Research Project Management System Framework for effective project execution

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Introduction

The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) is an international non-profit organization that undertakes scientific research for development with a approach is through partnerships and with an Inclusive Market Oriented Development. ICRISAT has got mandate crops as Groundnut, PigeonPea, Chickpea, Sorghum, Pearl Millet and Finger Millet. The organization does basic research and developmental projects with different government and partner research organizations. For the success of any kind of research projects it is very essential to execute project activities timely and without fail. Proper monitoring and evaluation tools are very important for successful execution of project. A software framework has been developed using Axure trial version tool which is a wireframing, rapid prototyping, documentation and specification software tool aimed at web and desktop applications which offers drag and drop placement, resizing, and formatting of widgets.

Discussion:

The framework for Research Project Management System implements role based access to different stakeholders of the platform like Admin, Principal Investigator and leads for different components like Objectives, Research Components, Cluster of Activities, Activities and different primary executions. At each stage in the hierarchy the concerned has responsibility for successful completion of the activity. Initially the complete project activities need to be planned comprehensively like Objectives, Research Components, Cluster of Activities, Activities and different primary executions with specific timelines for execution. Once the project is loaded in to platform fully it identifies the assignee responsible for each activity and alerts him/her in case of any deviation from the time line or any failure in the activity. There will be a facility for admin and principal investigator for to send announcements across hierarchy. Further they can send the required documents as attachments. Admin can add new roles and users as and when required. Research Project Management System (RPMS) is a web based application that supports online registration and feedback evaluation from all users and roles present in the project. RPMS is web-based system for collecting and evaluating the feedback automatically. It increases the efficiency and effectiveness of research project. It also increases the scope of the report generation even by generating report over a period of time.

System architecture:

The application shall be a cloud based application and users shall access this using mobile app and shall implement role based access.
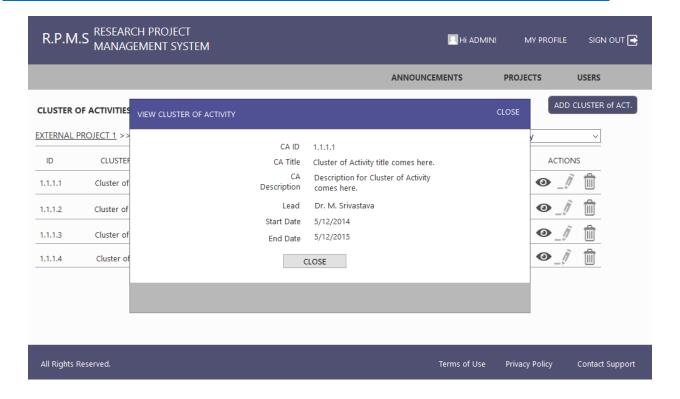

Home Page of RPMS	Dashboard

Projects screen	Screen showing the activity details with time lines

The application covers complete cycle of research project i.e registration of project with the application with complete plan of activities, assigning users with responsibilities, capturing of the activities execution, reports submission and deviation from respective timelines by the assignees. The deviation from timelines is very critical and useful as it identifies and alerts different roles in hierarchy about the inactions and failures in executions by the staff working under their task. In fact this feature summarizes the total deviations on a particular day for that specific project and presents the same to Principal Investigator.

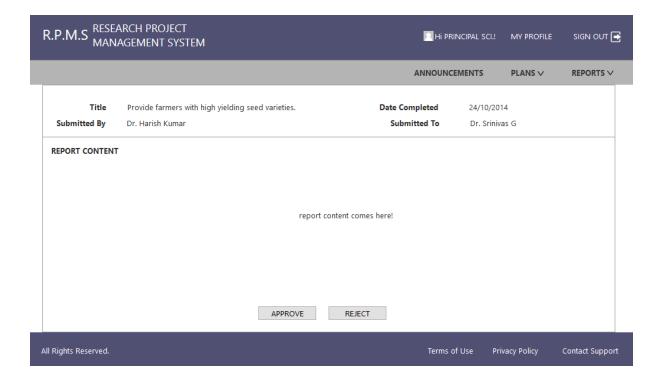Following are the some of the screens showing the different features of the application developed:

The following platform interfaces shows how the report will be shown to the concerned supervisor in hierarchy. The supervisor either can approve or reject the report submitted. All rejected activities also will be highlighted to the concerned individuals in hierarchy through role based grouping of activities.

R.P.M.S RESEARCH PROJECT
MANAGEMENT SYSTEM

Hi PRINCIPAL SCI.!   MY PROFILE   SIGN OUT

ANNOUNCEMENTS   PLANS ∨   REPORTS ∨

Title	Provide farmers with high yielding seed varieties.	**Date Completed**	24/10/2014
Submitted By	Dr. Harish Kumar	**Submitted To**	Dr. Srinivas G

REPORT CONTENT

report content comes here!

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Once the reports are generated, the management can view feedback about the project, project activities and also different research projects executed over a year and overall performance of institute in total. These views are only available to only to the management and leadership of institute as Role based access is enabled in the application. There are different kind of roles of provided to maintain security and privacy of the data. Below are the some of the feedback screens how they appear to the specific role.

R.P.M.S RESEARCH PROJECT MANAGEMENT SYSTEM

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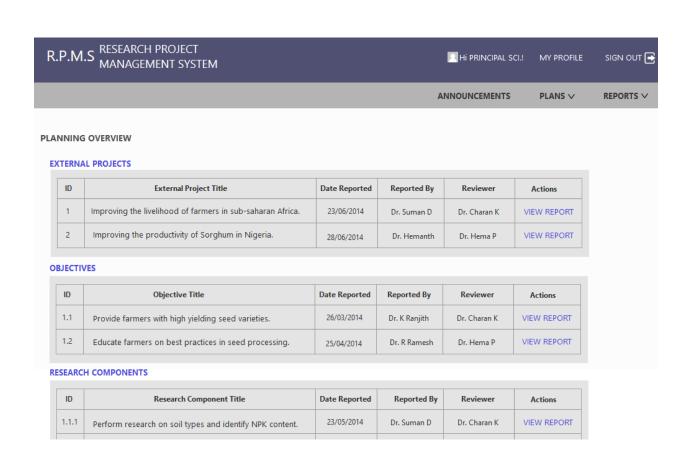|			
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COMMENTS

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PLANNING OVERVIEW

EXTERNAL PROJECTS

ID	External Project Title	Date Reported	Reported By	Reviewer	Actions
1	Improving the livelihood of farmers in sub-saharan Africa.	23/06/2014	Dr. Suman D	Dr. Charan K	VIEW REPORT
2	Improving the productivity of Sorghum in Nigeria.	28/06/2014	Dr. Hemanth	Dr. Hema P	VIEW REPORT

OBJECTIVES

ID	Objective Title	Date Reported	Reported By	Reviewer	Actions
1.1	Provide farmers with high yielding seed varieties.	26/03/2014	Dr. K Ranjith	Dr. Charan K	VIEW REPORT
1.2	Educate farmers on best practices in seed processing.	25/04/2014	Dr. R Ramesh	Dr. Hema P	VIEW REPORT

RESEARCH COMPONENTS

ID	Research Component Title	Date Reported	Reported By	Reviewer	Actions
1.1.1	Perform research on soil types and identify NPK content.	23/05/2014	Dr. Suman D	Dr. Charan K	VIEW REPORT

Conclusion:

The applications like Research Project Management System [MIS] are very useful to the institutions like any organization that is involved in Agricultural Research and Developmental projects, as the application developed automates whole process of research project execution life cycle. Huge impact can be observed is these kind of applications are implemented, by saving the time and resources. This kind of application need to be implemented in all the institutions whose main mandate is executing agricultural research and development projects.

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