WebPM

Project Management System

Project Design
Version 1.0

Prepared for

State Farm Insurance

by

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on

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1. Introduction

This document provides a detailed description of the planned implementation of the WebPM project. As the WebPM architecture consists of three tiers, this document is divided into three main sections.

The first section of this document describes the user interface functionality. Because WebPM is a web-based application, the user interface is comprised of a set of (HTML) web pages. These web-pages accept input from the user and interact with the server-layer to carry out user requests and display results. Screen-shots are provided in this section to demonstrate the basic functionality of the interface.

The second section describes the server layer. This tier of functionality is responsible for carrying out transactions on behalf of the user. Such transactions include adding and updating business case and project data to the database, and generating, storing, exporting, and printing reports. This tier will be implemented in several components (Java Servlets), and the proposed structure and behavior of each are described in this section.

The last section describes the database ("data tier") that will be used to store, and perform computation on, the user's data. A description of a proposed database schema will be provided including type and space requirements of each data element required by the software.

Please note that the screen-shots that accompany this document are of images that were created without CSS; that is, they are barren of any "eye candy", such as colors, icons, and borders. They are intended to only show the basic functionality of the program, as the goal of the project team is develop the stylistic characteristics of the interface in close conjunction with the customers, in order to highly suit the application to their purposes.

2. Design

2.1 User-interface

1. Login

The login screen is the first screen presented to the user by the application. Only authenticated users may continue past the login screen to gain further access to the application. In order to accomplish this the user must enter a valid login ID at the "Login:" prompt as well as a valid password at the "Password:" prompt, and click "Sign in".

A link is provided to assist users who are unable to login due to administrative/technical problems. This link is a customizable aspect of the user-interface; i.e., it can be configured to point to a specific location within the customer's site.

The login screen is shown in Fig. 1.

Up logging in, the user is directed to the "home" screen (Fig. 2). From the home screen, the user may enter any of the following three areas:

Business Case Manager

Project Manager

Report Viewer

Administrative users may also enter:

User Manager

Each of these four areas is described below.

2. Business Case Manager

The Business Case Manager allows the user to add, update, delete, and search business case data. The Business Case Manager is shown in Fig. 3 – 6. The functionality is described below.

The "Add" button adds a new business case to the database. As shown in Fig. 4, a new (editable) business case is appended to the list. When the user clicks the "Save" button, the new business case data is submitted to the server layer for inclusion in the database.

Clicking "Edit" when a business case is selected (Fig. 5) will allow the user to edit business case data "in place". Clicking the "Save" button in this context will invoke the server layer to update the selected business case record in the database.

Clicking "Del" when a business case is selected will invoke the server layer to remove the selected business case from the database. This will also remove all projects associated with this business case

from the database.

Entering text in the "Search" box (Fig. 6) will narrow the scope of the business cases listed in the scroll pane to those that match the search query (and field).

Selecting a particular business case from the list will populate the panel on the right side of the screen with project data that is specific to the business case.

3. Project Manager

When the user has selected a specific business case, the Project Manager interface allows the user to add, update, search, comment-on, and delete project data (Fig. 7). Project data shown in this screen consists of the following:

Project name	The name of the project
Business case	The business case to which this project is associated
Project number	A unique number identifying this project
Project manager	The project manager assigned to this project
Description	A brief description of the project
Status	The current status of the project (draft, not yet complete, active, complete)
Start date	The date the project will begin (when entering new data, otherwise the date the project began)
End date	The date the project will terminate (when entering new data, otherwise the date the project ended)
POC	The name of the project contact
Dollar amount	The total dollar amount required to fund the project
Sponsoring component	The component number sponsoring the project
Resources assigned	Name/number of hours of each resource assigned to this project

The "Add" button creates and adds a project to the database (Fig. 8). When creating a new project the user must supply the project name and number, and may optionally select a business case to which the project should be associated (or choose the default setting of "unassociated"). The remaining fields are optional.

Project data maybe updated any time (by authorized users) by clicking the "Edit" button on this screen. Individual fields may be edited "in-line" by double-clicking the field (Fig. 9). When adding new or editing existing project data, changes are committed by clicking the "Save" button.

The last two fields of this screen are used to track the cost of a project over time, and to track the resources/hours allocated to a project. The yearly-cost of a project can be recorded in this screen, as shown in Fig. 9. Fig. 10 shows a project with a total cost of $10,000.00 covering two years.

In “read-only” mode (shown), the “Resources” field shows the resources that have been allocated to the project. Editing this field will enable the user to add new resources to the project (shown in Fig. 9).

The user may add a comment to a project by clicking the “Cmnt” button (Fig. 11).

4. Report Viewer

This final component of the interface consists of the Report Manager. The Report Manager is used to manage the three types of reports required of this application: the *shared services road-map*, the *work initiation plan*, and the *resource utilization report*. From this screen the user may generate, view, print, and export (to PDF/XLS) reports (Fig. 13).

The top half of the screen shows a list of generated reports are currently available to the user. Those that are not currently saved in the database are marked with a '*'. To save a report to the database the user selects the desired report and clicks “Save”. Reports that are not saved when the user logs out of the system will be discarded forever.

To view a report, the user selects the desired report and click “View”. The report image will appear in a new window (not shown). To export a saved report to a (PDF or XLS) file, the user selects the desired report and clicks “Export” (not shown).

The bottom half of the screen shows the controls necessary to create a new report. The user generates a new report by the selecting the type of report and entering the required parameters, and by clicking “Submit”.

5. User Manager

The User Manager screen is used by administrative users to maintain user accounts. This screen is used by administrative users to add, remove, and temporarily disable user accounts, and to change passwords.

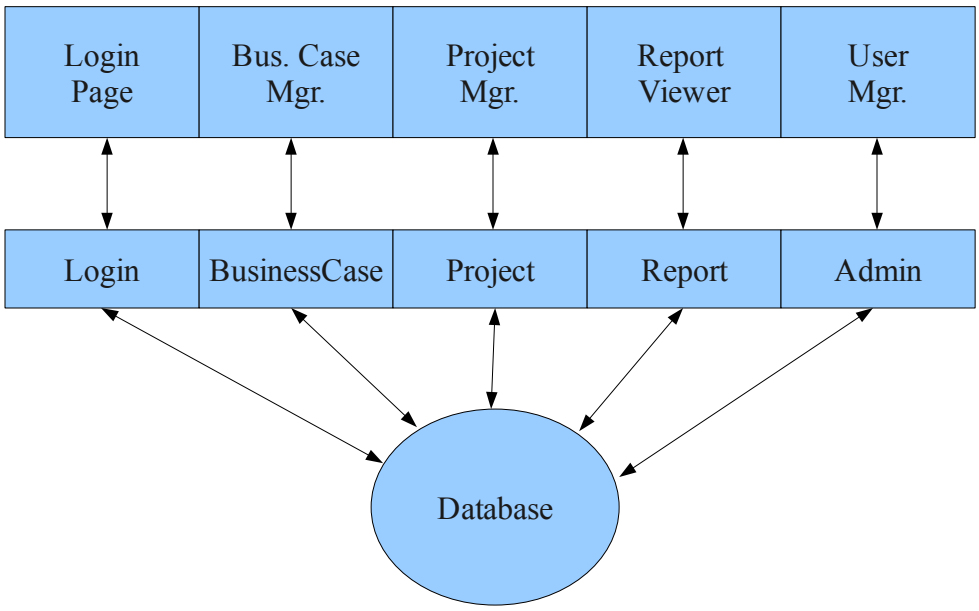
2.2 Server-tier (i.e., business rules)

The function of the server-tier is to implement the logic of the WebPM application. Components operating at this layer are responsible for carrying out user transactions with the database, and generating reports. These components will consist of Java Servlets, which are Java language objects that dynamically process requests (from a web page, for instance) and construct responses. User interface components (i.e., web-pages) will communicate data to these Servlets via HTTP POST.

The overall functionality of this layer is divided into the following components:

Login	This module is responsible for authenticating users.
BusinessCase	This module is responsible for adding, updating, and querying business case data on behalf of the user.
Project	This module is responsible for adding, updating, and querying project data on behalf of the user.
Report	This module is responsible for generating, storing, and exporting reports.
Admin	This module is used to administer the WebPM system. This primarily consists of managing user accounts and specifying database connectivity parameters.

The following diagram illustrates how the server components function as intermediaries between the front end web pages and the database:



2.3 Data tier (i.e., “back-end”)

The data tier of the WebPM application will be implemented as a series of tables residing in a MySQL database.

The following table describes the data elements that are required by the system:

BUSINESS_CASE: {

BC_NUMBER,	ALPHANUM/7
BC_NAME,	ALPHA/50
BC_DESC	ALPHA/500

}

PROJECT: {

PR_NUMBER,	ALPHANUM/6
PR_NAME,	ALPHA/100
PR_DESC,	ALPHANUM/500
PR_STATUS,	ALPHA/16
PR_START_DATE,	DATE/8
PR_END_DATE,	DATE/8
PR_MGR,	ALPHA/50
PR_POC,	ALPHA/50
PR_SPONSOR,	ALPHA/50
PR_COMPONENT,	ALPHANUM/6
PR_COMMENTS,	ALPHANUM/500
BC_NUMBER,	ALPHANUM/7

}

RESOURCE: {

RE_NUMBER,	ALPHANUM/6
RE_NAME	ALPHA/100
PR_NUMBER,	ALPHANUM/7

}

USERS: {

USERNAME,	ALPHANUM/14
PASSWORD,	ALPHANUM/14
ROLE	ALPHANUM/6

}

3. Figures

Fig. 1. WebPM Login Screen

Fig. 2. Home Screen

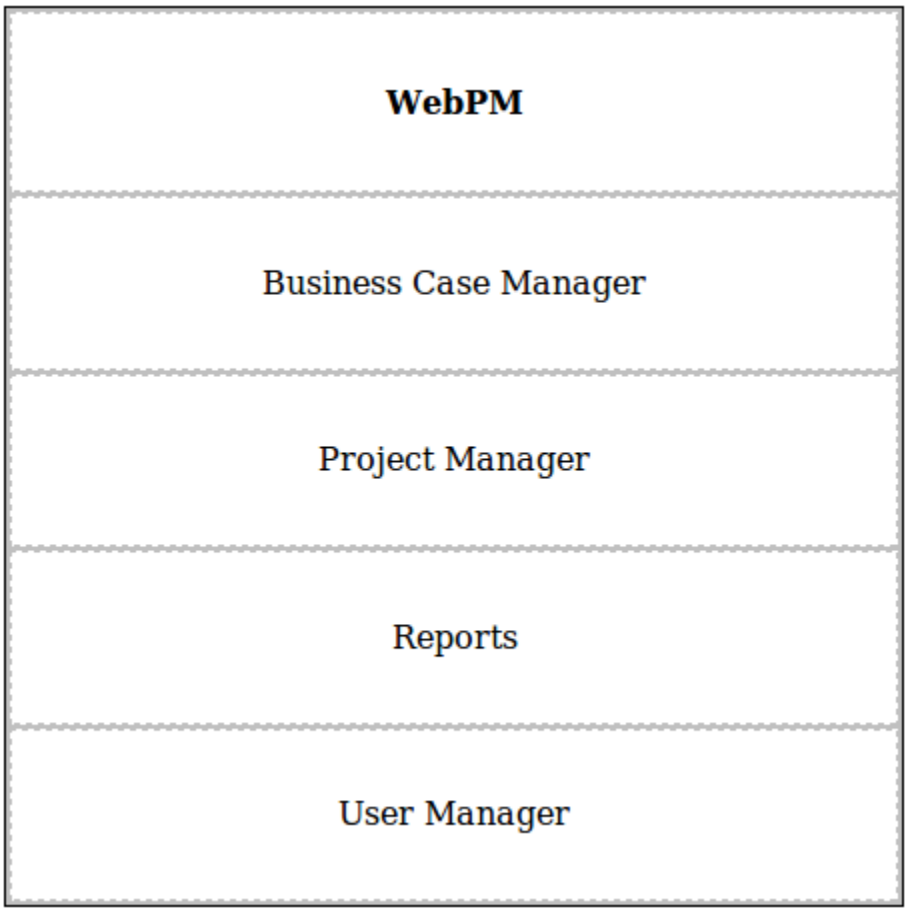


Fig. 3. Business Case Mgr.

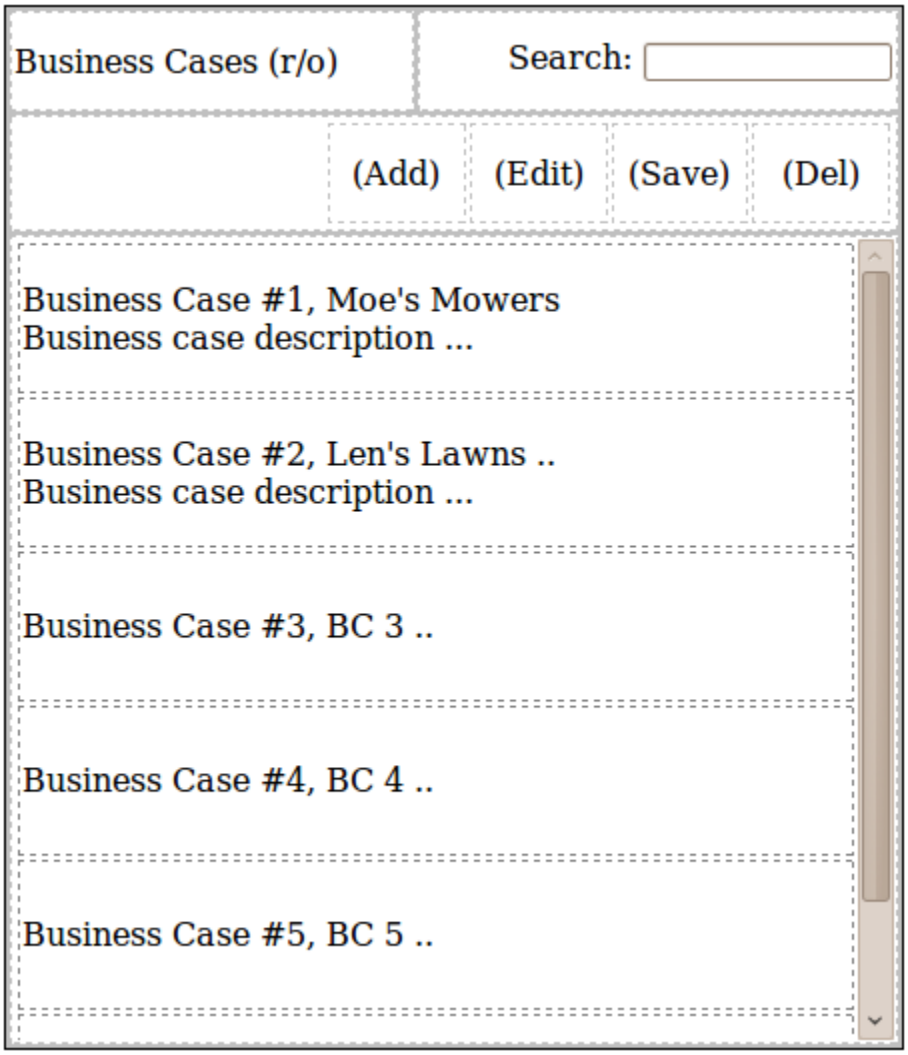


Fig. 4. Adding a new business case

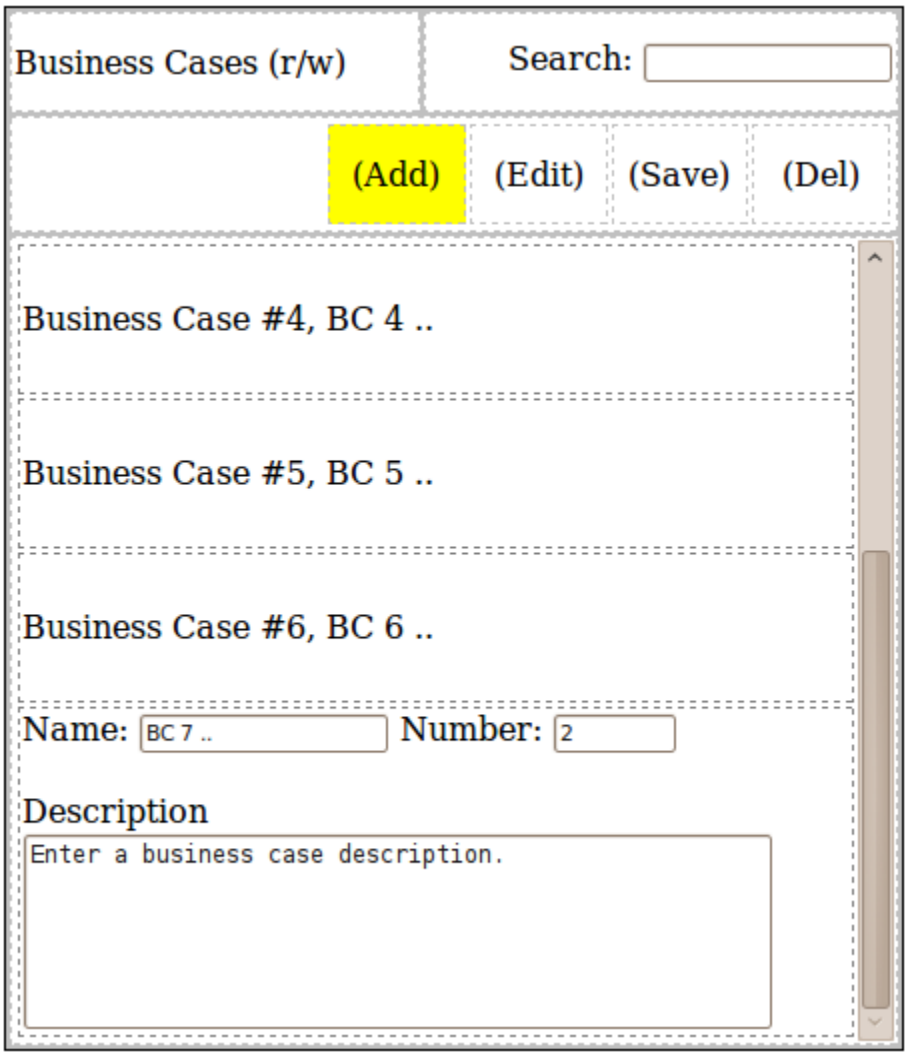


Fig. 5. In-place editing of business case data

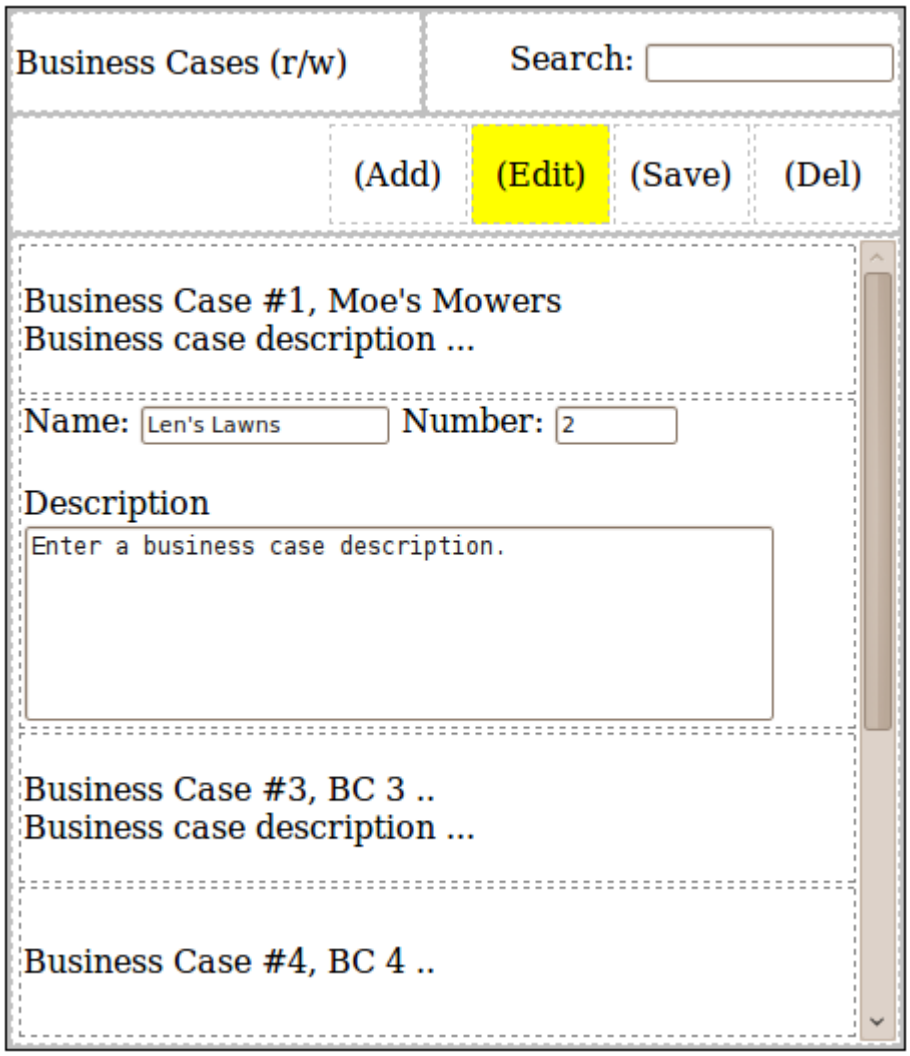


Fig. 6. Searching business case data

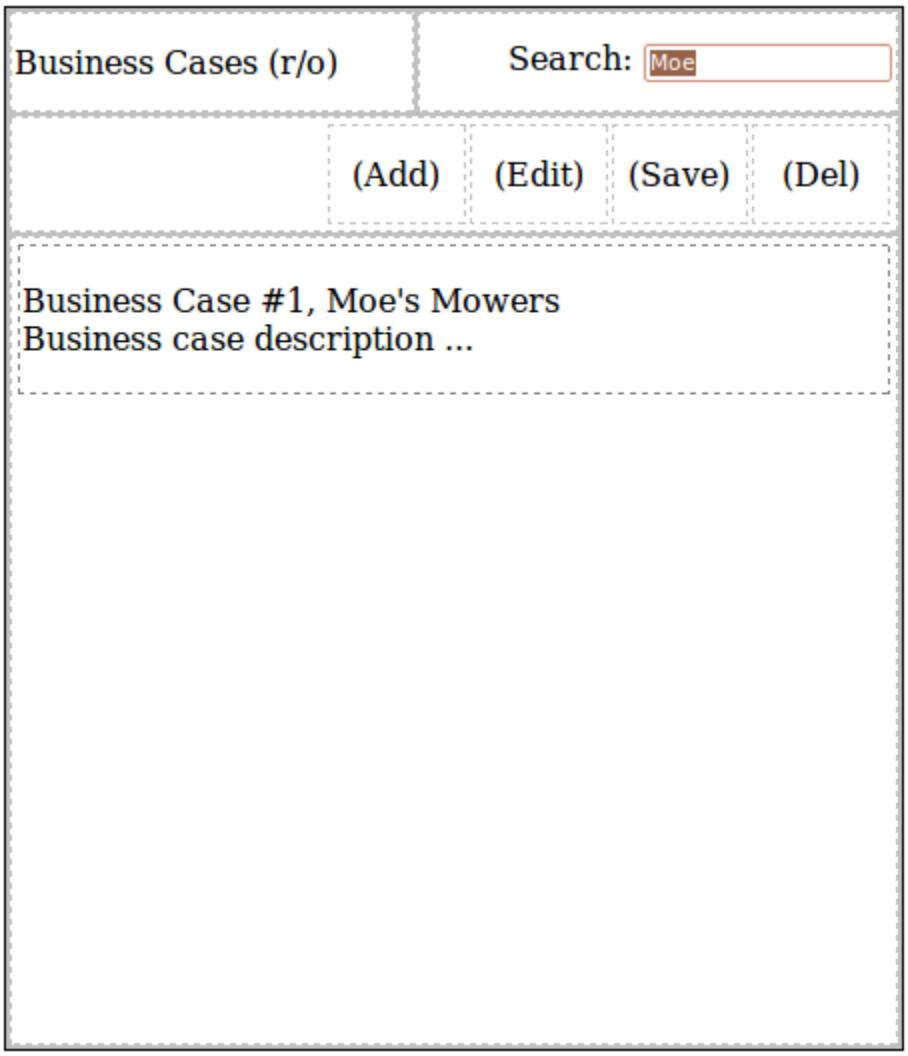


Fig. 7. Project Mgr.

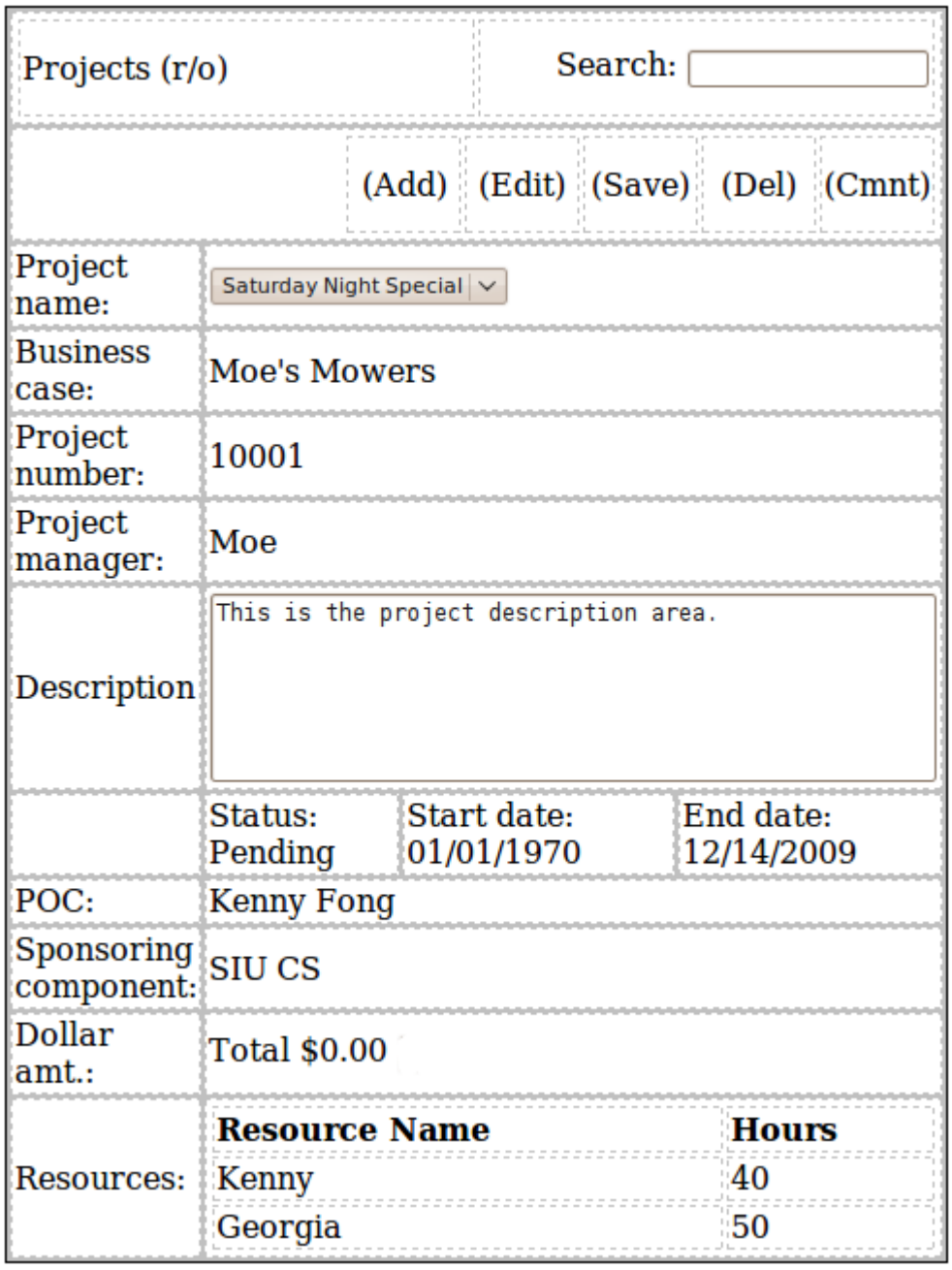


Fig. 8. Adding a new project

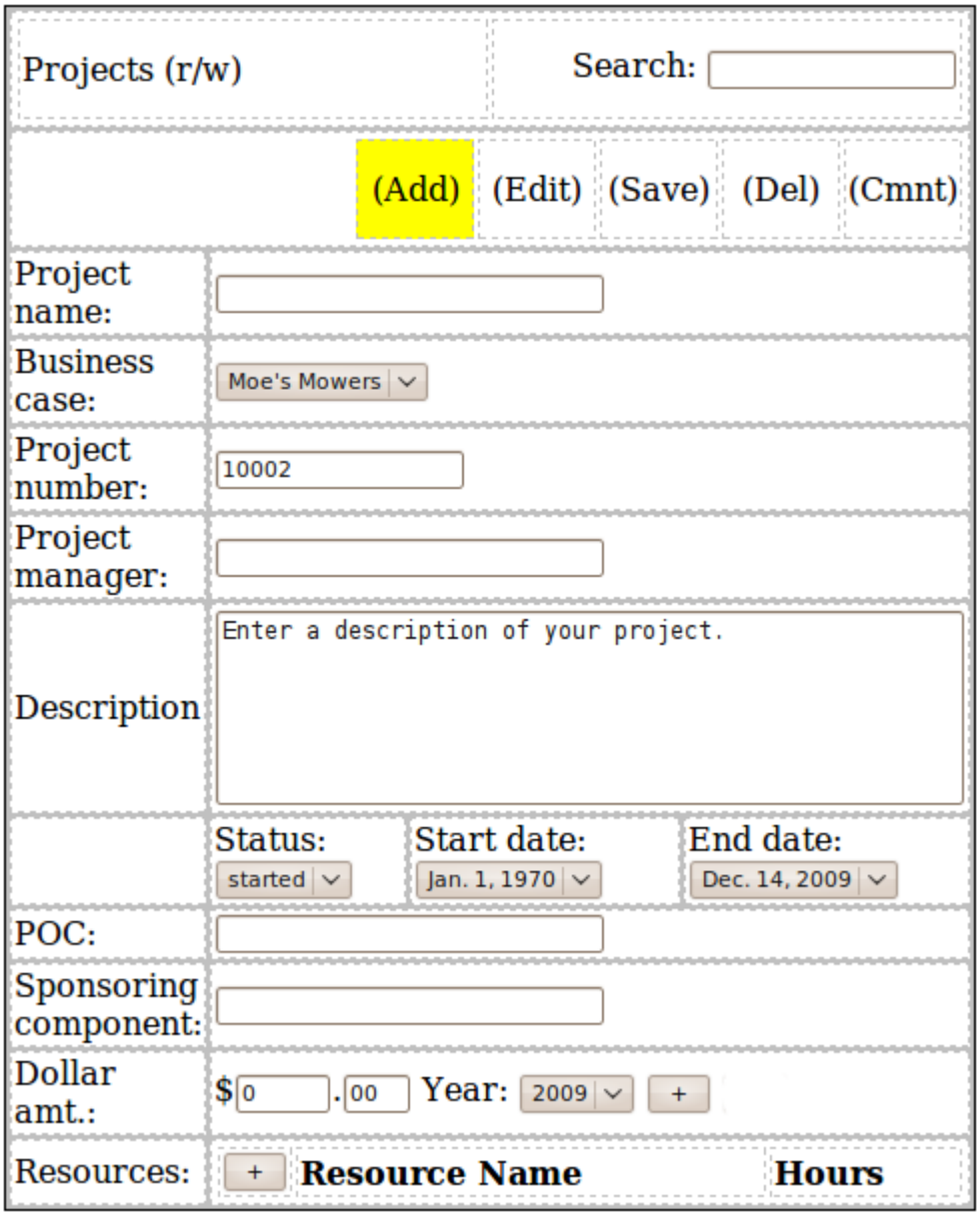


Fig. 9. In-place editing of project data

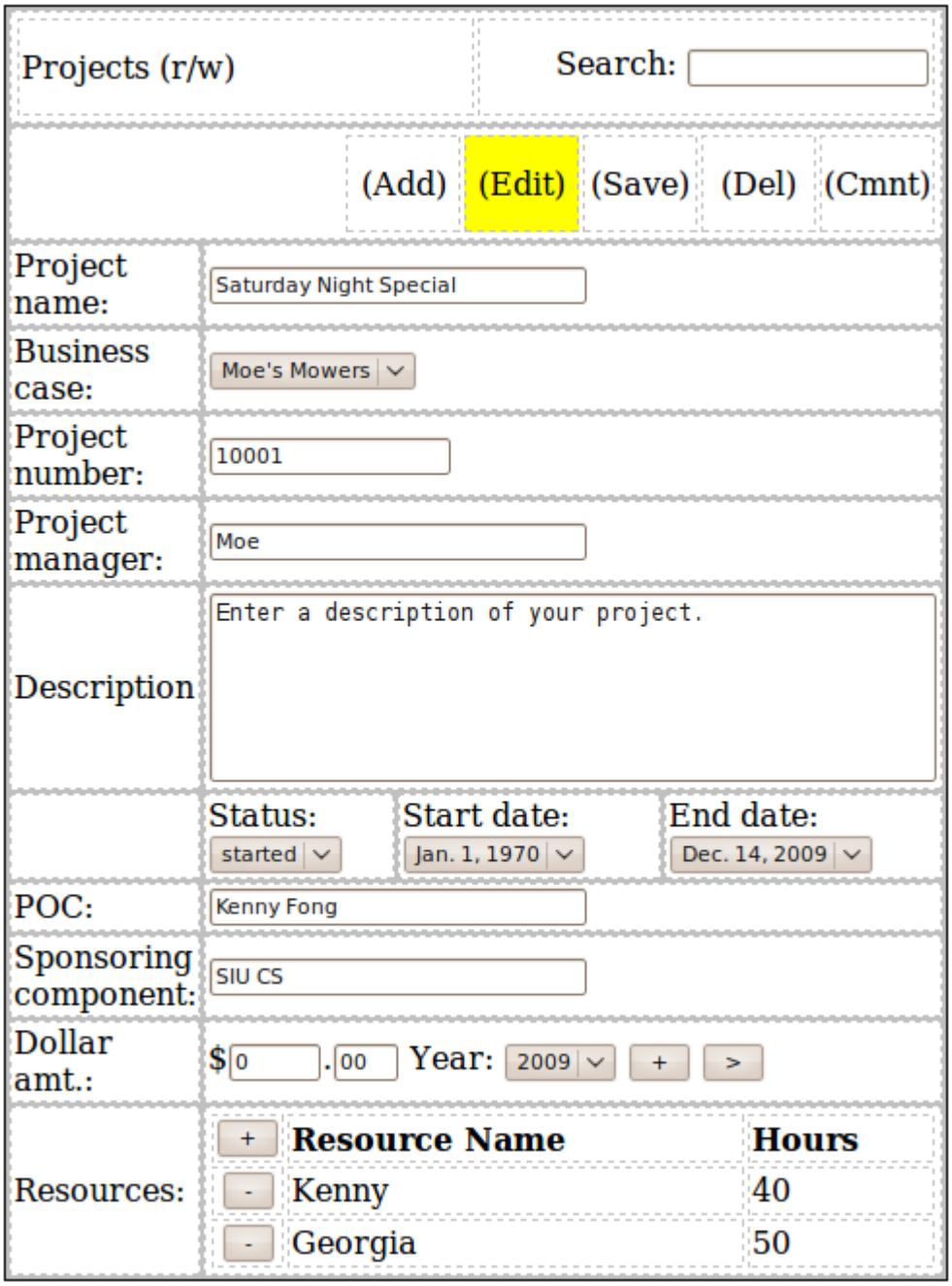


Fig. 10. Populated “Dollar Amt.” field

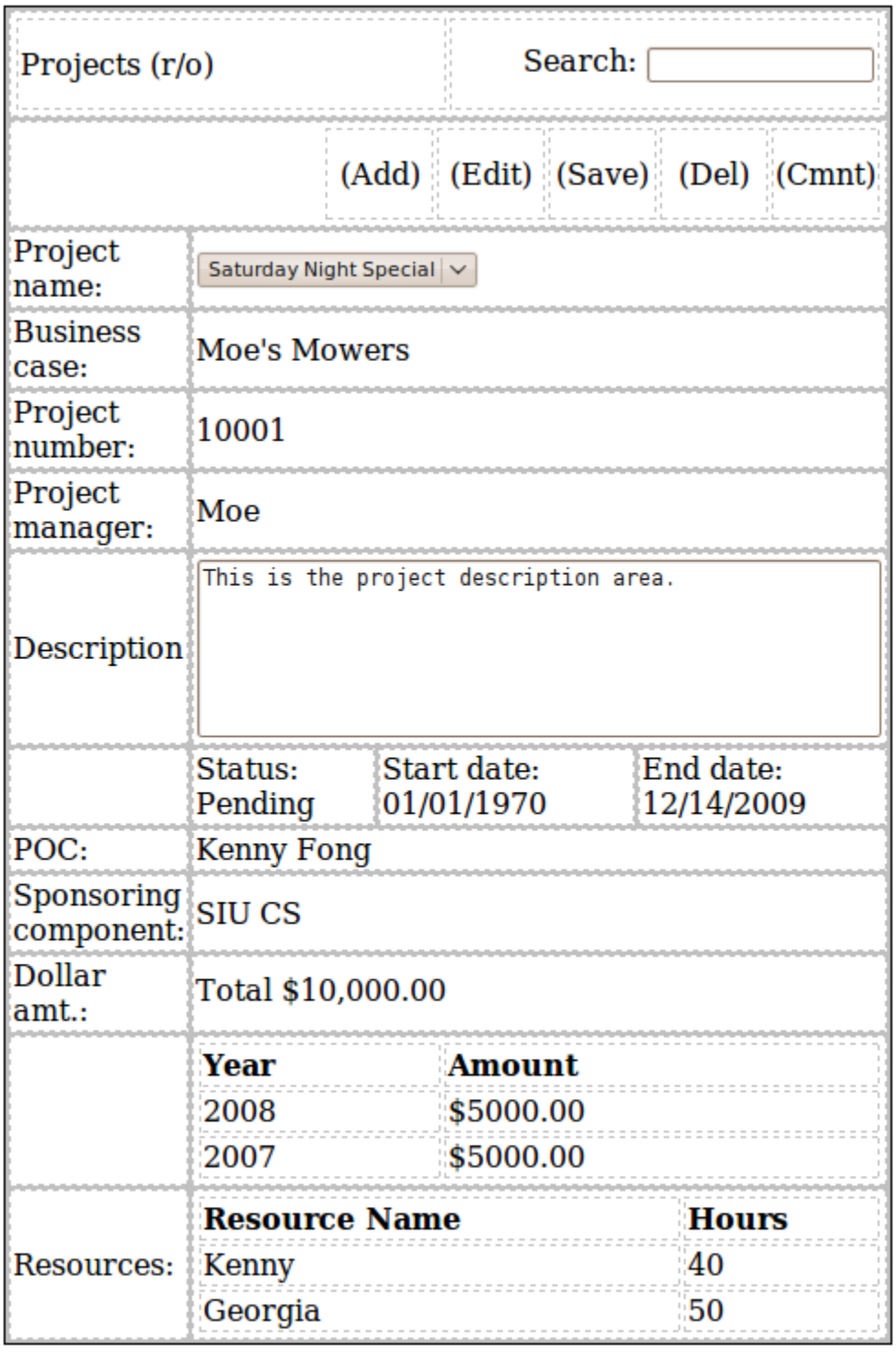


Fig. 11. Adding project comments

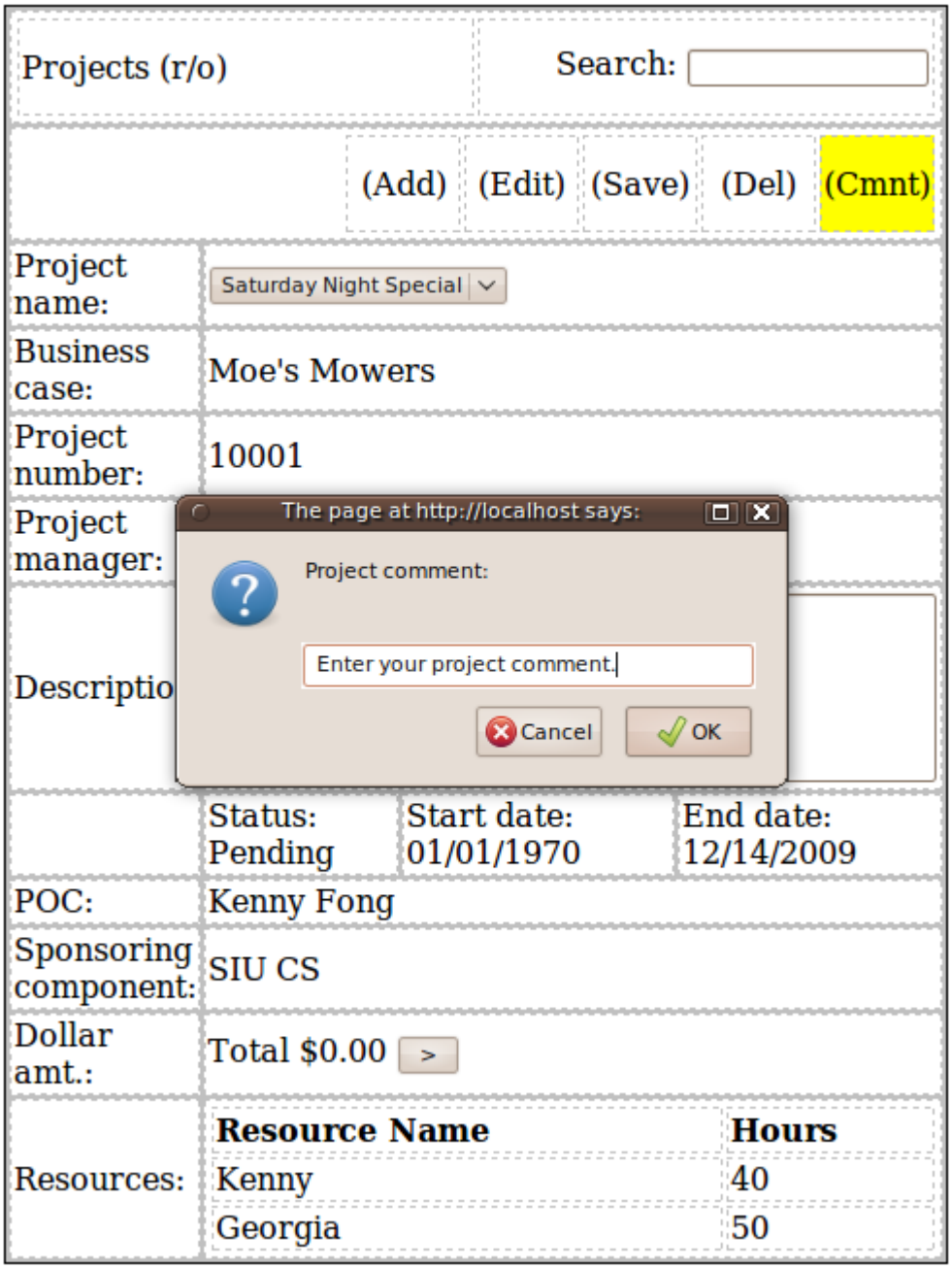


Fig. 12. Report Mgr.

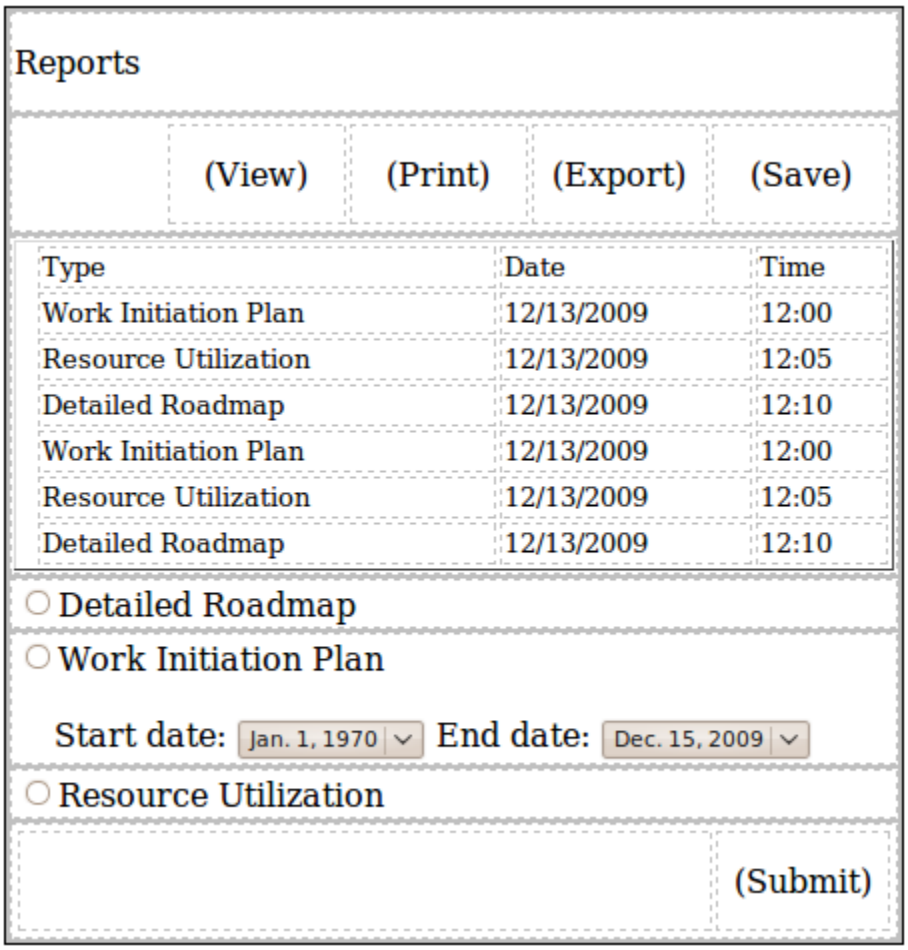
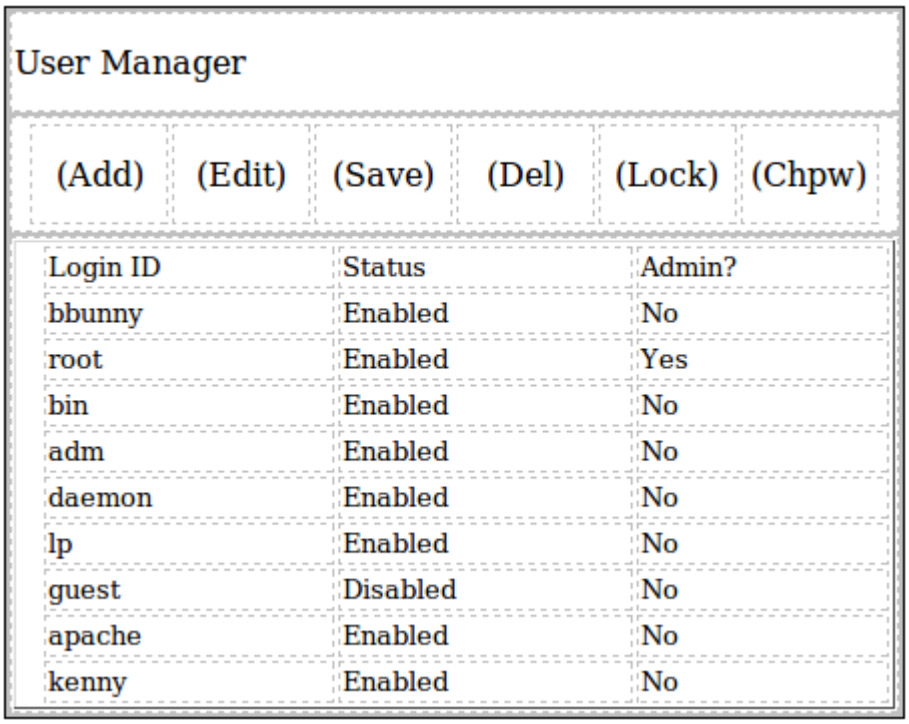


Fig. 13. User Mgr.



4. Contact Information

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