Requirements Document for the Employment Services Billable Hours System
Including modifications to the Employment Services System

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Contents

1   Introduction

The client company provides Employment Services to Consumers, and bills the Funding Agency for the Hours Billed. There are different Categories of Employment Services, designated A1, A2, B1, B2, B3, B4, B5, B6, and B7. Each Job Development has zero or more Authorizations, and each Authorization is for one Type of Service.

In the Employment Services Billable Hours System, the client company staff member who provided the service enters the data into a database. Various reports are generated from these data. The reports show, for example, whether all billable hours sheets have been submitted by the client company staff members. In addition, the Employment Services Billable Hours System provides automatic email reminders to designated staff members under given conditions (e.g. if a billable hours sheet has not been submitted).

The Employment Services Billable Hours System runs under Linux, has a web interface for data entry and report generation, and generates the high-quality reports using LaTeX. The email reminders are generated by running programs periodically by `cron`.

2   Scope

This document describes the experience of the user as the user interacts with the Employment Services Billable Hours System. The data entry GUIs, the report generation GUIs, and high-quality reports are described. In addition, security issues, the contents of the automatic email reminders, and the conditions under which the reminders are sent, are described.

3   Concept of Operation

This section describes the user experience as the user enters data and generates reports. The GUIs are described as far as what buttons and fields are available. The location of each widget and any images used in the GUI are not described; these are specified by client company during development.

The staff member providing the service enters the data for all Consumers each working day. The interface is as user-friendly as possible, and *extremely* bulletproof.

The user starts the web browser, opens the URL for Employment Services Billable Hours System, and, if the user had previously entered the user's username and password to access the client company web site, is presented with a GUI with the buttons:

Input Data Show the data entry screen (section 3.1).

Reports Show the screen to generate reports (section 3.2).

Authorizations Show the screen to create and maintain Authorizations (section 3.3). This button appears only for privileged users

Admin Show the administration screen (section 3.4). This button appears only for privileged users.

If the user accesses this URL directly without first accessing another part of the client company web site, the user is prompted for the user's username and password. After entering the requested information, the user is presented with the GUI.

3.1 Data Entry

To enter data, the user clicks the button for data entry. The user is presented with the data entry screen for entering data for up to nine Job Developments. In addition, the GUI has widgets to enable the user to enter the date for the data. The date entry widgets are picklists that allow the user to select dates from the present to an administrator-configurable number of days before the present. The default date shown is the previous day, excluding weekends. Also shown are the date the data was first entered, and date last modified.

For each Job Development, the user enters the following data:

1. Job Development. This is selected from a picklist which shows the Consumer name and employer name. If no Job Development is selected, then the associated fields are ignored. In addition to the real Job Developments, a fictional Job Development can be chosen. The purpose of the fictional Job Development is to allow the user to enter data for which no Job Development has yet been created.

2. Total billable hours for each Category of Employment Service for each JobDev. All Categories of Employment Service are shown. These fields

are labeled by the Category codes (A1, A2, and B1 thru B7). If feasible, a popup window describing each Category of Employment Service appears when the mouse is over that field.

3. Type of Service for these billable hours. This is chosen from a picklist (see section 3.3 for the list of Types of Service). The picklist contains the Types of Service, and also "None" to signify that these hours are not associated with any Authorization.

In addition, the user enters the following for each date:

1. Non-billable Hours, with different categories (C1 thru C12).

2. Total billable hours for that day.

3. Hours paid to staff member for that day.

There are the following buttons:

submit Submit the data to the database. The system checks the entered data for any inconsistency, and also whether there is any previously-existing data for that day. The consistency checks are:

1. The total billable hours is the sum of the hours for each Category of Employment Services.

2. At least one Authorization has a Type of Service that matches the Type of Service specified, and Remaining Hours greater than the hours entered, for all the hours entered. If this is not the case, the Employment Services Billable Hours System informs the user of this (with a warning similar to "If you choose this Type of Service, the hours won't be belle"), and also the Remaining Hours and Types of Service that are available before the data would be submitted. The Employment Services Billable Hours System also gives the user the following options:

   (a) Submit the data.
   (b) Go back to the data entry screen (presumably to change the Type of Service).

   A Type of Service of None is considered to have an Authorization. However, the user receives a warning similar to the warning received when there is no Authorization for a Type of Service.

If there is an inconsistency, a window appears which states the inconsistency, that nothing was done, and which has a button to go back to the data entry screen.

If there is any previously-existing data for that day, a window appears stating this, and giving the user the following choices:

1. Clear the previously-existing data and submit the new data.
2. Go back to the data entry screen.

fetch If the user entered the Date, retrieve the data from the database, and put the values into the fields. This overwrites any data in the fields, except for the date.

clear Clear all the data entry fields.

After the data is submitted, a window appears showing the Data Entry Confirmation (see section 9).

3.2   Reports

To generate reports, the user clicks the button for reports. The user is presented with buttons for generating different reports, as well as input fields for the reports. See section 5 for a description of each of the reports.

3.3   Authorizations

The purpose of this page is to create and maintain Authorizations, and also to calculate Remaining Hours. Privileged Users can access this page by clicking on the "Authorizations" button on the Employment Services Billable Hours System main page. Regular users cannot access this page.

The GUI to create and maintain Authorizations consists of a picklist enabling the user to choose an Authorization, as well as the following fields:

1. JobDev (this is a picklist).

2. Type of Authorization (either Fixed Hours or Fixed Hours per Month).

3. Authorized hours.

4. Effective date.

5. Expiration date (this can be left blank to mean "No expiration").

6. Funding Agent This is a picklist from which the user selects one Funding Agent. See section 9 for a list of the Funding Agents.

7. Type of Service. This is a picklist from which the user selects one Type of Service that this Authorization is for. See section 9 for a list of the Types of Service.

Additional display fields are:

1. The name of the user who created the Authorization.

2. The date the Authorization was created.

3. The name of the user who last modified the Authorization.

4. The date the Authorization was last modified.

In addition, there are the following buttons:

Submit Submit the data to the database. The system checks the entered data for any inconsistency, and also whether there is any previously-existing data for that Authorization. The consistency checks are:

1. The value for hours is greater than zero.
2. The expiration date (if any) is later than the effective date.

If there is an inconsistency, a window appears which states the inconsistency, that nothing was done, and which has a button to go back to the data entry screen.

If there is any previously-existing data for that Authorization, a window appears stating this, and giving the user the following choices:

1. Clear the previously-existing data and submit the new data.
2. Go back to the Authorization screen.

Fetch Retrieve the values of the Authorization consistent with the values the user entered into the fields. For example, the user could enter values for the Funding Agency and the effective date and click Fetch. If there is a unique record with the values the user entered, the fields are loaded with the values for that record. This overwrites any data in the fields of the GUI.

3.4 Administration

Privileged Users can access this page by clicking on the "Admin" button on the Employment Services Billable Hours System main page. Regular Users cannot access this page. This page enables the user to view and modify whether or not users can modify data for any given month, and to calculate the Remaining Hours for a given month.

The lock status of the months for the recent months are displayed. The present month is included in the display. The number of years in the past to display is a parameter that is configured by the administrator.

The user selects from picklists the month, year. There are also the following buttons:

lock Lock the month so that data for that month cannot be modified.

unlock Unlock the month so that data for that month can be modified.

Also on this page are fields for specifying the month and year for which to calculate the Remaining Hours, and a "Calculate" button. See section 4 for a description of how Remaining Hours are calculated. The user chooses the month and year from picklists. The Remaining Hours at the end of the specified month are calculated. If the specified month is Locked, the Remaining Hours are not calculated and the user is informed of this. Normally, the user would calculate the Remaining Hours for a month before generating any billing-related reports for that month.

An administrator can modify the Remaining Hours using the `psql` command-line interface to the Employment Services Billable Hours System database. The procedure is similar to the following:

1. Get a list of all Authorizations for the JobDev (using the GUI).

2. List the Remaining Hours of the Authorization (using `psql`).

3. Modify the Remaining Hours record (using `psql`).

4 Authorizations

There are zero or more Authorizations associated with each JobDev. Each Authorization has a Type of Authorization, an Authorized Hours, an expiration date, an effective date, Funding Agent, and a Type of Services (see

section 3.3 for the list of Types of Service) that the Authorization is for. Because each JobDev can have several Authorizations, there is a separate page for creating and maintaining Authorizations in Employment Services Billable Hours System (see section 3.3). This page is accessible only to privileged users.

Fixed-hour Authorizations are changed at the end of each month; as the hours delivered during the month are billed, the Remaining Hours is reduced. The Employment Services Billable Hours System does this automatically. Because the number of hours delivered is not always the number of hours billed, the user can modify the Remaining Hours at the beginning of a month in the Authorization (see section 3.3 for a description of how the user does this).

Authorizations can be Invalid, which means that it has no or negative Remaining Hours. An Authorization can also be Valid, which means that it has positive Remaining Hours. An Authorization for a fixed number of hours that is Invalid can never become Valid again. However, an Authorization for a fixed number of hours per month that is Invalid can become Valid at the start of the next month.

An Authorization can also be Expired, which could be due to the Authorization's expiration date passing. Some Authorizations do not Expire. Authorizations can be Expired by the user by changing the expiration date, as long as this has no impact on Locked months.

4.1   Calculation of Remaining Hours

To calculate the Remaining Hours, the Remaining Hours of an Authorization with a Type of Service that matches the Type of Service associated with the Category of Employment Service (A1 thru B7) is decremented. Because there might be several Authorizations that satisfy this, a method of choosing one Authorization is used.

The method is to assign a Priority to each Authorization. The Remaining Hours of the Valid Authorization with the highest Priority is decremented.

The Priority is determined first by the priority of the Funding Agent (see section 9). The admin can add more Funding Agents using the psql interface.

If there are more than one Valid Authorizations with the same Funding Agency, the Authorization with the earlier date has the highest (or higher) priority.

This approach enables client company to keep a history of all Authorizations.

5 Description of reports

The data is used to generate the following reports:

1. **Data Read/Write Status** Report showing whether data for any month can be modified by users. This report is available only to privileged users in the administration page.

2. **Data Entry Confirmation** Report showing all the data entered for a the user for all Consumers for a user-specified day. This report is available only after the user finishes entering data (see section 3.1).

3. **Missing Sheets** Report showing which Billable Hours Sheets have been turned in, and whether any Billable Hours Sheets have not been turned in. The user inputs the month.

   This report appears on the web-based front end.

4. **Billable Hours Summary** The user inputs the month, and the report shows the following for each Consumer:

   (a) The JobDev ID.
   (b) Consumer first and last name.
   (c) Primary Employment Specialist first and last name.
   (d) Total hours provided by the staff member to the Consumer.
   (e) Sum of Remaining Hours for all Authorizations that are not Expired.
   (f) Expiration date of the Authorization(s) with the latest Expiration Date.

   The report has a summary showing:

   (a) Total number of Consumers.
   (b) Total number of hours of service delivered.

    (c) Percentage.

The report is sorted first by the Employment Specialist last name, Employment Specialist first name, by Consumer last name, and finally by Consumer first name.

This report appears on the web-based front end.

5. **JobDev-specific Intervention Report** The user enters a JobDev ID (optional), Type of Service (optional), a month, a year, and the name of the file to contain the report. If the JobDev ID is blank, then the report contains data for all JobDevs. If the Type of Service is blank, then the report contains data for all Types of Service. The report is a LaTeXfile that shows the following for each day of the month:

    (a) Consumer first and last name.

    (b) Date.

    (c) Employment Specialist assigned to the JobDev.

    (d) Daily total of each Category of Employment Service, as long as the Authorization is Valid.

    (e) Cumulative total of each Category of Employment Service, as long as the Authorization is Valid.

This report normally does not show any hours of service for which there is no Valid Authorization. These hours of service for which there is no Valid Authorization are printed separately on separate pages, or included as a user-selected option, or provided to the user by some other method. This is to be determined during the design of the Employment Services Billable Hours System.

The report begins from the first day of the selected month, and ends at the end of that month.

6. **Payroll Hours Paid Report** For all staff Members, hours paid each day during a pay period. A pay period is two weeks, and ends on a user-specified Friday.

This report appears on the web-based front end.

7. **Billable Hours Statistics Report** This shows the monthly total of the Billable Hours for each client company staff member. Each line shows:

    (a) Staff member name.
    (b) Monthly totals for:
        i. Billable Hours (Categories A1 - B7 shown separately).
        ii. Leave.
        iii. Total Unbillable Hours (sum of Categories C1 - C12).
        iv. Total hours (sum of Categories A1 - C12).
        v. Total Billable Hours (sum of Category A1 - B7).
        vi. Total hours paid.
        vii. Percentage.
        viii. Unbillable Hours divided by paid hours.

    There are two summary lines. The first summary line shows the totals for all staff members. The second summary line shows each monthly total divided by the total hours billed, expressed as a percentage.

    This report appears on the web-based front end.

8. **Hours Delivered to a Consumer** This shows the number of hours delivered each day to a given Consumer over a user-specified time period.

    This report appears on the web-based front end.

9. **Hours delivered by Staff** This shows the number of hours delivered to each Consumer on a user-specified date range by the staff member requesting the report.

    This report appears on the web-based front end.

6 Other capabilities

The Employment Services Billable Hours System also provides the following capabilities:

1. Providing to each staff member via an email reminder if any of that staff member's Billable Hours Sheets are Missing. The administrator can disable this capability.

   This is a `PHP` script that is run by `cron`. The script is invoked as:

   `ESBH_missing_sheets`

   The email to send error and status information to is configured by the administrator. The `cron` administrator controls how often and whether the script is run.

2. Providing to each staff member via periodic email reminders if any of that staff member's Billable Hours Sheets are Late. The administrator also configures the time period between email reminders. The administrator can disable this capability.

   This is a `PHP` script that is run by `cron`. The script is invoked as:

   `ESBH_late_sheets`

   The email to send error and status information to is configured by the administrator. The `cron` administrator controls how often and whether the script is run.

3. Providing to a designated staff member via email at the end of each week the following information:

   (a) Any Billable Hours Sheets for all staff members that are Missing for longer than the administrator-configurable time period. If there are no Missing Billable Hours Sheet, then a message stating this is sent.

   (b) Percentages for all staff members.

   (c) All Invalid Authorizations.

   This is a `PHP` script that is run by `cron`. The script is invoked as:

   `ESBH_info`

   The email addresses to send the report and error messages to are configured by the administrator. The `cron` administrator controls how often and whether the script is run. The email can be sent to multiple recipients by running this script several times.

7 Security

The following security is enforced by the front end:

1. Password protection. Before a staff member can access any part of the Employment Services Billable Hours System through the web GUI, that staff member must supply a username and password.

2. Data entry user protection. Users can enter, modify, and delete only data that pertains to them. For example, user A cannot modify the billable hours of user B.

3. Data entry time protection. Users can enter, modify, and delete only data for which the date is between the present and an administrator-configurable number of days in the past.

In addition, there is a group of Privileged Users that is maintained by the administrator. Privileged users have the following privileges that Regular Users do not:

1. Modify whether data for a given month can be changed.

2. Display whether data for each month can be changed.

3. Create and maintain Authorizations.

4. Assume the identity of any user. A button to request entry of a new username and password is provided on the main GUI.

8 Relationship with other systems and future expansion

The Employment Services Billable Hours System is implemented as additional tables in the Employment Services Database. This allows for straightforward access to the Consumer and Job Development information. For similar reasons, future systems can be implemented as additional tables in the Employment Services Database. This would allow future systems to display information about a given consumer from all systems (e.g. face sheet from Employment Services tables, hours delivered over a long period of time

from Employment Services Billable Hours System, data from the goals and objectives system, and case notes from the case notes system to be developed in the future).

Future expansion of the system includes:

1. Additional reports such as an end-of-month report listing all persons with open JobDevs who have not been served in the current month.

2. Storage of scanned documents such as Authorizations, or storage of file names of scanned documents.

3. Automatic warning when the Remaining Hours of an Authorization falls below an Authorization-specific level.

9 Definitions

Authorized Hours This is how much service can be provided. It is a total number of hours or a number of hours per month.

Authorization Authorization to provide services.

Category of Employment Service A category of Employment Services, defined by the client company.

Community Living Consumer (CL Consumer) The person to whom the client company provides Community Living Services. A CL Consumer is distinct from a Consumer.

Community Living Service A service provided by the client company to assist CL Consumers. Each CL Consumer has an Authorization for Community Living Services, and is funded by Funding Agency. The rate for a given service may differ based on the identity of the funding agency.

Data Entry Confirmation The report generated by a staff member after entering data for all Job Developments for one day. The Data Entry Confirmation shows:

1. User name.
2. Date.

3. All the data the user entered for that date.

4. The Percentage for each Category of Employment Service provided that day.

5. The Percentage for each Category of Employment Service provided so far that month.

6. Dates for which no data has been entered (Missing Sheets).

7. Remaining Hours of all Authorizations for each Job Developments for which Hours of Service was provided.

Employment Services Services provided by a client company staff member to assist Consumers in finding and keeping a job. An Employment Service is associated with a Job Development, and is funded by Funding Agent.

Expired Authorization An Authorization that has an expiration date in the past.

Funding Agent The individual or organization providing the funds for the Employment Services provided by the client company. The Funding Agents, in order of priority, are:

1. DRS (Authorizations funded by DRS have the highest Priority)

2. LTESS

3. DBVI

4. DCVR

5. VA

6. BIS

7. CSB (FxCSB, ArlCSB, and AlexCSB)

8. PWCSB

9. FXMH

10. PUB

11. PVT

12. Other (Authorizations funded by Other have the lowest Priority)

Hours Billed The number of hours a client company staff member spends in providing Employment Services.

Hours Paid The number of hours a client company staff member is paid.

1. The staff member's billable hour percentage for the day.

2. The cumulative billable hour percentage for the month.

3. Any Consumers whose Authorization is below a given threshold.

Invalid Authorization An Authorization that has a zero or negative value of Remaining Hours.

Job Development, or JobDev The activities by the client company associated with helping Consumers find and keep a job. The activities include obtaining funding, and providing Employment Services.

Late Sheet Hours of service that has not been entered for the previous month or earlier.

Missing Sheet Hours of service that has not been entered for the present month.

Percentage Hours Billed divided by (Hours Paid less leave hours) times 100.

Priority of an Authorization The order in which the Remaining Hours of Authorizations are decremented, if there is more than one Authorization that can be used for a given JobDev and Type of Service. The Remaining Hours of the Authorization with the highest Priority is decremented first. After that Authorization becomes Invalid, the Remaining Hours of the Authorization with the next highest Priority is decremented.

Privileged User A user with additional privileges. The group of Privileged Users is maintained by the administrator.

Regular User A user who is not a Privileged User.

Remaining Hours The hours of an Authorizations less the total Hours Billed for the Type of Service that Authorization is for.

Type of Authorization There are two Types of Authorizations:

1. A fixed number of hours. These may or may not expire on a given date, e.g. "100 hours for the period 12/1/03 through 3/31/03".

2. Fixed number of hours per month, which is reset to 0 at the end of the month, even if the Authorization is Invalid.

Type of Service Each Authorization has one Type of Service it can be used for; the Funding Agent provides funds for a specific Types of Service. The Types of Service are:

1. SA
2. JD
3. PT
4. FA
5. OT(her)
6. ANY

Valid Authorization An Authorization that has a positive value of Remaining Hours.