A Novel Framework for Institutional Club Portal

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Abstract

Every educational institute brings enormous opportunities for students to learn and showcase their talent in the form of a number of workshops. These workshops are organized by a number of clubs, societies, technical sub organizations and sub organizations. Each organization has a faculty coordinator, student head and a number of volunteers working under it. The counting is huge when it comes to the number of clubs a college can have and a number of events a club can organize, to there is need for a common portal where student can look for all the events happening in their college under several clubs and be able to enrol for their interested event without much effort at a common place. Clubs portal is one step platform fulfilling the above requirement.

Keywords

Events Registration System, Participant Screening System, Java, Servlets

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Introduction

Institutional Clubs Portal is one stop platform for all the activities, fests, events, workshops and awareness campaigns organized and run by all the clubs in an Institute. This is a common portal where someone can see and search all the events happening in the college and can search for the event of their choice to see whether any event of their interest is happening or not[1]. For example, if a student wants to do a workshop in Python, then he/she can go to the portal and type Python in the search bar, if any of the club is hosting a workshop of Python in the near future, the same will be displayed along with the workshop date, time, duration, venue, registration fee, contact details and most importantly the club name under which the event/workshop is happening. The student can apply for the event using the 'Apply for this event' button[2].

Once he/she applied for the event, if the user has already visited the portal before and have logged in before and have submitted the details before, then student can directly login or else he/she will have to sign up and submit his details. The details of the student will be visible to club members so that the club can contact him/her for upcoming similar events as there is a trend observed that the students who are active participate in more than one events and on the other hands there are some students who are not so active and they generally don't participate in any event. So the clubs will have information of all the students who are active and participate in many events on a regular basis. Such students can frequently be contacted and in this way these students can be in regular touch with events happening in the college[3–5]. Moreover calls from club members will motivate them to participate in more events and hence they can improve their knowledge base and soft skills with the help of this framework. Else it would have been too difficult to find out the interested crowd in a college with a huge intake of students.

System Analysis

Problem Statement and Requirement Analysis

There are so many clubs in an institution normally. Each club hosts a number of events, daily enormous number of events take place in the institution in a day. Each institute has a separate website, has a different notice board and different coordinators, different contact numbers, different WhatsApp and telegram groups, so it becomes a big headache for a student to keep a track for all the events happening in the institute and search for event of their choice. Institutional Clubs Portal framework is intended to resolve this issue with perfect security and integrity.

Proposed Study

Once the problem statement is understood and requirement is gathered, the next task is completed to work upon the technologies to be used to design this framework. In this work, we proposed a model based on platform free language Java and Servlets. The proposed system is a web based application and maintains a centralized repository of all related information. The system allows one to easily access the relevant information and make necessary event arrangements. Students can decide about clubs they want to visit and make bookings online for event as per their interest.

Implementation

The framework is prepared with the help of Java and Servlets in a web based environment. For all the coding stuff, Eclipse IDE is used, MySql administrator is used as database which may fulfil required need for storing data. To fetch queries and implement searching tool for events, InnoDB database engine is used, since dynamic web pages are involved and to make this work in real time, a server was required and Apache Tomcat is used for the same.

Understanding The Objective

The first step in developing a project is to understand the objective which involves an understanding of the intent and essentials of a system. The objective is to develop a system that finds the interested events happening around the institution. Normally, there are no common framework for new clubs to register themselves and communicate more formally, it was all a hand to mouth based communication.

Collection Of Data

The next step is to collect the data and prepare database about all the administrators (faculty coordinators), employees (student coordinators) and visitors (students registering for the events) which may be done by creating the google form.

Data Pre-Processing

The entire framework is divided into four modules:

Module 1: **Administrator Module**: The Administrator will have all rights over all the Employees and Visitors, that is, the administrator can add or remove any faculties, students and visitors from the database.

Module 2: Employee Module: In this module, all the co-ordinators and volunteers can register themselves under a particular administrator. Each club will be run by an administrator. The employee will have all rights over visitors, that is the faculty coordinator and student coordinators can add or remove any users or visitors for the event but they do not have the right to remove administrators of the event.

Module 3: Users Module: This is the database of all the students who are have registered for any event under a club. The students under this module has no right to add or remove any Administrator (Faculty Coordinator) and Employee (Student Coordinator).

Module 4: Event Module: This module contains all the events along with their clubs name in one database to execute the search query for all those who want to search events based on their interest.

Working and flow of framework

The entire backend is divided into four packages:

Package 1: Database Helper: This package contains all drivers and database connectivity tools to connect database with user interface, user will enter their details via web interface, the entire details will automatically be submitted to MySql Administrator database with the help of Database Helper.

Package 2: Model: This package contains all the attributes of all the tables in our database and their getters and setters. All the attributes are converted into classes and objects.

Package 3: View: This package contains all the HTML pages and all the interfaces where students and coordinators can add, edit and search for participants and event details.

Package 4: Controller: This package contains all the sql queries that are used in the backend to optimise the search process.

The paper flow goes as follows:

At first the administrator of a club will register himself by filling his details in MySql Administrator. He will assign a ID and password for himself. Then he will open Admin Login page where he can login himself to add Student Coordinators, head faculties, volunteers and other employees in the club. Administrator has full access to all the employees and users. The user will go to Events Page where all the upcoming events by different clubs will be visible to him. He can apply for the event and fill up his details. Once he is registered he will get a QR Code based ticket, the ticket will act like an admit card for him to prove his legitimacy and enter the applied event

Screenshots

As per proposed method a interactive framework is proposed and implemented for the required task. The Figure shown below are the snapshots of implementation of proposed method of solving the institutional club portal problem

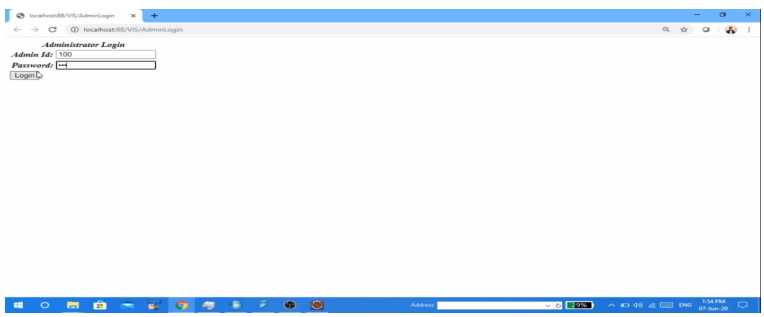

Figure 1. Administrator Login Page

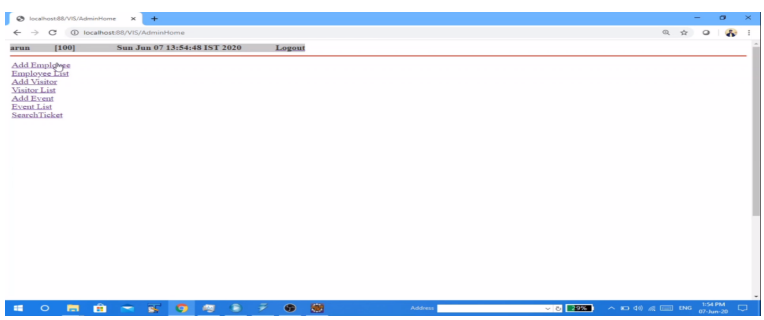

Figure 2. Administrator Home Page

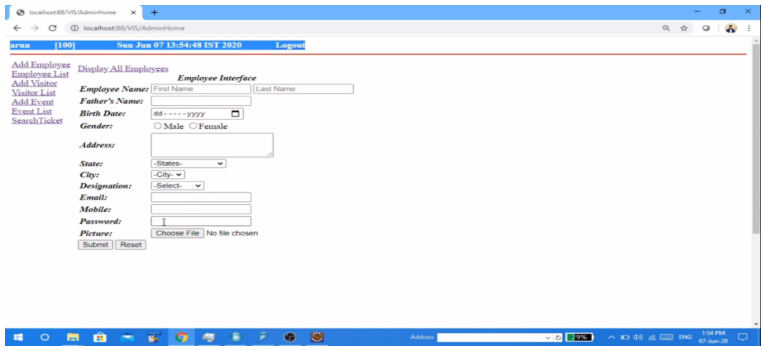

Figure 3. Employee Registration Page

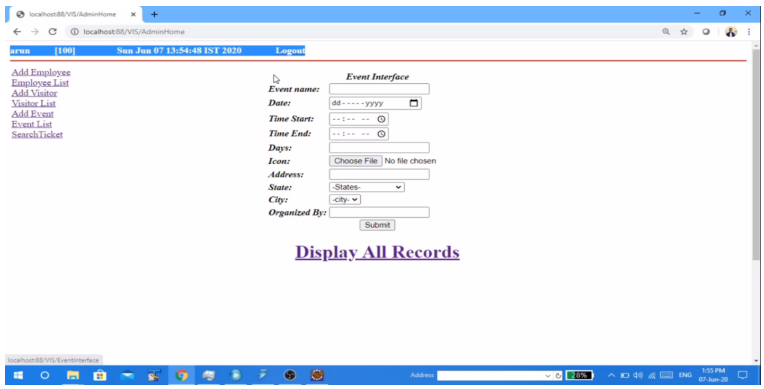

Figure 4. Event Registration Page

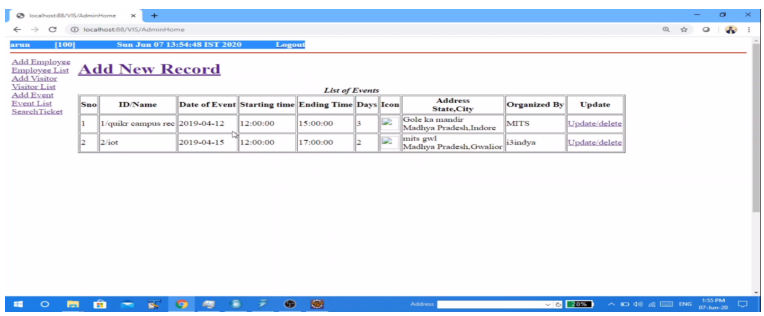

Figure 5. Event Interface

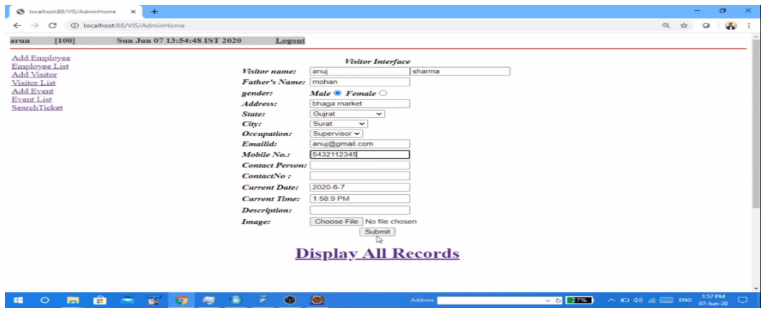

Figure 6. Visitor Registration

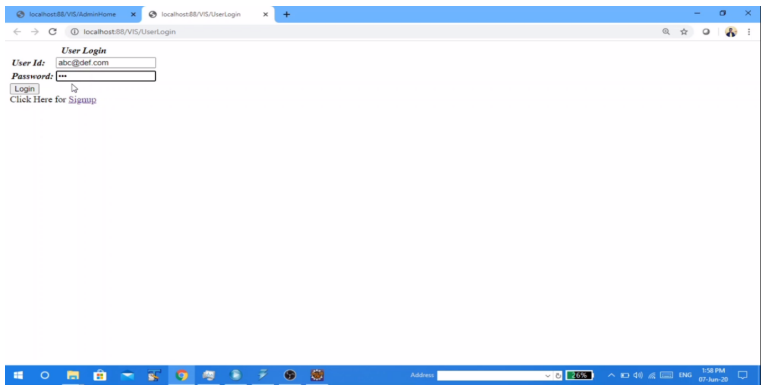

Figure 7. User Login Page

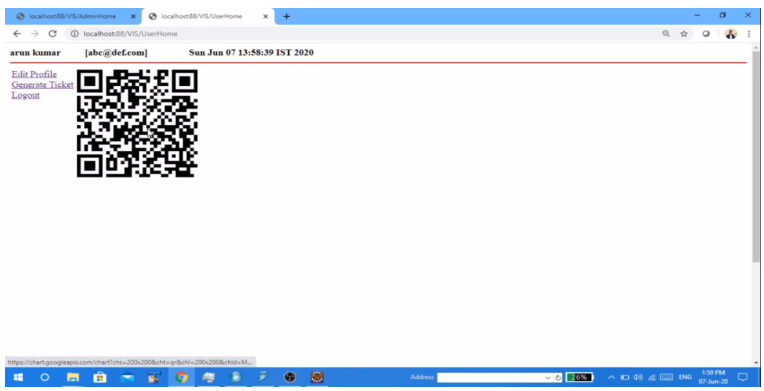

Figure 8. QR Code Generation for entry into event

Software and Hardware Requirements

Software Requirements

Operating System: Windows
Technology: Java and J2EE
Web Technologies: Html, JavaScript, CSS
IDE: My Eclipse
Web Server: Apache Tomcat 8.0
Database: MySql5.0
Java Version: J2SDK1.5

Hardware Requirements

Hardware: Pentium
RAM: 1GB

Conclusion

In this paper, we tried to develop an interactive framework for Institutional Club Portal using which student of an institution may look for all the upcoming events scheduled under different clubs and can register for the interested events without much effort. All the events can be found at a single place and in this way a lot of time and effort will be saved for students. Moreover this will act as a standard where there will be a formal procedure for all the upcoming clubs to register themselves at a single platform.

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