AN-308

Time and Attendance in Protege GX

Application Note

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Introduction

Protege GX provides advanced and highly customizable time and attendance monitoring and reporting functionality. This includes the ability to display sign in and sign out times on Protege keypads, configure shift times to report attendance, breaks and hours worked, and create the specific output you need with selectable report templates and configurable user field selections.

Prerequisites

- Time and attendance reports are a separately licensed feature and require the appropriate license (ordering code PRT-GX-TNA) applied to the server SSN.
- Displaying time and attendance details on a keypad requires a Protege GX controller with firmware version 2.08.0351 or higher.

Time and Attendance Details on a Keypad

Protege keypads can be configured to display time and attendance details, providing visual feedback and confirmation to a user when signing in or out using an ICT reader. When a user badges at the reader their name and the recorded time and date are displayed on the keypad connected to that door.

Keypad Configuration

Below are the steps required to enable time and attendance details to be displayed on a keypad.

1. Navigate to **Expanders | Keypads** and select the keypad to be configured.
2. Select the **Configuration** tab.
3. Ensure that the **Door connected to keypad** is the entry/exit door where users present their credentials when entering or exiting the building or workspace.
4. Select the **Options 1** tab.
5. Check the **Show Time and Attendance Detail** option to configure the keypad to display the sign in/out time.

   Important: None of the other **Display Options** should be selected. All other options take priority and override the time and attendance setting, so if any are selected time and attendance will not be displayed.

6. Specify the **Length of Time to Display Attendance Detail** on the keypad (in seconds).
7. Set the **Attendance Date Format** to be displayed (MM/DD/YY or DD/MM/YY).
8. Click **Save**.

User Attendance

The User Attendance tab provides a convenient way to quickly view a user's attendance details. Attendance events can be copied to the computer's clipboard for transfer to a file or document. In addition, entry /exit events can be manually added in case a user has missed logging their entry or exit.

1. Navigate to **Users | Users** and select the user to view.
2. Select the **Attendance** tab.
3. Click **Load Events** to view entry/exit events for the user.
4. Click **Copy to Clipboard** to copy the events (in CSV format) for transfer to a file or document.
5. Click **Add In/Out Event** to manually create an entry or exit event for the user.
   - Select the **Event Type**, either Entry Event or Exit Event.
   - Select the **Door** to log the event at.
   - Specify the **Time** (date and time) to record the event.
   - Click **Add Event**.
   - When the event is added click **OK**, then close the **Add In/Out Event** window.

   Be careful not to click **Add Event** a second time, or the event will be added again, and cannot be removed.

   You will need to reload the events to view the new event record. It will be identifiable as an 'Operator Generated Time and Attendance' event. Manually assigned events will be included in attendance reporting in the same way as events logged at a reader or keypad.

Attendance Report Setup

The following instructions relate specifically to configuring attendance reports for time and attendance and shift monitoring requirements, and the outputs associated with that functionality. This section will focus on the key options and specific requirements of configuring those reports.

For general report configuration and viewing information, refer to the Protege GX Operator Reference Manual.

To create an attendance report, navigate to **Reports | Setup | Attendance** and click **Add**.

User Source

The User Source option determines where the users included in the report will be sourced from.

- **User list**: The report will include all users individually selected in the **Users** tab.
- **Access level**: The report will include users who have any access level(s) selected in the **Access levels** tab.
- **Record group**: The report will include all users included in the **User record group** selection.

Report Type

The Report Type defines the type of attendance data and level of detail the report will provide.

- **Daily first in last out**: The report will use the first entry event and the last exit event each day to determine the user's attendance and hours worked. Any events between these times are ignored, meaning any time spent off site during the day is not deducted.
- **Shift first in last out**: The report will use the first entry event and the last exit event each day, and any additional entry/exit events during the day. Protege GX then matches the various entry/exit events against the defined shift and break times to calculate the hours worked.
- **Daily first and last user event**: The report will use the first and last user event each day to determine attendance and hours worked. Any events between these times are ignored, so that any time spent off site during the day is not deducted.
- **Shift first and last user event**: The report will use the first and last user event each day, and any additional events during the day. Protege GX then matches the various entry/exit events against the defined shift and break times to calculate the hours worked.
- **First scan in**: The report will show the earliest entry event for each user on each day.
- **Last scan out**: The report will show the latest exit event for each user on each day.
- **First scan in and last scan out**: The report will show the earliest entry event and the latest exit event for each user on each day.
- **Late in**: The report will show the first entry time for each user on the days when the user was late to enter.

  This is calculated after the **Grace period** has been applied.
- **Top 10 late in**: The report will show the 10 users with the highest number of late entries in the selected period.
- **Late out**: The report will show the last exit time for each user on the days where the user was late to exit.

  This is calculated after the **Grace period** has been applied.
- **Early in**: The report will show the first entry time for each user for the days where the user was early to enter.

  This is calculated after the **Grace period** has been applied.
- **Early out**: The report will show the last exit time for each user for the days where the user was early to exit.

  This is calculated after the **Grace period** has been applied.
- **Absent**: The report will show the users with no time entry data for any of the days covered by the report.
- **Top 10 absent**: The report will show the 10 users with the highest number of days absent in the selected period.

Report Print Template

Attendance reports are generated in a summary format that provides the essential information relevant to each report. Additionally, specific reports can be generated using report print templates that provide specially defined format and content. The following attendance reports are enabled for report print template selection:

- Daily First In Last Out
- Shift First In Last Out
- Daily First and Last User Event
- Shift First and Last User Event

The following describes the available report print template options:

- **Summary**: The report displays a daily attendance summary for each user.
- **Detail**: The report displays a detailed attendance breakdown for each user each day, including start, break and finish times, and the corresponding in and out calculations for each event. This template also allows the addition of extended custom user fields in the **User Fields** tab.
- **Summary ICT**: The report is generated in a CSV format that provides a summary of each user's attendance and includes their employee code and pay code, to assist in payroll generation. This template also allows the addition of extended custom user fields in the **User fields** tab.
- **Summary MYOB**: The report is generated in a CSV format that can be directly read into the MYOB program. It provides a summary of each user's attendance and includes fields for employee code and pay code to assist in payroll generation, and department and cost center fields for wage cost tracking.
  - The **Employee code** is set in the **User fields** tab.
  - The **Pay code** is set in the **Normal pay code** field on the **General** tab.
  - The **Department** and **Cost centre** columns provide fields in the CSV file that can be manually populated with details from MYOB.
- **Action HRM**: The report is generated in a CSV format that can be directly read into the ActionHRM program. It provides a summary of each user's attendance, including the entry and exit times and total hours worked.

User Fields

The User Fields tab is **not** available when the Report Print Template is set to Summary MYOB. If user fields are required, change the template to another selection, then change it back once user fields have been updated.

The User Fields tab provides the opportunity for operators to include additional user information in specific reports by assigning an employee code and adding extended custom fields. This information is available from the **Extended Custom Fields** found in the **Extended** tab in **Users |Users**.

The Extended tab is only available in user programming when the **Display Predefined Custom Fields in Users** option in **Global | Sites | Display** is enabled.

Employee Code

The Summary ICT and Summary MYOB report print templates identify users by a unique Employee Code, providing payroll information required for administration and third party payroll systems.

To specify the Employee Code in a report, select the corresponding extended field from the dropdown list. The information entered in this field will be used to fill the Employee Code column when you run the report. This can be any of the selectable extended and custom fields, as long as it reflects the user programming and is consistent for all users.

Additional Exported User Fields

The Detail and Summary ICT report print templates allow extended user fields to be added to the report. Custom fields created in **Users | Custom Fields** can also be included.

Simply click **Add** and select the extended or custom fields to include in the **Additional Exported User Fields** list.

Additional fields will only be displayed in the report when the report print template is Detail or Summary ICT.

Shift Times

While attendance reports can be generated as a general report that displays all attendance information, you can also configure to provide a base against which expected start and finish times are compared, calculate hours worked, identify absences and monitor early/late arrivals and departures.

Weekly Shifts

Setting the **Shift Type** to Weekly allows you to configure a standard weekly shift with defined days and hours.

Note: This option is only suitable for static constant shifts that begin and end on the same day and operate over the same days each week. For shifts that run overnight (past midnight) or operate on a rotating roster, they will need to be configured as Rotation shifts (see below).

Shift Details Configuration

Below are the steps required to configure the shift details for a Weekly shift type.

1. In the **Shift Times** tab, select the days that will be included in the weekly shift. This must be the ongoing fixed days for a single shift. If there are multiple shifts with overlapping days or different times these will each require their own report and shift time configuration.
2. Set the standard rostered **Start Time** and **End Time** for each day.

   Remember, these times cannot cross over midnight in a weekly shift.

3. Click **Save**. Then configure the break times (if required).

Break Times Configuration

1. In the **Break Times** tab, specify all applicable breaks for the shift. Up to six breaks may be configured.
   - The **Start** time is the earliest time an employee should begin the break.
   - The **End** time is the latest time an employee should finish the break.
   - The **Duration** is the allowed length of the break (in minutes).
   - The **Calculation** determines whether the break is processed as paid or unpaid. Exclude deducts the break duration from the hours worked, so the break is unpaid. Include does not deduct the break.

   A break can be defined as a specific allocated break period, or it can cover a time range in which the break can occur, but it must at minimum accommodate the break duration. For example, for a 10 minute break starting at 10:00 am, the end time must be 10:11 am or later, to allow for the full duration of the break.

2. Click **Save**.

Rotation Shifts

Setting the **Shift Type** to Rotation allows you to configure complex shift rotations with changing hours and days, or overnight shifts.

Before configuring rotation shifts, you will need ensure that you have created the shift types that define your shift rotations. For more information, see Shift Types (next page).

Shift Type Configuration

Below are the steps required to configure a Rotation shift type.

1. Select the **Rotation Length (days)**. This is the number of days in the rotation, not the number of days for a specific shift. For example, if staff are rostered for 6 days on and 2 days off, the rotation length is 8 days.

2. Enter the **Rotation Start Date**. This is the beginning point for the rotation. From here it will continue to repeat and restart every 8 days (for example) as per the settings above.

Shift Details Configuration

Shift details are configured by adding shift types to the report and specifying the days within the rotation that each shift type is rostered.

- This could be a single shift type, such as an overnight rotation where the business has workers rostered 5 nights each week, and is closed the remaining 2 days, so only one overnight shift type is required.
- This could be two or more shift types representing teams covering standard hours of operation, overlapping different days to cover 7 days a week on a defined rotation.
- This could be a complex series of inter-connected shift types with staggered rotations covering operations 24 hours a day, 7 days a week.

The above are general examples only and not indicative of the full range of potential shift configurations.

1. Click **Add** to assign the required **Shift Type**(s) to the report.
2. Once the shift types have been added, they are displayed in the list with their configured details and display color, which identifies each shift type on a calendar display.

   If a shift type needs to be edited, highlight it in the list and click **Details**.
3. The rotation calendar is displayed below, showing the dates for the first rotation, based on the rotation start date. From the dropdown list, select the first shift type to be configured in the rotation.
4. Click on each of the days the selected shift type is rostered. If the shift type bridges midnight the calendar will cover two half days

   If you select the wrong day, change the shift selection to the default No Shift, then click the days to correct.
5. Select and apply each shift type to the required days as rostered, then click the **Calendar View** to confirm the selections.
6. Click **Save**.

Shift Types

Industries such as law enforcement, security, healthcare, and manufacturing often operate 24/7 and require operations to be divided into shifts on a rotation. Shift Types in Protege GX provide the ability to customize shift requirements so that attendance reports can be generated accordingly. Multiple shifts can be added to an attendance report and set on a rotation, so that time and attendance data can be calculated for each shift.

Shift Type Configuration

Below are the steps required to configure shift types.

1. Navigate to **Reports | Setup | Shift Type** and click **Add**.
2. Enter a **Name** to describe the shift. This might include a department or section.
3. Select the **Color** that will represent this shift type on calendar displays.
4. Select the **Time** tab.
5. In the **Shift Times** section, set the standard rostered **Start Time** and **End Time** for the shift.
6. The **Include Minutes before Shift Start** and **Include Minutes after Shift End** options define (in minutes) how long before and after the shift a login/logout will be recognized as part of the shift. This ensures that users who sign in early or sign out late will still be included in an attendance report.

   These should not be left at 0 or users who arrive before or leave after the shift times will not be included in the report.

7. In the **Break Times** section, specify all applicable breaks for the shift. Up to six breaks may be configured for each shift.
   - The **Start** time is the earliest time an employee should begin the break.
   - The **End** time is the latest time an employee should finish the break.
   - The **Duration** is the allowed length of the break (in minutes).
   - The **Calculation** determines whether the break is processed as paid or unpaid. Exclude deducts the break duration from the hours worked, so the break is unpaid. Include does not deduct the break.

   A break can be defined as a specific allocated break period, or it can cover a time range in which the break can occur, but it must at minimum accommodate the break duration. For example, for a 10 minute break starting at 10:00 am, the end time must be 10:11 am or later, to allow for the full duration of the break.

8. Click **Save**.