Electronic check in and check out for SEE-line customers

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Program CheckW was written and implemented to allow customers of the TAMU Radiation Effects Facility (SEE-line customers) to electronically check in each time they come in and check out each time they leave the Cyclotron building. The corresponding dates and times are logged automatically. On their first check-in per visit the program prompts the customers to update their contact information, which includes their first name (and nickname), last name, company name, email address, and cell-phone number. The information already existing in our database is shown, if available, in order to minimize typing. The updated or just confirmed information is saved in a file, but the database must be updated manually, because the computer on which CheckW is running is intentionally not connected to the internet and because, to ensure its integrity, the entered information should be verified by a live person before updating the database.

As a customer checks out, file TimeSheet.txt is created and displayed. This file contains a complete list of the customer's check-in and check-out records. It can be saved under a different name in order to preserve this information or it can be closed in order to be overwritten by the records from the next customer who checks out. This feature was made available on customers' request.

CheckW graphic user interface for the customers is made as simple as possible. Interface for the administrator is somewhat less intuitive, but very efficient. The dialog box of CheckW, as illustrated in FIG. 1, consists of two sections. One contains displays and controls available to the customers, while the other contains displays and controls available exclusively to the administrator. The administrator is

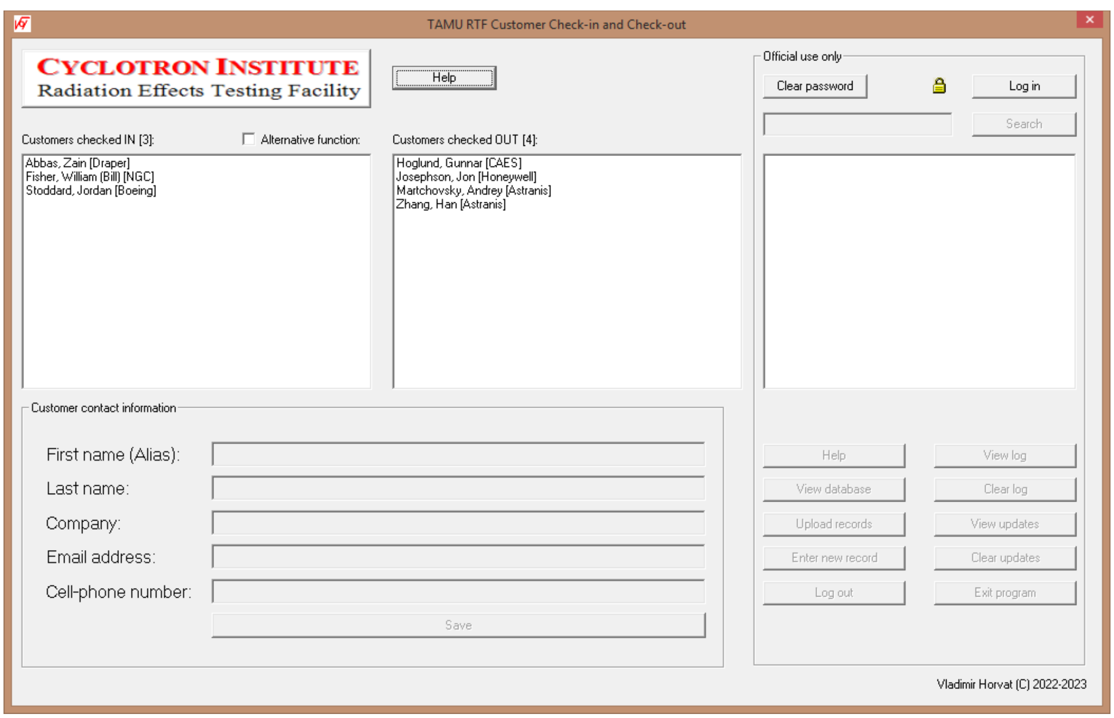

Fig. 1. Example of the default CheckW graphic user interface.

expected to prepare a list of all the customers who are expected to use the software in the near future by placing their names in the "Customers checked OUT" window. In the process the corresponding records are set for a first-time check-in per visit. The customer then checks in by clicking on his or her name and following the prompts, until the customer's name gets moved to the "Customers checked IN" window. To check out, the customer clicks on his or her name in the "Customers checked IN" window and decides what to do with the time sheet information that pops up. The customer's name is then automatically moved to the "Customers checked OUT" window.

The administrator must log in to unlock the privileged functions that let him or her exit the program, add a new record to the database or edit an existing one, remove a record from the list or from the database, as well as view and/or search the database, the ledger and the record updates. The ledger and the record updates also can be erased in order to start fresh.

Normally, a customer is allowed only to check in and check out by clicking on his or her name listed in one of the two windows labeled "Customers checked OUT" and "Customers checked IN". The only exception is a possibility to reset a customer's status, so that his or her next check-in is treated as the first one per visit. This is set so that customer's contact information, if erroneously entered, can be re-entered correctly. The most common mistakes are related to spelling or entering information for a wrong individual. To use this feature the customer's name must be listed in the "Customers checked IN" window and the "Alternative function" box must be checked. Then the customer's name should be clicked. The "Alternative function" box should be unchecked as son the alternative functions are no longer needed in order to avoid unwanted results in the future. Otherwise, it will be unchecked automatically after 60 seconds of inactivity.

When the administrator logs in, all the buttons and windows in the dialog box became enabled and the image of a closed padlock disappears. However, for security reasons, the administrator will be logged out automatically after 60 seconds of inactivity. After the log-in, the administrator can

- View a copy of the ledger file by clicking the "View log" button,
- Clear the ledger by clicking the "Clear log" button
  (a backup copy of the ledger will be made before its contents are erased.),
- View the contact information updates or confirmations by clicking the "View updates" button,
- Clear the contact information updates or confirmations by clicking the "Clear updates" button
  (a backup copy will be made before the file contents are erased),
- Exit the program by clicking the "Exit program" button, or
- Log out and fall back to the customer mode by clicking the "Log out" button.

No database information is lost upon exit from the program. A log-out will be performed before exit and the program will restart with the same lists presented in the "Customers checked IN" and "Customers checked OUT" windows.

Customer records that are listed in the "Customers checked OUT" window can be hidden, i.e., removed from display, but still kept in the database. To hide a record, make sure that you are logged in and that the "Alternative function" box is unchecked. Then click on the record in the "Customers checked OUT" window and confirm the prompt that pops up.

To add an existing record from the database to the "Customers checked OUT" list (and set it for a first-time check-in per visit), fist find it by entering a suitable string pattern in the Search window and then click the "Search" button. The record, if found, will be listed in the window below (possibly along with some additional matching records). Make sure that the "Alternative function" box is unchecked. Then click on the record you want to add. Be aware that the search function will ignore the records that are already displayed, either in the "Customers checked OUT" window or in the "Customers checked IN" window. This is set that way in order to avoid displaying duplicate records. Also be aware that the search function is case sensitive.

To edit an existing record or to remove it from the database, fist find the record by entering a suitable string pattern in the Search window and then click the "Search" button. The record, if found, will be listed in the window below (possibly along with some additional matching records). Make sure that the "Alternative function" box is checked. Then click on the record you want to work on. Select between edit or delete in the prompt that pops up. Unless the delete option was chosen. edit the record components displayed in the corresponding edit windows, and click the "Save" button. To verify that the operation was successful, search for the updated record.

To add a new record to the database, start by filling out the appropriate edit windows with First Name (Nickname), Last Name, Company Name, Email address, and cell-phone number, and then click the "Save" button. To verify that the operation was successful, search for the newly entered record.

The search capability can be used not only to search the database (with "Alternative function" box unchecked), but also to search the ledger (when the "Alternative function" box is checked). In the latter case the results are listed in file TimeSheet.txt, a copy of which opens following the search. This way the actual time sheets can be re-created at any time. Also, any other information listed in the ledger can be compiled, such as the number of customers present at the Facility as a function of time.

The database file is compatible with the Microsoft Excel file shared within the SEE-line group on Microsoft Teams, from which the CheckW database can be (re)created at any time in its default mode, *i.e.*, with no records displayed in the "Customers checked IN" window or in the "Customers checked OUT" window. It should be noted that the customer records are created by the program using the information stored in the database. It is those records that are searched, not the actual database or spreadsheet entries. Their format is "Last Names, First Names (Nick Names) [Company Name]". Email addresses and cell-phone numbers are not displayed except that a customer can see his or her own data when checking in for the first time per visit.

CheckW administration should parallel handling of customer dosimeters. When a customer's dosimeter is put on the rack, his or her record should be put in the "Customers checked OUT" window, set for the first-time check-in per-visit. After the customer's final check-out per visit, his or her record should be hidden and his or her dosimeter should be stored in the designated dosimeter organizer.