
U.C. Berkeley Calendar Network

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Introduction

Due to the decentralized nature of computing on the University of California, Berkeley campus, different schools, departments, and campus organizations often create applications on an ad-hoc basis. The lack of campus-wide guidelines and standards for designing and building applications make it difficult for developers to design for interoperability and reuse. Consequently, the Berkeley campus is inundated with applications serving a similar purpose and repurposing similar content but built with different technologies and based on different, and often incompatible, data models.

A striking example of this occurs with event calendars -- at least 80 different calendars exist in the Berkeley.edu domain. Each calendar has its own way of describing events, uses different forms for submitting them and different databases to store them. This means that there is no automated way to cross-post or share event information among calendars. Cross-posting is accomplished today using manual

data entry forms located on many calendars' websites, or by sending a separate email with the event information to each calendar's administrator.

The goal of our project is to improve the process for sharing event information among different calendars on the U.C. Berkeley campus. In the summer of 2003 members of our project team undertook a collaborative effort with U.C. Berkeley staff members to develop a standard data model of an "Event" that is flexible and scalable enough to accommodate the requirements of most calendars on the Berkeley campus. This Event model was then used as the basis for a model-driven event management system, the U.C. Berkeley Calendar Network. Our team created a web-based calendar which displays events conforming to this Event data model. In conjunction with our Calendar Management tool, which allows calendar owners to both manage the events in their calendar and customize their calendar's appearance, our calendar can be used by many organizations on campus. The tool provides numerous ways to customize the calendar within our Calendar Management tool, including the uploading of a cascading style sheet or an XSL transform. This is a critical piece of the project because it is important to many calendar owners on the U.C. Berkeley campus to "brand" their department by creating a website and web calendar with a consistent look and feel.

Calendars using our system will store their events in a centralized repository also based on our Event data model. However, there are calendar owners who have specialized web development needs, or a need to maintain their own repository of event information and thus will not be able to use our calendar. For these users, we outline a process by which they can send event information to, or pull information from the centralized event repository using an XML document that, again, is based on our Event data model.

Problem Statement

There are many calendars on the U.C. Berkeley campus that post events of interest to other departments or organizations. However, there is currently no automated way to share event information among these numerous calendars. Usually the process of cross-posting an event requires either manually copying the event information from one calendar and pasting it into the next, or sending an email to a calendar administrator. This is problematic in many ways. First the process of re-entering event information wastes time, is inherently error prone and creates a data maintenance nightmare. Second, replicating event information increases data storage costs, can compromise the general integrity and timeliness of event information, and can increase overall complexity. Finally, incompatible data models limit the amount and type of event information that can be repurposed. These issues hinder the creation and consumption of web-based event information on the Berkeley campus.

Goal, Requirements, & Objectives

Goal

The goal of our project is to design a complete calendar network solution which will be deployable on the U.C. Berkeley campus. This calendar network should allow all campus calendars to manage and store event information in such a way that it can be easily shared with other calendars. It should be attractive to a range of users, from "high-level" calendars with complicated data models for an event and calendars with more features as well as "low-level" calendar owners who may currently use a simple static list of events for their calendar, or who may not even have a calendar on their website.

Requirements

The most critical project requirement is that we design a solution that is as appealing as possible to campus calendar administrators. This is a very important consideration because a critical mass of calendars using the system must be attained in order for the calendar network to be successful. If too few calendars are using our system to share event information, it may not be worthwhile for other calendar adminis-

trators to make the effort to switch over to this new system. In order to convince current calendar owners to switch over to our system, we must provide them with a comprehensive solution which meets or exceeds their needs.

In order to fulfill this critical project requirement, we must make sure our system fulfills the current needs of as many calendar owners as possible. The major needs that we have identified include:

- The ability to store and display all event information
- The ability to share event information with other calendars in an automated fashion
- The ability to either reproduce the current calendar's "look and feel," create a new calendar with a look and feel that integrates effectively into the organization's website, or continue to use the current calendar

Objectives

To fulfill these requirements, our objective is to create a system that consists of:

- a standard data model of an Event which is flexible and scalable enough to accommodate the requirements of most calendars on the Berkeley campus, encoded in an XML schema to facilitate data transmission
- a Calendar Management Tool which allows users to manage their events stored in a central repository, easily share their events with other campus calendars and customize their calendar's appearance
- a visually compelling dynamic web-based calendar for administrators who do not currently have the resources to create their own
- a design for a system architecture consisting of a centralized event repository based on the Event data model which allows for XML feeds to and from the repositories for "high-level" calendar administrators who choose to maintain their own website and repository

Constraints

Working in the University Environment

One constraint that our project must take into account is the unique environment it must operate in: the university. Most universities, including the University of California, have a decentralized administration structure which is designed to allow intellectual freedom and encourage innovation. This means that campus departments and organizations often have the authority to decide internally how they would like to do business.

At U.C. Berkeley there are very few formal guidelines about how websites or web calendars should be set up, and few resources, such as centralized databases, which can be shared among the various campus departments and organizations. Although U.C. Berkeley has a "webnet" mailing list for web designers and editors, there seems to be little formal sharing of knowledge among different organizations. Because there are few standards set from above, most of these organizations create their applications and websites in isolation with little to no thought about how they might work together. Indeed, it would be very difficult to coordinate them without help from above.

In order to deal with this unique environment where community-wide standards seem to be adopted in a

grass-roots fashion, we have viewed all work on our project as part a larger marketing process. We have involved as many campus calendar owners as possible in all phases of our project including the Event modeling process and the needs assessment, iterative design and usability testing of our tool. We plan to continue encouraging this level of involvement during future phases of this project. We believe that integrating the input of all campus calendar owners throughout the development process is a critical step towards encouraging adoption of our system.

Different Levels of Technical Expertise

Our survey of campus calendars during the Event modeling process revealed that calendars on the U.C. Berkeley campus exhibit a wide range of technical complexity. Some calendars have sophisticated payment systems and event data which is very specialized to their domain. Other calendars are simple static HTML pages which are simply lists of events. There are also many organizations on campus that do not currently have calendars, often due to a lack of available resources to create them.

In order to meet the needs of calendar administrators with this wide range of technical needs and expertise, our system outlines two processes by which different types of campus calendars can share event information with each other. For "low-tech" calendars we have created a centralized repository to store event information which is based on our Event data model, as well as a Calendar Management Tool. This tool will allow calendar administrators to both manage event information and create their own customized, web-based calendar which will integrate smoothly into their current website by incorporating the website's look and feel. For "high-tech" calendar owners who have specialized web development needs, or a need to maintain their own repository of event information, we outline a process by which they can send event information to, or pull information from the centralized event repository using an XML document which is also based on our "event" data model.

Implementing an Enterprise-wide Architecture on Campus

U.C. Berkeley has created some guidelines for developing campus information systems. The UC Berkeley E-Architecture Guidelines state that "Connector-emphasized, n-tier systems, based upon the J2EE framework, that adhere to authentication, authorization, and data exchange standards will be the easiest to integrate into the new architecture." Although our prototype will not exhibit any of these characteristics, all specifications we develop for our system will reflect these constraints.¹

Research and Development Methodology

Event Modeling

Use of the Document Engineering Methodology

Throughout the Event modeling process, this team used the *Document Engineering* methodologies Dr. Glushko had taught in his course. He defines "Document Engineering" as "a new discipline for specifying, designing, and implementing the electronic documents that request or provide interfaces to business processes via web-based services."² A Document Engineer begins this process by analyzing existing documents from businesses or entities that want to communicate with each other, augmented by information obtained from other sources of requirements like the people who create or use the documents. A data model for the problem space is then created, which results in a set of reusable components that can

¹Jeff McCullough, "UC Berkeley E-Architecture Guidelines," Information Technology Architecture Committee, 26 June 2001, version 1.1, <http://socrates.berkeley.edu:4259/itaf/GuidelinesForE-Arch.1.1.html> (01 May 2004).

²Center for Document Engineering website, <http://cde.berkeley.edu/> (5-01-04).

be expressed as XML schemas. These components are then be used to create the documents that these entities exchange. Thus Document Engineering is a way to analyze information from diverse sources and create a common data model that all these sources can use to build the documents they can use to communicate. The use of a common data model allows entities to exchange information in a loosely-coupled manner that still ensures that all entities know exactly what the information means.

Modeling Process

Our group also followed what Dr. Glushko calls "a "document-centric" version of"..."the classical "analyze - design - refine - implement" methodology."³ We began this process by selecting 23 campus calendars [<http://dream.berkeley.edu/CDE-Events/CalendarsAnalyzed.html>] and "harvesting" the data elements from each one. We then went through a process of harmonizing and consolidating the data elements into a list of candidate components. The "design" portion of the process involved using normalization procedures to separate the elements into functionally dependent aggregates. This resulted in a conceptual model of an event. Our final step was to begin the "implementation" process by encoding this conceptual model into an XML schema. The final version of the Event Model can be found in Appendix A.

The Calendar Management Tool & Web-based Calendar

After the creation of the Event model, our development process was focused on the creation of the Calendar Management Tool and web-based calendar. The Calendar Management Tool is a web-based application designed for the U.C. Berkeley community. It allows any campus group or department to add their calendar events to a centralized repository in order to facilitate sharing of event information. Events can be designated as "private" in which case they are only available to the event owner's calendar or "public" in which case they are available to any calendar in the network. Each group can use the tool to manage events and customize its own dynamic, web-based calendar showcasing these events. The tool also allows users to choose specific events from other calendars or set up a subscription to automatically receive events according to some criteria (e.g."lectures and seminars sponsored by Haas") and display them on their own calendars.

Needs Assessment

We conducted interviews with current calendar owners on campus during January 2004 as part of the needs assessment process for designing our tool.

Goals

The goal of the interviews was to gather information about how calendar owners currently create and maintain their departmental calendars. We asked questions relating to:

- Current calendar/event management processes
- Technical expertise and development capabilities
- Likes and dislikes about current system/methods
- Communicating events within the UCB community
- Event data used
- Design recommendations

³Document Engineering: Designing Documents for Transactions and Web Services, <http://www.sims.berkeley.edu/~glushko/xml2003/slide37.htm> (5-01-04).

See Appendix B for the full list of interview questions.

Method

Participants

We identified as many separate calendars on campus as possible and classified them by technical sophistication (high, medium and low). Calendars in the “high” category included the general UCB events calendar, the Haas School of Business calendar and the Berkeley Art Museum/Pacific Film Archive calendar. Calendars in the “medium” category included Boalt Law school calendar and the Letters & Sciences calendar. Lastly, calendars in the “low” category included the calendar for the Center for Latin American Studies and the Center for East Asian Studies. There were 12 participants in the interview process. All of the participants were current calendar administrators on the U.C. Berkeley campus and were chosen to evenly represent the different levels of technical sophistication that we had identified.

Procedure

The interviews were conducted over several weeks in January 2004. Each interview lasted approximately 1.5 hours. There were always two members of our group at each interview. One group member led the interview while the other took notes and occasionally asked a question to ensure that the interview stayed on track and that all topics of interest were pursued.

Summary of Results

We gained a great deal of information about how calendar administrators currently manage their calendars and how they envision working with the U.C. Berkeley Calendar Network from the interviews. The key points were:

- Most calendar administrators receive events for posting (either through a form or email) and must approve them.
 - The Center for South East Asian Studies & Journalism mentioned that they sometimes receive fliers containing event information for them to post.
- People wanted to ensure that they remain able to quickly change event information on their calendar if there is a last minute change to an event.
 - Allowing people other than the calendar administrator to modify events was mentioned more than once.
- No one was very concerned about the security issues involved in sharing their events in a centralized database.
- Calendar owners stressed the importance of being able to designate events as private and keep them on their own calendars without making them available to the greater calendar network.
- Most people liked to keep old events published on their website because it brought traffic to their site.
- There was a variety of interest in pulling events from other departments, but unanimous interest in pushing events out to the greater campus community.
- Our data model of an event seemed sufficient for the majority of users; a few calendars had additional fields that they would include.
- Many interviewees remarked that it would be great to extend the functionality of our tool to manage personal calendars as well as departmental calendars.

- It was important to the calendar owners that in using our tool they would still be able to maintain the current ‘look and feel’ of their calendars.

The summarized interview notes can be found in Appendix C.

Competitive Analysis

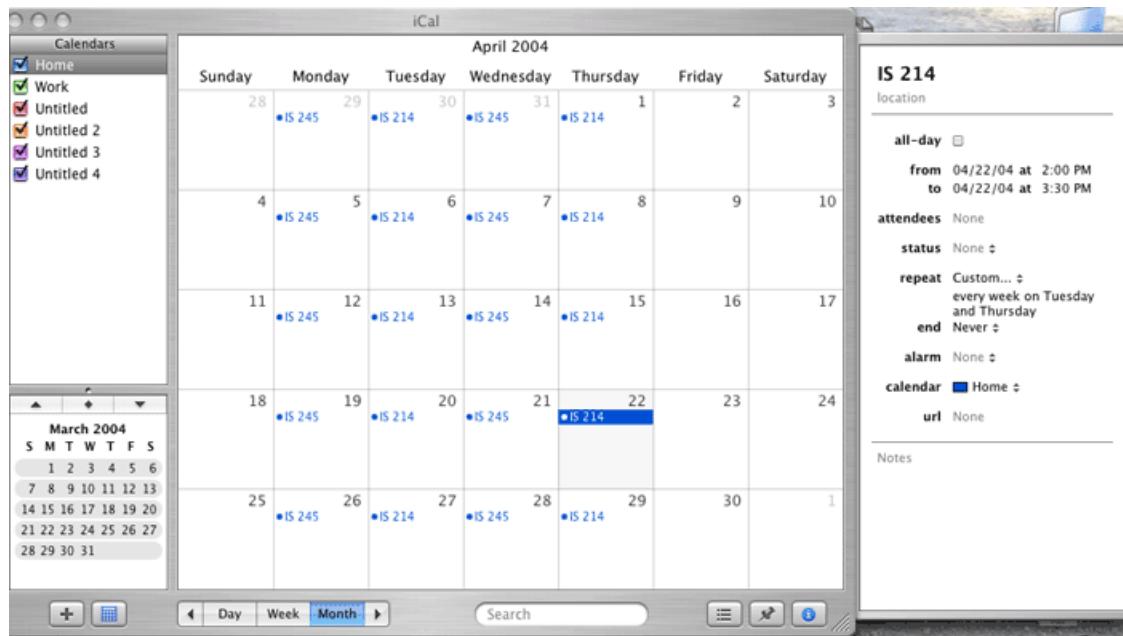
Our team performed an extensive competitive analysis on eight calendaring applications. These eight were selected because they represent the most popular and feature-rich calendaring applications used on the Berkeley campus and beyond. The eight calendars we analyzed include:

- Apple iCal
- CalAgenda
- Calendars.net
- Microsoft Outlook
- The Queer Berkeley Calendar
- The UCB Live Calender
- Web Event
- Yahoo! Calendar

For each calendar we evaluated the functionality associated with adding, editing, and deleting an event. We also evaluated the actual calendar displays, paying particular attention to the navigation and the various formats for viewing events, such as grid and list. We looked for and noted any especially useful and clearly designed features. We logged the positive and negative aspects of each calendar.

Apple iCal <http://www.apple.com/ical>

Figure 1. iCal



Description

Apple's iCal is a personal calendaring application that allows you to easily add and interact with events. iCal has several interesting features such as allowing you to create and apply a label to your events, distinguishing them from each other by color and type. iCal allows you to view all events by month, week, or day or just view events of a particular type (eg. Academic, Personal, Work). Another impressive feature is the ability to sync your calendar with your mobile phone, PDA, or iPod. A final time saving feature is the ability to search for events by keyword.

Positive Aspects

- Lets you subscribe to public calendars available on the Internet.
- Adding and deleting events is fairly intuitive. You can add more information to your event by entering data into a right side panel (shown above). This panel, however, doesn't resemble a form you can actually type information in.

Negative Aspects

- When you're in week view, it's difficult to tell what month you're in.
- iCal only displays your events in grid view which means you can only view a small amount of information per event. To view all of the information associated with an event you have to select it and view the details in the right side panel mentioned earlier.

CalAgenda <http://calagenda.berkeley.edu>

Figure 2. CalAgenda

Description

CalAgenda is the main calendar management and scheduling tool used by UC Berkeley faculty and staff to access each other's personal calendars, schedule meetings, and coordinate the sharing of resources such as conference rooms and projectors. Oracle is the vendor and the Calendar application is part of the Oracle Collaboration Suite.

CalAgenda displays events in day, week, or month view. Creating an event (CalAgenda refers to it as a meeting) is fairly easy and you also have the option of adding notes and tasks to a particular day.

Positive Aspects

- You can view your calendar in an accessibility mode.
- You can set and edit access rights so that you can restrict access to your calendar.
- Important page level buttons, such as Create and Cancel for adding an event, repeat at the bottom of the page.
- CalAgenda supports email notifications and reminders.

Negative Aspects

- The daily and weekly views resemble pages from a planner, however the month view, which defaults to a grid display (shown above), doesn't distinguish between events and the borders between days are barely noticeable.

- It's difficult to discern what the icons in the application mean. The icons are associated with different calendar views and actions, however, it's unclear what they mean until your mouse-over one and view its alt tag.
- You can't publish a public version of your calendar. Your calendar is only accessible through CalAgenda, which is a restricted password protected application.
- There are five tabbed sections associated with adding an event. This means you can't see all of your event fields at once. Also the layout of some sections lacks adequate padding.
- The printer friendly version cuts off the edge of the calendar.
- The application allows you to view the schedules of those you would like to invite to meetings. Ideally, however, the application would be able to analyze everyone's schedule and suggest several meeting times everyone can make, without forcing you to check everyone's availability first.

Calendars.net <http://www.calendars.net>

Figure 3. Calendars.net

The screenshot shows a web-based calendar application titled "Shock 'n Awe" with a purple header. The main title "Shock 'n Awe" is in the center of the header. In the top right corner of the header, there is a link "Calendars Net". Below the header, a green bar contains the text "This is the Header" and "To change the Title, Header, or Footer, click on Administer This Calendar (below right)". The main content area is a calendar grid for February 2004. The grid has columns for Sunday through Saturday. The days of the week are labeled at the top of each column. The dates are color-coded: blue for Sunday (22), red for Monday (23), green for Tuesday (24), orange for Wednesday (25), purple for Thursday (26), pink for Friday (27), and grey for Saturday (28). The month of March is partially visible at the bottom of the grid. The bottom of the calendar grid has a grey footer bar with the text "Document: Done".

Description

Calendars.net is a free interactive web calendar hosting service. You and anyone you choose can post events. You can allow public access to your calendar or restrict who views it. Calendars.net provides lots of calendar styling options as well as the ability to import and export event information. Calendars.net will display events in day, week, and month view, and displays your calendar in grid and list formats.

Positive Aspects

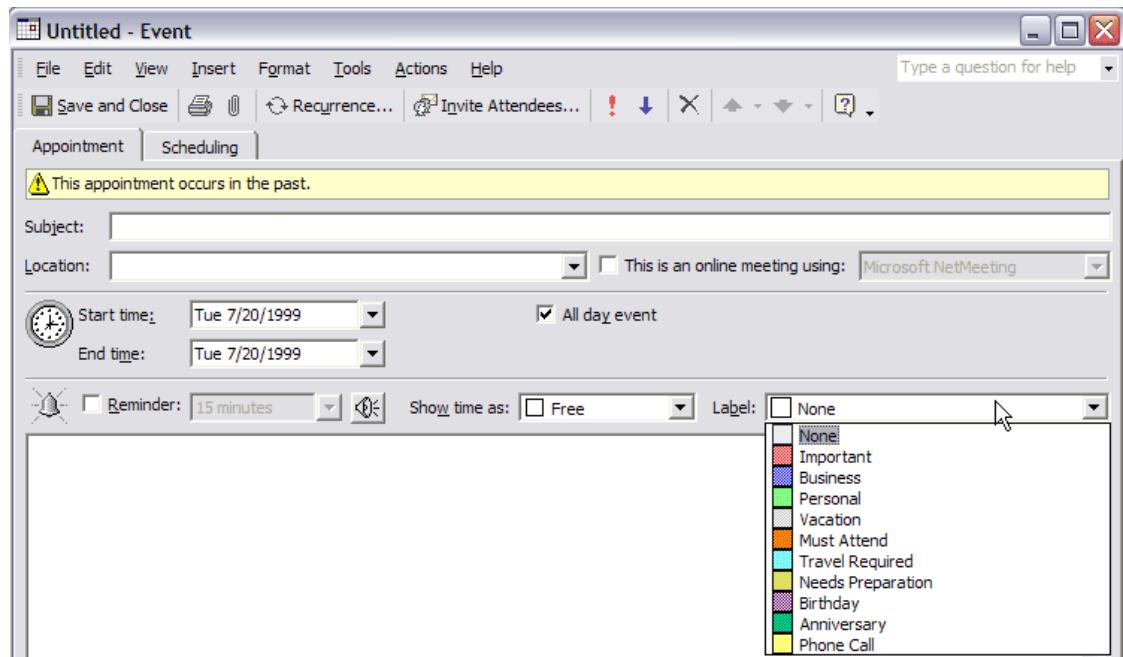
- Calendars.net allows you to navigate to a specific date immediately. The calendar displays all twelve months for the entire year, rather than forcing you to navigate from month to month.
- Calendars.net provides the ability to search event text or search for events within a date range. Your search results can then be displayed in grid, list, or condensed calendar format.
- Administering your calendar is fairly simple and Calendars.net provides many options for styling your calendar.

Negative Aspects

- The condensed view of your calendar, where one line is given for each week, is quite confusing and not a very useful view.
- Although Calendars.net provides many ways to style your calendar, there is no way to format events with lengthy descriptions or pictures. A long event description will likely warp certain calendar views, such as viewing your entire month in the grid format.

Microsoft Outlook <http://www.microsoft.com/office/outlook/prodinfo/overview.mspx>

Figure 4. Microsoft Outlook



Description

Microsoft's Outlook is a powerful integrated solution for managing email, tasks, scheduling, contacts, and other information. Outlook is one of the most sophisticated calendaring and scheduling applications available. It includes many time saving features and captures fairly detailed event information.

Positive Aspects

- Has sophisticated ways to sort and view event information. You can sort by day, week, and month. You can also sort by your active appointments, reoccurring appointments, by category, and more. Outlook allows you to change the views of your sorting results.
- You have the ability to change column widths and sort by column headings when in list view.
- Like calendar applications mentioned earlier, Outlook allows you to search for events.
- You can apply a color code to your events identifying them as personal, academic, work related etc. This visually distinguishes your events from each other.
- Outlook lets you view your event at a glance in a convenient preview pane.
- When the application launches, it displays your calendar in the view you used last.
- Similar to Apple's iCal, simply clicking on a date/time cell or on an event allows you to add, edit, or delete an event. This type of direct manipulation is more common in desktop application than in web applications.
- You can type in a start date and end date for your event or you can click on an icon that allows you to select a date from a pop up calendar thumbnail.
- You can see the duration of an event when specifying an end time.
- Outlook automatically notifies you when you're about to enter a conflicting event, but doesn't prevent you from entering that event.
- Outlook allows you to add events with detailed time and date options, such as events spanning multiple days with different start and end times for each day.
- When modifying an event that is reoccurring Outlook asks you whether you want to modify only that single event or the entire occurrence.

Negative Aspects

- Outlook doesn't provide a way to view your entire year.
- Jumping to a specific date is not very intuitive and is a multi-step process. It's equally as awkward to return to your current date in Outlook.
- The month view shows the start time and title for every event, however, the title gets truncated after a certain number of characters even when there's room in the day cell to view more of it.

The UC Berkeley Queer Calendar of Events <http://queer.berkeley.edu/calendar>

Figure 5. UCB Queer Calendar

campus and community NEWS

Sections

- queer berkeley
- HOME PAGE**
- queer-net
- NEWS**
- calendar of
- EVENTS**
- campus queer
- ORGANIZATIONS**
- queer message
- BOARDS**
- cal queer-related
- ACADEMICS**
- uc berkeley queer
- COMMUNITY**
- lesbian gay bi trans
- RESOURCES**
- create and edit
- YOUR PROFILE**

Post an Article

General Information

Login Name: (click here to get one) Password:

Title of Posting:

Categorize (Type and Email)

General Politics Women-Specific Spiritual Academic

Send this posting to all Queer Berkeley members

Event Details

Click here if this is an event! This will add your post to the Calendar of Events. If it is not an event, leave these boxes blank.

Contact Person: Contact Email:

Sponsor(s):

Location:

Date: Month Day , Year Cost:

Start Time: 0 : 00 am End Time: 0 : 00 am

Description

This is a campus calendar targeted towards the queer community at U.C. Berkeley which allows the general public to post events. You can only display your calendar in month view and in the grid format. To view the details of an event you click on its title and the page refreshes with the event details.

Positive Aspects

- Aesthetically pleasing appearance
- The start time for each event is displayed in the month view of your calendar.
- Although you can include HTML tags when entering your event description in the web form used to add an event to the calendar.

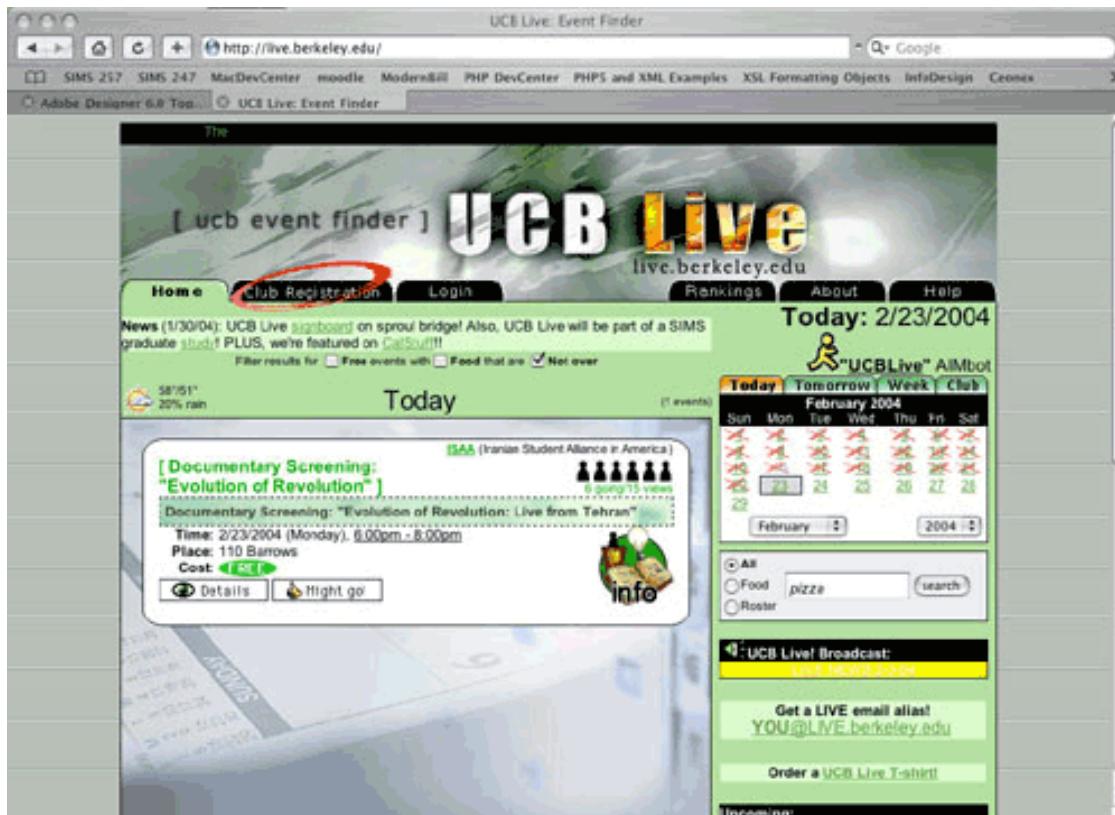
Negative Aspects

- If a day displays several events, that day's cell will stretch the grid view of the calendar, warping the display and forcing the user to scroll down to see the rest of the calendar.
- The calendar navigation is quite limited. If you want to navigate to a particular month you have to click on a "next" link that navigates you through every month until you reach the one you want.
- The month view in grid format is the only way to view your calendar.

- This calendar has no search, sort, or filter options for quick access to events.
- There is a rather large, and somewhat distracting, picture of a desktop calendar that serves as the background image of the Queer calendar.
- The same web form (shown above) used for posting an event is used for posting an article. If this isn't already confusing, the title of the page says "Post an Article". There is a checkbox next to a bolded sentence which asks you to select the checkbox if you are indeed posting an event. This sentence breaks the flow of the web form.
- The web form doesn't indicate which fields are required and which are optional when entering event or article information.
- Once you've added an event, it posts live in the calendar. The only way to remove your event or modify it is to contact the calendar administrator.

The UC Berkeley Live Calendar <http://live.berkeley.edu>

Figure 6. UC Berkeley Live Calendar



Description

UCB Live is a student run calendar intended for UCB students. The calendar allows approved student groups to create accounts and post, edit, or delete events. UCB Live displays events two weeks in advance. The home page displays the current day's events. A thumbnail month view of the calendar allows you to navigate to a particular day and view its events.

Positive Aspects

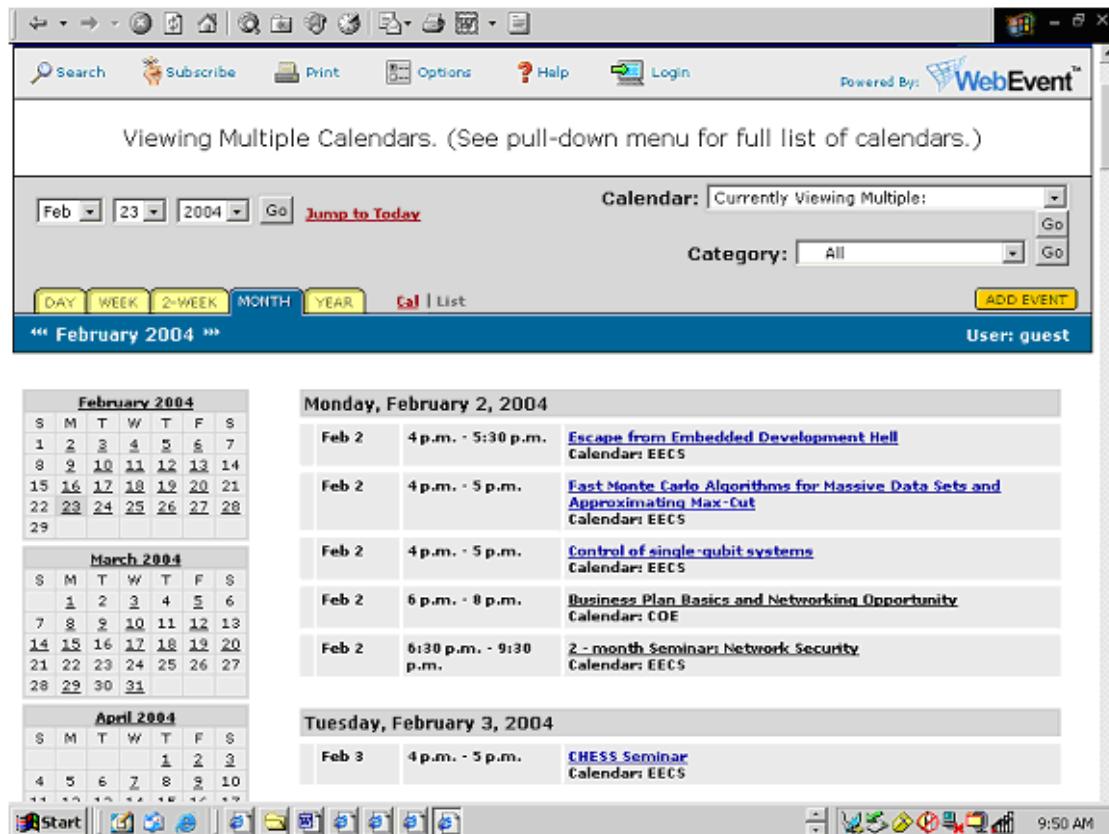
- This calendar includes several extra features of particular interest to students, such as the ability to search for free events and events offering food. The interface uses lots of icons to distinguish event types (eg. Sports, Entertainment etc.) and for quick scanning.
- When you view the details of an event you can email the contact person with a comment or notify him/her if you plan on attending the event.
- Every registered club automatically gets its own calendar, so that if you're interested in viewing events from a particular club, you can navigate to their calendar.
- UCB Live allows you to preview your event before posting.

Negative Aspects

- Because UCB Live doesn't really monitor the event postings, it's common to see the same event repeated multiple times in the calendar.
- It's common to see events that pertain to only several people. These events are more appropriate for a personal calendar not a campus-wide calendar.

WebEvent <http://webevent.com>

Figure 7. WebEvent



Description

WebEvent is a web based calendaring application that offers several options for displaying calendar events. WebEvent claims to integrate personal and group calendaring into one enterprise-wide system where public events can be published in a manner available to anyone while private events can be published to an intranet accessible to a particular audience only.

Positive Aspects

- Offers a day, week, two-week, month, and year view of your events. These choices are presented in a tabbed interface.
- Several calendar thumbnails (shown above) can be used to navigate to a particular day's events. You can also navigate month by month by clicking on links on either side of the month heading.
- WebEvent offers a convenient link for jumping to the current day.
- You can search for events by keyword, calendar, category, and date.
- WebEvent allows you to subscribe to events in order to be updated when event information changes and be notified via email before an event occurs.
- WebEvent has a convenient export feature for exporting event information in a comma separated values file.
- Provides a list and grid viewing format.

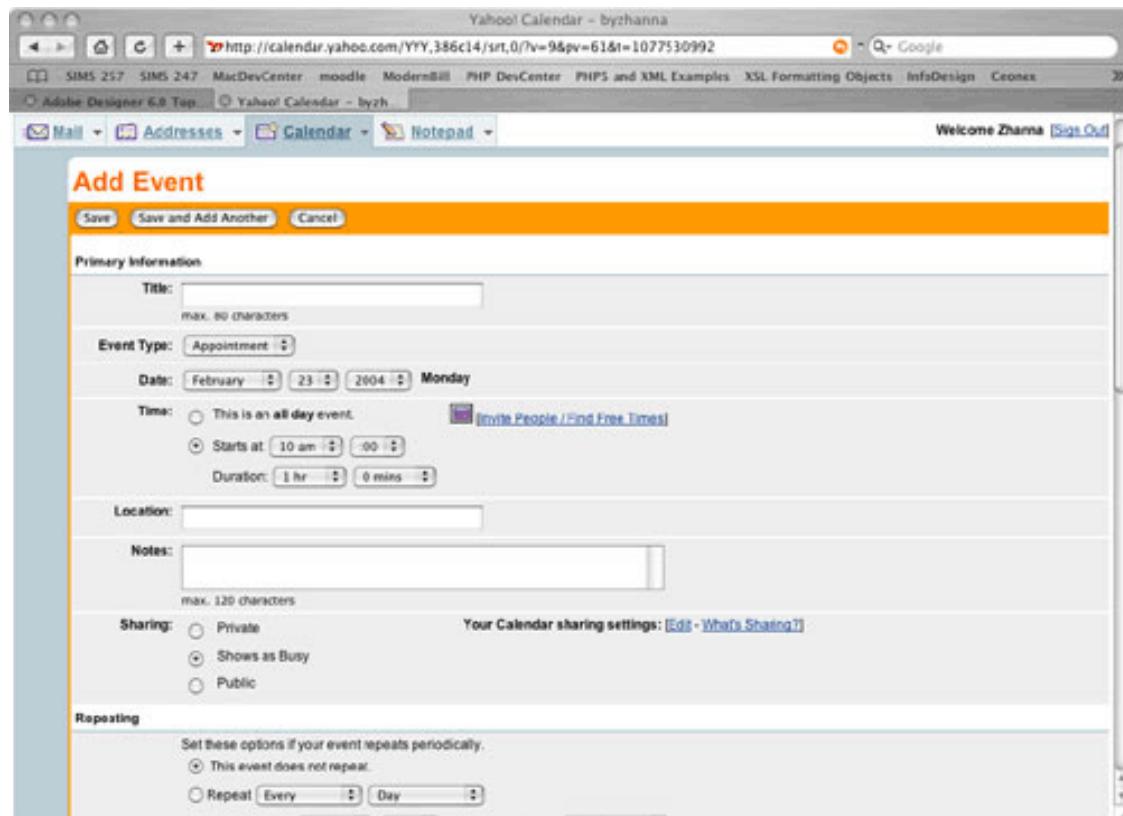
- WebEvent Includes handy features for calendar administrator features, such as giving them the choice to approve events before they post live or to allow events to post live as soon as they are entered.

Negative Aspects

- When viewing the month view in grid format, if several events are listed in a single day cell, that cell will stretch the calendar, warping its appearance and forcing the user to scroll downward to view the rest of the calendar.
- The web form used for adding an event doesn't support repeating events very well.
- The application doesn't devote enough room to the calendar because the calendar header, which is mainly for decorative purpose, is a fixed frame that occupies a quarter of the screen on a 1024x768 resolution.
- Although it's nice that WebEvent provides a printer-friendly version of the calendar, the view cuts off a part of the calendar.

Yahoo! Calendar <http://calendar.yahoo.com>

Figure 8. Yahoo! Calendar



The screenshot shows the 'Add Event' form on the Yahoo! Calendar website. The form is titled 'Add Event' and includes the following fields:

- Primary Information:**
 - Title:** (input field)
 - Event Type:** Appointment (dropdown)
 - Date:** February 23, 2004 (dropdown)
 - Time:** (radio buttons)
 - This is an all day event.
 - Starts at 10 am (dropdown)
 - Duration:** 1 hr 0 mins (dropdown)
- Location:** (input field)
- Notes:** (input field)
- Sharing:** (radio buttons)
 - Private
 - Shows as Busy
 - Public
- Repeating:** (checkbox)
 - This event does not repeat.
 - Repeat Every Day

Description

Yahoo! Calendar is a comprehensive web application for personal calendaring. The application allows for the customization of colors and layout, displays several calendar views, and has convenient sharing and publishing features.

Positive Aspects

- Yahoo! Calendar allows you to search for events.
- You can view your events in list and grid formats. In the list format you have several filter options that allow you to limit the number of events displayed.
- Yahoo! Calendar allows you to add tasks to a particular day.
- You can use the thumbnail calendar view to navigate your calendar. This thumbnail changes in appearance depending on your calendar view. For example, if you're in the day view of your calendar, the thumbnail displays all of the days in the month as links, however, if you're in the year view of your calendar, the thumbnail displays all of the months in the year as links.
- Yahoo! Calendars allows you to subscribe to sports events, financial information, and other event content that can be included along with your personal events.
- If you want to quickly add an event without having to navigate to the add event web form, Yahoo! Calendar provides a minimal web form at the bottom of each calendar page to quickly add an event.
- Because the web form for adding events is fairly long, allowing you to enter detailed event information, certain sections of the add form can be hidden and then exposed by clicking on a link.
- When including a date for your event, Yahoo! Calendar automatically displays the day of the week your event is taking place on.
- When adding an event to your calendar you can activate a pop up window that displays your current calendar and available dates and times so that you can avoid entering a conflicting event.
- You can add a note to your event.
- In the add event form, Yahoo! Calendar allows you to include the emails of those you would like to invite to your event.
- If you have multiple events to add to your calendar, the add form includes a button called "Save and Add Another Event".
- You can click on events directly to edit or delete them from your calendar.
- Yahoo! Calendar includes a section in the add event form for creating detailed rules for repeating events.
- Page level buttons, such as the "Save", "Save and Add Another", and "Cancel" buttons found in the add event form, are included at the top and bottom of the page.

Negative Aspects

- When adding an event to your calendar you're forced to enter a duration rather than simply including an end time for your event.

Usability Testing & Interface Design

We followed the principles taught in Marti Hearst's IS213: User Interface Design and Development class when evaluating and iterating through multiple interface designs for the Calendar Management Tool. We began with a usability evaluation of a paper prototype, then two versions of a lo-fi prototype, and finally a second interactive prototype. Our third interactive prototype is the final version of our system.

Goals

Our goals for our four usability testing sessions were essentially the same:

1. Ensure that participants can find and use the various functions in the interface
2. Determine whether the functionality provided is valuable to the participants
3. Determine whether the interaction flow is natural and intuitive and matches current user workflow
4. Determine whether the application will meet the needs of current calendar administrators

Lo-Fi Prototype & Usability Testing

Our lo-fi paper prototype consisted of wireframe screenshots of our task scenarios. The wireframes were intended to show the basic layout and interaction of our designs without additional detailed graphics. The GUI elements (i.e. buttons, text boxes, text fields, etc.) were created from a template and looked similar on all of our screens. Each screenshot included a browser frame to set the context of our web-based application. In addition to the screenshots, we printed stick-ons (i.e. drop-down menus, tables, etc.) to modify parts of the screen as users interacted with the interface. The paper prototype was printed in grayscale on 8.5 x 11 paper. We taped several pieces of paper together when we needed to create a longer, "scrollable" screen. In our design, certain parts of the screen would change color based on user interaction. In those cases, we marked our grayscale prototype with a colored highlighter.

The screen shots of the major sections of our lo-fi prototype can be found in Appendix E.

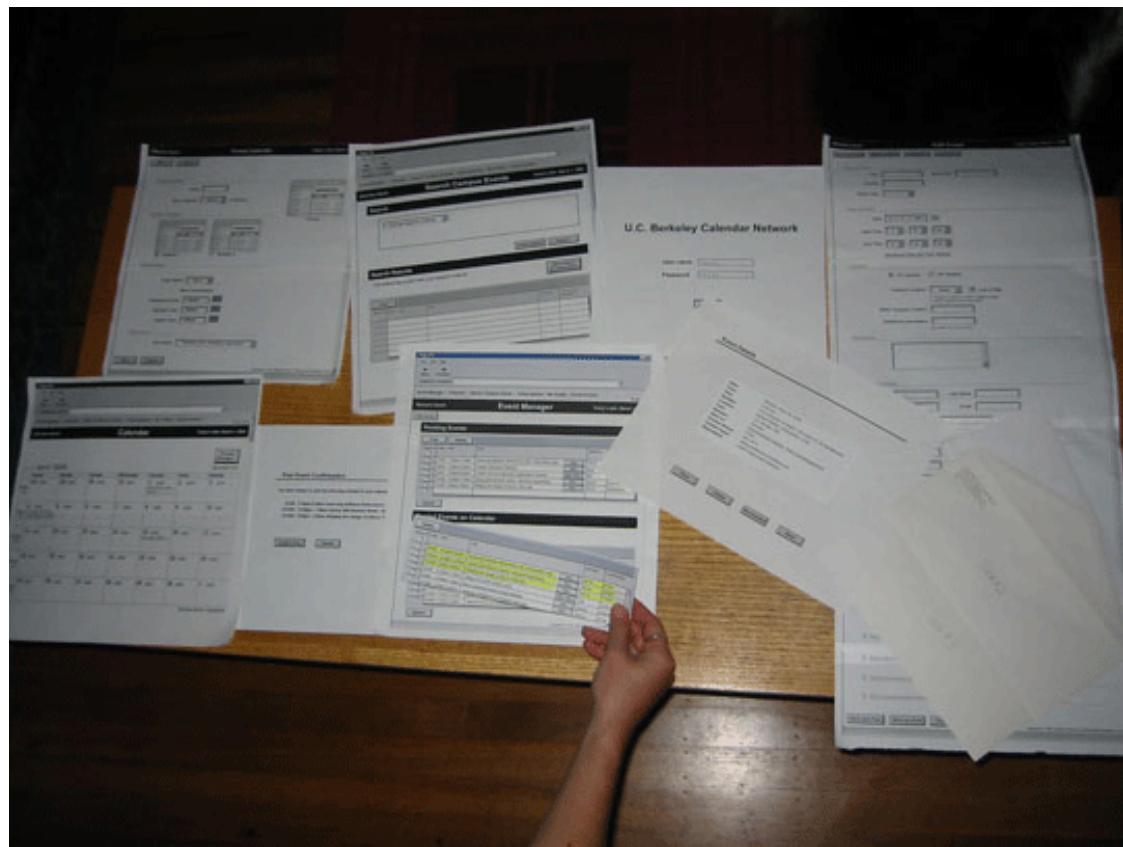
Participants

Three campus calendar administrators participated in our study. Each of the participants' calendars has different goals and thus dictates different needs for the system. Participant #1 only wants to display events from her own department but wants multiple users within her department to be able to add and edit events on the calendar. Participant #2 wants to display her department's own events but also aggregate events from other departments. Participant #3 does not create any events and instead has a calendar intended to aggregate and display all of the events of interest to the Berkeley campus community.

Testing Procedure

All four of our team members were in the room for each testing session. One team member conducted the testing session. She introduced the application, explained the purpose and logistics of the lo-fi testing and described each task scenario. She was the only one who spoke during the testing. One team member acted as the computer by choosing the correct "screen" to display in response to the participants actions; she did not speak during the testing except to explain the computer's actions. A second team member assisted with the computer by organizing the pieces of the paper prototype for each task but did not interact directly with the participant. She also timed how long it took each participant to do each task. The last team member sat beside the participant as an observer and took notes on a laptop.

Figure 9. The Lo-Fi Prototype in action



Each participant was given three task scenarios. The test conductor handed out three task sheets describing each scenario. The participant was given a chance to read through the tasks and ask any questions before she began. For each task, the participant was encouraged to think out loud and explain her actions as well as to physically interact with the prototype by using her finger as the mouse pointer. After all three tasks were completed, there was a brief interview in which all four team members participated. The participant was asked to share her overall impressions of the interface, tasks and workflow as well as to answer some specific questions about the system. Each testing session lasted approximately one hour.

The task scenarios included:

- Scenario #1: Post, Edit, & Delete Events
- Scenario #2: Add Event & Administer Calendar
- Scenario #3: Find Campus Event & Set Up Subscription

The full task scenarios can be found in Appendix D.

Major Findings

Overall, we were pleased to find that our general concept made sense to our test participants, and that they found the flow of the application was fairly logical. However, as we knew we would probably discover, several of our participants had difficulty with some of the terminology we used to describe the structure and functions of the application. We were also happy to hear that we seemed to be providing about the right level of functionality to calendar owners, although our Add Event form and Event Search

function need to be simplified.

Based on the results of this session of usability testing, we decided to make the following changes to the interface:

- Restructure the global navigation
- Rethink our terminology
- Simplify the Add Form
- Simplify the Event Search
- Reduce number of confirmation pages
- Reposition, highlight, and possibly rename "Filter" button
- Reposition "Export" button
- Separate "Date" and "Time" in all displays of Event data
- Make sure that Calendar Administrators can distinguish between Events that come in from an online "Add" form versus "Drafts" created by their staff

In addition, we decided to investigate whether the following features would be feasible:

- A "Notes" feature allowing users to send a note to other calendar administrators to whom they are recommending Events
- Email notification functionality to inform calendar administrators about added, changed, and deleted Events
- Provide different levels of access for users

First Interactive Prototype & Heuristic Evaluation

We incorporated many of the suggestions gleaned from our first round of usability testing into our first interactive prototype. Screenshots of this prototype can be found in Appendix F. The major changes we made included:

1. Completely changing the navigation to include three major sections (Event Manager, Calendar, & Format Calendar) and a sub-navigational menu for the Event Manager section (which included Add Event, Search, Subscribe, & Export)
2. The use of tabs to visually separate and section off long pages like Pending & Posted Events and Format Calendar
3. Added a "Quick Search" to the Search section
4. Reduced the number of confirmation messages and screens
5. No longer allowed events which had been shared with other calendars to be deleted

As part of our IS 213 classwork, another project team did a heuristic evaluation of our first interactive

prototype using the same task scenarios as were used during our usability testing of the paper prototype. Jakob Nielsen defines a heuristic evaluation as "the analysis of a user interface to determine what is good and bad about the usability of the interface. Generally this was accomplished through systematic inspection of the interface using a set of usability principles as criterion for determining what is good. The goal of heuristic evaluation is to identify usability problems so they can be eliminated."⁴

We fixed the main problems identified by our classmates in our second interactive prototype. The problems were:

- Navigation could still use improvement
- The "Filter By" options in the Event Manager are overwhelming
- It is sometimes confusing to allow actions to be executed in multiple ways (e.g. editing an event by clicking on a link from the event title as well as using an edit button)
- Confirmation messages should stand out more
- "Deleting" events is too strong a word
- "Cancel" & "Back" needed on Add form confirmation
- Need to standardize button locations

Second Interactive Prototype & Usability Study

The second interactive prototype reflected changes suggested by our classmates in the heuristic evaluation, as well as in reaction to problems found in an informal usability study we conducted. We had three calendar owner participants who used the same tasks and scenarios that were used in the heuristic evaluation. Screen shots of the second interactive prototype can be found in Appendix G.

The major changes made to the second interactive prototype included:

- Navigation
 - The global navigation was made larger in order to emphasize the hierarchy between it and the sub-navigation
 - Search was changed to Search Campus Events to make it clearer on what dataset the search was being conducted
- Event Manager
 - The Filter on the Posted tab was changed to Search and a link was added to expose the Advanced Search options on another page
 - Removed the View and View/Edit buttons. The links from the event title will now always take the user to an Event Details screen, and only events that are editable (meaning owned by the person using this Event Manager) will have Edit buttons. This will be a shortcut to a populated version of the Create Event form where the user can edit the event. Users can also access the populated Add Event form from the Event Details page.
- Create Event

⁴Jakob Nielsen, Usability Engineering, (San Francisco: Morgan: Morgan Kaufmann, 1994).

- Add Event was changed to Create Event to underscore the fact that it involved the creation of a new event, not the addition of an already existing event to a calendar
- Implemented the "Show/Hide Section" features so that only the first five sections are initially exposed to the user.
- General
 - Confirmation messages were given a yellow background
 - Made all buttons on all screens yellow, and located them on the left-hand side of the screen, with the most frequently-used button on the far left.

Following the completion of the second interactive prototype, another usability study was conducted.

Participants

We had three participants; one was male and two were female. Two of the participants are currently calendar administrators on campus and the third is a calendar content manager. One of these participants has a calendar which is an aggregator of campus events, and the other two have fairly high-level calendars which primarily post their own events but sometimes or often have a need to share their events with other departments or organizations on campus. All of the participants are very familiar with web-based applications and other calendaring tools.

Testing Procedure

All four of our team members were in the room for each testing session. One team member conducted the testing session. She introduced the application, explained the purpose and logistics of the study and described each task scenario. She was the only one who spoke during the testing. The other team members observed and took notes during the testing. One timed how long it took for the participants to complete each task. All of the team members were involved in asking questions at the end of each testing session.

Each participant was given three task scenarios. The participant was given all three task scenarios (each on a separate sheet of paper) at the beginning of the testing session and was given a chance to read through the tasks and ask any questions before she began. For each task, the participant was encouraged to think out loud and explain her actions as she interacted with the computer. After all three tasks were completed, there was a brief interview in which all four team members participated. The participant was asked to share her overall impressions of the interface, tasks and workflow as well as to answer some specific questions about the system. Each testing session lasted approximately one hour. See Appendix H for our usability testing notes.

As a follow-up to the testing session, each participant filled out a survey. This allowed them an opportunity to give us more feedback about our interface, and gave us more quantitative measures of the interface's usability. See Appendix I for the full list of survey questions.

Major Findings

Overall, our participants were pleased with our application. They found the system relatively easy to use, found that the interaction flow was natural and intuitive and matched their current workflow, and thought that the functionality provided was valuable. However, some thought functionality that they wouldn't use in their department, such as the Export function, was not as valuable. All participants thought this application would be helpful to many campus departments including their own. We were even surprised to find that one high-level calendar owner who had functionality on her site that we do not plan to reproduce in this release still had a use for our system. Even if she didn't use our application to create her website, she thought using the Create Event form in our application would be a great way to send event information to multiple departments. This is a task she regularly performs now by visiting

multiple sites and entering data individually for each calendar. Our testing verified that some interface design decisions we had made were helpful to our users. All participants liked being able to view their live calendar through the application, and most were really excited that we had provided a preview of what their formatting changes would look like in the Format Calendar section. We verified that users preferred to be able to click on the event's link to see a nicely formatted summary of event information, and appreciated the shortcut Edit button in the Event Manager which allowed them to bypass this screen and go directly to a populated version of the Create Event form. We also verified that the search options we offered in Search Campus Events seemed to be the right ones, and that the Create Event form was not too overwhelming, thought it was clear that it could still use some explanatory text for some of the more complicated fields. Two of the three participants thought it would be helpful to be able to be able to customize the way the Create Event form appeared to the user in the application.

The main problems experienced by participants that we have addressed in our final prototype included:

- Event Manager
 - Users had trouble finding some functions in the sub-navigation
 - Users would like to be able to search all tabs
 - Users did not think it was clear that the search boxes in each tab acted on that tab only
 - Users did not notice confirmation messages
- Format Calendar
 - Users were confused about the difference between Preview Calendar in the Format Calendar section and Calendar on the primary navigation
 - Restore Default Settings was unclear
- Event Details
 - The flow from this page doesn't make sense if the user doesn't want to take any action; the Cancel button doesn't seem appropriate
- Subscribe
 - It is confusing to include Event Date in the list of choices offered
- Create Event form
 - The concepts of Public vs. Private events (Event Status) and the meaning of Public Event Contact were not clear to users

In order to address these and other issues, we made the following changes to the final prototype:

- Event Manager
 - Changed the global navigation so Event Manager includes a "Department Name" Calendar Events section which will encompass the Pending/Posted/ Archived tabbed section
 - Put search functionality on all tabs (Pending, Posted, & Archived Events) and changed the label on the search button to indicate what tab the user is on (e.g. Search Posted Events)
 - Added green background to confirmation messages

- Format Calendar
 - Add explanatory text to Preview Calendar
 - Remove Restore Default Settings
- Event Details
 - Change Cancel button to Back
- Subscribe
 - Remove Event Date from the options offered
- Create Event form
 - Change Event Status to Event Sharing Status
 - Change Public Event Contact to Event Contact and add explanatory text
- Navigation
 - Change Calendar to View Live Calendar, move it to the right side, and give it a different style to indicate that it is different conceptually from the other areas of the application

System Design

Architecture

The architecture of our system is centered around a U.C. Berkeley Central Event Repository. This relational database will contain tables that map to our Event model. All calendars using the U.C. Berkeley Calendar Network will store their Event data in this repository. This will enable all calendars in the network to access their Event data if they have chosen to share it by marking their Events "public." Calendars who prefer not use the Central Event Repository to store data, but would still like to share their Event information or receive Event information from the repository, can communicate with it via an XML document. The schema for this Events.xml document can be found in Appendix A. It will be necessary to either use an XML-aware database such as Oracle 9i or build a parser that can translate these XML documents into relational database fields and vice versa for this type of communication to occur.

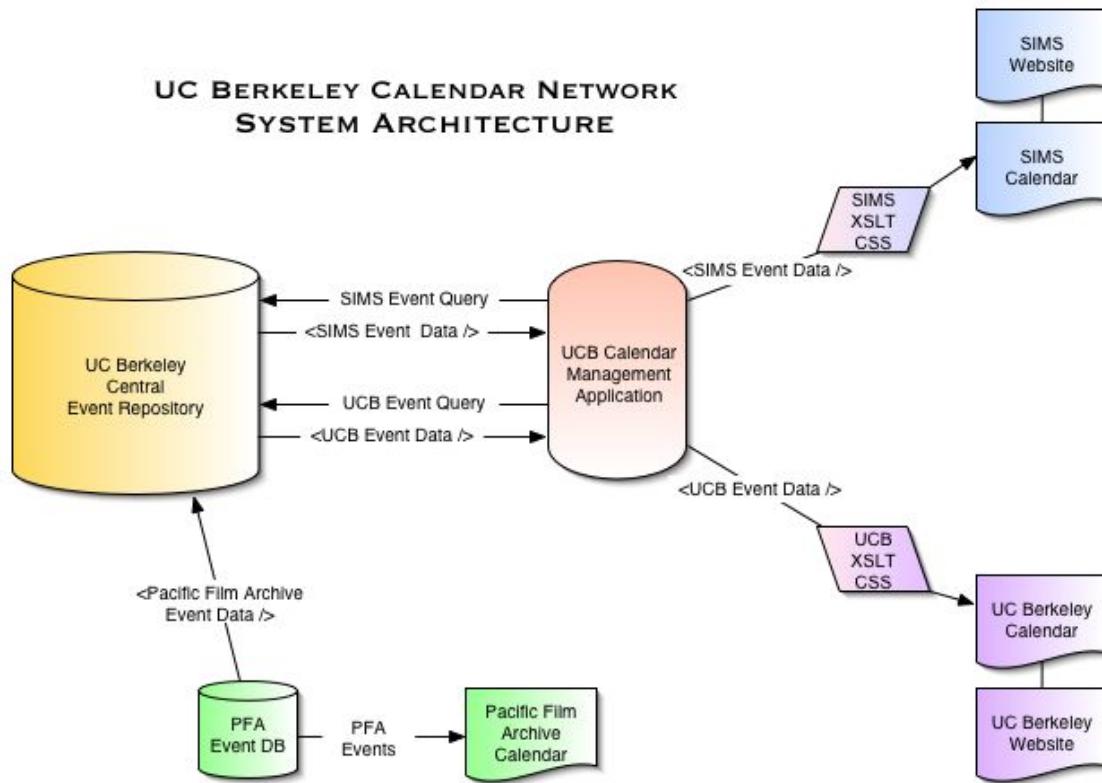
The UCB Calendar Management Application can be used to manage Event information within the repository, create a web-based calendar, or both. Some calendars will choose not to use our system to create their calendar because they have requirements for their website that cannot we will not be able to address in the early versions. However, they can still use the Event Management section of the Calendar Management Application to send data to all calendars using the Central Event Repository as well as manage any data they choose to send there.

Calendar Administrators may also decide to create their web-based calendar using our system. Our Calendar Management Tool provides a highly-designed, dynamic web-based calendar which can provide many different views of the same Event data. These views are created by applying XSL transforms & Cascading Style Sheets to Events.xml documents. Users can choose to use this default calendar, or use the Calendar Management Tool to modify our default calendar to reproduce the "look and feel" of their website within their calendar. Screen shots of this calendar can be found in Appendix K.

Calendars created with the Calendar Management Tool will be hosted on a central server which connects to the Central Event Repository using a physical three tier architecture. Thus, these calendars will

have a URL that reflects the central server's name. Calendars wishing to display their own URL instead of that of the central server can use a URL alias. When a website visitor chooses a calendar view, a query with the type of information they would like to see (e.g. All events in January for the Letters & Science calendar) will be sent to the Central Repository. The data will be parsed into an XML document and transformed using an XSL stylesheets to provide the user with the requested display. Caching will be used to make the display of each calendar as efficient as possible.

Figure 10. UC Berkeley Calendar Network System Architecture



Functional Specification for the Calendar Management Tool

Event Manager

The Event Manager comprises the main set of functionality in the U.C. Berkeley Calendar Network Tool. It provides all of the functionality needed to manage events. This includes:

- Creating, editing or deleting events
- Posting or removing events from the calendar
- Searching for events on other calendars within the network
- Setting up subscriptions for particular types of events from other calendars within the network

- Exporting event data out of the system

Calendar Events

Calendar Events is the main page of the Event Manager and is the first page displayed after login. It contains all of the event data for the account. The event data is separated into three different sections: pending events, posted events and archived events. Each section is displayed as a separate tab within the body of the page.

Pending Events

Figure 11. Calendar Events Page - Pending Tab

The screenshot shows the 'Pending' tab of the 'SAMS Calendar Events' section. The page includes a search bar, a table of pending events, and a footer.

Select all	Event Date & Time	Title	Sponsor	Source	Received
<input type="checkbox"/>	05-14-04 10:30AM - 1:20PM	Final Project Presentations: Round 2 <input type="button" value="Edit"/>	School of Information Management & Systems	Draft	05-09-04
<input type="checkbox"/>	05-19-04 2:00PM - 5:00PM	e-Berkeley Symposium	e-Berkeley	Recommendation	05-09-04

The Pending events tab displays a list of events that are not yet posted to the calendar. These events can come from five different sources:

- Draft: An event created by the account owner that was saved as a draft. This is done via the Create Event form described in section 6.2.1.2.
- Subscription: An event matching the search criteria in a subscription that specifies "manual approval". See section 6.2.1.4 for further explanation.
- Recommendation: An event that was recommended by another account owner within the network. See section 6.2.1.6.1 for further explanation.
- Search: An event found via "Search Campus Events" that was saved as pending. See section 6.2.1.3

for further explanation.

- External Add form: An event entered via an external add form that is open to the public or a designated audience via the Internet.

There are five data fields displayed for each pending event. These include:

- Event Date & Time - The date and time when the event is occurring.
- Title - The title of the event.
- Sponsor - The account that created the event.
- Source - One of the five options described above.
- Received - The date on which the event was received into the pending list.

Posted Events

Figure 12. Calendar Events Page - Posted Tab

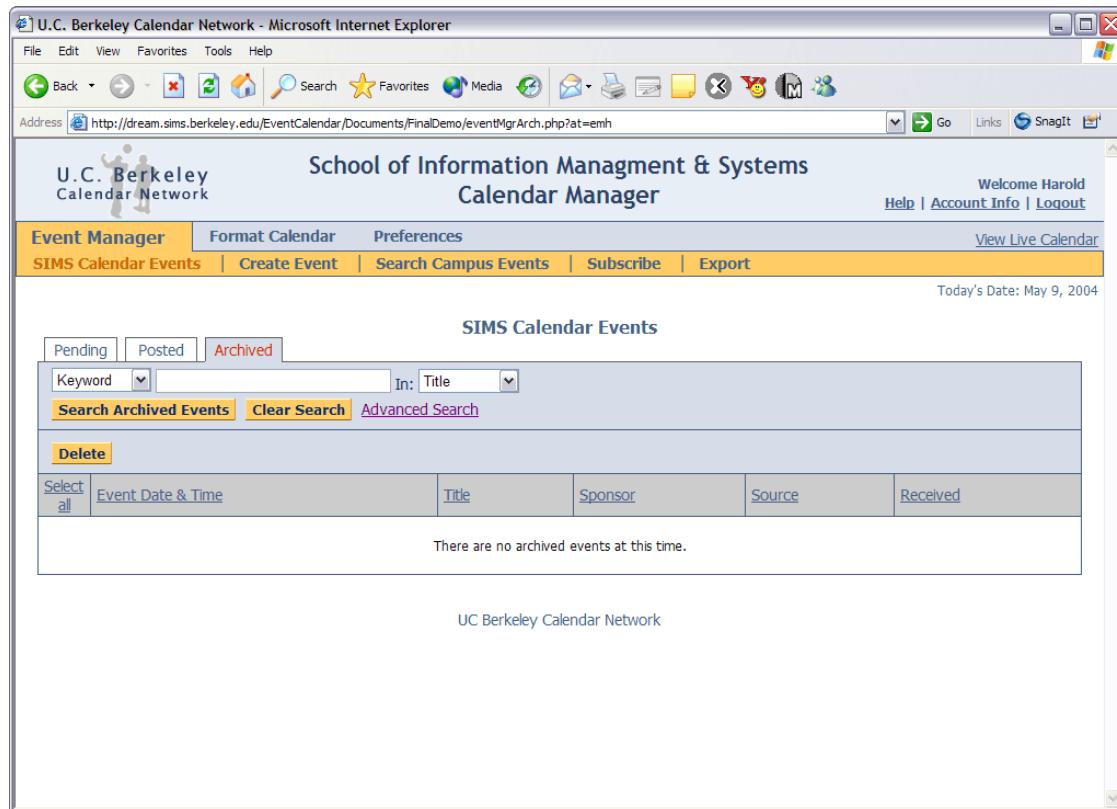
Event Date & Time	Title	Sponsor	Source
05-10-04 4:00PM - 5:00PM	CDE Lecture	Edit	School of Information Management & Systems Owner
05-12-04 1:00PM - 5:30PM	Final Project Presentations: Round 1	Edit	School of Information Management & Systems Owner
05-13-04 12:30PM - 5:50PM	Final Project Presentations: Round 1	Edit	School of Information Management & Systems Owner
05-15-04 1:00PM - 2:00PM	SIMS Graduation Ceremony	Edit	School of Information Management & Systems Owner
05-15-04 12:00AM - 12:00AM	Graduation Reception	Edit	School of Information Management & Systems Owner
05-17-04 4:00PM - 5:25PM	Tangible User Interface Input: Tools and Techniques		Electrical Engineering and Computer Science Subscription
05-17-04 9:00AM - 10:15AM	Revisiting Virtual Communities		Graduate School of Journalism Search

The Posted events tab displays a list of events that are currently posted to the live calendar. There are four data fields displayed for each posted event. These include:

- Event Date & Time - The date and time when the event is occurring.
- Title - The title of the event.
- Sponsor - The account that created the event.
- Source - One of the five options described above.

Archived Events

Figure 13. Calendar Events Page - Archived Tab



The Archived events tab displays a list of events for which the event date has passed the live calendar display threshold (see section 6.2.2.1 General Appearance: Calendar Display Range). At that point, the event automatically moves from the posted tab to the archived tab. There are four data fields displayed for each archived event. These include:

- Event Date & Time - The date and time when the event is occurring.
- Title - The title of the event.
- Sponsor - The account that created the event.
- Source - One of the five options described above.

Available Actions in the Calendar Events Tabs

The following actions are available within the Calendar Events tabs. Each action is available in any of the three tabs unless otherwise noted.

- Sort - The default sort for each tab is by Event date and time. Clicking on the column title for any of the available data fields will resort the events within that tab by the chosen data field.
- Simple Search- The default search is a simple keyword search of the event title or description. Other choices available via a drop-down menu are search by sponsor, event type, participant, location or event date. Once the criterion has been specified, clicking the search button will search for matching events within the current tab only and replace that event list with the search results. Choosing the clear search button will return the full list of events.
- Advanced Search - Clicking the advanced search link expands the search area to allow multiple criteria to be selected together creating a narrower search.

Figure 14. Calendar Events Page - Advanced Search

Event Manager

Advanced Search (Choose One Or More Search Criteria)

Event Date-Time	Title	Sponsor	Source
05-10-04 4:00PM - 5:00PM	CDE Lecture	School of Information Management & Systems	Owner
05-12-04 1:00PM - 5:30PM	Final Project Presentations: Round 1	School of Information Management & Systems	Owner
05-13-04 12:30PM - 5:50PM	Final Project Presentations: Round 1	School of Information Management & Systems	Owner
05-15-04 1:00PM - 2:00PM	SIMS Graduation Ceremony	School of Information Management & Systems	Owner
05-15-04 12:00AM - 12:00AM	Graduation Reception	School of Information Management & Systems	Owner
05-17-04 4:00PM - 5:25PM	Tangible User Interface Input: Tools and Techniques	Electrical Engineering and Computer Science	Subscription
05-17-04 9:00AM - 10:15AM	Revisiting Virtual Communities	Graduate School of Journalism	Search

- View Event Details - Clicking on an event title will display the Event Details page for that event. See section 6.2.1.6 for more information.
- Multiple Item Post (Pending tab only) - The post button on this tab acts upon the events selected via the check boxes in the left most column. Clicking this button will display a confirmation page listing the selected events with options to continue or cancel. When continue is chosen, the selected events will be posted to the live calendar and the events move from the pending tab to the posted tab.
- Multiple item Delete (Pending & Archived tabs only) - The delete button acts upon the events selected via the check boxes in the left most column. Clicking this button will display a confirmation page listing the selected events with options to continue or cancel. The selected events will be deleted from the network (if owned by the account) or removed from the account (if not owned).
- Edit (Pending & Posted tabs only) - Events that are owned by the account will have an edit button on the right side of the title column. Clicking this button displays the create event form prepopulated with the data for the chosen event allowing the data to be edited.

Create Event

Figure 15. Create Event Page

U.C. Berkeley Calendar Network - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Home Search Favorites Media Mail Links Snagit

Address: <http://dream.sims.berkeley.edu/EventCalendar/Documents/FinalDemo/addEvent.php?at=emc> Go Links Snagit

U.C. Berkeley Calendar Network

School of Information Management & Systems
Calendar Manager

Welcome Harold
[Help](#) | [Account Info](#) | [Logout](#)

Event Manager [Format Calendar](#) [Preferences](#) [View Live Calendar](#)

[SIMS Calendar Events](#) | [Create Event](#) | [Search Campus Events](#) | [Subscribe](#) | [Export](#)

Today's Date: May 9, 2004

Create Event

[Save and Post](#) [Save as Draft](#) [Preview](#) [Cancel](#)

Event Sharing Status

Public (Your event will be available to any UC Berkeley calendar)
 Private (Your event will only be available to your calendar)

Title and Type

*Title
Subtitle
Event Type

Date and Time

Date
Start Time :
End Time :
[Advanced Date and Time Options](#)
(eg. repeating dates, date span etc.)

Location

On Campus Off Campus
Select Campus Location Link to Map OR Enter a Location
Room Name/Number
eg. Room 123
Additional Information
eg. Meet at Front Steps

Event Details

Description
Webpage Link
eg. <http://www.eventwebsite.com>
Image [Browse...](#)
eg. <http://www.eventwebsite.com/eventimage.gif>
Refreshments
eg. Sandwiches, Pizza

Event Contact Info

This is the contact information to be used by the public for questions about the event.

Contact Name
Email
Telephone

Event Participants [\[Show Section\]](#)

Event Sponsors [\[Show Section\]](#)

Admission Information [\[Show Section\]](#)

Internal Note [\[Show Section\]](#)

[Save and Post](#) [Save as Draft](#) [Preview](#) [Cancel](#)

This page is a form for entering a new event into the system. The available data fields are based on the event model. There are two required fields: event sharing status and event title. Event sharing status is a choice between 'public' or 'private'. Choosing 'public' makes the event available to other calendars in the network once it has been posted on the owner's calendar. Choosing 'private' means the event will only be displayed on the owner's calendar and the event will not be available to other calendars in the network.

Available Actions in Create Event

There are four buttons in the Create Event form:

- Save and Post - Choosing this option displays the entered data on a confirmation page for review with the option to continue or go back to the form. Choosing continue posts the event to the calendar immediately. A date must be entered in order to complete this option. If the event is 'public' it will be available to other calendars in the network.
- Save as Draft - Choosing this option displays the entered data on a confirmation page for review with the option to continue or go back to the form. Choosing continue saves the event in the pending list. The event is considered in a draft stage so even if it is marked as 'public', it will not be available to the calendar network until it has been posted.
- Preview - Choosing this option opens a separate window to display a preview of the event as it would be displayed on the live calendar. The only action available in this window will be a button to close it. The event will not be saved unless one of the save buttons is clicked.
- Cancel - Choosing this option returns the user to the Calendar Events page and all data entered is discarded.

Search Campus Events

Figure 16. Search Campus Events Page

The screenshot shows a Microsoft Internet Explorer window displaying the U.C. Berkeley Calendar Network. The title bar reads "U.C. Berkeley Calendar Network - Microsoft Internet Explorer". The address bar shows the URL "http://dream.sims.berkeley.edu/EventCalendar/Documents/FinalDemo/searchEvents.php?at=ems". The page header includes the "School of Information Management & Systems" logo and the "Calendar Manager" title. A navigation bar at the top has tabs for "Event Manager" (which is selected), "Format Calendar", "Preferences", "SIMS Calendar Events", "Create Event", "Search Campus Events", "Subscribe", and "Export". On the right, there are links for "Welcome Harold", "Help", "Account Info", and "Logout". The date "Today's Date: May 9, 2004" is also displayed. The main content area is titled "Search Campus Events". It contains a "Search" section with a "Keyword" input field, an "In: Title" dropdown, and buttons for "Search", "Clear Search", and "Advanced Search". Below this is a "Save Search As Subscription" button. The "Search Results" section displays a table with the following columns: "Select", "Date - Time", "Title", "Sponsor", and "Live on your calendar?". The "Select" column has a "Select all" link. The "Title" column has a "Post" link. The "Live on your calendar?" column has a "Live on your calendar?" link. The footer of the page says "UC Berkeley Calendar Network".

One of the benefits of the calendar network is that one calendar can easily post an event from another calendar without anyone having to manually re-enter or maintain the data. This also prevents duplication of data because an event is entered once and can be displayed on multiple calendars. This page provides the functionality to search the network's repository of public events. Only events that have been designated as 'public' will be searchable. The search mechanism is the same as the search mechanism used on the tabs in the Calendar Events (see section 6.2.1.1.4).

After choosing a set of search criteria and clicking the search button, the results are displayed in a table below the search section. The data fields displayed for each event in the search results include:

- Event Date & Time - The date and time when the event is occurring.
- Title - The title of the event.
- Sponsor - The account that create the event.
- Live on your calendar? - A yes/no field indicating whether the event is already posted on the account's calendar.

Available Actions in Search Campus Events

The following actions are available after receiving search results:

- Sort - The default sort for the search results is by Event date and time. Clicking on the column title for any of the available data fields will resort the search results by the chosen data field.
- View Event Details - Clicking on an event title will display the Event Details page for that event.

See section 6.2.1.6 for more information.

- **Multiple Item Post** - The post button in the search results table acts upon the events selected via the check boxes in the left most column. The selected events will be posted to the live calendar and the events will be listed on the posted tab of the Calendar Events page.
- **Save Search as Subscription** - This option allows the chosen search criteria to be saved as a subscription. It opens the subscription page and prepopulates the search criteria in step one of the "create a subscription" form. See section 6.2.1.4 for more information.

Subscribe

Figure 17. Subscribe Page

U.C. Berkeley Calendar Network - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Search Favorites Media Print Mail SnagIt

Address http://dream.sims.berkeley.edu/EventCalendar/Documents/FinalDemo/subscribe.php?at=emb

School of Information Management & Systems
Calendar Manager

Welcome Harold
Help | Account Info | Logout

Event Manager Format Calendar Preferences

SIMS Calendar Events | Create Event | Search Campus Events | **Subscribe** | Export

View Live Calendar

Today's Date: May 9, 2004

Current Subscriptions

Delete				
Select all	Title	Approval	Time Period	Expiration Date
<input type="checkbox"/>	EECS - User Interface	Edit	Manual	1 month

Create a New Subscription

* Required

Step #1: Choose One Or More Search Criteria

Keywords: In

Sponsor: Campus Groups Or Other

Event Type: Conference Hold down 'ctrl' (PC) or 'command' (Mac) to choose more than one

Participant: First Name Last Name

Location: Campus Locations Or Other Hold down 'ctrl' (PC) or 'command' (Mac) to choose more than one

Step #2: Select Options

***Approval:** Automatic (Subscribed events will automatically post to your calendar as they are entered.) Manual (Subscribed events will appear in your pending list.)

***Time Period:** I want to receive events that occur ahead or less.

Expiration Date:

Step #3: Name Your Subscription

***Name:** eg. Civil Engineering Seminars

Subscribe **Preview Results** **Clear** **Cancel**

UC Berkeley Calendar Network

The purpose of this page is to allow account owners to set up subscriptions for specific kinds of events. A subscription is a saved set of search criteria (e.g. seminars sponsored by the Biology department that contain the keyword 'environment' in the description). Each time a public event matching the search criteria of the subscription is entered into the calendar network, the event will be added to the subscribed account.

Create a New Subscription

The lower section of the Subscribe page contains the form used to create a new subscription. The process consists of three steps:

- Step 1: Choose One or More Search Criteria - The available search criteria include keyword, sponsor, event type, participant and location.
- Step 2: Select Options - The three subscription options include:
 - Approval - This option is required. The available choices are 'manual' or 'automatic'. 'Manual' indicates that when events matching the search criteria of the subscription are found, they will be listed in the account's list of pending events. 'Automatic' means that when matching events are found, they will automatically be posted to the account's calendar and will be listed in the account's list of posted events.
 - Time Period - This is a required field which adds a time constraint to the subscription. It is an indication of how far into the future a matching event will be added to the account. For example if the selected time period is 'one month' then the subscription searches for events matching the search criteria that occur within one month of the present date.
 - Expiration Date - This is an optional field representing the date after which the subscription will no longer be valid and will cease searching for matching events.
- Step 3: Name Your Subscription - A text field to allow the user to provide a name for the subscription which will be displayed in the Current Subscriptions list.

There are four available buttons to act upon the form:

- Subscribe - Clicking this button saves and activates the subscription. The subscription will be listed in the Current Subscriptions table.
- Preview Results - Clicking this button will run a search using the chosen criteria on the current set of events in the network. The results will be displayed in a separate window. The only actions available within this window are to view the details of an event by clicking on the event title or closing the preview window.
- Clear - Clicking this button clears the data from the form.
- Cancel - Clicking this button returns the user to the Calendar Events page and discards any data entered into the form.

Current Subscriptions

This first section of the Subscribe page contains a table listing each of the subscriptions belonging to the account. The following data fields are listed for each subscription:

- Title - The title given to the subscription.

- Approval - Manual or Automatic. See Step 2 above for a more detailed description.
- Time Period - The time constraint on the subscription. See Step 2 above for a more detailed description.
- Expiration Date - Optional expiration date for the subscription. See Step 2 above for a more detailed description.

The following functionality is provided to manage the current subscriptions:

- Edit - Each subscription listed in the table will have an Edit button to the right of the title. Clicking on this button changes the bottom section of the page from "Create a New Subscription" to "Edit Subscription" and prepopulates the form with the data from the chosen subscription allowing it to be edited.
- Delete - The delete button acts upon the subscriptions selected via the check boxes in the left most column. The selected subscriptions will be deleted from account.

Export

Figure 18. Export Page

U.C. Berkeley Calendar Network - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Address <http://dream.sims.berkeley.edu/EventCalendar/Documents/FinalDemo/export.php?at=eme>

School of Information Management & Systems
Calendar Manager

Welcome Harold
[Help](#) | [Account Info](#) | [Logout](#)

Event Manager Format Calendar Preferences

SIMS Calendar Events | Create Event | Search Campus Events | Subscribe | Export

Today's Date: May 9, 2004

Export

Step #1: Choose Data Set(s) to Export

Select	Data Set
<input type="checkbox"/>	Pending Events
<input type="checkbox"/>	Posted Events
<input type="checkbox"/>	Archived Events

Step #2: To Filter Above Data Set(s), Choose One Or More Search Criteria (Otherwise Skip to Step #3)

Keywords: In Or Other

Sponsor: African-American Studies
Bear Stage Productions
Civil & Environmental Engineering
Department of Comparative Literature
Hold down 'ctrl' (PC) or 'command' (Mac) to choose more than one

Event Type: Conference
Course
Exhibit
Lecture
Hold down 'ctrl' (PC) or 'command' (Mac) to choose more than one

Participant: First Name Last name

Location: Campus Locations Or Other
Barrows Hall
Campanile
Evans
Hearst Museum of Anthropology
Hold down 'ctrl' (PC) or 'command' (Mac) to choose more than one

Event Date From To

Step #3: Select File Type to Export

File Type: ACT! 2.0 Contact Manager for Windows
ACT! 3.x, 4.0 Contact Manager for Windows
Comma Separated Values (DOS)
Comma Separated Values (Windows)
dBase
Hold down 'ctrl' (PC) or 'command' (Mac) to choose more than one

Buttons:

UC Berkeley Calendar Network

This page provides functionality to export event data out of the account using the chosen file format. The page contains a form with three steps:

- Step 1: Choose Data Set(s) to Export - This step allows the user to select which data sets to include

in the export by checking the selection box next to the corresponding data set. The choices are: pending events, posted events and archived events. More than one data set may be chosen.

- Step 2: To Filter Above Data Set(s), Choose one or more search criteria (otherwise skip to step 3) - This step is optional and allows the data sets to be filtered based on any combination of filter criteria. If no criteria are chosen, the entire selected data sets will be exported. The available criteria are keyword in title or description, sponsor, event type, participant, location and event date.
- Step 3: Select Export file type - This step allows the user to choose the file format of the exported data set.

There are three available buttons to act upon the form:

- Export - Clicking this button opens a standard 'Save File As' dialog box to allow the user to name the exported file and select the location to save it to.
- Clear - Clicking this button clears the data from the form.
- Cancel- Clicking this button returns the user to the Calendar Events page and discards any data entered into the form.

Event Details

Figure 19. Event Details Page

The screenshot shows a Microsoft Internet Explorer window displaying the U.C. Berkeley Calendar Network. The title bar reads "U.C. Berkeley Calendar Network - Microsoft Internet Explorer". The address bar shows the URL: <http://dream.sims.berkeley.edu/EventCalendar/Documents/FinalDemo/eventDetail.php?at=em&loc=ps&eid=19>. The main content area is titled "Event Details" and displays the following information:

Event Sharing Status: public
Title: Final Project Presentations: Round 1
Date: 05-12-04
Time: 1:00PM - 5:30PM
Campus Location: South Hall
Description: Come hear the graduating Masters' students present their final projects!

On the right side of the event details, there is a small thumbnail image of a building with trees in the background. At the bottom of the page, there are three buttons: "Edit", "Recommend", and "Delete". The footer of the page reads "UC Berkeley Calendar Network".

The event details page is displayed when the title of an event is clicked on. This functionality is available in several places throughout the application wherever an event is listed with a hyperlinked title (e.g. pending events, posted events, archived events, search results). The event data is displayed for review. If the event is owned, all of the event data will be displayed. If the event is not owned, only the 'public' data that is displayed in the calendar will be displayed.

Available Actions in Event Details

From the event details page, some combination of the following actions are available:

- Back to... - A link at the top of the event details page that takes the user back to the page they came from.
- Edit - If the event is owned by the account, the event details page will contain an edit button which displays the create event form prepopulated with the data for the chosen event allowing it to be edited.
- Post - If the event has not been posted to the account's calendar, the post button will be available. Clicking this button will post the event to the live calendar and the event will be listed on the posted tab of the Calendar Events page.
- Remove/ Delete - If the event is currently in the pending list or posted to the calendar the option to remove/delete the event will be available. If the event is owned by the account, the option is 'delete' and choosing it will cause the event to be deleted from the account and the calendar network event repository. If the event is not owned by the account, the option is 'remove' and choosing it will cause the event to be deleted from the account only.
- Recommend - A non-owned event or an owned and posted event can be recommended to other calendars within the network. Clicking this button causes the event details page to expand and display a list of network calendars that have agreed to receive recommendations. The user selects the calendars to receive the event and clicks the Recommend button. The event will then appear in the pending list of the account(s) receiving the recommendation.

Figure 20. Event Details Page - Recommend

U.C. Berkeley Calendar Network - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Home Search Favorites Media Mail Links SnagIt

Address: <http://dream.sims.berkeley.edu/EventCalendar/Documents/FinalDemo/recomm> Go Links SnagIt

Google Search Web Site popups allowed Dictionary.com Dictionary Search Thesaurus Search

Y! Search Web Mail Address Book My Yahoo! Groups Maps Yellow Pages Messenger Sign Out

U.C. Berkeley Calendar Network **School of Information Management & Systems** **Calendar Manager**

Welcome Harold [Help](#) | [Account Info](#) | [Logout](#)

Event Manager [Format Calendar](#) [Preferences](#) [View Live Calendar](#)

[SIMS Calendar Events](#) | [Create Event](#) | [Search Campus Events](#) | [Subscribe](#) | [Export](#)

Today's Date: May 10, 2004

Event Details

[« Back to SIMS Calendar Events](#)

Event Sharing Status: public

Title: [Final Project Presentations: Round 1](#)

Date: 05-12-04

Time: 1:00PM - 5:30PM

Campus Location: South Hall

Description: Come hear the graduating Masters' students present their final projects!

Please select the campus group(s) to which you would like to recommend this event.
The following list consists of campus groups that have agreed to receive recommended events.

--All Campus Groups--

- Academic Achievement Programs
- Academic Compliance Office
- Academic Geriatric Resource Program
- Academic Preparation and Articulation
- Academic Senate
- Afghan Student Association
- African-American Law & Policy Report
- African-American Studies
- Agricultural and Resource Economics

Hold down 'ctrl' (PC) or 'command' (Mac) to choose more than one

Recommend **Cancel**

Format Calendar

Figure 21. Format Calendar Page

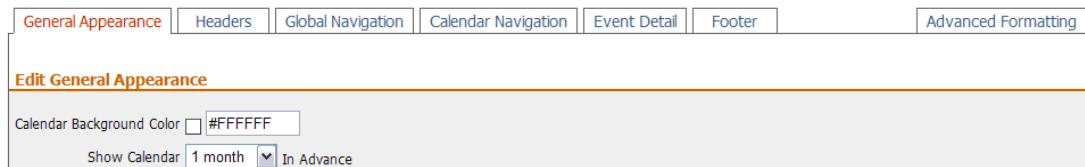
The Format Calendar page allows calendar administrators to customize their calendar's 'look-and-feel' by modifying the settings in each of its five sections: General Appearance, Headers, Global Navigation, Calendar Navigation, Event Detail and Footer. These sections are displayed as separate tabs within the body of the page. The application then generates calendar views with a XSL transform and CSS file stored within the system. For more advanced users who want to have greater control over the appearance of their calendar, beyond the customization settings of the application, they can choose to replace the default XSL transform and CSS files with their own in the Advanced Settings Tab. There are currently two examples of custom calendar views using XSL transform and CSS: 'horznav_list_month_transform.xsl' and 'horznav_grid_month_transform.xsl'.

Above the tabbed sections is an abstracted preview of what the calendar looks like. It is abstracted because it only shows the current settings for font style and color. It also does not show the actual calendar event content, instead it shows labels in place of actual data. For example the label "Header Text" is placed in the header instead of the actual text displayed on the calendar. In addition, there are pink name tags labeling each section or aspect of the calendar that is customizable. These name tags correspond to the name of the settings in the five tabs to let users know what their settings will affect. Once users change the settings in the tabbed sections, the abstracted preview will update dynamically to display the current settings.

At anytime, users can click the "Save All Changes" and "Preview Your Calendar" buttons that appear at the top and bottom of the page. The "Save All Changes" button will save user changes from all the tabbed sections. Once changes are saved, they will appear in the live calendar. The "Preview Your Calendar" button will open up a new window to display the calendar with the current settings applied to it. This is only a temporary preview and does not reflect the appearance of the live calendar. If users do not save their changes even after previewing their calendar, they will lose the changes when they leave the Format Calendar page.

General Appearance

Figure 22. Format Calendar Page - General Appearance Tab



The General Appearance tab affects the style for the entire calendar. It includes settings for:

- Calendar Background Color - Users can set the color in two ways. They can click on the colored square next to the label to bring up a color picker or input the hex value of the color into the text field.
- Calendar Display Range - Users need to specify the range of dates available to view on the live calendar. For example, if it is currently the month of May and users choose to 'show calendar 1 month before and 1 month ahead of the current month' then the calendar will display all the events in April, May and June. This is the "live calendar display threshold" which determines when an event is considered archived. See section 6.2.1.1.3.

Headers

Figure 23. Format Calendar Page - Headers Tab

General Appearance	Headers	Global Navigation	Calendar Navigation	Event Detail	Footer	Advanced Formatting																								
<p>Edit Header</p> <p>Choose one option to edit your main header.</p> <p><input checked="" type="radio"/> Edit Header <input type="radio"/> Upload Graphic Header <input type="radio"/> Edit Header HTML</p> <p>Header Text <input type="text"/></p> <p>Text Font and Size <input type="text"/> Trebuchet MS <input type="button"/> Large <input type="button"/> <input checked="" type="checkbox"/> Bold</p> <p>Text Color <input type="text"/> #FFFFFF</p> <p>Text Alignment <input type="button"/> Center <input type="button"/></p> <p>Background Color <input type="text"/> #6699CC</p> <p>Edit Date Header</p> <p>Text Font and Size <input type="text"/> Tahoma <input type="button"/> Small <input type="button"/> <input checked="" type="checkbox"/> Bold</p> <p>Text Color <input type="text"/> #FFFFFF</p> <p>Text Alignment <input type="button"/> Left <input type="button"/></p> <p>Background Color <input type="text"/> #336699</p> <p>Link Styles</p> <table border="0"> <tr> <td>Normal <input type="text"/> #FFFFFF</td> <td><input type="checkbox"/> Underline</td> <td><input checked="" type="checkbox"/> Bold</td> </tr> <tr> <td>Active <input type="text"/> #FFFFFF</td> <td><input type="checkbox"/> Underline</td> <td><input checked="" type="checkbox"/> Bold</td> </tr> <tr> <td>Visited <input type="text"/> #FFFFFF</td> <td><input type="checkbox"/> Underline</td> <td><input checked="" type="checkbox"/> Bold</td> </tr> <tr> <td>Hover <input type="text"/> #CC6633</td> <td><input type="checkbox"/> Underline</td> <td><input checked="" type="checkbox"/> Bold</td> </tr> </table> <p>Edit Date Subheader</p> <p>Text Font and Size <input type="text"/> Tahoma <input type="button"/> Small <input type="button"/> <input checked="" type="checkbox"/> Bold</p> <p>Text Color <input type="text"/> #003366</p> <p>Text Alignment <input type="button"/> Left <input type="button"/></p> <p>Background Color <input type="text"/> #003366</p> <p>Link Styles</p> <table border="0"> <tr> <td>Normal <input type="text"/> #003366</td> <td><input type="checkbox"/> Underline</td> <td><input checked="" type="checkbox"/> Bold</td> </tr> <tr> <td>Active <input type="text"/> #003366</td> <td><input type="checkbox"/> Underline</td> <td><input checked="" type="checkbox"/> Bold</td> </tr> <tr> <td>Visited <input type="text"/> #003366</td> <td><input type="checkbox"/> Underline</td> <td><input checked="" type="checkbox"/> Bold</td> </tr> <tr> <td>Hover <input type="text"/> #CC6633</td> <td><input type="checkbox"/> Underline</td> <td><input checked="" type="checkbox"/> Bold</td> </tr> </table>							Normal <input type="text"/> #FFFFFF	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold	Active <input type="text"/> #FFFFFF	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold	Visited <input type="text"/> #FFFFFF	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold	Hover <input type="text"/> #CC6633	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold	Normal <input type="text"/> #003366	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold	Active <input type="text"/> #003366	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold	Visited <input type="text"/> #003366	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold	Hover <input type="text"/> #CC6633	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold
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Hover <input type="text"/> #CC6633	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold																												
Normal <input type="text"/> #003366	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold																												
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Hover <input type="text"/> #CC6633	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold																												

The Headers tab controls the settings for the header of the calendar. The Header is located at the top of each page and usually displays the department or organization name. The settings within the tab are:

- Header - Users can choose to change the Header in three ways. They can enter the text for the header and select the font styles and color for the text. They can upload a graphic header in place of just text. The graphic will appear in the center of the page and assume the general background color. For the most flexibility, they can add their own HTML in the text area provided within the application. However, their HTML will replace any other Header settings.
- Date Header - The Date Header appears below the Global Navigation and Calendar Navigation. It displays today's date on the left side and the displayed event date range on the right side. The date range will change depending on users' selection in the Calendar Navigation. For example, if users select to view the events by Month in the Calendar Navigation, then all the events displayed on the page will be for a 1 month range. Users can still navigate month-by-month by clicking on the direction arrows '>>' in the Date Header. Users can set the font style, link style, and colors of the Date Header.
- Date Subheader - There is a Date Subheader for each day in the calendar that has at least one event.

The date is a link and when clicked will take users to the day list view for that specific day. Users can set the font style, link style, and colors of the Date Subheader.

Global Navigation

Figure 24. Format Calendar Page - Global Navigation Tab

General Appearance Headers Global Navigation Calendar Navigation Event Detail Footer Advanced Formatting

Select Layout for Global Navigation

Horizontal Navigation Vertical Navigation

Edit Global Navigation Links

Choose one option to edit your global navigation.

Edit Navigation Edit Navigation HTML

Name eg. Home	Web Address eg. http://www.homepage.com
Link #1 Home	www.sims.berkeley.edu
Link #2 Calendar	www.bcn.berkeley.edu/sin
Link #3 Academics	www.sims.berkeley.edu/A
Link #4 Admissions	www.sims.berkeley.edu/A
Link #5 People	www.sims.berkeley.edu/P
Link #6 Research	www.sims.berkeley.edu/R
Link #7	
Link #8	

Text Font and Size Tahoma Small

Align Navigation Left

Background Color #CCCCCC

Link Styles

Normal	#456186	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold
Active	#456186	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold
Visited	#456186	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold
Hover	#CC6633	<input type="checkbox"/> Underline	<input checked="" type="checkbox"/> Bold

Selected Link Style

Selected Link #FFFFFF Bold

Selected Background Color #003366

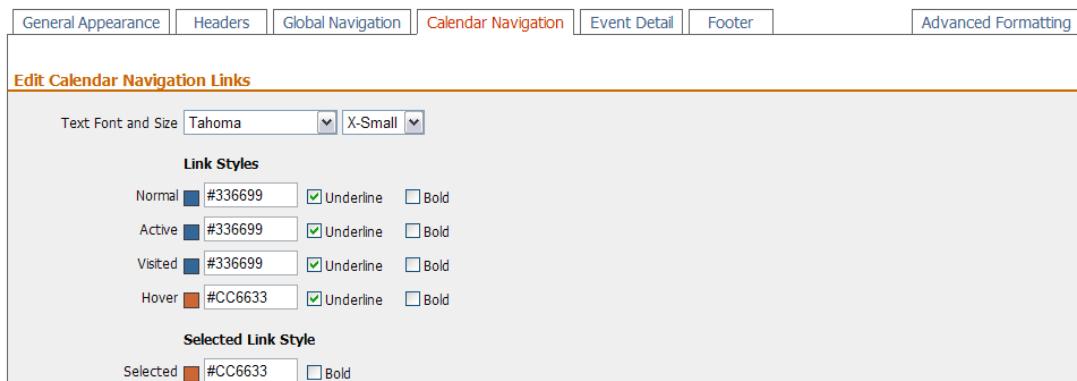
The Global Navigation appears directly below the Header. The purpose of this section is to help integrate the calendar more fully into the user's site by including navigation to the other pages of the site. This section will only be available if at least one link is included or the user has added HTML to the section. The settings for the tab are:

- Layout for Global Navigation - Users can choose a horizontal or vertical navigation layout. By default, the abstracted preview shows a horizontal format calendar.
- Global Navigation Links - Users can create a global navigation in one of two ways:

- Edit Navigation - Users can enter the link names and their corresponding web addresses in the provided text boxes and set the font style, link style and color.
- Edit Navigation HTML - Users can enter the HTML for the navigation directly into the text box.

Calendar Navigation

Figure 25. Format Calendar Page - Calendar Navigation Tab



The Calendar Navigation controls the view of the calendar. On the left side users can choose to view the events in day, week, month, or year view and on the right side, users can select grid or list view. Currently, it is not an option to see the grid view in the abstracted preview because all settings in the grid view are either the same as the list view or created by default (see 1.3.7 Default Styles). The available settings in this tab are:

- Calendar Navigation Links - Users can set the font style, link style and color.

Event Detail

Figure 26. Format Calendar Page - Event Detail Tab

General Appearance Headers Global Navigation Calendar Navigation Event Detail Footer Advanced Formatting

Style Event Detail Text

Text Font and Size Tahoma Small
Text Color #336699

Style Event Detail Links

Text Font and Size Tahoma Small

Link Styles

Normal	#336699	<input checked="" type="checkbox"/> Underline	<input type="checkbox"/> Bold
Active	#336699	<input checked="" type="checkbox"/> Underline	<input type="checkbox"/> Bold
Visited	#336699	<input checked="" type="checkbox"/> Underline	<input type="checkbox"/> Bold
Hover	#CC6633	<input checked="" type="checkbox"/> Underline	<input type="checkbox"/> Bold

Style Event Detail Labels

Text Font and Size Tahoma Medium Bold Italic
Text Color #003366

Edit Event Listing

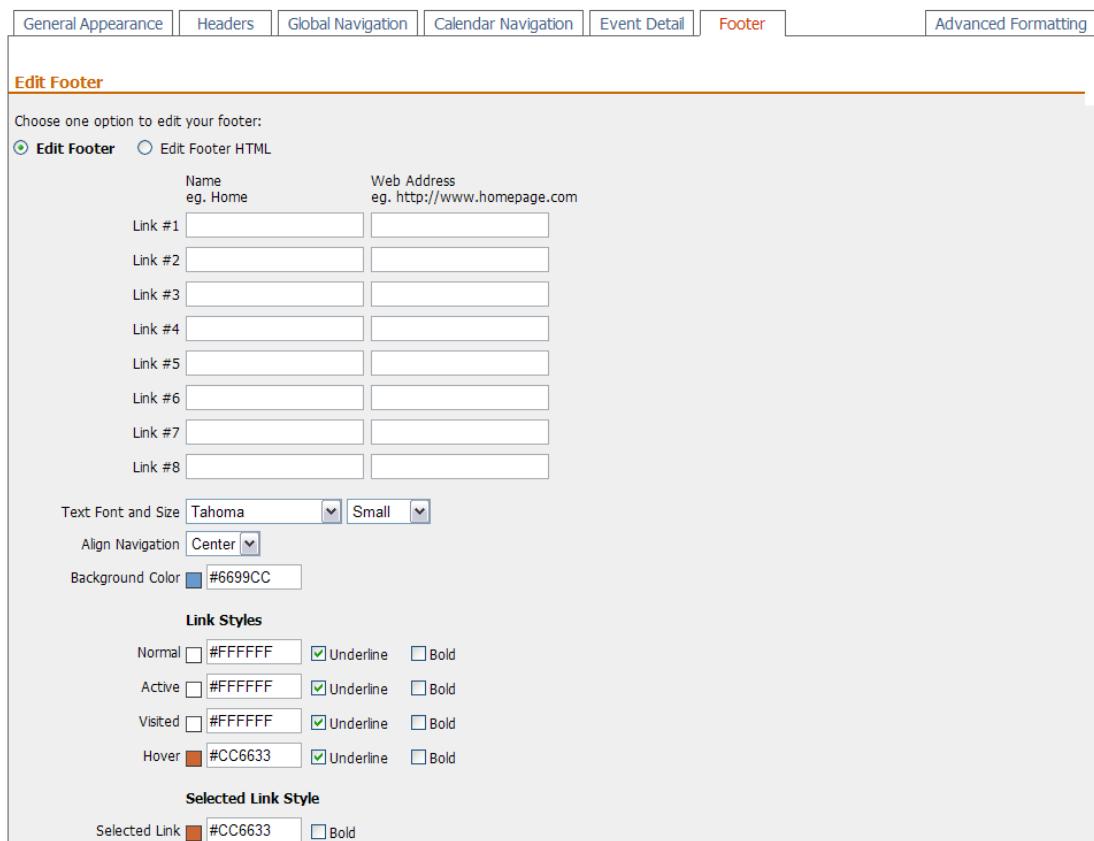
The Event Listing is an abbreviated version of event information and the version people see when they view your calendar in List View. The Event Listing automatically includes the title of an event, which links to an Event Detail page, and the date and time of the event. You have the option to add the following event information to the event listing. Note, all of the event information associated with an event will appear in the event detail page.

Location
 Sponsor
 Description Snippet (Shortened version of the event description)

Event information appears in two areas within the calendar. The Event Listing (see below) appears in the list view of the calendar. If users want to see the full description and all the details of an event, they must click on the event title from the list view. This will link to the full event detail page. The Event Detail tab sets the styles for both of these areas and the settings are:

- Event Detail Text - Users can set the font style, size and color for the event description and the event title. Event title will have the same style as the event description except it will be bold and underlined.
- Event Detail Links - Users can set the font style and color of any links within the event description. For example in the Create Event form, users can add a sponsor's name and link the name to a web address. In the event details, the event sponsor's name will become a link and assume the style set in this section.
- Event Detail Labels - Users can set the font style and color of all event data labels. Labels will not be linked so do not have link styles.
- Event Listing - The Event Listing is an abbreviated version of the full event detail page and is visible on the calendar's list view. The Event Listing automatically includes the date and time of the event as well as the event title which links to the event detail page or to a user-specified URL. Users have the option to add Location, Sponsor, and Description Snippet (shortened event description) to the event listing.

Footer

Figure 27. Format Calendar Page - Footer Tab

The footer refers to the bottom area of the page and functions similarly to the Global Navigation. This section will only be available if at least one link is included or the user has added HTML to the section. The settings for the tab are:

- Edit Footer - Users can create a footer in one of two ways:
 - Edit Footer - Users can enter the link names and their corresponding web addresses in the provided text boxes and set the font style, link style and color.
 - Edit Footer HTML - Users can enter the HTML for the navigation directly into the text box.

Advanced Formatting

Figure 28. Format Calendar Page - Advanced Formatting Tab

Edit Calendar XSL Transformation File

To edit your current XSL, download the file and make your changes to it. To upload your edited XSL, click on Browse and select the file, then click on Replace to replace your current XSL with your edited version.

Your Current XSL is **default.xsl** [Download](#) to edit your XSL.

To replace your current XSL file with another one, click Browse to locate your file, then click Replace.

[Browse](#) [Replace](#)

Edit Calendar CSS File

To edit your current CSS, download the file and make your changes to it. To upload your edited CSS, click on Browse to select the file, then click on Replace to replace your current CSS with your edited version.

Your Current CSS is **default.css** [Download](#) to edit your CSS.

To replace your current CSS file with another one, click Browse to locate your file, then click Replace.

[Browse](#) [Replace](#)

For more advanced customization that is not available via the provided tabbed sections, users can use the Advanced Formatting section. Here users can replace the default XSL Transformation file and CSS file with their own.

- Download - Users can download the application's default .xsl and .css files by clicking on the download button in the 'Edit Calendar XSL Transformation File' and 'Edit Calendar CSS File' sections. This will invoke a standard 'Save File As' dialog where users can specify a local location to save the files. Users can then view and edit their local copy to fit their needs.
- Browse and Replace - When users are ready to replace the current .xsl and .css files, they can click the browse button. This will invoke a standard 'Browse for File' dialog where users can choose the file to upload. Once they click 'OK' the file name and path will appear in the text box next to the browse button. Users can then click replace to upload the new file. There is currently no way for users to return to the application's default .xsl and .css once they have replaced them. So, it is strongly suggested that users save and keep a version of the original files before changing them.

Default Styles

There are many styles in our application's default.css file that are not editable with the Format Calendar interface. For example, all the formatting in the calendar's grid view and grid thumbnail is set by other list view settings or by default. The purpose of the Format Calendar page is to give users enough formatting capabilities without overwhelming them with too many options. For a detailed mapping of the CSS styles to the calendar, see 'style.xls'. See Appendix J.

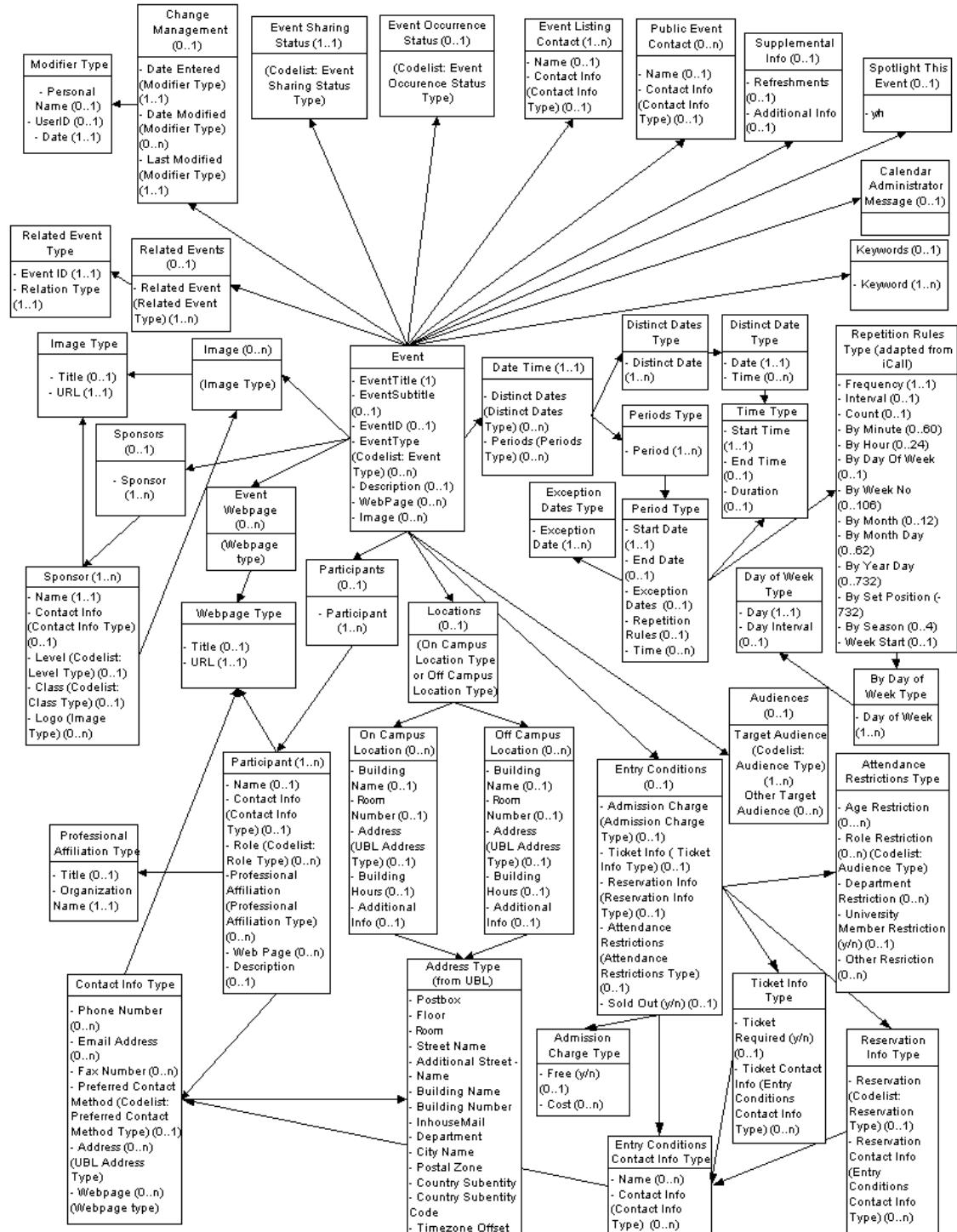
Future of the Project

We have developed the U.C. Berkeley Calendar network in close communication with the e-Berkeley Program office of U.C. Berkeley. It is expected that e-Berkeley will manage the development of a full functional and technical specification for this system this summer, and that our system will eventually be rolled out to the U.C. Berkeley campus community. A potential extension of this project may be the creation of a personal calendaring system which uses the architecture of our system. This would allow all members of the campus community to develop a personalized view of the Events occurring on the Berkeley campus, customized to their specific interests and needs.

Appendix A. The Event Model

UML Representation of the Event Model

Figure Appendix A.1.



The Events Schema

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema target-
Namespace="urn:publicid:IDN+cde.com:babl:events:0.01" xm-
lns:ev="urn:publicid:IDN+cde.com:babl:events:0.01" xm-
lns:xsd="http://www.w3.org/2001/XMLSchema" xm-
lns:evc="urn:publicid:IDN+cde.com:babl:events:codes:0.01" xm-
lns:bab1l="urn:berkeley:sims:doc-eng:names:babl:CoreComponents:CommonC
omponentTypes:0.01" xm-
lns:ublr="urn:oasis:names:tc:UBL:CommonAggregateTypes:1:0-beta" ele-
mentFormDefault="qualified" attributeFormDefault="unqualified">
    <xsd:import
        namespace="urn:publicid:IDN+cde.com:babl:events:codes:0.01" schema-
        Location="EventCodelist.xsd"/>
        <xsd:import
            namespace="urn:berkeley:sims:doc-eng:names:babl:CoreComponents:CommonC
omponentTypes:0.01" schemaLoca-
            tion="http://dream.berkeley.edu/doc-eng/xml/xsd/babl/schemas/babl_0p02
/CoreComponents/CommonComponentTypes2.xsd"/>
        <xsd:import
            namespace="urn:oasis:names:tc:UBL:CommonAggregateTypes:1:0-beta"
            schemaLoca-
            tion="http://www.oasis-open.org/committees/UBL/lcsc/UBLv1-beta/xsd/com
mon/UBL-Reusable-1.0-beta.xsd"/>
        <xsd:annotation>
            <xsd:documentation>University of California, Berke-
ley</xsd:documentation>
            <xsd:documentation>School of Information Management
and Systems</xsd:documentation>
            <xsd:documentation>UC Berkeley Calendar Net-
work</xsd:documentation>
            <xsd:documentation>Final Master's
Project</xsd:documentation>
            <xsd:documentation>Allison Bloodworth, Nadine
Fiebrich, Zhanna Shamis, Myra Liu</xsd:documentation>
            <xsd:documentation>This document incorporates UC
Berkeley Calendar Event modeling work done by Allison Bloodworth, Sara
Leavitt, Lawrence Hall of Science, Kathleen Connors, Lawrence Hall of
Science, Jeff McCullough, CalAgenda, Sarah Jones, CalAgenda and Mimi
Mugler, Cal Agenda during the summer and fall of
2003.</xsd:documentation>
            <xsd:documentation>This file contains a W3C schema
definition for a group of calendar Events on the UC-Berkeley campus.
This document outlines the transmission model for event information
between calendars as well as the document in which Events will be
placed when they are pulled from the central repository in order to
transform them into a calendar using XSL.</xsd:documentation>
        </xsd:annotation>
        <!-- ##### -->
        <!-- GLOBAL ELEMENTS -->
        <!-- ##### -->
<xsd:element name="Events" type="ev:EventsType"/>
<xsd:element name="Event" type="ev:EventType">
    <xsd:annotation>
        <xsd:documentation>Something that takes place;
an occurrence. In this model, an event is a calendar event that occurs
on or in relation to the UC-Berkeley campus.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="AdditionalInfo" type="xsd:string"/>
<xsd:element name="ContactInfo" type="ev:ContactInfoType"/>
<xsd:element name="Description" type="xsd:string"/>
<xsd:element name="EventID" type="xsd:normalizedString"/>
<xsd:element name="Name" type="ev:NameType"/>
<xsd:element name="OrganizationName"
```

```
type="xsd:normalizedString"/>
    <xsd:element name="PersonalName"
type="bab11:PersonalNameType"/>
        <xsd:element name="StartTime" type="xsd:date"/>
        <xsd:element name="Title" type="xsd:normalizedString"/>
        <xsd:element name="URL" type="xsd:anyURI"/>
        <xsd:element name="WebPage" type="ev:WebPageType"/>
        <!-- ##### -->
        <!-- GLOBAL TYPES -->
        <!-- ##### -->
        <!-- Event CORE: EventTitle, EventSubtitle, EventID, Event-
Type, Description, WebPage, Image, DateTime, Location -->
        <!-- Event PARTIES: Audiences, Participants, Sponsors-->
        <!-- Event DETAILS: EntryConditions, SupplementalInfo -->
        <!-- Event ADMINISTRATIVE: PublicEventContact, EventListing-
Contact, EventOccurrenceStatus, EventSharingStatus, ChangeManagement ->
        <!-- Event MARKETING: RelatedEvents, SpotlightThisEvent, Cal-
endarAdministratorMessage, Keywords -->
    <xsd:complexType name="EventsType">
        <xsd:sequence>
            <xsd:element ref="ev:Event" maxOc-
curs="unbounded"/>
        </xsd:sequence>
    </xsd:complexType>
    <!-- BEGIN EVENT TYPE ##### -->
    <xsd:complexType name="EventType">
        <xsd:sequence>
            <xsd:element name="EventTitle"
type="xsd:normalizedString">
                <xsd:annotation>
                    <xsd:documentation>The primary
title of an Event.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="EventSubtitle"
type="xsd:normalizedString" minOccurs="0">
                <xsd:annotation>
                    <xsd:documentation>Any addi-
tional or secondary information that is part of the title of an
Event.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
            <xsd:element ref="ev:EventID" minOccurs="0">
                <xsd:annotation>
                    <xsd:documentation>The unique
identifier of an event within the central reposi-
tory.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="EventType"
type="evc:EventTypeType" minOccurs="0" maxOccurs="unbounded">
                <xsd:annotation>
                    <xsd:documentation>A categor-
ization of the event suitable for the university environment (e.g.
Lecture, Seminar, Performance, etc.).</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
            <xsd:element ref="ev:Description" minOc-
curs="0">
                <xsd:annotation>
                    <xsd:documentation>An overall
description of the Event.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
```

```
                </xsd:element>
                <xsd:element ref="ev:WebPage" minOccurs="0"
maxOccurs="unbounded">
                    <xsd:annotation>
                        <xsd:documentation>A web page
dedicated to the Event.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="Image" type="ev:ImageType"
minOccurs="0" maxOccurs="unbounded">
                    <xsd:annotation>
                        <xsd:documentation>An image
associated with the Event.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="Audiences"
type="ev:AudiencesType" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation>Groups for
whom the Event is intended.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="Participants"
type="ev:ParticipantsType" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation>Entities
who are actually participating in the event. (e.g. Speaker, Lecturer,
Discussant, Performer, Dancer, etc.)</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="Sponsors"
type="ev:SponsorsType" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation>Entities
who are putting on the event, sponsoring the event financially, or are
otherwise known as an organizer or supporter of the
Event.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="EntryConditions"
type="ev:EntryConditionsType" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation>Information
on tickets, reservations, and attendance restric-
tions.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="SupplementalInfo"
type="ev:SupplementalInfoType" minOccurs="0">
                    <xsd:annotation>
                        <xsd:documentation>Information
about the Event that is not considered primary informa-
tion.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="PublicEventContact"
type="ev:PublicEventContactType" minOccurs="0" maxOccurs="unbounded">
                    <xsd:annotation>
                        <xsd:documentation>A person
for the public to contact with questions about the
Event.</xsd:documentation>
                    </xsd:annotation>
                </xsd:element>
                <xsd:element name="EventListingContact"
```

```
type="ev:EventListingContactType" maxOccurs="unbounded">
    <xsd:annotation>
        <xsd:documentation>A person
        for calendar owners internal to the UCB Calendar Network to contact
        with questions about an Event.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="EventOccurrenceStatus"
type="ev:EventOccurrenceStatusType" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation>Indicates
        whether or not the Event is still scheduled to take
        place.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="EventSharingStatus"
type="ev:EventSharingStatusType">
    <xsd:annotation>
        <xsd:documentation>Indicates
        whether the Event is Public, meaning it can be shared with any calen-
        dar in the UCB Calendar Network, or Private, meaning the Event will
        not be shared, and will be displayed only on the sponsoring calen-
        dar.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="ChangeManagement"
type="ev:ChangeManagementType" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation>Indicates
        when and by whom the Event was entered, and when and by whom the Event
        was modified.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="RelatedEvents"
type="ev:RelatedEventsType" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation>Other
        events which bear some relation to the Event. This could be a parent-
        child-sibling relationship, or an indicator re: another event that may
        also be of interest to people attending the Event.
    </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="SpotlightThisEvent"
type="xsd:boolean" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation>An indicat-
        or that the Event is special and should be highlighted in calendars. A
        marketing tool.</xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element
name="CalendarAdministratorMessage" type="xsd:string" minOccurs="0">
    <xsd:annotation>
        <xsd:documentation>A message
        sent to a Calendar Administrator about the event which will not be
        published on any website. This can be used along with SpotlightThisEv-
        ent or when events are recommended within the UCB Calendar Network to
        explain to a Calendar Administrator why they should publish or spot-
        light the event on their website. </xsd:documentation>
    </xsd:annotation>
</xsd:element>
<xsd:element name="Keywords"
type="ev:KeywordType" minOccurs="0">
```

```
        <xsd:annotation>
            <xsd:documentation>Specialized
terms describing an Event that may be used to help users searching for
events find events of interest to them.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="Locations"
type="ev:LocationsType" minOccurs="0">
        <xsd:annotation>
            <xsd:documentation>The place
the event occurs.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="DateTime"
type="ev:DateTimeType">
        <xsd:annotation>
            <xsd:documentation>The day and
time an Event occurs. Includes information on repeti-
tion.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <!-- Event
PARTIES#####
-->
<!-- Event DETAILS
#####
-->
<!-- Event ADMINISTRATIVE
#####
-->
<!-- Event MARKETING
#####
-->
<!-- Event LOCATION
#####
-->
<!-- Event DATE-
TIME#####
-->
</xsd:sequence>
</xsd:complexType>
<!-- END EVENT TYPE #####
-->
<xsd:complexType name="ImageType">
    <xsd:sequence>
        <xsd:element ref="ev:Title" minOccurs="0"/>
        <xsd:element ref="ev:URL"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="NameType">
    <xsd:sequence>
        <xsd:choice>
            <xsd:element ref="ev:PersonalName"/>
            <xsd:element
ref="ev:OrganizationName"/>
            <xsd:element name="LocationName"
type="xsd:normalizedString"/>
            </xsd:choice>
            <xsd:element ref="ev:Description" minO-
curs="0"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="WebPageType">
        <xsd:sequence>
            <xsd:element ref="ev:Title" minOccurs="0"/>
            <xsd:element ref="ev:URL"/>
        </xsd:sequence>
    </xsd:complexType>
<!-- #####
-->
<xsd:complexType name="ContactInfoType">
    <xsd:sequence>
```

```
                <xsd:element name="PhoneNumber" type="ev:PhoneNumberType" minOccurs="0" maxOccurs="unbounded"/>
                <xsd:element name="EmailAddress" type="xsd:normalizedString" minOccurs="0" maxOccurs="unbounded"/>
                <xsd:element name="FaxNumber" type="ev:FaxNumberType" minOccurs="0" maxOccurs="unbounded"/>
                <xsd:element name="PreferredContactMethod" type="evc:PreferredContactMethodType" minOccurs="0"/>
                <xsd:element name="Address" type="ublr:AddressType" minOccurs="0" maxOccurs="unbounded"/>
                <xsd:element ref="ev:WebPage" minOccurs="0" maxOccurs="unbounded"/>
            </xsd:sequence>
        </xsd:complexType>
        <xsd:complexType name="PhoneNumberType">
            <xsd:sequence>
                <xsd:element name="Number" type="xsd:normalizedString"/>
                <xsd:element name="Extension" type="xsd:normalizedString" minOccurs="0"/>
            </xsd:sequence>
        </xsd:complexType>
        <xsd:complexType name="FaxNumberType">
            <xsd:sequence>
                <xsd:element name="Number" type="xsd:normalizedString"/>
                <xsd:element name="Extension" type="xsd:normalizedString" minOccurs="0"/>
            </xsd:sequence>
        </xsd:complexType>
        <!-- Event PARTIES ##### -->
        <xsd:complexType name="ParticipantsType">
            <xsd:sequence>
                <xsd:element name="Participant" type="ev:ParticipantType" maxOccurs="unbounded"/>
            </xsd:sequence>
        </xsd:complexType>
        <xsd:complexType name="ParticipantType">
            <xsd:sequence>
                <xsd:element ref="ev:Name" minOccurs="0"/>
                <xsd:element ref="ev:ContactInfo" minOccurs="0" maxOccurs="unbounded"/>
                <xsd:element name="Role" type="evc:RoleType" minOccurs="0" maxOccurs="unbounded"/>
                <xsd:annotation>
                    <xsd:documentation>Indicates the method by which the Participant is participating in the Event (e.g. Speaker, Performer, etc.).</xsd:documentation>
                </xsd:annotation>
                <xsd:element name="ProfessionalAffiliation" type="ev:ProfessionalAffiliationType" minOccurs="0" maxOccurs="unbounded"/>
                <xsd:element ref="ev:WebPage" minOccurs="0" maxOccurs="unbounded"/>
                <xsd:element ref="ev:Description" minOccurs="0" maxOccurs="unbounded"/>
                <xsd:annotation>
                    <xsd:documentation>A description of the Participant. This may be a biography.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
```

```
<xsd:complexType name="ProfessionalAffiliationType">
  <xsd:sequence>
    <xsd:element ref="ev:Title" minOccurs="0"/>
    <xsd:element ref="ev:OrganizationName"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="SponsorsType">
  <xsd:sequence>
    <xsd:element name="Sponsor"
type="ev:SponsorType" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="SponsorType">
  <xsd:sequence>
    <xsd:element ref="ev:Name"/>
    <xsd:element ref="ev:ContactInfo" minOccurs="0"/>
  </xsd:sequence>
  <xsd:element name="Level" type="ev:LevelType"
minOccurs="0">
    <xsd:annotation>
      <xsd:documentation>If there is
a hierarchy of sponsors, indicates the Sponsor's level within that
hierarchy (e.g. primary, secondary, etc.).</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="Class" type="ev:ClassType"
minOccurs="0">
    <xsd:annotation>
      <xsd:documentation>The cat-
egory into which a Sponsor falls (e.g. local or corpor-
ate).</xsd:documentation>
    </xsd:annotation>
  </xsd:element>
  <xsd:element name="Logo" type="ev:ImageType"
minOccurs="0" maxOccurs="unbounded"/>
  </xsd:sequence>
</xsd:complexType>
<!-- Event DETAILS ##### -->
<xsd:complexType name="EntryConditionsType">
  <xsd:sequence>
    <xsd:element name="AdmissionCharge"
type="ev:AdmissionChargeType" minOccurs="0"/>
    <xsd:element name="TicketInfo"
type="ev:TicketInfoType" minOccurs="0"/>
    <xsd:element name="ReservationInfo"
type="ev:ReservationInfoType" minOccurs="0"/>
    <xsd:element name="AttendanceRestrictions"
type="ev:AttendanceRestrictionsType" minOccurs="0"/>
    <xsd:element name="SoldOut" type="xsd:boolean"
minOccurs="0"/>
  </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="AdmissionChargeType">
  <xsd:choice>
    <xsd:element name="Free" type="xsd:boolean"
minOccurs="0"/>
    <xsd:element name="Cost"
type="xsd:normalizedString" minOccurs="0" maxOccurs="unbounded"/>
  </xsd:choice>
</xsd:complexType>
<xsd:complexType name="TicketInfoType">
  <xsd:sequence>
    <xsd:element name="TicketRequired"
type="xsd:boolean" minOccurs="0"/>
```

```
        <xsd:element name="TicketContactInfo"
type="ev:EntryConditionsContactInfoType" minOccurs="0" maxOc-
curs="unbounded"/>
            </xsd:sequence>
        </xsd:complexType>
        <xsd:complexType name="EntryConditionsContactInfoType">
            <xsd:sequence>
                <xsd:element ref="ev:Name" minOccurs="0"
maxOccurs="unbounded"/>
                    <xsd:element ref="ev:ContactInfo" minOccurs="0"
maxOccurs="unbounded"/>
                </xsd:sequence>
            </xsd:complexType>
            <xsd:complexType name="ReservationInfoType">
                <xsd:sequence>
                    <xsd:element name="Reservation"
type="ev:ReservationType" minOccurs="0">
                        <xsd:annotation>
                            <xsd:documentation>Indication
that a reservation is required or recommended.</xsd:documentation>
                        </xsd:annotation>
                    </xsd:element>
                    <xsd:element name="ReservationContactInfo"
type="ev:EntryConditionsContactInfoType" minOccurs="0" maxOc-
curs="unbounded"/>
                </xsd:sequence>
            </xsd:complexType>
            <xsd:complexType name="AttendanceRestrictionsType">
                <xsd:sequence>
                    <xsd:element name="AgeRestriction"
type="xsd:normalizedString" minOccurs="0" maxOccurs="unbounded"/>
                        <xsd:element name="RoleRestriction"
type="ev:AudienceType" minOccurs="0" maxOccurs="unbounded">
                            <xsd:annotation>
                                <xsd:documentation>Indicates
which campus roles (e.g. students, faculty, staff) may attend the
event.</xsd:documentation>
                            </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="DepartmentalRestriction"
type="xsd:normalizedString" minOccurs="0" maxOccurs="unbounded">
                            <xsd:annotation>
                                <xsd:documentation>Indicates
which campus Departments or organizations may attend the
event.</xsd:documentation>
                            </xsd:annotation>
                        </xsd:element>
                        <xsd:element
name="UniversityMemberRestriction" type="xsd:boolean" minOccurs="0">
                            <xsd:annotation>
                                <xsd:documentation>Must the
attendee be a member of the university? (e.g. Student, Faculty, or
Staff?)</xsd:documentation>
                            </xsd:annotation>
                        </xsd:element>
                        <xsd:element name="OtherRestriction"
type="xsd:normalizedString" minOccurs="0" maxOccurs="unbounded">
                            <xsd:annotation>
                                <xsd:documentation>Any other
attendance restriction not covered by the categories
above.</xsd:documentation>
                            </xsd:annotation>
                        </xsd:element>
                </xsd:sequence>
            </xsd:complexType>
        </xsd:sequence>
    </xsd:complexType>

```

```
</xsd:complexType>
<xsd:complexType name="AudiencesType">
    <xsd:sequence>
        <xsd:element name="TargetAudience"
type="ev:AudienceType" maxOccurs="unbounded" />
        <xsd:element name="OtherTargetAudience"
type="xsd:normalizedString" minOccurs="0" maxOccurs="unbounded" />
            <xsd:annotation>
                <xsd:documentation>This ele-
ment should allow open entry of an AudienceType that is not in the
calendar's AudienceType codelist.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<!-- Event DETAILS ##### -->
<xsd:complexType name="SupplementalInfoType">
    <xsd:sequence>
        <xsd:element name="Refreshments"
type="xsd:string" minOccurs="0" />
            <xsd:annotation>
                <xsd:documentation>Information
on refreshments, food, or meals that will be served at the
Event.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
        <xsd:element ref="ev:AdditionalInfo" minOccurs="0" />
            <xsd:annotation>
                <xsd:documentation>Any addi-
tional info about the Event not covered elsewhere.</xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<!-- Event ADMINISTRATIVE ##### -->
<xsd:complexType name="PublicEventContactType">
    <xsd:sequence>
        <xsd:element ref="ev:Name" minOccurs="0" />
        <xsd:element ref="ev:ContactInfo" minOccurs="0" />
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="EventListingContactType">
    <xsd:sequence>
        <xsd:element ref="ev:Name" minOccurs="0" />
        <xsd:element ref="ev:ContactInfo" minOccurs="0" />
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ChangeManagementType">
    <xsd:sequence>
        <xsd:element name="DateEntered"
type="ev:ModifierType" />
        <xsd:element name="DateModified"
type="ev:ModifierType" minOccurs="0" maxOccurs="unbounded" />
        <xsd:element name="LastModified"
type="ev:ModifierType" />
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="ModifierType">
    <xsd:sequence>
        <xsd:element ref="ev:PersonalName" minOccurs="0" />
    </xsd:sequence>
</xsd:complexType>
```

```
        <xsd:element name="UserID"
type="xsd:normalizedString" minOccurs="0" />
            <xsd:element name="Date" type="xsd:date" />
        </xsd:sequence>
    </xsd:complexType>
    <!-- Event MARKETING ##### -->
    <xsd:complexType name="RelatedEventsType">
        <xsd:sequence>
            <xsd:element name="RelatedEvent"
type="ev:RelatedEventType" maxOccurs="unbounded" />
        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="RelatedEventType">
        <xsd:sequence>
            <xsd:element ref="ev:EventID" />
            <xsd:element name="RelationType"
type="xsd:normalizedString" />
        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="KeywordType">
        <xsd:sequence>
            <xsd:element name="Keyword"
type="xsd:normalizedString" maxOccurs="unbounded" />
        </xsd:sequence>
    </xsd:complexType>
    <!-- Event LOCATION ##### -->
    <xsd:complexType name="LocationsType">
        <xsd:choice>
            <xsd:element name="OnCampusLocation"
type="ev:OnCampusLocationType" minOccurs="0" maxOccurs="unbounded" />
                <xsd:element name="OffCampusLocation"
type="ev:OffCampusLocationType" minOccurs="0" maxOccurs="unbounded" />
            </xsd:choice>
        </xsd:complexType>
        <xsd:complexType name="OnCampusLocationType" >
            <xsd:sequence>
                <xsd:element name="BuildingName"
type="xsd:normalizedString" minOccurs="0" />
                <xsd:element name="RoomNumber"
type="xsd:normalizedString" minOccurs="0" />
                    <xsd:element name="Address"
type="ublr:AddressType" minOccurs="0" />
                    <xsd:element name="BuildingHours"
type="xsd:string" minOccurs="0" />
                    <xsd:element ref="ev:AdditionalInfo" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
            <xsd:complexType name="OffCampusLocationType" >
                <xsd:sequence>
                    <xsd:element name="BuildingName"
type="xsd:normalizedString" minOccurs="0" />
                    <xsd:element name="RoomNumber"
type="xsd:normalizedString" minOccurs="0" />
                    <xsd:element name="Address"
type="ublr:AddressType" minOccurs="0" />
                    <xsd:element name="BuildingHours"
type="xsd:string" minOccurs="0" />
                    <xsd:element ref="ev:AdditionalInfo" minOccurs="0" />
                </xsd:sequence>
            </xsd:complexType>
        <!-- Event DATETIME ##### -->
        <xsd:complexType name="DateTimeType" >
```

```
        <xsd:sequence>
            <xsd:annotation>
                <xsd:documentation>A Period should be
used when an event runs across multiple days at the same time each
date, and DistinctDates should be used when an event either occurs on
one day or multiple days that are not part of a span. It can also be
used for events that occur on dates that really are a span if they oc-
cur at different times each day (thus a span cannot be used). Both
Periods and DistinctDates may be used if an event has a Period as well
as additional days that are not part of the original or any other
Period. Multiple Periods or multiple DistinctDates may be used. AP-
PLICATION LOGIC should be used to make sure the dates of these mul-
tiple DistinctDates and Periods don't overlap.</xsd:documentation>
                <xsd:documentation>Must have at least
one DistinctDates/DistinctDate/Date or Periods/Period/StartDate or a
(Periods, DistinctDates?)|(DistinctDates, Periods?) structure. However
this must be enforced as a business rule, as it cannot be enforced in
the schema because doing that would violate the Unique Particle Attri-
bution rule.</xsd:documentation>
            </xsd:annotation>
            <xsd:element name="DistinctDates"
type="ev:DistinctDatesType" minOccurs="0" maxOccurs="unbounded"/>
            <xsd:element name="Periods"
type="ev:PeriodsType" minOccurs="0" maxOccurs="unbounded"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="DistinctDatesType">
        <xsd:sequence>
            <xsd:element name="DistinctDate"
type="ev:DistinctDateType" maxOccurs="unbounded"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="DistinctDateType">
        <xsd:sequence>
            <xsd:element name="Date" type="xsd:date"/>
            <xsd:element name="Time" type="ev:TimeType"
minOccurs="0" maxOccurs="unbounded">
                <xsd:annotation>
                    <xsd:documentation>The time an
event occurs. Making this unbounded allows for events with multiple
times, such as movies.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="PeriodsType">
        <xsd:sequence>
            <xsd:element name="Period"
type="ev:PeriodType" maxOccurs="unbounded"/>
        </xsd:sequence>
    </xsd:complexType>
    <xsd:complexType name="PeriodType">
        <xsd:sequence>
            <xsd:element name="StartDate" type="xsd:date">
                <xsd:annotation>
                    <xsd:documentation>First day
of multiple day Events.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="EndDate" type="xsd:date"
minOccurs="0">
                <xsd:annotation>
                    <xsd:documentation>Last day of
multiple day Events. A business rule must be used to ensure that the
```

```
user enters either an EndDate or a RepetitionRule-Count ele-
ment.</xsd:documentation>
                                </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="ExceptionDates"
type="ev:ExceptionDatesType" minOccurs="0">
                                    <xsd:annotation>
                                        <xsd:documentation>Dates with-
in a Period that the Event does not occur (e.g. a conference spanning
two weeks may not occur over a weekend, or a repeating event may not
occur during winter break).</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="RepeitionRules"
type="ev:RepetitionRulesType" minOccurs="0">
                                    <xsd:annotation>
                                        <xsd:documentation>A rule de-
fining when and how often an Event occurs. Can be used to calculate
specific dates on which the Event occurs.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="Time" type="ev:TimeType"
minOccurs="0" maxOccurs="unbounded">
                                    <xsd:annotation>
                                        <xsd:documentation>The time an
event occurs. The time belongs to the date span, and the time applies
to every date in the span. Making this unbounded allows for events
with multiple times, such as movies.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                            </xsd:sequence>
                        </xsd:complexType>
                        <xsd:complexType name="ExceptionDatesType">
                            <xsd:sequence>
                                <xsd:element name="ExceptionDate"
type="xsd:date" maxOccurs="unbounded"/>
                            </xsd:sequence>
                        </xsd:complexType>
                        <xsd:complexType name="RepetitionRulesType">
                            <xsd:sequence>
                                <xsd:element name="RepetitionRule"
type="ev:RepetitionRuleType" maxOccurs="unbounded"/>
                            </xsd:sequence>
                        </xsd:complexType>
                        <xsd:complexType name="RepetitionRuleType">
                            <xsd:sequence>
                                <xsd:element name="Frequency"
type="evc:FrequencyType">
                                    <xsd:annotation>
                                        <xsd:documentation>Indicates
how frequently an event repeats (e.g. hourly, daily, weekly, monthly,
yearly).</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="Interval"
type="xsd:integer" minOccurs="0">
                                    <xsd:annotation>
                                        <xsd:documentation>Indicates
the number of units of frequency on which event repeats (e.g. every 2
hours, every 5 days, etc.</xsd:documentation>
                                    </xsd:annotation>
                                </xsd:element>
                                <xsd:element name="Count" type="xsd:integer"
minOccurs="0">
```

```
        <xsd:annotation>
            <xsd:documentation>Indicates
the number of times an event repeats (e.g. daily for 10 days). This
element or end date is required for a repeating
event.</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ByMinute" minOccurs="0"
maxOccurs="60">
        <xsd:annotation>
            <xsd:documentation>Indicates
the minute of the hour on which an event repeats (e.g. to repeat every
20 minutes for an hour, ByMinute would have values of 0, 20, and 40.
ByHour would also need to be used to indicate which hour.) This ele-
ment should be limited to values 0 through 59.</xsd:documentation>
        </xsd:annotation>
        <xsd:simpleType>
            <xsd:restriction>
                <xsd:pattern
base="xsd:integer">
                    <xsd:pattern
value="[0-5][0-9]" />
                </xsd:pattern>
            </xsd:restriction>
        </xsd:simpleType>
    </xsd:element>
    <xsd:element name="ByHour" minOccurs="0"
maxOccurs="24">
        <xsd:annotation>
            <xsd:documentation>Indicates
the hour of the day, using a 24-hour clock, on which an event repeats
(e.g. to repeat at 10am, 2pm, and 4pm, ByHour would equal 10, 14, and
16). This element should be limited to values 0 through
23.</xsd:documentation>
        </xsd:annotation>
        <xsd:simpleType>
            <xsd:restriction>
                <xsd:pattern
base="xsd:integer">
                    <xsd:pattern
value="[0-1][0-9] | [2][0-3]" />
                </xsd:pattern>
            </xsd:restriction>
        </xsd:simpleType>
    </xsd:element>
    <xsd:element name="ByDayOfWeek"
type="ev:ByDayOfWeekType" minOccurs="0">
        <xsd:annotation>
            <xsd:documentation>Indicates
the day of the week on which an event repeats. It can also include a
number to indicate, for example, "the third Monday" if the Frequency
is set to something other than weekly. (e.g. to repeat every third
Monday of the month, DayInterval would be "3," and DayOfWeek would be
"Monday")</xsd:documentation>
        </xsd:annotation>
    </xsd:element>
    <xsd:element name="ByWeekNo" minOccurs="0"
maxOccurs="106">
        <xsd:annotation>
            <xsd:documentation>Indicates
the week of the year on which an event repeats (e.g. the 5th week of
the year). Negative values may also be used to indicate how close the
week is to the end of the year (e.g. "-1" means the last week of the
year), and thus this element should be limited to values -53 through
53, not including 0. </xsd:documentation>
        </xsd:annotation>
        <xsd:simpleType>
            <xsd:restriction>
```

```
base="xsd:integer">
          <xsd:pattern
value="-[1-9]|-[1-4][0-9]|-[5][0-3]| [1-9]| [1-4][0-9]| [5][0-3]" />
          </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
      <xsd:element name="ByMonth" minOccurs="0"
maxOccurs="12">
          <xsd:annotation>
            <xsd:documentation>Indicates
the month of the year on which an event repeats (e.g. the 7th month of
the year, July.). This should be limited to values
1-12.</xsd:documentation>
          </xsd:annotation>
          <xsd:simpleType>
            <xsd:restriction>
base="xsd:integer">
          <xsd:pattern
value="[1-9]| [1][0-2]" />
          </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
      <xsd:element name="ByMonthDay" minOccurs="0"
maxOccurs="62">
          <xsd:annotation>
            <xsd:documentation>Indicates
the day of the month on which an event repeats (e.g. the 31st day of
the month.). Negative values may also be used to indicate how close
the week is to the end of the month (e.g. "-1" means the last day of
the specified month), and thus this element should be limited to val-
ues -31 through 31, not including 0.</xsd:documentation>
          </xsd:annotation>
          <xsd:simpleType>
            <xsd:restriction>
base="xsd:integer">
          <xsd:pattern
value="-[1-9]|-[1-2][0-9]|-[3][0-1]| [1-9]| [1-2][0-9]| [3][0-1]" />
          </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
      <xsd:element name="ByYearDay" minOccurs="0"
maxOccurs="732">
          <xsd:annotation>
            <xsd:documentation>Indicates
the day of the year on which an event repeats (e.g. the 1st and 200th
days of the year. Negative values may also be used to indicate how
close the day is to the end of the year (e.g. "-1" means the last day
of the year), and thus this element should be limited to values -366
through 366, not including 0.</xsd:documentation>
          </xsd:annotation>
          <xsd:simpleType>
            <xsd:restriction>
base="xsd:integer">
          <xsd:pattern
value="-[1-9]|-[0-2][1-9][0-9]|-[3][0-5][0-9]|-[3][6][0-6]| [1-9]| [0-2]
[1-9][0-9]| [3][0-5][0-9]| [3][6][0-6]" />
          </xsd:restriction>
          </xsd:simpleType>
        </xsd:element>
      <xsd:element name="BySetPosition" minOc-
curs="0" maxOccurs="732">
          <xsd:annotation>
            <xsd:documentation>Indicates
the instance of the set of days on which the event will repeat. (E.g.
```

if ByDayOfWeek is set to "Mon, Tues, Wed, Thurs, Fri", and you'd like the event to repeat for the next month every 2nd weekday, "BySetPosition" would be 2). Negative values may also be used to indicate how close the day is to the end of the set (e.g. "-1" means the last day of the set), and thus this element should be limited to values -366 through 366, not including 0. </xsd:documentation>

```
    </xsd:annotation>
    <xsd:simpleType>
        <xsd:restriction>
            <xsd:pattern value="-[1-9]|-[0-2][1-9][0-9]|-[3][0-5][0-9]|-[3][6][0-6]|[1-9]|[0-2][1-9][0-9]|[3][0-5][0-9]|[3][6][0-6]"/>
        </xsd:restriction>
    </xsd:simpleType>
</xsd:element>
<xsd:element name="BySeason" type="evc:BySeasonType" minOccurs="0" maxOccurs="4">
    <xsd:element name="WeekStart" type="evc:DayType" minOccurs="0">
        <xsd:annotation>
            <xsd:documentation>Defines which day of the week (e.g. Mon) on which a workweek starts. The default should be Monday. This is significant when a WEEKLY repetition rule has an interval greater than 1, and a BYDAYOFWEEK rule part is specified. This is also significant when in a YEARLY repetition rule when a BYWEEKNO rule part is specified. In this situation, WeekStart determines which week of the year is considered week 1, as week number one of the calendar year is the first week which contains at least four (4) days in that calendar year. </xsd:documentation>
        </xsd:annotation>
    </xsd:element>
</xsd:sequence>
<!-- We could easily create another version of this type which would allow for exception as well as repetition rules-->
</xsd:complexType>
<xsd:complexType name="ByDayOfWeekType">
    <xsd:sequence>
        <xsd:element name="DayOfWeek" type="ev:DayOfWeekType" maxOccurs="unbounded"/>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="DayOfWeekType">
    <xsd:sequence>
        <xsd:element name="Day" type="evc:DayType" />
        <xsd:element name="DayInterval" type="xsd:integer" minOccurs="0">
            <xsd:annotation>
                <xsd:documentation>Indicates that it is the nth day of the interval. For example, Monday and 1 indicates that it is the first monday of the specified interval. Negative numbers can also be used to indicate that it is the last (-1), second to the last (-2), etc. day of the specified interval. </xsd:documentation>
            </xsd:annotation>
        </xsd:element>
    </xsd:sequence>
</xsd:complexType>
<xsd:complexType name="TimeType">
    <xsd:sequence>
        <xsd:element name="StartTime" type="xsd:time" />
        <xsd:annotation>
            <xsd:documentation>Time the Event begins. </xsd:documentation>
        </xsd:annotation>
    </xsd:sequence>
</xsd:complexType>
```

```
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="EndTime" type="xsd:time"
minOccurs="0">
                <xsd:annotation>
                    <xsd:documentation>Time the
Event ends.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
            <xsd:element name="TimeDuration"
type="xsd:duration" minOccurs="0">
                <xsd:annotation>
                    <xsd:documentation>Primitive
type which allows durations to be represented using the ISO-8601
standard format PnYnMnDTnHnMnS where nY = number of years, nM = number
of months, nD = number of days, nH = number of hours, nM = number of
minutes and nS = number of seconds.</xsd:documentation>
                </xsd:annotation>
            </xsd:element>
        </xsd:sequence>
    </xsd:complexType>
</xsd:schema>
```

The Events Codelist

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema target-
Namespace="urn:publicid:IDN+cde.com:babl:events:codes:0.01" xm-
lns:evc="urn:publicid:IDN+cde.com:babl:events:codes:0.01" xm-
lns:xsd="http://www.w3.org/2001/XMLSchema" elementFormDe-
fault="qualified" attributeFormDefault="unqualified">
    <xsd:annotation>
        <xsd:documentation>University of California, Berke-
ley</xsd:documentation>
        <xsd:documentation>School of Information Management
and Systems</xsd:documentation>
        <xsd:documentation>UC Berkeley Calendar Net-
work</xsd:documentation>
        <xsd:documentation>Final Master's
Project</xsd:documentation>
        <xsd:documentation>Allison Bloodworth, Nadine
Fiebrich, Zhanna Shamis, Myra Liu</xsd:documentation>
        <xsd:documentation>This document incorporates UC
Berkeley Calendar Event modeling work done by Allison Bloodworth, Sara
Leavitt, Lawrence Hall of Science, Kathleen Connors, Lawrence Hall of
Science, Jeff McCullough, CalAgenda, Sarah Jones, CalAgenda and Mimi
Mugler, Cal Agenda during the summer and fall of
2003.</xsd:documentation>
        <xsd:documentation>This file contains a codelist for
Events.xsd. This is a preliminary list of some of the types used in
the Berkeley Calendar Network Event model, but additional values still
must be defined for most types below.</xsd:documentation>
    </xsd:annotation>
    <xsd:simpleType name="AudienceType">
        <xsd:restriction base="xsd:normalizedString">
            <xsd:enumeration value="students"/>
            <xsd:enumeration value="staff"/>
            <xsd:enumeration value="faculty"/>
        </xsd:restriction>
    </xsd:simpleType>
    <xsd:simpleType name="ClassType">
        <xsd:restriction base="xsd:normalizedString">
            <xsd:enumeration value="Local"/>
```

```
                <xsd:enumeration value="Corporate" />
            </xsd:restriction>
        </xsd:simpleType>
        <xsd:simpleType name="codeListAgencyIdentifierType">
            <xsd:restriction base="xsd:token" />
        </xsd:simpleType>
        <xsd:simpleType name="codeListIdentifierType">
            <xsd:restriction base="xsd:token" />
        </xsd:simpleType>
        <xsd:simpleType name="codeListVersionIdentifier">
            <xsd:restriction base="xsd:token" />
        </xsd:simpleType>
        <xsd:simpleType name="EventOccurrenceStatusType">
            <xsd:restriction base="xsd:normalizedString" />
                <xsd:enumeration
value="HappeningAsScheduled">
                    <xsd:enumeration value="Cancelled" />
                    <xsd:enumeration value="Postponed" />
                    <xsd:enumeration value="Rescheduled" />
                </xsd:restriction>
            </xsd:simpleType>
            <xsd:simpleType name="EventSharingStatusType">
                <xsd:restriction base="xsd:normalizedString" />
                    <xsd:enumeration value="Public" />
                    <xsd:enumeration value="Private" />
                </xsd:restriction>
            </xsd:simpleType>
            <xsd:simpleType name="EventTypeType">
                <xsd:restriction base="xsd:normalizedString" />
                    <xsd:enumeration
value="Conference/Symposium">
                        <xsd:enumeration value="Course" />
                        <xsd:enumeration value="Exhibit" />
                        <xsd:enumeration value="Film" />
                        <xsd:enumeration value="Lecture" />
                        <xsd:enumeration value="Other" />
                        <xsd:enumeration value="Performing Arts" />
                        <xsd:enumeration value="Performing Arts-
Dance" />
                        <xsd:enumeration value="Performing Arts-Mu-
sic" />
                        <xsd:enumeration value="Performing Arts-
Theater" />
                        <xsd:enumeration value="Seminar" />
                        <xsd:enumeration value="Sport" />
                        <xsd:enumeration value="Workshop" />
                    </xsd:restriction>
            </xsd:simpleType>
            <xsd:simpleType name="FrequencyType">
                <xsd:restriction base="xsd:normalizedString" />
                    <xsd:enumeration value="Hourly" />
                    <xsd:enumeration value="Daily" />
                    <xsd:enumeration value="Weekly" />
                    <xsd:enumeration value="Monthly" />
                    <xsd:enumeration value="Yearly" />
                </xsd:restriction>
            </xsd:simpleType>
            <xsd:simpleType name="languageCodeType">
                <xsd:restriction base="xsd:language" />
            </xsd:simpleType>
            <xsd:simpleType name="LevelType">
                <xsd:restriction base="xsd:normalizedString" />
                    <xsd:enumeration value="Primary" />
                    <xsd:enumeration value="Secondary" />

```

```
                <xsd:enumeration value="Tertiary" />
            </xsd:restriction>
        </xsd:simpleType>
        <xsd:simpleType name="PreferredContactMethodType">
            <xsd:restriction base="xsd:normalizedString">
                <xsd:enumeration value="Address" />
                <xsd:enumeration value="PhoneNumber" />
                <xsd:enumeration value="EmailAddress" />
                <xsd:enumeration value="FaxNumber" />
            </xsd:restriction>
        </xsd:simpleType>
        <xsd:simpleType name="ReservationType">
            <xsd:restriction base="xsd:normalizedString">
                <xsd:enumeration value="required" />
                <xsd:enumeration value="recommended" />
            </xsd:restriction>
        </xsd:simpleType>
        <xsd:simpleType name="RoleType">
            <xsd:restriction base="xsd:normalizedString">
                <xsd:enumeration value="Speaker" />
                <xsd:enumeration value="Discussant" />
                <xsd:enumeration value="Conductor" />
                <xsd:enumeration value="Singer" />
                <xsd:enumeration value="Dancer" />
            </xsd:restriction>
        </xsd:simpleType>
        <xsd:simpleType name="DayType">
            <xsd:restriction base="xsd:normalizedString">
                <xsd:enumeration value="Monday" />
                <xsd:enumeration value="Tuesday" />
                <xsd:enumeration value="Wednesday" />
                <xsd:enumeration value="Thursday" />
                <xsd:enumeration value="Friday" />
                <xsd:enumeration value="Saturday" />
                <xsd:enumeration value="Sunday" />
            </xsd:restriction>
        </xsd:simpleType>
        <xsd:simpleType name="BySeasonType">
            <xsd:restriction base="xsd:normalizedString">
                <xsd:enumeration value="Winter" />
                <xsd:enumeration value="Spring" />
                <xsd:enumeration value="Summer" />
                <xsd:enumeration value="Fall" />
            </xsd:restriction>
        </xsd:simpleType>
        <xsd:simpleType name="WeekStartType">
            <xsd:restriction base="xsd:normalizedString" />
        </xsd:simpleType>
    </xsd:schema>
```

Appendix B. Calendar Owner Interview Questionnaire

CURRENT PRACTICES

1. How do you create your calendar?
2. How do you update and add events to your calendar? Walk us through the process of adding a new event.

3. How often do you update your calendar?
4. Where do you get your events?
5. How do you decide which events to publish on your calendar?
6. Are any of your events limited to specific audiences, or would there be a problem publishing all your events on a website that viewable by the public?

7. What type of database do you use to store your events?
8. What technology do you have available to you in your department (e.g. web server, application server, database)?
9. Do you save drafts of your events somewhere before publishing them?
10. Do you keep an archive of past events?

11. What do you like best about your calendaring system?
12. What do you like least about your calendaring system?
13. What would it take for you to switch to a different calendaring system?
14. How important is maintaining the "look and feel" of your calendar? What, if anything, about the look and feel do you think it would be important to maintain?
15. Would be willing to switch to a new calendaring system if it met your needs better than your existing application and offered a tool that would make it easy to create a calendar display?

PUBLISHING EVENTS TO OTHER CALENDARS

16. Do you ever or would you want to post your events to other calendars? Which calendars would you post to?
17. How would you feel about storing your events in a centralized repository?

RECEIVING EVENTS FROM OTHER CALENDARS

18. Would you be interested in receiving events of interest to your users for your calendar from other calendars?
19. By what criteria would you like to filter incoming events that you would consider publishing on your calendar?
20. Would you want the ability to edit the description of events that you received from other calendars?

SUGGESTIONS FOR IMPROVEMENT

21. In an ideal world, how would you like to display your event data (e.g. list, calendar format)?

EVENT DATA

22. What data elements (fields) would you like to see in your calendar? (e.g. Title, Time, Location, Speaker, Description, etc.)
23. Would you like to break down the names of speakers and other people involved in an event into first name and last name, or is just a name field sufficient?
24. What types of event restrictions are commonly used (e.g. grad vs. undergrad, different levels of faculty)?
25. Do we need to distinguish between enrollment, reservation, and ticket required?
26. Do people need a 'supplemental info' field (which holds things like location notes) or would they just put these things in description?
27. Do you have many different types of event sponsors (e.g. local - "The French Dept." vs. corporate "Wells Fargo")?
28. Do you often have events which are grouped under a "parent" event (e.g. a conference or lecture series)?

29. Would your users like to search for events targeted to people within a certain age range?

FOLLOW UP

30. Would you be interested in helping us evaluate our prototype?
31. Are there any calendar users that you'd recommend that we interview?

Appendix C. Summarized Calendar Owner Interview Notes

Center for East Asian Studies

- 1) Static, List-format, Low level: <http://ieas.berkeley.edu/events/>
- a) Would love to have access to php
- 2) Events are added by sending email to calendar administrator
- 3) Very excited about getting involved, wouldn't take much to switch to a new system
- 4) Would like to receive as well as post events
- 5) Often posts to different calendars (e.g. newscenter, IAS) - would like their site to be the clearinghouse for all things E. Asian in the Bay Area
 - a) Our project may threaten that to some extent since anyone can access all UC-Berkeley events, but as long as they do the best filtering they should be able to maintain it.
- 6) Interested in filtering by:
 - a) category/region
 - b) sponsor
 - c) disciplinary focus vs. regional focus (e.g. political science vs. Japan)
- 7) Special fields: Region, Discussant
- 8) Would be nice to have security that could still allow other organizations outside UC-Berkeley to post events
- 9) sponsors - usually have 1 or 2 but up to 4-5 (guess 10 would be an upper limit); the sponsors are almost always other campus parties
- 10) Current process for submitting an event:
 1. email to calendar admin - various program coordinators of the various units (center for japanese studies, chinese studies etc) (these same people are responsible for also submitting the event to the berkeley events calendar and the larger IAS calendar and any others they want)
 2. email in text, attached brochure or word doc
 3. eric cuts and pastes info into html template
 4. don't often have entry requirements , usually all open to public
 5. archive events back about 4 years , planning on keeping it

ASUC

- 1) Dynamic, Calendar-format, Medium level, but bad: <http://www.asuc.org/?name=calendar>
- a) Php to MySQL db
- 2) Would like to share their events
- 3) Wouldn't take much for them to switch - not concerned about their look & feel
 - a) Would like to be able to change color scheme, location of buttons
- 4) Events added through webform anyone can use, Raman gets an email, no issues, but could add a flag in the db to allow him to screen them first

- a) Events should be of interest to students
- b) Better system would give each group an account and allow them to add & edit their own events.
- 5) Suggested that good filtering system would be important

Center for Latin American Studies

- 1) List-format, Low level: [ht-
tp://socrates.berkeley.edu:7001/Events/index.html#current](http://socrates.berkeley.edu:7001/Events/index.html#current)
- 2) Their concerns are mostly political, events often driven by their chair
 - a) Don't want to display two people who don't like each other on their front page at the same time
 - 3) Monica emails events to webmaster, Greg, no database used
 - 4) Look & feel important...want to differentiate themselves from other departments
 - 5) Send all events out on a listserve so don't want too many
 - 6) Would like a calendar view, overview, and ability to search events on their site
 - 7) Special fields: Geographic area of interest: mexico, central America, brazil, south America, caribbean, Subject area of interest; labor/trade, art/culture, politics/public policy, human rights
- 8) Current Practices
 - a) Technology
 - i) Uses "Calsnet.net" for internal calendar and static HTML for public website
 - ii) Runs off Socrates (no SQL, no database)
 - iii) Uses MS Access to keep track of members
 - iv) Uses Excel to keep track of postings in other calendars
 - b) Event source
 - i) Presenter list first generated by staff meetings
 - ii) Monica Pon contacts presenters and gets info (Title, Bio, description, time, date, venue, etc.)
 - iii) Monica Pon sends info to Editor, who reviews and gets approval from Chair and Co-chair.
 - iv) Editor sends approved event info to the web developer, Greg (galadan@socrates.berkeley.edu), to post as HTML on their website
 - c) Archive
 - i) Website shows history of events.
 - 9) Look and Feel - Important. Images are also important on website.
- 10) Evaluation of current system
 - a) Not very efficient, difficult to update
 - b) Want to be able to categorize events by people, geographic area, subject area.
 - c) Many political issues when dealing with website.
 - d) Have limited resources
- 11) Other Calendars
 - a) Posts to other calendars via email (IAS, Berkeleyan, Daly Cal, Townsend, Radio KALX)
 - b) Don't post other department's events unless co-sponsored event.

Haas

- 1) Calendar-format, High level, use WebEvent: [ht-
tp://www.haas.berkeley.edu/calendar/](http://www.haas.berkeley.edu/calendar/)
- 2) Like their system but are open to change, especially if they could customize the system & fields to meet their needs.
- 3) Events can be entered by anyone in form, it is emailed to Debra and she approves them, enterer and Debra gets an email when it's posted
- 4) All events on their calendar should be Haas-related...the calendar is a marketing tool
- 5) Events are archived and they might even implement a data warehouse to help tell how much certain companies have been involved with the school.
- 6) Features suggested: spellchecker, ability to put in links without knowing html, make it easy to modify events, repeating events

- 7) They share their events with the Newscenter - would like to choose what to share without making it mandatory
- 8) Also have a printed publication called Haas Newswire
- 9) Current Practices
 - a) Technology
 - i) Uses "Web Event" - a commercial product, quite inexpensive (~\$500)
 - ii) Uses own server (IIS, Linux Redhat Apache) and programs in Perl
 - b) Event source
 - i) Public submits event through web form
 - ii) Debra reviews and approves event (a lot of work for one person)
 - iii) Debra logs into system as admin and adds event to calendar
 - iv) Currently events are all public and not limited to specific audiences (would like to have different audience settings)
 - c) Archive
 - i) No
 - d) Look and Feel
 - i) Important but will to compromise a little for efficient and easy to use system. Current customization is adequate.
 - ii) Calendar mainly for marketing purposes and don't need to go into very much detail
 - e) Evaluation of current system
 - i) Works 2/3 of the time and in general works pretty well for their purposes. Good for novice users
 - ii) Many known bugs and work-arounds.
- 10) Other Calendars
 - a) Don't push or pull events from other calendars. Would like to share events in the future.
 - b) Only posts Haas related or co-sponsored events

Journalism

- 1) List-format, but dynamic and High level behind the scenes: <http://journalism.berkeley.edu/events/events.html>
- 2) Also have an internal website that shows only internal events
- 3) Have many private events
- 4) Would like to be able to maintain his own stylesheet**
- 5) Concerned about losing functionality, such as email lists
 - a) Have a feature that an email about an event can be sent when it is entered
 - b) Choice of several email aliases
 - c) Important to avoid the mistake of inviting the public to a private event
- 6) Events can be submitted by anyone who uses the submit form, but only those with access to the intranet can reach that
 - a) Event is approved by one of the event staff
 - b) They also manually add events to the main Journalism web page
- 7) Uses include files so that when a field is changed in the database, he only has to make an update to the website in one place
- 8) Mike would like to do a complete update to their site (including implementing a content-management system), but doesn't have the time & technical level of the staff at the J-School is very low
- 9) Special event types: Moderator, panel discussion, book signing, broadcast info (webcast, TV)
- 10) Suggestions: ability to create directions to events
- 11) Many events have multiple parts (e.g. receptions & main event) & ability to create related events is important to them

Berkeley Arts Museum/ Pacific Film Archive

- 1) Current Practices
 - a) Technology
 - i) Uses File Maker's form (web companion) to publish HTML
 - ii) Familiar with XML, XSLT
 - b) Event source
 - i) As soon as events are finalized for publication, they are entered

into the Filemaker Pro database

c) Archive

- i) Don't archive, except for film notes (certain film events that have in depth info about film and screening)
- d) Look and Feel

 - i) Very important. Thinks current website is "pretty"
 - e) Evaluation of current system
 - i) Pretty happy with current system except no easy way to publish events to other calendars

- 2) Other Calendars

 - a) Would like to share events with other calendars (Berkeleyan, Central UCB site) but don't post other department's events (unless co-sponsored events)
 - b) Currently do submit some events to general UCB calendar but not very many because its time-consuming
 - c) More important to push event information than to pull to own calendar
 - 3) Currently in the process of creating a separate event management system to keep track of things like caterer, billing, alcohol request form etc. - suggestion that this type of information could be a useful extension of the general event schema
 - 4) One concern they have is that on a big calendar if not everyone releases all their events at the same time, then it to a user it might look like those people just don't have any events scheduled because they don't know about the 2 month cycle
 - 5) Feature request: a way to put a tentative event into the system so that other groups could see what potential conflicts there might be when they are scheduling a big event

"Live" Calendar (live.berkeley.edu)

1) Current Practices

- a) Technology

 - i) Perl, HTML, Javascript, Unix
 - ii) File server on Unix (no database)
 - iii) Developed plug-in for club calendars (see calstuff.blogspot.com and csba.berkeley.edu)

- b) Event source

 - i) User sends web form request to become member (membership approved by John or Patrick)
 - ii) As a member, user can add, modify, delete events through web event manager. No event approval process.

- c) Archive

 - i) All past events are accessible on website. Don't archive but occasionally saves entire directory as backup.

- d) Look and Feel

 - i) Important. Likes to have control of icons and overall look
 - e) Evaluation of current system
 - i) Likes the flexibility, features, and self-managed model.

- 2) Other Calendars

 - a) Don't post events to other calendars unless they approach Live

SIMS

1) Current Practices

- a) Technology

 - i) Site driven my PHP, data stored in MySQL
 - ii) Primitive admin site to add/delete events but only used by the IT staff

- b) Event source

 - i) Certain people (Lety, Kristi, Dean, Professors) email events to Kevin. No standard web or email form. Need to remind people what info to submit
 - ii) No approval process. No one's job to manage event content and type

- c) Archive

 - i) Don't archive but can be useful to see history of events for event

providers

- ii) Currently only dozen(s) of events per year, so no need to archive
 - d) Look and Feel
 - i) Maintain SIMS website look
 - e) Evaluation of current system
 - i) Currently no real system in place for events and no dedicated staff
 - ii) Would like to categorize events (i.e. SIMS only, public)
 - iii) Would like standard form/method for adding events.
- 2) Other Calendars
- a) Don't know if SIMS pushes events to other calendars. Occasionally posts other department's events on SIMS calendar on an ad-hoc basis, would like to do more, but there is no one to be the content manager
- 3) Features that would be nice to have:
- a) sims - only list view
 - b) would like calendar view
 - c) different ways to sort events (e.g. type such as social vs. academic or seminar)
 - d) In the add form, have a template that saves previous info so you don't have to type it all in all the time - similar to a profile, when you are logged in there are some default values in the add event form already.

ASUC - Superb (Concerts)

- 1) Current System
 - a) calendar is static html
 - b) Events posted to calendar by the publicity department
 - c) there is a paper "publicity" form that gets filled out for an event - this is the only storage format for the event data
 - d) the publicity department takes the information from this form and posts it to the website
 - e) the publicity department is also responsible for posting the event to the general ucb calendar although it does not often happen
- 2) no method for archiving past events
- 3) want to always post their events to the general ucb calendar
- 4) would like the calendar management tool to be customizable so those with technical know-how can tweak it for their own site e.g. change the font size of different parts of the display
- 5) Data about an event:
- a) date
 - b) time
 - c) location
 - d) directions - mapquest link to get driving directions
 - e) ticket info - link to tickets site
 - (1) generally have a ucb student/not student price and can also have both those kinds of tix for different sections of the theater
 - f) images
 - g) band url
 - h) sound clips
 - i) video clips
- 6) Calendar features liked:
- a) list view and calendar view
 - b) easy access to different months
 - c) ability to spotlight an event
 - d) sort by:
 - i) date
 - ii) different kinds of music
 - e) search for a specific [band] name

RSF

- 1) an outside company does the basketball calendar (and others)
- 2) Current system
- a) websites use ASP but text is static
- b) would like to move towards a MySQL db and allow others to update/ add events but just don't have the time to do it

3) Ideas:

- a) when you search, rank the events that people visit the most (like Google)
- b) Related events, "you might also be interested in"
- c) choosing from a list of keywords to use for searching, not just categories

Appendix D. Task Scenarios

Scenario #1

You are the calendar administrator for the Mechanical Engineering department. You have been using the calendar system for a few months, and subscribe to events from many different calendars. You have chosen to manually approve all events that you subscribe to before posting them to your calendar. Today you are logging in to review new events that came in over the weekend.

- 1) Login- Username: me Password: me
- 2) Review your pending events
- 3) Post all EECS events to your calendar (3 events). You are familiar with EECS events and don't feel it necessary to review each one in detail.
- 4) You are not sure whether you want to include the Bio Engineering "Guidant Information Meeting" and so decide to review it more closely.
- 5) You decide that you don't want to post it on your calendar and want to remove it from your pending events list.
- 6) You received an email asking you to change the time for the "ME Grad Visiting Day" on 4/14/04 to 2-4pm. This event has already been posted to your calendar. Find it and make the time change.
- 7) Logout

Scenario #2

You are the calendar administrator for the Mechanical Engineering department and need to add a new event to your calendar and change some of the formatting of your calendar.

- 1) Login- Username: me Password: me
- 2) Add the following event:
Date: 4/25/04
Time: 1-2pm
Title: How Smart Helmets Save Lives
Event Type: Lecture
Location: Etcheverry Hall
- 3) Post it to your calendar immediately.
- 4) Find and review the event you just posted.
- 5) Change the background color of your calendar to blue.
- 6) Change the site navigation that is displayed on your calendar to vertical.
- 7) Logout

Scenario #3

You are the calendar administrator for the Biology department and have been using the system for a few weeks, but so far only for your department's own events. Today you want to start adding some other campus events to your calendar.

- 1) Login- Username: biology Password: biology

- 2) Find the following campus event. (It is not currently on your calendar).
Environmental Science, 4/8/04, 4:00pm: "The Conquest of Bread: 150 years of CA Agribusiness"
- 3) Post it to your calendar
- 4) Set up a subscription to receive all seminars sponsored by the Civil & Environmental Engineering and Environmental Science departments that contain the word "environment" in the description. You want to manually approve all events before they post. You want to receive events that occur 2 weeks ahead or less. Name this subscription "Environmental Seminars."
- 5) Look at your department calendar.
- 6) Logout

Appendix E. Lo-Fi Prototype Screenshots

Figure Appendix E.1. Event Manager

Page title

File Edit Help

Back Forward

Address (Location)

Event Manager | Calendar | Search Campus Events | Subscriptions | My Profile | Event Archive [Log out]

Welcome Harold

Event Manager Today's date: March 1, 2004

Add Event

Pending Events

Post		Delete			
Select All	Date - Time	Title	Sponsor	Source	
<input type="checkbox"/>	3/1/04 3:30pm-4:30pm	Improving Software Performance with Configurable Logic	View	EECS	Subscription
<input type="checkbox"/>	3/2/04 2:00pm-3:00pm	Guidant Information Meeting	View	BioE	Recommended
<input type="checkbox"/>	3/2/04 5:00pm-6:00pm	Control of Human-Machine Collaborative Systems	Edit / View	ME	Draft
<input type="checkbox"/>	3/12/04 12:00pm-1:00pm	Spring 2004 Seminar Series - Electrical Engineering	View	EECS	Subscription
<input type="checkbox"/>	3/12/04 4:00pm-5:00pm	Bridging the Design-to-Silicon Yield Gap	View	EECS	Subscription
<input type="checkbox"/>					

Export

Posted Events on Calendar

Filter by

Show All

Delete

Select All	Date - Time	Title	Sponsor	Last Modified
<input type="checkbox"/>	3/2/04 12:30pm-1:30pm	Fatigue of Aircraft Riveted Joints	Edit / View	ME 2/20/04
<input type="checkbox"/>	3/3/04 12:00pm-1:00pm	BSAC Industrial Advisory Board Meeting	View	EECS 2/28/04
<input type="checkbox"/>	3/10/04 2:00pm-3:00pm	Layering & Resilience in IP/Optical Networks	View	EECS 3/1/04
<input type="checkbox"/>	3/11/04 12:00pm-1:00pm	Two Decades of Adaptive Control Pitfalls	Edit / View	ME 3/1/04
<input type="checkbox"/>	3/14/04 3:00pm-5:00pm	ME Grad Visit Day	Edit / View	ME 2/26/04
<input type="checkbox"/>	3/16/04 2:00pm-3:00pm	Telecommuting and Commute Distance Traveled	View	CEE 2/27/04

Export

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Figure Appendix E.2. Add Event

Page title

File Edit Help

Back Forward

Address (Location)

Event Manager | Calendar | Search Campus Events | Subscriptions | My Profile | Event Archive [Log out]

Welcome Harold Add Event Today's date: March 1, 2004

Save and Post Save as Draft Preview Cancel

Title and Type

Title Short Title
 Subtitle
 Event Type

Date and Time

Date
 Start Time
 End Time
[Advanced Date and Time Options](#)

Location

On Campus Off Campus

Campus Location Link to Map
If Campus Location is "Other" please include a campus location in the next field

Other Campus Location
 Additional Information
eg. Room 123, Front Lawn

Description

Public Event Contact

First Name Last Name
 Telephone Email
 Address

Event Listing Contact

First Name Last Name
 Telephone Email
 Address

[Hide Event Participants](#)

Role
 First Name Last Name
 Title Affiliation

Participant Contact Information
(This information will not be displayed in your live calendar)

First Name Last Name
 Telephone Email
 Address

[Add More Participants](#)

[Show Event Sponsors](#)

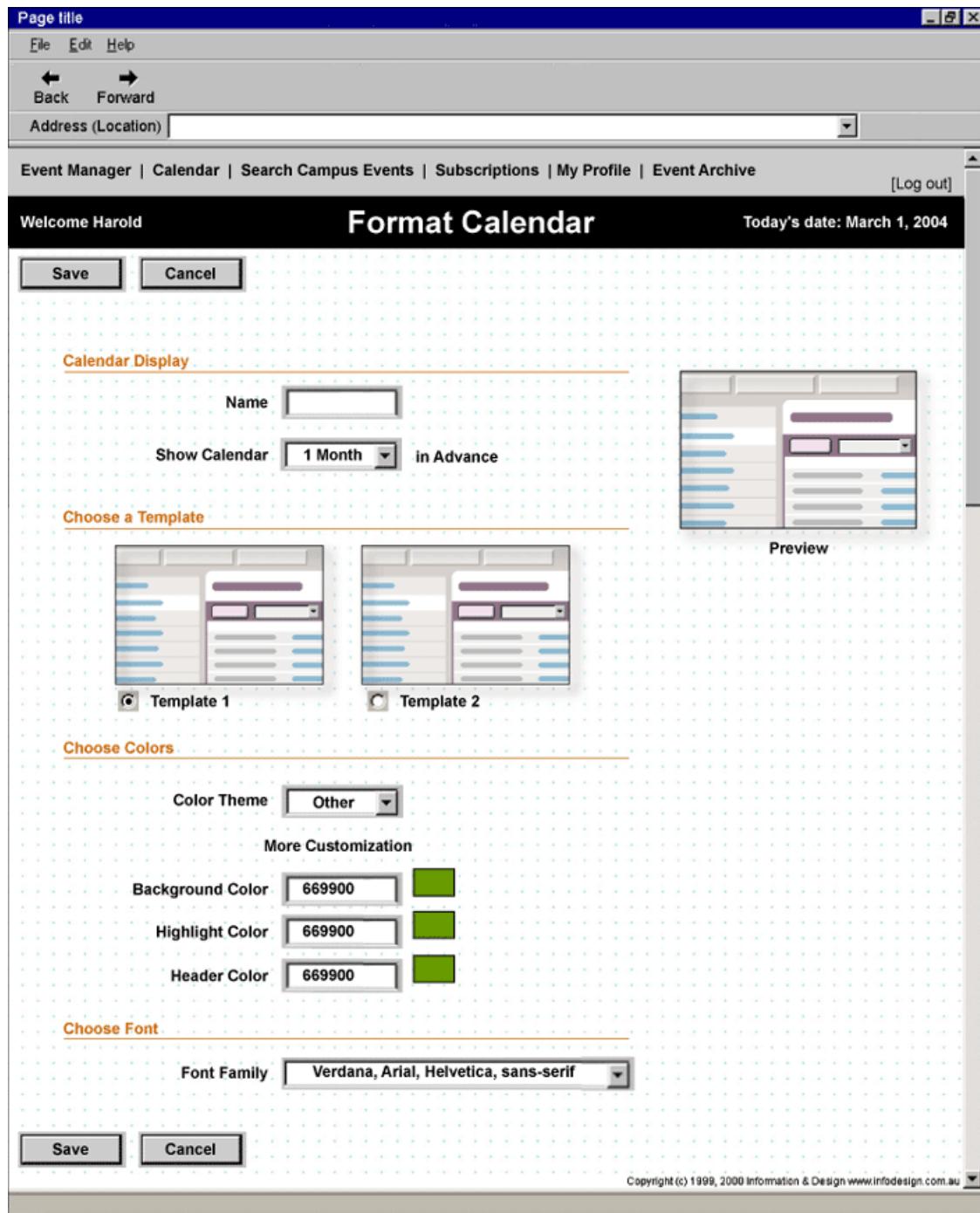
[Show Intended Audiences](#)

[Show Admission Information](#)

[Show Supplemental Information](#)

Save and Post Save as Draft Preview Cancel

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Figure Appendix E.3. Format Calendar**Figure Appendix E.4. Search Campus Events**

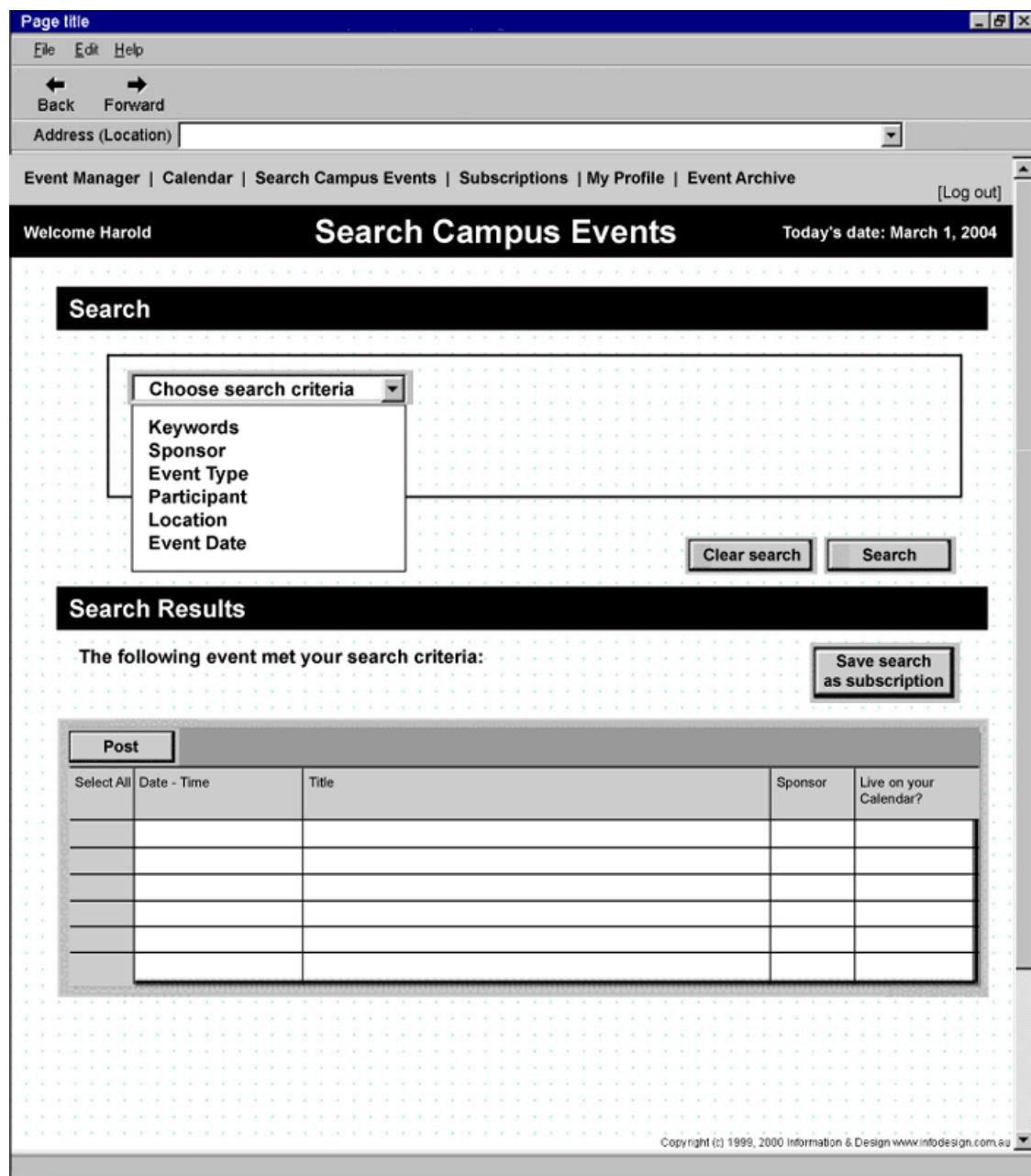


Figure Appendix E.5. Subscriptions

Page title

File Edit Help

Back Forward

Address (Location)

Event Manager | Calendar | Search Campus Events | Subscriptions | My Profile | Event Archive [Log out]

Welcome Harold **Create Subscription** Today's date: March 1, 2004

Step 1: Choose search criteria for subscription

Keywords	<input type="text"/>	in	<input type="text" value="Title Description"/>
Campus Groups			
Sponsor	<input type="checkbox"/> African-American Studies <input type="checkbox"/> Bear Stage Productions <input type="checkbox"/> Civil & Environmental Eng. <input type="checkbox"/> Environmental Science		
		or	<input type="text"/>
Event Type			
<input type="checkbox"/> Seminar <input type="checkbox"/> Lecture <input type="checkbox"/> Performance <input type="checkbox"/> ...		<input type="text"/>	
Participant		Last Name	First Name
<input type="text"/>		<input type="text"/>	<input type="text"/>
Campus Locations			
Location	<input type="checkbox"/> South Hall <input type="checkbox"/> Boalt Hall <input type="checkbox"/> Wurster <input type="checkbox"/> Haas		
		or	<input type="text"/>
Event Date		From	To
<input type="button" value="Mar"/> <input type="button" value="..."/> <input type="button" value="2004"/>		<input type="button" value="Mar"/> <input type="button" value="..."/> <input type="button" value="2004"/>	<input type="button" value="2004"/>

Figure Appendix E.6. Event Details

Event Details			
<p>March 3 5 p.m. - 6 p.m.</p>			
<p>Guidant Information Meeting Location: 458 Evans Hall For more information: Contact Ana Maron at amaron@uclink.berkeley.edu with any questions</p>			
<p>Details: To discuss the Guidant Summer Undergraduate Research in Bioengineering Program (guidelines, requirements, deadlines). Pizza and sodas served.</p>			
Post	Delete	Recommend	Back

Figure Appendix E.7. Delete Event Confirmation

Delete Event Confirmation	
<p>You have chosen to delete the following event:</p>	
<p>March 3 5 p.m. - 6 p.m.</p>	
<p>Guidant Information Meeting Location: 458 Evans Hall For more information: Contact Ana Maron at amaron@uclink.berkeley.edu with any questions</p>	
<p>Details: To discuss the Guidant Summer Undergraduate Research in Bioengineering Program (guidelines, requirements, deadlines). Pizza and sodas served.</p>	
Confirm Delete	Cancel

Appendix F. First Interactive Prototype Screenshots

Figure Appendix F.1. Event Manager - Pending (with Delete Confirmation Message)

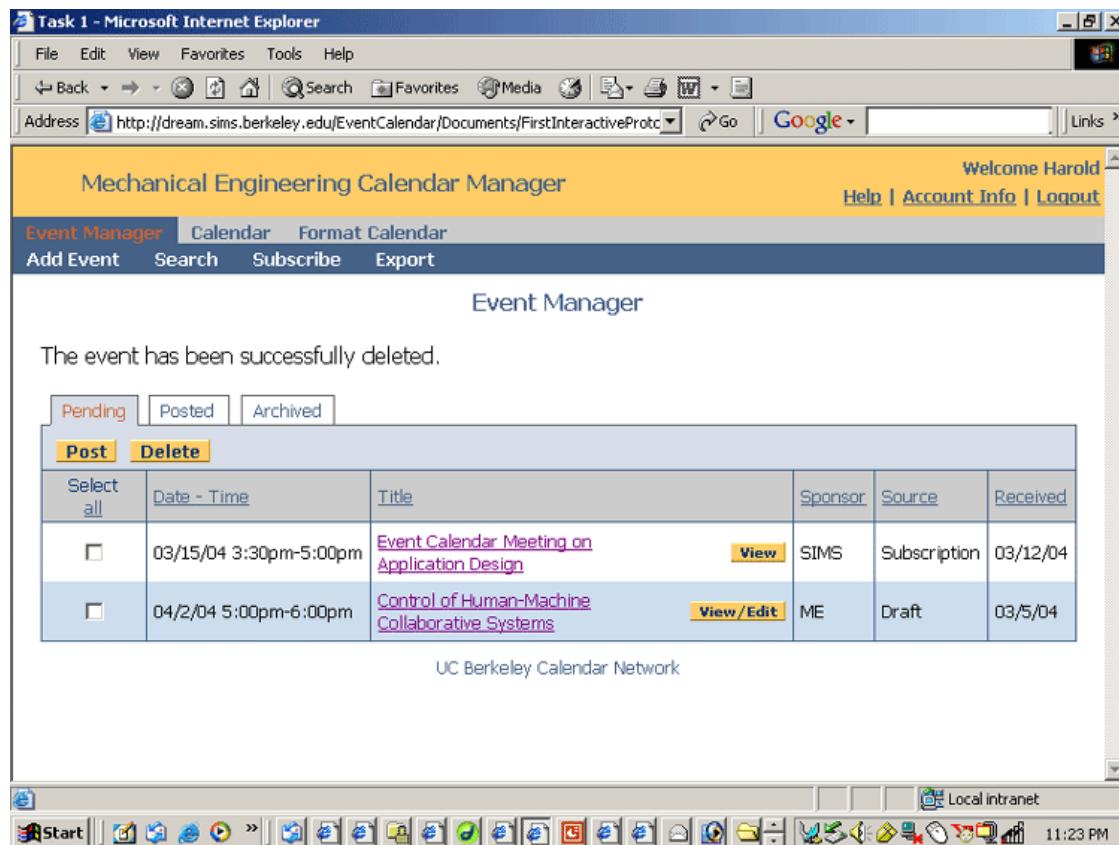


Figure Appendix F.2. Event Manager - Posted

Mechanical Engineering Calendar Manager
 Welcome Harold
[Help](#) | [Account Info](#) | [Logout](#)

[Event Manager](#)
[Calendar](#)
[Format Calendar](#)

[Add Event](#)
[Search](#)
[Subscribe](#)
[Export](#)

Event Manager

[Pending](#)
[Posted](#)
[Archived](#)

Filter by: Date From: March --- 2004 To: March --- 2004 Go

Date - Time	Title	Sponsor	Source	
04/1/04 3:30pm-4:30pm	Improving Software Performance with Configurable Logic	View	EECS	Subscription
04/12/04 12:00pm-1:00pm	Spring 2004 Seminar Series - Electrical Engineering	View	EECS	Subscription
04/15/04 4:00pm-5:00pm	Bridging the Design-to-Silicon Yield Gap	View	EECS	Subscription
04/16/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View	SIMS	Subscription
04/16/04 12:30-1:30pm	Fatigue of Aircraft Riveted Joints	View/Edit	ME	Owner
04/16/04 9:00-10:00am	BSAC Industrial Advisory Board Meeting	View	EECS	Subscription
04/20/04 2:00-3:00pm	Layering & Resilience in IP/Optical Networks	View	EECS	Subscription
04/1/04 3:30pm-4:30pm	Improving Software Performance with Configurable Logic	View	EECS	Subscription
04/16/04 12:30-1:30pm	Fatigue of Aircraft Riveted Joints	View/Edit	ME	Owner
04/12/04 12:00pm-1:00pm	Spring 2004 Seminar Series - Electrical Engineering	View	EECS	Subscription
04/15/04 4:00pm-5:00pm	Bridging the Design-to-Silicon Yield Gap	View	EECS	Subscription
04/16/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View	SIMS	Subscription
04/16/04 12:30-1:30pm	Fatigue of Aircraft Riveted Joints	View/Edit	ME	Owner
04/16/04 9:00-10:00am	BSAC Industrial Advisory Board Meeting	View	EECS	Subscription
04/16/04 12:30-1:30pm	Fatigue of Aircraft Riveted Joints	View/Edit	ME	Owner
04/16/04 9:00-10:00am	BSAC Industrial Advisory Board Meeting	View	EECS	Subscription
04/20/04 2:00-3:00pm	Layering & Resilience in IP/Optical Networks	View	EECS	Subscription
04/1/04 3:30pm-4:30pm	Improving Software Performance with Configurable Logic	View	EECS	Subscription
04/16/04 12:30-1:30pm	Fatigue of Aircraft Riveted Joints	View/Edit	ME	Owner
04/16/04 9:00-10:00am	BSAC Industrial Advisory Board Meeting	View	EECS	Subscription
04/20/04 2:00-3:00pm	Layering & Resilience in IP/Optical Networks	View	EECS	Subscription
04/16/04 9:00-10:00am	BSAC Industrial Advisory Board Meeting	View	EECS	Subscription
04/16/04 3:00-5:00pm	ME Grad Visiting Day	View/Edit	ME	Owner
04/16/04 9:00-10:00am	BSAC Industrial Advisory Board Meeting	View	EECS	Subscription
04/1/04 3:30pm-4:30pm	Improving Software Performance with Configurable Logic	View	EECS	Subscription
04/12/04 12:00pm-1:00pm	Spring 2004 Seminar Series - Electrical Engineering	View	EECS	Subscription
04/15/04 4:00pm-5:00pm	Bridging the Design-to-Silicon Yield Gap	View	EECS	Subscription
04/16/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View	SIMS	Subscription
04/16/04 12:30-1:30pm	Fatigue of Aircraft Riveted Joints	View/Edit	ME	Owner
04/16/04 9:00-10:00am	BSAC Industrial Advisory Board Meeting	View	EECS	Subscription
04/20/04 2:00-3:00pm	Layering & Resilience in IP/Optical Networks	View	EECS	Subscription

UC Berkeley Calendar Network

Figure Appendix F.3. Add Event

Haas Calendar Manager Welcome Harold | Help | Account Info | Logout

Event Manager [Calendar](#) [Format Calendar](#)
[Add Event](#) [Search](#) [Subscribe](#) [Export](#)

Add Event

[Save and Post](#) [Save as Draft](#) [Preview](#) [Cancel](#)

Title and Type

Title:
 Subtitle:
 Event Type:

Date and Time

Date: [Calendar](#)
 Start Time: [Advanced Date and Time Options](#)
 End Time:

Location

On Campus Off Campus
 Select Campus Location: [Link to Map](#)
 OR
 Include Your Own:
 Additional Information:

Location

On Campus Off Campus
 Name:
 Street:
 City: State: Zip:
 Additional Information:

Description

Description:

Public Event Contact

First Name: Last Name:
 Telephone: Email:
 Address:

Event Participants

Role: Speaker
 First Name: Last Name:
 Title: Affiliation:
 Participant Contact Information
 This information will not be displayed in your live calendar.

First Name: Last Name:
 Telephone: Email:
 Address:
[Add More Participants](#)

Event Sponsors

First Name: Last Name:
 Link Sponsor's Name To:
 Graphic Logo:
 Sponsor Description:
[Add More Sponsors](#)

Intended Audiences

Audiences:

Admission Information

Event Cost: OR Free Event
 Reservation: Not Required Recommended Required
 Ticket Information:
 Restrictions: Event is Sold Out

Supplemental Information

Webpage:
 Link:
 Image:
 Refreshments:
 Note:

[Save and Post](#) [Save as Draft](#) [Preview](#) [Cancel](#)

Figure Appendix F.4. Format Calendar

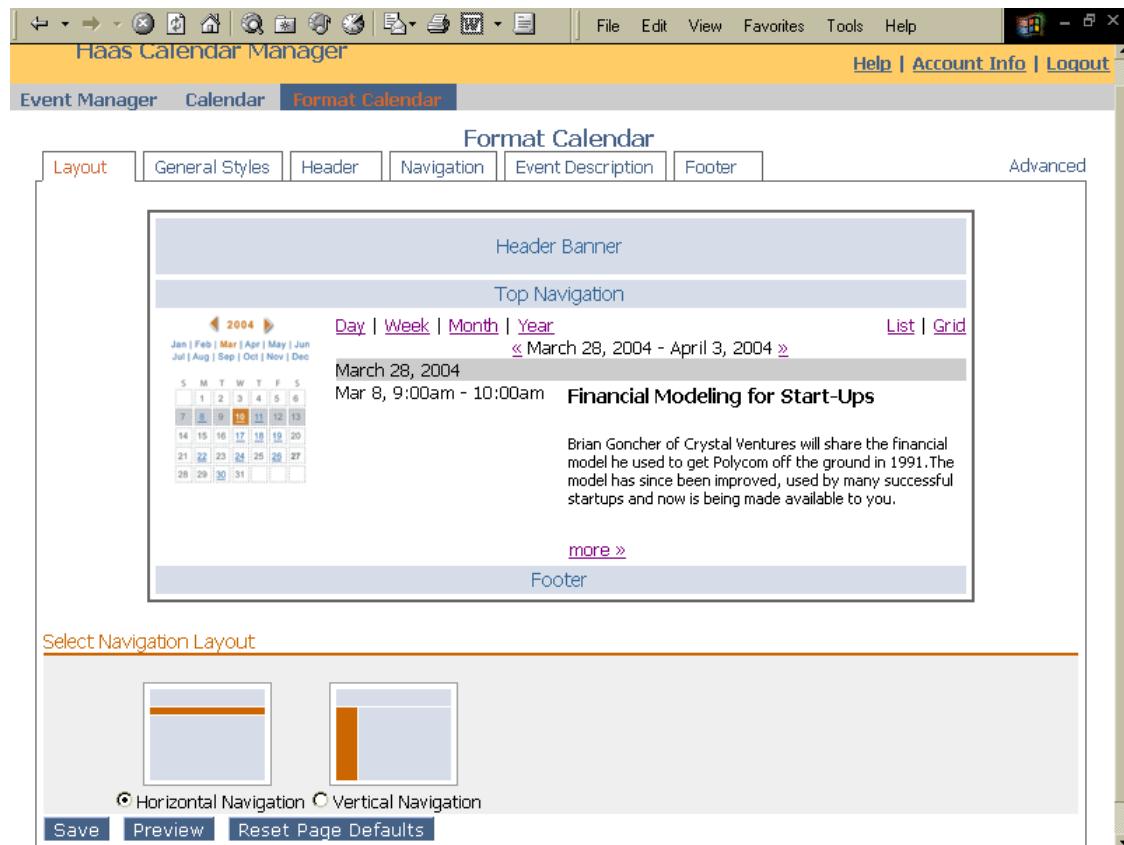


Figure Appendix F.5. Search Campus Events

Haas Calendar Manager

Welcome Harold
[Help](#) | [Account Info](#) | [Logout](#)

Event Manager [Calendar](#) [Format Calendar](#)
[Add Event](#) [Search](#) [Subscribe](#) [Export](#)

Search Campus Events

Search

Keyword In: Title

Search Results

[Save Search As Subscription](#)

The following event matched your search criteria:

Post

Select all	Date - Time	Title	Sponsor	Live on your calendar?	
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View / Edit	SIMS	Yes
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design Event Calendar Meeting on Application Design Event Calendar Meeting on Application Design	View / Edit	SIMS	Yes
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View / Edit	Haas School	Yes
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design Event Calendar Meeting on Application Design	View / Edit	SIMS	Yes
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View / Edit	SIMS	Yes
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View / Edit	SIMS	Yes
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View / Edit	SIMS	Yes
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View / Edit	SIMS	Yes
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View / Edit	SIMS	Yes
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View / Edit	SIMS	Yes
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View / Edit	SIMS	Yes
<input type="checkbox"/>	03/15/04 3:30pm-5:00pm	Event Calendar Meeting on Application Design	View / Edit	SIMS	Yes

UC Berkeley Calendar Network

[Local intranet](#)

Figure Appendix F.6. Advanced Search Options

Biology Calendar Manager

Welcome Harold
[Help](#) | [Account Info](#) | [Logout](#)

Event Manager [Calendar](#) [Format Calendar](#)
Add Event [Search](#) [Subscribe](#) [Export](#)

Advanced Search

Advanced Search

Keywords	<input type="text"/>	In Title
Campus Groups		
Sponsor	African-American Studies Bear Stage Productions Civil & Environmental Engineering Department of Comparative Literature	
Or Other		
<input type="text"/>		
Event Type	Conference Course Exhibit Lecture	
Participant	<input type="text"/> First Name	<input type="text"/> Last name
Campus Locations		
Location	Barrows Hall Campanile Evans Hearst Museum of Anthropology	
Or Other		
<input type="text"/>		
Event Date	To <input type="text"/> March <input type="button" value="---"/> 2004	From <input type="text"/> March <input type="button" value="---"/> 2004
Back Clear Search Search		

UC Berkeley Calendar Network

Figure Appendix F.7. Subscribe

Haas Calendar Manager

Welcome Harold

Help | Account Info | Logout

Event Manager | Calendar | Format Calendar

Add Event | Search | Subscribe | Export

Current Subscriptions

Select all	Title	Approval	Time Period	Expiration Date
<input type="checkbox"/>	Event Calendar Meeting on Application Design	View/Edit	Manual	2 Weeks
<input type="checkbox"/>	Event Calendar Meeting on Application Design Event Calendar Meeting on Application Design Event Calendar Meeting on Application Design	View/Edit	Manual	1 Month
<input type="checkbox"/>	Event Calendar Meeting on Application Design	View/Edit	Automatic	2 Weeks
<input type="checkbox"/>	Event Calendar Meeting on Application Design Event Calendar Meeting on Application Design	View/Edit	Manual	2 Weeks
<input type="checkbox"/>	Event Calendar Meeting on Application Design	View/Edit	Manual	1 Month
<input type="checkbox"/>	Event Calendar Meeting on Application Design	View/Edit	Manual	2 Weeks
<input type="checkbox"/>	Event Calendar Meeting on Application Design	View/Edit	Manual	2 Weeks
<input type="checkbox"/>	Event Calendar Meeting on Application Design	View/Edit	Manual	None

Create New Subscriptions

Step #1: Choose Search Criteria for 2 Weeks

Keywords:	<input type="text"/> In <input type="button" value="Title"/>	
Campus Groups	Or Other	
Sponsor:	<input type="button" value="African-American Studies"/> <input type="button" value="Bear Stage Productions"/> <input type="button" value="Civil & Environmental Engineering"/> <input type="button" value="Department of Comparative Literature"/>	
Event Type:	<input type="button" value="Conference"/> <input type="button" value="Course"/> <input type="button" value="Exhibit"/> <input type="button" value="Lecture"/>	
Participant:	<input type="text"/> First Name	<input type="text"/> Last name
Location:	Campus Locations <input type="button" value="Barrows Hall"/> <input type="button" value="Campanile"/> <input type="button" value="Evans"/> <input type="button" value="Hearst Museum of Anthropology"/>	
Event Date:	To <input type="button" value="March"/> <input type="button" value="..."/> <input type="button" value="2004"/>	From <input type="button" value="March"/> <input type="button" value="..."/> <input type="button" value="2004"/>

Step #2: Select Options

Approval:	<input type="radio"/> Automatic(Subscribed events will automatically post to your calendar as they are entered.) <input type="radio"/> Manual(Subscribed events will appear in your pending list.)
Time Period:	I want to receive events that occur <input type="button" value="1 week"/> ahead or less.
2 Weeks	
Expiration Date (optional):	<input type="button" value="..."/> <input type="button" value="..."/> <input type="button" value="..."/>

Step #3: Name Your Subscription

Name:	<input type="text"/>
-------	----------------------

[Subscribe](#) | [Clear Form](#) | [Cancel](#)

UC Berkeley Calendar Network

Figure Appendix F.8. Event Details

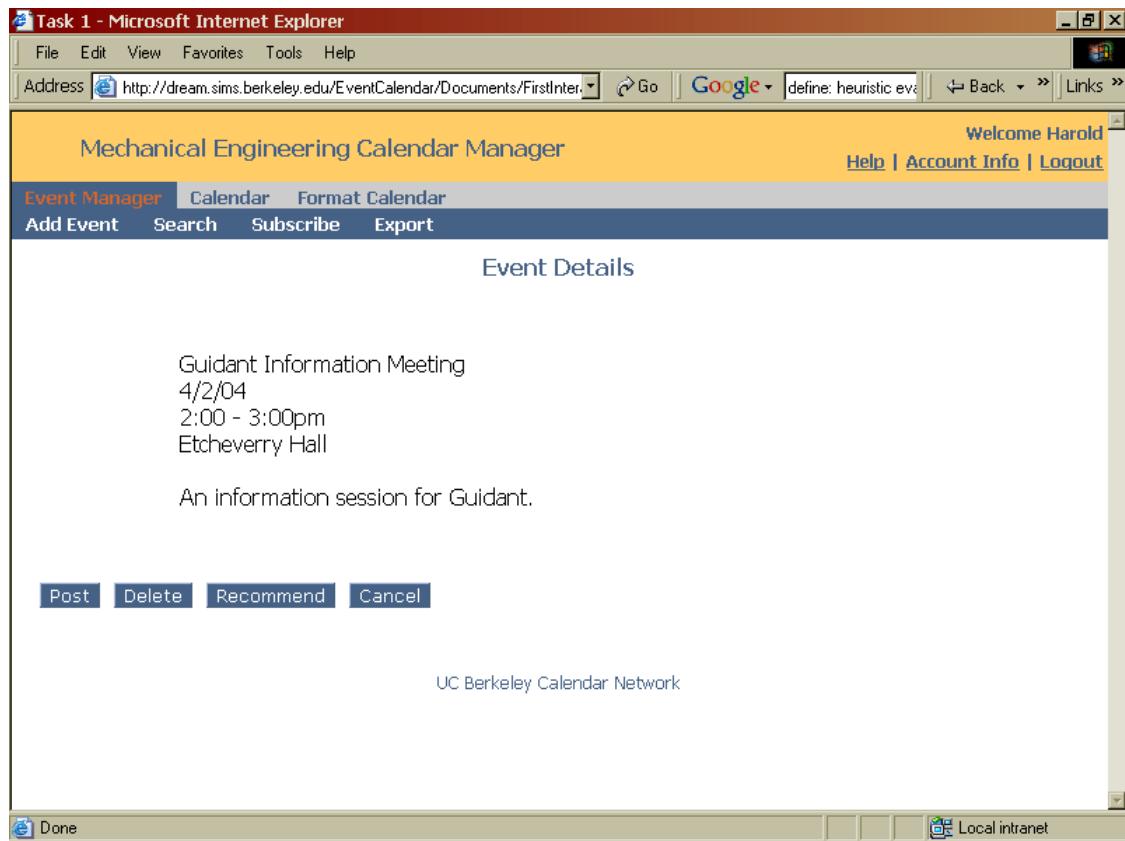


Figure Appendix F.9. Single Event Posting Confirmation

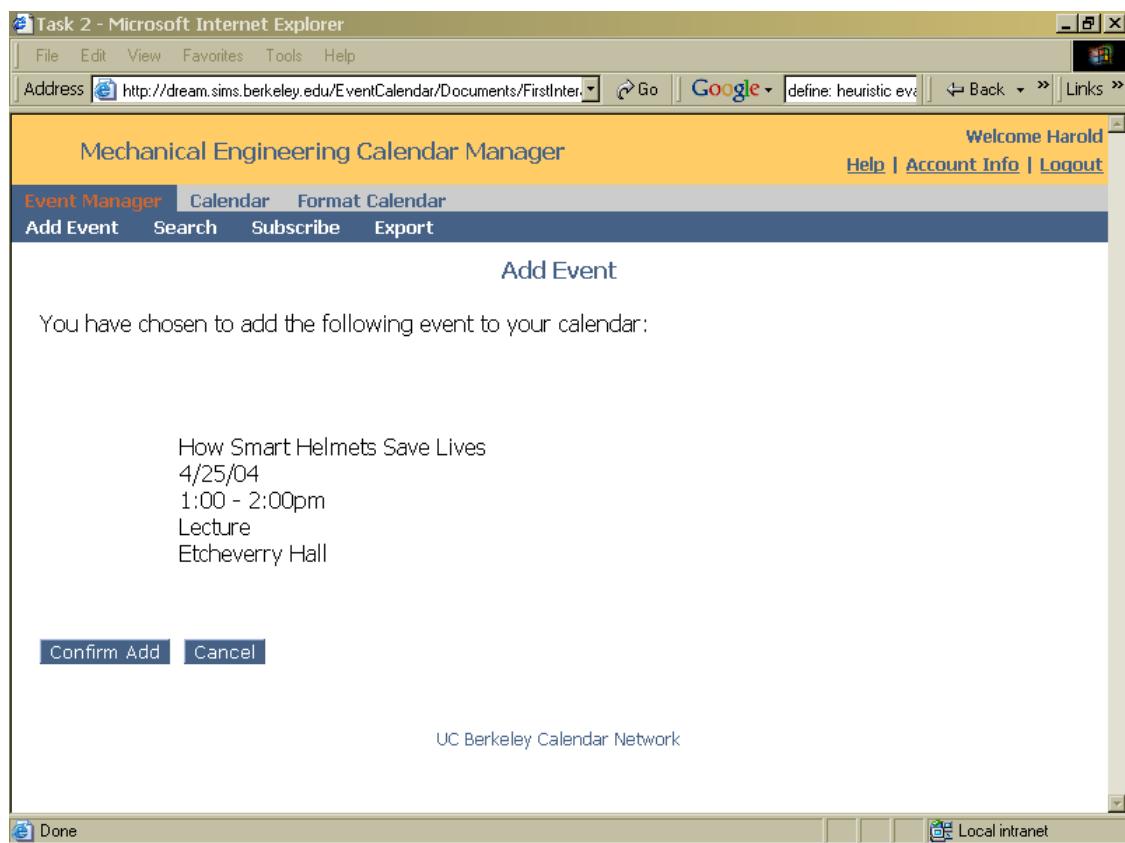
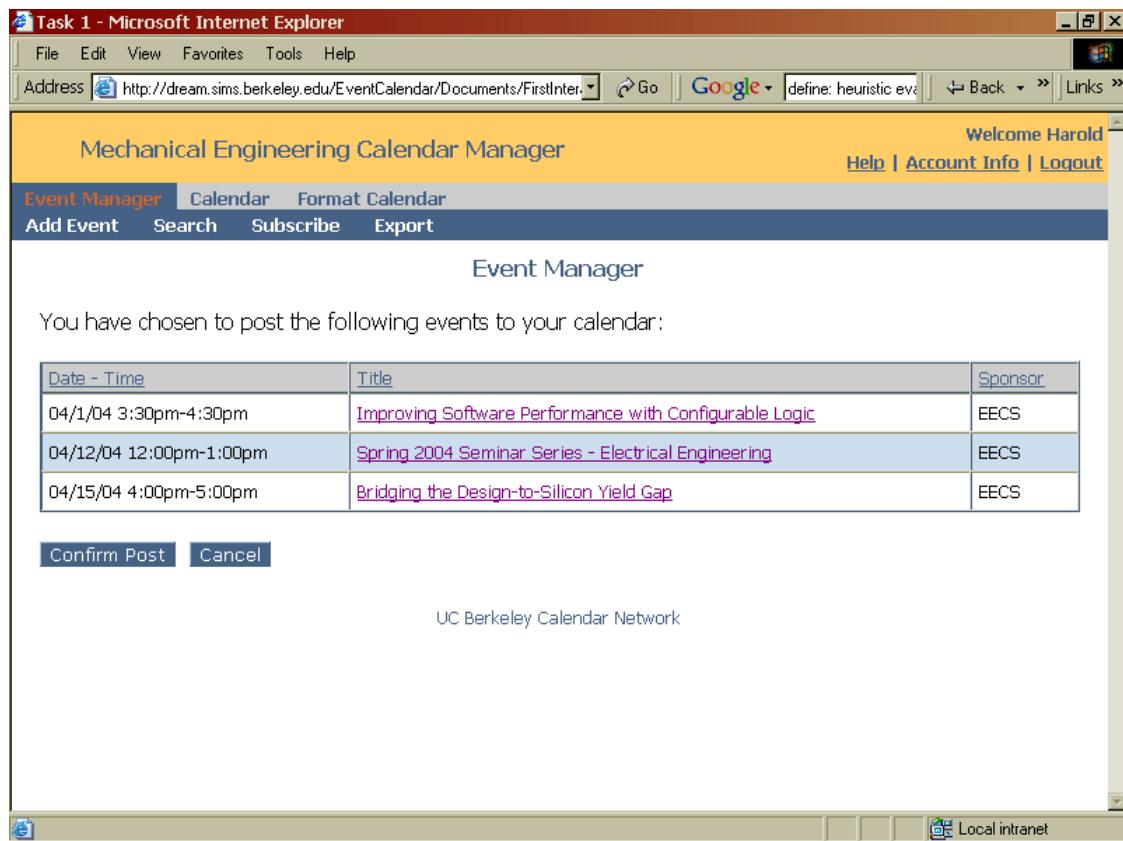


Figure Appendix F.10. Multiple Event Posting Confirmation



Appendix G. Second Interactive Prototype Screenshots

Figure Appendix G.1. Event Manager - Pending (with Posting Confirmation Message)

Biology Calendar Manager

Welcome Harold

Event Manager Calendar Format Calendar

Create Event Search Campus Events Subscribe Export

Today's Date is: May 10, 2004

Event Manager

The events were successfully posted.

Pending Posted Archived

Post **Delete**

Select all	Event Date-Time	Title	Sponsor	Source	Received
<input type="checkbox"/>	04-15-04 4:00PM - 5:30PM	Spring 2004 Seminar Series - Molecular and Cell Biology Edit	Biology	Draft	05-09-04
<input type="checkbox"/>	05-10-04 9:00AM - 10:00AM	1-g Small Scale Model Slope Test Edit	Environmental Science	Draft	05-09-04

UC Berkeley Calendar Network

Done Local intranet

Figure Appendix G.2. Event Manager - Posted

U.C. Berkeley Calendar Network - Microsoft Internet Explorer

File Edit View Favorites Tools He > Address http:// Go Back > Google > Links > Windows

Electrical Engineering and Computer Science Calendar Manager

Welcome Harold

Help | Account Info | Logout

Event Manager Calendar Format Calendar

Create Event Search Campus Events Subscribe Export

Today's Date is: May 10, 2004

Event Manager

Pending Posted Archived

Search: Advanced Search

Event Date-Time	Title	Sponsor	Source
04-01- 3:30PM - 04 4:30PM	Improving Software Performance with Configurable Logic <input type="button" value="Edit"/>	Electrical Engineering and Computer Science	Owner
04-16- 9:00AM - 04 10:00AM	Chromatin Structure	Biology	Subscription
04-25- 3:00PM - 04 5:00PM	ME Grad Visiting Day	Mechanical Engineering	Subscription

UC Berkeley Calendar Network

Local intranet

Figure Appendix G.3. Create Event

Biology Calendar Manager

Welcome Harold

Help | Account Info | Logout

Event Manager Calendar Format Calendar

Create Event Search Campus Events Subscribe Export

Today's Date is: May 10, 2004

Create Event

Event Status

Public Private

Title and Type

*Title:

Subtitle:

Event Type:

Date and Time

Date:

Start Time: :

[Advanced Date and Time Options](#)
(eg. repeating dates, date span etc.)

Location

On Campus Off Campus

Select Campus Location: Link to Map OR Enter a Location:
eg. Room 123

Room Name/Number:
eg. Room 123

Additional Information:
eg. Meet at Front Steps

Event Details

Description:

Webpage Link:
eg. <http://www.eventwebsite.com>

Image:
eg. <http://www.eventwebsite.com/eventimage.gif>

Refreshments:
eg. Sandwiches, Pizza

Public Event Contact

Contact Name:

Email:

Telephone:

Event Participants [\[Show Section\]](#)

Event Sponsors [\[Show Section\]](#)

Admission Information [\[Show Section\]](#)

Notes [\[Show Section\]](#)

Figure Appendix G.4. Format Calendar

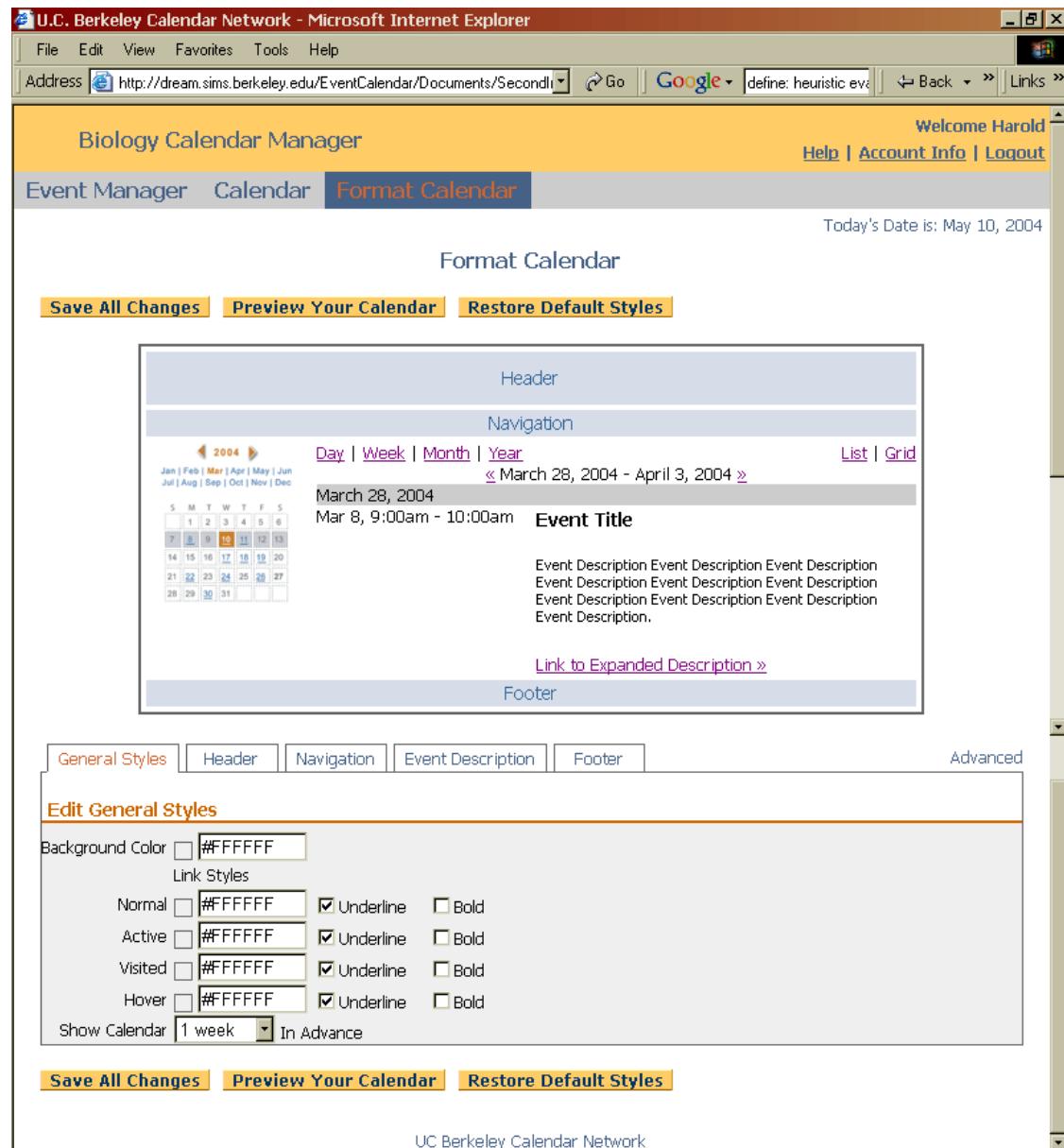


Figure Appendix G.5. Search Campus Events

The screenshot shows a web-based calendar application titled "Biology Calendar Manager". The top navigation bar includes links for "Event Manager", "Calendar", "Format Calendar", "Create Event", "Search Campus Events", "Subscribe", and "Export". A welcome message "Welcome Harold" is displayed, along with links for "Help", "Account Info", and "Logout". The date "Today's Date is: May 10, 2004" is also shown. The main content area is titled "Search Campus Events" and contains a search form with fields for "Keyword" and "In: Title", and buttons for "Search", "Clear Search", and "Advanced Search". Below the search form is a "Search Results" section with a message: "Save Search As Subscription" and "The following event(s) matched your search critieria." A table lists one event: "The Conquest of Bread: 150 Years of CA Agribusiness" on "04/08/04 4:00-5:00pm" by "EnvSci" with a "View" link and a "No" response to "Live on your calendar?".

Select all	Date - Time	Title	Sponsor	Live on your calendar?
<input type="checkbox"/>	04/08/04 4:00-5:00pm	The Conquest of Bread: 150 Years of CA Agribusiness	View EnvSci	No

Figure Appendix G.6. Subscribe

Biology Calendar Manager Welcome Harold

[Help](#) | [Account Info](#) | [Logout](#)

Event Manager [Calendar](#) [Format Calendar](#)

[Create Event](#) [Search Campus Events](#) [Subscribe](#) [Export](#)

Today's Date is: May 10, 2004

Current Subscriptions

The subscription was successfully created.

Delete				
Select all	Title	Approval	Time Period	Expiration Date
<input type="checkbox"/>	Environmental Seminars	View/Edit	Manual	2 Weeks
None				

Create a New Subscription

* Required

Step #1: Choose One Or More Search Criteria

Keywords: In

Sponsor: Or Other

Event Type:

Participant: First Name Last name

Location: Or Other

Event Date: To From

Step #2: Select Options

*Approval:
 Automatic(Subscribed events will automatically post to your calendar as they are entered.)
 Manual(Subscribed events will appear in your pending list.)

*Time Period:
 I want to receive events that occur ahead or less.

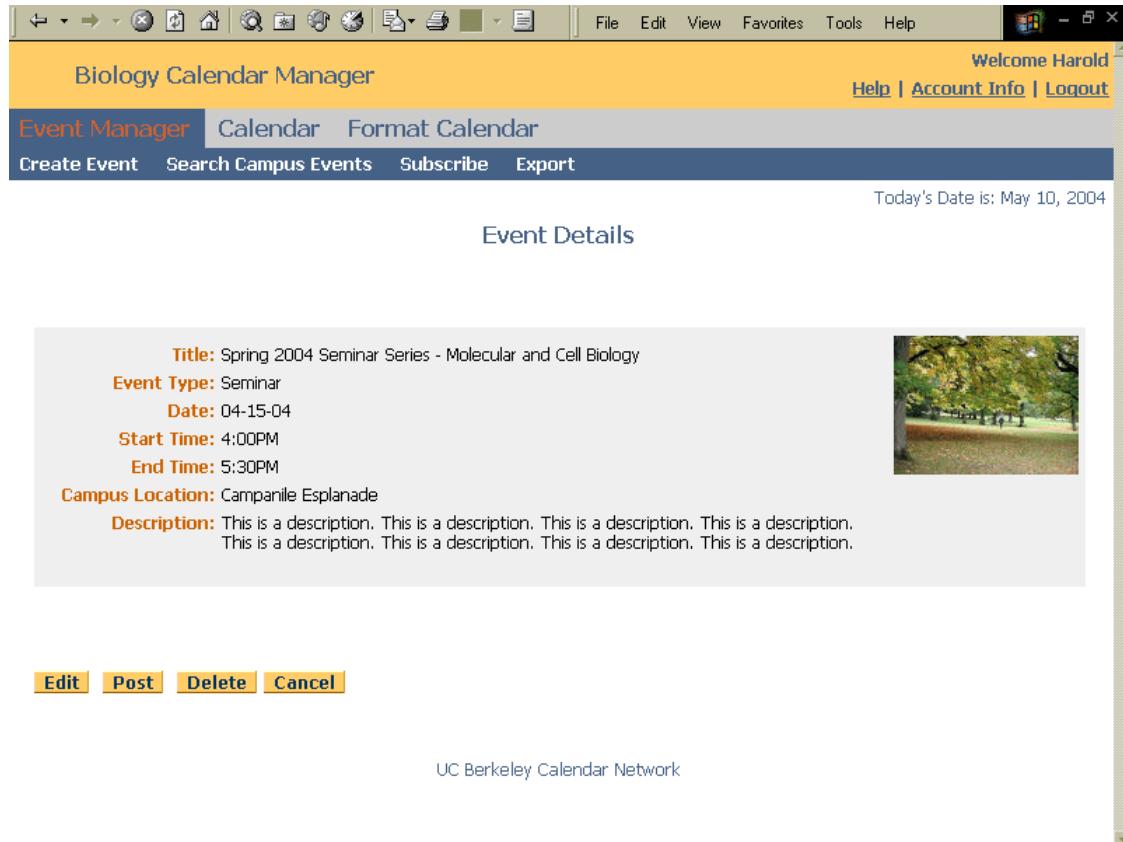
Expiration Date:

Step #3: Name Your Subscription

*Name:
 eg. Civil Engineering Seminars

[Subscribe](#) [Clear](#) [Cancel](#)

Figure Appendix G.7. Event Details



The screenshot shows a web-based calendar application titled "Biology Calendar Manager". The top navigation bar includes links for "File", "Edit", "View", "Favorites", "Tools", "Help", "Welcome Harold", "Help", "Account Info", and "Logout". Below the navigation is a menu bar with "Event Manager" (selected), "Calendar", "Format Calendar", "Create Event", "Search Campus Events", "Subscribe", and "Export". The date "Today's Date is: May 10, 2004" is displayed. The main content area is titled "Event Details" and contains the following information:

Title: Spring 2004 Seminar Series - Molecular and Cell Biology
Event Type: Seminar
Date: 04-15-04
Start Time: 4:00PM
End Time: 5:30PM
Campus Location: Campanile Esplanade
Description: This is a description. This is a description. This is a description. This is a description.
This is a description. This is a description. This is a description. This is a description.

On the right side of the details area, there is a small thumbnail image of a park or campus area with trees and a path. At the bottom of the details area are four buttons: "Edit", "Post", "Delete", and "Cancel".

Figure Appendix G.8. Single Event Posting Confirmation

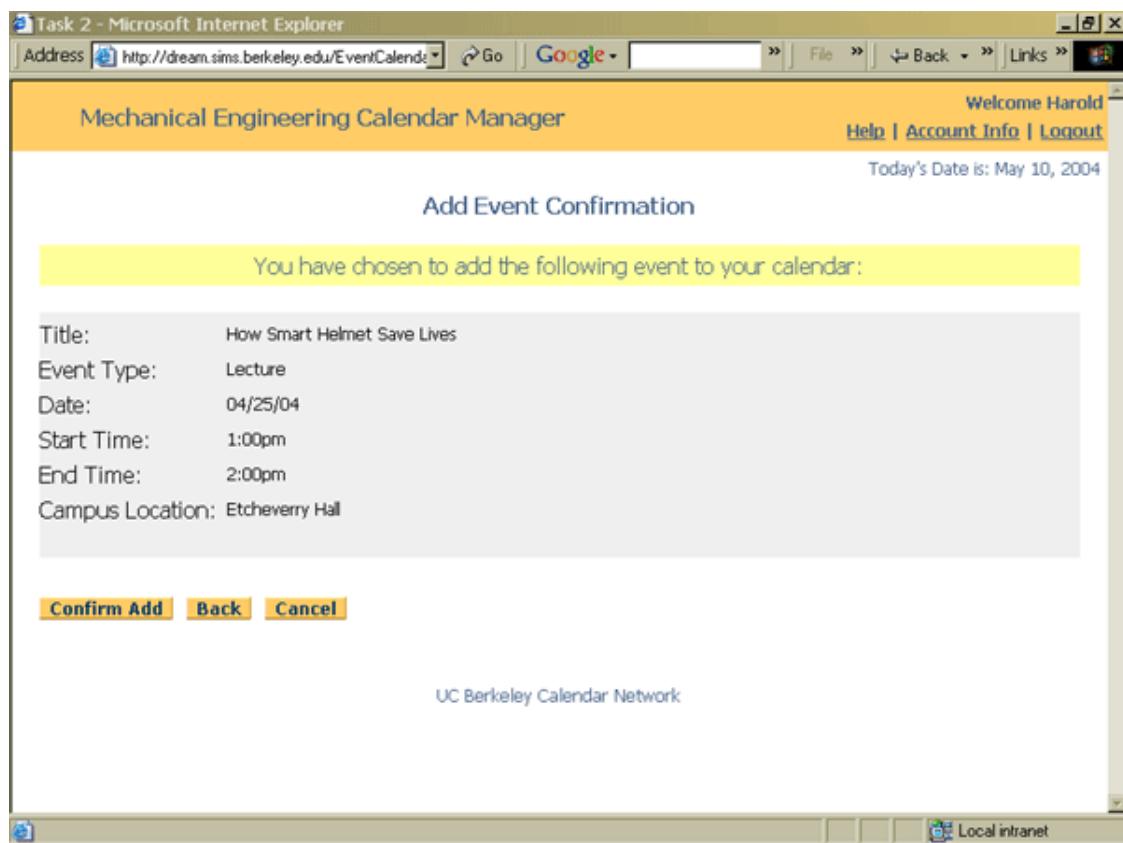


Figure Appendix G.9. Multiple Event Posting Confirmation

Mechanical Engineering Calendar Manager

Welcome Harold
[Help](#) | [Account Info](#) | [Logout](#)

Today's Date is: May 10, 2004

Post Event Confirmation

You have chosen to post the following events to your calendar:

Event 1:

Title: Improving Software Performance with Configurable Logic
Sponsor: EECS
Date: 04/01/04
Start Time: 3:30pm
End Time: 4:300pm
Source: Subscription

Event 2:

Title: Secrecy Key Generation and Multiterminal Source Coding
Sponsor: EECS
Date: 04/08/04
Start Time: 1:30pm
End Time: 2:30pm
Source: Subscription

Event 3:

Title: Macromolecular Simulation: A Computational Perspective
Sponsor: EECS
Date: 04/08/04
Start Time: 10:00am
End Time: 11:30am
Source: Subscription

Buttons: [Confirm Post](#) | [Cancel](#)

UC Berkeley Calendar Network

Appendix H. Usability Testing Notes

(Notetaker's questions/observations and possible To-Do items in parentheses)

User #1: Female, current administrator for UCB Events calendar

Scenario#1 - 3:48

- User initially had trouble finding events by sponsor but later discovered the "sponsor" column
- Don't use abbreviations in their current calendar system, will spell out "Electrical Engineering and Computer Science" instead of EECS
- User thought the edit button was visible only for events that were labeled "draft"
- Was successful with most of task

Scenario#2 - 4:16

- Had no problem finding "Create Event" link in top navigation

- Not sure how to change color of calendar (This may be a sequencing problem with our task scenario because we asked her to change colors right after posting an event. She thought she was still acting on that particular event.)

- Found "Format Calendar" after a short period of searching and was able to change navigation layout and background color.

Scenario#3 - 6:05

(2:49 for tasks 1-3)

- User had trouble locating the "Search Campus Events" link in the top navigation. She was looking at the Pending/Posted/Archive tables for campus events. Then she tried typing in the title of the event in the Posted search field.

- It took her over 2 min. to discover the "Search Campus Events" link

- Was able to complete subscription form. User often double checked what she filled out in the web forms before submitting (Will it be difficult to check multiple selections in scroll boxes? Difficult to see highlighted selections that are not adjacent to each other.)

- User initially confused about "Search Campus Events" but liked the fact that this feature also searched her own events.

Other Comments

• Format Calendar:

- Liked the ability to preview live calendar at anytime
- Did not understand what "default style" meant in the Format Calendar section. She thought she could access the default style somewhere in the application

- Was confused about the difference between "Preview Calendar" in Format Calendar and "Calendar" in the top navigation (Should we rename "Calendar" to "Live Calendar" or "Public Calendar"? Should we add a note to clarify that "Preview Calendar" is a temporary preview of the format settings even before they are saved?)

- (Change subscription's "view/edit" button to just "edit")

- User did not notice the yellow status message bar (We may need to change the background color to make it stand out more)

- Export function would be helpful for their purposes because they frequently re-purpose the data for print publications such as the Berkeleyan.

• Create Event:

- Liked the ability to add multiple participants and sponsors in the "Create Event" form because current system does not. She would have to add multiple sponsors and participants in the description area.

- Wanted the ability to set what sections were hidden/shown by default

- Did not understand what Public vs. Private meant. Even Jeff Kahn did not understand this. He thought Public meant that the public was welcome to attend the event. He felt strongly that we clarify this crucial piece of information. (Add descriptive text to clarify Public/Private)

- Jeff suggested that "all" or "public" should be the first and default choice for the Audiences in Admission Info. He also suggested switching the order of "Event Cost" and "Free" so that people would not accidentally type free in the cost box. (In Admission Info, default audience to ALL and switch order of "Event Cost" and "Free" fields)

- "Search" in Posted events was confusing because it looked like it could apply to pending, archived or search campus events. (Change "Search" to "Search Posted Events". Consider adding search to Archived Events because of the possible large # of items in the table)

- "Save Search as Subscription" looked like it applied only to selected items similar to the way "Post" worked. (Move "Save Search as Subscription" outside of the Search Results table, maybe in the Search table?)

User #2: Male, current calendar administrator for School of Journalism

Scenario#1 - 3:17

- Realized he could batch post by checking multiple check boxes and then clicking "Post"
- Was able to use Search functionality in Posted events to filter events
- Had no problem with task and commented that experience was similar to other web applications like Yahoo Mail
- Commented on the orange header and buttons and questioned whether they needed to look so prominent

Scenario#2 - 4:28

(3:09 for tasks 1-3)

- Questioned why "Create Event" link was not next to "Post" and "Delete" in the event manager tabbed tables. He felt that they were similar tasks and should be displayed together
- Preferred to specify event duration instead of inputting start and end time
- In Event Detail, it was confusing to have to click "Cancel" if user only wanted to review and do nothing (Change "Cancel" to "OK" or "Back")
- Some items he considered similar were not grouped. For example create event, post, and delete were similar. Thought if sub-navigation looked more like buttons or links, he would see connection more (Maybe investigate how to change the look of sub-navigation)
- User commented on the use of "edit" button in Pending and Posted tables. He suggested adding a "view" button in addition to the "edit" button and removing the link from the title. He did not expect the event title to link to a static event view first. (Do we need to change this since we already tried and tested these suggestions with users already?)

Scenario#3 - 6:09

(1:23 for task 1-3)

- Understood the idea of "Search Campus Events" and found link with no problem
- Strange to have "Event Date" range in subscription criteria. User thought it meant display events for XX period. (Need to change order of From/To or remove Event Date completely)
- User had trouble understanding "2 Wks or ahead". He thought it had something to do with the expiration date
- He wondered why the application allowed users to create a subscription without first previewing events that fit the subscription criteria (This was requested by other users in the past. Do we need to add a Search Results table in Subscription page?)

Other Comments

- Asked whether "Create Event" supported other objects like webcast or quicktime. They often webcast live events or archive quicktime movie of past events
- He expected "Export" to spit out data to some standard file type like ICS and Vcard. He wanted to be able to export and then import this data to other calendaring systems. (Are we just supporting/designing for export to CVS and Excel right now?)

User#3: Female, calendar content manager for PFA/BAM

Scenario#1 - 3:55

- User forgot to confirm posted events before moving on to the next task. This happened twice during the testing.
- User initially did not realize that she could select "title" or "description" in Keyword search. She learned to use this functionality later on in the testing.
- Felt this scenario was pretty straight forward.

Scenario#2 - 4:45

(3:01 for tasks 1-3)

- 2nd time user tried to perform next task without first confirming on the confirm page.
- Was not sure what "change site navigation to vertical" meant
- Thought "Preview Calendar" and "Calendar" link were confusing and was not clear which lead to the live calendar (We need to clarify this since she was the 2nd user who commented on this.)
- Create Event
 - Need to clarify Public vs. Private
 - (Add browse button to upload image)
 - Liked the idea of many different sections in Create Event even though they don't all apply. PFA typically runs into situations where their events don't fit other people's forms because they have specialized fields like ticketing price. Townsend Center is their most difficult publisher.
 - Wanted to be able to save events as templates so fields would be pre-populated for other similar events (requested by other users in the past but probably phase 2+ feature)

Scenario#3 - 5:14

(2:17 for tasks 1-3)

- User typed sponsor name in "search keyword in title". She did not notice the drop-down menu with sponsor as a choice
- User initially not sure where to find subscription but was able to fill out subscribe form once she found it.

Other Comments

- Although PFA has their own sophisticated calendaring application, they could conceivably use our application to push events to other departments and to subscribe to events of interest to internal calendar.
- Understood the idea of selecting more than once search criteria. Realized there would be less events resulting from a more refined search.
- Thought it would be useful to distinguish Private/Public events in the Posted/Pending/Archived tables
- Format Calendar
 - Thought default style in Format Calendar meant user could set their own default style (May need to clarify this with note since more than one user commented on this)
 - (Make "restore default settings" less prominent and have a confirm page after user clicks on this in case they did not mean to wipe out all their formatting changes)

Appendix I. Usability Survey

The numbers in [] represent the number of participants that chose that response.

General Questions

1. I found the Berkeley Calendar Network (BCN) system intuitive and easy to use.

1 2 3 4 [2] 5 [1]

Disagree Somewhat disagree
what agree Agree

Neutral

Some-

Comments:

2. I found the workflow of the system natural, and think it follows my normal workflow when dealing with events.

1 2 3 4 [1] 5 [2]

Disagree	Somewhat disagree	Neutral	Some-
what agree	Agree		

Comments:

3. I think the BCN system would be a valuable tool for my department.

1 2 3 4 5 [3]

Disagree	Somewhat disagree	Neutral	Some-
what agree	Agree		

Comments:

4. This BCN system would be an improvement over my department's current event management system.

1 [1] 2 3 4 5 [2]

Disagree	Somewhat disagree	Neutral	Some-
what agree	Agree		

Comments:

5. My department could not use the BCN system because key features that we need are missing. Please describe the missing features below.

1 [3] 2 3 4 5

Disagree	Somewhat disagree	Neutral	Some-
what agree	Agree		

Comments:

Functionality Questions

6. The "Format Calendar" sections (including the ability to upload a cascading style sheet or XSL transform) seemed to cover all the options I would need to customize my calendar's look and feel.

1 2 3 [1] 4 [1] 5 [1]

Disagree	Somewhat disagree	Neutral	Some-
what agree	Agree		

Comments:

7. The ability to "Recommend" events to other departments is a valuable feature.

1 2 3 4 5 [3]

Disagree Somewhat disagree Neutral Some-
what agree Agree

Comments:

8. The ability to "Export" events in an Excel, comma delimited, or standard calendar format is a valuable feature.

1 2 3 [1] 4 5 [2]

Disagree Somewhat disagree Neutral Some-
what agree Agree

Comments:

9. The ability to create a "Subscription" is a valuable feature.

1 2 3 4 [1] 5 [2]

Disagree Somewhat disagree Neutral Some-
what agree Agree

Comments:

10. The event search options in "Search Campus Events" include everything I would need.

1 2 3 4 5 [3]

Disagree Somewhat disagree Neutral Some-
what agree Agree

Comments:

11. I like the way the "Create Event" form is organized and do not find it too overwhelming.

1 2 3 4 [2] 5 [1]

Disagree Somewhat disagree Neutral Some-
what agree Agree

Comments:

12. I would like to be able to customize what fields are hidden and shown by default in the "Create Event" form.

1 2 3 [1] 4 5 [2]

Disagree Somewhat disagree Neutral Some-
what agree Agree

Comments:

Appendix J. Calendar Styles