# Testing

Testing refers to the evaluation of software developed in order to ensure the quality of product and to identify defects. There are many types of testing approaches but, in this project I have done white box and black boxtesting only.

## White Box Testing

It is also called Structural, Glass Box Testing. White Box Testing is based on applications internal code structure. In white-box testing, an internal perspective of the system, as well as programming skills, are used to design test cases. This testing is usually done at the unit level. Unit testing is done as white box testing.

### Unit Testing:

**Unit testing** is a level of software testing where individual units/ components of a software are tested. The purpose is to validate that each unit of the software performs as designed. A unit is the smallest testable part of any software. It usually has one or a few inputs and usually a single output.

Pros

* Code optimization by finding hidden errors.
* White box tests cases can be easily automated.
* Testing is more thorough as all code paths are usually covered.
* Testing can start early in SDLC even if GUI is not available.

Cons

* White box testing can be quite complex and expensive.
* Developers who usually execute white box test cases detest it. The white box testing by developers is not detailed can lead to production errors.
* White box testing requires professional resources, with a detailed understanding of programming and implementation.
* White-box testing is time-consuming, bigger programming applications take the time to test fully.

### Black Box Testing

Black Box can be also known as Behavioral/Specification-Based/Input-Output Testing. In this testing, testers evaluate the functionality of the software under test without looking at the internal code structure.

Pros

* Tester can be non-technical.
* There is no need for the tester to have detailed functional knowledge of system.
* Testing helps to identify vagueness and contradictions in functional specifications.
* Test cases can be designed as soon as the functional specifications are complete.

Cons

Test cases are not easy to design without knowing clear functional specifications.

* It is difficult to identify tricky inputs if the test cases are not developed based on specifications.
* There are chances of having unidentified paths during the testing process.
* There is a high probability of repeating tests already performed by the programmer.

## Test cases

I have tested only one type of testing which is called black box testing which are given below

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test\_id | Description | Test value | Expected result | Actual Result | Pass or Fail |
| Test\_01 | Testing: login done by admin | username=admin Password=admin | Should be logged in | Successful login page and opens dashboard | pass |
| Test\_02 | Testing: login done by admin | username=admin Password=asdfgg | Should not login | Failed in login with message "please check your username and password" | fail |
| Test\_03 | Testing: Registration by and login by Teacher | [Emai\_id=giri@gmail.com](mailto:Emai_id=giri@gmail.com)  Password=giri123 | Should be registered and logged in | Successful registration with login page and opens dashboard | pass |
| Test\_04 | Testing: login done by Teacher using wrong email\_id or password | [Emai\_id=babu@gmail.com](mailto:Emai_id=babu@gmail.com)  Password=babu123 | Should not be logged in | Failed in login with message "please check your username and password" | fail |
| Test\_05 | Testing:  Registration by and login by Student | [Email\_id=muskan@yahoo.com](mailto:Email_id=muskan@yahoo.com)  Password=muskan1 | Should be registered and logged in | Successful registration with login page and opens dashboard | Pass |
| Test\_06 | Testing: login done by Student using wrong email\_id or password | [Email\_id=muskan@yahoo.com](mailto:Email_id=muskan@yahoo.com)  Password=muskan123 | Should not be logged in | Failed in login with message "please check your username and password" | fail |
| Test\_06 | Testing  Update email\_id of teacher on request of teacher by admin | old  [email\_id=babu@yahoo.com](mailto:email_id=babu@yahoo.com)  new  [Email\_id=babu@gmail.com](mailto:Email_id=babu@gmail.com) | Should update | Successful update of teacher email\_id | Pass |
| Test\_07 | Updating Teacher email\_id by admin on request by teacher | Previous [email\_id=giri@gmail.com](mailto:email_id=giri@gmail.com)  New Email\_id=giri123@gmail.com | Should be updated | Successful update of email\_id of Teacher | Pass |
| Test\_08 | Registration and login by parent and link the student | Check to link the student and parent  Student=Dinesh Adhikari  Parent=Adhikari | Should be linked and shown the relationship | Linked to student successfully as mother to the student | Pass |
| Test\_09 | Admin notifying holiday for all the users | Holiday on May 18 as Buddha Jayanti day | Holiday notification should be added to events list | Successfully added to events list as holiday event | Pass |
| Test\_10 | Admin sending message to teacher | Admin asking attendance sheet to teacher | Should not be sent messeage | Message not sent since is not online school | fail |

Table 13: Test cases of black box testing

## Test log

Test\_01 screenshots

Admin login with correct password

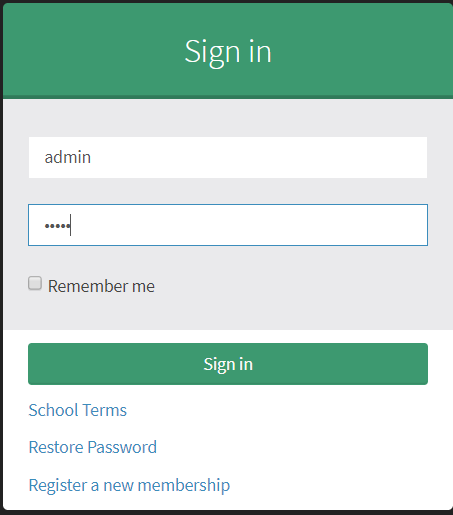


Figure 19: Admin Login Form

Dashboard

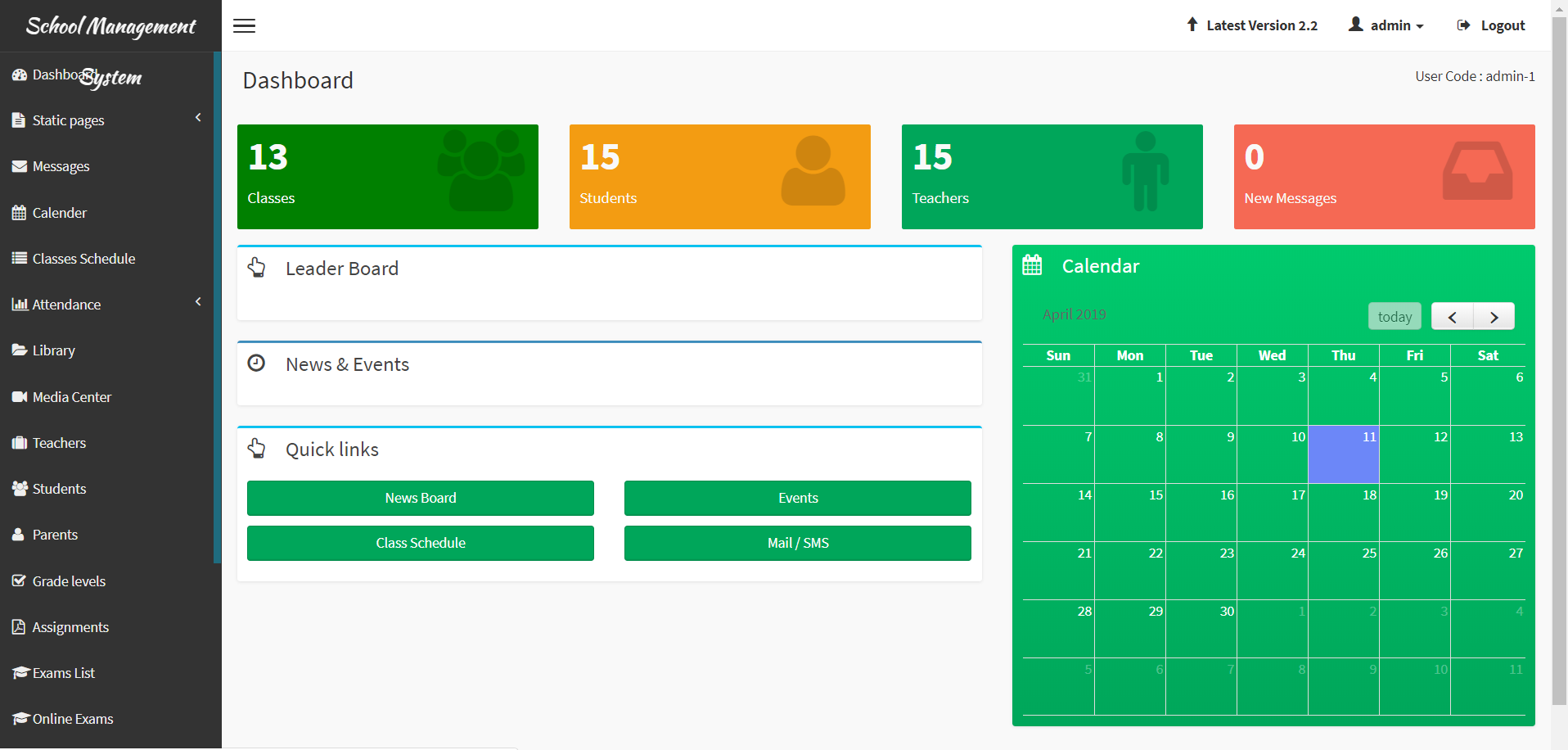


Figure 20: Admin Dashboard

Test\_2 screenshots

Admin trying to login with wrong password

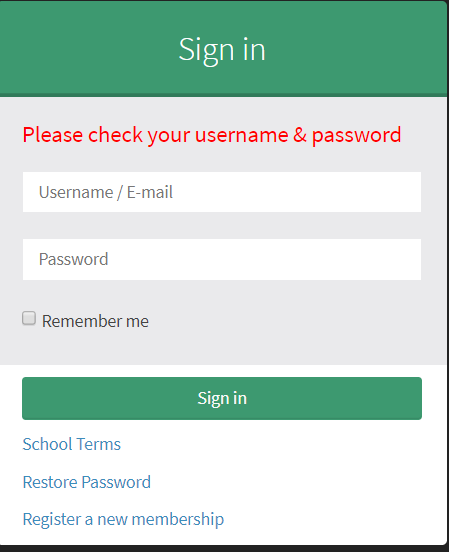


Figure 21: Admin unsuccessful login

Test\_03

Registration and login by Teacher

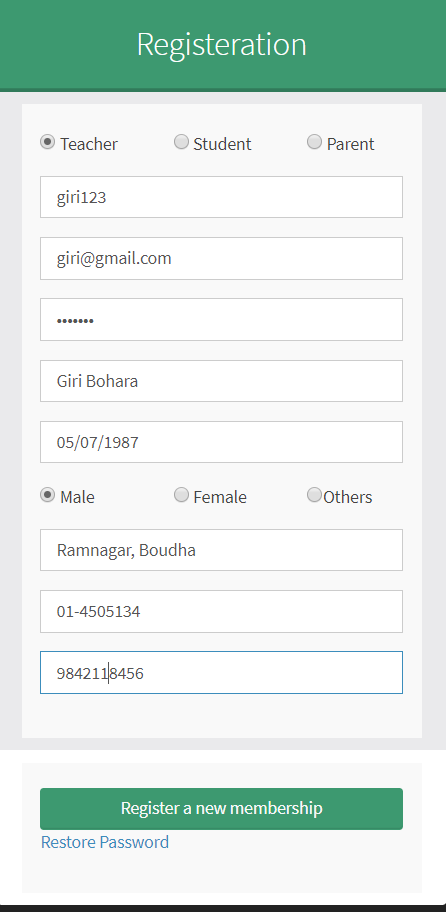


Figure 22: Teacher Registration Form

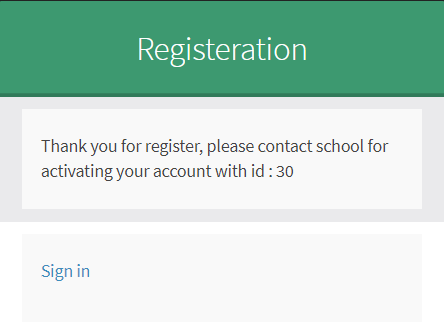


Figure 23: Registration for Teacher Approval

After teacher approves the teacher registration request, teacher can login the page.

Teacher Login Form

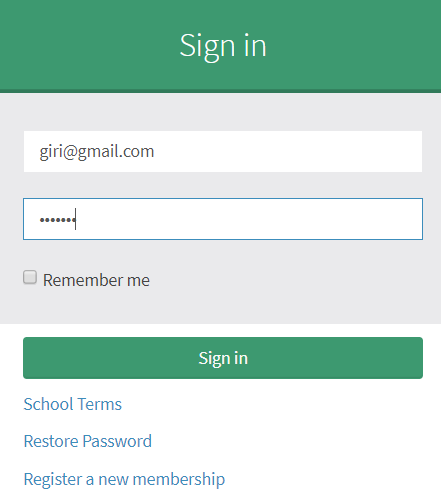


Figure 24: Teacher Login

Dashboard of Teacher

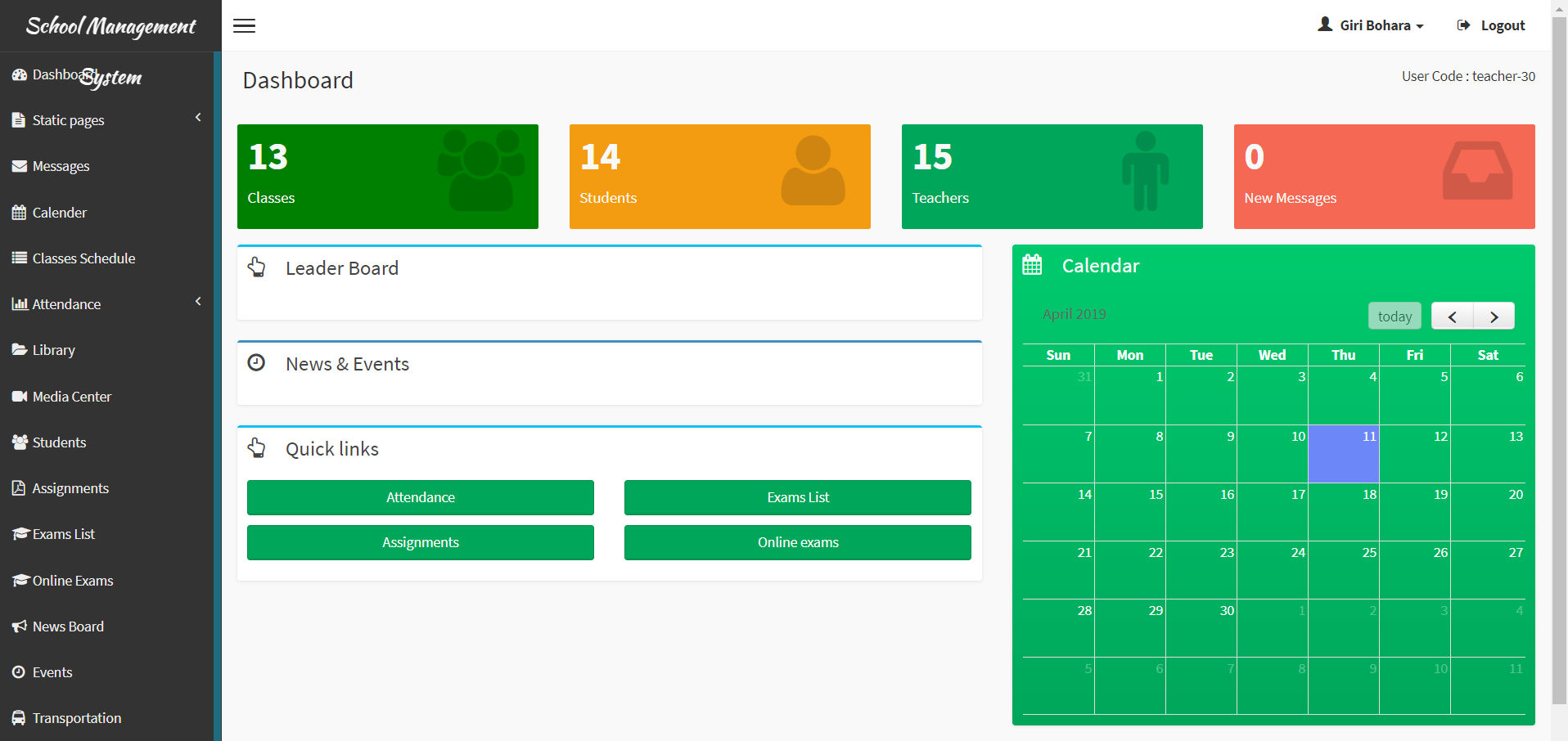


Figure 25: Teacher Dashboard

Test\_04

Teacher login with wrong email\_id or password

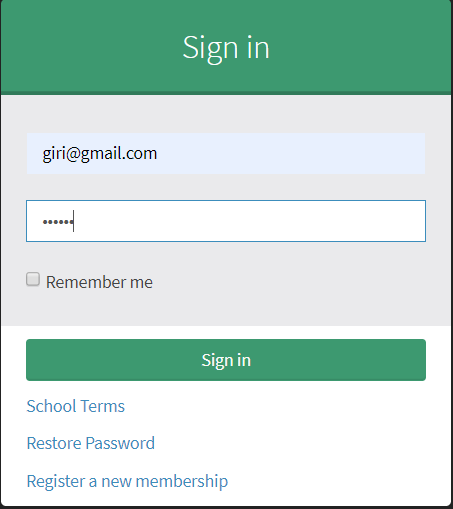


Figure 26: Teacher login with wrong email\_id or password

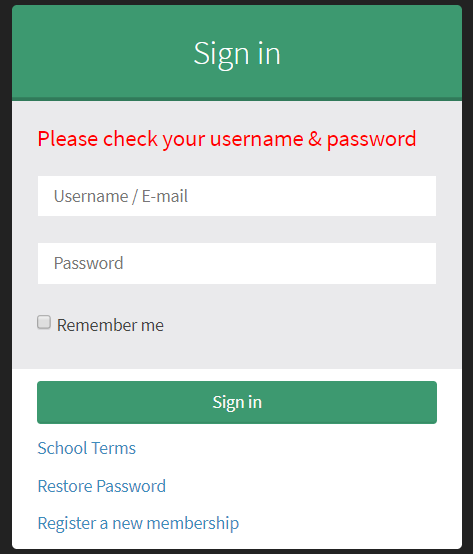


Figure 27: Teacher login unsuccessful

Test\_05

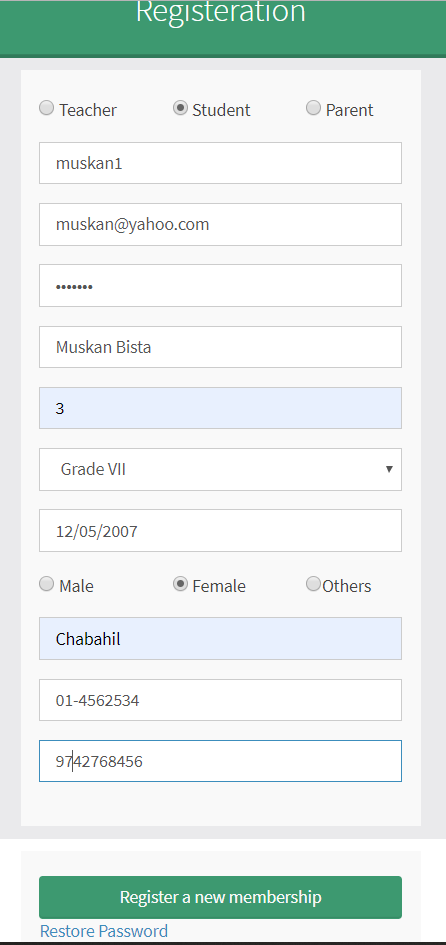


Figure 28:Student registration form

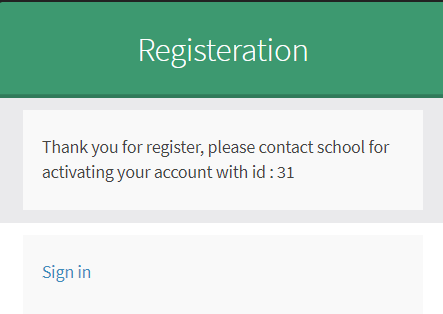


Figure 29: Student approval

After approval by admin

Login form for Student

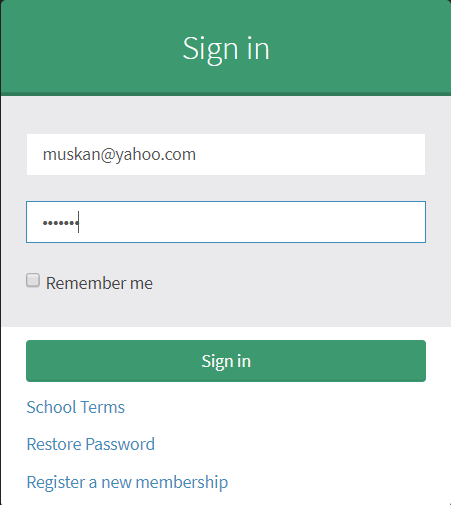


Figure 30: Student Login successful

After successful login by Student, he/she can view the student dashboard

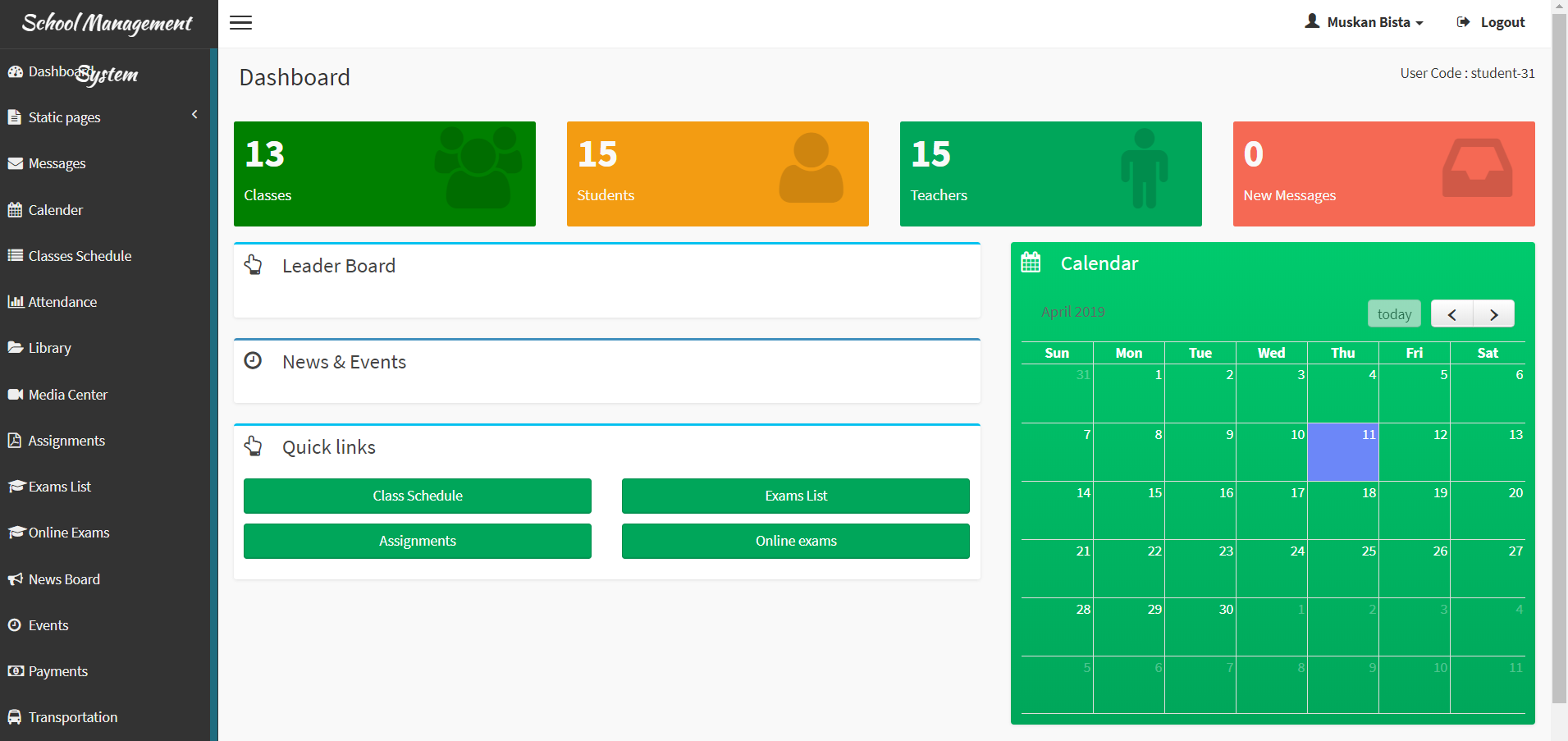


Figure 31: Student dashboard

Test\_06

unsuccessful login by Student

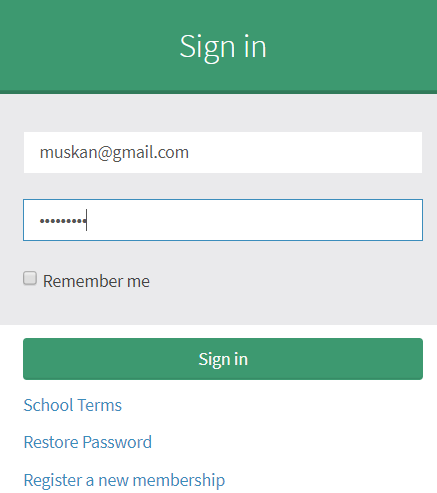


Figure 32: Student login by wrong password

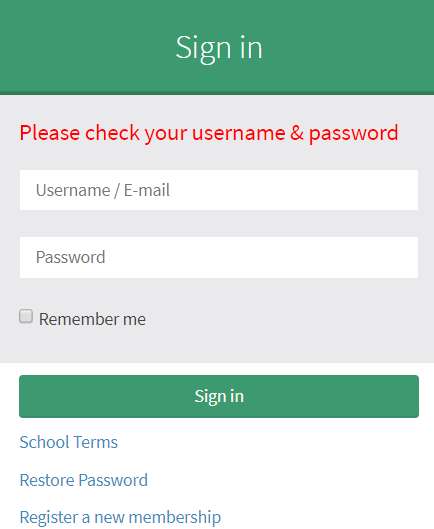


Figure 33: Unsuccessful Login by Student

Test\_07

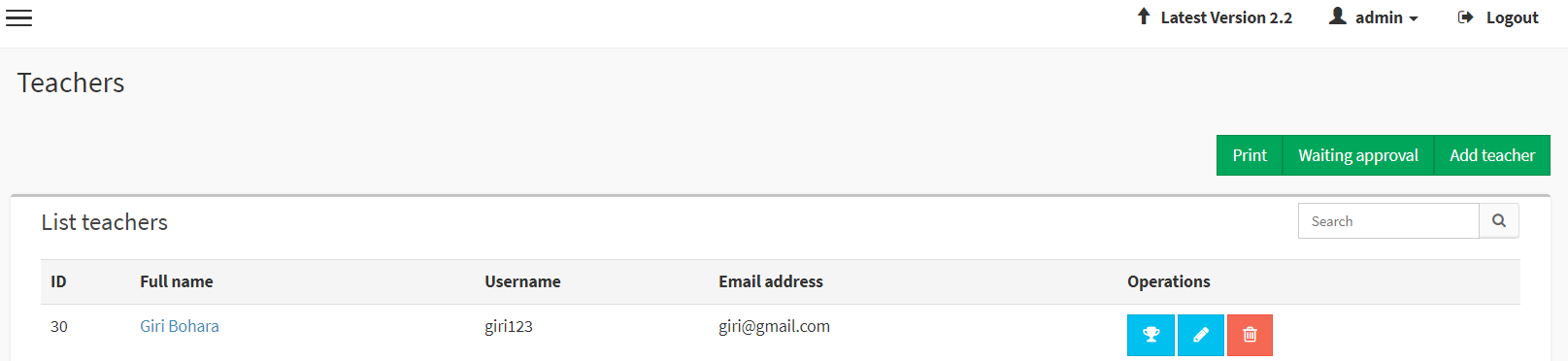
Updating Teacher email\_id by admin

Figure 34: Previous email \_id of teacher

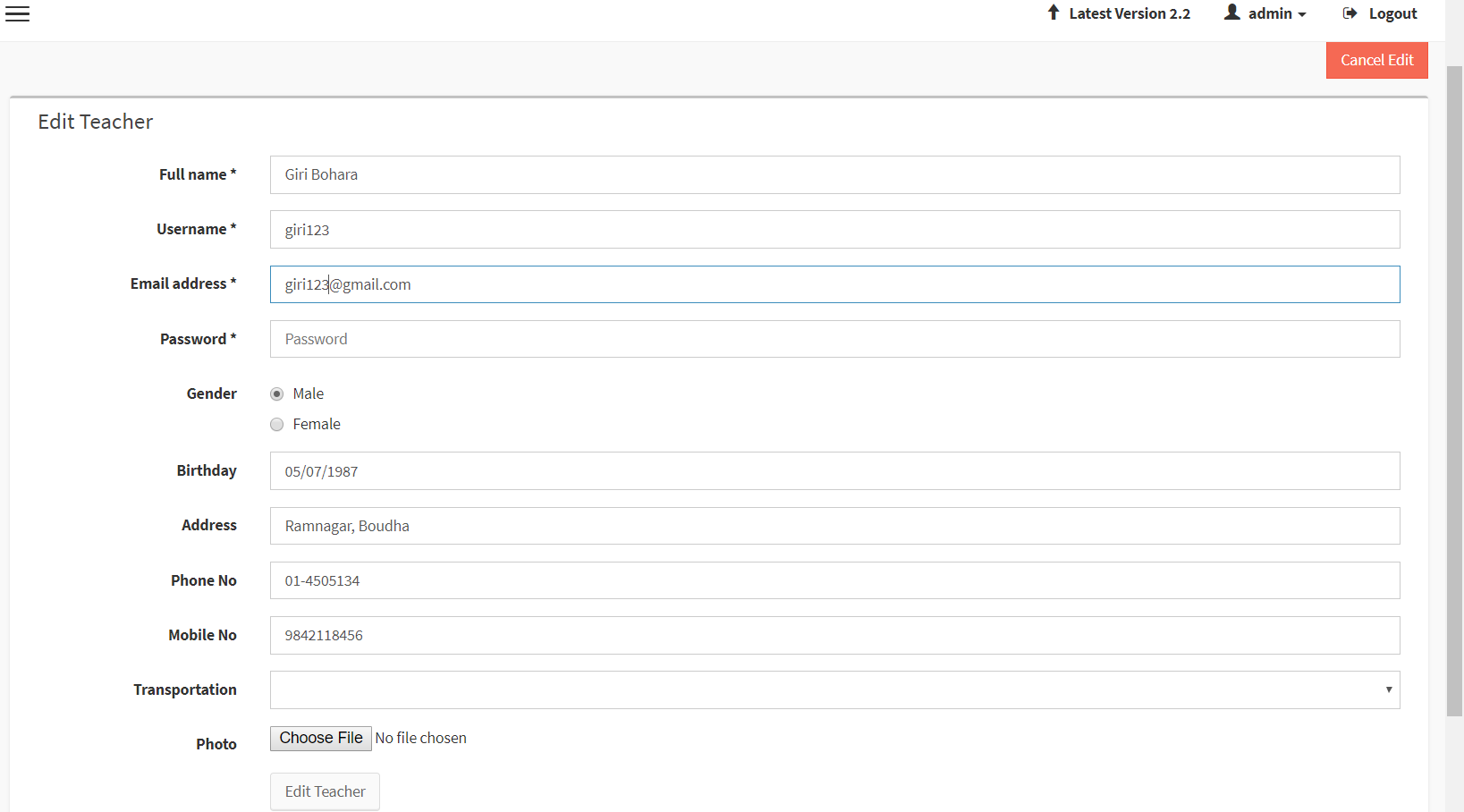


Figure 35: New email\_id of Teacher

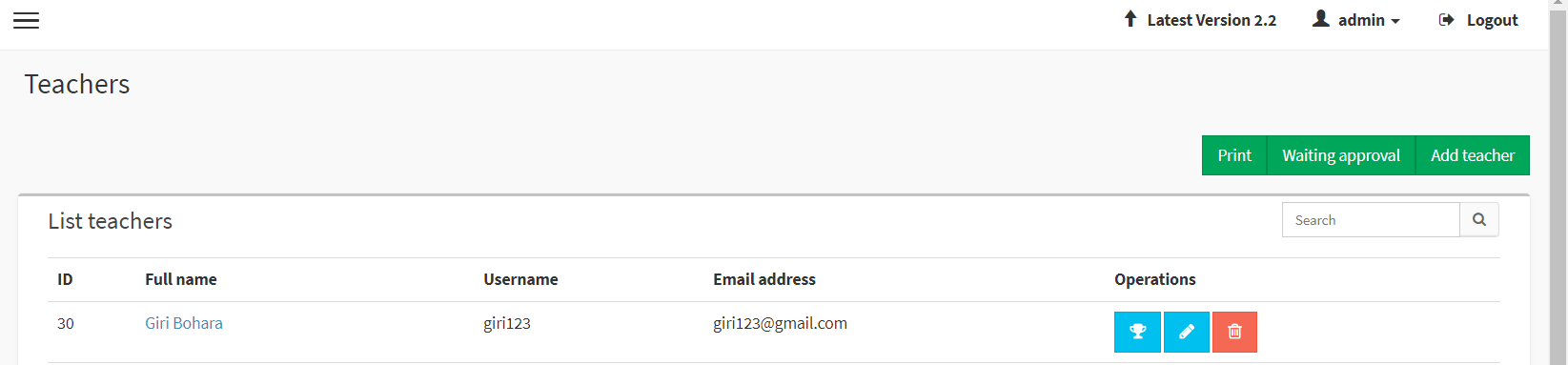


Figure 36: Updated email\_id of Teacher by admin

Test\_08

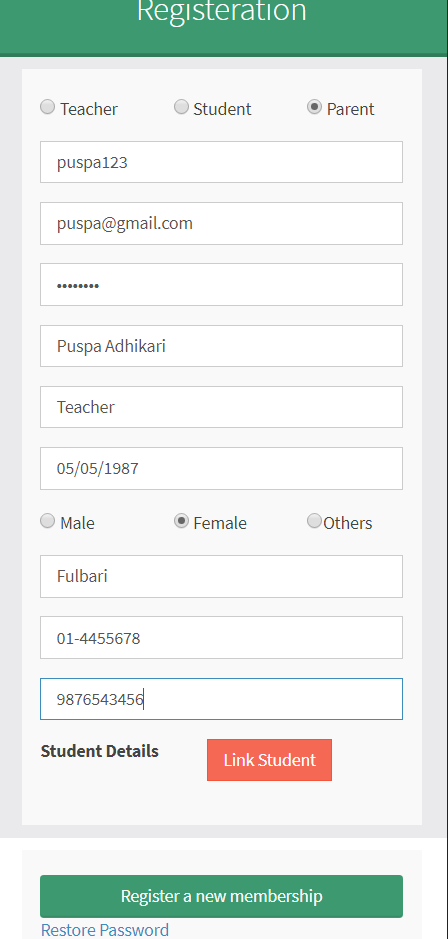


Figure 37: Parent registration form

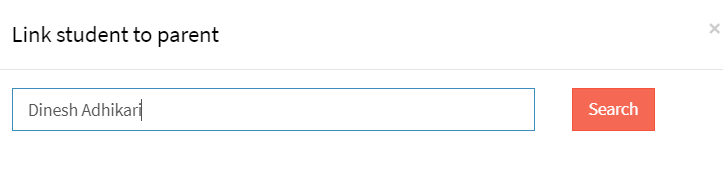


Figure 38: Student list to parent

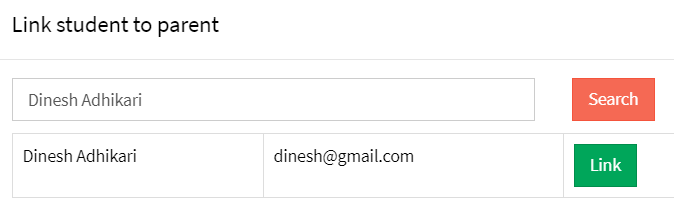


Figure 39: Student Link to parent

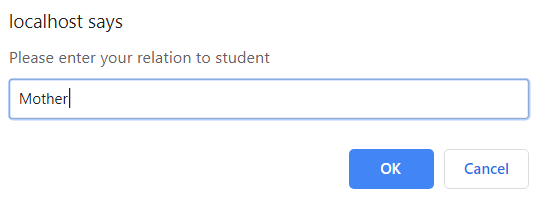


Figure 40: identifying as mother to that student

Test\_09

Admin notifying holiday by adding to new list

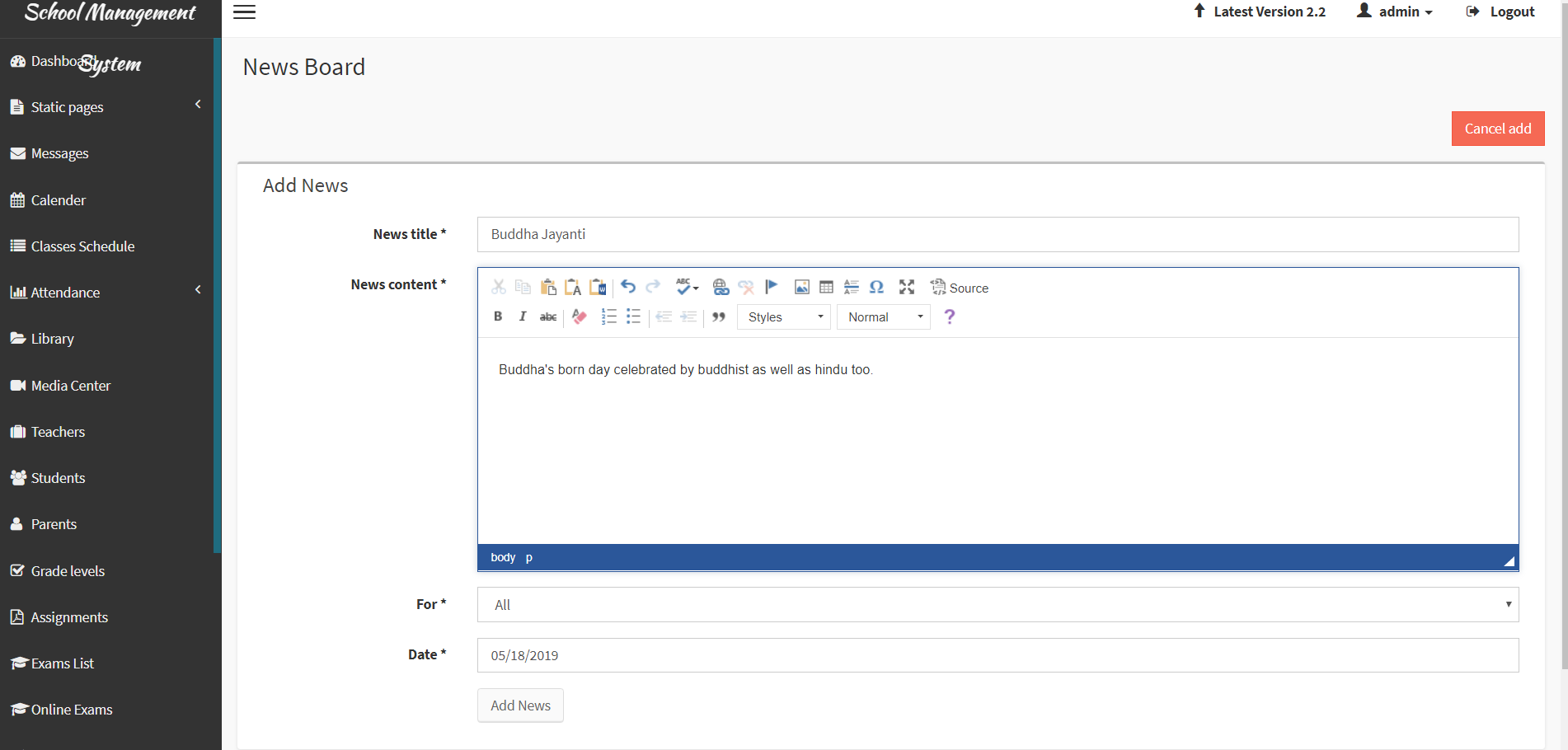


Figure 41: admin notifying holiday

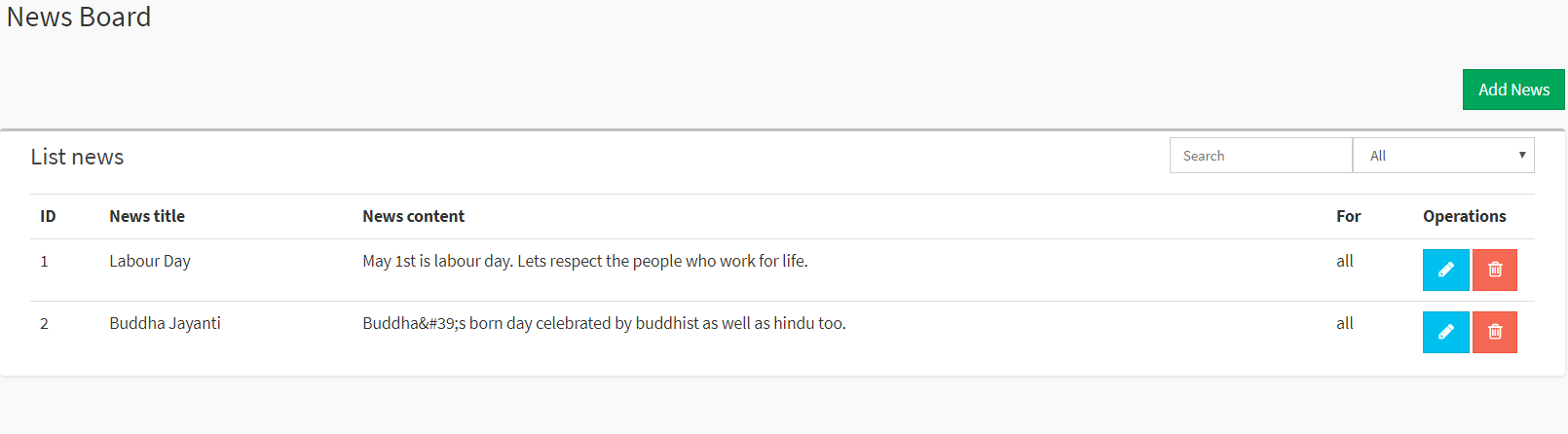


Figure 42: news board with holiday list

Test\_10

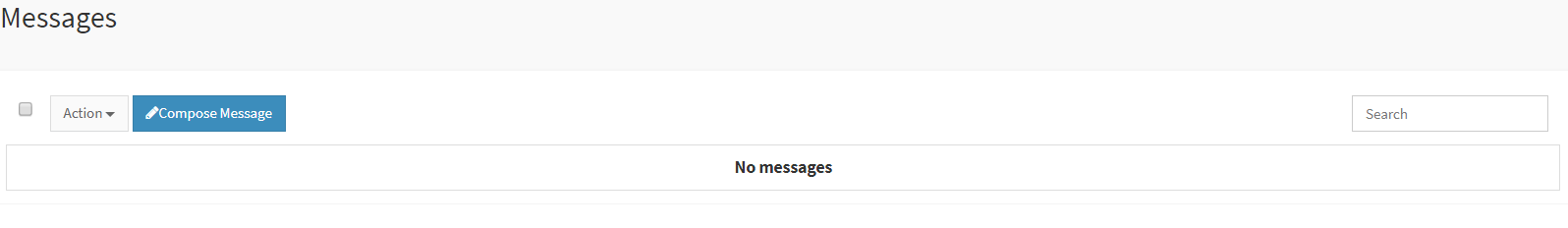


Figure 43: Admin message to Teacher

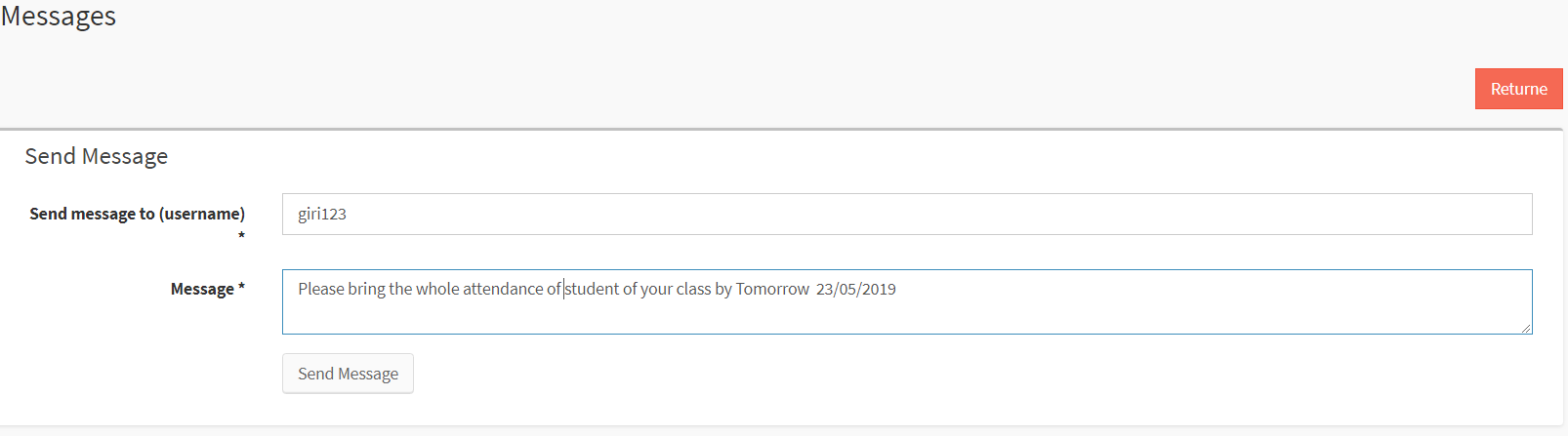


Figure 44: Admin message to admin1

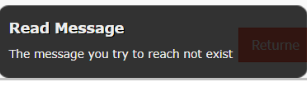


Figure 45: message not sent