



Web Component Based Information System for Linking Innovations

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Abstract- Software engineering has been growing at a very rapid and influencing rate in the world of computers. Many software projects have been successfully implemented in business, entertainment and many other sectors of industries and daily life. Especially, with the increased use of web users and internet browsers, the number of web projects has increased tremendously. The web servers are populated with ideas on various fields like social networking, video sharing, blogs and several other business and entertainment portals. But yet there is a lack of an effective information system to share ideas among students in a protective and authenticated channel irrespective of the background or environment they study in.

Many present information systems of highly technical quality face two severe problems. One is that they are not open to the student community at large and they are highly expensive. Moreover they are of a technical standard so high that any novice interested in a particular field may not understand it. The second problem is they are passive information systems where the ideas already posted in a journal or a conference publication is displayed and no active sharing or interaction of ideas takes place.

We propose a web component based information system which will encourage an active sharing of ideas amongst the student community and professors irrespective of their background or distances. The information system we have designed not only paves the way for idea sharing but bridges the gap between mere theoretical ideas and practical implementation of those ideas. This also increases the unity in the community of students by not only recognizing innovative ideas of students from reputed institutions of high technical repute but also appreciating the talent of students who are not so fortunate to get through those doors. The proposed information system also aims at presenting the students with a good start for their ideas in their field of interest by giving them the complete set of previously

proposed and implemented ideas in that field. This may not only encourage students to start on their innovation but also may egg them on to think of a new dimension or path in the way that field or technology may be projected.

Index terms: - Software Engineering, web component based information system

I. FEATURES OF THE PROPOSED INFORMATION SYSTEM

Information system refers to the specific application software that is used to store data records in a computer system and automates information processing activities which could convert a raw data set into knowledgeable information.

The basic functionality of the proposed information system is as follows:

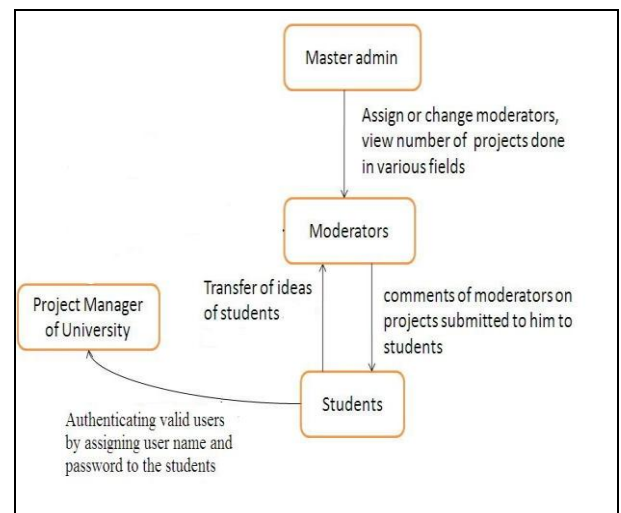


Fig.1. Functional layout of project – Linking Innovations

Any student who wishes to access this information system must compulsorily register himself through his project manager of the university. After the process of registration the student is assigned with the user_id and password for accessing the system.

Then the student can send his innovation in any field in the discipline of his study. The idea is sent to the concerned panel of that field. Every field panel consists of the eight to ten members of research in that field. They review the submitted idea for their originality and technical value and may accept the project by assigning the project id or reject them because of plagiarism of idea or due to lack of valid Technical content. Only projects accepted by the panel can be uploaded in the database for student traversing or viewing of ideas. Thus a thorough filtering and validation of ideas is done and so all ideas are authenticated and reliable. Thus it solves the problem of having a start to think in any desired technology.

Master Administrator has the responsibility of appointing the appropriate moderators for all the fields. He can also supervise the number of projects done in various universities through the technological growth graph.

II. OBJECTIVES OF THIS PROJECT

We have developed this information system with the following objectives to be fulfilled,

1. There must be no more plagiarism of others' innovation
2. Students must be able to update themselves with the practical implementation of theoretical ideas that they have read by seeing the projects done with that idea
3. Innovation by students can be recognized and appreciated by everyone across the world
4. By analyzing the list of projects carried out in a particular field, the way or dimension of the growth of technology can be studied and new dimensions of thinking can be kindled.

III. PROJECT DETAILS

Development Model – Web Component Development using

Java Server Pages and Servlets

Architecture – Model View Control Architecture

Database Connection Model – JDBC 2.0
Connection pooled Data Source

Backend Database – MySQL Server

Database Connectivity Driver – MySQL JConnector

Platform – J2EE

IV. PROJECT DESCRIPTION

Home page– login

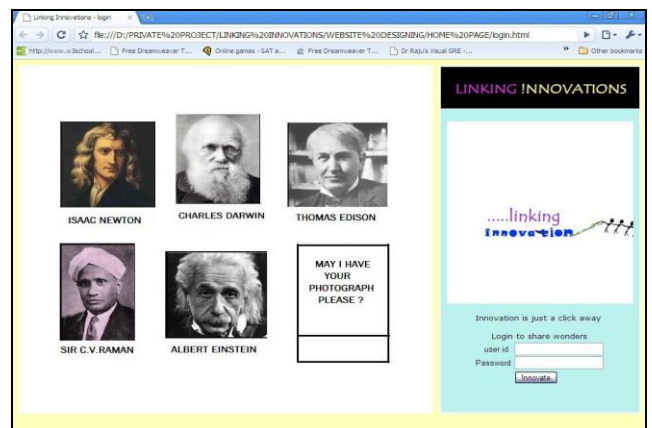


Fig.2. Login Home page of the Information System

The first frame of our system will be the login page, which asks for your user id and password. The user logging in may be one of four following types,

- i. Master Administrator
- ii. Moderator
- iii. Project Manager of the University
- iv. Student

As the user name and password are entered in the home Login page, the username and corresponding passwords are checked in the members' login database and authenticated members are logged in according to their respective identity and led to the corresponding pages.

Master Admin

The master admin has the highest power in the hierarchy of the users. He is the most powerful and

responsible user of the system. The various functions of a master admin are,

i. Assign moderators

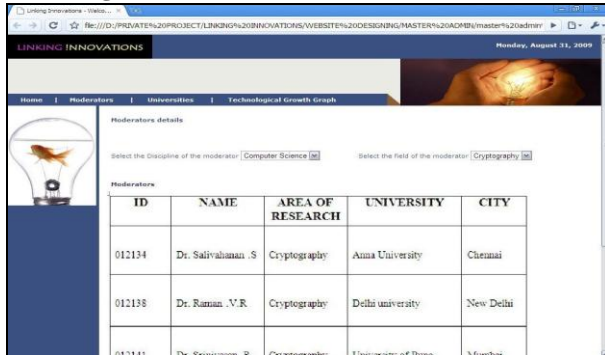


Fig.3. View Moderator Details Window of Master Admin

The master admin can only assign the moderators. He assigns moderators for various fields and disciplines.

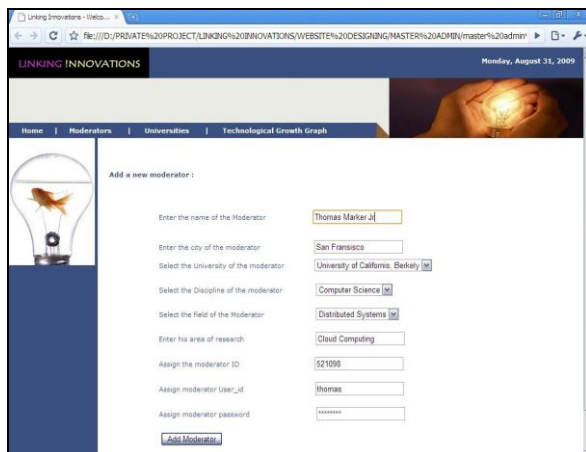


Fig.4. Add Moderator Window of Master Admin

He has the right to add the moderator to the panel by scrutinizing their profile and assigning people of high technical knowledge. The moderator details can be edited only by the master admin.

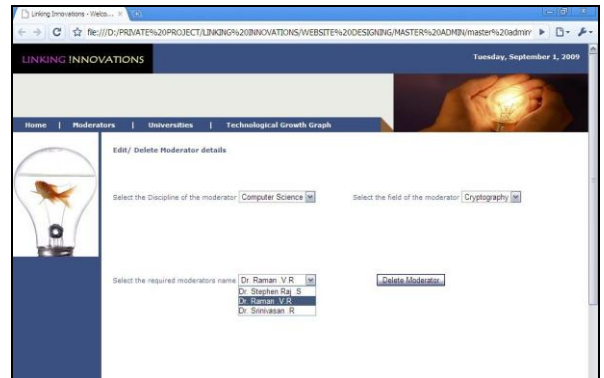


Fig.5. Delete Moderator Window of Master Admin

If a moderator on the panel is not active or found of any problem to the field or panel, master admin has the right to remove any moderator and assign a new moderator.

ii. View number of projects done in universities

The moderator can supervise the number of projects done in various universities and have a check on universities which do not contribute much of the projects or innovations.

The process of supervision may help the department of Education to find universities of less Technical quality and aid them with funds or resources to make them better.

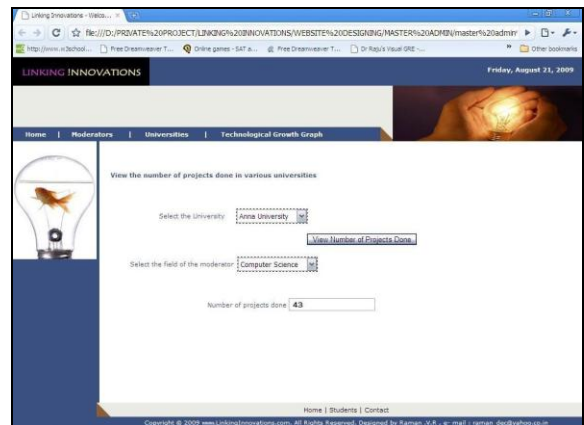


Fig.6. Master Admin Window to View Number of Projects Done in any University

The moderator can supervise the number of projects done in various universities and have a check on universities which do not contribute much of the projects or innovations.

iii. He can view the “growth graph”, a graph plotted with the number of projects done in every field of a

selected discipline.

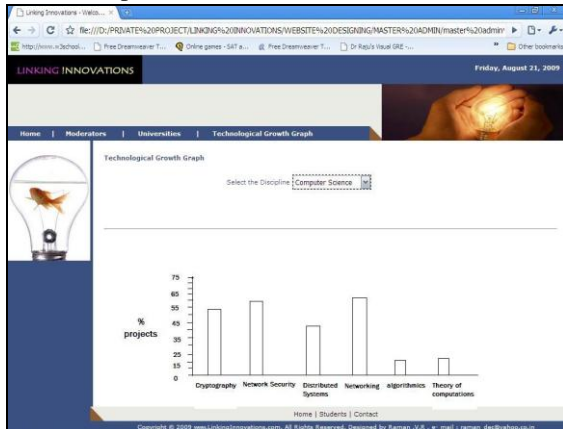


Fig. 7. Technological growth graph window of the master admin

Technological growth graph window gives a graph of the selected field (“Computer Science” for example). It displays the various disciplines from which when a field is selected all projects done in its sub fields are shown in the form of a graph. This growth graph helps in identifying the growth rate of every field of technology.

i. Moderator

The Moderator has the second highest access rights in his field. All current projects to be reviewed will be automatically populated in the list box of the moderator home page. He can view the abstracts of the list of projects submitted in his field.

On reading the abstract of the project, he can report that it is a repeated project, by clicking on “report repeat” button or assign the project id accepting that the idea is really innovative by clicking on the “Assign Project ID” button. Only after the project is accepted by the moderator it is added in the database for student traversal.

He can also send comments on the project to the students and he can finally rate the innovation on a scale of 10, with 1 being Poor and 10 Excellent.

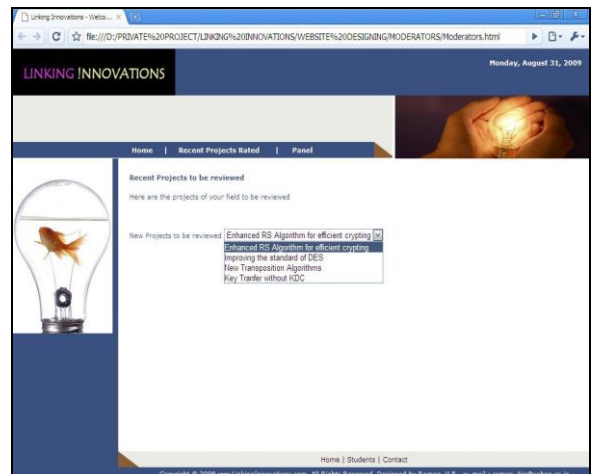


Fig.8. Home page of Moderator- Displays innovations to be reviewed

In the above window, the recent project the moderator has to review appears as links and the moderator can click and go to that corresponding page of that abstract to review it.

The Moderator can send comments to every innovator through the send comments window. When a project is reviewed and if the moderator wants to guide the student he can click on the “send comments” button and it will take him to the comments window.

The Comments feature will be a very good communication channel for the student to be guided in the project idea he has submitted.

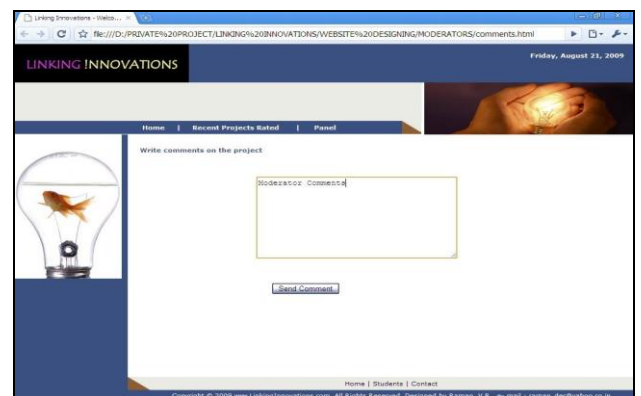


Fig.9. Com moderator ments sending window of the

i. Project Manager Of The University

The project manager of the university is the only person who has the power to allow a student to submit a new project for the first time.

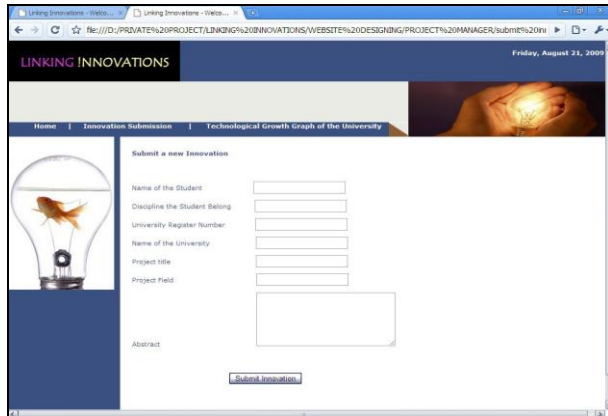


Fig.10. Project manager window of the university

The above form is the student project submission form. Students have to fill in their details, the project details and abstract and submit it to the panel. This will prevent garbage entries and will have a control and order in the submission of ideas by the students.

The other access right of the project manager is to view the projects like the master administrator.

ii. Students

Students, the main type of user for which this system is designed for, has all access powers to view projects, their abstract, the details of the project developing students and the growth rate in various fields of their discipline.

The four searching options provided to the student are search by fields, title, year of project and rating of project.

When the search is completed, the list of projects is displayed in the list box. When a project is selected, the name of the students who did that project, their university and abstract of the project are displayed.

The other access rights of the students are,

Students can view their own project profiles using the project id. They can read the comment sent, edit their abstracts and send it back to the panel. But only after the acceptance of the innovation by the panel will it be uploaded into the database for students search.

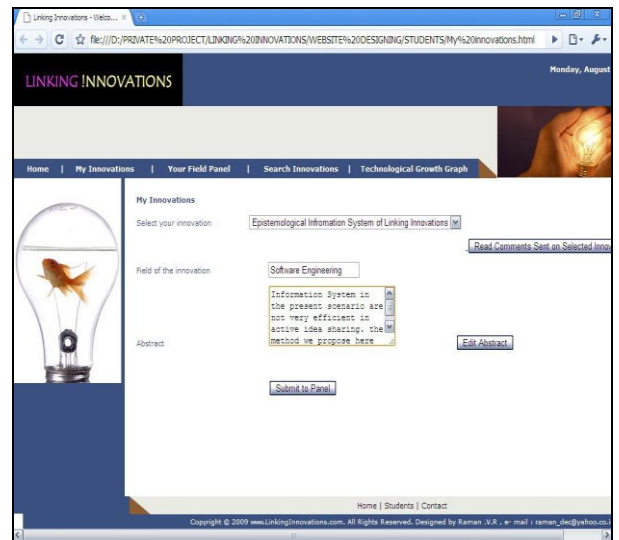


Fig.11. Abstract Editing Window of the User

- View the growth graph as viewed by the master administrator.

Thus the four users' access rights are clearly specified to control and make the information system effective to satisfy its aim of linking the valid innovations across the country and improve the real time skills of the students.

V. CONCLUSION

Thus the software model presented in the paper, when implemented will surely shrink the gap between the theoretical ideas and practical application, thereby encouraging students to apply their ideas as projects and communicating it to the research people in that field. They can also share ideas across the country so that everyone can learn together, reform and grow as professionals to enter the industry with confidence and skill which is what the information system we have designed aims at. This may also serve as a good starting point for those who need a basic idea of technological flow path by giving the complete set of previously implemented projects. This paper aims to achieve an environment independent way of innovation sparking across the world pushing down all barriers of distance, background and technical partialities.

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