

# Researching Project IoT Platform using Laravel and Mobile App

## ‘ Week6 Report ’

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2019-2020

Returning Visitor



# Outline

- ❖ Planning for First Month
- ❖ Planning for Second Month
- ❖ Backend vs Frontend Controller
- ❖ Backend vs Frontend Route
- ❖ Backend vs Frontend Layout View
- ❖ Backend vs Frontend Index
- ❖ How to view Charts from JavaScript
- ❖ View on Frontend project
- ❖ Coding for backend , frontend and database

# ❖ Planning for First Month

Activity (Start on 06.08.2020)	Thursday (Presentation day)	Friday	Monday	Tuesday	Wednesday (Meeting day)
<b>Week 1</b>	Installation MongoDB (Shell and Compass) and connect localhost between Shell and Compass.(Locally)	Performing CRUD (Create, Read, Update, Delete) on Mongo Shell and MongoDB Compass.	Creating MongoDB Atlas account and connect it to Mongo Shell or MongoDB Compass, and Driver (Node.js).(Cloud)	Installation Visual Studio Code and connect driver to MongoDB Atlas.(Cloud)	Connecting sample Backend to MongoDB Cluster and storing Products in the Database.
<b>Week 2</b>	Connecting driver to Mongo Shell.(Locally)	Starting to build sample backend connect with or without MongoDB Atlas.	Build creating, editing and deleting Products on server.	Transmitting and fetching data to/from the Database.	Creating Login and Signup. (Email and password)
<b>Week 3</b>	Learning template Bootstrap 4	Install wampserver and Laravel	Run Laravel server with MySQL(Database)	Choose free template Bootstrap for Front-End & Backend	Installation Laravel Module for Backend and Front-End
<b>Week 4</b>	Starting to build backend for project. & Creating Login and Signup.	User management: <ul style="list-style-type: none"> <li>• Create new user</li> <li>• Reset user password</li> <li>• Delete and edit user</li> </ul>	Manage Info: <ul style="list-style-type: none"> <li>• Logo</li> <li>• Name</li> <li>• Contact info</li> <li>• Map</li> <li>• Social</li> </ul>	Manage new category: <ul style="list-style-type: none"> <li>• Create new category</li> <li>• Edit and delete exiting categories.</li> </ul>	Manage news: <ul style="list-style-type: none"> <li>• Post news</li> <li>• Edit news</li> <li>• Delete news</li> </ul>

# ❖ Planning for Second Month

Activity (Start on 06.08.2020)	Thursday (Presentation day)	Friday	Monday	Tuesday	Wednesday (Meeting day)
<b>Week 5</b>	Create Dashboard	Create Dashboard	Manage Calculate: <ul style="list-style-type: none"> <li>• Addition</li> <li>• Subtraction</li> <li>• Multiplication</li> <li>• Division</li> </ul>	Write API & Read API	Write API & Read API
<b>Week 6</b>	Connect to ESP8266 or NodeMcu & fetch data from Arduino	Get data from Sensors and Calculate.	Show data on Dashboard	Connect Backend to Front-End	Front-End fetch data from Backend
<b>Week 7</b>	Choose Flutter or React Native for build Mobile App.	Learning Flutter or React native	Start build sample project	Create Horizontal list view & build recent products grid view.	Manage Info: <ul style="list-style-type: none"> <li>• Product details</li> <li>• Home page Ui modification</li> <li>• Shopping cart &amp; list page</li> <li>• User login &amp; Register</li> <li>• Contact info</li> </ul>
<b>Week 8</b>	Creating Users, brand and category on database & Adding products to the database.	Auto complete search for categories and brands & Uploading Images to firebase.	Login and signup screen redesign & Google sign in for IOS and Android .	Firebase Auth using provider package & Dashboard UI/UX and Database product modeling.	Load products from firebase part & loading products from database.

# ❖ Backend vs Frontend Controller

```
$ php artisan module:make-controller ITCnode1Controller Admin
```

ITCnode1Controller.php ×

Modules > Admin > Http > Controllers > ITCnode1Controller.php > PHP Intelli

```
1  <?php
2
3  namespace Modules\Admin\Http\Controllers;
4
5  use Illuminate\Contracts\Support\Renderable;
6  use Illuminate\Http\Request;
7  use Illuminate\Routing\Controller;
8
9  class ITCnode1Controller extends Controller
10 {
11     public function __construct()
12     {
13         $this->middleware('auth');
14     }
15     public function index()
16     {
17         return view('admin::itc_node1s.index');
18     }
19
20     /**
21      * Show the form for creating a new resource.
22      * @return Renderable
23      */
24     public function create()
25     {
26         return view('admin::create');
27     }
28 }
```

Backend

```
$ php artisan make:controller ITCnode1Controller -r
```

ITCnode1Controller.php ×

app > Http > Controllers > ITCnode1Controller.php > PHP Intelephense > ITC

```
1  <?php
2
3  namespace App\Http\Controllers;
4
5  use Illuminate\Http\Request;
6
7  class ITCnode1Controller extends Controller
8  {
9      /**
10       * Display a listing of the resource.
11       *
12       * @return \Illuminate\Http\Response
13       */
14     public function index()
15     {
16         return view('itc_node1s.index');
17     }
18
19     /**
20      * Show the form for creating a new resource.
21      *
22      * @return \Illuminate\Http\Response
23      */
24     public function create()
25     {
26         //
27     }
28 }
```

Frontend

# ❖ Backend vs Frontend Route

## Backend

```
web.php X
Modules > Admin > Routes > web.php > #Function#215c5bc7
1 <?php
2 Route::prefix('admin')->group(function() {
3     Route::get('/', 'AdminController@index');
4
5     // itc
6     Route::resource('itcnode1', 'ITCnode1Controller')->except(['destroy', 'show']);
7     Route::resource('itcnode2', 'ITCnode2Controller')->except(['destroy', 'show']);
8     // user route
9     Route::resource('user', 'UserController')->except(['destroy', 'show']);
10    Route::get('user/delete/{id}', 'UserController@delete')->name('user.delete');
11    Route::get('user/logout', 'UserController@logout')->name('user.logout');
12    Route::get('user/reset', 'UserController@reset_password')->name('user.reset');
13    Route::post('user/reset/save', 'UserController@save_password')->name('user.save');
14    // company route
15    Route::get('company', 'CompanyController@index')->name('company.index');
16    Route::get('company/edit/{id}', 'CompanyController@edit')->name('company.edit');
17    Route::post('company/save', 'CompanyController@save')->name('company.save');
18    // category
19    Route::resource('category', 'CategoryController')->except(['destroy', 'show']);
20    Route::get('category/delete/{id}', 'CategoryController@delete')->name('category.delete');
21    // social route
22    Route::resource('social', 'SocialController')->except(['destroy', 'show']);
23    Route::get('social/delete/{id}', 'SocialController@delete')->name('social.delete');
24    // slideshow
25    Route::resource('slide', 'SlideController')->except(['destroy', 'show']);
26    Route::get('slide/delete/{id}', 'SlideController@delete')->name('slide.delete');
27    // fealture
```

## Frontend

```
web.php X
routes > web.php
1 <?php
2 use Illuminate\Support\Facades\Route;
3 /*
4 |-----
5 | Web Routes
6 |-----
7 |
8 | Here is where you can register web routes for your application. These
9 | routes are loaded by the RouteServiceProvider within a group which
10 | contains the "web" middleware group. Now create something great!
11 |
12 */
13 Route::get('/', 'HomeController@index');
14 Auth::routes();
15 Route::get('/home', 'HomeController@index')->name('home');
16 // charts
17 Route::resource('chart', 'ChartController')->except(['destroy', 'show']);
18 // projects
19 Route::resource('project', 'ProjectController')->except(['destroy', 'show']);
20 // laboratory
21 Route::resource('company', 'CompanyController')->except(['destroy', 'show']);
22 // teams
23 Route::resource('team', 'TeamController')->except(['destroy', 'show']);
24 // itc
25 Route::resource('itcnode1', 'ITCnode1Controller')->except(['destroy', 'show']);
26 Route::resource('itcnode2', 'ITCnode2Controller')->except(['destroy', 'show']);
27 Route::resource('itcwebcam', 'ITCwebcamController')->except(['destroy', 'show']);
28
```

# ❖ Backend vs Frontend Layout View

## Backend

```
master.blade.php X
div.main-wrapper > div#app.app > aside.sidebar > div.sidebar-container > nav.menu > ul#sidebar-me
72 <li id="menu_chart">
73 <a href="{{route('chart.index')}}">
74 <i class="fa fa-area-chart"></i> Charts </a>
75 </li>
76 <li id="menu_itc">
77 <a href="">
78 <i class="fa fa-tachometer"></i> ITC-Charts <i class="fa arrow"></i>
79 </a>
80 <ul class="sidebar-nav" id="collapse_itc">
81 <li id="menu_node1">
82 <a href="{{route('itcnode1.index')}}">
83 <i class="fa fa-bar-chart-o"></i> Node 1
84 </a>
85 </li>
86 <li id="menu_node2">
87 <a href="{{route('itcnode2.index')}}">
88 <i class="fa fa-bar-chart-o"></i> Node 2
89 </a>
90 </li>
91 <li id="menu_webcam">
92 <a href="{{route('itcwebcam.index')}}">
93 <i class="fa fa-video-camera"></i> Webcam
94 </a>
95 </li>
96 </ul>
97 </li>
98 <li id="menu_rua">
```

master.blade.php X

```
resources > views > layouts > master.blade.php > html.no-js > body >
48 <li id="menu_chart">
49 <a href="{{url('chart')}}">
50 <i class="fa fa-area-chart"></i> Charts </a>
51 </li>
52 <li id="menu_itc">
53 <a href="">
54 <i class="fa fa-tachometer"></i> ITC-Charts <i class="fa arrow"></i>
55 </a>
56 <ul class="sidebar-nav" id="collapse_itc">
57 <li id="menu_node1">
58 <a href="{{url('itcnode1')}}">
59 <i class="fa fa-bar-chart-o"></i> Node 1
60 </a>
61 </li>
62 <li id="menu_node2">
63 <a href="{{url('itcnode2')}}">
64 <i class="fa fa-bar-chart-o"></i> Node 2
65 </a>
66 </li>
67 <li id="menu_webcam">
68 <a href="{{url('itcwebcam')}}">
69 <i class="fa fa-video-camera"></i> Webcam
70 </a>
71 </li>
72 </ul>
73 </li>
74 <li id="menu_rua">
75 <a href="">
76 <i class="fa fa-tachometer"></i> RUA-Charts <i class="fa arrow"></i>
77 </a>
```

## Frontend

# ❖ Backend vs Frontend Index

index.blade.php X

## Backend

Modules > Admin > Resources > views > itc\_node1s > index.blade.php > ...

```
1 @extends('admin::layouts.master')
2 @section('header')
3     <strong>Node1-Charts</strong>
4 @endsection
5 @section('content')
6     <div class="toolbox">
7         <a href="#" class="btn btn-success btn-lg btn-oval"> Last 24 hours </a>
8         <a href="#" class="btn btn-success btn-lg btn-oval"> Last 7 days </a>
9         <a href="#" class="btn btn-success btn-lg btn-oval"> Last 28 days </a>
10    </div>
11    <section class="section">
12        <div class="row">
13            <div class="col-md-6">
14                <div class="card">
15                    <div class="card-block">
16                        <div class="card-title-block">
17                            <h3 class="title"> Temperature </h3>
18                        </div>
19                        <section class="example">
20                            <div id="morris-area-chart-temp"></div>
21                        </section>
22                    </div>
23                </div>
24            </div>
25            <div class="col-md-6">
26                <div class="card">
27                    <div class="card-block">
28                        <div class="card-title-block">
```

index.blade.php X

## Frontend

resources > views > itc\_node1s > index.blade.php > ...

```
1 @extends('layouts.master')
2 @section('header')
3     <strong>Node1-Charts</strong>
4 @endsection
5 @section('content')
6     <div class="toolbox">
7         <a href="#" class="btn btn-success btn-lg btn-oval"> Last 24 hours </a>
8         <a href="#" class="btn btn-success btn-lg btn-oval"> Last 7 days </a>
9         <a href="#" class="btn btn-success btn-lg btn-oval"> Last 28 days </a>
10    </div>
11
12    <section class="section">
13        <div class="row">
14            <div class="col-md-6">
15                <div class="card">
16                    <div class="card-block">
17                        <div class="card-title-block">
18                            <h3 class="title"> Temperature </h3>
19                        </div>
20                        <section class="example">
21                            <div id="morris-area-chart-temp"></div>
22                        </section>
23                    </div>
24                </div>
25            </div>
26            <div class="col-md-6">
27                <div class="card">
28                    <div class="card-block">
```



# ❖ How to view Charts from JavaScript

The image shows a Visual Studio Code editor window with two tabs open: `app.js` and `appjs`. The `app.js` tab is active, showing a JavaScript file with a function `drawMorrisCharts()` that configures a Morris.js area chart. The `appjs` tab is also active, showing a similar configuration for a radiation chart. The terminal at the bottom shows the command prompt `2: bash`.

```
public > backend > js > app.js > ($) callback

717 $(function() {
718
719     if (!$('#morris-area-chart-temp').length) {
720         return false;
721     }
722
723     function drawMorrisCharts() {
724
725         $('#morris-area-chart-temp').empty();
726
727         Morris.Area({
728             element: 'morris-area-chart-temp',
729             data: [{ period: '2020-09-01', temp: 0},
730                   { period: '2020-09-03', temp: 34.5},
731                   { period: '2020-09-05', temp: 25.6},
732                   { period: '2020-09-07', temp: 36.9},
733                   { period: '2020-09-09', temp: 33.5},
734                   { period: '2020-09-11', temp: 34},
735                   { period: '2020-09-14', temp: 50.5},
736                   { period: '2020-09-16', temp: 32},
737                   { period: '2020-09-18', temp: 28},
738                   { period: '2020-09-20', temp: 35} ],
739             xkey: 'period',
740             ykeys: ['temp'],
741             labels: ['Temperature'],
742             pointSize: 2,
743             hideHover: 'auto',
744             resize: true,
```

```
820 { period: '2020-09-16', radiation: 872},
821 { period: '2020-09-18', radiation: 980},
822 { period: '2020-09-20', radiation: 965} ],
823 xkey: 'period',
824 ykeys: ['radiation'],
825 labels: ['Radiation'],
826 pointSize: 2,
827 hideHover: 'auto',
828 resize: true,
829 lineColors: [
830     tinycolor(config.chart.colorPrimary.toString()),
831     tinycolor(config.chart.colorPrimary.toString()),
832     config.chart.colorPrimary.toString()
833 ],
834 lineWidth: 2,
835 pointSize: 1,
836 });
837
838
839
840 drawMorrisCharts();
841
842 $(document).on("themechange", function(){
843     drawMorrisCharts();
844 });
845
846
847
```

Terminal: 2: bash

Sovannroth@DESKTOP-062D09C MINGW64 /c:/wamp64/www/greenhouse

# ❖ How to view Charts from JavaScript

index.blade.php.txt - Notepad

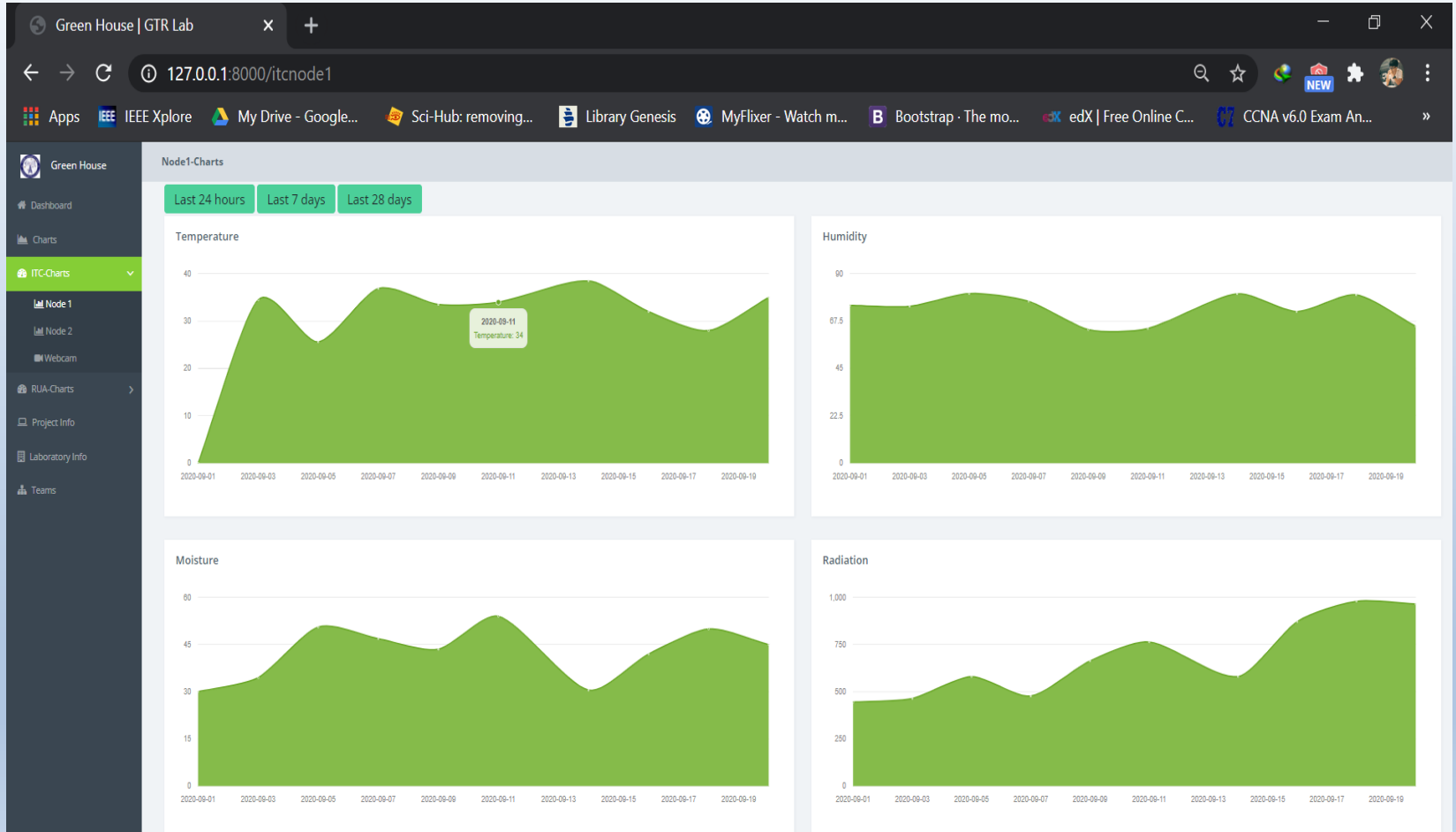
```
File Edit Format View Help
@extends('layouts.master')
@section('header')
    <strong>Node1-Charts</strong>
@endsection
@section('content')
<div class="toolbox">
    <a href="#" class="btn btn-success btn-lg btn-oval"> Last 24 hours </a>
    <a href="#" class="btn btn-success btn-lg btn-oval"> Last 7 days </a>
    <a href="#" class="btn btn-success btn-lg btn-oval"> Last 28 days </a>
</div>
<section class="section">
    <div class="row">
        <div class="col-md-6">
            <div class="card">
                <div class="card-block">
                    <div class="card-title-block">
                        <h3 class="title"> Temperature </h3>
                    </div>
                    <section class="example">
                        <div id="morris-area-chart-temp"></div>
                    </section>
                </div>
            </div>
        </div>
        <div class="col-md-6">
            <div class="card">
                <div class="card-block">
                    <div class="card-title-block">
                        <h3 class="title"> Humidity </h3>
                    </div>
                    <section class="example">
                        <div id="morris-area-chart-hum"></div>
                    </section>
                </div>
            </div>
        </div>
    </div>
</section>
<section class="section">
    <div class="row">
        <div class="col-md-6">
            <div class="card">
```

index.blade.php.txt - Notepad

```
File Edit Format View Help
<div class="row">
    <div class="col-md-6">
        <div class="card">
            <div class="card-block">
                <div class="card-title-block">
                    <h3 class="title"> Moisture </h3>
                </div>
                <section class="example">
                    <div id="morris-area-chart-mois"></div>
                </section>
            </div>
        </div>
    </div>
    <div class="col-md-6">
        <div class="card">
            <div class="card-block">
                <div class="card-title-block">
                    <h3 class="title"> Radiation </h3>
                </div>
                <section class="example">
                    <div id="morris-area-chart-radiation"></div>
                </section>
            </div>
        </div>
    </div>
</div>
</section>
@endsection
@section('js')
<script>
    $(document).ready(function(){
        $('#sidebar-menu li').removeClass('active open');
        $('#sidebar-menu li ul li').removeClass('active');

        $('#menu_itc').addClass('active open');
        $('#collapse_itc').addClass('collapse in');
        $('#menu_node1').addClass('active');
    });
</script>
@endsection
```

# ❖ View on Frontend project



# View on Frontend project

Green House | GTR Lab

127.0.0.1:8000/team

Apps IEEE Xplore My Drive - Google... Sci-Hub: removing... Library Genesis MyFlixer - Watch m... Bootstrap - The mo...

Green House

Dashboard

Charts

ITC-Charts


RUA-Charts

Project Info


Laboratory Info

**Teams**


Teams




Mr. Hel Chanthan  
Lecturer of Institute of Technology of Cambodia




Mr. Vannak Sovannroth  
Third year of Telecommunications and Network Engineering  
IoT platform using Web Application (Frontend & Backend) and Mobile App.




Mr. Nhim Chann Rengsey  
Third year of Telecommunications and Network Engineering  
PH sensor, PCB, and Hardware.




Mr. Proeung Bunrong  
Third year of Telecommunications and Network Engineering  
Thingspeak fetch data from Green House.



Miss. Chek Nita  
Third year of Telecommunications and Network Engineering  
Learning Machine Learning and Ai.



Mr. Sokha Sokheng  
Third year of Telecommunications and Network Engineering  
Camera on Raspberry pi fetch data from Green House.



Mr. Kheng Borey  
Third year of Telecommunications and Network Engineering  
Wireless Sensor Network with LoRa.


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# ❖ View on Frontend project

Green House | GTR Lab

127.0.0.1:8000/company

Apps IEEE IEEE Xplore My Drive - Google... Sci-Hub: removing... Library Genesis MyFlixer - Watch m... Bootstrap - The mo... edX | Free Online C... CCNA v6.0 Exam An...

Green House

Dashboard

Charts

ITC-Charts >

RUA-Charts >

Project Info

Laboratory Info

Teams


Laboratory Info

Name : LBE Laboratory

Phone : 0123456789

Email : info@itc.com

Address : Institute of Technology of Cambodia



Description

LBE is a Japanese-style engineering education. LBE is independent from curricula and requests faculty members to conduct holistic research and education in his/her laboratory. A laboratory is not a room but a research team that consists of faculty members, postgraduate students, 3th & 4th and /or 5th year undergraduate students and some other members. Each team is led by a LBE team leader who has a Ph.D. degree. Postgraduate students and 5th year undergraduate students must participate in his/her supervisor's research team and take part in a research project. Faculty members must provide the student members with research topics and guide them to their thesis/dissertation. Acquiring financial resources is one of the important tasks of an LBE team leader. LBE enables students to learn how to find and solve practical problems, make good communications and lead logical discussions. LBE concurrently encourages faculty members to keep updating research outputs in order to provide LBE that satisfies students and cooperating industries. LBE nurtures human resources with capacity to contribute to academic and industrial sectors. LBE also products new technology. ITC establishes research teams and conducts LBE mainly in four fields: Electrical & Energy, Industrial & Mechanical , Geo-resources & Geotechnical and Information & Communication. LBE teams have hierarchical structure and conducts research with JICA LBE Research Grant.

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## ❖ Coding for backend, frontend, and database

<https://github.com/Chanthan89/Smart-Irrigation/tree/master/Weekly%20Presentation/Sept-2020/VANNAK%20Sovannroth/Code%20on%20backend%20and%20database>

**Thank  
You!**