

## Packet Tracer - Control IoT Devices

### Introduction

In this activity, you have just installed various IoT devices around the house and wish to configure them as a home security system.

- Configure the Home Gateway to use a Motion Sensor
- Test and reset security features
- Set the air conditioning

### Instructions

#### Step 1: Configure Home Gateway to use a Motion Sensor.

- From the **Desktop** tab on **Tablet**, click **Web Browser**.
- Type in the IP address of the home gateway 192.168.25.1 and press **Enter**.
- Login to **Home Gateway**. When asked for username and password, use **admin** for both. This is the default.
- Click **Conditions** after logging in. Add a new rule and name it **MotionDetectorOn**.
- From the pull down menu under **If**: choose **Motion Detector**. To the right of that menu, select **on** and to the right again, select **true**.
- From the pull down menu under **Then set**: choose **Security Camera**. To the right of that menu, select **on** and to the right again, select **true**.
- Add another **Action**. From the second pull down menu under **Then set**: choose **Smart Door**. To the right of that menu, select **Lock** and to the right again, select **Lock**.
- Add another **Action**. From the third pull down menu under **Then set**: choose **Smart Lamp**. To the right of that menu, select **Status** and to the right again, select **Dim**.
- Click **OK** to save this **Action** and return to the **Conditions** page.
- Add another rule named **MotionDetectorOff**.
- From the pull down menu under **If**: choose **Motion Detector**. To the right of that menu, select **on** and to the right again, select **false**.
- From the pull down menu under **Then set**: choose **Security Camera**. To the right of that menu, select **on** and to the right again, select **false**.
- Click **OK** to save this **Action** and return to the **Conditions** page.

#### Step 2: Test and reset security features.

- From the **Browser** on **Tablet**, return to the home page of the **Home Gateway** at <http://192.168.25.1/home.html>.
- Click the arrows to the left of the **Smart Door**, **Smart Lamp**, **Motion Detector**, and **Security Camera** to open their interfaces.
- With the website visible, hold down the Alt key and click the **Motion Detector**.

Question:

What is happening on the website, and in the **Logical Interface** of **Packet Tracer**?

*Type your answers here.*

- d. When the motion detector turns off, so does the security camera. Unfortunately, you have managed to lock yourself out of the house.

Question:

How can you easily unlock the door?

*Type your answers here.*

- e. Alt-click the unlocked **Smart Door** to open it.
- f. Alt-click the **Switch** to turn the dim **Smart Lamp** fully on. Alt-click the **Switch** again to turn the **Smart Lamp** off. The **Smart Lamp** can also be controlled remotely through the **Home Gateway** home page.
- g. Examine the Python script which manages the **Smart Lamp** under the **Programming** tab of the **MCU**.

### Step 3: Set the air conditioning.

- a. While you were outside, a cold front moved in. Alt-click the **Temperature Control** to cool the house, twice, to heat the house, and three times to automatically cool or heat to a comfortable temperature.
- b. Open the **Temperature Control Programming** tab from the **Advanced** menu to examine the Java script that controls the unit.
- c. The **Home Gateway** home page, **Temperature Control** and **Temperature Meter** display different numbers.

Question:

What line of code in the **Temperature Meter** could be responsible for this discrepancy?

*Type your answers here.*