MyCal

Requirements and Specifications Document
Version 2.3
October 18, 2004

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Abstract:
The purpose of this software is to provide an integrated online solution for organizing email messages, schedules, tasks, contacts, and other information, and to have quick links to frequently visited websites or news headlines. This is useful because it provides students with the capability of managing their most important tasks within one secure interface. The basis of our software is the interaction between the email client, the to-do list, and the scheduler—all which are independent applications. However, our value-add is providing the ubiquity that allows a user to access the all-inclusive user interface from any Internet-enabled device and not necessarily an online collaboration tool. Therefore, this provides an alternative to maintaining a written schedule in a planner, which seems to be the current organizational tool for students.

Document Revision History:
Rev. 2.3 2004-10-18 – fixed formatting of document and arrangement of images; added Table of Contents
Rev. 2.2 2004-10-17 – fixed minor spelling and writing errors
Rev. 2.1 2004-10-16 – overhauled user interface requirements section to reflect minimum requirements of interface and updated abstract to reflect MyCal is not necessarily a collaboration tool
Rev. 2.0 2004-10-03 – project revision from ConMan to MyCal; rewrote all sections
Rev. 1.0 2004-09-24 – initial version

Customer:
In general, we envision our software product being used by most people on the technology adoption curve (see Diagram 1).

Diagram 1: Technology Adoption Curve (http://ist-socrates.berkeley.edu/~fmb/articles/lifecycle/)

This curve was developed by G.A. Moore (Crossing the Chasm, 1991); by “high-end” of the curve we mean those marked as from “I” to “P” – or Innovators to Pragmatic Users. These people are
typically characterized as being relatively technology-savvy and may already manage many parts of their everyday life – including their schedule, to-do, and contacts – through the use of existing electronic aids and are would be quick to adopt an integrated solution.

The average profile of our specific customers contact is a twenty-two-year-old male college graduate student. He is enrolled in four courses, in a student group, and in a research group.

Specifically, we have:
1. A twenty-four-year-old female graduate student in Forensic Science in Illinois.
2. A twenty-year-old male undergraduate student at UC Berkeley.
3. A twenty-five-year-old male professional sales representative.

**Competitive Landscape:**

There are three types of competitors to the software service:
1. Software such as Microsoft Outlook, and others like it, which is installed locally on your computer or other computing device. These programs contain a user’s calendar and contact information and have a “Today” interface that presents today’s relevant items all together.
2. Online web portals and services provided by companies such as Yahoo.
3. PDA’s and other smart phones that provide similar features and functionality.

This software service provides distinct competitive advantages over each of these types of competitors.

In the case of the first competitor – the locally run software – our new service allows users to access their information from any internet-connected terminal. Their dependence on a specific copy of a piece of software is eliminated. Our service is also meant to interface with industry standard protocols such as POP and RSS, whereas some competitors are locked into vendor-specific and proprietary standards.

In the case of the second competitor – online web portals and services – our system is very similar to these. In fact they are direct competitors offering nearly the same features and services that we will be providing. We intend to differentiate ourselves from these competitors with a superior user interface and ease of use. Additionally, these services provide a lot of extra features which distract from the core purpose of this service – to act as a student planner and organizer.

In the case of the third competitor – the personal devices and phones – our new software service provides, firstly, a distinct price advantage. Secondly, many of these devices are not very proficient at browsing the Internet or reading e-mail. Lastly, once again, the information of the user is confined to a single device. Should the user ever be found without their PDA or phone, they will be without access to all of their information. Our solution on the other hand is accessible from any Internet-connected terminal. Its interface is also customizable and expandable depending on how much information the user wants presented and in what formats.
User Requirements:

There are several key features in this project that require constant interaction with the different users. Each feature is categorized under “Must-have”, “Useful” and “Optional” and is subsequently described below.

Must-Have Features

- **Email Client**
  When the user logs on to the main page, he/she will see the subject line, sender and time for her most recent emails, received from all her different email accounts combined.
  - The user will have a choice of expanding this to view all the messages, like a regular email client (10, 50 or 100 in a page)
  - The user will be able to sort the emails by Time, Subject, or Sender Name.
  - The user can compose an email
    - He can get addresses from the contact list
    - He can send attachments either from the local hard drive or from the Webdisk (described below).
  - The user can also delete emails.

- **Scheduler**
  When the user logs on to the main page, she will see the day’s schedule in the scheduler frame on the left of the screen.
  - The user will be able to add individual or recurring events to the schedule.
  - The user can edit or delete existing schedule.
  - The user should be able to view the schedule for the entire week (calendar style).

- **To Do List**
  When the user logs on to the main page, he/she will see the To Do list for the day. The most urgent tasks (those that are due on the same day) will be highlighted in red to notify the user.
  - The user will be able to view the To Do list for the entire week (Calendar style)
  - The user will be able to add new tasks to the list, mark existing tasks as completed and delete them from the list, edit the task list etc.

- **Contacts**
  The contact list will be a part of the right-hand-side frame, and can be viewed by the user if she wants.
  - The user can view the contact list.
  - The user will be able to add/delete/edit contacts.
  - The user can export/import the contact list from MS Outlook.

Useful Features

- **My Links**
  The user can save his/her favourite links here. This could be useful in instances where the user wants to have links to their class web pages, campus organizations/associations, bank statements, or other frequently accessed information.
  - The user will be able to add/delete/edit his links.
• **News**  
The user can view news headlines from the RSS feeds he/she chose earlier in the settings.  
  o The user can add/remove RSS feeds and can change the number of headlines they want displayed.

• **Webdisk**  
The user can use the page for storage space.  
  o The user should be able to load new files to the server  
  o In the email client, the user should be able to attach files from the Webdisk directly, without having to upload them separately.

*Optional Features*

• **AIM Instant Messenger Interfacing**  
The user can sign onto his AIM account and chat with his/her buddies.  
  o User should be able to import his list of buddies.

*Use Cases:*

- A student logs onto a campus computer and wants to check email from his four accounts. Instead of opening a separate browser for each, he logs onto our web-based system to view a consolidated version of his email.

- A student is involved in many different campus organizations and receives all of his information regarding meetings, due dates, and events via email. Instead of using a paper planner to write down this information, he can directly check his email and manage his schedule simultaneously in one screen using our system.

- A student is away from home, but needs to reach one of his contacts. Since he does not have access to his Outlook address book, he logs onto our system, which retains an online copy of his contacts, and retrieves the phone number and email address.

- A student is enrolled in 6 classes and often forgets his many deadlines. He can log onto our system to find out his most imminent tasks, and figure out when he can work on them according to the schedule.

- A student finishes an assignment from a campus computer, but wants to retain a copy for himself. Instead of emailing to himself and clogging his inbox, he can upload it onto the Webdisk for later use.

- A student wants quick and easy access to his most frequently accessed websites, including course homepages, and student organization pages, but does not have access to his own favourites list on his home web browser. From our system, he will see all of his favourite links in one list from wherever he is.

- While checking his email and managing his schedule, a student wants to be informed of major news headlines or Berkeley NewsCenter updates. With our system he can view headlines for these services or any other major news source via RSS feed.
**User Interface Requirements:**

*The Main View*

The registration for MyCal must be especially intuitive for new users. After successfully registering their account, users will be taken through a step-by-step wizard, which will help them set up the basics for their Student Planner Portal. Namely, the system must collect their basic schedule (recurring events), any outstanding tasks, their email account information (including passwords), and will import their contact information from Outlook and AIM. Once this is complete, the user ought to be shown the main screen.

This main screen must reflect the core objective of this project: to help users plan, organize and maintain their day-to-day activities. As such, users will be immediately presented with their most pressing tasks, their schedule for the day, their new emails and their contacts.

We envision the “Main Navigation” of the page to include some common features, basic and intuitive to most websites. These include four options:

1. The “Home” link will return users to this main page, regardless of where they have navigated to within the system. This feature is standard to most websites and, as such, should be intuitive to most users.
2. The “Invite a Friend” link allows users to invite their friends – either from their contacts, or otherwise – to register for the service.
3. The “Settings” link takes users to a page which allows them to edit their account settings, such as Log In, Password.
4. The “Log Out” link logs users out from the system.

In our conception, the main section of the page presents the users with two important pieces of information. First, the user is presented with their new emails. The system will include reading, deleting and composing functionality for their email addresses, as well as sorting. These individual tasks should be completed through the interface in an intuitive manner; as such, we think the following interface mechanisms are most appropriate:

1. Reading Emails: By clicking on the email, the contents of the email are displayed to the user.
2. Deleting Emails: From the view described in #1, the user will be presented with the option to delete an email.
3. Composing Emails: By clicking on a “Compose New” link in any email view, users will be taken to a page that allows the user to Compose and Send new emails form the email account of their choice. Additionally, clicking on a Contact’s email address, or on “Reply” in the view described in #1 takes the user to the Compose Email view, with the “To” box already populated.

Emails should be sorted by clicking on the heading by which the user wishes to sort; for example, if she wishes to view her emails as sorted by Sender, then she should click on “From” in the Email view, and the emails will appear in alphabetical order by sender.

Additionally, the user may edit her Email Account settings by clicking on the “Edit Account Options” next to the “My Emails” header.
Secondly, the Main page presents the user with her favorite news headlines, as provided by RSS feeds. Should the user wish to change her news sources, she can do so by clicking on the “Edit RSS Options” link.

Having kept these user interface requirements in mind, we have developed some rough sketches of the Main page as follows:
The “Right Navigation” bar, in most websites, displays secondary information to the core competency of their system. Ours is no exception: our right navigation displays Contact, Webdisk and Favorite Links. By default, it shows users their contact information, as it most closely tied to the core functionality of this project. Switching between the three items should be intuitive, as such, users ought to be able to click on the corresponding “Tab” in the navigation bar and view the information they wish to see. From our original sketch, we envision this to look something like this:

Note how the highlighted section now covers “Webdisk,” and has changed color, to provide the user with a visual cue to the change. The user sees all the files that have been saved in her Webdisk, as they are organized into folders, and is allowed to click on any file (as a link) in order to download it.

The “Links” tab works similarly.

The Left Navigation Pane

On the Left Hand Side of the page, the user’s most immediate Task List and Schedule will be presented. Should the user want to see more detail for either, she simply should be able to click on the “Expand” Link.

In the case of the To Do List, the List expands down, vertically, into the space of the Schedule. Tasks are organized by their due date, and are presented in order of most pressing to least pressing. This is because tasks are easily viewed in a list manner, in a small amount of horizontal space. In order to return to the original view, the user needs to click on a “Collapse” link. Arrows are provided with each link, indicating the direction in which the information will move; for example the “Collapse” link includes an Up-Arrow (^) – this provides the user with a
visual indication that that To-Do List space will contract to the top of the page, and the Schedule information will reappear below it.

Clicking on the “Expand” link for the Schedule will work similarly. However, because schedule information is best displayed visually, and needs to occupy a substantial amount of horizontal and vertical space, we envision that it will look like the following:

We envision that the expanded task list will look something like the following:
In the case of either the To-Do list or the Schedule, the user should be able to edit information intuitively. In order to accomplish this, we will implement an “Edit” link. Tasks and Schedules can then be edited by clicking on this link in either the Expanded or Collapsed view. The data view will be replaced by a form for the user to fill out. Once the form is submitted, the user will return to the data view. For example, should the user need to add a new task, she would click on Edit, and be taken to a screen that looks something like the following:

After the user has clicked on “Add Item,” she is returned to the main view.

**Summary:**

All told, the User Interface includes a variety a visual cues, including arrows and colors that aid the user in navigating the various parts of the system. Additionally, the system’s modularity is reflected in its Interface, as it attempts to remain as segmented as possible, to allow the user to focus on one part of her planner at a time.

The Interface relies on basic web-navigation intuition, including links, forms and images, and as such depends on Keyboard and Mouse input. To develop this interface, the GUI design process will be iterative and the customer will partake in the process.

**Security Requirements:**

This project has several security issues. One is the identification of users. Because the login information is traveling over a network that we do not have control over, we will need to protect the login information from individuals who should not get their hands on it. Another issue is the security of the data we keep from users. The database we are holding contains a lot of data that people deem private and/or confidential, such as email addresses and passwords. As a result, we will need a way to protect this information from being retrieved by unauthorized users.
We have considered another security issue dealing centralizing of personal information. It is clear that the centralization of such information makes it a target for unauthorized entry. To address this issue, we are going use additional layers of encryption at the MySQL interaction level.

**System Requirements:**

- **On the server side**
  We will need a server which has enough space to hold user’s data (schedules, links, contacts, files ...). Given that each user is given 2 mb of Webdisk space, plus another 10 mb of setting data, we will need 12 mb * anticipated number of users, total. The server will also need to support PHP, or any other server-side scripting platform, as well as database applications. Lastly, the server will need to have sufficient bandwidth to support its own use.

- **On the user side**
  Users of the system will need to have twenty megabytes of free disk space to run web applications and an up to date web browser. Compatible browsers include but are not limited to: Microsoft Internet Explorer 6.0+, Netscape 7+, Safari 1.2+, their variations, and others. In order to be able to import their contacts, users must also be actively using Microsoft Outlook or Outlook Express and/or AIM.

**Specifications:**

- **Email**
  The following actions are possible for the email feature.
  - View most recent email:
    - By default, once a user logs in, the subject, sender, and time sent will be displayed for the more recent email messages.
  - View all email
    - User clicks “My Email.”
    - User sees consolidated email.
  - Sort email
    - When viewing email, user can click on field identifier (From, Subject, or Date) to sort by that field.
  - Compose message
    - User clicks on “Compose New” from either the main view or email view.
    - User enters To, BCC, Subject, and Body.
    - User clicks “Send.”
    - If successful, user returns to original page
  - Send Attachment
    - In compose message screen, user clicks on “Send Attachment”
    - User has option of either uploading a file or choosing a file from Webdisk.
  - Delete Message
    - In view email screen, there is a check box next to each message subject.
    - User checks the boxes corresponding to the message he/she wants to delete.
    - User clicks “Delete Checked” from top.
    - If viewing individual message, user can click “Delete Message” on top.
  - Reply/Reply-All/Forward
    - When viewing individual message, user clicks on appropriate button.
    - User sees compose message screen, with corresponding field already populated.
• **Contacts**
  The following actions are possible for Contact Management.
  o **View a contact’s complete information:**
    • Begin by clicking on the Contacts tab if not already selected.
    • Click on name.
  o **Send Email to contact:**
    • Begin by clicking on the Contacts tab if not already selected.
    • Click on “send email” button to the right of contact name.
    • If viewing individual contact, click on contact’s email address.
    • User sees compose page with “To” field populated.
  o **Adding a contact:**
    • Begin by clicking on the Contacts tab if not already selected.
    • Click on the “Add new Contact” link.
    • The new page has various fields to fill in.
    • Once the user enters the relevant information, he/she clicks on the “Save Contact” button.
    • If the addition is done successfully, the system displays the original page with the new contact added. If there is an error, it returns to the form with an error message displayed.
  o **Deleting a contact:**
    There are two ways a contact can be deleted:
    1. • In the display page for a specific contact, there is a “delete” button at the bottom.
    • If this button is pressed, the system will prompt the user to confirm the deletion.
    • If confirmed, the contact status within the database is marked “inactive,” so that it is not displayed in any lists, but can be restored at a later date.
    2. • When viewing the contact list the user has the option of selecting checkboxes besides individual contact names, and clicking the delete button.
    • The system will prompt the user to confirm the deletion before taking any action.
    • If confirmed, the contact status within the database is marked “inactive.”
  o **Editing a contact:**
    • In the display page for a specific contact, there is an “edit” button on the bottom.
    • If this button is pressed, the system will take the user to an edit form for the contact.
    • Once the user enters the relevant information, he/she clicks on the “Update Contact” button.
    • If the update is done successfully, the system displays the main contact page with the updated information displayed. If there is an error, it returns to the form with an error message displayed.
• **To-Do List**
  The following actions are possible for the To-Do List.
  o Viewing the expanded To Do list
    ▪ The user clicks on the “Show all” button placed at the bottom of the collapsed To-Do frame (on the left of the main page).
    ▪ This expands the frame to the entire screen, and the To-Do list for the entire week is displayed, grouped by a daily basis.
    ▪ To view the next week/month, the user can click on the calendar control at the top of the screen.
  o Adding task to the To Do List
  o Marking current task on To Do list as done
    ▪ Each entry in the To Do list has a check box besides it.
    ▪ If the user clicks on this, the entry is crossed out implying that it has been done.
  o Deleting items from the To Do List
    ▪ Each entry in the To-Do list has a delete button besides it.
    ▪ If the user clicks on this, the entry is removed from the list of tasks for the day.

• **Scheduler**
  o Viewing the expanded Scheduler
    ▪ Click on “Expand” from the main page in the Schedule section.
    ▪ The schedule page expands to include the middle section.
    ▪ Schedule by default shows entire week, beginning with today’s date.
    ▪ User can click < or > to shift schedule by date.
    ▪ User can click << or >> to shift schedule by week.
    ▪ User can click on name of event to view a description of the event.
  o Adding items to the Scheduler.
    ▪ When viewing the expanded schedule or viewing the day’s schedule on the main page, user can either click on an empty time chunk, or clicks on “add event” link.
    ▪ User sees the “Add event” screen, with fields for Date (drop down menu with dates for next 2 weeks), Time, Title of Event, and a short description of the event.
    ▪ User clicks submit and returns to original screen.
  o Editing an event
    ▪ User clicks on the event from either the expanded schedule or day’s schedule screen.
    ▪ User sees description page for event.
    ▪ User clicks on “Edit event” link.
    ▪ User sees the form used for adding an event, with fields populated.
    ▪ User clicks submit and returns to event description.

• **My Links**
  o View your links
    ▪ Click on the “Links” tab that will always be visible in the right-hand column
  o Add a link
    ▪ If not already visible, click on the “Links” tab that will always be visible in the right-hand column
- Click on the “Edit Links” button, which takes you to a new page giving you the option to add, remove, and edit links
- Click on the “Add Link” button
- Fill in the fields with the appropriate link name and link URL
- Click to save the new link, this returns you to the edit links page
  - Delete a link
    - If not already visible, click on the “Links” tab that will always be visible in the right-hand column
    - Click on the “Edit Links” button, which takes you to a new page giving you the option to add, remove, and edit links
    - A delete button will be listed next to each link, click on it to remove the corresponding link
  - Edit an existing link
    - If not already visible, click on the “Links” tab that will always be visible in the right-hand column
    - Click on the “Edit Links” button, which takes you to a new page giving you the option to add, remove, and edit links
    - Click on the “Edit Link” button on the row of the link you’d like to edit
    - Change the data in the fields as needed
    - Click on the button to save the changes and return to the Edit Links page
  - Changing the order of appearance of links
    - If not already visible, click on the “Links” tab that will always be visible in the right-hand column
    - Click on the “Edit Links” button, which takes you to a new page giving you the option to add, remove, and edit links
    - Click on the arrow corresponding to the direction you want to move the link in the list; options are up one, down one, move to top, and move to bottom
    - Page updates order immediately after each button click, changes are also saved

- **News Headlines**
  - Adding a news feed
    - Click on the link to Edit News Feeds
    - Click on the button to add a news feed
    - If the news feed you’re adding is on the list of common ones, check the box next to it then click to Add to your current feeds
    - If the feed you want to add is not listed, fill in the name and URL of the feed you want to add into the fields at the bottom of the list; then click to Add to your current feeds
  - Removing a news feed
    - Click on the link to Edit News Feeds
    - Under the list of your current feeds, on the row of the feed you want to delete, click the button to delete the feed
    - The feed is deleted and the page updates immediately to reflect the change
  - Viewing a news article
    - Click on the headline to open the article in a new page
• **Webdisk**
  
  o View available files
    - For short summary view, click on Webdisk tab on the right panel.
    - User sees an alphabetized list of uploaded files.
    - User can click on file name to download it.
    - For detailed view (including file size, date uploaded, etc.) click on “More” on the Webdisk tab.

  o Upload File
    - Click on Webdisk tab.
    - Click “Upload File”
    - User sees form to enter File name, description, and “Browse” to select file from local computer.
    - User clicks submit, and returns to original screen.

  o Delete/Rename file
    - From the detailed view page, user clicks on “delete” or “edit” button to the right of each file name.

  o Save email attachment onto Webdisk
    - When viewing an email with an attachment, user clicks “Save attachment onto Webdisk.”
    - User sees form with File Name populated, and has option to fill in the description.

• **Settings**
  
  o User clicks on “settings” link on top
  o Here, user can change login/password/email account information. This page also has links to the settings pages for each individual module.