Testing

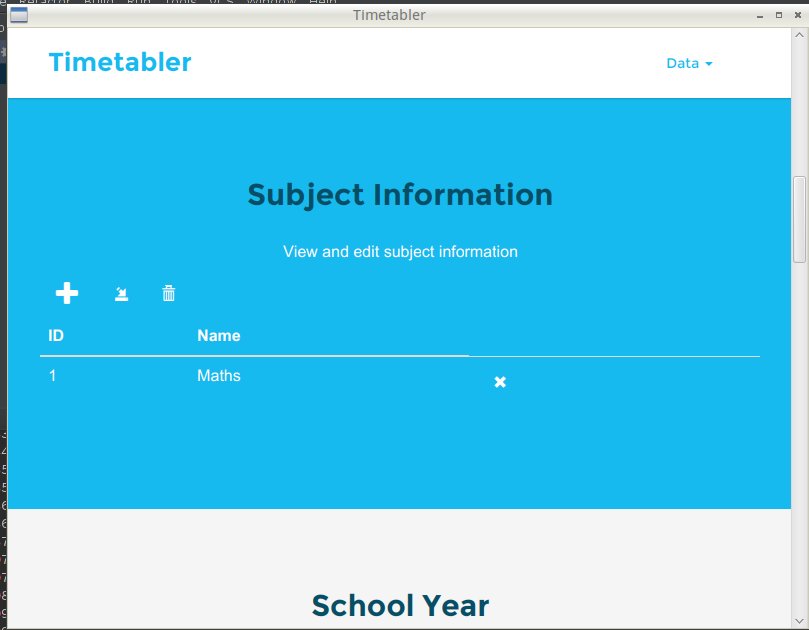
Test Series 1

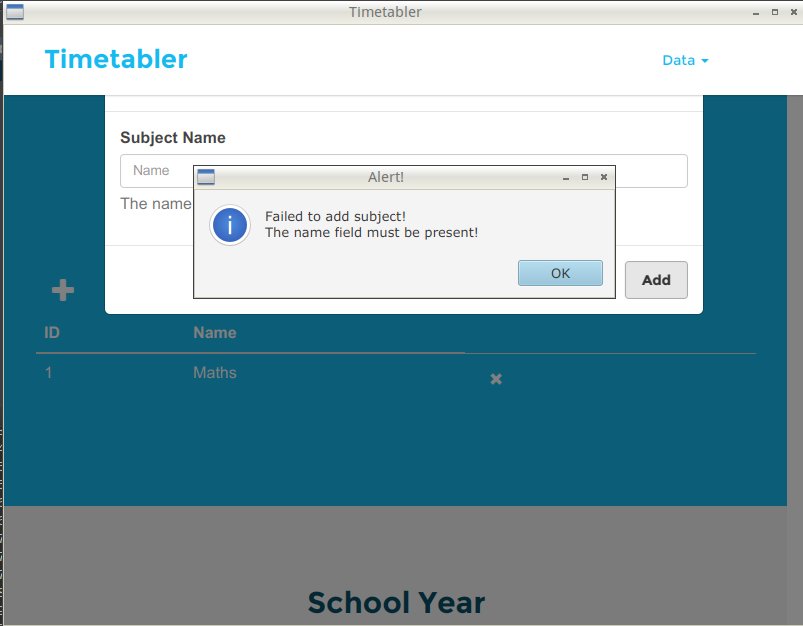
This test series is used to test if the timetabler can add new data entries to all data types in the system, excluding building and classroom data, which is tested in test series 2.

| Test | Description | Test Data | Expected Result | Pass or Fail | Evidence Reference |
| --- | --- | --- | --- | --- | --- |
| 1 | Add subject | Typical:  Maths | Adds new subject to table | Pass | 1 |
| Erroneous:  (Blank) | Asks user to specify a name and keep dialogue open | Pass | 2 |
| Extreme:  Design and Technology | Stops the user from typing more than 20 characters | Pass | 3 |
| 2 | Add Staff Member | Typical:  Mr Smith  Maths  20 Hours | Adds new staff member to the table | Pass | 4 |
| Erroneous:  Mr Smith  Maths  -1 Hours | Asks the user to specify a valid unsigned integer and keeps the dialogue open | Pass | 5 |
| Extreme:  Verylongpaddednametofillspace  Maths  20 Hours | Stops the user from typing any more than 20 characters | Pass | 6 |

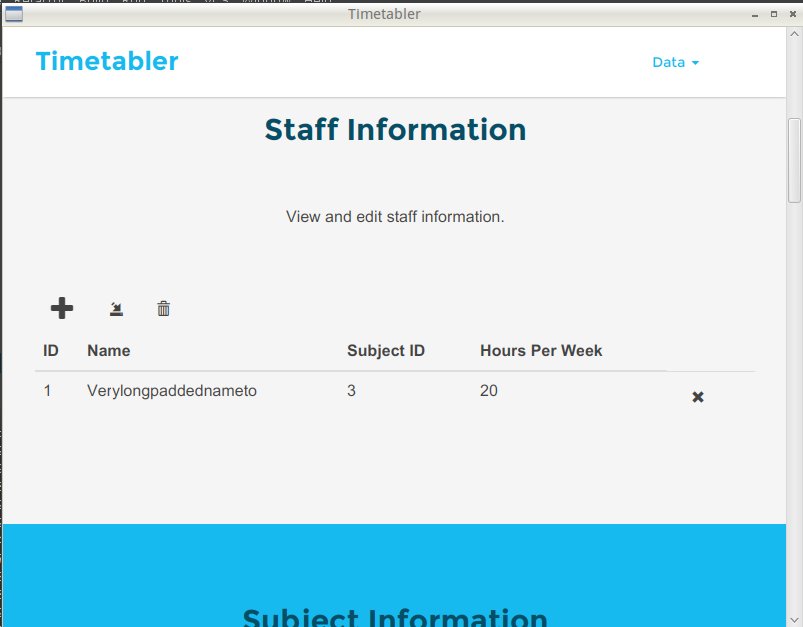
| Test | Description | Test Data | Expected Result | Pass or Fail | Evidence Reference |
| --- | --- | --- | --- | --- | --- |
| 3 | Add Year Group | Typical:  Year 7 | Adds new year group | Fail | 7 |
| Erroneous:  (Blank) | Asks the user for a name and keeps the dialogue open | Pass | 8 |
| Boundary:  Year 65430 | Does not let the user type more than 8 characters | Pass | 9 |
| 4 | Add Class | Typical:  Set 1  Maths  Year 7 | Adds a new class to the table | Pass | 10 |
| Erroneous:  (Blank)  (Blank)  (Blank) | Prompt the user to select data to add to the table | Pass | 11 |
| 5 | Add Lesson | Typical:  Monday 9:30  Set 1 Maths Year 7  (Blank)  (Blank) | Adds a new lesson to the table with -1 in the classroom and staff columns | Pass | 12 |
| Erroneous:  Monday 9:30  (Blank)  (Blank)  (Blank) | Prompt the user to select data to add to the table | Pass | 13 |

1.

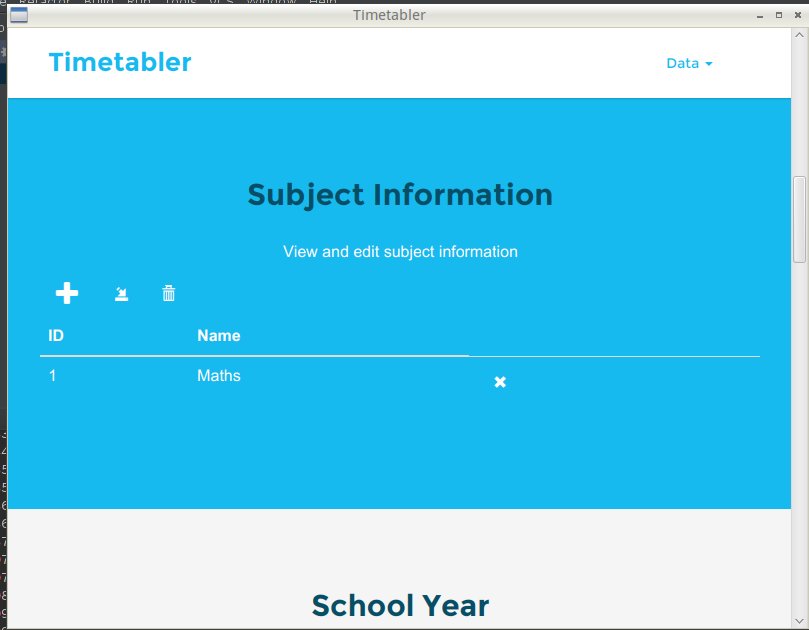
2.



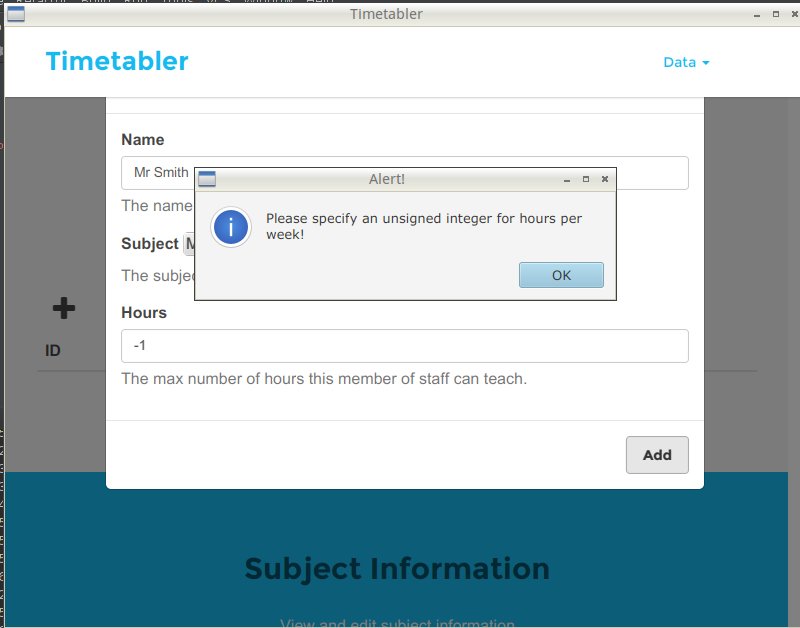
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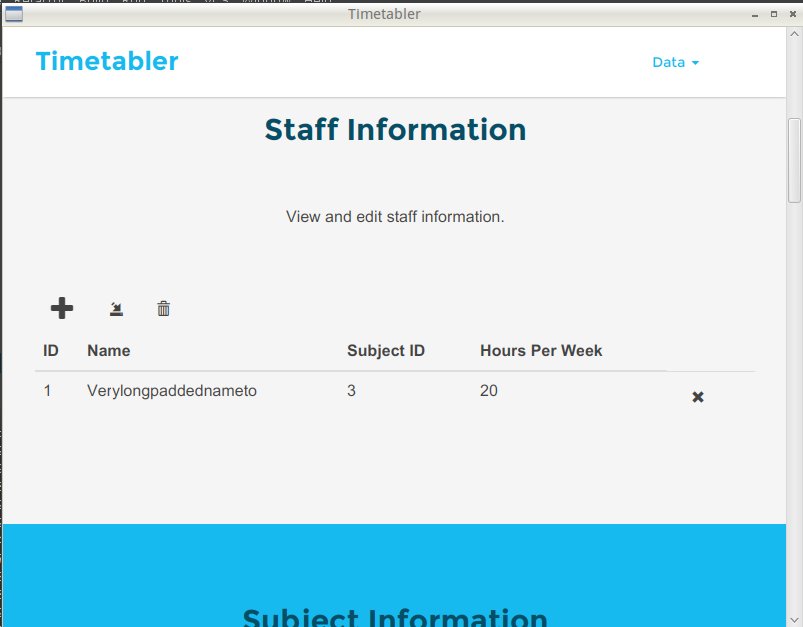
4.



5.

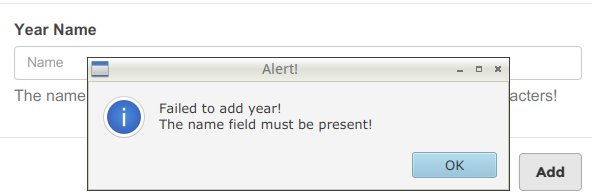


6.

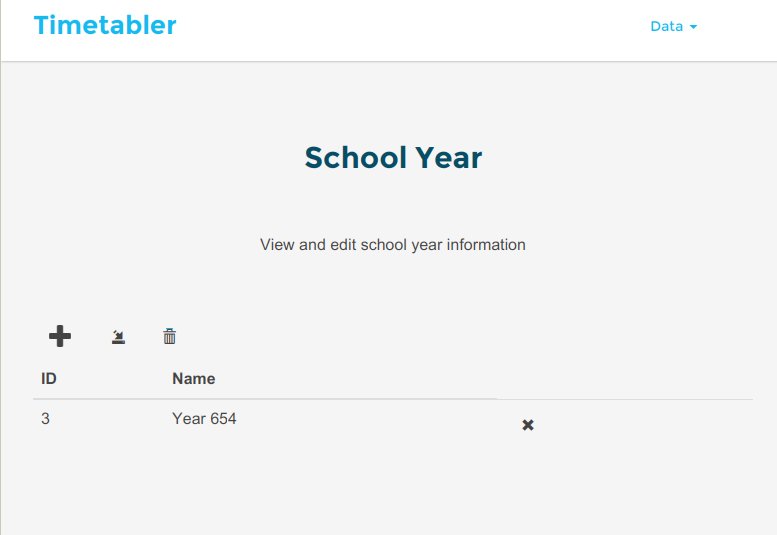


7.

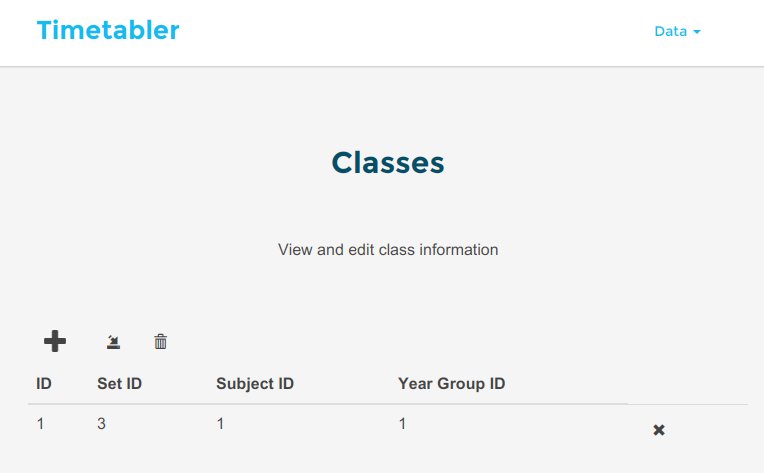
8.



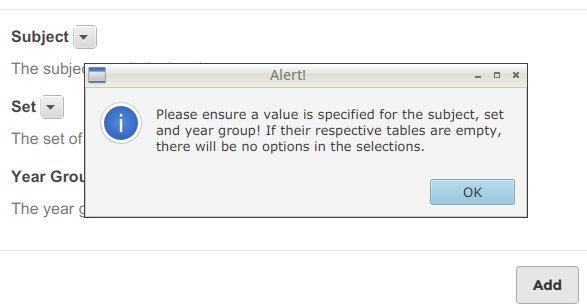
9.

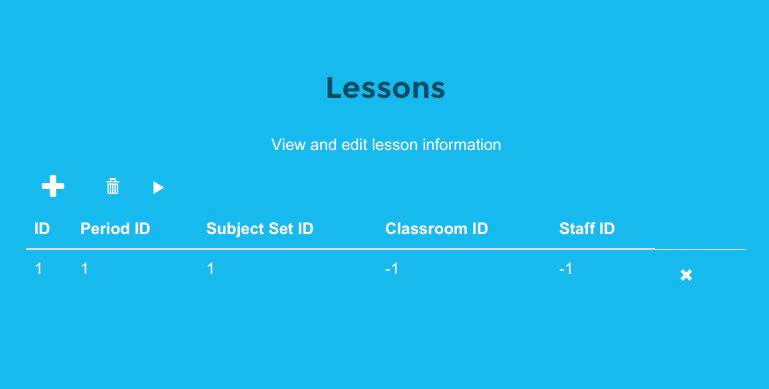


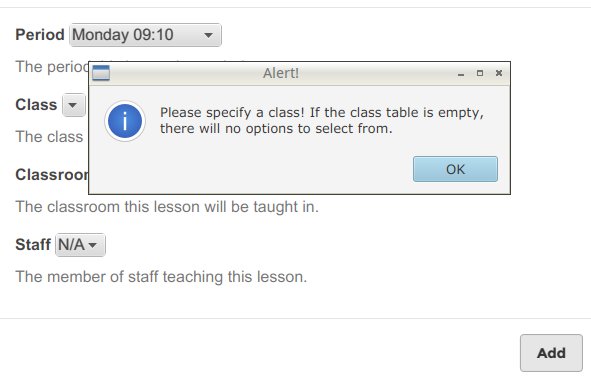
10.



11.

12.



13.

Test Series 2

The following is a trace table for the map loading walk method. This method tries to find the shortest distance between two coordinates, by traversing the map. This method is recursive, therefore each row in the table represents a single stack frame.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| finalDistance | start | dest | last | distance | destination | north | south | east | west |
| MAX\_INTEGER | 0,0 | 5,0 | 0,0 | 0 |  |  |  |  |  |
|  |  |  |  | 1 | Room 2 | 0,-1 | 0,1 | 1,0 | -1,0 |
|  | 0,1 |  | 0,0 | 2 |  | 0,0 | 0,2 | 1,1 | -1,1 |
|  | 1,1 |  | 0,1 | 3 |  | 1,0 | 1,2 | 2,1 | 0,1 |
|  | 2,1 |  | 1,1 | 4 |  | 2,0 | 2,2 | 3,1 | 1,1 |
|  | 3,1 |  | 2,1 | 5 |  | 3,0 | 3,2 | 4,1 | 2,1 |
|  | 4,1 |  | 3,1 | 6 |  | 4,0 | 4,2 | 5,1 | 3,1 |
|  | 5,1 |  | 4,1 | 7 |  | 5,0 | 5,2 | 6,1 | 4,1 |
| 8 |  |  |  | 8 |  |  |  |  |  |

Test Data

C-Room 1-Maths,,,,,C-Room 2-Maths

0,0,0,0,0,0

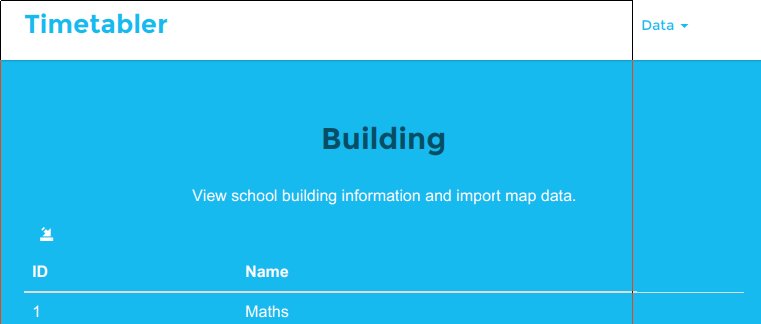
0,,,,,Build

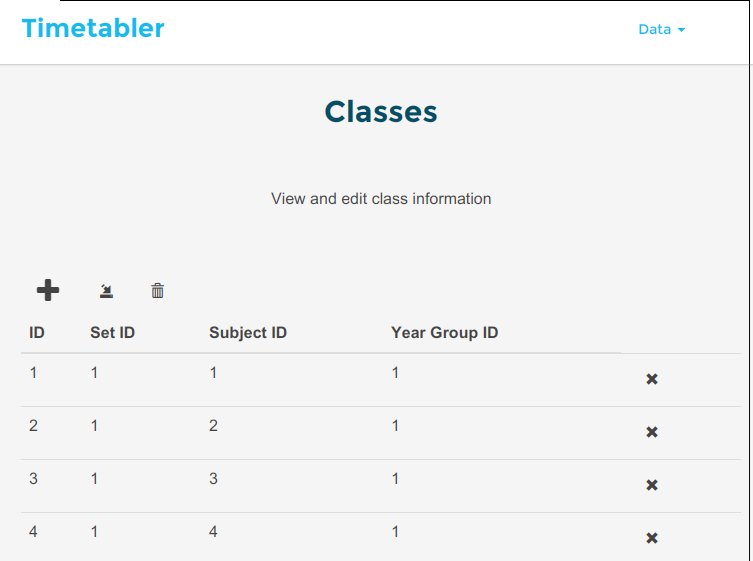
0,,,,,

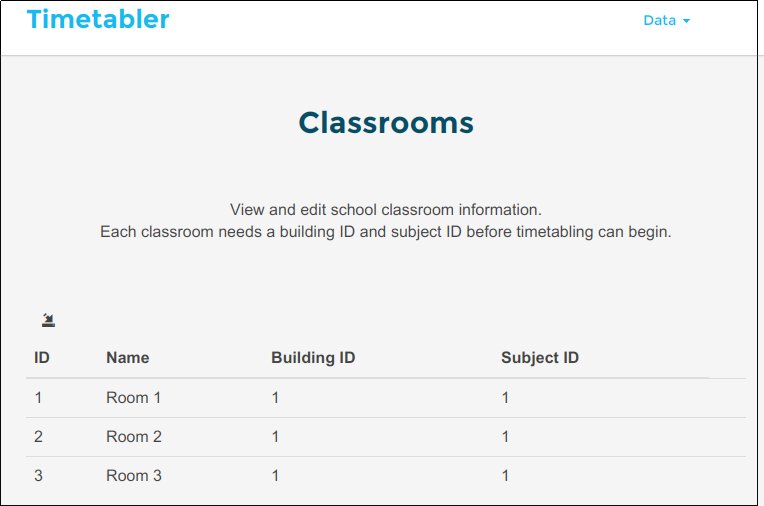
C-Room 3-Maths,,,,,

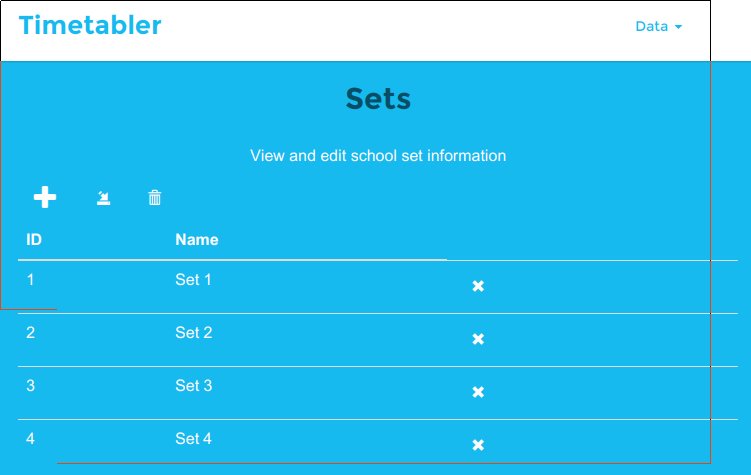
Test Series 3

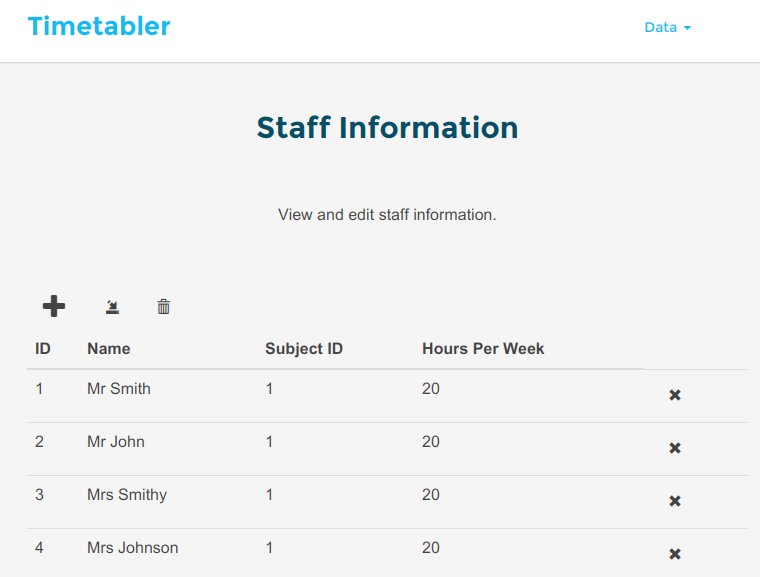
The test ensures the timetabling function is able to accurately timetable lessons into classrooms and staff members into lessons. The following is the data given to the timetabler.

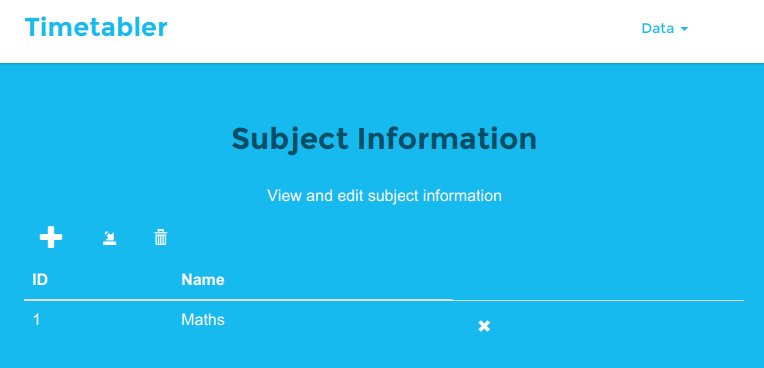






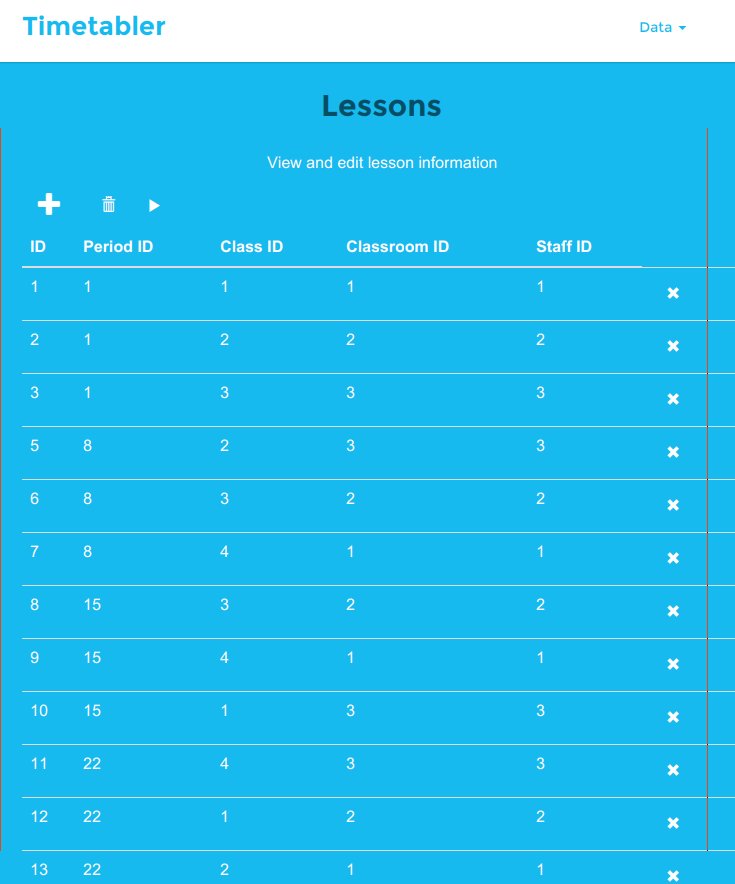






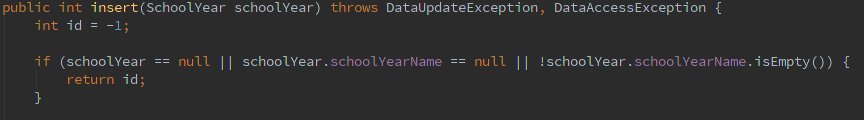
The following is the lesson table before and after the timetabler timetables the lessons.



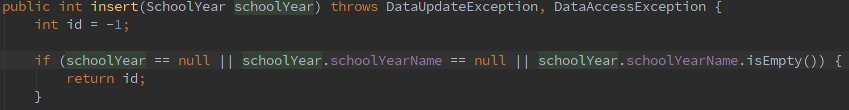


Error Log

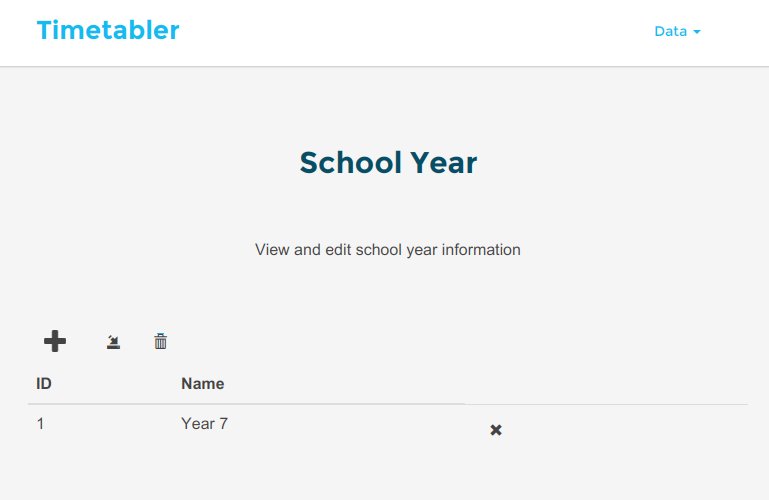
Test 3 in test series 1 failed when adding typical data. This is because the system was incorrectly checking data before it was passed to the database.



The third check of the if statement shown checks if the name of school is not an empty string, if it is the method will return -1. This is incorrect because, if the string is not empty, the data is correct and should be passed to the database.



By applying applying this change, the system is now able to add year groups with not empty names, as shown below.



Id value which is not -1