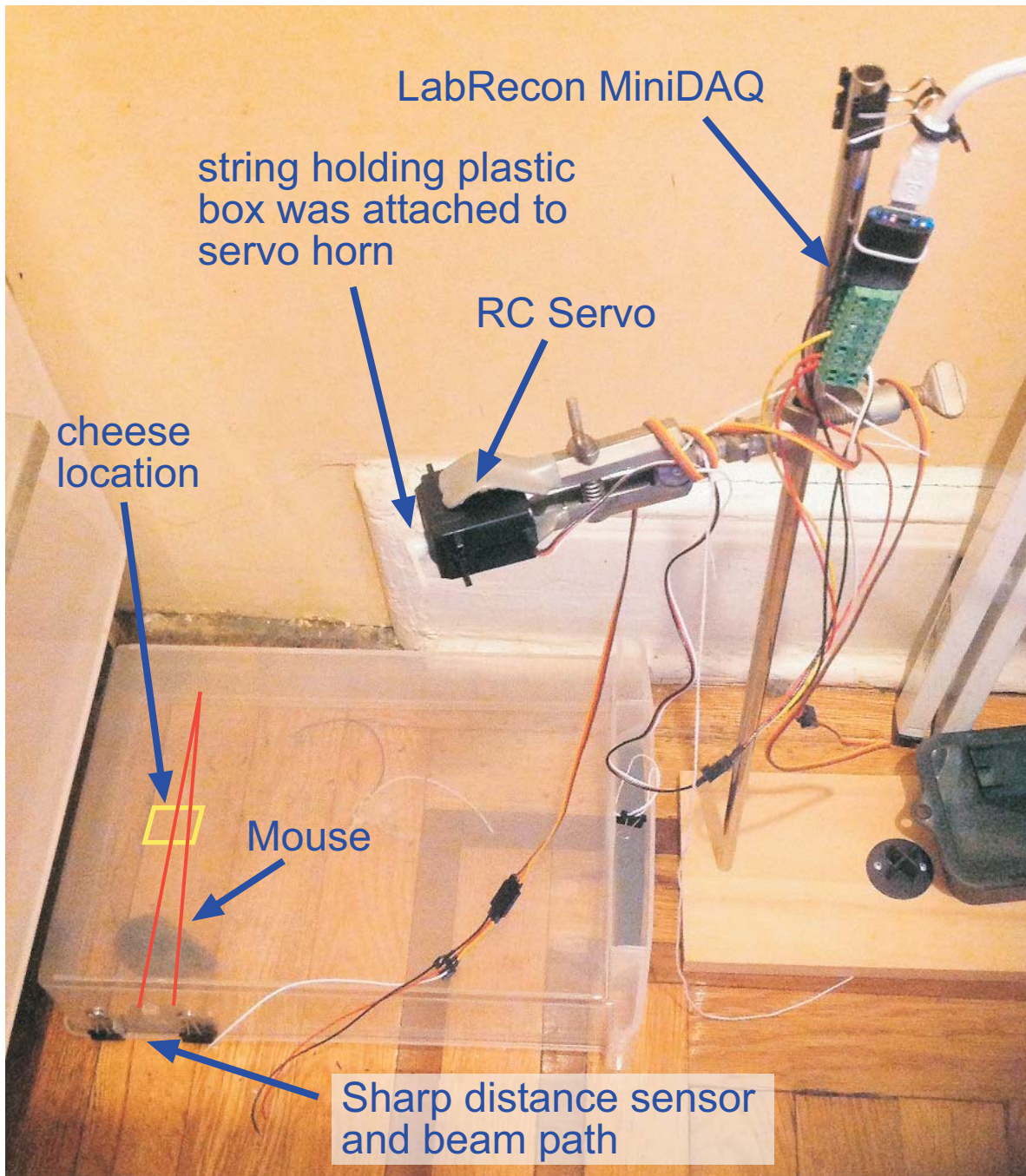


A LabRecon MiniDAQ was used to create a mousetrap system that sends a text message is sent upon capture of a mouse.

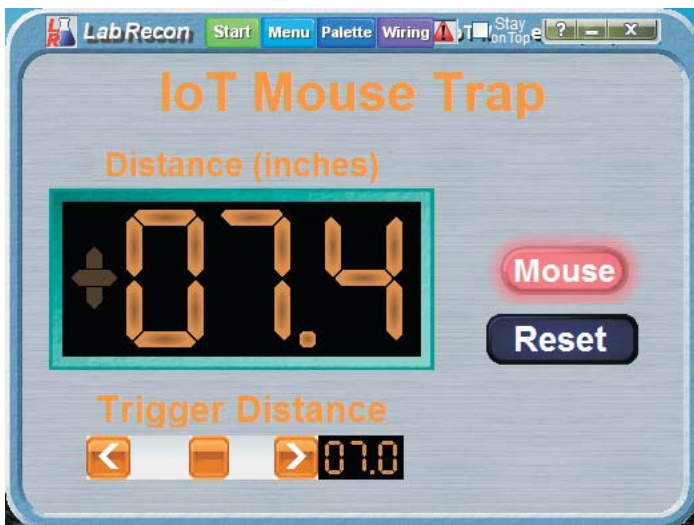
A Sharp distance sensor was positioned so that its infra-red beam passed in front of a piece of cheese. The distance measured, to the other side of the plastic box, is about 7 inches until a mouse crosses the beam.

LabRecon was programed to activate a servo upon the measured distance falling below a threshold, wherein the servo releases a string holding one side of the box up. Furthermore, its email/text message function was used to send a text message when the mouse is caught.

The LabRecon Panel and Wiring is shown on the next page.



Note that the distance sensor wires were chewed up by the angry mouse.



LabRecon's **drag-and-drop objects** allowed for both the creation of this Panel interface and the **graphical program** on its Wiring screen.

The use of the **"Email/Text Send"** Wiring object allowed a "Mouse Caught" text message to be sent.

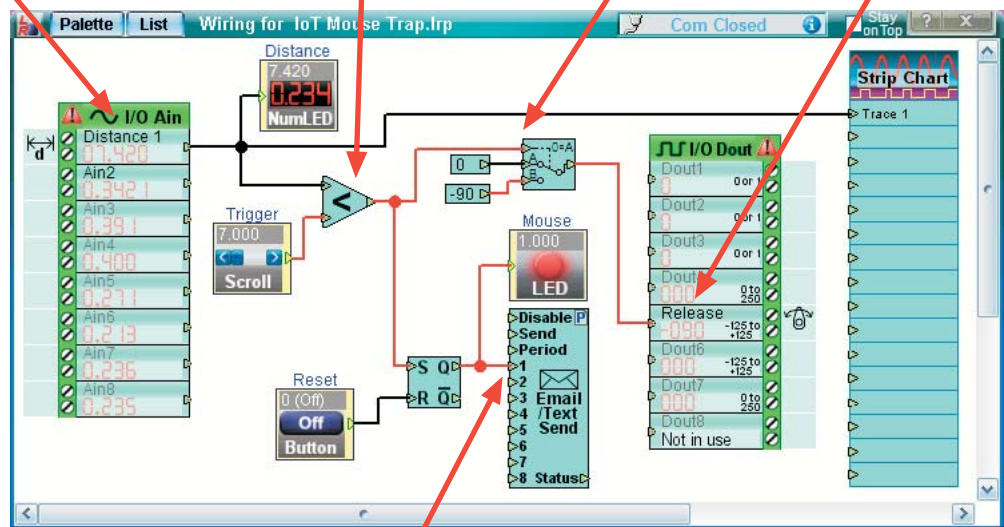
If desired, the built-in **LabRecon Server** can allow the Panel and Stripchart to be accessed as a Web page.

LabRecon's **Measurement Wizard** was used to configure an input for a Sharp distance sensor.

distance compared to "trigger" distance

servo angle change

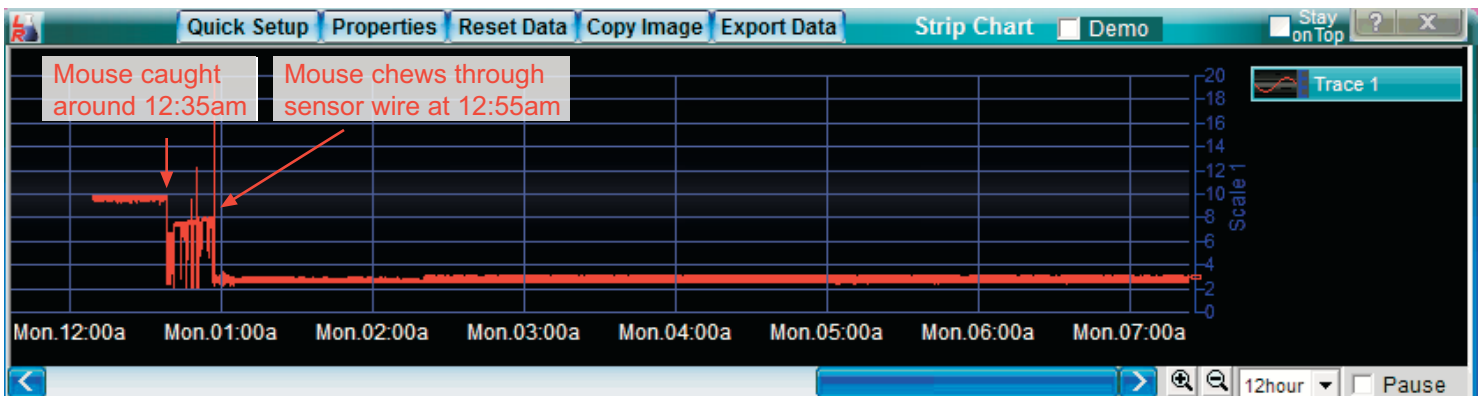
servo output for box release



Signal triggers sending of text message using **"Email/Text Send"** object.

The LabRecon Stripchart shows

- 1) a drop in Distance when the mouse first crosses the beam,
- 2) a period of changing distance as the mouse runs around in box and
- 3) the loss of the signal after the mouse chews through the sensor wires.



Email/Text Send Wiring Object

This object can be added from the Wiring Palette. Note that the **palette's top Search button** can be clicked and Email typed to quickly find the object. Its name can then be dragged unto the Wiring. Right-clicking on the object and selecting "Properties" will show.

The LabRecon Server must be running for this function as shown on the next page.

The function has two operating modes, **Event** send and **Value (Periodic)** send.

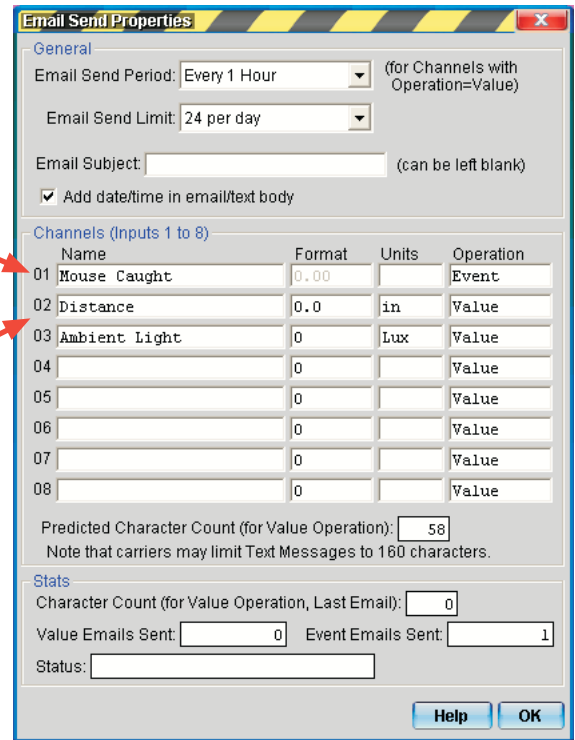
Event Send:

On the right, channel 1 has its Operation set to "Event". When the value of the wire connected to channel 1 of the object changes from 0 to 1 an email/text will be sent with the text entered, ie "Mouse Caught". Note that additional channels can be set for additional Events.

Value (Periodic) Send:

On the right, channel 2 and 3 have their Operation set to "Value". Upon the end of each period, as set by the "Email Send Period", the values of wires connected to the associated channels will be sent. The list of these channels, comprised of names, formatted values and optional units will appear in the email/text.

Alternatively, the Period can be set to "Use Period Input", wherein the period is determined by the value (in hours) at the "Period" Wiring object input. Furthermore, the email/text can be sent when the "Send" input changes from 0 to 1.



Email Send Limit:

This setting insures that the recipient doesn't get inundated with emails/texts if event triggers become too active. Note that this setting does not apply to Value (Periodic) sends, which are self limiting.

Disable Input:

If the objects "Disable" input is set to 1, the sending of both Event and Value emails/texts are disabled.

Email Subject:

Optionally, text can be entered to appear in an email's Subject line. Text messages will sometimes show the subject in parenthesis.

Add Date/Time to email/text body:

When checked the date and time will be included.



Status:

The Status output presents a count of the number of emails sent.

See next page for Server configuration.

LabRecon Server Email/Text setup

The LabRecon Server must be configured and running to send email/text messages. One can right-click on the top of the LabRecon Panel and select "Open Local Web Server" to launch the Server. If it is the first time running the Server, the prompts can be followed to install it.

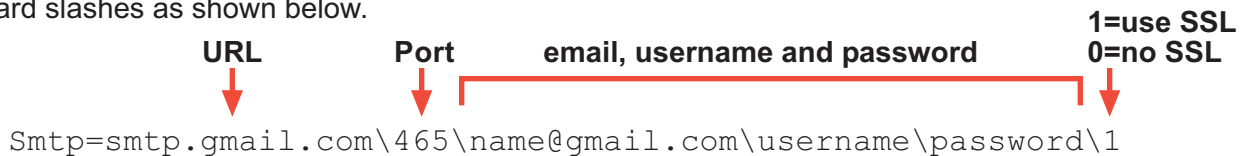
As shown, one can then right-click on the server top and select "Open Config File" to edit the file.

Find a section with the header "[Email]" or type the header (without quotes) to create the section.

LabRecon uses the common SMTP (Simple Mail Transfer Protocol) to communicate with a mail server to send emails, just as a typical email client does. One can perform a Web search for the SMTP parameters used by an email service. For example, gmail uses the following:

URL = smtp.gmail.com, Port = 465, SSL = yes.

A line must be entered under "[Email]" that starts with "smtp=" followed by parameters separated by backward slashes as shown below.



The following line is the recipient email. To send a text message, one can look up the SMS Gateway for their cellular provider. When an email is sent to the gateway it is relayed to the customer as a text message. On the right is an example for Verizon.

To=1235551234@vtext.com

The section entered may appear as below.

```
[Email]
Smtp=smtp.gmail.com\465\name@gmail.com\username\password\1
To=1235551234@vtext.com
```

When the config file is saved the Server will automatically delete the "Smpt=" line and replace it with 4 "Skey" lines, which is an encryption of the Smpt parameters to prevent another user from learning the user's username and password for their email account. New SMTP parameters can always be set by entering a new "Smtp=" line.



Additional Documents at www.LabRecon.com/Documents

LabRecon - Getting Started with the IoT (Internet of Things).pdf

LabRecon - Getting Started with the Measurement Wizard.pdf

LabRecon - Getting Started with Simulations.pdf

LabRecon - Getting Started with Robotics.pdf

LabRecon - Chip Datasheet (rev 2.0).pdf

LabRecon - MiniDAQ Datasheet (rev1.0).pdf

LabRecon - Chip Quick Start Sheet.pdf

LabRecon - Breadboard Experimenter (rev0).pdf

LabRecon - Photovoltaics.pdf

LabRecon - Reflow Oven PID Control.pdf

LabRecon - Measurement Configuration.pdf

Instructional Videos

www.LabRecon.com/videos

Revisions to this Document

Rev 0	Initial release

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