

SKYNET 2000

SERVER CLIENT SPECIFICATION



CityGrow
E Systems

Login to: **CG SKYNET2000 Client**

Username:

Password:

Address:

Port:

Windows Authentication

VERSION 1.1 PRELIMARY

17 JANUARY, 2014



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Section A Client

A.1 Specification

Client Minimum System Requirements

- Windows XP or above (32 or 64 bit)
- Pentium 4 1.5 GHz or above
- .NET Framework 4.0 or above
- 100 MB free hard disk space
- 1 GB RAM or above

A.2 Startup

Upon starting up the SKYNET2000 Client, a Login screen will be displayed. If the User has been assigned a Windows Authentication account, then the Client will automatically switch to the Home Page. If the User has not been assigned one, then the Login screen will remain and the User must enter a Username and Password in order to enter. See Section A.5 for information about User and Roles.



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Systems

Login to: **CG SKYNET2000 Client**

Username:

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Windows Authentication

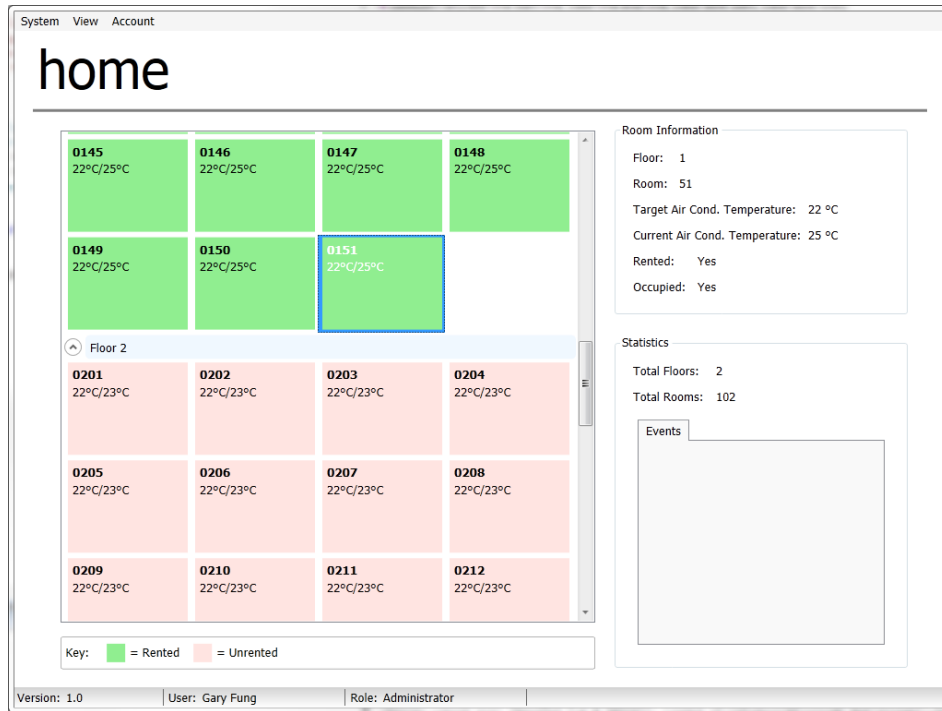
A.3 Home Page

The home page of the Client shall provide an overview and summary of all the devices in the system.

A grid view shows the status of each room using different color codes and icons, including 'Rented/Un-Rented', 'Occupied/Unoccupied' and 'DND/Clean Room'.

Each group of grids represents they are all on the same floor, while each grid itself represents a single room in the hotel.

Statistics of the entire system is also shown, including information such as 'Total Rooms', 'Total Floors', and events.

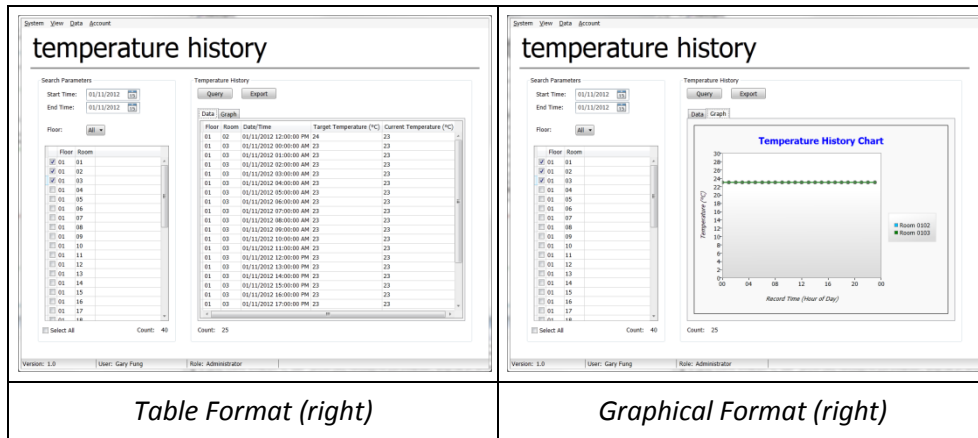


A.4 Temperature, Valve, Fan State History

The temperature, valve and fan state for each room will be stored whenever any changes occur.

The client shall provide pages to show these changes. The user will be able to query by floor number and room number, as well as the dates to query between. Two modes of displaying the data will be available, table form and graphical form.

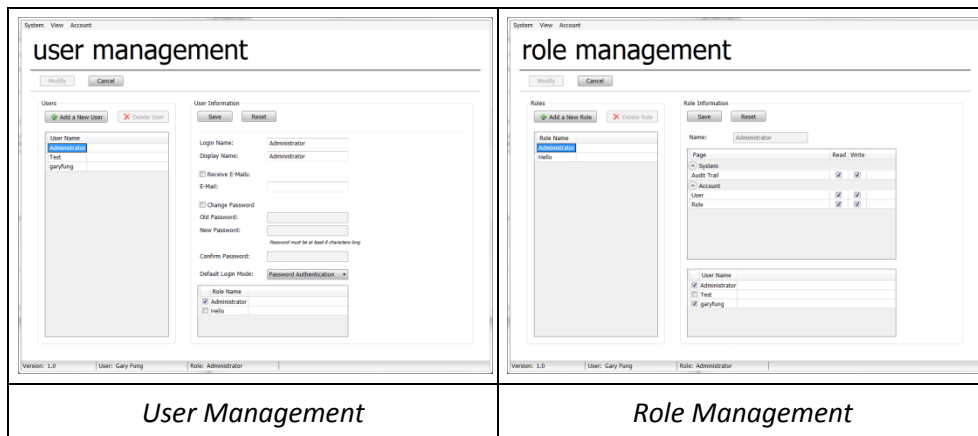
Users will also be able to export the table to a .csv text file.



A.5 User/Role Management

User and role management pages will be provided to allow a user account to be assigned to each hotel staff member. Each user account will also be allowed to assign one or more role.

A user will log in to the system either by Windows Authentication or Password Authentication. The pages that can be viewed or modified are determined by the role that has been assigned to the user. For example, a user assigned the Administrator role may view and change settings in every page, whereas a Restricted User role may only view certain pages and not be able to change any settings.



A.6 Audit Trail

An audit trail page will be provided to allow users to view all changes that were previously made in the system. The user shall be able to filter by date, pages as well as users.

Only users with the Administrator role may view the audit trail of every user in the system, other users will only be able to view their own audit trail.

Users will also be able to export the audit trail to a .csv text file.

The screenshot shows a web application interface titled "audit trail". It features a search section on the left with "Start Time" and "End Time" set to 31/10/2012. Below this are two filter sections: "Page" with checkboxes for System, Audit Trail, and Login/Logout; and "User" with checkboxes for Administrator, Test, and garyfung. A "Count: 4" label is positioned between the filter sections. The main area on the right, titled "Audit Trail", contains a table with columns for "User Name", "Date/Time", "Parent", "Page", and "Action". The table lists several entries, including "Administrator" performing "Login/Logout" and "Update User [Meow]" actions. Below the table is a "Count: 3" label. At the bottom of the interface, a status bar displays "Version: 1.0", "User: Gary Fung", and "Role: Administrator".

User Name	Date/Time	Parent	Page	Action
Administrator	31/10/2012 11:29:05 AM	System	Login/Logout	Login
Administrator	31/10/2012 11:30:07 AM	Account\User		Update
Update User [Meow]				
- [Name] Changed From 'Meow' To 'Test'				
Administrator	31/10/2012 11:31:12 AM	System	Login/Logout	Logout

A.7 Device and Mood Configuration

Each and every Device in the System can be programmed via the Client, in an identical way to the separate PC software used to set up the rooms for the very first time. Devices can be added, modified or removed, and these changes can be applied to just one room or every single room.

Moods (or Light Scenes) can also be configured via the Client. An interface shall be provided where a minimum of 12 moods can be configured. Each mood will consist of a preset combination of lighting devices in the room. For example, a mood may be set such that all lights in the room are turned off except for the lights near the door and the dimmable lights set to 50%.

A.8 Settings

Users will be able to modify settings for the following:

- MVAC (see Section C.2 for details). The user may choose to apply settings for one MVAC, all MVACs on a single floor, or all MVACs in the entire hotel.

Floor	Room
01	01
01	02
01	03
01	04
01	05
01	06
01	07
01	08
01	09
01	10
01	11
01	12
01	13
01	14
01	15
01	16
01	17
01	18
01	19
01	20
02	01

- Occupancy Detection. The user may be able to set the time that determines whether the room is occupied or not for both rented and unrented status.

A.9 Language*

Users may choose from a select list of Languages that they would prefer the Client to use.

Section B Server

B.1 Specification

Server Minimum System Requirements

- Windows XP or above (32 or 64 bit)
- .NET Framework 4.0 or above

B.2 Scheduler

The Server is capable of running certain operations only at preset times. For example, a user may have changed the humidity control setting for the MVACs, but wants to wait until a certain time in the night to send to the RCU.

B.3 Interface with PMS (Property Management System)

The Server must provide an interface to communicate with the PMS. The purpose of the PMS is to notify the Server automatically whether a room status has been changed from rented to unrented or vice versa.

Section C RCU/MU (Room Control Unit/Main Unit)

C.1 General

Each room in the system will have exactly one RCU device.

C.2 MVAC (Mechanical Ventilation Air Conditioner)

Settings that the Server will notify the RCU to store which affects the Air Conditioner include the following:

- Humidity Control. The humidity level that must be maintained by the MVAC if the room is unoccupied.
- Refresh Cycle. The MVAC shall be activated after a certain time value has passed if the MVAC was previously shut down.
- Fan Speed. The maximum fan speed that the MVAC is allowed to maintain.
- Fan Operation. "Continuous fan" or "Automatic fan".

C.3 Room State

The Server shall notify the RCU whether the room is currently in the Rented or Unrented state.

The RCU will notify the Server whether the room is currently Occupied, Unoccupied or in Sleep state.

C.4 Occupancy Detection

The Occupancy state will be determined by two methods: Motion Sensor and Key Card. If the Key Card is inserted and the Motion Sensor is active, then the room is in the "Occupied" state. If the Key Card is NOT inserted and the Motion Sensor is inactive for a period of time, then the room is in the "Unoccupied" state.

- If the Key Card is inserted and the Motion Sensor is inactive for a period of time, then the room is in the "Sleep" state.

Note: The period of time which determines whether the Motion sensor is inactive or not is set by the Server.

END