



Sri Lanka Institute of Information Technology

B.Sc. Honors Degree in Information Technology

Specialized in Software Engineering

Final Examination
Year 3, Semester 1 (2021)

SE3040 – Application Frameworks

Final Paper Report

Student ID number: IT19123028

Name: Legrand T.R

For Evaluations:

Marks Allocation	Marks
Implementation of User Interfaces - 24 marks	
Implementation of service endpoints. - 30 marks	
Implementation of the calculation service. - 24 marks	
Suitable technology selection (Student will be eligible for this mark if only he/she select the correct technologies for the different parts of the application). - 10 marks	
At least one-unit test for either part of the application (UI / services). - 5 marks	
Styling of the UI. - 2 marks.	
Coding standards and quality- 5 marks	

Comments:

Photograph of the Student ID

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Discover Your Future

STUDENT ID



Legrand T.R.

Reg. No: IT 19 **1230** 28

NIC No: **997523008V**

Date of Issue: **10-05-2019**


Director / Administration

2019

found please return to SLIIT New Kandy Road, Nugegoda.



Technologies Used

Backend : Node.js

Even though Node is an asynchronous event model, it is still single threaded. So, if you run a Node process with a single thread, it will not execute in parallel. Since the create vehicle, create Load, View Vehicles, View Loads and the delete Vehicle methods are not very CPU heavy, so I used the Node.js as for the backend development.

Frontend : React.js

React allows developers to create large web applications that can change data, without reloading the page. The main purpose of React is to be fast, scalable, and simple. It works only on user interfaces in the application. This corresponds to the view in the MVC template.

Screenshots of all user interfaces of the frontend application

<<< Insert all screenshots here... >>>

Create Vehicle

Create Vehicle

Name

Description

Check me out

Submit

Create Load

localhost:3000/create-load

Navbar Vehicles Create Vehicle Create Load Disabled

Create Load

Code

Name

Loads

0

Amount

0

Select Vehicle

Select...

☐

Check me out

Submit

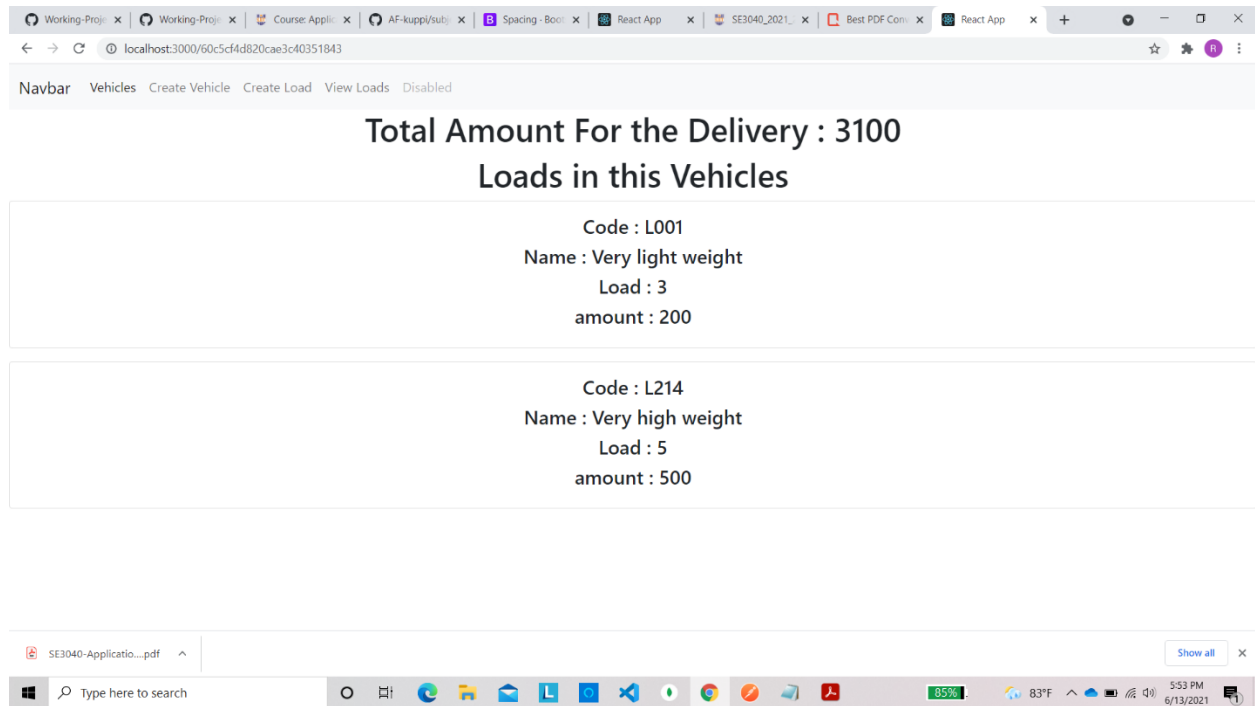
View Vehicles

localhost:3000/view-vehicles

Navbar Vehicles Create Vehicle Create Load Disabled

Name : bike Description : transport light loads Delete
Name : car Description : transport short loads Delete
Name : lorry Description : transport lot of loads Delete
Name : Bus Description : More weight Delete

Get Total Amount and Get loads in each vehicle type



Screenshots of all MongoDB collections

<<< Insert all screenshots here... >>>

MongoDB Compass - 2018afpp.a73fp.mongodb.net/IT19123028TR.loads

Connect View Collection Help

Local

5 DBS 12 COLLECTIONS

FAVORITE

HOSTS

- 2018afpp-shard-00-00.a7...
- 2018afpp-shard-00-01.a7...
- 2018afpp-shard-00-02.a7...

CLUSTER

Replica Set (atlas-mq169e...

3 Nodes

EDITION

MongoDB 4.4.6 Enterprise

Filter your data

- 2019AF
- IT19123028TR
 - loads
 - vehicles
 - admin
 - config
 - local
 - myFirstDatabase

+

IT19123028TR.loads

Documents

DOCUMENTS 5 TOTAL SIZE 610B AVG. SIZE 122B INDEXES 1 TOTAL SIZE 36.0KB AVG. SIZE 36.0KB

Documents Aggregations Schema Explain Plan Indexes Validation

FILTER { field: 'value' }

OPTIONS FIND RESET ↺ ⋮

ADD DATA VIEW

Displaying documents 1 - 5 of 5 REFRESH

```
{
  "_id": ObjectId("60c5ceb5ffdf340ecea6e0"),
  "vehicles": Array
    > {
      "code": "L801",
      "name": "Very light weight",
      "amount": 200,
      "load_count": 3,
      "__v": 0
    }
  }

{
  "_id": ObjectId("60c5ceb5ffdf340ecea6e1"),
  "vehicles": Array
    > {
      "code": "L214",
      "name": "Very high weight",
      "amount": 500,
      "load_count": 5,
      "__v": 0
    }
  }

{
  "_id": ObjectId("60c5ceb5ffdf340ecea6e2"),
  "vehicles": Array
    > {
      "code": "L456",
      "name": "low weight",
      "amount": 100,
      "load_count": 4,
      "__v": 0
    }
  }

{
  "_id": ObjectId("60c5cf2a820cae3c40351842"),
  "vehicles": Array
    > {
      "code": "L45896",
      "name": "very low weight",
      "amount": 50,
      "load_count": 1,
      "__v": 0
    }
  }
```

> _MONGOSH BETA

MongoDB Compass - 2018afppa73fp.mongodb.net/IT19123028TR.vehicles

ConnectViewCollectionHelp

Local

5 DBS12 COLLECTIONS

FAVORITE

HOSTS

2018afpp-shard-00-00.a7...
2018afpp-shard-00-01.a7...
2018afpp-shard-00-02.a7...

CLUSTER

Replica Set (atlas-mq169e...
3 Nodes

EDITION

MongoDB 4.4.6 Enterprise

Filter your data

2019AF

IT19123028TR

loads

vehicles

admin

config

local

myFirstDatabase

+

> _MONGOSH BETA

IT19123028TR.vehicles

Documents

DOCUMENTS 4

TOTAL SIZE 408B

AVG. SIZE 102B

INDEXES 1

TOTAL SIZE 36.0KB

AVG. SIZE 36.0KB

DocumentsAggregationsSchemaExplain PlanIndexesValidation

FILTER { field: 'value' }

OPTIONS

FIND

RESET

...

ADD DATA

VIEW

...

...

Displaying documents 1 - 4 of 4

REFRESH

_id: ObjectId("60c5ccef473ffc43d4df6702")

loads: Array

name: "bike"

description: "transport light loads"

__v: 0

_id: ObjectId("60c5cd0d473ffc43d4df6703")

loads: Array

name: "car"

description: "transport short loads"

__v: 0

_id: ObjectId("60c5cf4d020cae3c40351843")

loads: Array

name: "lorry"

description: "transport lot of loads"

__v: 0

_id: ObjectId("60c5ecdbf80237256415c5b0")

loads: Array

name: "Bus"

description: "More weight"

__v: 0