -25.755125,
        "lng": 28.23081,
        "level": 0,
        "ground": 033
      }
    },
    {
      "type": "locations",
      "id": "5909c7a4d063dc70755e70a0",
      "attributes": {
        "location_type": "Point",
        "room": "N/A",
        "building": "N/A",
        "lat": -25.755072,
        "lng": 28.230897,
        "level": 0,
        "ground": 033
      }
    }
  ]
}
```

Figure 2: JSON string returned

```
Location READ function:
✓ Should retrieve all Locations: (54ms)
```

Figure 3: Result after test is run: status code 200

### 2.4.2 Get all buildings

Pass/Fail	Mark (10)	Reason
✓	8	<p>After testing the getBuildingNames request it retrieves all the buildings that are on campus. The request also works when new buildings are added. Thus showing that the database handles the request correctly. This also holds true when you call this function multiple times sequentially.</p> <p>Overall the function performs what it needs to do, without causing the database to crash or hang.</p>

```
//var assert = require('assert');
//var locations = require('../controllers/locations/locations');
//var http_mocks = require('node-mocks-http');
var should = require('should');
var needle = require('needle');

describe('Retrieve building names function: ', function() {
  it('Should retrieve a list of all available buildings: ', function(done) {
    needle.get('localhost:3000/locations/getBuildingNames', function(err, res) {
      if (err) { return console.error(err.message); }

      res.statusCode.should.equal(200)
      res.body.should.have.property('data');

      // to display body content
      //for(var i=0; i < res.body.data.length; i++) console.log(res.body.data[i]);

      done();
    });
  });
});
```

Figure 4: Test code for display all function

```
Retrieve building names function:
✓ Should retrieve a list of all available buildings:
```

Figure 5: Result after test is run: status code 200

```
{
  "data": [
    "IT",
    "EMB",
    "Centenary",
    "Thuto",
    "Student Services",
    "Humanities",
    "Merensky Library",
    "Theology",
    "Chemistry",
    "Piazza",
    "N/A",
    "testBuilding2"
  ]
}
```

Figure 6: JSON string returned

### 2.4.3 Get location by building name

Pass/Fail	Mark (10)	Reason
✓	8	this is some text that is a lot of text can you -lease wraparound so it omdfshjvafkdghjvnadhjkbknadf vjh,kandfb vadfbadfbfsf

### 2.4.4 Get route

Pass/Fail	Mark (10)	Reason
✓	8	this is some text that is a lot of text can you -lease wraparound so it omdfshjvafkdghjvnadhjkbknadf vjh,kandfb vadfbadfbfsf

## 3 Non-Functional Requirements Tested

### 3.1 Reliability

Pass/Fail	Mark (10)	Reason
✓	8	this is some text that is a lot of text can you -lease wraparound so it omdfshjvafkdghjvnadhjkbknadf vjh,kandfb vadfbadfbfsf

### 3.2 Availability

Pass/Fail	Mark (10)	Reason
✓	8	this is some text that is a lot of text can you -lease wraparound so it omdfshjvafkdghjvnadhjkbknadf vjh,kandfb vadfbadfbfsf

### 3.3 Scalability

Pass/Fail	Mark (10)	Reason
✓	8	this is some text that is a lot of text can you -lease wraparound so it omdfshjvafkdghjvnadhjkbknadf vjh,kandfb vadfbadfbfsf

### 3.4 Recoverability

Pass/Fail	Mark (10)	Reason
✓	8	this is some text that is a lot of text can you -lease wraparound so it omdfshjvafkdghjvnadhjkbknadf vjh,kandfb vadfbadfbfsf