**CHAPTER 01**

**INTRODUCTION**

* 1. **Background of the project**

A conference is a meeting for researchers to present, discuss, identify important problems and formulate future research direction on specific themes. It provides a true learning environment. However, organizing a conference entails plenty of time-consuming work. For instance, collecting abstract submission from authors, assigning abstracts submitted to the reviewers, notifying authors about whether the abstract submitted is rejected or accepted. These processes will surely consume a lot of precious time and complicated works if a conference is conducted manually.

Therefore maintaining a web-based conference management system (CMS) provides administrative support to conference administrators by automating workflows that arise during the conference period. The system is intended to support multiple conferences and facilitate the conference management starting from the conference preparation until the attendance tracking process during conference days easy.

The annual research symposium of the Uva Wellassa University of Sri Lanka is a great opportunity for researchers to present what they have accomplished through their research experiences to a larger audience. The symposium also provides a great research collaboration framework for students, faculties to discuss research topics and open the connection between research and global education. Therefore, conducting a symposium is one of the major event which helps to emphasize the academic reputation of the UWU.

Manual paper based abstract submission had introduced various problem to researches. Online web based abstract submission and review system provides flexibility for abstract submission and save it up physical space by using electronic copy of these abstract submission and ease evaluation process. As an example, UWU has been conducted previous symposium mainly based on collecting abstract by post and email system. It was an inefficient and very time consuming way of conducting a large event. However, when the number of abstract submissions increases, the task of dealing with these submission manually becomes tedious.

In this project, the proposed abstract submission and review management system will facilitates to manage and enhance UWU research symposium functionalities. At present, UWU conducts symposium activities in hybrid manner. They use manual and partially automated process for identified functionalities. Therefore, there are lots of identified operational and management problems. In order to eliminate identified problems in the manual system, we are proposing a custom web based online abstract submission and review management application. The system covers complete process of abstract submission and review process, from creation and submission by participants, to review and approval by reviewer.

The proposed online abstract submission and review management system mainly addresses on two major functions regarding to a conference system.

* Abstract submission and review process
* Symposium Registration

In Abstract submission and review process, author can submit their abstract in giving format. When a user submits their abstract, author will be able to select the subject areas/tracks according to their research or each track there are particular track coordinates and track reviewers.

Reviewers will have particular interests or specializations for their tracks. The track reviewers can be internal or external and track coordinators   assign abstract to track reviewers. Then assign and accepted paper to a specific symposium session. The system allows the reviewer to view or download the abstract document and do recommendation. After the evaluation has done, a reviewer can select which be chosen for the symposiums.

After the confirmation of abstract, author has been notified for the registration process. The registered authors and participants can make the payment. Once the payment has completed, sessions have been allocated for every paid participants.

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Regarding to complexity of the functionalities and requirements, the proposed solution will develop under two phases. As a first step, the abstract submission component will develop and as a next part the review system will be completed as a second component planned to implement. A main website will develop as common interface to both above two sections and it uses to manage dynamic information regarding to any upcoming symposiums.

Through the proposed online conference management system mainly intended to transform   manual abstract submission and review process functionalities into a   secure and multi-user web based automated system to conduct research symposium in each year. And the proposed system allows to reuse the system as a Content management System (CMS) which includes journals, articles, book chapter and course related paper.

* 1. **Objectives and aims of the project**

The system develop is expected to reduce the cost, effort and time in managing a conference. It is also provides paperless and environment friendly by reducing the paperwork that involved in a conference. Our future effort is to propose autonomous Symposium Management System with the aims further reducing resources in managing conferences.

There are two main objectives.

1. To transform manual abstract submission and review process functionalities into a web based automated system.
2. To implement a multi-user driven web based extendable and secure application to conduct research symposiums in each year.

The accomplishment of developing goals can determine the main project’s contributions, measurable objectives for automation system and improve the operating environment. According to the problem areas, can develop appropriate long-term automation goals to fulfill the requirements and choose goals that reflect needs and environment. Use measurable objectives to determine the progress that is making towards automation goals. It is important to identify specific indicators for each long-term goal.

One of the major objectives of the symposium management system is reliable and to extendable and also manages to help them achieve efficiency in their operations. It includes real time operations and focus on providing real-world value of this application. This system will be implemented by satisfying the international level and understand what takes to success.

The proposed system is fully automated abstract submitted and review process. That means all the activities which provided by the system is automated. Authors can easily track the status of their abstract. Reviewers can review them anywhere in the world. An author can get quicker response regarding their submitted abstract from the reviewers.

When implement the system, apply the international standard model and customization solution. It provides a model to follow when setting up and operating system. Therefore offer the benefits such as more efficient use of resources, improved risk management.

* 1. **Achievement in brief**

A web based solution for the conference management system provides abstract submissions, registration system, review process. The major advantages of this system are flexibility, easiness and can do complex process more clear and suitable way.

As the process we used the waterfall model in order to develop our system. According to the feasibility study carried out the requirements, difficulties of the existing method and ensure whether it could be created with the existing technology prevailed within the university. We did analysis of the resources available in order to produce an effective software, project was undertaken after having the approval, Designed an architectural design and detailed design, Coding and debugging was carried out which necessary for the system, Security, validating and testing the system from time to time was done accordingly. And finally, software application which developed would be handed over to our client within the scheduled time. The main output of our project was the web based abstract submission and review management automated system.

Here in this chapter 1, introduction, objectives and the achievements are briefly described. In chapter 2 describes the problem domain and technology and the techniques adapt to solve the problem. Chapter 3 describes details of design (or analysis and design) of the solution. Chapter 4 is on implementation details of each module that is stated in the design diagram. Chapter 5 includes the evaluation of the solution to see whether objectives have been achieved by the work. Chapter 6 describes conclusion of the overall achievements quantitatively, the achievement of each objective and limitations of the solution, and some further work.

**CHAPTER 02**

**TECHNOLOGY ADAPTED**

1. **General Technology**

To implement the system used the most advanced technological methods to satisfy their requirements and to maintain the standards of the software product.

There are three technologies can use to implement the proposed system.

* Open Source Software – PHP 5.3.29 , MySQL 5.7 ( Latest stable versions )
* License Software – Microsoft .NET ( ASP.NET 5 – C# 6.0 ) , SQL Server 2014
* Front-end development – Bootstrap 3.3.6 Framework
  1. **Technology used in the system**

To implement the proposed system used front-end development technologies and open source software to develop back-end. The PHP and MySQL has selected because these are free to use.

There are two main categories of scripting and programming for creating web applications.

1. Client Side Scripting/Coding

Client Side Scripting is the type of code that is executed or interpreted by browsers. It is generally viewable by any visitors to a site.

Below are some common Client Side Scripting technologies.

* HTML (HyperText Markup Language)
* CSS (Cascading Style Sheet)
* JavaScript
* Ajax (Asynchronous JavaScript and XML)
* jQuery (JavaScript Framework Library- commonly used in Ajax development)

1. Server Side Scripting/Coding

Server Side Scripting is the type of code that is executed or interpreted by the web server. It is not generally viewable or accessible by any visitors or general public.

PHP is a very common Server Side Scripting language. It is Linux/Unix based Open Source, free redistribution and usually combines with MySQL database.

MySQL is a popular Open Source database management system that commonly used in the web application due to its speed, flexibility and reliability. MySQL employs SQL(Structure Query Language) for accessing and processing data contained in the database.

**CHAPTER 03**

**ANALYSIS AND DESIGN**

1. **Use Case Diagrams**

Detailed design deals with the implementation part of what is seen as a system and its sub-systems in the designs. It is more detailed towards modules and their implementations. It defines logical structure of each module and their interfaces to communicate with other modules.

1. Common Use Cases for all users:

All Users

1. Use Cases for user: Author

Author

1. Use Cases for user: Reviewer

Reviewer

1. Use Cases for user: Track Coordinator

Track Coordinator

1. Use Cases for user: Chair persons

Administrator

**C:\Users\LENOVO\AppData\Local\Microsoft\Windows\INetCache\Content.Word\Untitled Diagram (1).png**

**CHAPTER 04**

**IMPLEMENTATION**

1. **Functionalities of the system**

The conference can be seen as various phases like abstract submission phase, reviewing phase etc. These two phases are vital parts of any conference management system. Once various deadlines are set these phases can be managed by the system itself.

It involves coordinating efforts of authors, reviewers, track coordinators and administrative panel and the administrative persons can handle the system anytime. It also include certain steps such as abstract submission, distributing them for relevant reviewers, gathering and evaluating reviews to make a decision on each paper, notifying authors about the decision and registering the accepted one for the symposium.

System Registration and login

After the reaching the home page of the abstract submission and review management system if user need to submit their abstract first he/she must register to the system via the link on the home page. If he/she has already registered to the system then can simply logging to the system using own user name and password.

Once the registration form has been completed as required, the system automatically generate messages that is successfully registered or not. Otherwise there is an error message.

Abstract submission

After logging the system abstract submission page will be used by authors to submit their abstract. The system should allow authors to submit an abstract of paper in addition to the title, authors, keywords and the prefer track that applies to their abstracts. Each abstract will be assigned to a reviewer by track coordinators for reviewing and evaluation. Before submitting abstract, author will have to validate the format.

* There are some constraints on file format, number of words and size.
* There are no restrictions on the number of assigned papers for a reviewers.

Review process

Once the track coordinator allocates submitted documents to reviewers, automatically view these abstract in relevant reviewer page that nominated by the track coordinators. They can do so by logging in and utilizing their unique password provided by the administrator. Then only reviewers can access the documents.

Administrator access

The system administrators must have access to the web site in order to manage the difference aspects of system organization and also communication with other parties. The administrators have privilege access by password to login and modify the appropriate item on the website. Administrators can monitor all processes of the system and create and publish newsletters or announcement through the website.

The proposed system provides the notification module to notify the presenters about the abstract’s acceptance decision. It use an e-mail address of presenters to send that notification. This function is help to participants and reviewers for update with the information about the symposium.

1. **Software and Hardware**

As we mentioned above in 2.2 chapter we used PHP, MySQL and frontend technologies.

As hardware we used PC computers to complete the system.

**CHAPTER 05**

**TESTING AND EVALUTION**

1. **Testing Process**

When representing the ultimate review of software specification and design, software testing is a critical element of software quality assurance. The increasing visibility of software is associated with a software failure. Because of well-planned through testing that motivating forces are increasing of the system. There are two main types of testing have been carried out to ensure the system, namely the Unit Testing and Integration testing.

Unit testing

Unit testing focuses on the smallest unit of software design modules and functionalities. One function may have multiple unit tests according to the output of the function and usage. The tests are concerned with functional correctness and completeness of individual program units. Its goal is to isolate each part of the program and show the individual parts are right or wrong.

Integrating testing

Integration testing is a systematic technique that conducting tests to uncover errors associated with interfacing at the same time.

In here used Selenium IDE for testing quality of our system. It is a web test tool for building test scripting that runs in the browser and it does exactly what a user does.

* 1. **User Evaluation**

**CHAPTER 06**

**CONCLUSION AND FUTURE WORK**

1. **Conclusions, Remarks and Discussion**

A web based solution for the conference management system provides abstract submissions, registration system, review process. The major advantages of this system are flexibility, easiness and can do complex process more clear and suitable way. Other important functions of a website is to provide information.

As a first step implements only abstract submission and review management with user registration. Other conference management functionalities such camera copy submission, session management, multiple track management are not implemented due to the complexity and time.

1. **Recommendations for further development**

The period that doesn't conduct the symposium management system, we are hoping to reuse the system as other paper submission system which able to manage submissions of journals, articles and book chapters.