Information Management System for Smart City Using Java

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ABSTRACT: Everyday an out-sized number of individuals visits any city in a country for their higher studies, business development, job opportunities, tourism, etc. For those newly arriving people, system of the city was unknown. They don't know much about booking hotel, transportation, shopping, etc. For that there is a need of a city guide to know about that city and to visit places in that city. Now-a- days, people prefer searching in internet rather than enquiring the locals of the city or hiring a city guide.For such inconvenience we developed a web based product used to store the details of the city and helps all the users who visits our website. The website contains the entire information about particular city like places to be visited,site maps, route maps, business environment, job portal, information about organization that provide transport, hospitality and total history of the city. This website is readily available to all the persons and can be used by people having general knowledge about the internet. If the user is a student they are in the need of downloading study material related to their studies or to get information about coaching centers and college institutions in that city. If the user is a businessman he/she wants to get the information about any kind of business. In case of tourists to know about the tourist place to visit or hospitality facilities. In case of job seekers they need to get the information about available job details.

KEYWORDS: Web based product, City guide, Student, Businessman, Job seeker, Tourist.

I.INTRODUCTION

City Guide is significant whenever the people visiting a particular city. It gives them the valuable information about the places, people, and the culture of the town. In that case we are wasting our time and money by depending the guide of the city. This proposed idea provides a web-based concept for the people who wants to visit a city can search each and every place within the city without taking the assistance of any personal guide. We can search in that website about the city for its prominent places and may get social and political information of the city, city culture, security, entertainment, Business, Hotels, Jobs, etc., The main aim of this project is to provide the services to the users who have registered within the site. This is a web-based software developed in Java programming language and SQL database system to store the blue-print of a city. This is composed of two main modules which may also includes many sub modules. This technique provides a registration form for all who wants to urge the services. The registration form is different for different categories. All the users are going to be first considered as anonymous user, later if he/she needs any service then he/she need to fill up the registration form and they are treated as registered user. They need to give their 'User-ID' and 'Password' which are used at the time of registration for security purpose and in need of their 'Account- Number ' only at the time of transactional providence.

User can be a student or a business-man or a tourist or a job-seeker. To use this website the user should fill the registration form. This registration form includes user id, password, user-name and user-address and email id. The user name and password can be of user's choice but it should be strong and valid. Once the user fills the registration form, he/she will be considered as a registered user. Once the registration part is completed, he/she can login to the portal using the user- name and password given at the time of registration. Only if the Login password and username matches with the password and username given during the registration it will be considered as a valid login, otherwise invalid login and returns to the home page. User Module consists of many sub-modules which includes student module, business module, tourist module. By logging in to the particular module we can get the information of the city on the basis of that module. Administrator is created in the system already. The administrator has to generate daily/weekly/Monthly reports, of the business and political news of the city. Admin module also includes the user- name and password to login to this module. But this user-name and password belongs to the admin who created this

website. Only admin have the access to manage all the user module. Admin can update the data in the database and provides to the user based on the user requirement. Also managing the details about the login and the registered users.

II.SOFTWARE DESCRIPTION

Our web project is done by using JAVA as a programming language with the help of servlets, JSPs java classes and jars. Chrome or Firefox or Safari is an example for web client. By using this software we can communicate with the web server by typing the URL in the url section. URL is used to locate the servers. An example of url is given by **https://localhost:8080/index..jsp.** Client is responsible for creating the requests and sends it to the server. The server handles those requests and make response to it. The request from the client is processed and response was given by the web server. Here we use the server as glass fish-4.1. A java EE application server to handle the http request from the browsers. This server runs on our local machine and listens to client request on a specific port. Communication between the two-separate software i.e web client & web server is done by one common language. The language used here is HTML. The web server and client only understands the HTML language. The communication is done based on the HTTP protocol. In java the requests from the client and server are stored in web container. Then the container allocates the required resource to handle those requests. Here the resources used are Java Servlet and JSP. The container also produce the run time environment for java applications by JVM.

Servlet container loaded the requests from the client. The JSP pages processed the requests and send the response by sending the appropriate .jsp page. The request are called upon in the container by the deployment descriptor(web.xml). The jsp pages are compiled by the jsp compiler to java servlet. Java servlet is the extension of the jsp page by using jstl tags. The jsp page is comprised of java and html pages. Java API used to connect the application to the database. JDBC comprised of JDBC API and JDBC drivers. Communication between application & JDBC manager- JDBC API. Communication between JDBC manager & DB driver - JDBC Driver. In this project we use an open source RDBMS as a database for the website. In MYSQl software we stores the entire data required for the project as tables and executed in the form of queries. Back-end refers to what an user can see in the browser. Front-end refers to operations happens on the server and database. Back-end is also called as Server-side and Front-end as Client-side.

III.SYSTEM DESIGN

The most important and the major module of the system is Admin module. This is the only module which has the control over the other four modules. This module concentrate mostly on updating the information from the database to the website. The updates are regarding job alerts,business updates,site updates, etc. Only the admin can have the choice of updating details regarding the political news, history, social and economical news of the city. Admin also can have the advantage of editing those details once entered. Admin can update the details in the website such as, the information regarding the business details like top companies, developed and developing companies, newly started business in the city, the information regarding the job details like job description, job title, job vacancies, salary expectations and company's profile, the information concerning emergency, for example emergency phone numbers of the city, the details concerning conventional places like description, location, address, and image of the place entered by the user, details regarding day-to-day news of the city and it's newspaper and it's local channel. The Student module for this younger generation proves to be useful which helps to decide their future life. Students can able to seek the information about educational institutes in the city for their education. This module also has the options of coaching centers in the city. The commercial module of the system because it needs some paid services from the user. It holds the information about view job vacancy, view institutes, view city updates, post resume. By using those information a job seeker can view the job portal and based on his/her interest he/she will find a job availability. The general module which consists of information such as various business, industries in the city with social and political influence of the city and also have the options of view city history, view markets, view alerts, view industries, view hotels, view labor, view jobs. The most entertaining module in the system, acts as a personal city guide for the tourists with no cost. This module holds the details about each and every tourist spots of the city. This module makes the tourist happy by providing the information about the hotels, theaters, ATM locations, hospitals, holy places, bus routes, travel agency, history and map of the city. If the user is registered as a tourist he/she will be considers as an authorized user.

IV. SOFTWARE COMPONENTS

The each and every information of a city was stored by the software components. The various list of software components are listed below
Login: Require the user id and password to login to the website.
LoginValid: It validates the user id and password.
Register: Facilitates registration to different types of user.

ViewMap: An option to show the map of the city by redirecting to google map.

ViewProfile: Displays the information about the registered users.

BusSearch: Info about the city bus timings, source, destination and routes.

FlightSearch: Info about the timing of the flight arrival and depature.

InsertAlerts: Time alerts to the user by inserting alerts into the database.

ViewAlerts: Alerts stored in the database can be viewed.

InsertIndustry: Industrial informations were added in the database,which helps business peoples.

ViewIndustry: Info about industries location and address with description.

ViewHospitals: Details about the hospital and it's location in the city.

ViewCityGuide: Historical information and key places of the city are displayed.

AddEmergency: Inserts emergency reports into the data base. It provides emergency services that is needed by the user.

Logout: Helps the user to get out of their profile after logout the user will be redirected to home page.

V. RESULT AND DISCUSSION

The snapshots of this project website are displayed below to get better understanding of the results.
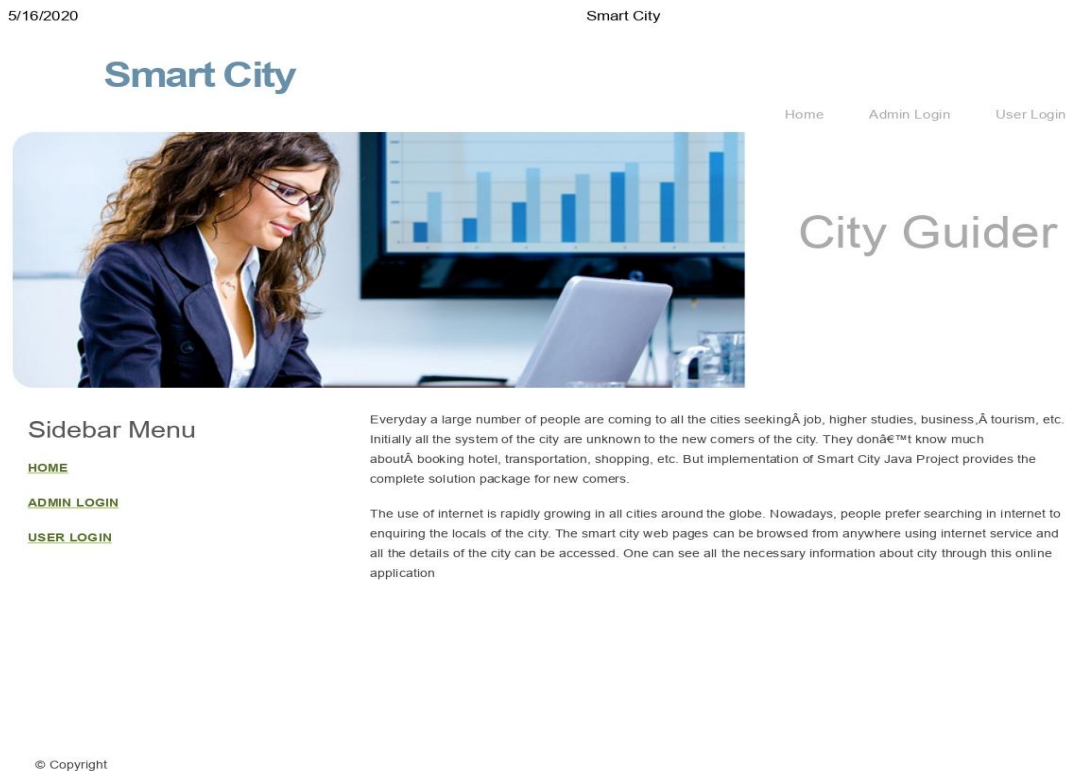

Fig.1Home page of the website

The fig.1 shows the home page of the website where we can find the admin module and user module on the sidebar menu. By using those links we can login into those modules.

Fig.2 Admin login page
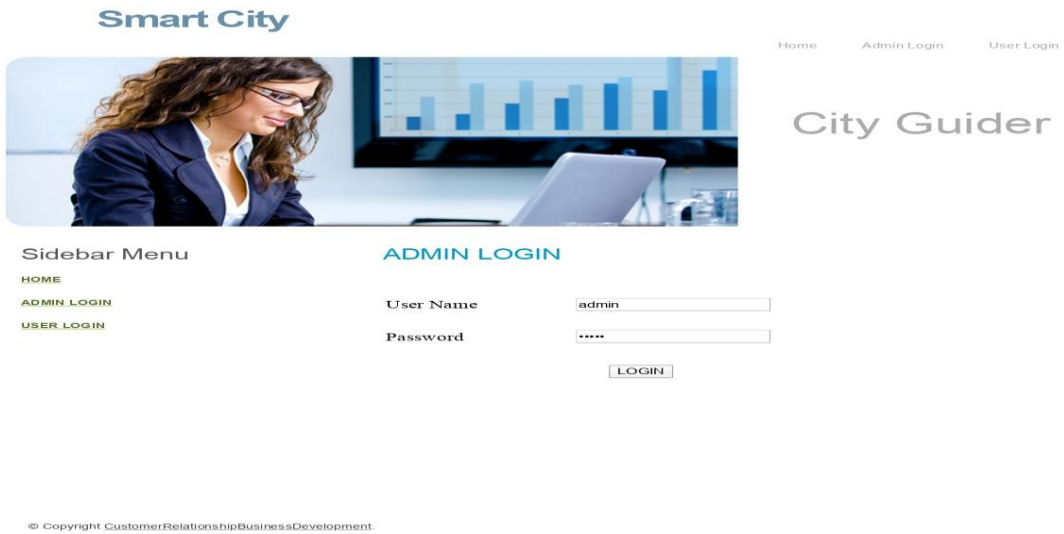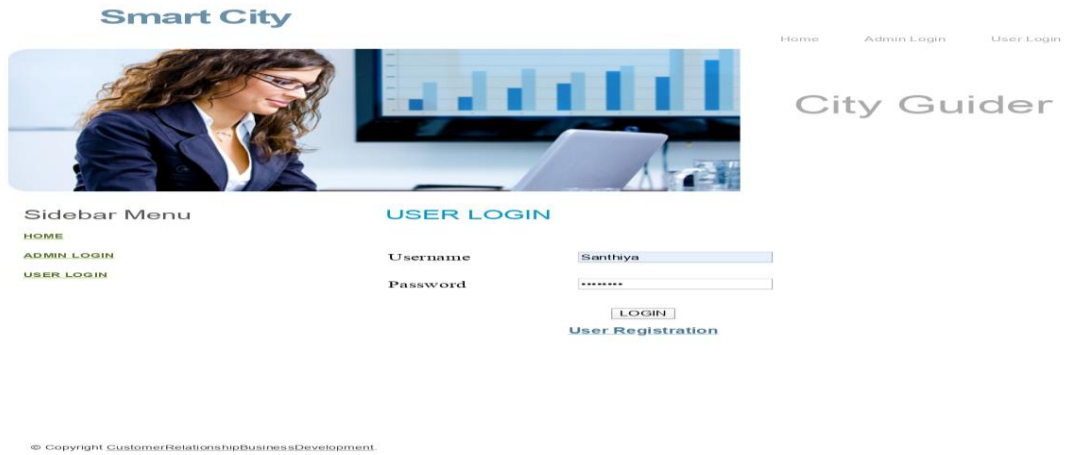

Fig.3 User login page

The fig.2 and 3 shows the login page of the users and the admin. Users and admin need to give their username and password given at the time of the registration.

5/16/2020   Smart City

Smart City

Home   Admin Login   User Logi

City Guider

Sidebar Menu

HOME

ADMIN LOGIN

USER LOGIN

USER REGISTRATION

Username	Santhiya
Password	••••••••
Full Name	Muthu Santhiya
Profession	student
City	coimbatore
Email-Id	r@gmail.com
Mobile Number	8220033976

User Register

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Fig.4 Registration page

The fig.4 describes the registration page of the user. In this page they have to give their details and user name and password for registration process. This user name and password are used at the time of login.

Sidebar Menu   USER REGISTRATION

HOME

ADMIN LOGIN   User Registration success ...

USER LOGIN

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Fig.5 Registration success page

Once the registration is completed if it is valid it shows the pop-up message as "Registration Success".

HOME

ADMIN LOGIN   Invalid User name or Password...

USER LOGIN

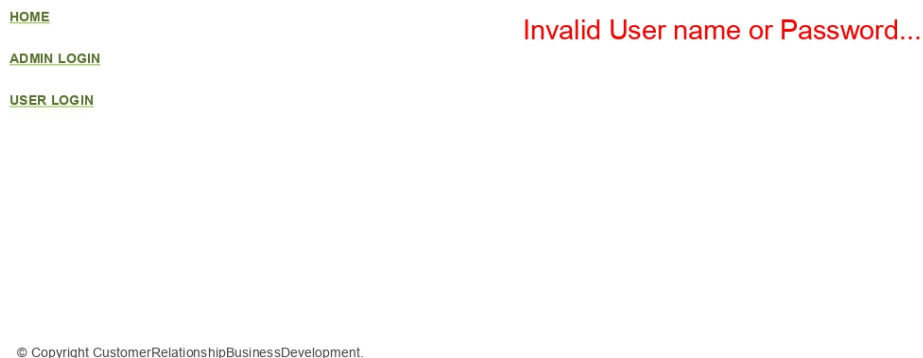© Copyright CustomerRelationshipBusinessDevelopment.

Fig.6 Invalid login page

This fig.6 show the Invalid login. If the user's login is considered as invalid the message was displayed as invalid username or password. The website also contains the other facilities help to the users like bank and ATM locations and blood banks, city dealers, emergency.

Fig.7 ATM locations

In the fig.7 we can see the other facilities which was available at the sidebar menu. By those we can know about the extra details of the city. Also the ATM location of the Andhra Bank of vishakapatnam was displayed.

VI.CONCLUSION

The entire project has been developed and deployed as per the requirements stated by the user. Testing is done by implementing the test cases for many modules like registration page, home page, etc. All the test cases are passed and the project is found to be bug free. Thus the information management system on smart city provides the info regarding the various aspects of the city like geographical maps, tourism,industry, ATM locations, institutes. The implementation of this project solves most of the problems a visitor faces while coming to a new city. We developed the project which gives the five modules in one website. There are lots of module in the website for city guide. But there are only separate website available for individual modules. In this we embed all the modules in one website, therefore no need to go for any individual website to know about the city. All the details in the website are very safe and secure. Only the admin can allow to access those details. Admins are the separate members who created this website. They also have the separate login for this website to update details. They also have the password to login. So website is safe from the hackers. If any changes occur in the city it will be updated in the database only by the admin. Thus the entire project gives the safe and comfortable website for the people who wants to know about new city.

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