

Bicycle Rental System

Ankit Patkar¹, Harssham Jeetendra², Aniket Mane³, Mohd Hasnain Raza⁴, Prof. Nilam Parmar⁵

^{1,2,3,4}Third Year Student, Department of Computer Engineering Diploma, Thakur Polytechnic, Kandivali East, Mumbai, Maharashtra, India- 400101

⁵Faculty, Department of Computer Engineering Diploma, Thakur Polytechnic, Kandivali East, Mumbai, Maharashtra, India- 400101

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ABSTRACT-We developed this project to book a Bicycle on rent at the fare charges. In present system all booking work done manually and it takes very hard work to maintain the information of booking and Bicycles. If you want to find which vehicle is available for booking then it takes a lot of time. It only makes the process more difficult and harder. This aim of the project is to automate the work performed in the Bicycle rental management system like generating daily bookings, records of Bicycle available for booking, record of routes available, rental charges for Bicycles for every route, store record of the customer. Bicycle rental management system is a Bicycle booking software that provides a complete solution to all your day-to-day Bicycle booking office running needs. This system helps you to keep the information of Customer online. You can check your customer information any time by using this system. Bicycle rental management system is a unique and innovative product. Using this you can also keep the information of number of bookings in current month or in last 6 month or in last year. This helps you to track your business and you earning in particular month or in any year. Based on this information you can take decision regarding your business development.

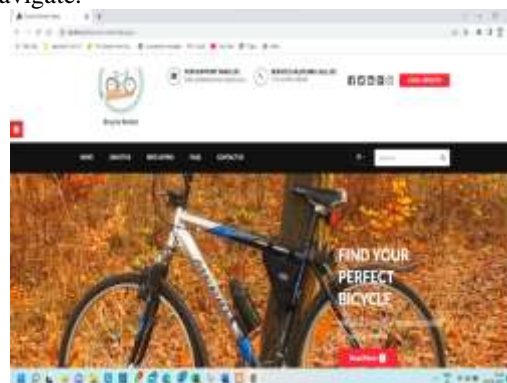
In this framework we can procure bike and Bicycle rents. For travelling for more than 1-month you can hire a Bicycle on rent. Seller will put their bicycles on lease, the clients can choose the Bicycles according to the accessibility, after choosing Bicycles of their choice they can book and pay online. This rental system has three modules namely Admin, User and Vendor. Admin can login, can add, update and delete vendors information and also bicycles list. He/she can view bookings, user and feedbacks given by users. Users can register on the website and then login, can check of availability of bicycle and book the bicycle of his/her choice and pay accordingly. Vendor's can

login, update and delete the Bicycle list and also can view bookings.

Key words: Bicycle Rental management, fare charges, pay online.

I. INTRODUCTION

In this project, User has to Login through the site for bookings. Searching can be easy. Information is provided of each and every bicycle. For bookings, information such as Booking Dates and Text Message should be provided by the customers. Bicycle information also includes Feature and Overview. Other features are: user can post their Testimonials and update their Profile as well as passwords anytime they want. Admin has all the control. He/she can Add/Manage bicycle brands, manage vehicles, bookings, testimonial and many more. It's easy to operate and understand by users. The design is pretty simple and the user won't find it difficult to understand, use and navigate.



II. WHAT IS PHP

PHP is a server-side scripting language that is used to develop Static websites or Dynamic websites or Web applications. PHP stands for Hypertext Pre-processor, that earlier stood for Personal Home Pages. PHP scripts can only be

interpreted on a server that has PHP installed. The client computers accessing the PHP scripts require a web browser only. A PHP file contains PHP tags and ends with the extension ".php".

The term PHP is an acronym for PHP: Hypertext Pre-processor. PHP is a server-side scripting language designed specifically for web development. PHP can be easily embedded in HTML files and HTML codes can also be written in a PHP file. The thing that differentiates PHP with client-side language like HTML is, PHP codes are executed on the server whereas HTML codes are directly rendered on the browser.

PHP: Hypertext Pre-processor (or simply PHP) is a general-purpose programming language originally designed for web development. It was originally created by Rasmus Lerdorf in 1994. PHP code may be executed with a command line interface (CLI), embedded into HTML code, or used in combination with various web template systems, web content management systems, and web frameworks. PHP code is usually processed by a PHP interpreter implemented as a module in a web server or as a Common Gateway Interface (CGI) executable. The web server outputs the results of the interpreted and executed PHP code, which may be any type of data, such as generated HTML code or binary image data. PHP can be used for many programming tasks outside of the web context, such as standalone graphical applications and robotic drone control.

III. WHAT IS MYSQL

MySQL is an open-source relational database management system (RDBMS). Its name is a combination of "My", the name of co-founder Michael Widenius's daughter, and "SQL", the abbreviation for Structured Query Language. A relational database organizes data into one or more data tables in which data may be related to each other; these relations help structure the data. SQL is a language programmers use to create, modify and extract data from the relational database, as well as control user access to the database. In addition to relational databases and SQL, an RDBMS like MySQL works with an operating system to implement a relational database in a computer's storage system, manages users, allows for network access and facilitates testing database integrity and creation of backups.



MySQL is free and open-source software under the terms of the GNU General Public License, and is also available under a variety of proprietary licenses. MySQL was owned and sponsored by the Swedish company MySQL AB, which was bought by Sun Microsystems (now Oracle Corporation). In 2010, when Oracle acquired Sun, Widenius forked the open-source MySQL project to create MariaDB.

MySQL has stand-alone clients that allow users to interact directly with a MySQL database using SQL, but more often, MySQL is used with other programs to implement applications that need relational database capability. MySQL is a component of the LAMP web application software stack (and others), which is an acronym for Linux, Apache, MySQL, Perl/PHP/Python. MySQL is used by many database-driven web applications, including Drupal, Joomla, phpBB, and WordPress. MySQL is also used by many popular websites, including Facebook, Flickr, MediaWiki, Twitter, and YouTube.

IV. HOW TO RUN



Requirements

- Download and install any local web server such as XAMPP/WAMP.
- Browse the PhpMyAdmin in a browser. i.e., <http://localhost/phpmyadmin>

- Create a new database naming bike_rental_db.
- Import the provided SQL file. The file is known as bike_rental_db.sql located inside the database folder.
- Browse the Online Motorcycle (Bike) Rental System in a browser. i.e., http://localhost/bike_rental/ for the client-side and http://localhost/bike_rental/admin for the Admin Side.

And there you have it, a full setup of the Bicycle Rental System in PHP MySQL. For this particular PHP project, PHP Version 5.6.3 or 7.4.12 is required because it's well tested on both versions. So, users with the latest PHP version (greater than 7.4.12) might face various errors while operating it. As a result, you'll need to downgrade your PHP version (only if you're using the latest version and facing certain errors) at the moment. So, this bicycle rental system is a quick broad PHP project for all the beginners as well as intermediate level that broad's vast knowledge into such web applications. In conclusion, this whole PHP project with free source code is an absolute project and a meaningful way for the users to learn and explore more about it.

V. SCOPE OF PROJECT

This project traverses a lot of areas ranging from business concept to computing field, and required to perform several researches to be able to achieve the project objectives. The area covers include:

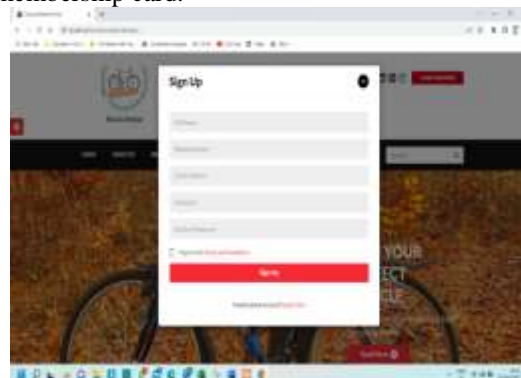
- This includes study on how the bicycle rental business is being done, process involved and opportunity that exist for improvement.
- PHP Technology used for the development of the application.
- General customers as well as the company's staff will be able to use the system effectively.
- Web-platform means that the system will be available for access 24/7 except when there is a temporary server issue which is expected to be minimal.

5.1. FUNCTIONAL REQUIREMENTS

Requirement analysis is a software engineering technique that is composed of the various tasks that determine the needs or conditions that are to be met for a new or altered product, taking into consideration the possible conflicting requirements of the various users. Functional requirements are those requirements that are used to illustrate the internal working nature of the system, the description of the system, and explanation of each subsystem. It consists of what task the system should perform, the processes involved, which data should the system holds and

the interfaces with the user. The functional requirements identified are:

- Customer's registration: The system should allow new users to register online and generate membership card.



- Online reservation of bicycles: Customers should be able to use the system to make booking and online reservation.

- Automatic update to database once reservation is made or new customer registered: Whenever there's new reservation or new registration, the system should be able to update the database without any additional efforts from the admin.

- Feedbacks to customers: It should provide means for customers to leave feedback.

5.2. NON-FUNCTIONAL REQUIREMENTS

It describes aspects of the system that are concerned with how the system provides the functional requirements. They are:

- Security: The subsystem should provide a high level of security and integrity of the data held by the system, only authorized personnel of the company can gain access to the company's secured page on the system; and only users with valid password and username can login to view user's page.

- Performance and Response time: The system should have high performance rate when executing user's input and should be able to provide feedback or response within a short time span usually 50 seconds for highly complicated task and 20 to 25 seconds for less complicated task.

- Error handling: Error should be considerably minimized and an appropriate error message that guides the user to recover from an error should be provided. Validation of user's input is highly essential. Also, the standard time taken to recover from an error should be 15 to 20 seconds.

- Availability: This system should always be available for access at 24 hours, 7 days a week. Also, in the occurrence of any major system malfunctioning, the system should be available in 1

to 2 working days, so that the business process is not severely affected.

e. Ease of use: Considered the level of knowledge possessed by the users of this system, a simple but quality user interface should be developed to make it easy to understand and required less training.

VI. CHALLENGES

Our Team Faced We had to agree on a worthwhile project to undertake. Sometimes it was difficult to arrange meeting times that suited all team members. Delegating roles to each member that suit their talents and interests was a challenge. Similarly, if a team member couldn't make an arranged meeting, we would have to ensure he/she was kept informed about developments and given a task for that week also.

Challenges Our Team Faced As the idea for a project has only been displayed in a minority of settings, we found it difficult to source information and examples that may be needed. We had to find a convenient medium to use to communicate; hence we chose to create a Facebook group page. We are also the only group in the module that has a competitor project, so we viewed this as a constructive challenge.

Monitoring & Controlling We established a monitoring and control plan early in the project in order to avoid slippage and keep track of assignments. With various written assignments we would have at least 2 members proof read the team's work. We had a weekly summary of proceedings each Friday after our project management lecture.

Monitoring & Controlling Our communication channel was primarily Facebook; our project manager at the time would check uploaded files and messages and ensure it corresponded with our WBS and Gantt Charts. Overall slippage was kept to a minimum. Unfortunately, due to one or two cases of human error and unseen circumstances, slippage was not completely eradicated.

VII. CONCLUSION

Bicycle rental business has emerged with a new goody compared to the past experience where every activity concerning bicycle rental business is limited to a physical location only. Even though the physical location has not been totally eradicated; the nature of functions and how these functions are achieved has been reshaped by the power of internet. Nowadays, customers can reserve bicycles online, rent bicycle online, and have the bicycle brought to their door step once the customer is a registered member or go to the office

to pick the bicycle. The web-based bicycle rental system has offered an advantage to both customers as well as Bicycle Rental Company to efficiently and effectively manage the business and satisfies customers' need at the click of a button.

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