Safai Mission: Waste management Service

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Abstract:- An ecosystem is a place where living and non-living beings coexist together. We keep our home clean since we live there then why can't we keep our ecosystem clean? The problems of waste generation and management in most cities especially in developing have become one of the intractable environmental problems facing urban centres. This situation could be attributed to low level of technology that is not sophisticated enough to handle the high rate of waste generation. Safai Mission is an online portal that can be used to register any complaints regarding irregular waste disposal. Here, a user can upload the scenario image and description of waste disposal related issues or any such activity that harms the ecosystem on the web portal. After the image and the description has been uploaded on the portal, a complaint number is generated. The registered complaint is stored in our database which is being monitored by our team 24x7. As soon as the complaint is registered our management team goes to the affected site and takes appropriate action to the affected site and takes appropriate action to solve the problem as soon as possible.

I. INTRODUCTION

An ecosystem is a place where living and non-living beings coexist together. Environmental degradation happens due to deterioration in our environmental resources which is the major issue of the century. The problems of waste generation and management in most cities especially in developing have become one of the intractable environmental problems facing urban centres. The environmental problems have to be resolved as it just does not deplete present resources but also lead to extinction of resources for future generations. Hence by this project we aim at solving the problem by deploying our cleaning teams to the complained sites. We will be using a self-made waste management website to work with this project. The website has a form that has to be filled by the person who wants to lodge a complaint about a dumped or unclean site. The details of the person could be anonymous but he has to provide some detail such as contact number or email address so that we can contact them. The person has to capture an image of the site and post it along with the form. These details and the image are stored in the Oracle database which is accessed by the management team. Once the details are fed into the database, the management team works 24x7 and performs rapid action by deploying the team members on the complaint site. The prompt action not only helps the part of the city to be cleaned but also avoid many diseases that are borne with such mess. Although there are many such websites who provides waste cleaning services which are paid services. This project provides a hassle free and efficient service. It is

the direct communication between our team and the responsible citizen.
Languages used in the development are:

1) HTML5
HTML5[1] is the standard for presenting some content and structuring it on the World Wide Web. HTML5[1] stands for Hypertext Markup Language, which is the most commonly and widely used language to write Web Pages. Hypertext is the way in which Webpages are linked together. HTML5[1] is a Markup Language which means, HTML5[1] is used to simply "mark-up" a document with tags that in turn tells a browser on how to display the structure of the page.
HTML5[1] is a co-operation between the Web Hypertext Application Technology Working Group (WHATWG) and World Wide Web Consortium (W3C) .The new standard incorporates features like drag-and-drop, video playback, scroll effects that have been earlier dependent on third-party web browser plug-ins such as flash players etc.

2) CSS3
CSS3[1] (Cascading Style Sheets) is basically a group of formatting rules that are used to control the appearance and layout of the content on a web page. One of the really great feature of CSS3[1] is that all the CSS3[1] rules can be stored in one document and that document can be kept separate from the HTML5[1]content and then link the two together. Then, when you make a change to the CSS3[1] that change is instantly and automatically updated on all the HTML5[1] files. One of the great features is that it "cleans up" the appearance of

the code on web pages. In addition it will speedup browser loading times.

3) JavaScript

Java script[2] is the most commonly used dynamic computer programming language. It is lightweight which makes its implementation more efficient by allowing client-side script to interact with the user and make dynamic webpages and websites. It gives the developer the capability of controlling the appearances of various objects on the webpage in response to various actions taken by the user (which is called an event). JavaScript[2] merged with various backend languages can create powerful form and data validators. A combination of Javascript[2], HTML5[1], DOM (Document object module) and CSS3[1] when used, is known as DHTML5[1] or Dynamic HTML5[1]. Javascript[2] is designed to run as a scripting language in a hosted environment and it depends on the host environment whether to provide mechanisms or means for communicating with outer world.

4) PHP

PHP[3] is a recursive acronym of Hypertext Pre-processor that is a widely used open source scripting language that is usually embedded into HTML5[1]. It is a server-side language which makes it different from other scripting languages which are usually client side scripting language. The benefit of using server side scripting language is that the client would receive all the outputs or results of the running script but cannot know the underlying code. One more feature is that the web server can also be configured to process all the HTML5[1] files with PHP[3] without showing the client what is upon the developer's sleeve. PHP[3] mainly focuses on server-side scripting and has 3 basic requirements i.e. PHP[3] parser (CGI or server module),a web server and a web browser.

5)XAMPP

XAMPP is a free and open source server solution developed by Apache, consisting mainly of the Apache HTTP Server, and interpreters for scripts written in the PHP[3] and Perl programming languages It is a lightweight Apache distribution that makes it easy for developers to create local web server for t deployment purposes. XAMPP is a cross-platform, which means it works equally well on every OS. Most actual web server deployments use the same components as XAMPP, it makes transitioning from a local test server to a live server easy.

6) MySQL

MySQL is an open source relational database management system (RDBMS) based on Structure Query Language which is used for adding, removing, and modifying information in the database.

MySQL can be used for a variety of applications, but is most commonly found on Webservers. Many database-driven websites that use MySQL also use a Web scripting language like PHP[3] to access information from the database.

II. RELATEDWORK

The waste and its management is one of the most crucial concerns in recent times, which always make people to come up with many unorthodox ideas to wards this issue. Kuppathotti.com-The Kachra Dabba[5] a waste management service website an idea proposed by Mr. Joseph Jegan, which is a Pune and Chennai based organization intended to collect junk like old newspaper, milk cover, broken things, plastic wastes etc., at door step, which is not only for individuals but also for the organizations who find themselves deluged with a mountain of papers. Kuppathotti has taken a great step towards waste management which not only help reducing the waste but also reduces the possibilities of ecosystem degradation. Since they collect waste from door to door, the waste produced by many industries and which is inappropriately dumped is not taken care of is the main reason of bio-hazards. Consumes time and maybe is not always accessible to every area, which makes it difficult to avoid dumping of waste in inappropriate areas. Greenobin[4] a Gurgaon based start-up website is also one of the major organizations fighting for the waste management. They mainly focus on the paper waste collection over the city from schools, colleges and different offices and as these are the major source of paper wastes which are supplied to the recycling plants for further processing. In this way they not only help in managing the waste but also help in reducing deforestation. As they only collect the paper waste, the city still suffers from the problem of managing the waste of other types, which remains as a problem for the waste dumped around the city from different localities and industrial waste is also hard to process and not managed as expected.

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III. PROPOSEDWORK

The online portal will have text fields that are name, description of the problem, pin code, address of the place and an upload button using which the scenario of the location can be uploaded. After the image and the description have been uploaded on the portal, a complaint number is generated. The registered complaint is stored in the database which is being monitored by a team 24x7. As soon as the complaint is registered the management team goes to the affected site and takes appropriate action to solve the problem as soon as possible. The action could be either correct dumping of the waste at proper site by the team or bringing into the notice of the concern authority to take action as soon as possible. The main advantage is that the portal will be live and monitored all day long. The project is developed using frontend and backend languages with a suitable database.HTML5[1] ,CSS3[1] and Javascript[2].The framework or the structure of the webpages is developed using HTML5[1] framework called Bootstrap. The formatting of the various elements and tags of the HTML5[1] is done using CSS3[1]. The various transitions of the project is handled using scripting language i.e. Javascript[2]. The backend language which is used is PHP[3] with MySQL database. The server used is XAMPP which easily connects PHP[3]to MySQL database. The project is a very responsive and has light interface which makes it easily accessible even on mobile devices with slow data connections.

IV.ANALYSISANDRESULT

Initially we used SQL instead of MySQL. The Storage consumed in disk in sql is higher than that of in MySQL as well as the no. Of programming languages supported by MySQL is higher than that in Sql, therefore after these analysis we opted MySQL database to store related data One of the major reason for using MySQL over Sql is that MySQL is developed by Oracle and its server operating systems are Linux, Windows and OS X which makes it platform independent which gives us flexibility of moving the system over different Os(s) if required.
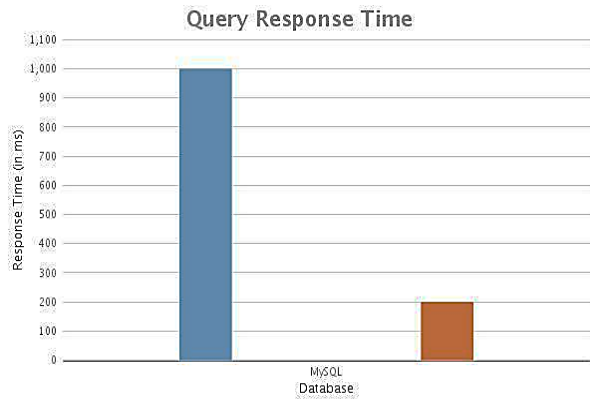
This graph shows the query response time for MySQL and Sql and clearly it is visible that the batch processing in MySQL is faster than that of SQL, which makes MySQL more reliable and appropriate for large data processing for different queries. Apart from technical issues the major issues was to analyse the success of this project in Metro city like Chennai, but as the stats show, Chennai is at the bottom half in terms of ranking of cleanliness in India, which is a topic of concern for authorities.

This project can be a major turn over for the city.

Chennai stands at the fifth position in the country which produces maximum amount of municipal waste, which is around 1.6 million tons waste per year, whereas cities like Indore and Bhopal which stands on first and second position respectively in terms of cleanliness produces 1.25 and 1.40 million tons of waste per year which clearly shows the carelessness of the authorities in the city. This project can bring up their concern as well

as citizens' concern over the issue of waste management in the city.

V. CONCLUSION AND FUTURE ENHANCEMENT

The proposed work helps us and the city to make it a clean, safe and disease-free environment and a safe place to live in. A benefit of this project is it acts as a transparent medium of communication between the concerned citizen and authorities of the city. In this system we made it as a phone optimized website which can be accessed from any smart device available in this generation, but in future we have flexibility to take this system to work on different mobile operating platforms or operating systems such as Android, Windows or IOS, this will lead it to the ease of use of the project. Apart from user perspective, an admin app can also be developed for easily getting a look over the data being stored in the system from the user.

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