SCHOOL AUTOMATION SYSTEM

Major Project Report

PRESENTED BY

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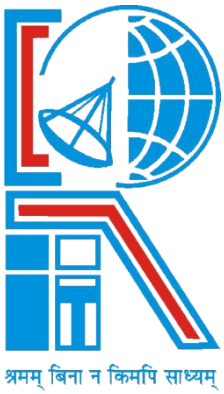

At RCC Institute of Information Technology affiliated to Maulana Abul Kalam Azad University of Technology
Canal South Road,Beliaghata,Kolkata-700015

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RCC INSTITUTE OF INFORMATION TECHNOLOGY

KOLKATA-700015,INDIA

CERTIFICATE

This is to certify that the project titled **School Automation System** submitted by **Amarjit Ghosh**(Roll number 11701015005 of MCA Department) has been prepared under my/our supervision for the partial fulfillment of the requirements for MCA degree in Maulana Abul Kalam Azad University of Technology. The report is hereby forwarded.

Sudip Chakraborty Boon Software Pvt Ltd. (External Supervisor)	Ranjan Jana Dept. of MCA, RCCIIT (Internal Supervisor)

Countersigned by

.....

Name of Head-**Arup Kumar Bhattacharjee**
Department of Computer Application
RCC Institute of Information Technology,
Kolkata – 700 015, India

Declaration by Author(s)

This is to declare that this report has been written by me/us. No part of the report is plagiarized from other sources. All information included from other sources have been duly acknowledged. I/We aver that if any part of the report is found to be plagiarized, I/we are shall take full responsibility for it.

TEAM MEMBERS	Signature of Student
Amarjit Ghosh	_____
Pramita Kolay	_____
Arkadeep Paul	_____

ACKNOWLEDGEMENT

I express my sincere gratitude to Prof. Ranjan Jana of Department of Computer Application RCCIIT and Dr. Sudip Chakraborty of Boon Software Pvt Ltd. for extending their valuable times for me to take up this problem as a project. Last but not the least I would like my gratitude to Prof.Arup Kumar Bhattacharjee (H.O.D, Dept of CA) who helped me in his own way whenever needed.

Signature of the student

Amarjit Ghosh

_____

Registration number: 151170510005 of 2015-16

Roll Number: 11701015005

MCA,6th Semester

Date:

RCC INSTITUTE OF INFORMATION TECHNOLOGY

KOLKATA-700015,INDIA

CERTIFICATE OF ACCEPTANCE

This is to certify that the project titled **School Automation System** submitted by **Amarjit Ghosh**(Roll number 11701015005 of MCA Department) is hereby recommended to be accepted for the partial fulfillment of the requirements for MCA degree in Maulana Abul Kalam Azad University of Technology

Name of the Examiner(s): Signature with Date

_____

Date: _____

ABSTRACT

School Automation System is very useful for Educational Institutes to manage the school management process, prepare an exam, save the time to check the paper and prepare the mark sheets and manage the overall system functionality in a most efficient and effective way

INTRODUCTION AND OBJECTIVES OF THE PROJECT

Introduction: -

School Automation System is being introduced because a need for a beneficial for both institutes and students.

Purpose: -

School Automation System fulfills the requirements of the institutes to manage the overall process of management that an educational system requires (non-teaching) including the teaching aspects inline to the institution.

Relevance of the Topic: -

In this fast changing world, this portal is much better and easier for the institution to manage the system process. We can list the relevance of our project as shown below:

- It is easy to operate the application.
- Principal can assign tasks to non-teaching and teaching entities.
- Principal will also be notified about the new and existing information of students, faculties and non-teachers.
- Principal can check the attendance status of all the other entities.
- Faculties can conduct examinations, assign tasks, conduct examinations, evaluate marksheets and give attendance to students.

Objectives: -

Education is a backbone of the human society. So, it is important to provide the elegant, strong and quality education to every youth of the generation to make sure that their personality is developed in a better way. This technological era can play a crucial role by giving the students, teachers, and parents a single but scalable and efficient platform.

The aim of this project is to provide quick, immediate and easy way to manage the overall infrastructure of an educational institution. The objectives of this project are as follows: -

Scopes: -

The scope of this online school automation system will provide easy and efficient way to conduct the school management process and examination conducted by the institutes.

TOOLS/PLATFORM, HARDWARE AND SOFTWARE SPECIFICATIONS:

Platforms: -

- Microsoft windows 7,8,10

- Linux Ubuntu LTS 16.04
- Mac OS (High Sierra)
- Linux Mate

Hardware requirement specification: -

Processor	:	2.49GHz Intel Pentium Series
RAM	:	1 GB RAM
Hard Disk	:	512 GB
Auxiliary Storage – 1	:	DVD Writer
Monitor	:	LED
Key Board & Mouse	:	Normal

Software requirement specification: -

- Front end: -
  - Angular JS using Ionic Framework
  - Node.js

- Back end: -
  - MongoDB

- Server: -
  - Mongo DB Database Server

- Developing Software and Tools: -
  - Ionic Framework
  - VIM Editor

- Sublime Text

- Supporting Scripts: -
  - Cascading Style Sheet (CSS)
  - JQuery
  - Typescript
- Development Operating System: -
  - Linux (Ubuntu) Operating System (16.04)
  - MAC Operating System [as local ionic hosting server].

GOALS OF IMPLEMENTATION: -

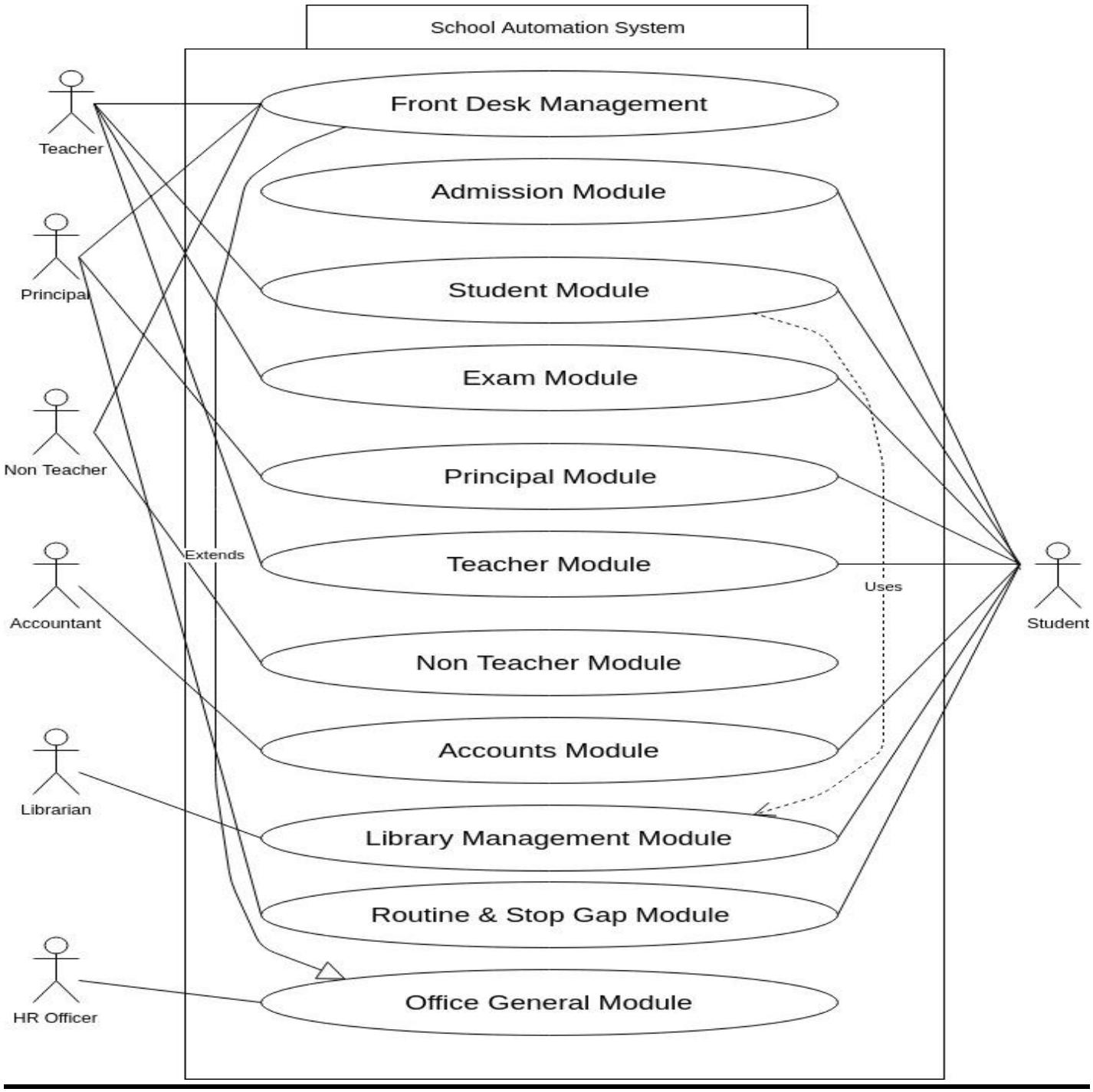
Nowadays, technology has changed many aspects of life and people's daily life is becoming indivisible from the network due to the development of internet. This project focuses on the convenience of the user and brings to them the latest way to make better manageable scalable and flexible system to manage the academic aspects of an educational institution freely.

DATA MODEL: -

USE-CASE DIAGRAM: -

The requirement of a system can be represented using a use case model in the use case diagram. The use case diagram for the actors of this case study is given as below:

6.1 USE CASE DIAGRAM :



REQUIREMENT SPECIFICATION: -

FUNCTIONAL REQUIREMENTS: -

The users of the 'Online School Automation System' are:

1. **PRINCIPAL –**
   - **Change the temporary user to permanent user and also assign them a particular registration number.**
   - **This entity is the highest order of entity in the system and is considered as administrator.**

2. **STUDENT -**
   - **Automatically the request for permanent user will be submitted to administrator.**
   - **Can see their registration status.**

3. **TEACHER -**
   - **Can assign tasks to students.**
   - **Can view their own attendance status.**

4. **NON TEACHER -**
   - **Can view their assigned tasks.**
   - **Can view their attendance status.**

CODING (IMPLEMENTATION):

[FRONT DESK MODULE]

[TYPESCRIPT PAGE]

```
import { Component } from '@angular/core';
import { IonicPage, NavController, NavParams } from 'ionic-angular';

/**
 * Generated class for the Otm page.
 *
 * See http://ionicframework.com/docs/components/#navigation for more info
 * on Ionic pages and navigation.
 */
@IonicPage()
@Component({
  selector: 'page-message-non-teaching',
  templateUrl: 'message-non-teaching.html',
})
export class MessageNonTeachingPage {

  constructor(public navCtrl: NavController, public navParams: NavParams) {
  }

  ionViewDidLoad() {
    console.log('ionViewDidLoad MessageTeachingPage');
  }

ass() {
        this.navCtrl.push("MessageTextBoxNonTeachingPage");
        }
sub() {
        this.navCtrl.push("MessageSendBoxNonTeachingPage");
    }
in() {
        this.navCtrl.push("MessageInBoxNonTeachingPage");
    }
}
```

[TYPESCRIPT PAGE]

```
import { Component } from '@angular/core';

import { NavController, NavParams, IonicPage, AlertController, LoadingController } from 'ionic-angular';

/**

 * Generated class for the StudentResultInsertPage page.
```

```
 *
 * See http://ionicframework.com/docs/components/#navigation for more info
 * on Ionic pages and navigation.
 */
@IonicPage()
@Component({
  selector: 'page-exam-namest',
  templateUrl: 'exam-namest.html',
})
export class ExamNamestPage {
  queryText = '';
  constructor(
    public navCtrl: NavController,
    public navParams: NavParams,
  // public http: Http,
  public alertCtrl: AlertController,
  public loadingCtrl: LoadingController
  ) {
  }
 ionViewDidLoad() {
    this.updateSchedule();
    console.log('ionViewDidLoad StudentResultInsertPage');
  }
updateSchedule() {
      // Close any open sliding items when the schedule updates
     /* this.scheduleList && this.scheduleList.closeSlidingItems();
          var request_json = {
                    "name": this.queryText
               };
```

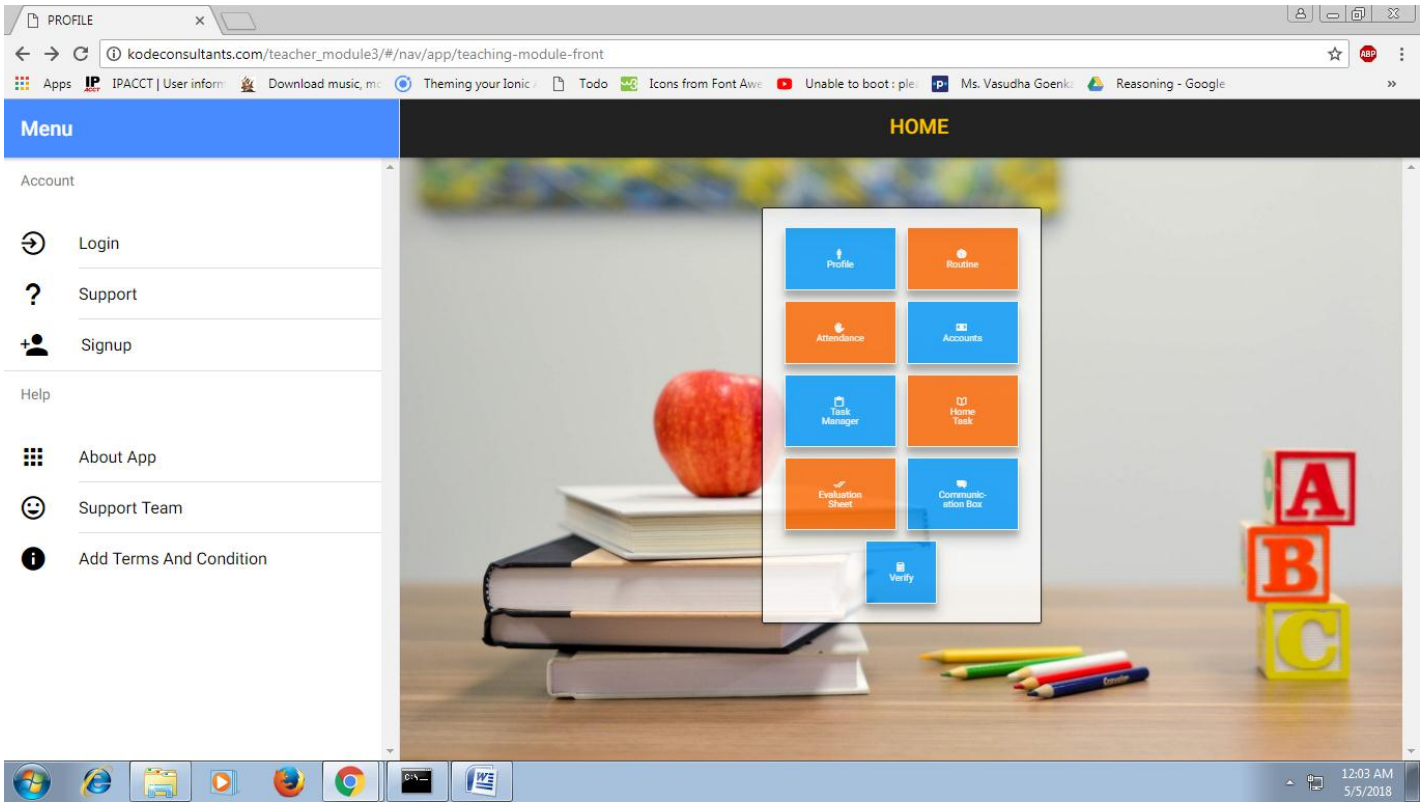
```
        let header = new Headers();
        let url = "https://httpbin.org/post";
        //import { TabsPage } from '../tabs-page/tabs-page';
        header.append("Content-Type", "application/json");
        this.http.post(url, JSON.stringify(request_json),{headers:header}).map(result => result.json()).subscribe(data =>{
        console.log("post data: " + JSON.stringify(data));
         this.shownSessions = data.shownSessions;
         this.groups = data.groups;
         this.queryText = data.json.teacher_name;
         }); */
  }
  name() {
      console.log(this.queryText);
      this.navCtrl.push("ClassTest1dst", { queryText: this.queryText });
    }
}
```

12. SCREENSHOT:

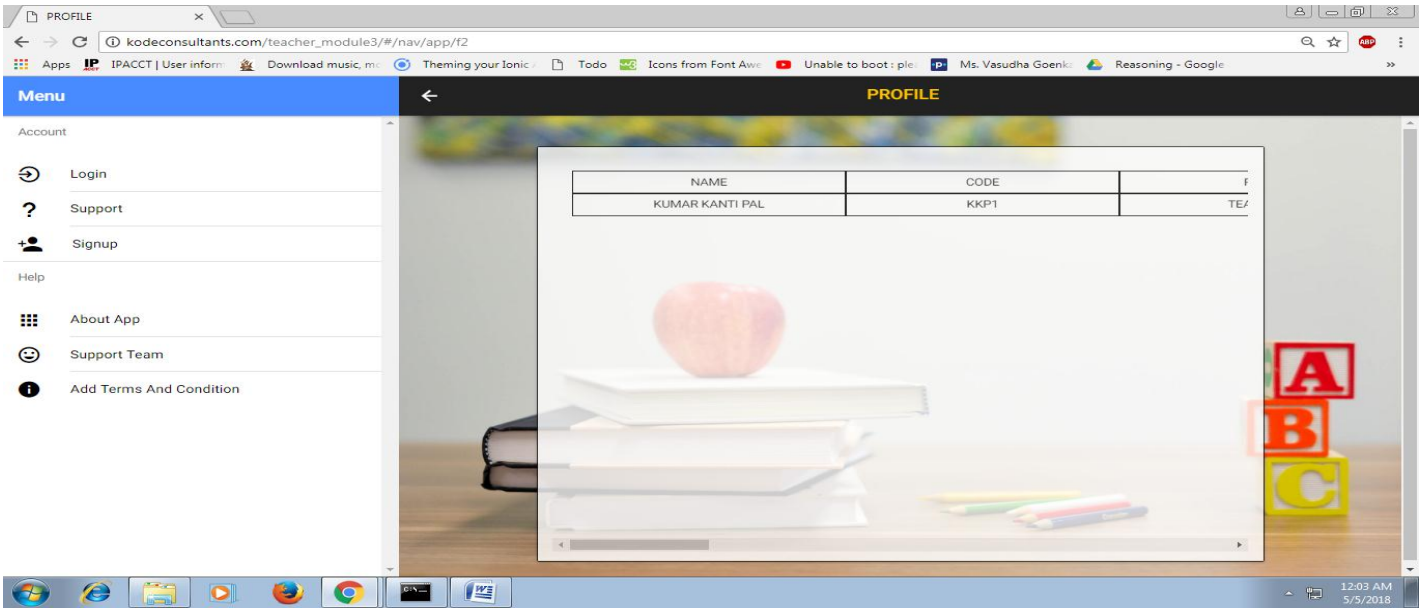
WEBVIEW SCREENSHOTS

[TEACHER_MODULE]

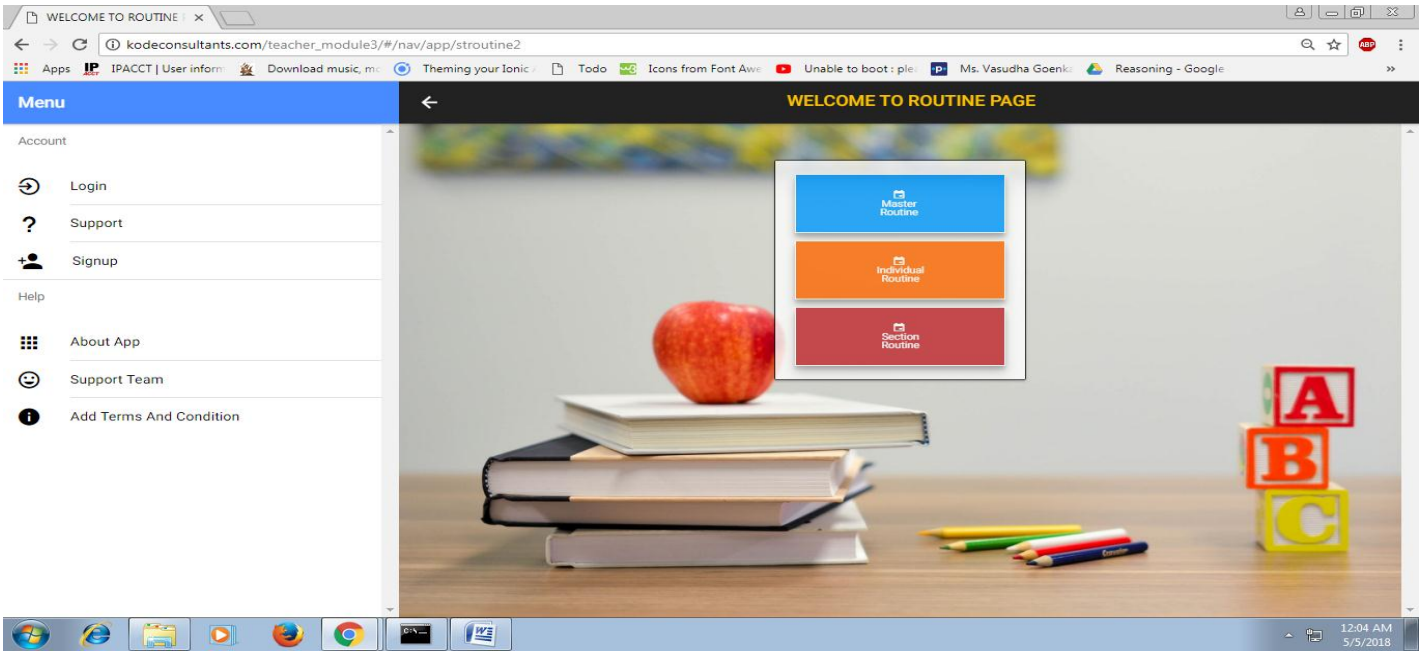
Teaching Module Home Page



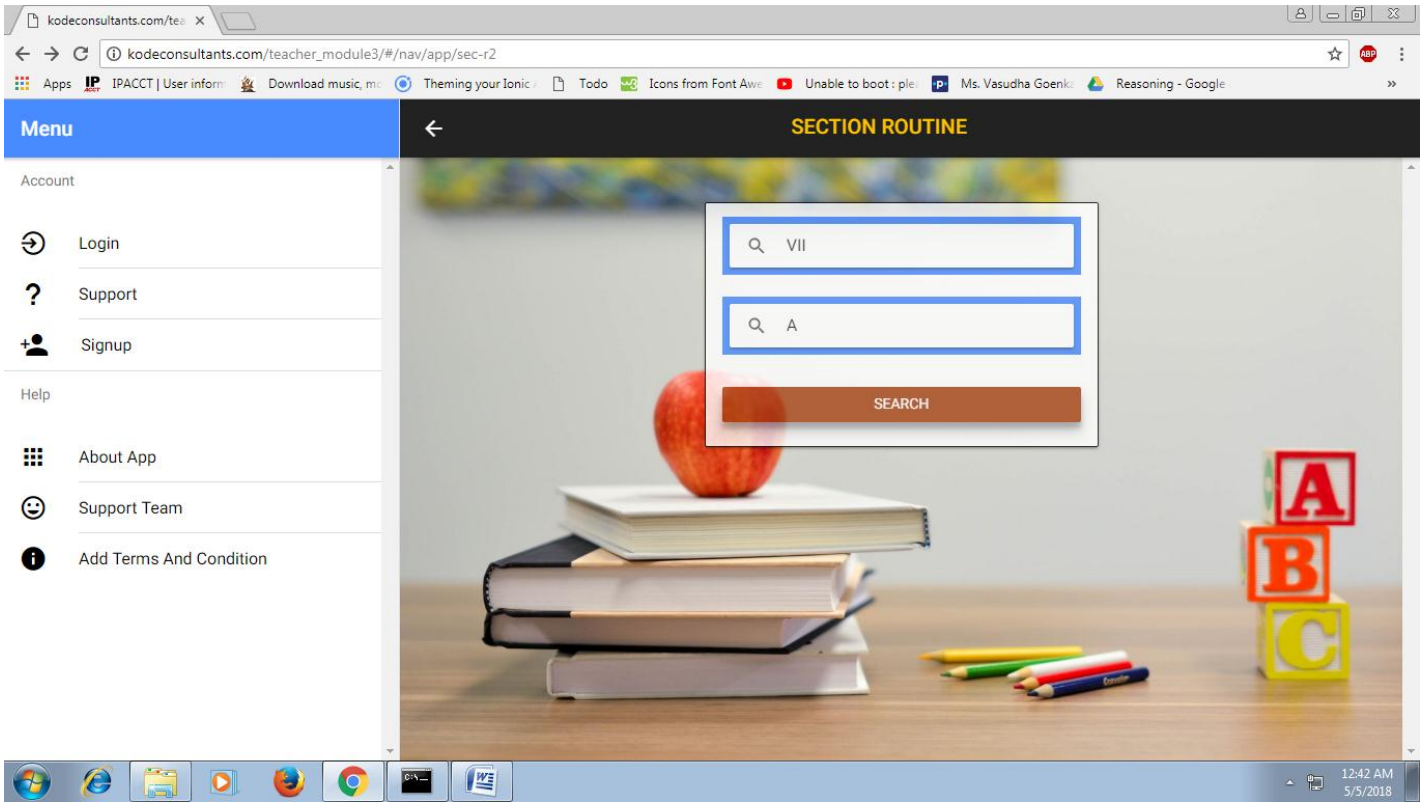
Teacher's Profile Page



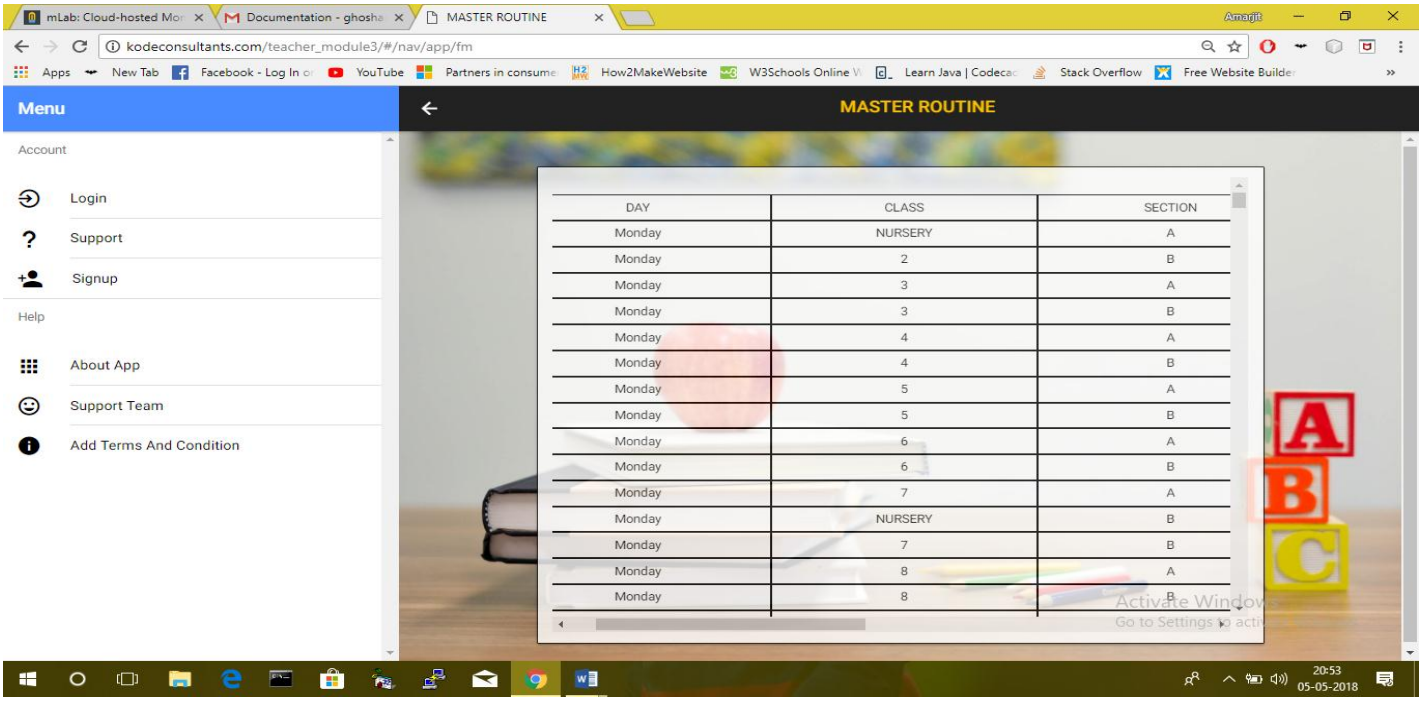
Teaching Module Routine Page



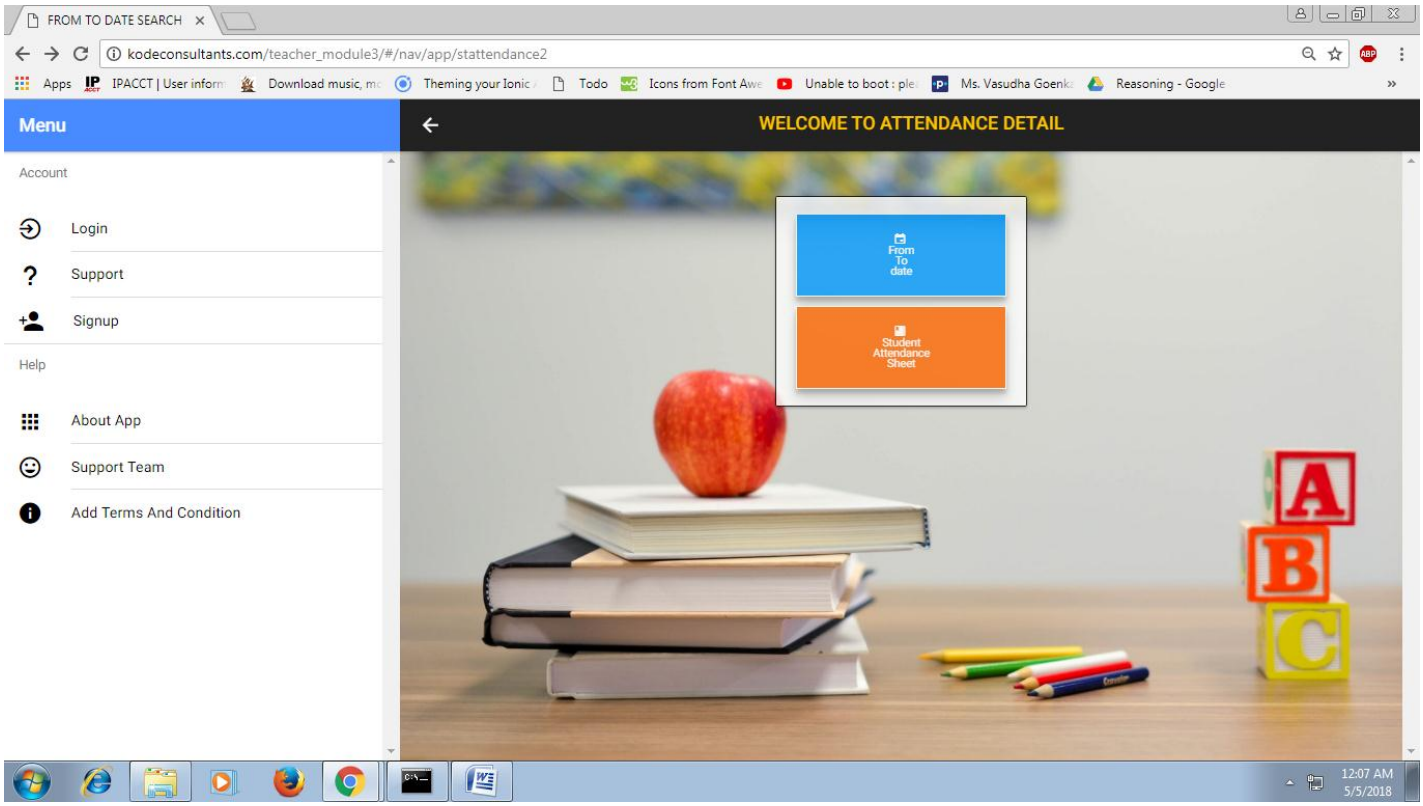
Section Routine Page



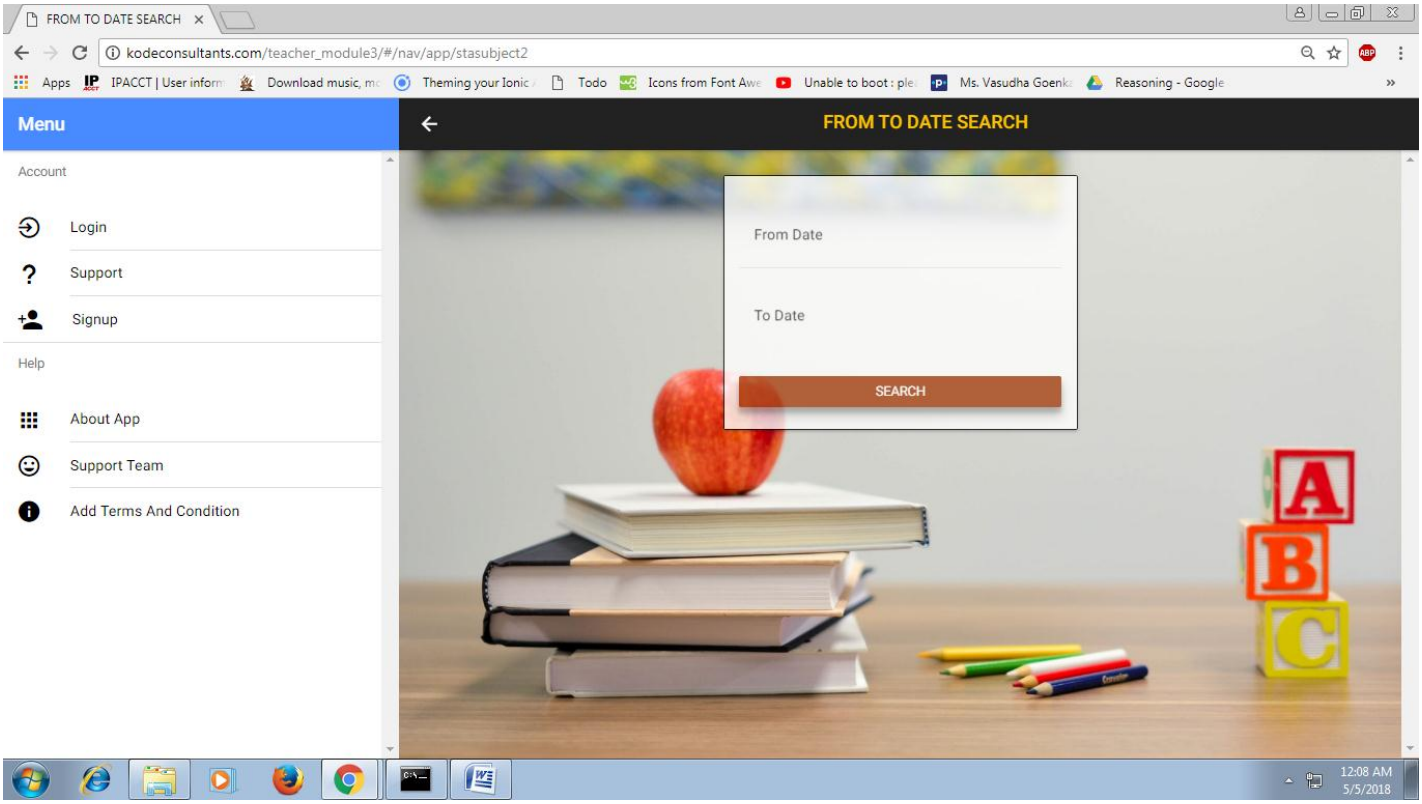
Master Routine

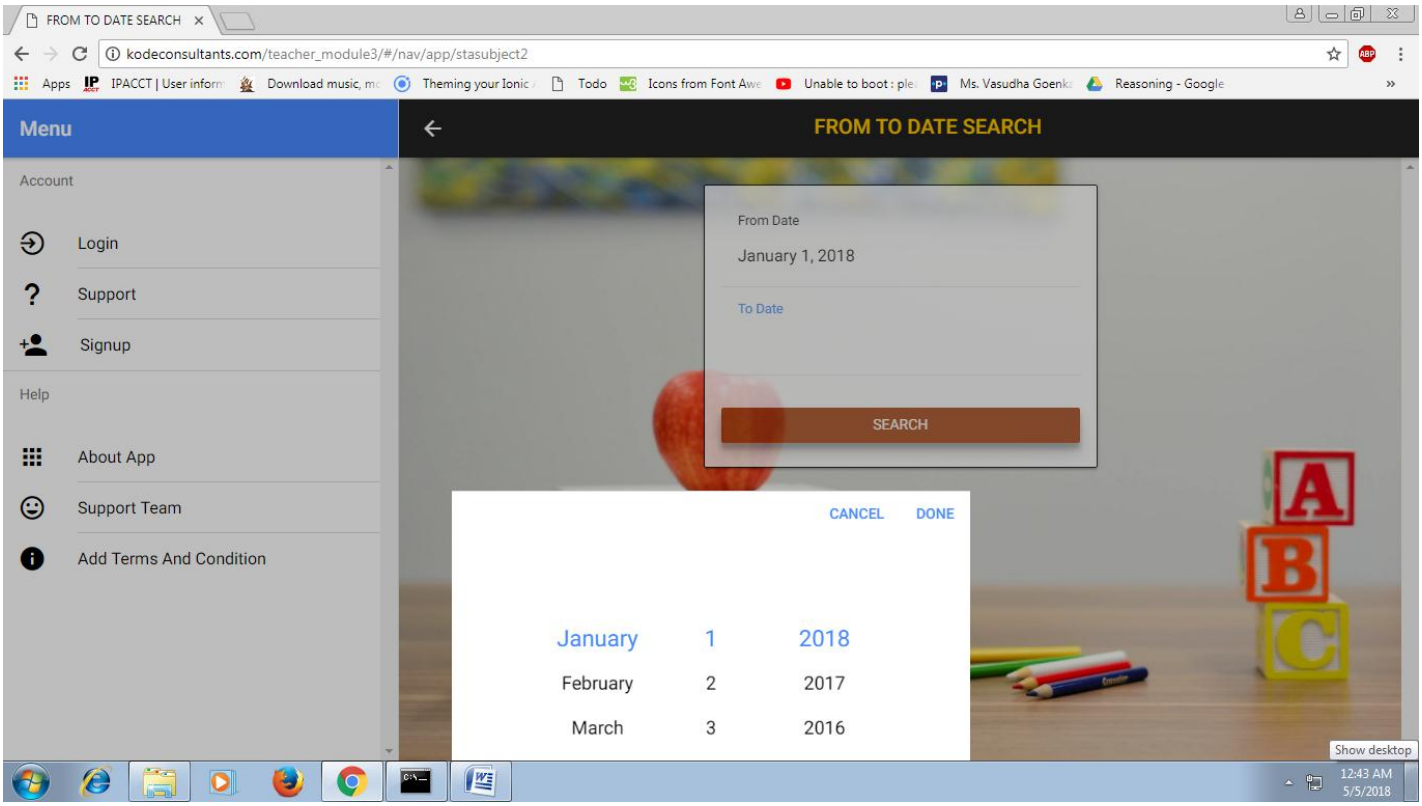


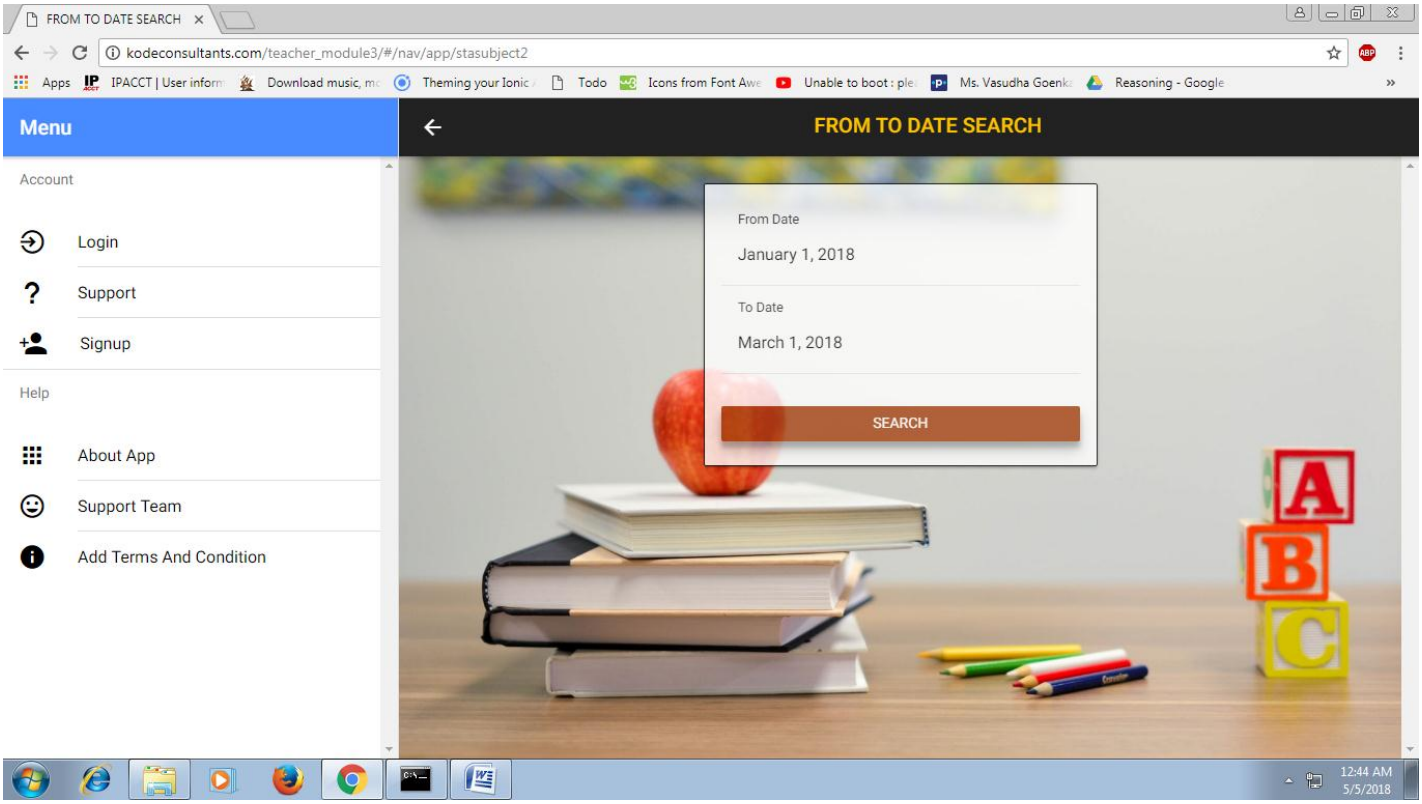
Teaching Module Attendance Page



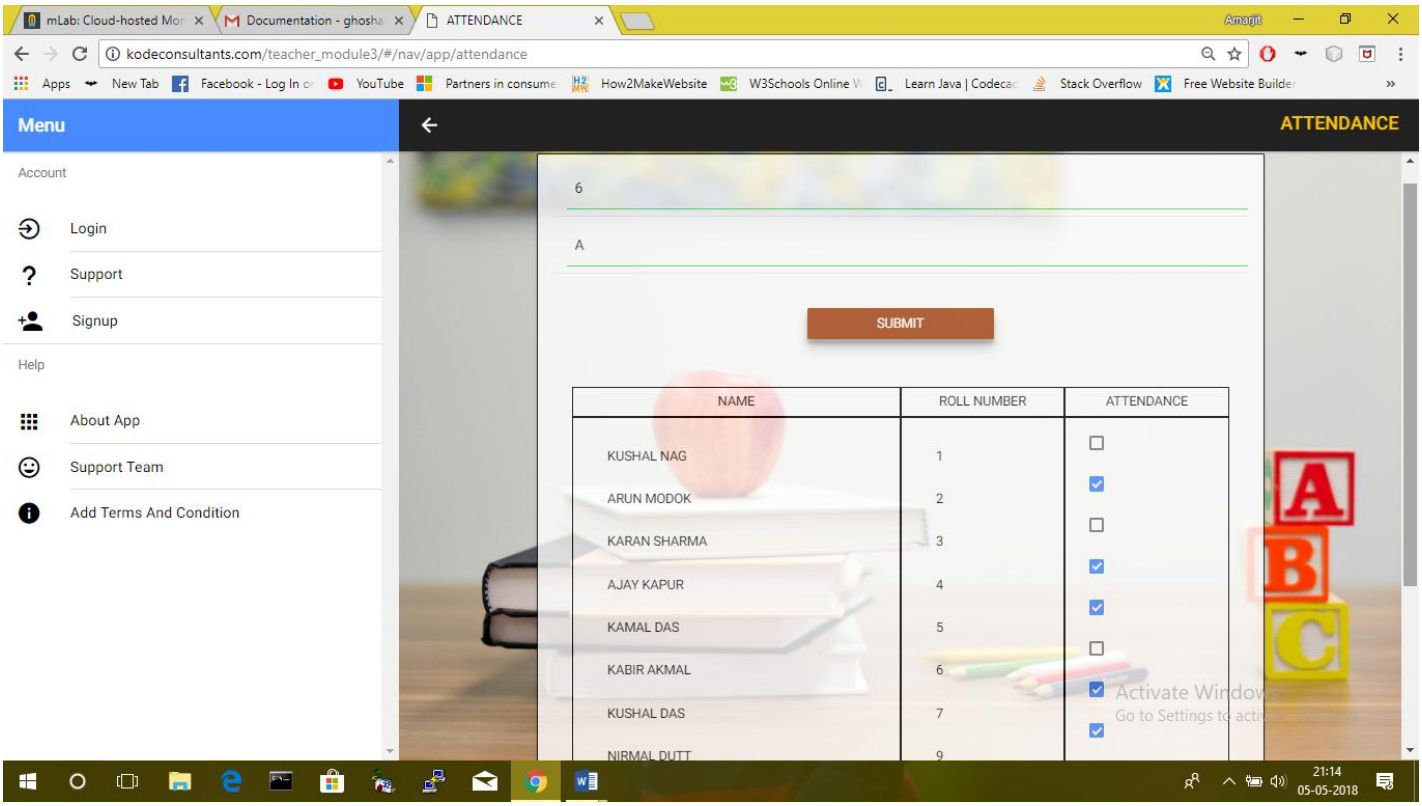
Teaching Module Attendance Search Page

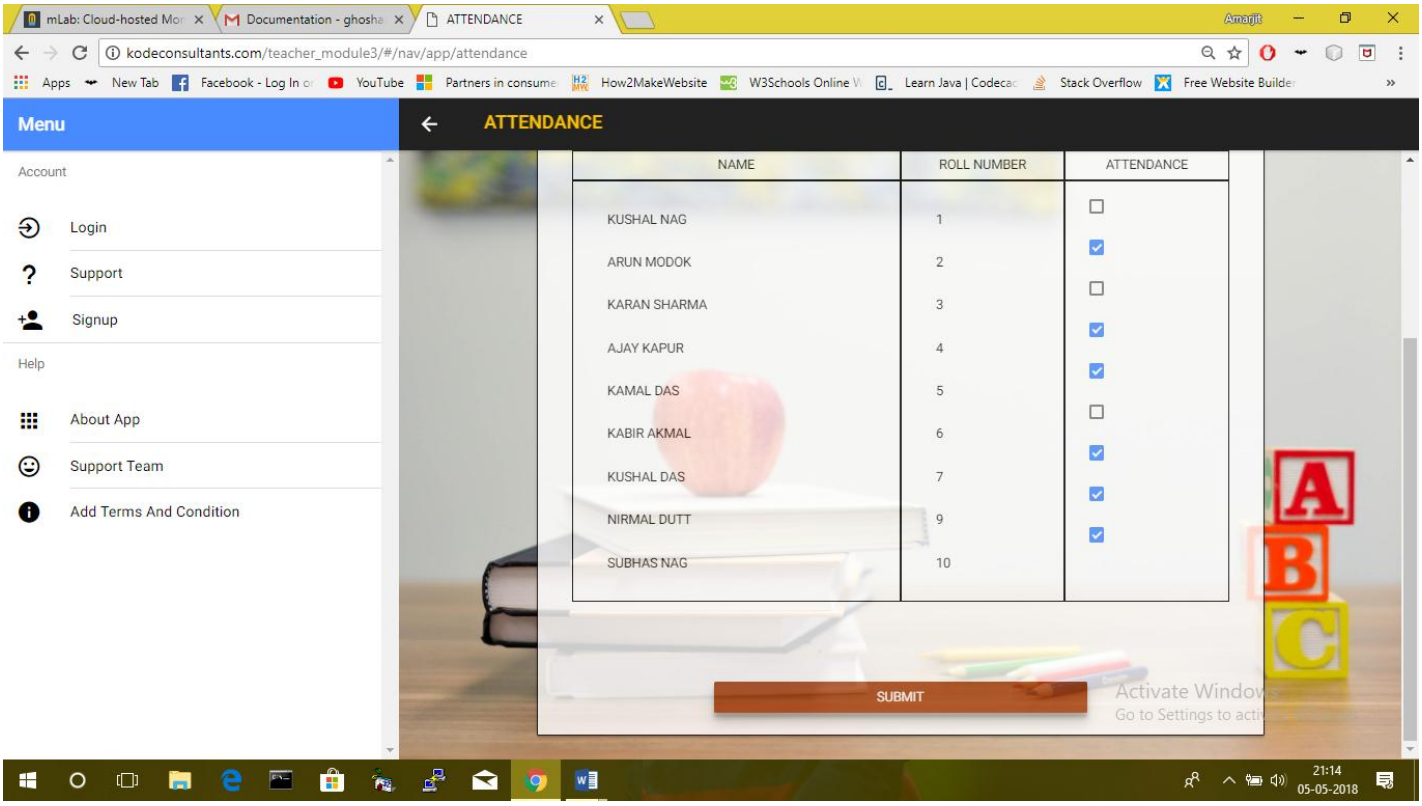

FROM TO DATE SEARCH
kodeconsultants.com/teacher_module3/#/nav/app/stasubject2
Menu
Account
Login
Support
Signup
Help
About App
Support Team
Add Terms And Condition
FROM TO DATE SEARCH
From Date
To Date
SEARCH


FROM TO DATE SEARCH
kodeconsultants.com/teacher_module3/#/nav/app/stasubject2
Menu
Account
Login
Support
Signup
Help
About App
Support Team
Add Terms And Condition
FROM TO DATE SEARCH
From Date
January 1, 2018
To Date
SEARCH
CANCEL
DONE
January 1 2018
February 2 2017
March 3 2016

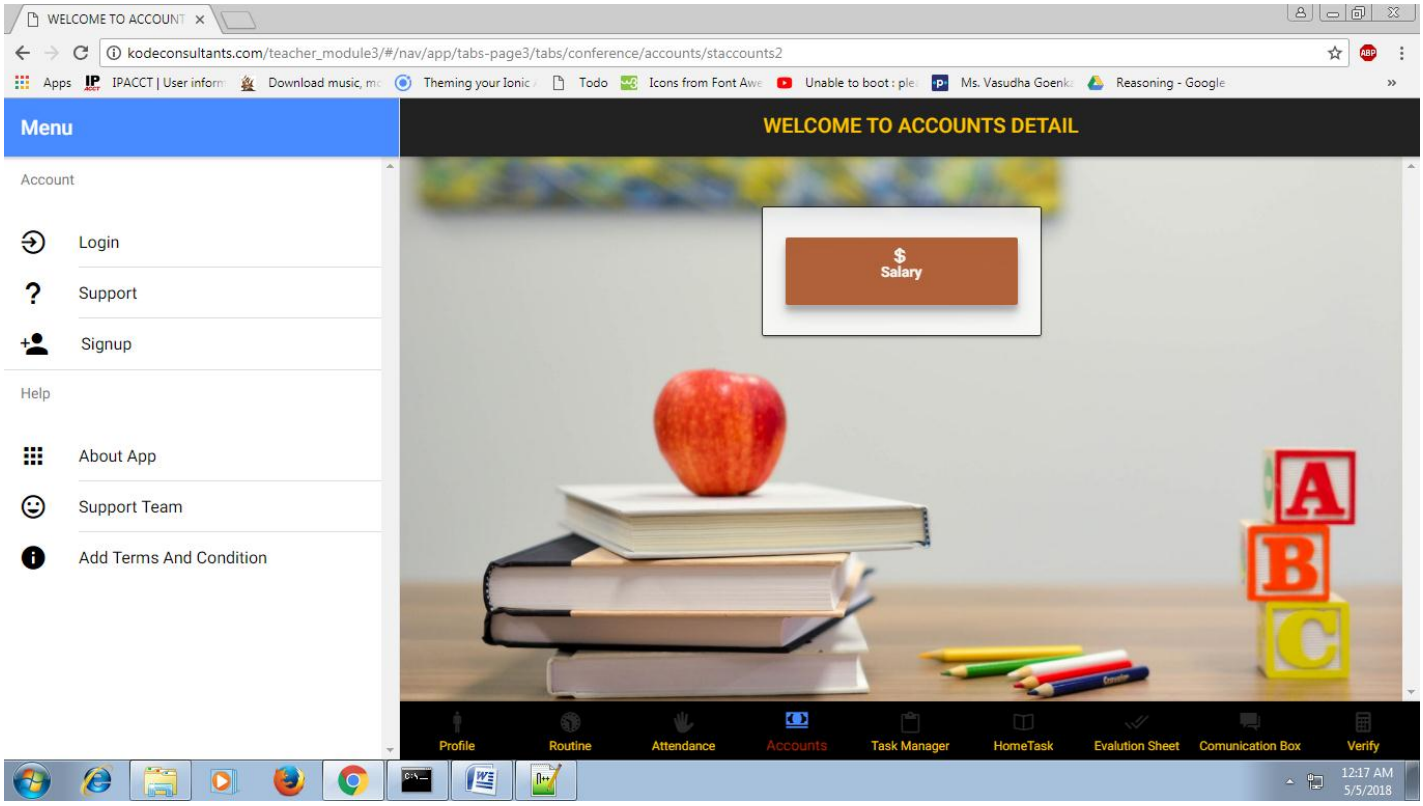


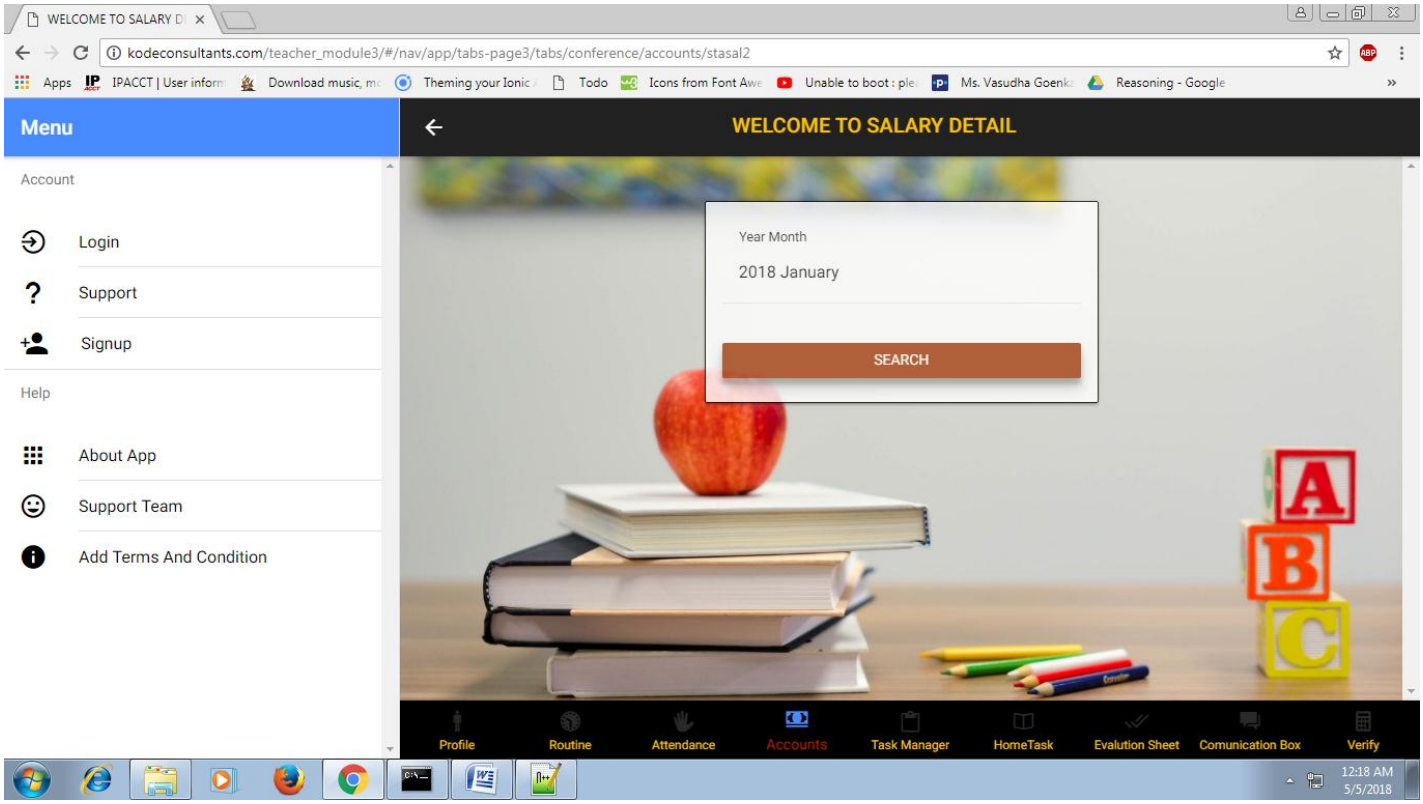
Student Attendance Sheet Page

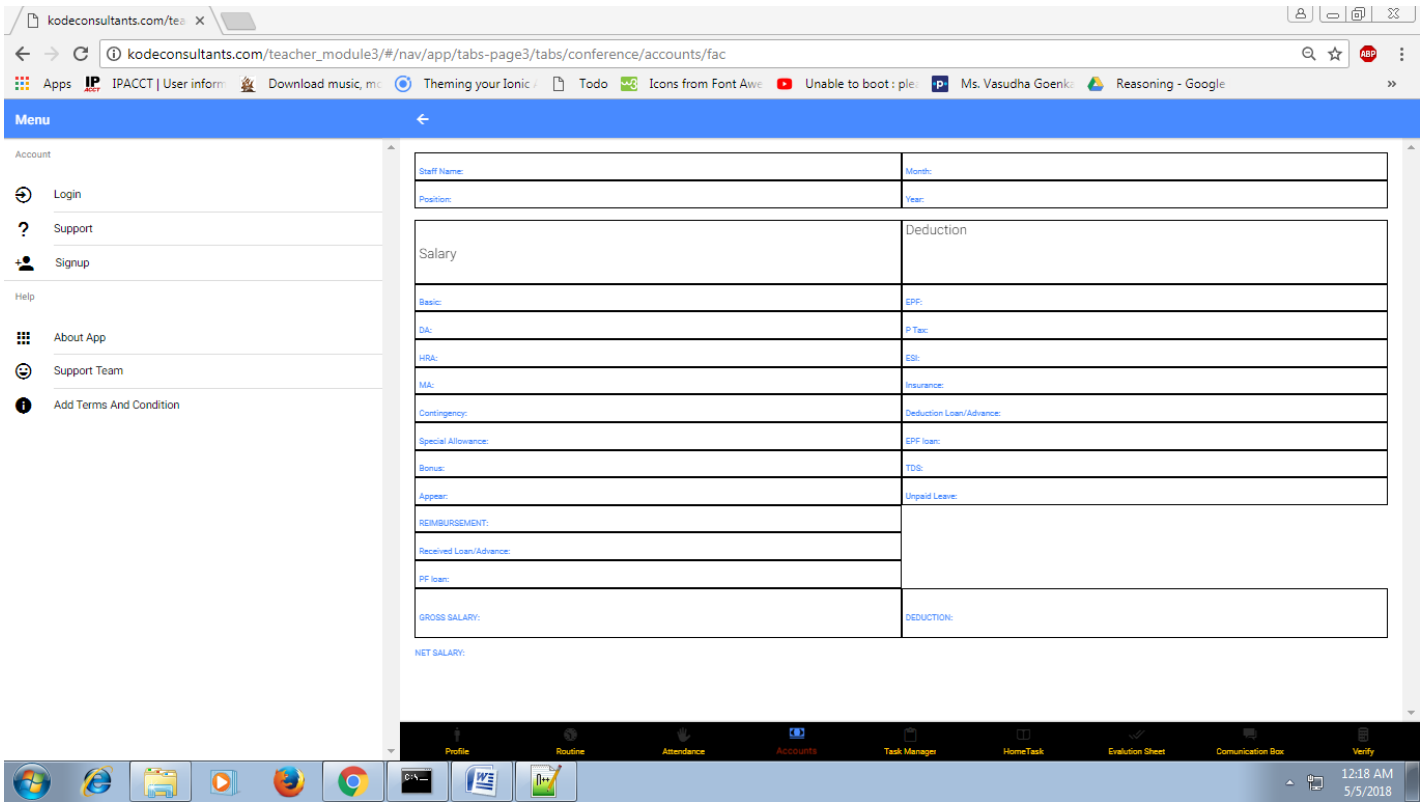




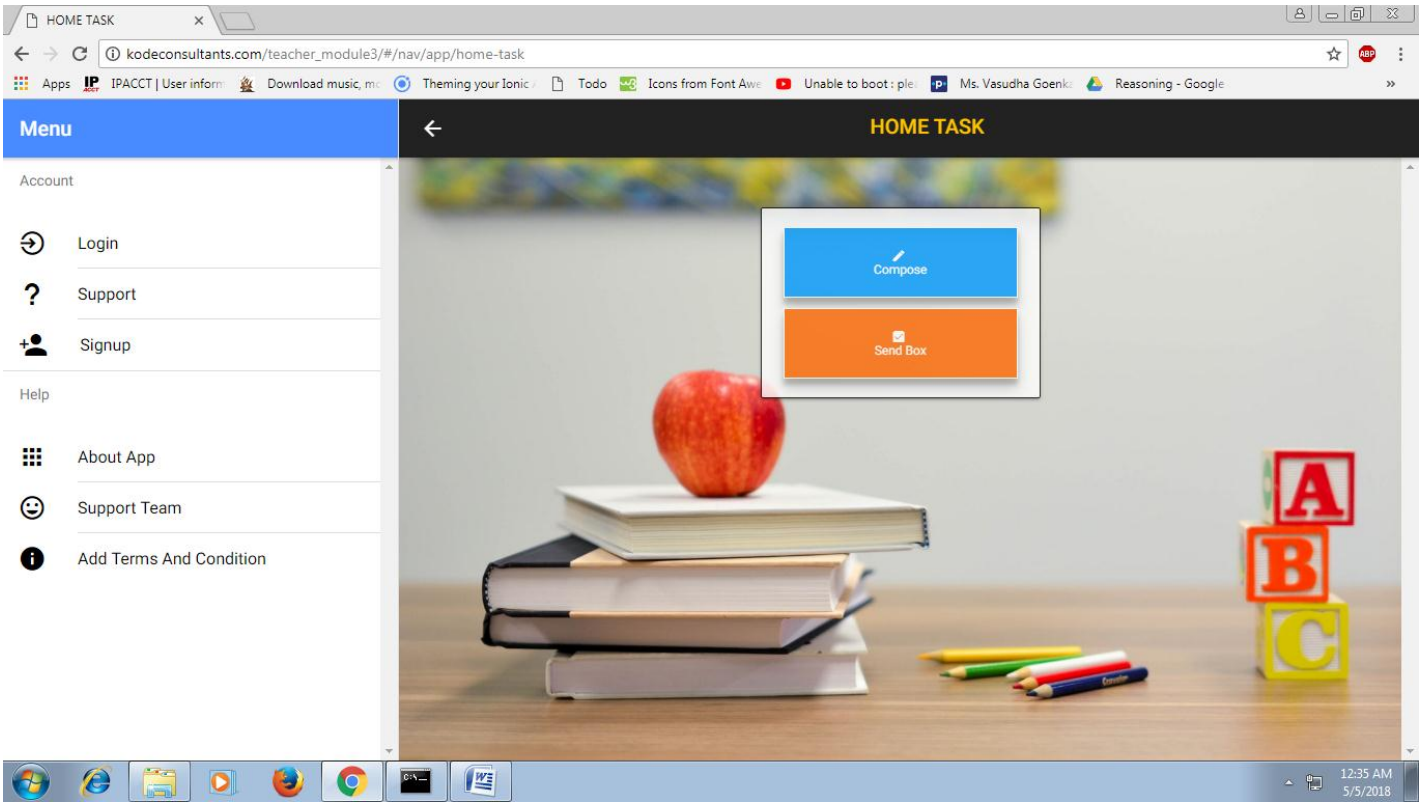
Teaching Module Accounts Detail Page

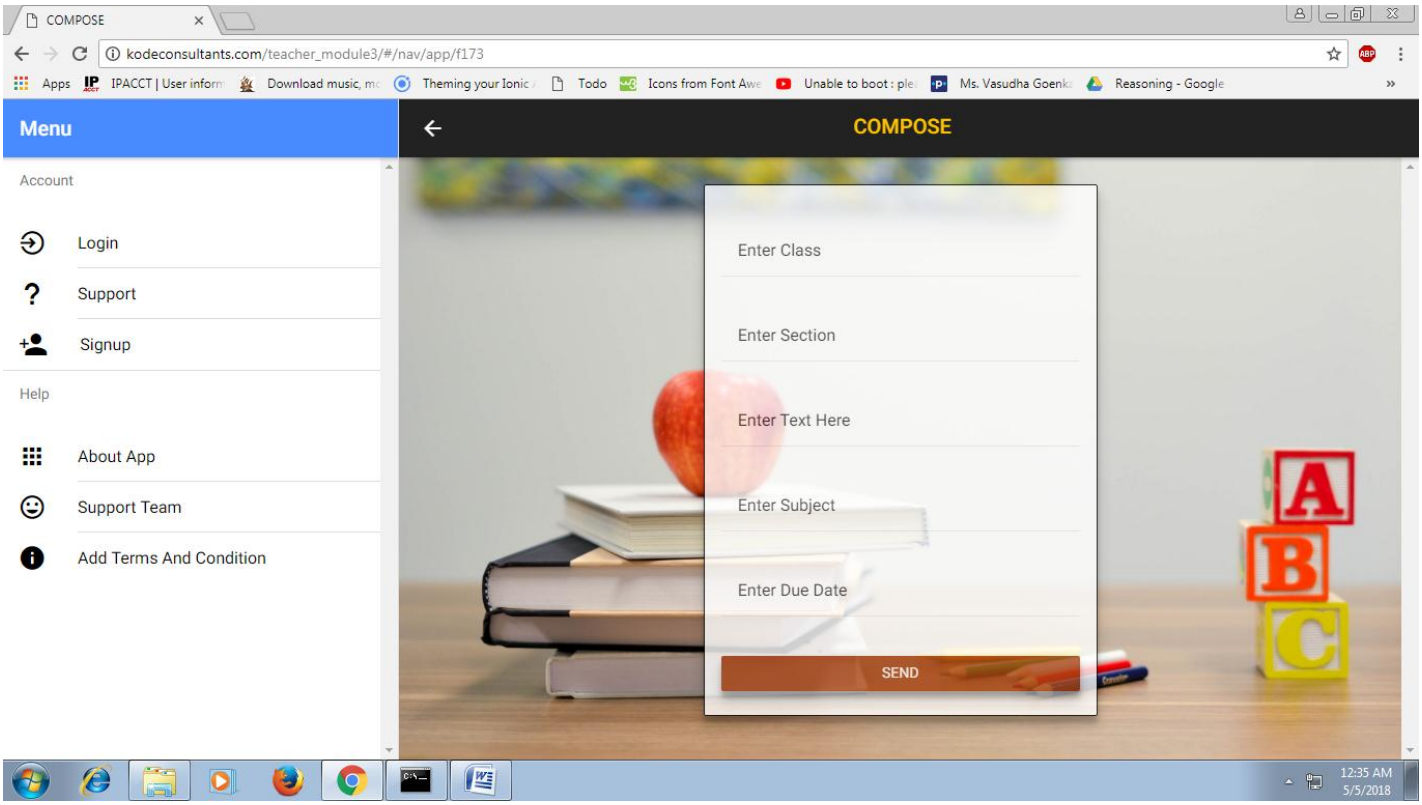



WELCOME TO SALARY D
kodeconsultants.com/teacher_module3/#/nav/app/tabs-page3/tabs/conference/accounts/stasal2
Menu
Account
Login
Support
Signup
Help
About App
Support Team
Add Terms And Condition
WELCOME TO SALARY DETAIL
Year Month
2018 January
SEARCH
Profile
Routine
Attendance
Accounts
Task Manager
HomeTask
Evalution Sheet
Comunication Box
Verify
12:18 AM
5/5/2018

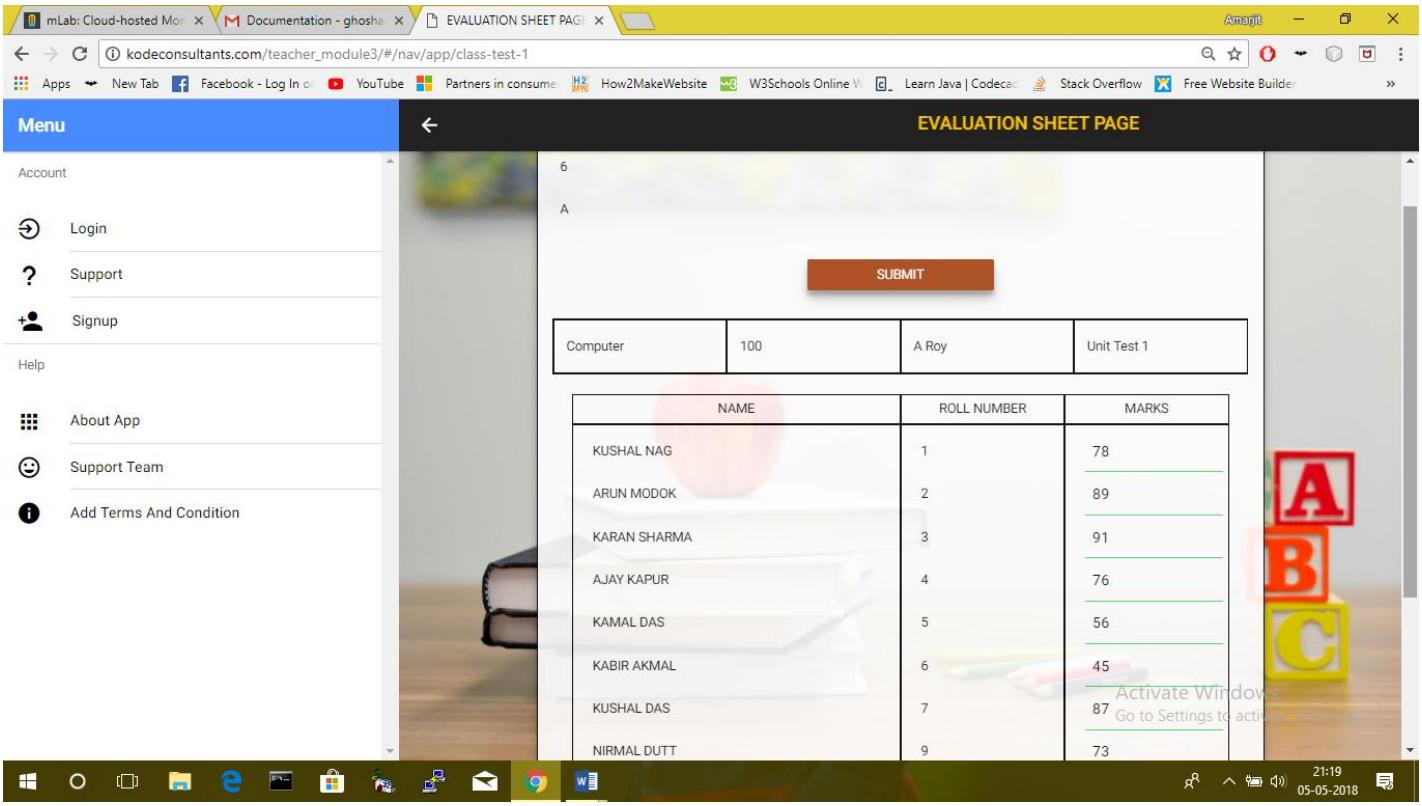

kodeconsultants.com/tea
kodeconsultants.com/teacher_module3/#/nav/app/tabs-page3/tabs/conference/accounts/fac
Menu
Account
Login
Support
Signup
Help
About App
Support Team
Add Terms And Condition
Staff Name:
Month:
Position:
Year:
Salary
Deduction
Basic:
EPF:
DA:
P Tax:
HRA:
ESI:
MA:
Insurance:
Contingency:
Deduction Loan/Advance:
Special Allowance:
EPF loan:
Bonus:
TDS:
Appear:
Unpaid Leave:
REIMBURSEMENT:
Received Loan/Advance:
PF loan:
GROSS SALARY:
DEDUCTION:
NET SALARY:
Profile
Routine
Attendance
Accounts
Task Manager
HomeTask
Evalution Sheet
Comunication Box
Verify
12:18 AM
5/5/2018

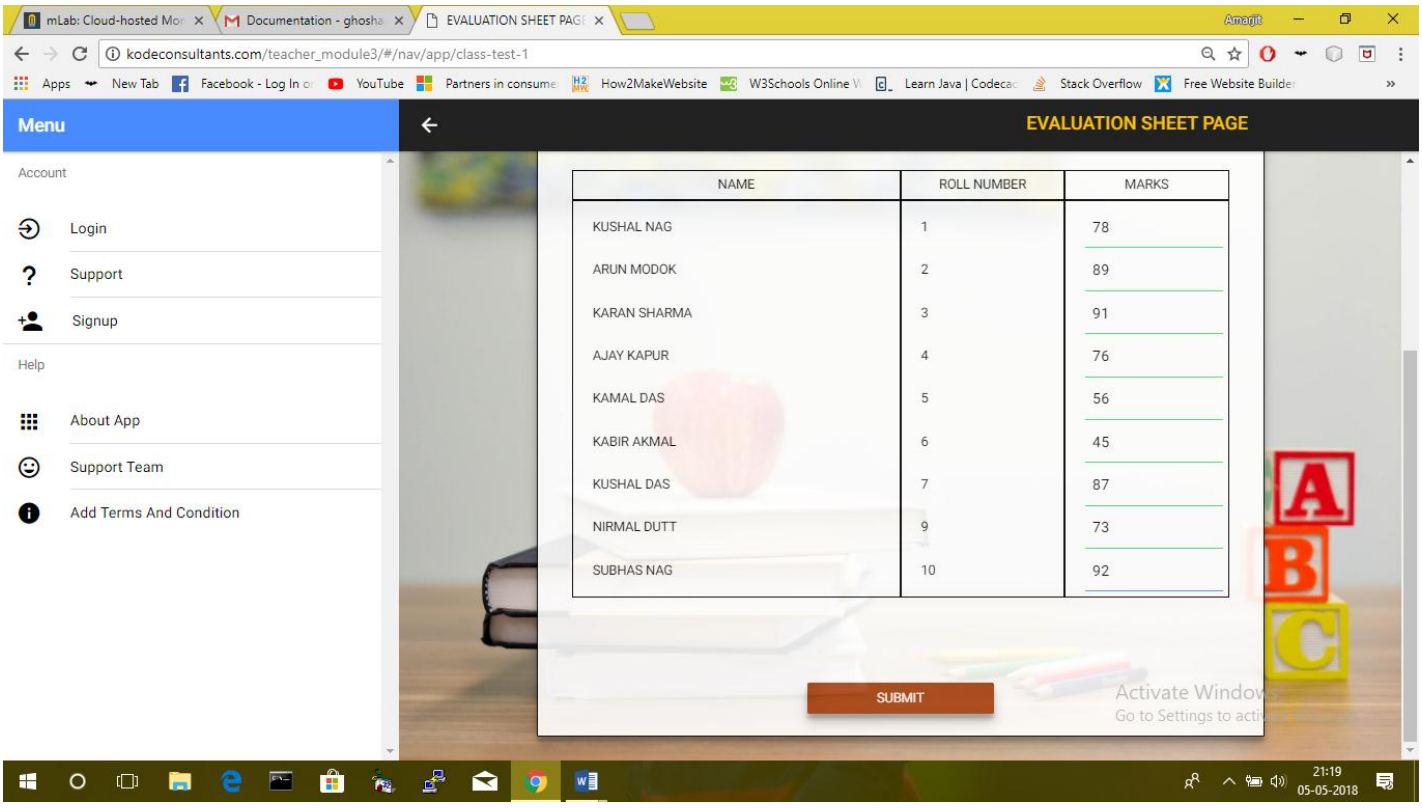
Teaching Module HomeTask Page



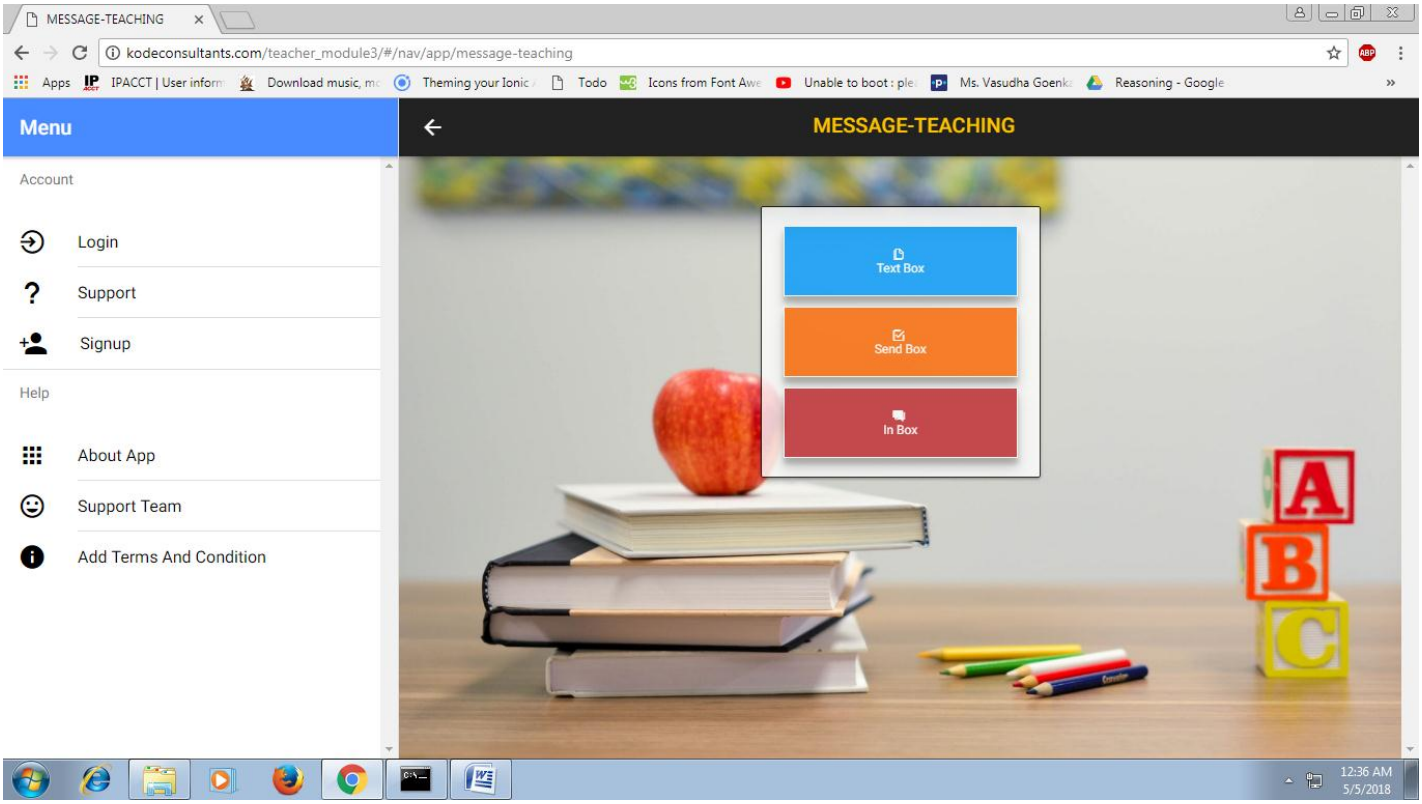


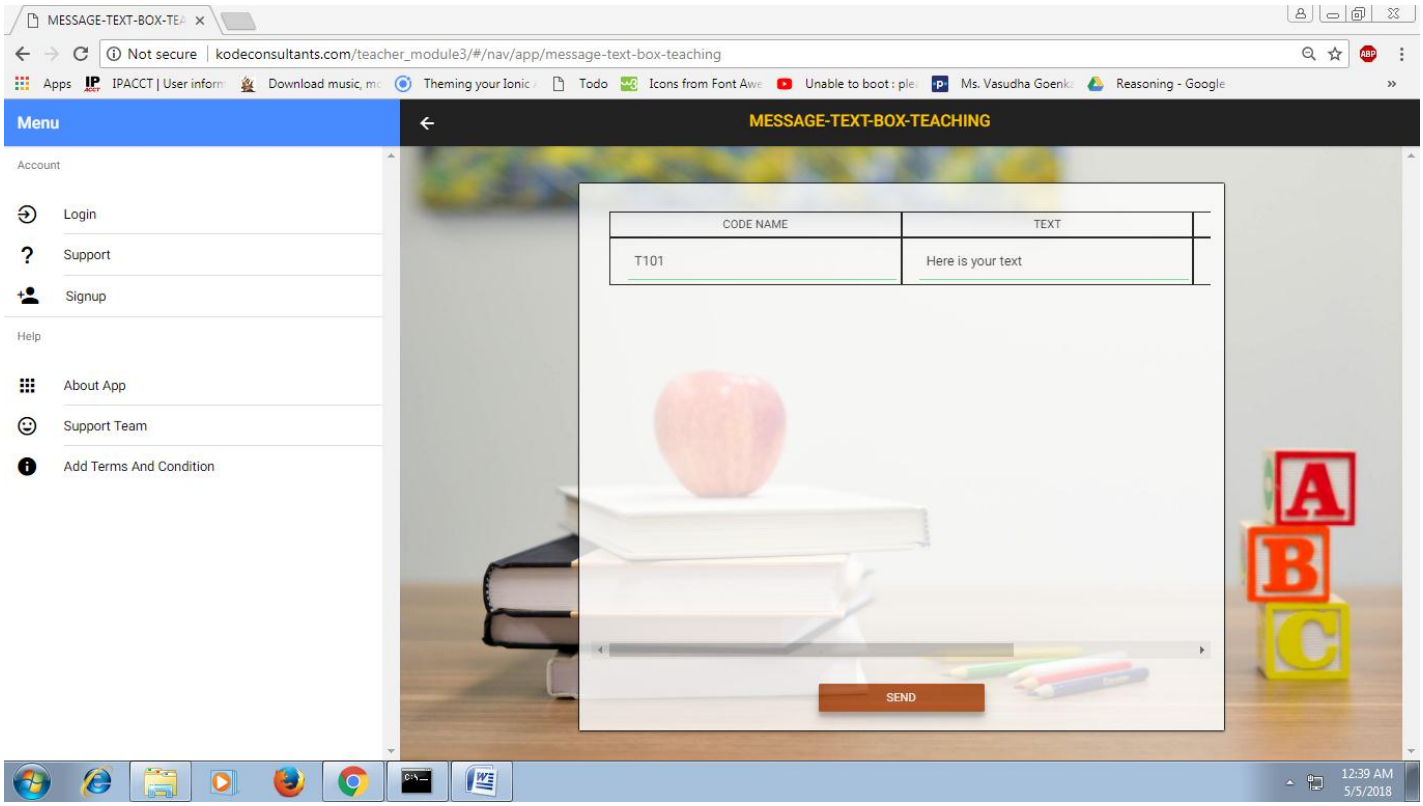
Teaching Module Evaluation Sheet Page



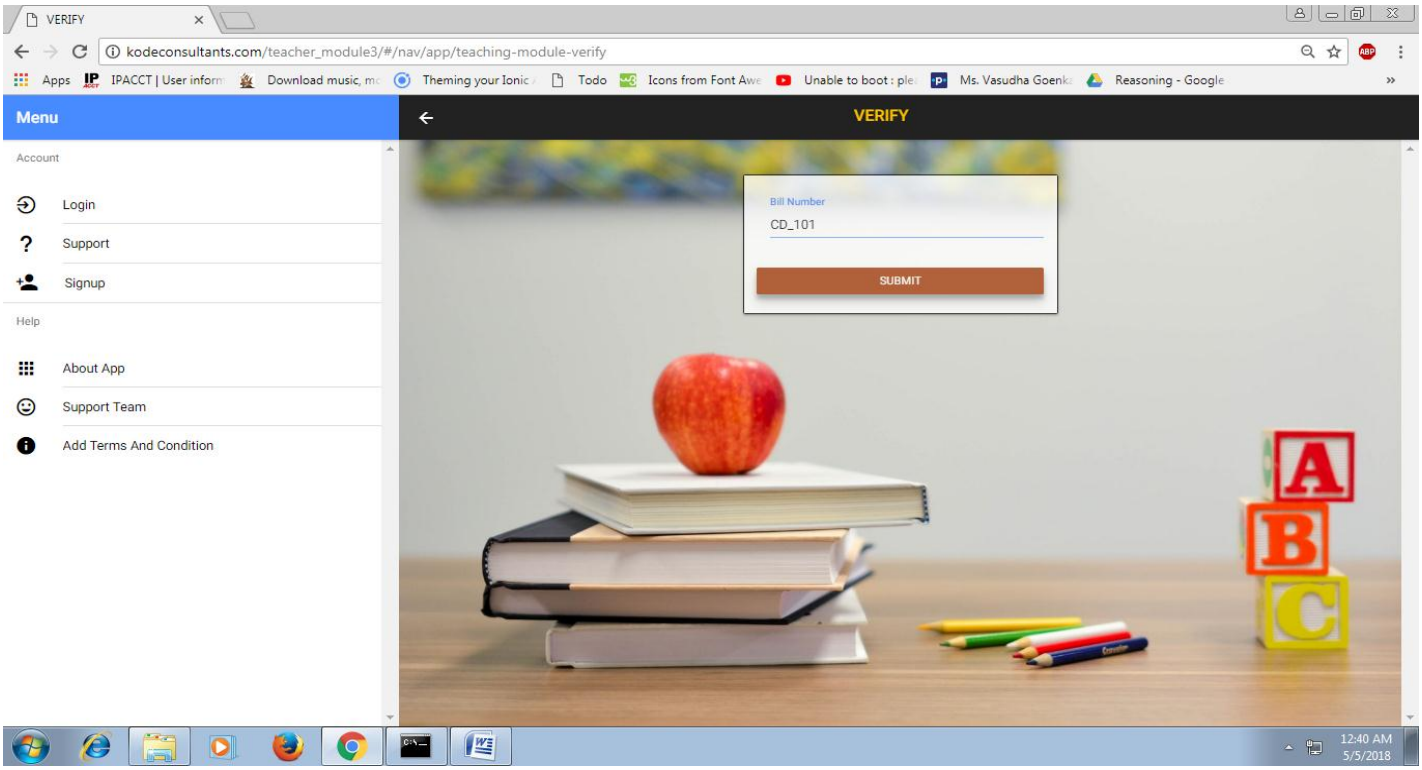


Teaching Module Message Teaching Page


MESSAGE-TEACHING
kodeconsultants.com/teacher_module3/#/nav/app/message-teaching
Menu
Account
Login
Support
Signup
Help
About App
Support Team
Add Terms And Condition
MESSAGE-TEACHING
Text Box
Send Box
In Box


MESSAGE-TEXT-BOX-TEA
Not secure
kodeconsultants.com/teacher_module3/#/nav/app/message-text-box-teaching
Menu
Account
Login
Support
Signup
Help
About App
Support Team
Add Terms And Condition
MESSAGE-TEXT-BOX-TEACHING
CODE NAME
TEXT
T101
Here is your text
SEND

Teaching Module Verify Page



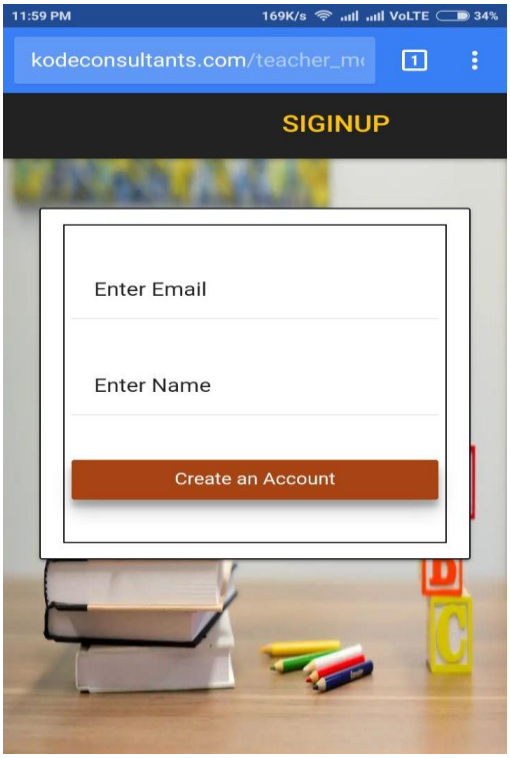
MOBILE VIEW SCREENSHOT

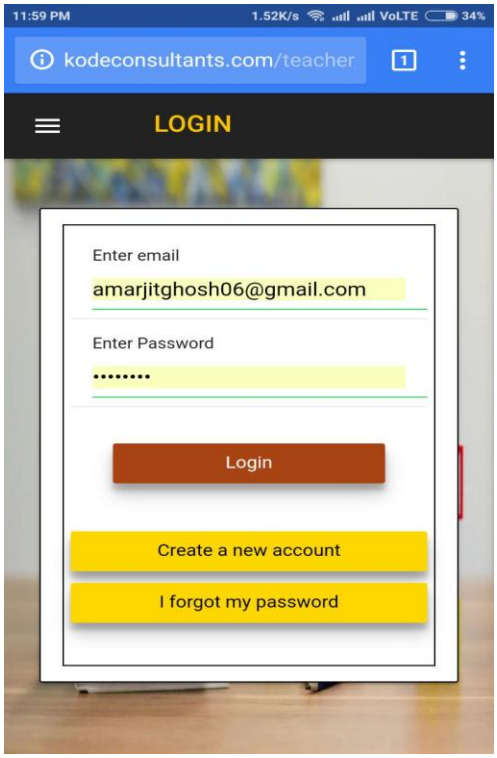
[Sign-Up]

Sign-Up Page

[Log-In]

Login Page

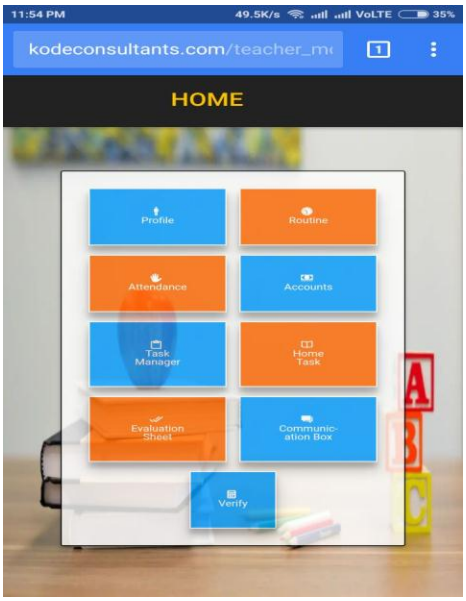


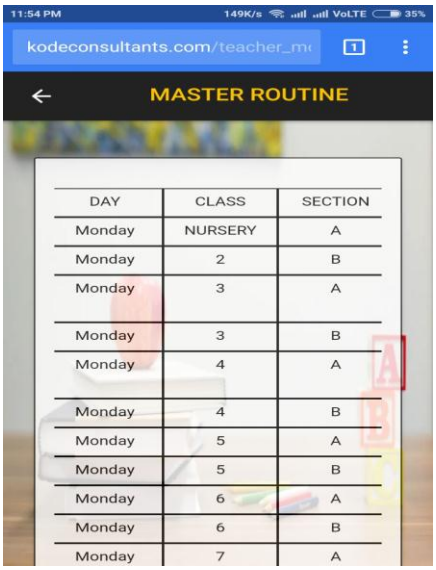


[Teacher-Module]

Teacher-Module Front Page

Teacher;s Routine Page





Date wise Search Attendance

Students Attendance Page

SYSTEM SECURITY MEASURES:

- Node.js and ionic implements very high level security.
- The database opted for this project is Mongo DB which possesses very high level database authentication and security.

DATABASE/DATA SECURITY :

The system uses the database which uses high level security and authorisations to access the database.

CONCLUSION:

As we used **IONIC FRAMEWORK** that's why all the types of app shoule be developed i.e Website,Android app,ios app.There are no need to code individually to build the app. This project was a massive experience achieved. To be able to provide an app-bound user-friendly service for such a crucial work is immense.The whole school management system should be held under a single app.

FUTURE SCOPE AND FURTHER ENHANCEMENT OF THE PROJECT

- Initially this project started for few institutes. But the future plan for this project is to make it more robust and host it over internet.
- There is another possible plan where users can view and download their documents in PDF (Portable Document Format) form.