Landyne Real-time Logging System Manual

(version 1e)

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Welcome to the Landyne RTLS Manual ! Landyne RTLS is a Java-base software of real-time logging system
for managing multiuser equipment. The Manual will guide you through the installation and the usage of the software.

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1. Introduction

Landyne RTLS is a real-time logging system for managing multiuser equipment. The system evolves from Logbook2011 which is an electronic logbook system for the management of a multiuser central laboratory. Logbook2011 was written by Dr. X.-Z. Li in 2006 and upgraded in 2011 for Central Facility for Electron Microscopy (CFEM), Nebraska Center of Nanoscience and Materials (NCMN), University of Nebraska. Logbook2011 is a rational database system for a multiuser multi-equipment laboratory. Logbook2011 required manually input of the experimental info, which was a drawback. Landyne RTLS is designed for automatic managing and logging the usage of equipment in real-time, so the 24/7 usage of the equipment can be accurately logged.

Most existed laboratory management software are either calendar only or calendar integrated with logging system. In our opinion, a better system should separate the calendar and logging system, thus the number of active online ports can be reduced and computers connected to equipment will be off-line, which reduces the chances of malware/virus infection. Landyne RTLS is an offline logging system for managing a multiuser equipment. Many free general-purpose online group calendars can be used for laboratory scheduling, e.g., Google Calendar, Localendar, and Zoho

Calendar.

To put it simply, Landyne RTLS is a lightweight, practical, safe, offline logging system for managing a multiuser equipment. The system can be used to replace any online logging service.

2. Software features

Landyne RTLS has two interfaces, a login interface and a logbook interface. The first one constantly covers the whole monitor and the second one can be minimized. Users are required to fill their user ID and password in the login interface, they will log into the logbook interface if the user ID and password are validated. In the logbook interface, user can use the computer to control the equipment at minimize status and to check and fill the info in the normal status. When users log out, the info about users and the usage of the equipment is automatically saved and the login interface is ready the next user.

Figure 1. The login interface of Landyne RTLS. It has a semitransparent shield with user ID and password fields, which constantly covers the whole monitor screen. Account and system buttons can only be enabled by an administrator.
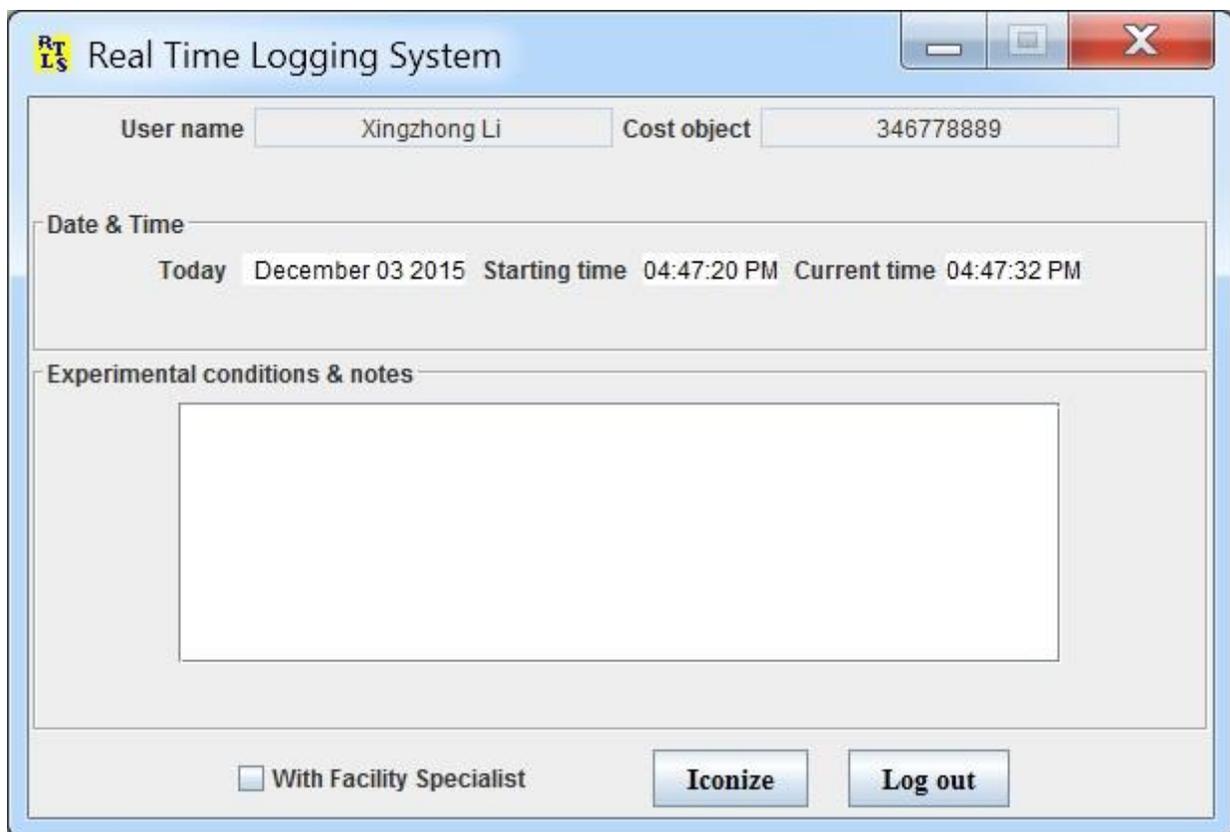
Figure 2. The logbook interface of RTLS in normal status. Start time is when the user logged in. The Current Time is a digital clock. The logbook can be toggled between minimized (not shown here) and normal status.

3. Installation and instruction

Landyne RTLS is coded mainly in Java and partially coded for computers with Microsoft Windows XP and up. To run the software, a recent version of Java Runtime Environment (e.g., JRE 1.8.0_66 or up) is required in a computer with MS Windows. An executable *landyne_rtls.exe*, this manual and other system files are packed in .z7 form. The compressed file is available at http://www.unl.edu/ncmn-cfem/xzli/programs.htm. Decompress the *landyne_rtls.z7* into a selected directory, e.g., landyne, and start *landyne_rtls.exe* by double click on it.

When you run the software, the ACCOUNT (New and Edit) and SYSTEM (SN and Exit) are in an inactive status. A validated password for USER ID admin is needed to enable those buttons. In demo mode, the password for USER ID admin is 0000. Click the SN button, a SN dialog will pop out with the info of the current hard disk and the serial number (SN). Click the New or Edit buttons, a User Info dialog will pop up with a blank account. To create a new account, simply fill all fields out and click Save; to edit the existed account, fill in the user ID and click Find. Edit the previous info if necessary, and then click Save. A user ID and password will be generated automatically for each new or modified account. Click Exit to quit Landyne RTLS.

Figure 3. User account in User Info dialog. A user ID and password will be generated according to the user info.
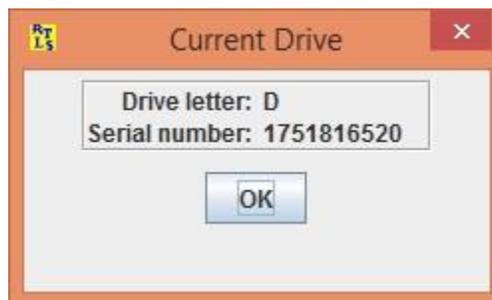
Figure 4. An example of the current drive and the serial number (SN) in RTLS. The SN is a key for Landyne RTLS.

As mentioned above, each account has its own ID and password. Each user may has multiple accounts if needed. Users need to fill the ID and password and Click the Log in button to start an experiment section. Unregistered user and invalid password will be indicated in the info bar. Once users successfully logged in, the Landyne RTLS logbook interface will enter the minimized status. To check the cost object number/starting time and fill the experiment note, you need to click the RTLS icon to enlarge the logbook back to normal status. Check the specialist box if the work is done with or by the specialist. Click Log out when users finish the experiment (see Figure 2), in the meantime, the user info and experimental section are automatically saved in logbook.txt and billing.txt files

4. I/O files

The system folder contains charges_rate.txt, initial_date.txt, rtls1.jpg, rtls2.jpg, userlist.txt,

userlist4excel.txt, RTLS.license.key (for a licensed version) and a Landyne RTLS manual.
1. You may customize the login images by changing rtls1.jpg and rtls2.jpg;
2. You may change the values of Minimum time (hour) for charge, Equipment hourly rate, Operator hourly rate in charge_rate.txt
3. billing.txt contains data for billing preparation. All columns in billing.txt lists below,
Date   User   Supervisor   Cost object   Experiment time   (Experiment cost)   Operator time   (Operation cost)
The two columns in brackets aren't shown in the billing.txt if Equipment hourly rate and Operator hourly rate in charges_rates.txt are set to 0.
4. logbook.txt contains data for experimental conditions/notes.
5. userlist.txt is database of user account info for Landyne RTLS.
6. userlist4excel.txt is user info in readable format for viewing/editing in Microsoft Excel.
7. RTLS.license.key is provided by Landyne computer software (required SN #).

5. Feedback and license

Suggestion and bug reports are welcome, please send to Dr. X.-Z. Li (jlandyne@gmail.com). License can be purchased from LANDYNE (jlandyne@gmail.com). Without a validated license file, RTLS works in demo mode (limited to two users in the user list).

6. In development

An online calendar for scheduling in a central laboratory is under development, which will include the functions in Logbook2011.