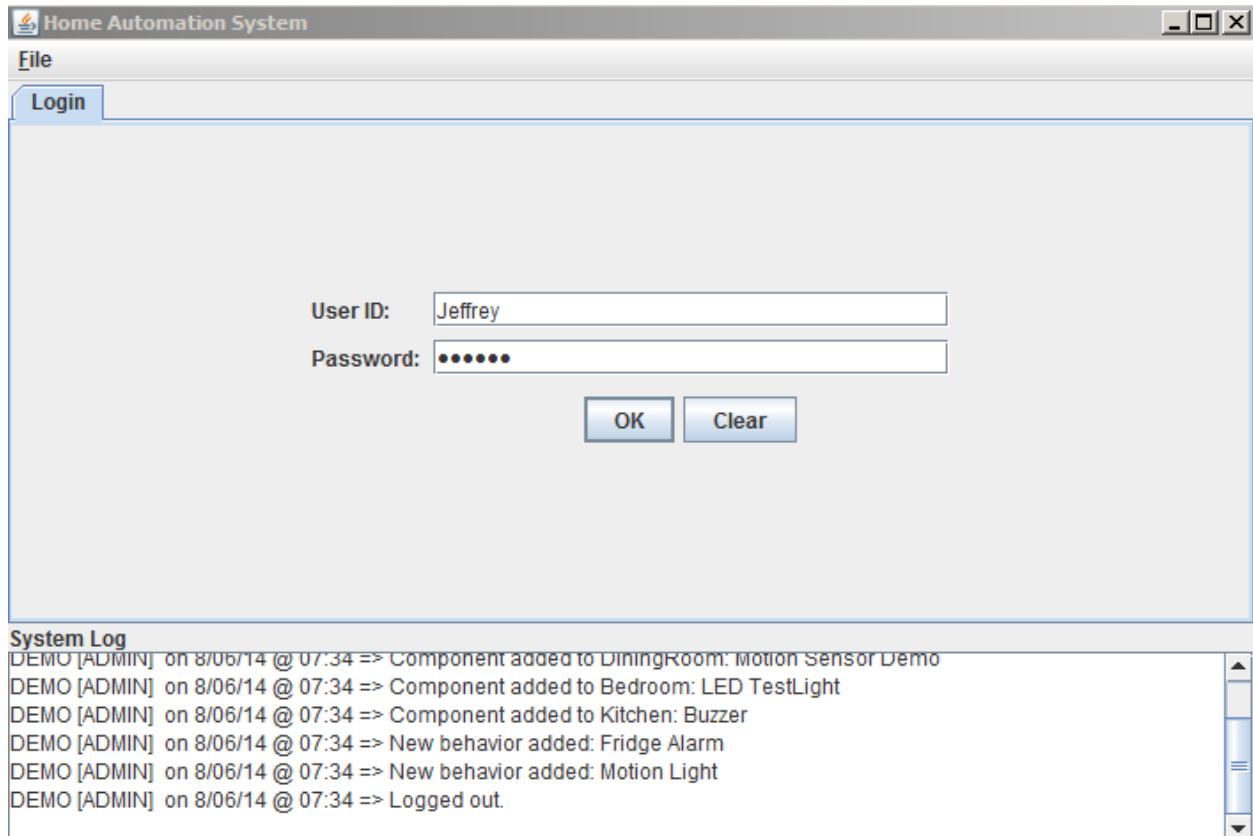


Acceptance Test Cases

Logging In

When the software beings it displays the user login panel. Here the user types in their login information, username and password. If the information is verified the user is then led to the Status screen. If the user enters incorrect information a dialog box appears to show the user they entered the incorrect username or password.



The screenshot shows a window titled "Home Automation System" with a standard Windows-style title bar. Below the title bar is a menu bar with "File". A "Login" tab is selected. The main area contains a login form with two text boxes: "User ID:" with the text "Jeffrey" and "Password:" with masked characters "•••••". Below the password box are "OK" and "Clear" buttons. At the bottom of the window is a "System Log" section displaying a list of events:

- DEMO [ADMIN] on 8/06/14 @ 07:34 => Component added to DiningRoom: Motion Sensor Demo
- DEMO [ADMIN] on 8/06/14 @ 07:34 => Component added to Bedroom: LED TestLight
- DEMO [ADMIN] on 8/06/14 @ 07:34 => Component added to Kitchen: Buzzer
- DEMO [ADMIN] on 8/06/14 @ 07:34 => New behavior added: Fridge Alarm
- DEMO [ADMIN] on 8/06/14 @ 07:34 => New behavior added: Motion Light
- DEMO [ADMIN] on 8/06/14 @ 07:34 => Logged out.

A vertical scrollbar is visible on the right side of the System Log area.

Component Status View and Manipulation

Upon logging in the Status page should appear. Here the user can view the components such as lights to determine if they are on or off. The user can also manually set components the components on or off at this screen using the buttons. A drop down panel also is located here that displays a list of rooms contained in the house.

The screenshot displays the 'Home Automation System' application window. It features a menu bar with 'File' and 'System', and a tabbed interface with 'Status', 'Add/Remove', 'Behavior', and 'Flow'. The 'Status' tab is active, showing a 'Current State' dropdown set to '---' and a 'Room' dropdown set to 'ALL'. Below these are four component panels: 'Reed Switch Demo' (Current State: HIGH), 'Buzzer' (Current State: LOW, with a 'Toggle State' button), 'LED TestLight' (Current State: LOW, with a 'Toggle State' button), and 'Motion Sensor Demo' (Current State: LOW). At the bottom is a 'System Log' section with a scrollable list of events: 'DEMO [ADMIN] on 8/06/14 @ 07:34 => Component added to Bedroom: LED TestLight', 'DEMO [ADMIN] on 8/06/14 @ 07:34 => Component added to Kitchen: Buzzer', 'DEMO [ADMIN] on 8/06/14 @ 07:34 => New behavior added: Fridge Alarm', 'DEMO [ADMIN] on 8/06/14 @ 07:34 => New behavior added: Motion Light', 'DEMO [ADMIN] on 8/06/14 @ 07:34 => Logged out.', and 'Jeffrey [ADMIN] on 8/06/14 @ 07:36 => Log in attempt successful.'

Add / Remove Component

Once logged in, the user with correct privileges will be able to choose the Add / Remove tab option and be taken to a panel where the user can Add and Remove components to the Home Automation System. User is able to do this by providing a set of identifying markers for the element to be added, such as Name, Pin numbers for input and output, and the room the device is located in before clicking to add the component. Removing a component is as easy as selecting the desired component in the component list section and clicking the remove button.

Home Automation System

File

System

Status

Add/Remove

Behavior

Flow

Add Component

Name

Input Pin

GPIO 2

Output Pin

GPIO 2

Room

Kitchen

Type

Motion Sensor

Add Component

Component List

Reed Switch Demo

Buzzer

LED TestLight

Remove Component

System Log

DEMO [ADMIN] on 8/06/14 @ 07:34 => Component added to Bedroom: LED TestLight

DEMO [ADMIN] on 8/06/14 @ 07:34 => Component added to Kitchen: Buzzer

DEMO [ADMIN] on 8/06/14 @ 07:34 => New behavior added: Fridge Alarm

DEMO [ADMIN] on 8/06/14 @ 07:34 => New behavior added: Motion Light

DEMO [ADMIN] on 8/06/14 @ 07:34 => Logged out.

Jeffrey [ADMIN] on 8/06/14 @ 07:36 => Log in attempt successful.

Flow Chart

Once the user has components with behaviors added, the user will be able to chain together behaviors to build a series of directions (i.e. flow) depending on certain actions. For instance, if a certain door is opened that has a buzzer on it, a light or series of lights can be made to turn on or off by linking them to the buzzer within the Flow panel.

Home Automation System

FileSystem

StatusAdd/RemoveBehaviorFlow

Sensors

SensorReed Switch Demo>>

StateLOW<<

Duration1

Actuators

ActuatorBuzzer>>

StateLOW<<

Duration1

Conditions

Actions

NameNew Behavior

SaveClearRemove

Behaviors

Fridge Alarm

Motion Light

System Log

DEMO [ADMIN] on 8/06/14 @ 07:34 => Component added to Bedroom: LED TestLight

DEMO [ADMIN] on 8/06/14 @ 07:34 => Component added to Kitchen: Buzzer

DEMO [ADMIN] on 8/06/14 @ 07:34 => New behavior added: Fridge Alarm

DEMO [ADMIN] on 8/06/14 @ 07:34 => New behavior added: Motion Light

DEMO [ADMIN] on 8/06/14 @ 07:34 => Logged out.

Jeffrey [ADMIN] on 8/06/14 @ 07:36 => Log in attempt successful.

Home Automation System

File

System

Status

Add/Remove

Behavior

Flow

```
graph LR; A((Motion Light)) --- F0 --- B((Fridge Alarm))
```

System Log

DEMO [ADMIN] on 8/06/14 @ 07:34 => Component added to Bedroom: LED TestLight
DEMO [ADMIN] on 8/06/14 @ 07:34 => Component added to Kitchen: Buzzer
DEMO [ADMIN] on 8/06/14 @ 07:34 => New behavior added: Fridge Alarm
DEMO [ADMIN] on 8/06/14 @ 07:34 => New behavior added: Motion Light
DEMO [ADMIN] on 8/06/14 @ 07:34 => Logged out.
Jeffrey [ADMIN] on 8/06/14 @ 07:36 => Log in attempt successful.