

**A Project Report**

**On**

Bus Breakdown Management

**Group Members**

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**Subject**

Database Management Systems Laboratory

**Department Of Information Technology**

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**Academic Year**

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Problem Statement

To develop a database application that will handle the bus breakdown scenario.The application has 2 stakeholders ie. the manager and the conductor.

**Conductor** :

1. Conductor has to login to use the system.
2. As soon as conductor logs in , he gets a schedule of all conductors if he logged in at a time when there is no schedule assigned for him.
3. Conductor has no authentication to view other breakdowns.
4. When a schedule is assigned to the conductor, he gets the report breakdown option in which if breakdown occurs , he can immediately report breakdown .
5. As bus gets reached , conductor gets in the new bus and resumes his schedule.

**Manager**  :

1. Manager will login first to use the bus breakdown system.
2. Manager will add the employees and buses working in the system and assign the schedule for every bus and conductor .
3. When a breakdown is reported by the conductor, manager decides which bus to send .
4. As soon as the bus is reached , manager gets a message from conductor .
5. Manager has all the details of the breakdown and according to that he decides what action should be taken for the bus.
6. Manager has analysis graphs of all the breakdowns.

Project Scope

The Project has a greater scope for implementation as their is no automated mechanism for bus breakdown management,in Pune municipal transport.The current system is time consuming and doesn’t use any computerised system to keep track of all the breakdowns.The extended version of this project can be used to overcome the above failure that exists in the bus transport system across India.The project is not only limited to bus transport system in the city of Pune,but it is scalable its improved version or updated version can be applied to any city which currently goes the same situation as the Pune bus transport.

The current system designed has user as Conductor and Manager,an improved version of the project we can extend the after breakdown functionalities to the user.Hence a large number of real world problems of breakdown by passenger can be solved.The current system requires manual scheduling by the manager. The current system has very limited depots and stop,but the project is scalable.

Project Assumptions

* Manager is always logged into the system to be able to handle current breakdowns.
* The conductor has a device from which he can login to report the breakdown and view breakdown status.
* There are adequate buses available to send as replacement for breakdown, either at the nearest depot or any other depot.
* The broken down bus will be repaired overnight and will resume its schedule the next day.

Project Limitations

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| **PREMISE** | **DESCRIPTION** |
| Bus report back next day | The Bus which has been broken down will report the next day and will follow the schedule.The Manager will have to manually update the schedule if bus is not repaired. |
| Limited options | The Conductor has limited functionality ,the function of conductor is to report breakdown and report whether the bus has reached. |
| Manager has no authority on Broken buses | Manager has no say on broken bus as he just assigns the new bus. The broken bus is not handled by the manger.It is assumed that the mechanic has been assigned to the broken bus and there has been no further failure. |
| Limited depots | The city of Pune has Number of depots.The project is limited to just four depots but it can be extended. |
| No Global Positioning System | The System is highly dependent on the Conductor for the position of the Bus.  The system does not use any system to automatically locate the bus. |
| Sending of replacement | The act of sending the replacement bus is left onto the respective depot manager. |

Project Requirements

* **Software requirements**
* XAMPP Web servers
* MongoDB - mongo,mongod
* Web Browser
* **Hardware requirements**
* Workstation

Graphical User Interfaces

* **Login Page :**

The login page involves logging into conductor or manager account. The conductor/manager homepage is visible once the once the person logs into the system.

* **Conductor Home Page :**

When conductor logs in his account , the complete schedule is displayed if not assigned for the current time else he gets the option of report breakdown by which he can reports breakdown when occurred.

* **Manager Home Page :**

When manager logs in his account , he gets the table for the list of breakdowns occurred on that particular day and selects a particular option to attend a breakdown .

* **Conductor Breakdown Report:**

Conductor will select the nearest stop to which replacement has to be sent and the reason for the breakdown.

* **Manager Breakdown:**

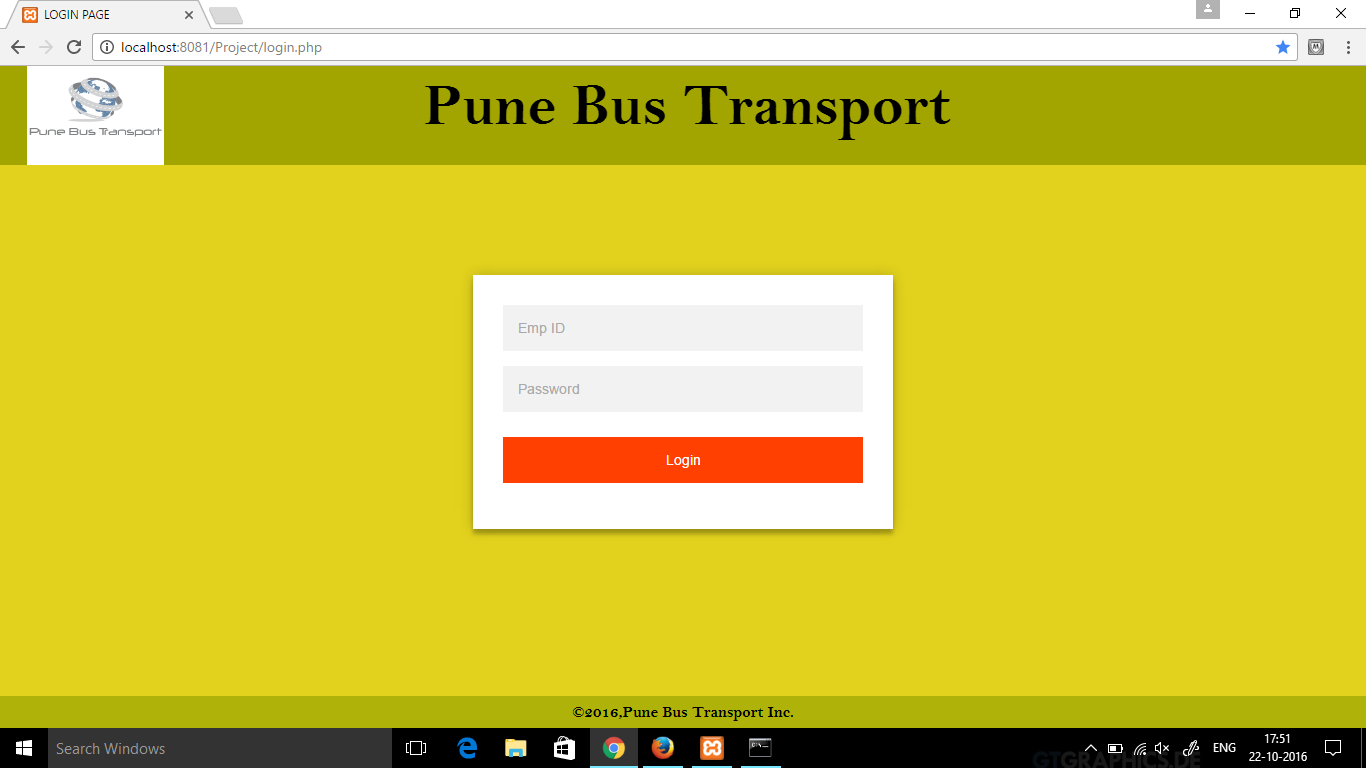
Manager will select a replacement bus to send, and can view the status of breakdowns.

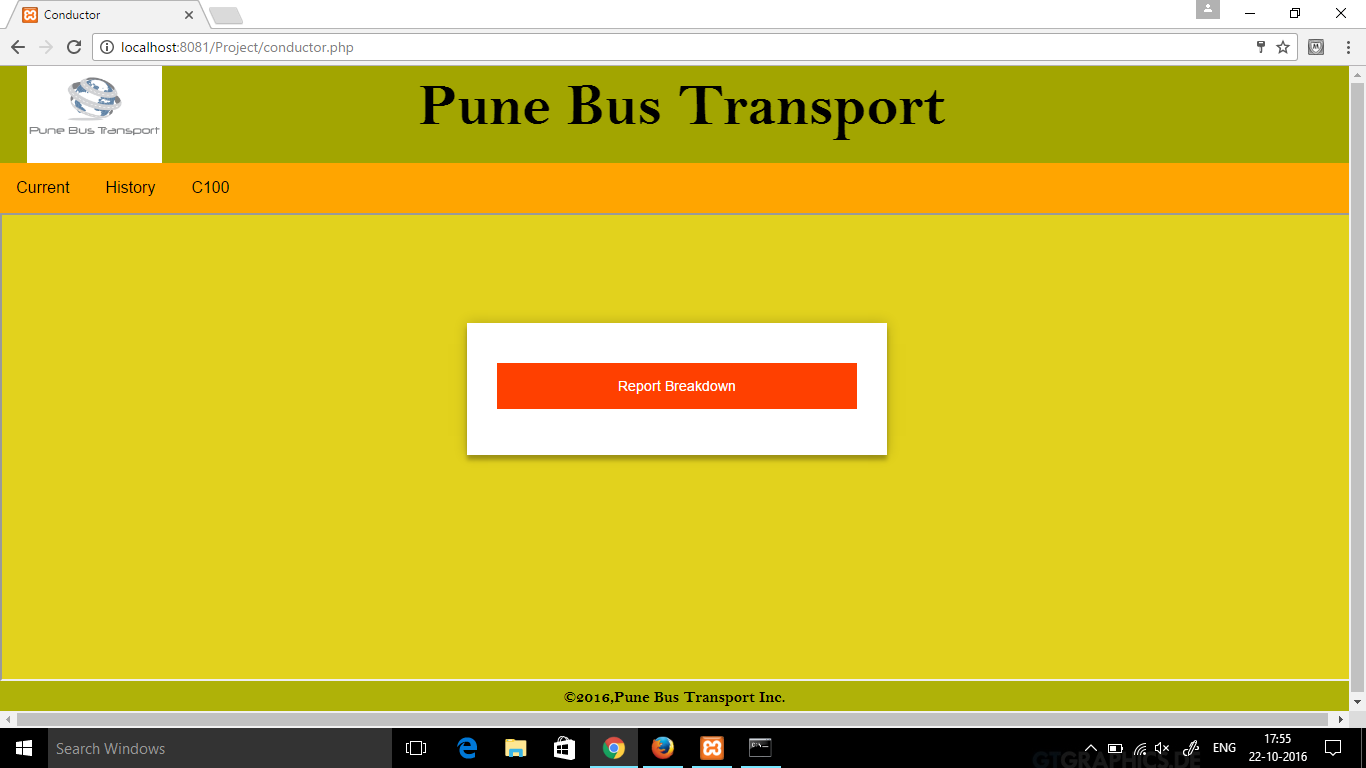
* **Analysis:**

Manager can view analysis graphs of breakdowns.

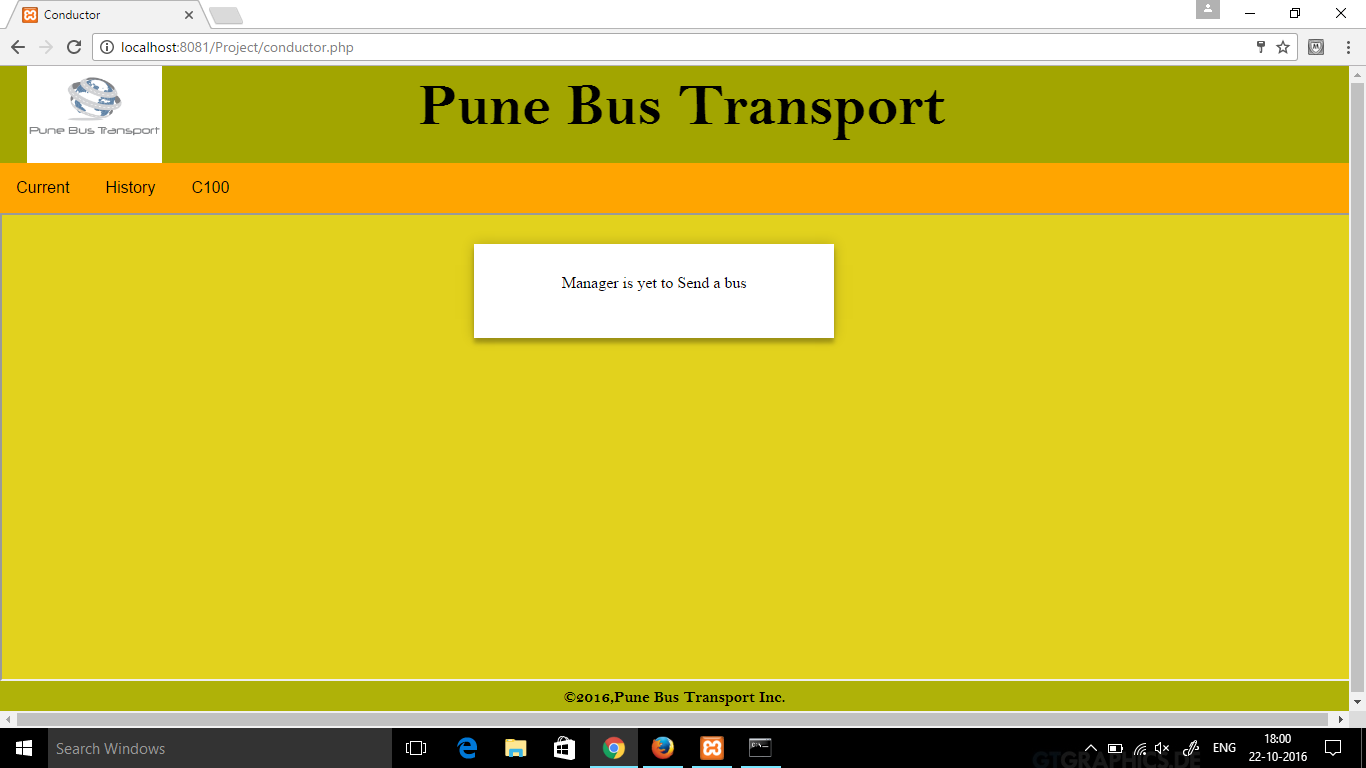
Test Case Design

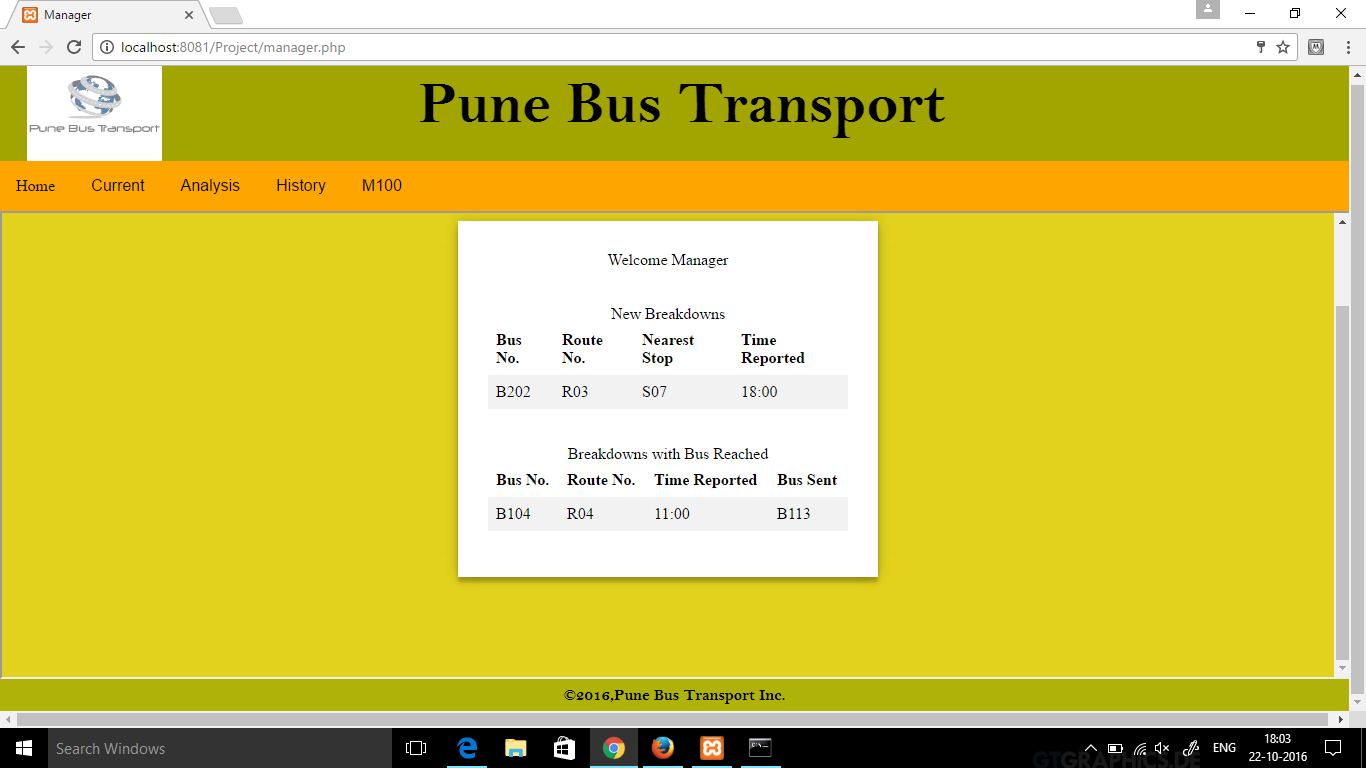
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| **Test ID** | **Description** | **Expected Result** | **Actual Result** |
| 1 | User Login | Main page of respective user should be displayed after successful  authentication | Main page of respective user is displayed after successful  authentication |
| 2 | Conductor Reports Breakdown | The Conductor will be able to report a breakdown if he is allocated a bus at that time. All information is inserted in database. | The Conductor is able to report a breakdown if he is allocated a bus at that time and breakdown  information is inserted in database. |
| 3 | Manager Views Current Breakdowns | All current breakdown details in the database will be visible to the manager. | The manager can view all the current breakdown details. |
| 4 | Manager Sends  Spare Bus | Manager will be able to send a spare bus to newly reported breakdowns. | A spare bus can be sent by the manager to newly reported breakdowns. |
| 5 | Viewing Status of Breakdown | Conductor and Manager should be able to view the current status of breakdown. | Conductor and Manager can view the current status of breakdown. |

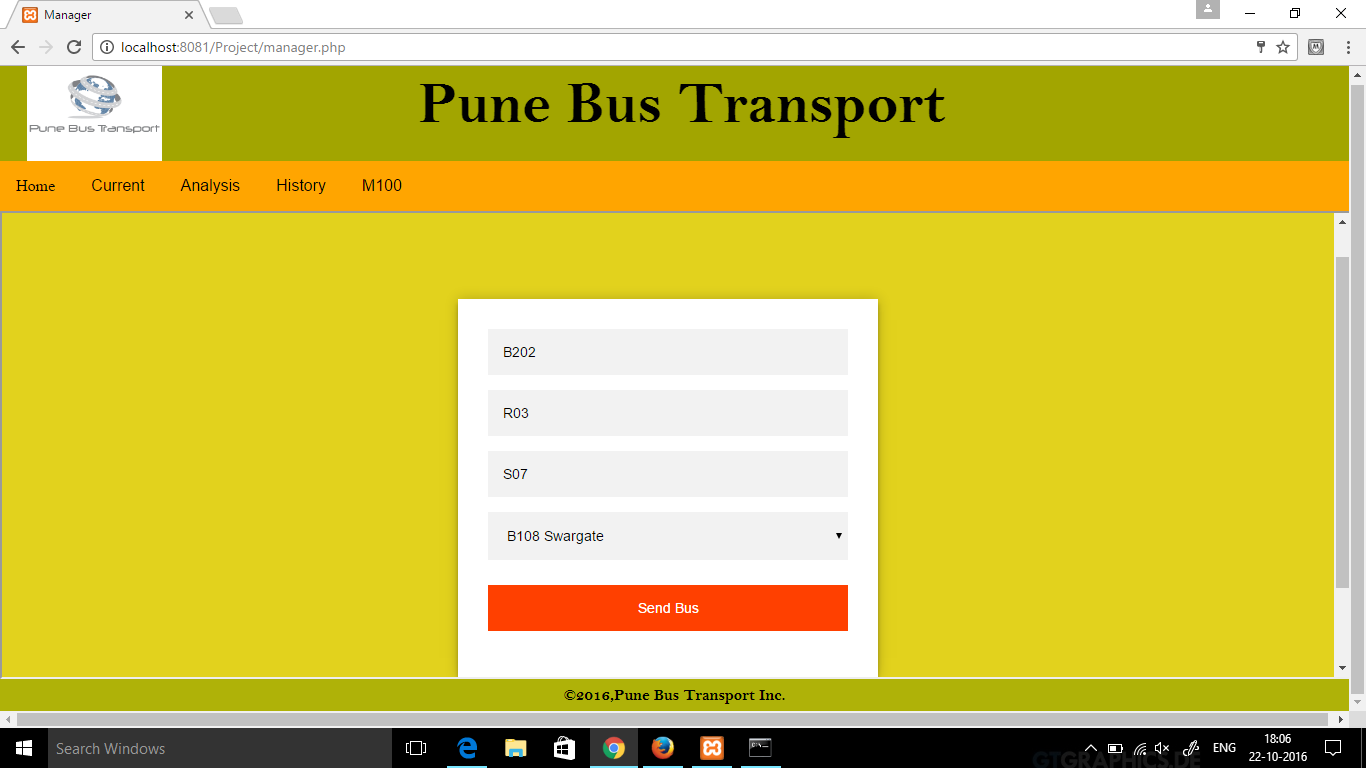
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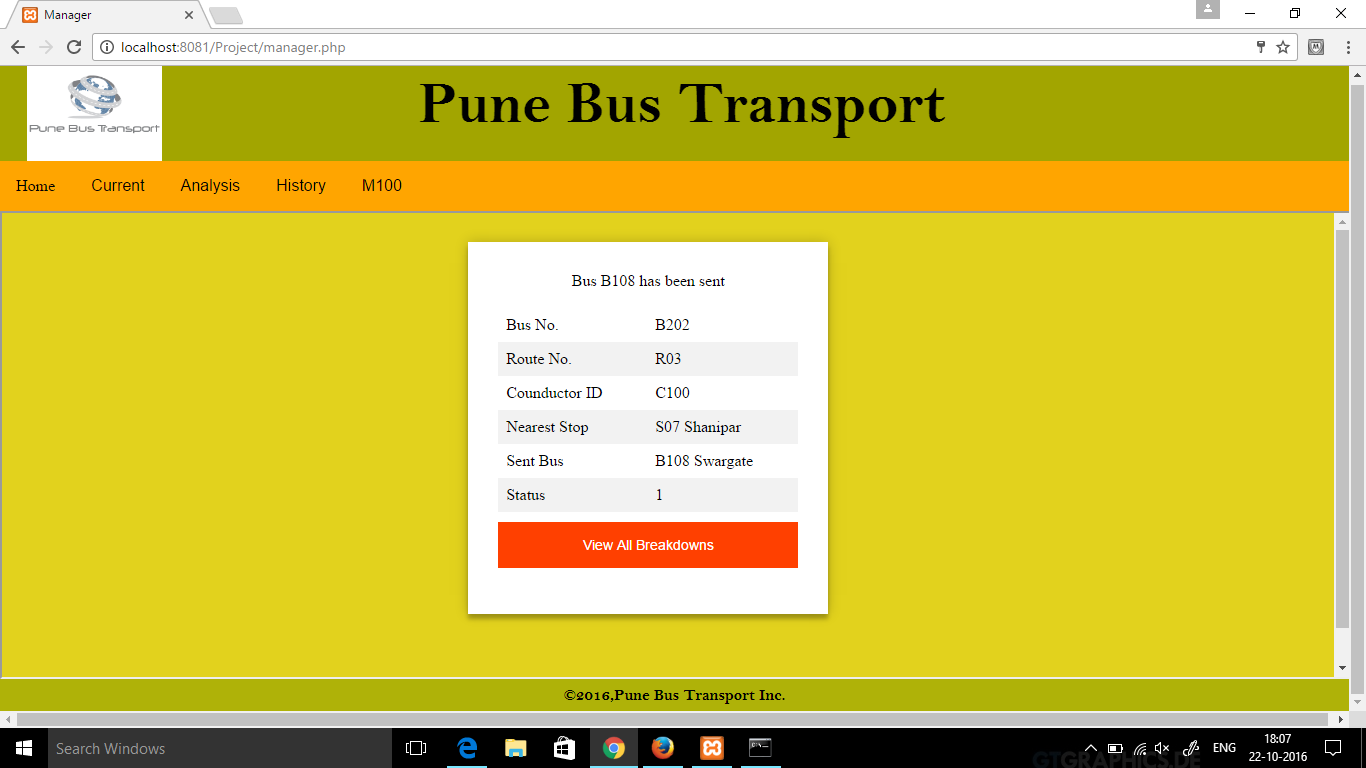
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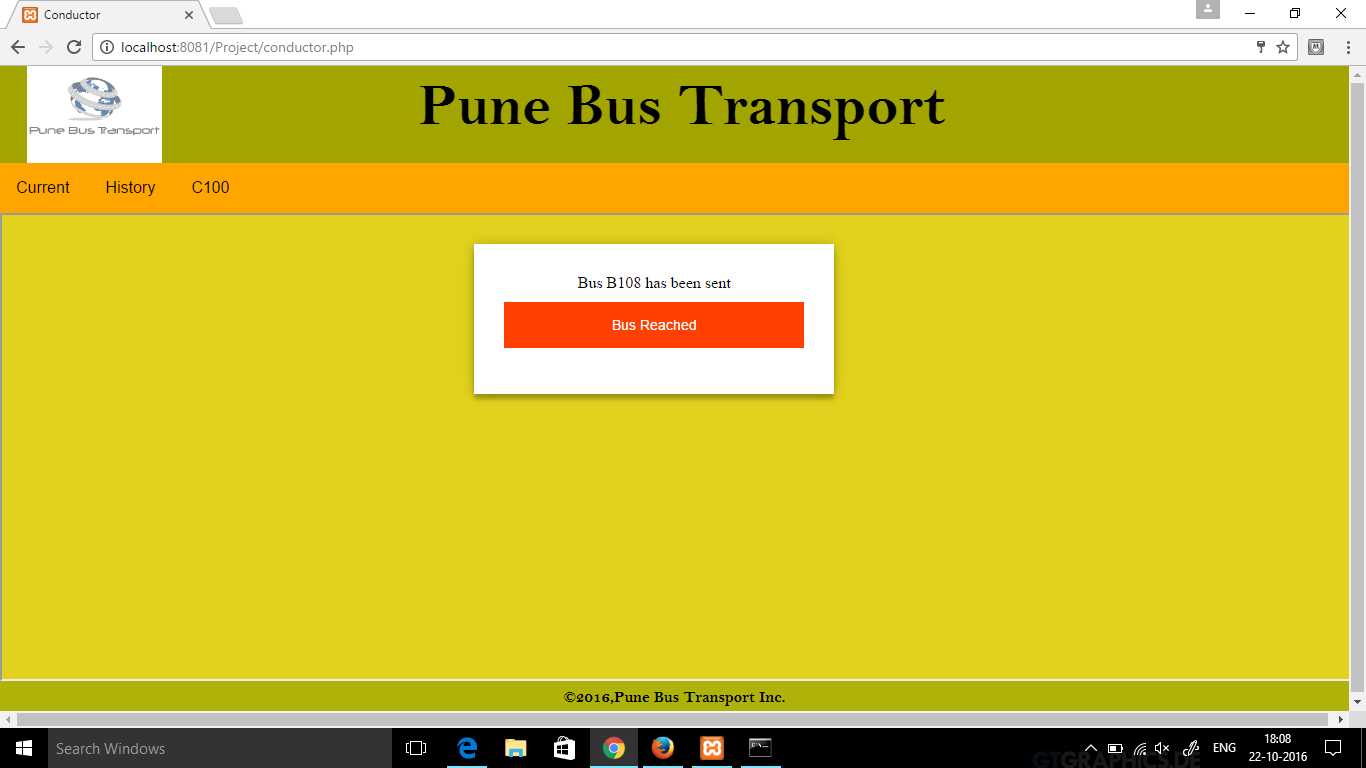
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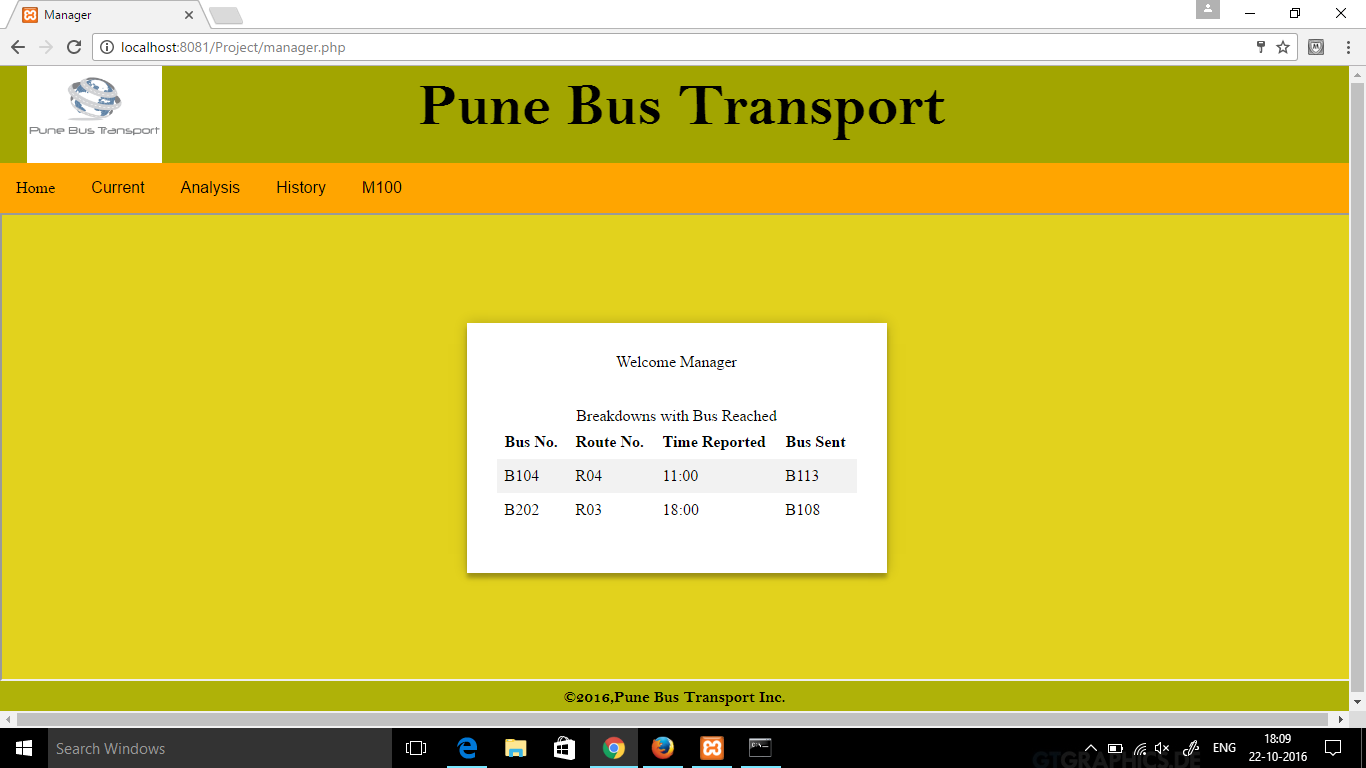
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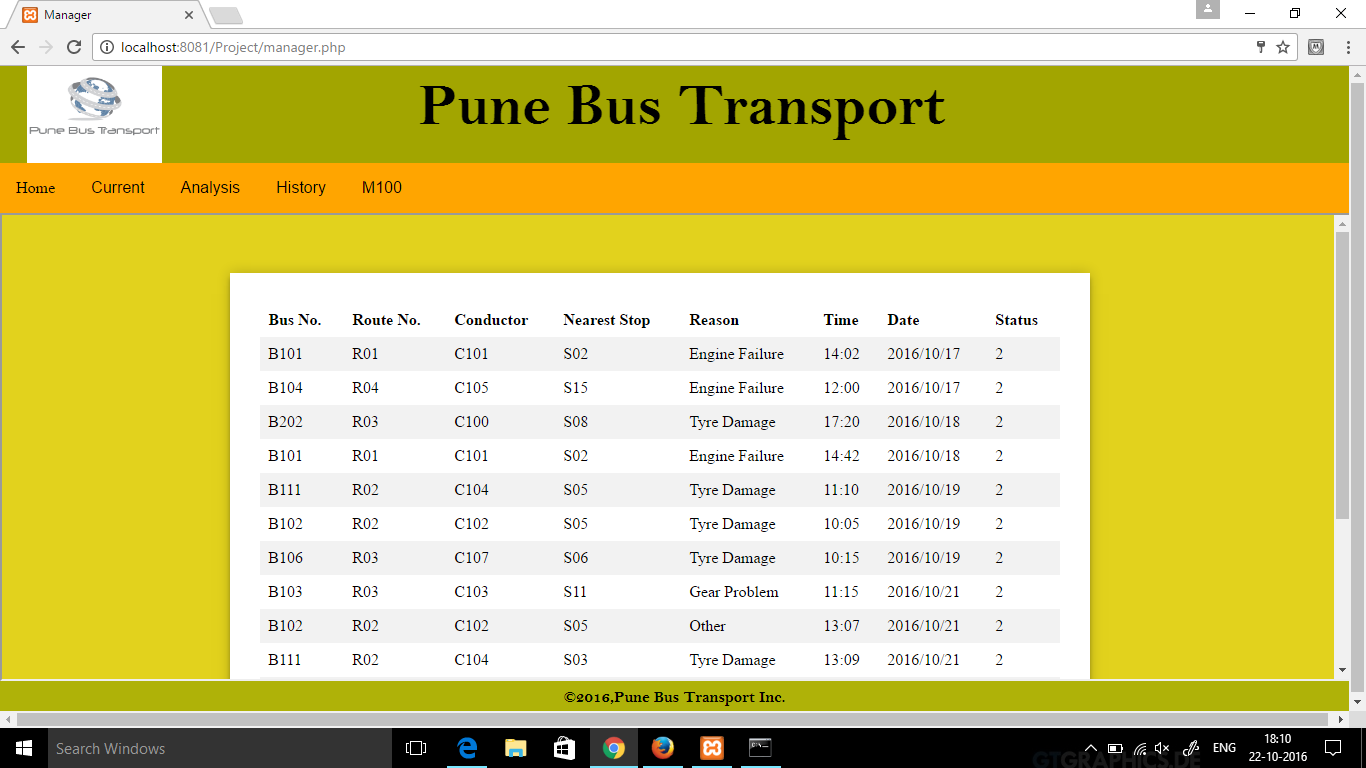
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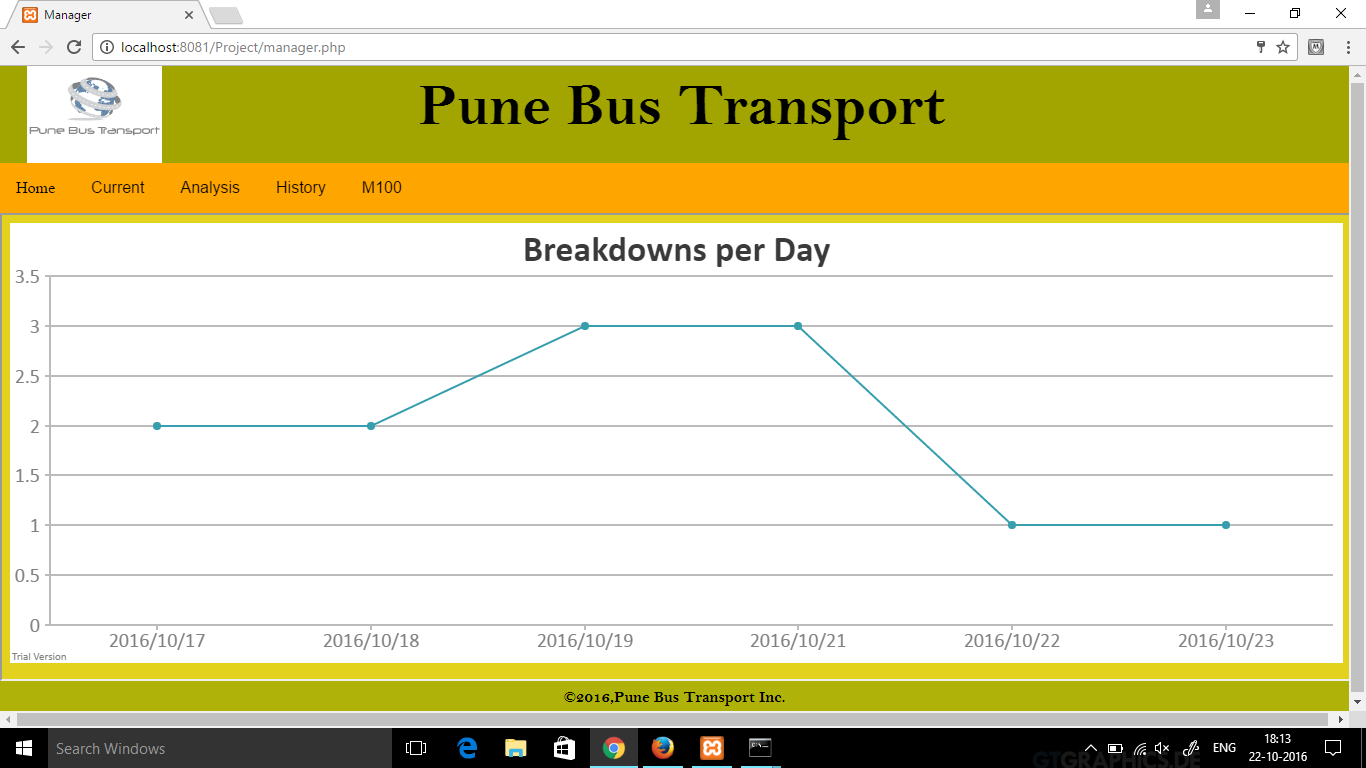
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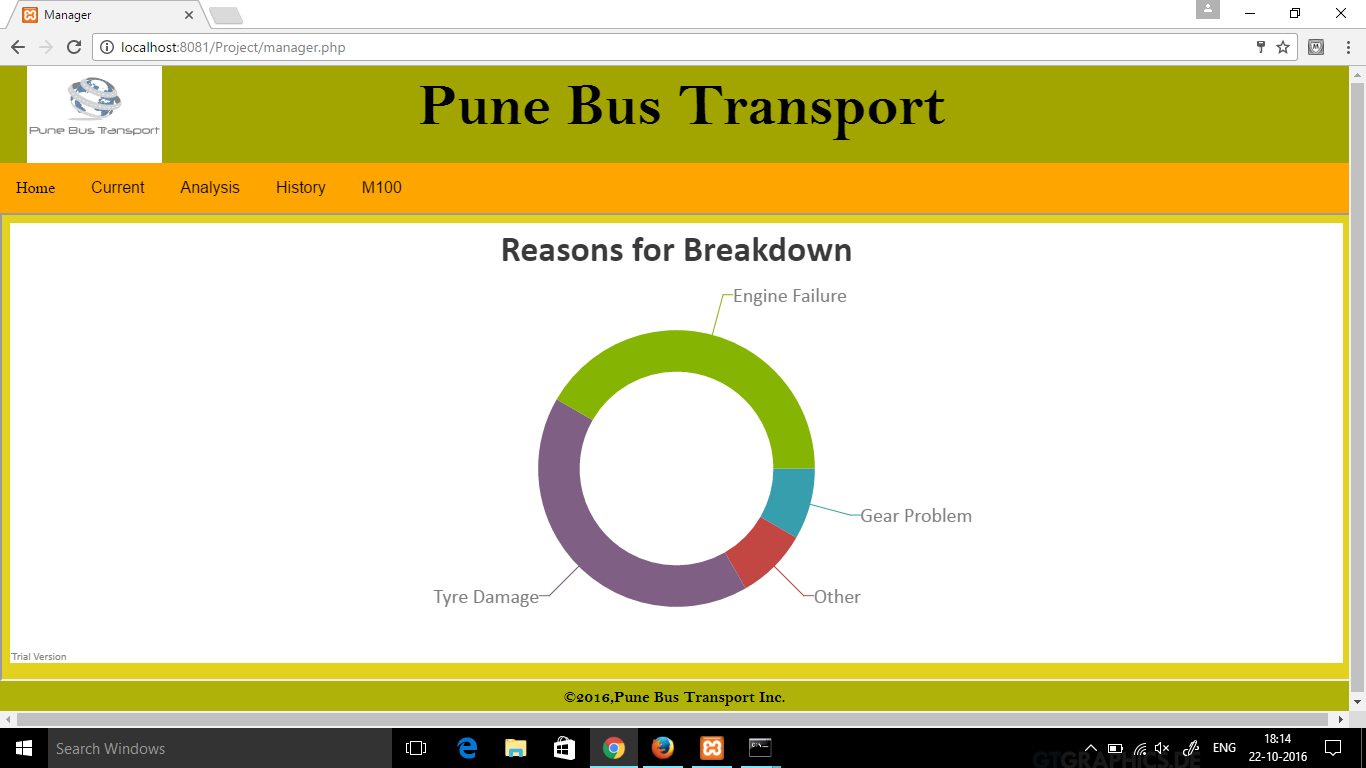
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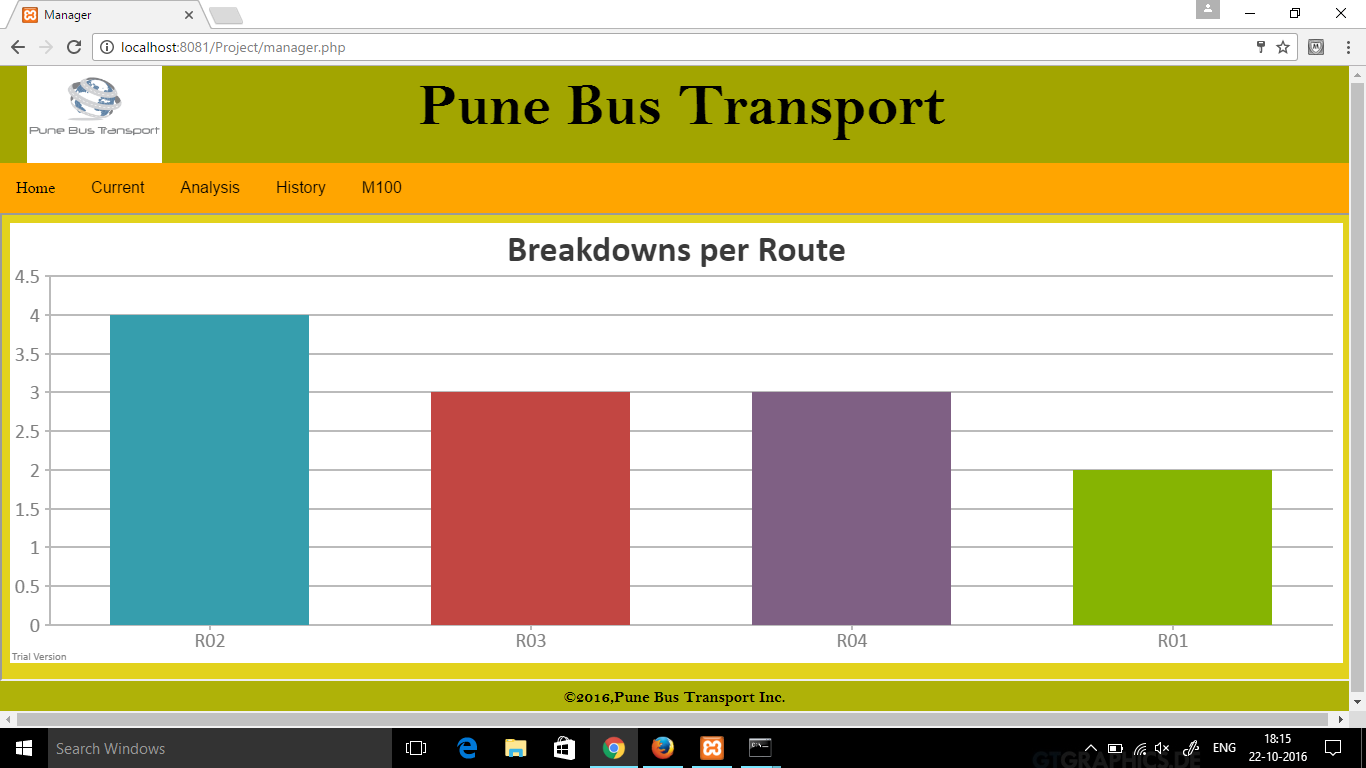
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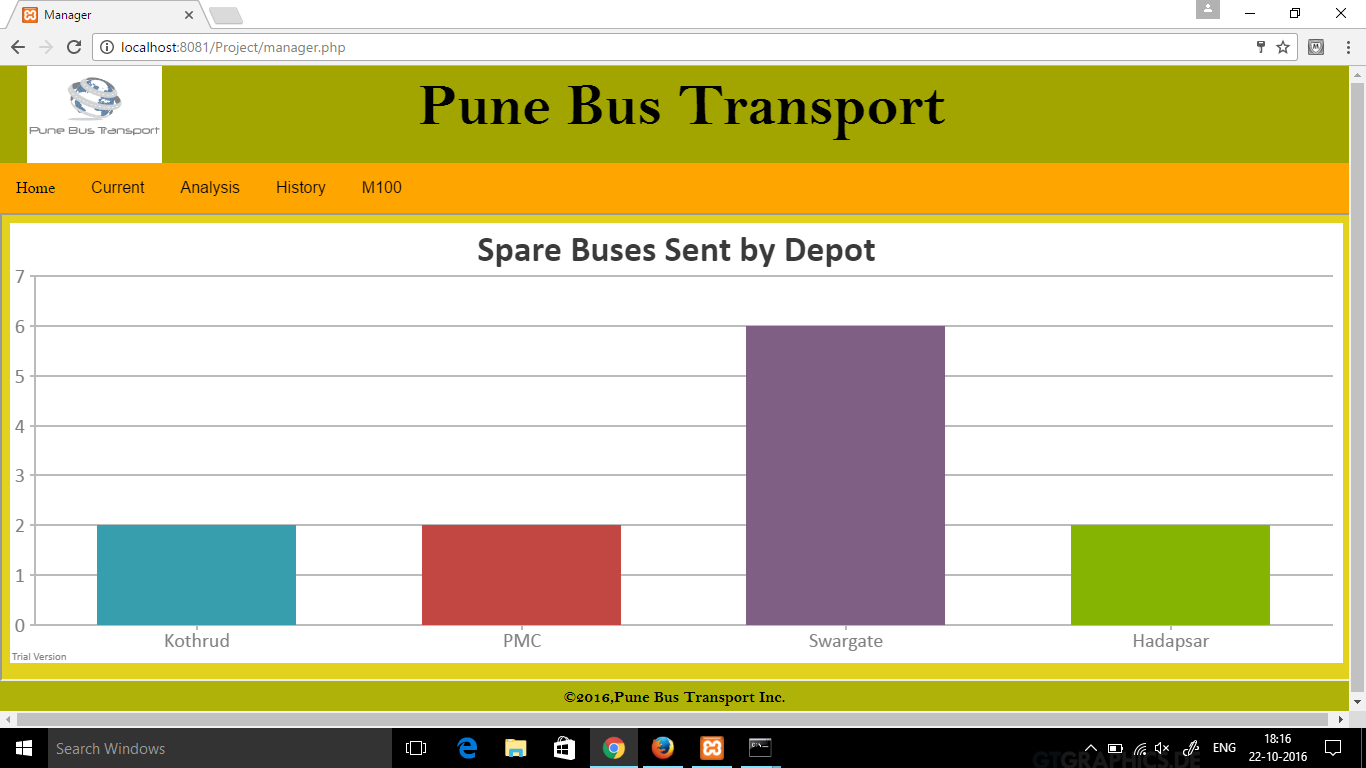
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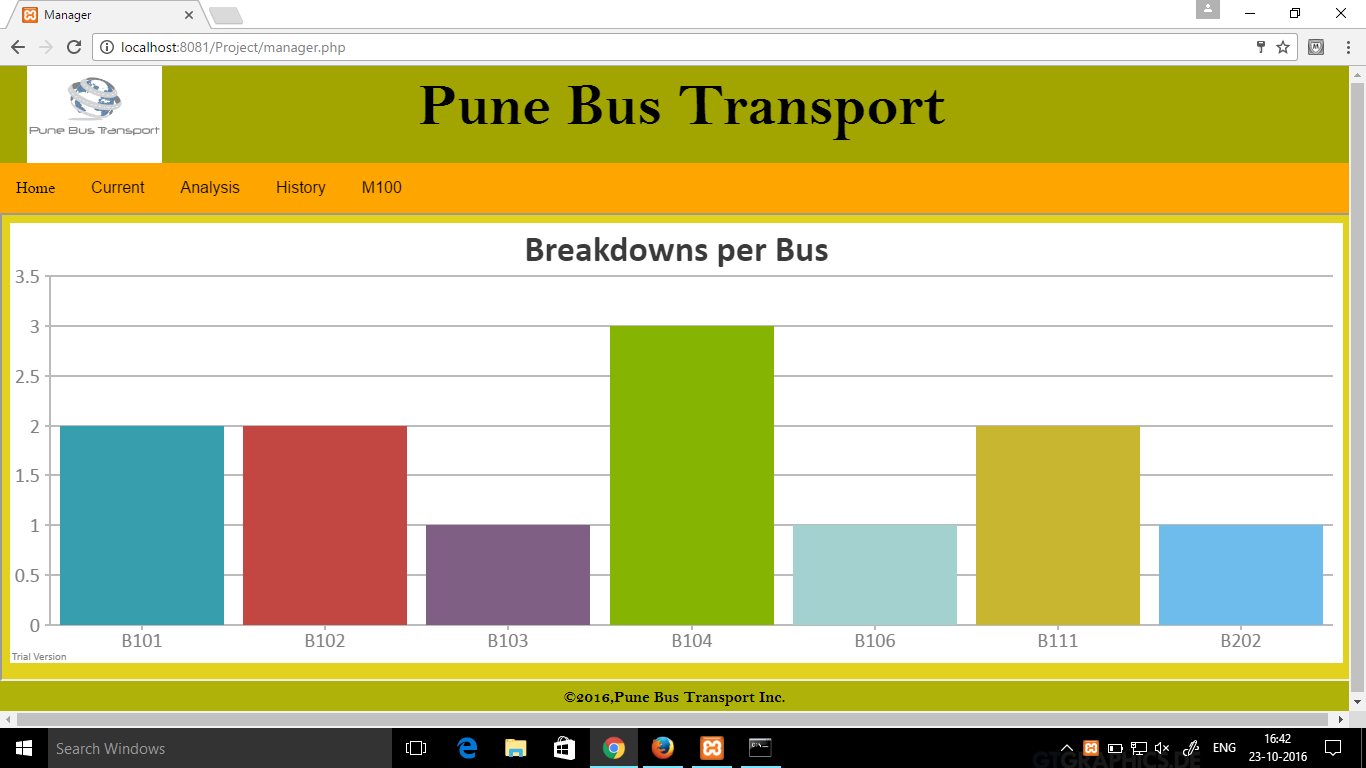
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