

# Reminders For Calendar Events

Project Proposal For Moodle  
Inderjeet Singh  
GSOC 2012

## Personal Information

|              |                                                                                                                     |
|--------------|---------------------------------------------------------------------------------------------------------------------|
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| Education    | Pursuing Bacholers of Technology in Final Year in Information Technology                                            |
| College      | Guru Nanak Dev Engineering College, Ludhiana (India)                                                                |
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| Hobbies      | Programming, Blogging, Exploring new things, Creating New Innovative Ideas, Helping Others give me immense pleasure |

I am an honest and friendly team player, I tend to look for generic and more creative solutions for problems rather than solutions that fits one area. I can adapt myself in different conditions and can work even longer than proposed. I am Convenor of Linux User Group, Ludhiana from last 2 years and Involved in it from last 3 years. I have also worked under Dr. H.S Rai (<http://hs.raiaandrai.com/>) in my 6 weeks training as my organization teacher, who are in OSM Developers from India and Involved in Many Open Soure Related Activities.

The Best part about my is my will power. Things once decided by me, I never revert back from my commitment. If in any case I won't be able to contribute for one or two days for some general reasons (might be due to some health problem, a practical case), I am enough adaptable to overcome that left over. My Understanding Capabilites are much higher and that's Why mentor is not going to face any sort of communication problems from my side.

# Overview

Calendar provided in Moodle is a very useful module listing out each and every events. But as Everything can be refined at various stages. Same is with this module. Many Changes can be performed in working of the calendar module. Project has already been proposed by Moodle Community. I am elaborating how the thing will be achieved with some extra functionalities. I am proposing defined idea to refine the calendar module so that it can perform following functions leading the enhancement of this Learning System.

1. Email Reminder for Calendar Events (Basic Feature Needed as Proposed)
2. Synchronizing Google Calendar with Moodle Calendar (My Proposal, an Addition to Proposal)
3. Calendar Reminder via Social Media. (My Proposal, an Addition to Proposal)
4. SMS Based notification. (My Proposal, If time permits)

## Problem Description

Reminder is one of that utility which serve its purpose in giving relief to the User from reminding things. So here in this Proposal not only via Email but through other means automatic calender events notification is proposed.

## Project Details

This Project will be consisting of 3 phases and the fourth phase is time dependent and the functionality components of which will be completed after completing all basic requirements. The basic requirement of Reminder via Email of Calendar Events will be completed in first phase which will included various other sub tasks.

Next Phase will cover the Synchronizing of Google Calendar Events with Moodle Calendar which is proposal from my side. After that I will be over to working on Social Media Reminder of Calendar Event which will be done as an optional element. This enhancement will allow user to configure this Social Media Reminder by providing a facebook page link that will get constantly be updated through use of API for every event on Calendar.

And the Last Phase which is time dependent and will be done if time permits is SMS Based Notification of Calendar Events. This will be used with the help of Kannel, an Open Source SMS Gateway.

The First 3 Task listed will be completed for sure by the end of this Program. Talking for the SMS Based notification it will only depend upon how much time I will be left with.

## Email Reminder For Calendar Events

Email Reminder For Calendar Event is the basic requirement of this Project. This will be achieved by following the below steps.

1. An Easy to Use Configuration Interface for Configuring the Reminder. It will include Email Address to which Reminder will send the event details.
2. Options will be provided to disallow/ allow the repetitive check for checking whether reminder message had been sent or not if event exists on the very same day. It will be helpful where Server goes for frequent maintenance.
3. In controller Part, Logic will be created which will be responsible for sending the reminder messages and the repetitive check will also be there if it had been set. How the mails will be sent? Meaning Which functions I will be using? That I will do as per as Mentor's requirement. Whether we are going to handle it through Sendmail, Postfix or any other.
4. In the model part, Database fetching of the events according to current time will be performed.
5. Next comes the Testing. Proper Test cases and plans will be prepared after the successful running of which, I will create the patch which will integrate this functionality in the Moodle CMS.

## **Synchronizing Google Calendar Events**

This idea stuck into my Mind when I saw Google Calendar being used at Google-Melange Site. This might be the case when the Moodle User is using the Google Calendar and somehow at some stage he/she feels the desire to get it synchronized with that of Moodle Calendar.

Then Copying the whole date or making out the new events will surely be a time consuming job. So For Reducing this Effort, I am proposing this solution which will be done in following steps.

1. Providing An Interface to allow user to Configure the Google Account for which he/she wants to synchronize the Calendar with the Moodle Calendar.
2. Options will be provided for Synchronization timings.
3. Controller which will add the hooks in form of Google Calender API, fetching the data and updating the Moodle Calendar as per the data fetched.
4. Model part will handle database updation .

## **Calendar Reminder via Social Media**

As the social media is getting attention these days, So the next task in this project that I planned to do is Creating Reminder that will Remind of events via Facebook Pages. Most of the user now a days having Facebook Pages for promoting their Institutional Organization. This will help sending reminders to those official Facebook Pages of their Organization.

I will be following the same strategy for doing this as followed in Synchronization of Calendar for hooks of Facebook Pages. Getting Hooks will make the controller able to post via that access token, the information of Calendar Events.

## **SMS Based Notification**

This is final task to be done that I am purposing which will be done if time permits. But Giving it a jerk is necessary because of the reason that User can not get always stick to his/her emails.

This SMS Based Notification will allow user to get in touch of events without checking Emails. Different Task Under this phase are:-

1. User Interface will need the configured Kannel Gateway working link on Server.
2. Controller will send text message via passing the message to Kannel Working link upon validating correct phone number.
3. In response a failure/ success will get return. On failure it can try again depending what User had configured.

## **Advantages**

It is clear with no doubt that Human ability to remind the things is very less. And when it becomes remembering the events Human become sometime worst in this case. To overcome this flaw the Project had been proposed and the result of which is Reducing User stress to remembering events. Along with that other Uses that Will be provided with this Project are as follows.

1. Email Reminder will Send Reminder messages via E-Mail if event exists for the particular day (current day).
2. Synchronization of Google Calendar provide Use of Itegrating Google Calendar events in Moodle Calendar.
3. Social Media Reminder for Calendar events will be useful to all those institutions who rely a lot on Social Media for conveying event information and uses Moodle too.
4. SMS Based notification for Calendar Events will prove a gift to those who can not remain in touch of Emails 24x7 hours.

## **Technology and Languages to be Used**

The Proposed work that will be done will be in same Server Side Scripting Language, that is PHP. Along with the use of Javascript, JQuery, and API.

Application Programming Interface will be used for getting hooks for Making the task of Google Calendar Sync. and Social Media Reminder, completed.

## **Schedule of Deliverables**

Whole project will be managed using git on [www.github.com](http://www.github.com), a proper release of code (mainly a patch) after regular short intervals and documentation will also be there.

## Proposal Time-line

I have divided each job for the different periods of time. As I will be done with my final examination of B.Tech I.T in month of April and I will get free by 24<sup>th</sup> of April. I wish to start the Coding by the same day by not wasting even a minute of this period. I will be available for 9-10 hours daily as I will be having holiday in those days. So I can contribute a lot toward my Project.

### **Before: April 24<sup>th</sup> , 2011**

Planning and goals setup, discussions with mentor, to read and learn deeply about Moodle Organization and complete Architecture of Moodle CMS, and also I have to give final exams of 8th Semester in this time period.

### **April 25<sup>nd</sup> to April 29<sup>th</sup>**

Understanding the Calendar Module in more deep. Understanding Working of this module in terms of storage of events in the calendar, it's retrieval and updation being performed. Designing of Workflow of Email Reminder will be done here. Designing Interface for Email Reminder which will include options to configure Reminder.

### **April 30<sup>th</sup> to May 5<sup>rd</sup>**

Designing of Controller for handling Email Reminder which contains logic that will work upon the configuration settings set by User. Analysis of Cron based Remainder (Automatic Reminder) will start here by the end of this time frame.

### **May 6<sup>th</sup> to May 10<sup>th</sup>**

A Small working prototype will be completed by the end of this time frame which will be capable of fetching event data from Database if event exists for current date. In it after a default period Reminder will check whether email had been sent or not. Analysis will start to add more improvements in configuration settings user may perform.

### **May 11<sup>th</sup> to May 16<sup>th</sup>**

User will be given some more configuration options like From which time to up to which time Reminder will work. In case of time of Server Maintainence (on which Moodle hosted) is unknown user can set default options in which Cron job automatically check for whether email was sent/not. Handling all these options will performed within this frame too.

### **May 17<sup>th</sup> to May 19<sup>th</sup>**

Test cases and Test Plans for what had been developed will be prepared in this time frame. Conformance of the product to What had been proposed will check in this time frame. Any sort of non-conformance will be noted down and required changes to make the code conform with the plan will also be noted down.

**May 20<sup>th</sup> to May 23<sup>rd</sup>**

In this time frame I will do required changes (if needed) to make the Email Reminder to conform to What had been planned. First version of Email Reminder will be launched in this time period which I will refine in ahead time frames as per as Mentor's suggestion.

**May 24<sup>th</sup> to May 26<sup>th</sup>**

In this time frame I will do the second proposed task of Synchronizing Google Calendar with Moodle. It will include understanding Google API in detail for this task, designing a basic code fragment to fetch and save Google Calendar Data through API and access token.

**May 27<sup>th</sup> to May 31<sup>th</sup>**

Designing the Interface for this task of Synchronization of Google Calendar. The Interface will include the Google Account configuration settings for which User wishes the calendar to be sync. with Moodle Calendar. If the Time is left in this time frame I will again revise whole of the work done so far and improve it as per as Mentor's Suggestion.

**June 1<sup>st</sup> to June 10<sup>th</sup>**

Developing the controller for the task, Saving Configuration Setting for sync. task, Integration of API module which will handle fetching of data according to the Account defined in Configuration Setting by User. Also Saving the fetched data and Updation of the same in Moodle Calendar will be performed.

**June 11<sup>th</sup> to June 16<sup>th</sup>**

Binding of What had been done so far in Sync. task and Releasing it's working version on git by the means of diff file. Everything What had been done so far will be well documented on git.

**June 17<sup>th</sup> to June 24<sup>th</sup>**

Firstly clearing the left over work with proper documentation. After that I will be over to next task of Social Media Reminder. It will include Understanding Facebook Open Graph and the Respective API's.

**June 26<sup>th</sup> to June 31<sup>th</sup>**

Interface Designing for Social Media Reminder and Listing down the requirements needed for developing the Controller for this task.

**July 1<sup>st</sup> to July 8<sup>th</sup>**

Evaluating coding done so far, Documentation of each and everything, Preparation of Mid Term Report and it's submission.

### **July 10<sup>st</sup> to July 20<sup>th</sup>**

Development of Controller for Social Media Reminder Task. It will include saving User Configuration for Media Reminder. Integration of Facebook Open Graph API which will provide access token for Facebook Page and will allow to perform updation on it for each and every event of Moodle Calendar which exists for the current day.

### **July 21<sup>st</sup> to July 25<sup>th</sup>**

I will not be able to contribute much in this time period as I am going for outing in this time frame.

### **July 26<sup>th</sup> to July 31<sup>st</sup>**

Binding of the task done related to Social Media Reminder, Documentation, Evaluation of coding against Test cases and Test Plans Prepared. Diff. file submission on git.

### **August 1<sup>st</sup> to August 13<sup>th</sup>**

Analysis of SMS Based Notification. Initiating a Basic Prototype which will be capable of sending text messages working as Reminder for Calendar events.

### **August 14<sup>th</sup> to August 21<sup>th</sup>**

Buffer time in case of any delay. At the End of time frame I will upload the complete coding done so far on git with documentation of each and every task for Final Evaluation.

## **Open Source Development Experience**

I had been in touch with the Open Source Technologies from past 3 years. Within this time frame I came to know about various Open Source Technologies including Python, PHP (Server Side Scripting Language), JavaScript, JQuery, AJAX. Used various Open Source Designing Tools including Umbrello. Using Open Source Technologies I had already done a numerous projects including a Payroll System, Complaint Management System, Reporting Tool on PHP (Prototype build). Working link of all these projects I am giving in this proposal.

## **Bug Tracking & Patch Submission**

As the time was very less though I tried best to atleast submit a patch for the bug from bug tracker of moodle. So I got involved in three issues for two of which I submit a patch and still doing some more improvements.

### **MDL-27681**

Issue was of Assignment End Date can be less than the Assignment Start Date. Already a patch was submitted for this but as per as discussion going on the thread I found few more cases need

to be incorporated while checking criteria. So I made the required changes and submit a diff file for that.

### **MDL-30133**

Issue was of Invalid use of PHP doc @see as inline tag. More than 50 replacements were their in lib folder. I used Stream Line Editor for doing this task and submit a patch for changes.

### **MDL-15965**

Issue is of Create multi-day calendar events with no duration. Issue I understood completely. Even I suggest the remedy for that. I am currently working on the same but due to busy academinc schedule I am not able to give 100%.

## **Work/Internship Experience**

I had two trainings in my course. One was of Six weeks in which I did project named Unified Documentation using  $\text{\LaTeX}$  under guidance of Dr. H.S. Rai(Mentor at OSM). And other was Six months industrial training done at National Informatics Center Barnala, the complete details of which are given below.

### **Working Links of Project Done**

#### **Payroll Management System**

Link is:- <http://inderjeetsinghit.net23.net/payroll/>

**Username:** admin

**Password:** waheguru

This is Web Based Payroll system which was created by me for My Father's Construction firm. It is having full fledge use of AJAX, with the proper use of Reporting tool. Reporting tool used by me was ODTPHP library to which I changed some functions so as to fit according to needs.

#### **PHP-Reportica, A PHP Based Reporting Tool**

Recently I felt the need of having a PHP Based reporting tool just like the Crystal Reporting Tool. However Crystal is full fledge developed reporting tool. But taking initiative I started the Project so as to generate dynamic queries based on the field selection and table selection and saving the reports thus generated along with the CSS using File Handling.

#### **Complaint Management System**

During my Six months industrial training in Summer 2011, I developed a whole multilingual Complaint management System with AJAX incorporated into it. This Project is now being used at District Office of Barnala. Being official project I wont be able to upload it.



## Telephone Imprest System

This was the another project that I did for National Informatics Center, Barnala. The Project was to develop a system that completely records each and every entry of amount being received or disbursed and allowing to generate the reports. Link again cannot be shown due to some official reasons.

## Technical Skills

|                         |                                                       |
|-------------------------|-------------------------------------------------------|
| Operating System        | Linux, Windows                                        |
| Project Management Tool | git                                                   |
| Programming Skills      | C++, PHP, Shell Scripting (bash), JavaScript, JQuery, |
| Databases               | MySQL, PostgreSQL                                     |
| CMS Handled             | Moodle, Drupal, Wordpress                             |
| Framework               | CakePHP                                               |

## Academic Experience

Talking about Academic Experience I am final year under-graduate student of B.Tech (Information Technology) at Guru Nanak Dev Engineering College, Ludhiana. I am consistent topper of my college maintaining degree at 86.8%.

I organised numerous events in college ranging from Mapping Activities, CMS Introduction and its uses and next is Introduction about Moodle (A Learning CMS). I am having both logistic and practical skills required for the job.

## Why Moodle

To be honest, I am planned to Opt for a teaching profession. And I was also having in this mind that I will be working as Programmer to wherever I will be appointed as Lecturer/Assistant Prof. so as to Automate the working of that Institution.

When I select Moodle its theme and the main idea grab my attention. It is specially designed for Scholars and that is its beauty. So I am applying in this community. Not only Google Summer of Code 2012 even after that I am having lots of idea that will surely add more beauty to Moodle. Reason for Not applying earlier and not getting involved earlier was the family pressure on studies but now they realised that things need to go in parallel.

## Time Availability

I will do it as my full Time job, Because after April 24<sup>th</sup>, 2011 I will be having holidays of 3 months and even after It took time for getting enrolled in new course. So I will work minimum 10 hrs. a day daily. I will also look forward to set up a good and respectable connection with my mentor with getting in touch with him through proper communication.

In case of Mentor's immediate unavailability, I will ask my queries on Moodle mailing and forum discussion and hope to get good and positive feedback. I am already on the forum and till now I received very positive response on my posts.

## **Proposal Student**

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