Internet and Web Programming - J Component Project

Symporium - A Conference Management System

Abstract

The world continuously keeps pushing towards exclusive things for use, following on the same trends we are working on providing an exclusive website for conference management, tailor made for the faculty members and students of our college. It is modelled after an existing website for conference management - 'Easychair'.

Functionalities of the various Role-Players in Symporium

Convenor
Convenor is the user who hosts the conference, every conference can have one or two hosts.
A convenor can start the conference by entering the necessary details regarding the conference, can assign reviewers for a conference, add the virtual conference link for the conference day and assign reviewers for each full paper submitted.

Author
Authors are the users who attend the conference and submit their research papers. They can view all the ongoing conferences, register for any particular conference upon registration, they can submit their papers and abstracts. They can view the reviews for their papers given to them by the convenors/ technical team and after taking those comments into consideration they make the necessary changes and upload their camera ready papers. Once that is submitted, the virtual conference link is available for them which they can use to join the conference.

Reviewer
This is the person who is assigned the task of reviewing the full paper submitted by the author.
Once a convenor adds them as the reviewer of a conference they get a mail regarding their assignment. They are assigned three papers from the conference at most and have to log into the website to view, analyse and give their comments on the various papers they have reviewed.

Introduction

Symporium is a conference management system made exclusively for the purpose of conferences conducted in educational institutions. It serves as a medium in which users can conduct conferences or attend conferences or view submitted conference papers and provide reviews to them. Symporium helps bring together convenors, authors and reviewers and provides them with a platform to conduct a conference with ease.

Issues in existing applications

The existing application caters to a wide range of university professors and students alike. We have created an application tailor-made for the students and the faculty of our campus.

Moreover, the Interface of the existing application is not User Friendly. Our application is simple to understand and easy to use. Users will be able to predict what actions to take to perform any action without any prior knowledge/ training on how to use the application.

The existing application involves cost when one wants to conduct a conference which is eradicated for the students and faculty users of this website. This is possible due to the usage of existing applications to provide the necessary services to the user instead of reinventing.

How our implementation is solving the issues

Our idea helps in resolving the access issues by giving authentication to access and creating engaging tasks and different user experiences for the students and faculties respectively. Also, we do see that conference websites that are used today aren't exclusive to institutions - these websites ask for payment in order to conduct a virtual conference. Our application aims at eliminating that cost by making the website exclusive only for use by members of the institution. We are using existing technologies to conduct a 'Virtual Conference' thereby allowing us to eradicate the cost for providing exclusive services.

The Interface of the existing application is not user friendly, to solve this problem we have used a simple looking graphical interface. The application has a navigation bar that allows the user to perform various actions with ease. The application does not redirect users to multiple windows to complete a certain task. The application also has a FAQ where users can clarify any issues / doubts.

Implementation
Database Implementation
Symporium consists of 5 tables namely *Conf, current_ids, files, reviewers and users.*

1. The conf table consists of 12 attributes *conferenceid* as primary key, *sdate* - stores the abstract deadline date, *edate* - stores the full paper submission deadline, *conf* - stores the name of the conference, *heldby* - store the ID of convenor 1, *heldby2* - stores the ID of convenor 2, *topic* - stores the topics of the conference, *confloc* - location of the conference, *confdate* - conference date, *conflink* - virtual conference link, *confpass* - virtual conference password.

2. The users table consists of 7 attributes, *UserID* - a primary key (unique ID to every user) *,UserName* - Name of the user*, Email* - a valid email of the user*, Password, conv_id* - a unique Convenor ID *, rev_id* - a unique reviewer ID*, auth_id* - a unique author ID.

3. The files table consists of 15 attributes *id* - unique id for every file uploaded *,conf_id* - ID of the conference file has been submitted *,title* - title of research paper *,auth_id* - ID of the author who submitted the paper*, author* - authors of the paper *,email* - email of the author *,abstract* - abstract of the research paper *,country,mobile* - contact detail of author *,fullpaper* - file name of the full paper *,campap* - file name of camera ready paper *,filesize,r1_comments* - comments of the reviewers *,r_rate* - score of the research paper *,downloads* - number of downloads.

4. The reviewers table consists of 7 attributes *confid* - conference ID the reviewer has been assigned*, revid* - Unique ID of the reviewer*, revname* - Name of the reviewer*, total* - total papers assigned to the reviewer *, p1and p2 and p3* - Unique IDs of the research papers assigned to the reviewer.

5. The current_ids table consists of three *columns rev_id, conv_id and auth_id ,* it is used to keep track of the unique ID assigned to each user.

Interface Implementation
The frontend of our website is created using HTML, CSS and Javascript. The backend is developed using PHP and MYSQL. It is compatible on Google Chrome, Microsoft Edge and Safari. Screenshots have been attached in the next section.

Modules

Convenor

Create Conference
Registered Convenors can start a new conference by providing details such as the Conference Name, the Abstract submission Deadline, Full Paper submission Deadline, Conference date, Conference location and Conference topics, as shown in *figure 1*. All the details related to the given conference are stored in the database. Additionally the convenor can also add a second convenor for a particular conference. Both the convenors will have the same functionalities and authorities.

Figure 1

Figure 2

Add Reviewers

Reviewers are users who have registered as a ' reviewer '. Convenors can view all the available reviewers and add them to review the papers submitted to a particular conference as shown in *figure 2*. The convenor needs to fill in the Conference ID, Conference Name, Reviewer ID and Reviewer name as shown in *figure 3* to add a reviewer.Once a reviewer has been added to a conference by the convenor, the reviewer receives a notification mail to their registered email.

Figure 3

Assign Papers

Convenors can then assign research papers submitted for a conference. Each research paper can be assigned to at most two reviewers. Each reviewer can be assigned three research papers at a time, then can be reassigned with papers once they complete the reviewing process of the previously assigned research papers. To assign reviewers to a research paper the convenors need to choose the reviewers from a drop down list as shown in *figure 4.*

Figure 4

View Submissions

Convenors can view all the research papers submitted to a particular conference hosted by them. They can view the abstract of the research paper, the authors, number of reviewers/convenors who have downloaded the paper. Additionally, if the authors have submitted a Camera Ready Paper, Convenors can view/ download it. The Full Papers and the Camera Ready Papers submitted by authors are segregated and shown separately to the both the Convenors as shown in *figure 6.*

Final Papers

File ID	Conference ID	Author	Title	Abstract	No of Downloads	Final Paper
1	6	Harshith	My Paper	Test Abstract	9	IWP Da-3.pdf Download

Camera Ready Papers

File ID	Conference ID	Author	Title	Abstract	No of Downloads	Camera Ready Paper
1	6	Harshith	My Paper	Test Abstract	9	Final (1).pdf Download

Figure 6

Video Conferencing

Convenors can add a video conferencing link to a conference of which they are the host. They can modify / change the link and the passcode for the same at any time.

Author

Conference Registration

An author can initially browse through the available conferences and choose the conference in which they are interested, they can register for a particular conference by entering the names of the Authors, their Topic, their Country, Email address and Phone number. This is the initial registration phase, only if they register for a conference can they take part in it.

Abstract Uploading

The abstract uploading option is available for the author along with the deadline before which they have to upload their abstract. The abstract uploading option is available only if they have registered for a conference.

Full Paper Uploading

An author becomes eligible to upload the entire paper if they have submitted the abstract before the deadline. They are given a link where they can upload the Full paper. They are also provided with a deadline for the submission of the full paper as shown in *figure 7.*
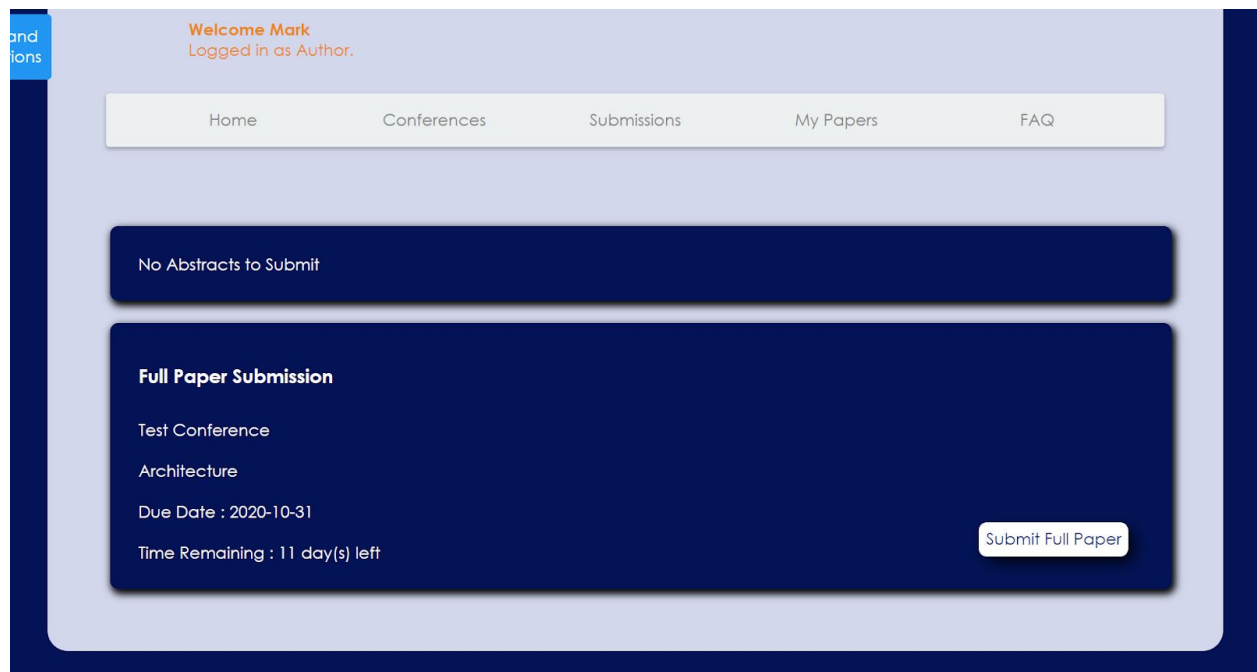

Figure 7

Camera-Ready Paper Uploading

Once the full paper upload is done and the reviewers have given their comments and ratings the authors get a link for uploading the camera ready paper as shown in *figure 8*. Authors can upload the Camera-Ready Paper only if the cumulative rating given by the reviewers is greater than 0. The comments of the reviewers are also displayed on the side so they can modify their paper accordingly.

Figure 8

Video Conference

Below the Camera-ready paper uploading link (as seen in *figure 8*) , the authors have an option to join the video conference by clicking on the link and the password(if any) is also displayed there, this is a stark difference from the Easychair website as there, they have to pay for a video conference. However here the Convenors can provide a link to join their video conferencing meetings in Google Meet, Skype etc free of cost.

Reviewer

View Submissions

The Reviewers can view all the research papers with abstract assigned to them from various conferences. Reviewers at most can be assigned to 3 research papers from a particular conference. They also have an option to download any research paper that is to be reviewed by them as shown in *figure 9*. There is also a mechanism in place which keeps track of the number of downloads of a research paper.

Figure 9

Reviewing A Research Paper

The reviewer can provide their comments for a paper by choosing the research paper from a drop down box which contains all the research papers assigned to them. They also provide comments or changes about the research paper to the author. The reviewer expresses their views on the contents of the paper by choosing either one of the following options - Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree. Each of these opinions has a corresponding value i.e. 3, 2 , 0 ,-2 and -3 respectively. This is added to the opinions given by the other reviewer as well and the cumulative value is taken to determine whether the camera-ready paper of an Author is eligible to be submitted.
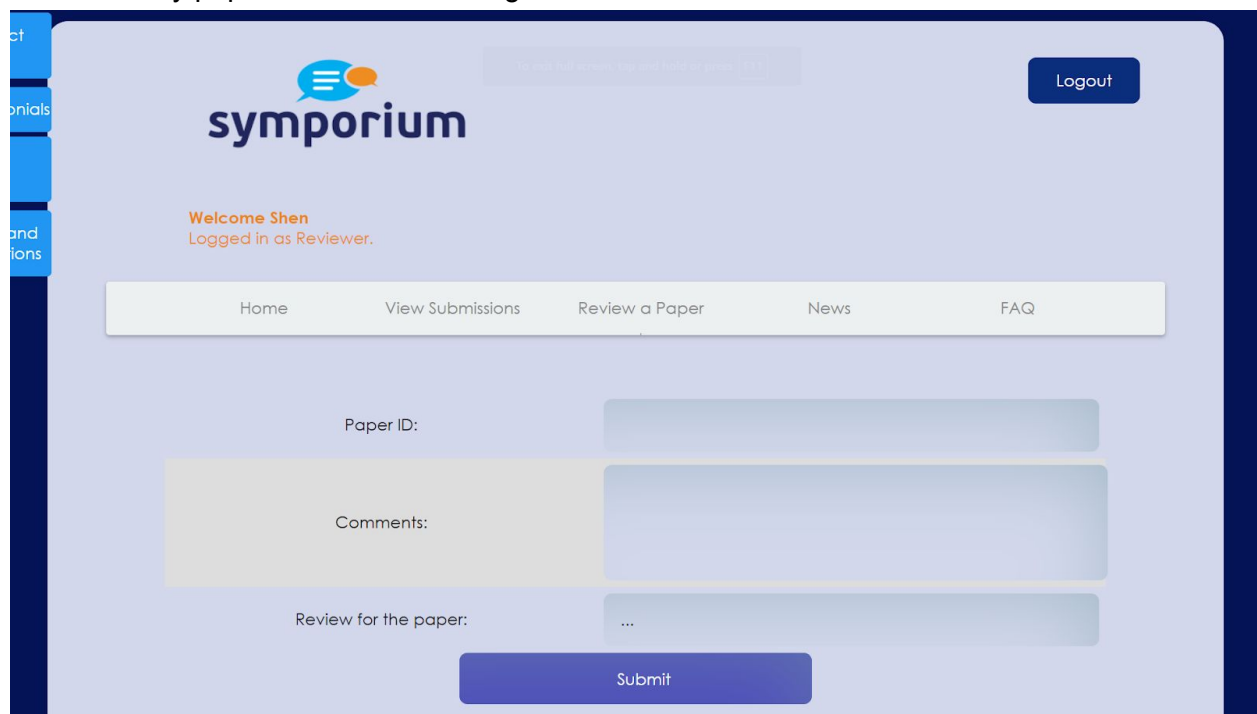

Figure 10

Results and discussion

The above discussed modules have been successfully implemented and are in perfect working order. The Website can now be deployed by an institution allowing convenors, reviewers and authors to work together and conduct Conferences seamlessly. The working of the website and frequently executed test practices have yielded consistent and definite results. It has also been tested by users, apart from the developers and has gathered good feedback from them about the same.

Conclusion

A conference requires a management system to manage the papers submitted by the authors. Symporium , a web-based conference management system, was implemented using HTML,CSS and PHP programming languages and MySQL database. Symporium can facilitate users in managing the paper in a conference, both paper management that has been sent by the author, management of the results of user reviews and data management so that it can help users manage a conference. Furthermore, from the tests that have been performed for each function, the results obtained are in accordance with the expected results.

Future enhancement

Presently our application allows the convenor to assign only two reviewers per research paper by default. However, we are looking at classifying it into 2 or 3 reviewers based on the convenor's choice.
We are also working towards implementing Event Scheduling into the phpmyadmin database which automatically checks and removes conferences when they cross the conference date.

References

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