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Good Practices - I

Title of the Practice: In-house development and maintenance of college website, web applications, and other utility software

Objectives of the Practice

- To provide information about the college and its day-to-day activities to the students, staff and other stakeholders through web-based platforms.
- To maintain the record of college data in easily accessible electronic format.
- To facilitate the access of relevant documents and forms required by various stakeholders.
- To avoid dependency and recurring costs incurred by the third parties for development, timely update and maintenance of software.
- To encourage in-house technical development skills, application of knowledge in real-time and inculcate team spirit across the students, teaching and non-teaching members.
- To ensure the highest level of control over information, vision and to avoid any time delay compared to outsourcing.
- To ensure transparency in the academic and administrative working of the college.
- To provide an attendance portal for ease and use of faculty and accessibility to the students.
- To promote green initiative through the use of e-resources and paperless transactions. To facilitate an effective teaching and learning environment.
- To enhance the smooth functioning of administrative working.
- To fulfil the accessibility requirement for people with special needs.

The Context

The college website is a trusted platform through which valuable information can be disseminated to the stakeholders and the general public. It should offer a simple and intuitive way for navigation to its varied users like parents, current and prospective students, alumni, faculty and other stakeholders to search need based content. Adding a mechanism to remotely access and manage internal assessment, attendance records, exam forms etc. to the existing system through a website can further automate the process, and reduce paperwork and manual work as well. Most importantly, during this time of the pandemic when students are

located remotely in their hometowns and lacking a proper channel for information access, an updated and well-managed website that has been developed in-house has served as a better means for quick and trusted communication.

The Practice

Internet and website monitoring committee (IWMC) and the Web development committee (WDC) of the college were constituted.

- To assess the feasibility of in-house development.
- To discuss the design and development of the college website and the related software.
- To organise the content under appropriate categories.
- To discuss the availability of the resources such as server hosting and data storage space by the parent organization.
- To prepare a blueprint of the existing system as per the requirement of the college.
- To coordinate with all the departments and administration.
- To decide the suitable open-source technologies which can be used for software development.

The following software modules were developed under the various categories: -

Content-based: The college website has well managed content. The content is placed under various heads such as Administration, Admissions, Academics, etc. in the navigation bar for ease of access and appropriate distribution of data, with pages organized underneath.

Audience-based: College website caters to a number of distinct audiences such as students, faculty, alumni and other stakeholders who can access it for varied reasons. Teachers and students are authenticated to access their authorized content.

Utility-based: General information which is composed of static data is disseminated through the college website which is accessible to all. Examination admit cards and other relevant documents are securely distributed through file distribution utility which is service based and requires an acknowledgement of confirmed delivery. Attendance, leave record, internal assessment, Teaching Plan and Generic Elective utilities are web-based applications which are linked to the website accessible through a dashboard. The major task of developing in-house softwares for college falls under the web application development which can automate the processes which are done otherwise manually. These web applications are developed after long discussions, various candidate blueprints designs, implementations and testing. These web applications are used by administration, faculties and students to upload and access the academic data. A common user interface, a dashboard, embedded in the website offers easy

access to all web applications. Faculty and students are authenticated to gain access to the dashboard.

The following are the web applications placed on the dashboard of the college website: -

Attendance Portal - Attendance is a crucial component and keeping track of it is necessary for any institution. Through the dashboard faculty uploads monthly attendance. Both the students and their parents can track attendance using the portal. This brings in automation and transparency. Students can raise an alert if they observe any anomaly. Attendance records are accessible subject wise and month wise. Attendance portal facilitates semester-wise consolidation and records can be downloaded as PDF or Excel sheet. Aggregate attendance of the student is also displayed at the end of semester.

Teaching plan - On the commencement of every semester faculty uploads a teaching plan through the dashboard. Students can view the teaching plan of all subjects for the current semester. It has information about topics to be covered and timelines for tests, assignments and practicals.

Leave Application - An online leave application and management portal is under development. The idea behind this is to automate the leave application process and manage a 'leave database' for both the employees and the college administration. The facility will further reduce the use of paper work and will save administrative time. After a successful login to the college website, an employee can access the leave application dashboard and with the help of a user-friendly interface can request for leave. They can also check the leave history.

Generic Elective - The course curriculum offers generic elective papers to be chosen by the students. Every semester this information is collected from the student and appropriate allocation is done on the basis of their current and previous choice, if any. The online system facilitates the whole process and reduces manual paper work and time. Language courses: Admissions for diploma and certificate courses in French and German languages are facilitated through an online portal on the college website.

Various other information and relevant data for students are periodically updated and provided on the college website under the following heads: -

Information Dissemination: Notices, alerts, events, annual report, e-prospectus, college magazines, girls hostel prospectus etc. are published and archives are maintained timely on the college website.

Admissions - Admission process of university is conducted through an online system which directly depends on the vacant seats available in the college. Necessary updated information is provided to the stakeholders regarding seat matrix, fee structure, list of admitted students and online payment mechanism through the college website.

Girls Hostel - Complete information about the hostel regarding admissions, accommodation, infrastructure, facilities, rules & regulation and events along with image gallery is displayed on college website.

Timetables - Timetables are provided as course wise, faculty wise, generic elective and laboratory wise in downloadable pdf format.

Downloadable Forms - Forms relevant to staff and students are accessible in downloadable pdf format which reduces bulk printing saving paper and time.

Help desk - Helpline numbers for anti-ragging, women helpline, police are provided on the website for immediate assistance.

Placement cell - The Placement cell of the college works in tandem with the Central Placement Cell (CPC) of the University of Delhi. Several workshops and training sessions are organized at regular intervals to help students develop skills to become industry ready. The students are informed from time to time about various events and placement drives organised by CPC and college through the college website.

NSS - The NSS team comprises a programme officer along with students, officer bearers and various volunteers. The unit has been rigorously conducting and participating in a number of activities as proposed by the Regional Directorate of NSS. The relevant details and content for a variety of events conducted is updated on the college website.

Committees - College has constituted various committees such as staff council, Anti-ragging, Internal College Complaints (ICC) and other committees. The information for the same is easily available on the college website.

Nodal officers - Nodal officers are appointed in the college to carry out specific responsibilities such as students' scholarships, gender champions, North- east students, foreign students, admissions grievance redressal, RTI etc. Students can easily access the information from the college website.

Alumni - A strong bonding with alumni is utmost important for the growth of an institution. For this, the college has started an Alumni Association and conducted some Alumni Meets. Alumni can easily register themselves through Alumni Association Enrolment Form available on the College Website.

Evidence of Success

The newly updated website and other software applications have been working successfully without any critical failure and security issues.

Easy accessibility of –
- Notices, alerts and upcoming events.
- Monthly attendance and easy reporting in case of discrepancy.

- Semester-wise Internal assessment
- Appropriate tracking and allocation of generic elective options to students on the basis of their current and previous choice.

Link to e-resources was added at the advent of covid pandemic in the year 2020 as an attempt to reduce loss of study due to unprecedented times. Later, teachers and students shifted to more dedicated and independent platforms for online classes. The website has been successful in terms of saving costs compared to outsourcing. It has been disseminating information to its various users without any critical issues. Online payment facility to students has also been appreciated by various stakeholders. Paperless transactions are contributing towards a sustainable environment reducing carbon footprint. Problems Encountered and Resources Required Service reliability is an issue during admissions and examinations/ under heavy traffic and network load. Shortage of technical support and manpower especially in odd hours for handling students' query and providing assistance. Providing real time multimedia resources to all stakeholders ubiquitously is a challenge which requires high bandwidth and large storage space. Cyberattacks, data breach and security threats are common problems and keeping the softwares updated and secure is critical. Requirement of SSL certificate from the service provider. Requirement of SMS based OTP service for authentication.

Future plans:

1.Upgrading the website to a latest version of application framework and other technologies.
2.Design and development of API and Web services for integrating with mobile applications.

Good Practices - II

Title of the Practice Environmental Consciousness and Sustainable Green Practices

Objectives of the Practice

- To instill sense of care, responsibility towards environment and sustainability.
- To promote the conservation of traditional native biodiversity of pristine ecosystems. The majority open spaces are maintained green through seasonal flowers, trees and foliage of grasses. The gardeners and other staff are well trained for the use of various instruments/equipment that helps in maintenance at hostel and college campus.
- To develop and expand the rich repository of herbal plants in maintaining good health and wellbeing. Plants have been identified and naming was done with the help of name plates, which helps in giving awareness among the staff and students.
- To aware students and staff members in recognizing the importance of biodiversity resources in day to day life.
- To attracts certain species of pollinators like insects, birds, butterflies and honeybees. Several programs/ campaigns are conducted that add to awareness towards animal's care and sensitization towards environment.
- To maintain the hygiene of college campus and promote the management of waste produced inside campus
- To develop efficient water conservation strategies.
- To follow the R's of Environment- Reduce, Reuse, Recycle and Refuse.
- To promote reduction of paper usage.
- To prohibit the use of plastics, specifically single use plastic.

The Context

As per the Sustainable Development Goal No. 4 "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" envisages a need to promote and understand environmental education for sustainable development. The plants are an invaluable biological resource in close association with healthcare, culture and tradition. The use of various aromatic and herbal plants for medicinal purpose is considerably safe. Certain herbal plants are known to attract the species of butterflies in college campus. The tremendous significance of such conventional practices helps in maintaining the cultural values as well. The solid and the liquid waste is getting generated by various routine activities of the students and staff members. The waste segregation in color coded bins as dry waste and wet waste is done onsite without compromising on the hygiene. For effective on-campus waste disposal, the composting pits are functional to convert waste into green manure. Efficient infrastructure for rainwater harvesting and sewage water treatment is initiated.

The Practice

The pilot initiative to set up the herbal garden was initiated in year 2017 in backyard of the college premises. The green landscaping is done to maintain the greenery of the college campus. Besides an ecofriendly campus, there was an opportunity to grow and develop a rich conservatory of exquisite species of aromatic medicinal herbs. The students contribute, using their creativity in maintenance along with the teachers. The students are encouraged to visit herbal garden during the field work classes for better exchange of knowledge, depicting the importance and raising awareness towards use of herbal medicines. For proper waste disposal, separately colored dustbins (Green-for wet waste and Blue-for dry waste) are provided at each floor. For effective garbage disposal within the premises, the bins are installed in the outside lawns. A food waste recycling unit is maintained at college hostel for conversion of horticulture and kitchen waste from hostel, canteen to fulfil the in-house manure requirement. The manure is used to grow certain horticultural and medicinal plants. The architecture planning to monitor and minimize water wastage has been set up. The use of single used plastic (plates, cups, spoons etc.) is discouraged in the campus.

To effectively reduce the usage of paper Digital platforms are promoted for sharing of information and communication.

To minimize the paper waste, single side printed papers are used for printing the rough drafts. The index files used for various administrative purpose are reused.

Evidence of Success

Dedication of student volunteers helped in raising the awareness levels. The students across all the courses- Science, Commerce and Humanities gained knowledge on use of medicinal plants. The campus had turned to be ecologically sound by harboring various pollinators. The manpower is trained to perform the food waste composting. The compost produced in the campus reduces the additional expenditure of manure purchase. Students organize various activities/programs/campaigns to bring about awareness of environment related issues through the Eco club and NSS unit of the college. Students are encouraged to spread the knowledge and plant in their surroundings.

Problems Encountered and Resources Required

There are no problems encountered in maintenance of the herbal garden. The funding required for the management is met by the Eco Club grant. Lack of manpower during the holidays.