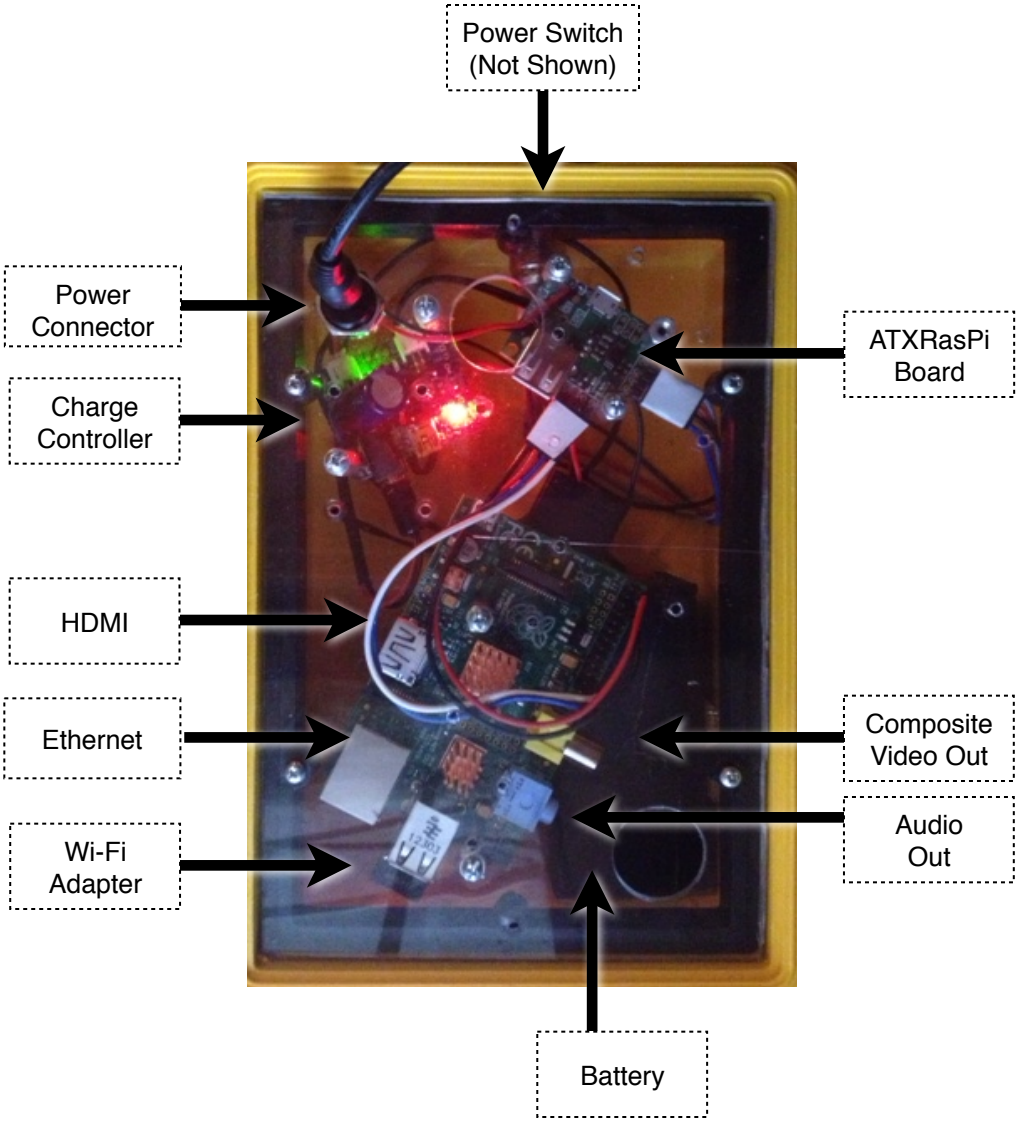
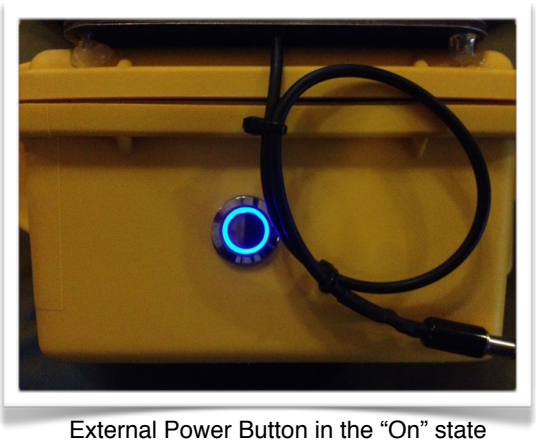
Pelican Pi at a glance



Powering on and powering off the Pelican Pi



External Power Button in the “On” state

To power on the Pi, simply press the power button. The LED ring around the power button will glow blue when power is on.

To trigger a safe shutdown, hold the button for approximately four seconds (the delay is there to avoid accidental shutdown).

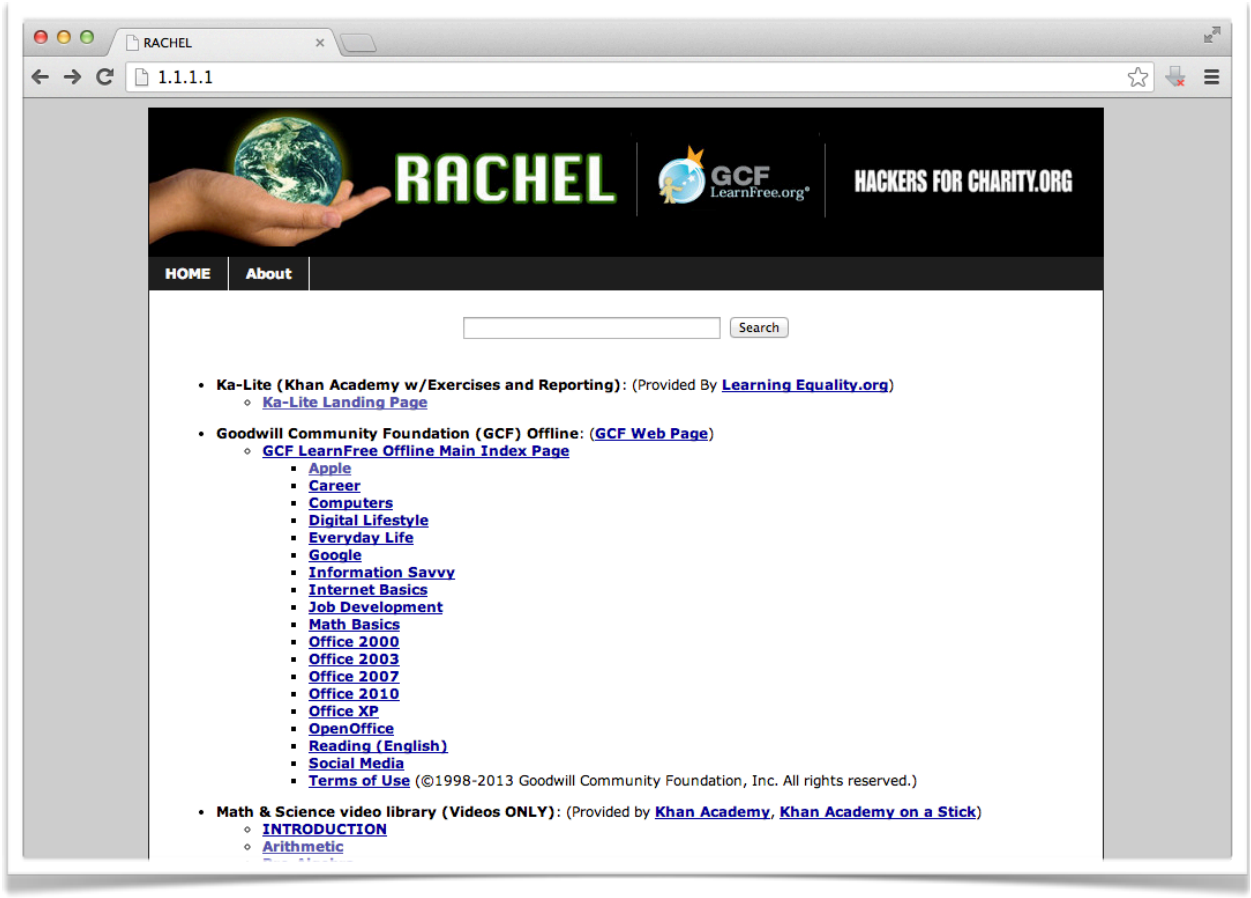
A shutdown sequence then begins. While a shutdown is in progress, a second LED will illuminate on the ATXRaspi board, and the main LED will pulse at a slower rate. When shutdown is complete, the LED pulses faster waiting for all Pi activity to stop and finally cuts power off and all LED lights on the ATXRaspi board will turn off. This is the preferred shutdown process as it will sync all files and gracefully shut the system down.

ATXRaspi in Shutdown state (2 LED’s)

The Pi can also be *hard stopped* by holding the external power button for at least *ten seconds*. This may be needed if the Pi does not respond to a normal (four second) power off, or if it is in an unknown state or has frozen. Note that this is akin to hard powering off any computer. This method is not preferred and may lead to file corruption and data loss.

Using the Pelican Pi

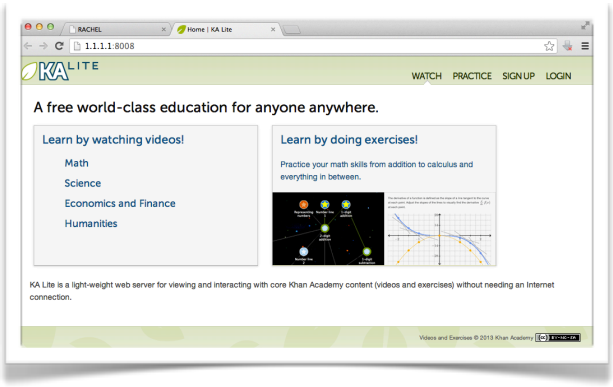
The Pelican Pi, when powered on, presents an access point with an SSID of “RPI”, with no password needed to connect. After connecting, the main web page is located at http://1.1.1.1. Some devices will present this screen automatically.



Notes about the main page

- Each section (Ka-Lite, GCF and RACHEL), launches content in a new page or tab. If you click on a link and the window doesn’t open, you may already have that section open in another tab or page.

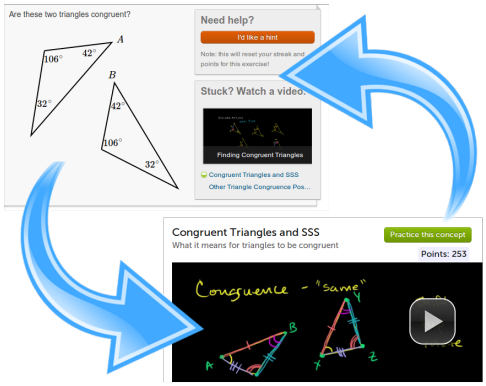
Ka-Lite



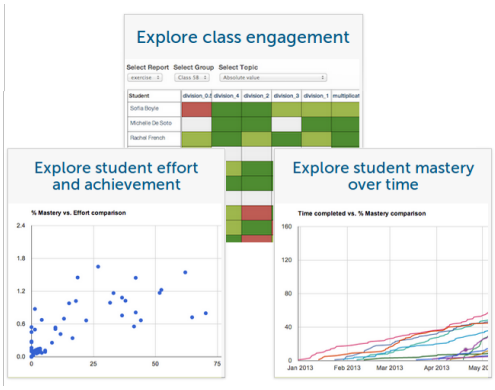
Ka-Lite can be accessed from the main page link, or by browsing `http://1.1.1.1:8008`. Ka-Lite was developed by [Learning Equality.org](). (http://kalite.adhocsync.com).

KA Lite is open-source software that can be downloaded and run on any computer, turning it into a web server for viewing and interacting with downloaded Khan Academy videos and exercises, even when no internet is available. Students can connect to the server from within the classroom, on a laptop, tablet, or desktop computer. This distribution of Ka-Lite contains over 3,700 Khan Academy videos.

Move between watching videos and doing exercises



Move between watching videos and doing exercises



Support for mastery-based learning

Students can work their way through the content at their own pace, so that advanced learners aren't being held back, and less-advanced learners aren't being left behind.

Easy data synchronization

Student data can be synchronized back to a central server when internet is available, allowing administrators to view aggregate and individual student statistics from one place.

Cross-platform device support

The KA Lite server can be run on Linux, Windows, and Mac computers, and students can connect to the server from any laptop/desktop computer, or Android tablet/phone.

Ka-Lite Usage and Troubleshooting

Ka-lite has a simple interface, but has many features. It would be a good idea to familiarize yourself with Ka-Lite to get a grasp of all the features. The Ka-Lite Wiki (`http://kalitewiki.learningequality.org/`) is the source for KA-Lite documentation.

Ka-Lite User Manual

The Ka-Lite user manual can be found online at `http://kalitewiki.learningequality.org/user-s-manual/v0-10-0`. Note that the "Hardware Setup", "Installation" and "Post-Installation Setup" steps have already been run for you if you've got a pre-built Pelican Pi.

Even if you've got a pre-build Pelican Pi (in which case the steps are already completed), it's worth watching the videos in the "Post-Installation Setup" which describe how the online components of Ka-Lite work. These videos will give you an idea of how the online syncing, facility organization and reporting features work.

Using Ka-Lite

The "Using Ka-Lite" section of the manual (`http://kalitewiki.learningequality.org/user-s-manual/using-ka-lite`) is perhaps the most important section for you as a teacher or administrator. Although the information in this section is sparse, it will be updated over time.

The Pelican Pi installation of Ka-Lite has been configured with two default accounts, one for the teacher (`teacher/password`) and one for a student (`student1/password`).

Using Ka-Lite as a Student

When logged in as a student, all activities are tracked, including videos (or partial videos) watched, exercise scores, etc. You can create new students through the admin interface, or use the default credentials (`student1/password`).

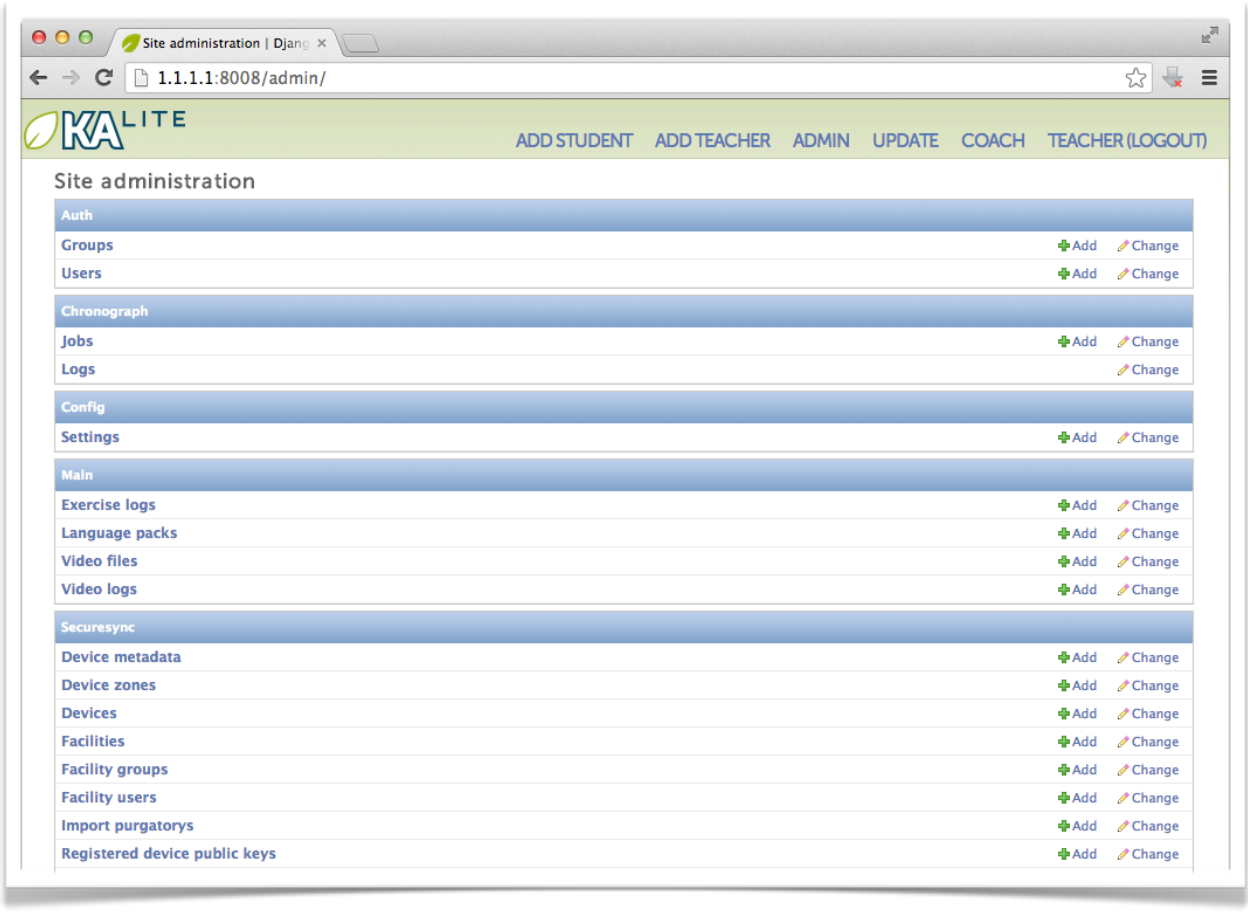
There are two primary ways to interact with the videos as a student:

1. Manually click through the categories presented on the main menu, and select videos or exercises of interest.
2. Use the "exercise dashboard" (`http://1.1.1.1:8008/exercisedashboard`, or click on the exercise panel on the main page) to navigate through the curriculum through a visual interface. This is the preferred method as it visually reveals progress the student has made.

Using Ka-Lite as a Teacher

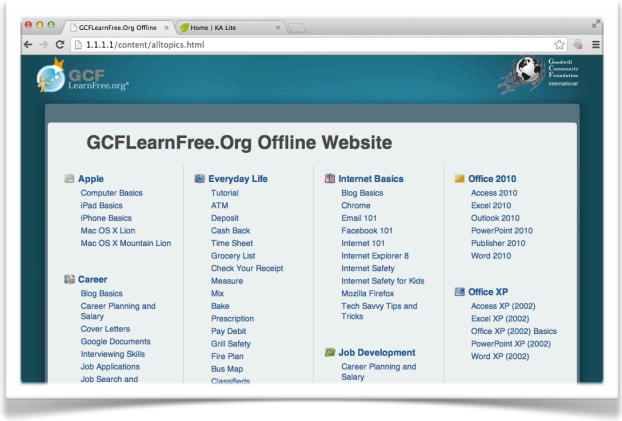
Once logged in as a teacher (`teacher/password`), you will have access to several menu items:

- Add Teacher (`http://1.1.1.1:8008/securesync/addteacher`): Allows you to add new teacher accounts.
- Add Student (`http://1.1.1.1:8008/securesync/addstudent`): Allows you to add new teacher accounts.
- Admin (http://1.1.1.1:8008/easyadmin/): This menu gives you access to zone management, user management and sync stats. The “user management” menu is the one you will use most often as it allows you to add, delete and modify user accounts.
- Update (http://1.1.1.1:8008/update/): This item allows you to update the Khan Academy Videos included with KA-Lite. NOTE: This menu item is currently under construction. It does not work as well as expected.
- The main admin interface is hidden, but can be viewed by browsing to the following URL: http://1.1.1.1:8008/admin. The admin interface has many functions which aid in the administration of Ka-Lite. Note that this is for advanced users only. You can damage your installation of Ka-Lite if you’re not careful.



Goodwill Community Foundation (GCF)

GCF content can be accessed from the main page, or by browsing to `http://1.1.1.1/GCFLearnFree.Org%20Offline.html`.



From `http://www.gcflearnfree.org/about`:

“GCFLearnFree.org creates and provides quality, innovative online learning opportunities to anyone who wants to improve the technology, literacy and math skills needed to be successful in both work and life. By delivering over 750 different lessons to millions of people in over 200 countries and territories ABSOLUTELY FREE, GCFLearnFree.org is a worldwide leader in online education.

View one tutorial. Complete a whole class. We believe there's freedom in the ability to learn what you want, when you want, regardless of income or circumstances.
A program of Goodwill Industries of Eastern NC, Inc.® (GIENC®), all GCFLearnFree.org® educational content is designed and produced in the GCF Global Learning® building in Downtown Raleigh, NC.”

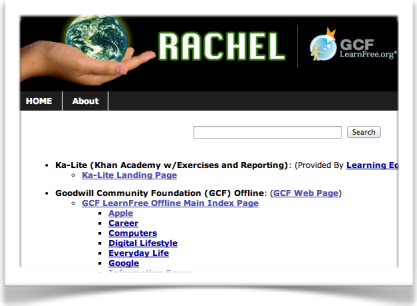
GCFLearnFree.org allows us to include content in the following categories:

Technology Training	Life Skills
Apple Computer Training Computer Training Digital Lifestyle Google Information Savvy Internet Basics Microsoft Office 2000-2010 Career OpenOffice Social Media	Everyday Life Interview Techniques Resume Writing Job Development Math Basics Reading (English)

Note: At this build level, GCF uses Flash (FLV) video files. Many browsers handle these files differently. Some browsers (like Safari and Firefox) may attempt to download these videos when clicked. The Chrome browser, like the one found on the Chromebook, will play these videos just fine. iPhones and iPads are particularly grumpy about FLV files, and won’t play them at all.

Remote Area Community Hotspot for Education and Learning (RACHEL)

The majority of the content included on the Pelican Pi (including the base Pi build itself) is from the RACHEL team at `http://www.worldpossible.org/rachel`.



"RACHEL includes an encyclopedia, health resources, textbooks, classic literature, and much more. End users access RACHEL content through a web browser on any computer, tablet, or smartphone, giving the feeling of accessing the full internet, while teaching critical computer literacy and research skills."

The Pelican Pi version of RACHEL includes:

- 1,800+ Khan Academy Videos
- 8,900+ full articles from Wikipedia.org
- 3,000+ electronic books from Project Gutenberg.org.
- Dozens of free textbooks from CK-12.org
- Village health guides from Hesperian.org ("Where there is no Doctor", etc)
- Material from musictheory.net, UNESCO-IICBA and OLPC Collection
- Several typing tutorials and games

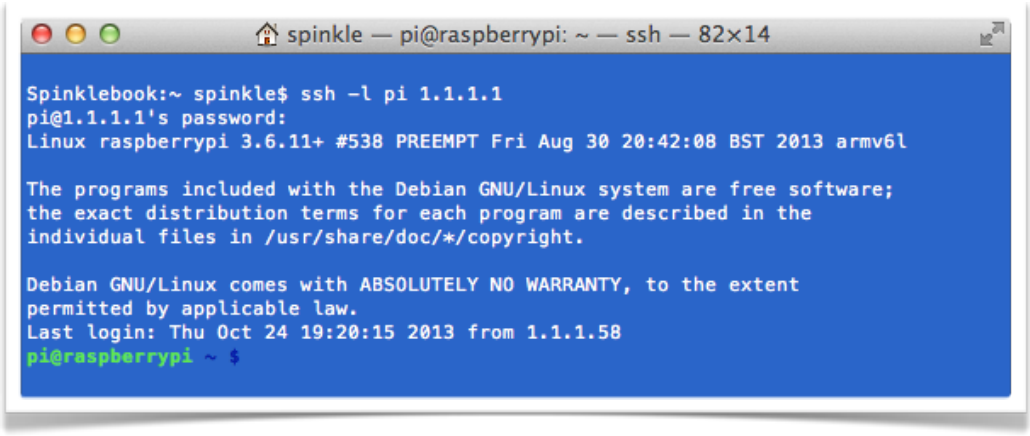
Notes:

- The Khan Academy videos included in RACHEL are videos only. They do not include exercises or tracking. For these features, use Ka-Lite.
- The Khan Academy videos included in RACHEL are MPEG-4 (mp4) encoded and will play in a wider variety of HTML-5 compatible browsers, including Safari on iPhones and iPads.
- The search feature on the main page is fully-functional but does *not* search Ka-Lite nor GCF content.
- PDF content, like the CK-12 textbooks, require a PDF viewer. The Chromebook includes a full-deatured PDF viewer.

Pelican Pi Server Maintenance and Troubleshooting

Rebooting the Pelican Pi is the first troubleshooting step to resolving most issues with the Pi. Power the Pi down (safely if possible) and power it back up again.

The Pelican Pi is a fully-functional Linux server, and can be administered from a command shell. If the wi-fi connection is working and you can connect to the web server, you should also be able to connect to the SSH server with any SSH client (username: pi, password: rachel):



If the wi-fi server does not appear, make sure the wi-fi card is plugged in and receives power (a blue light will flash during boot). If it does not receive power, make sure it is plugged in securely and reboot. After the boot sequence completes, the blue LED should flash to indicate that it is transmitting and receiving. If it does not, connect the Pi to a router through the Ethernet connection and try to connect to the Pi server via Ethernet.

The RACHEL Pi website includes an expansive how-to document (`http://pi.worldpossible.org/howto.html`) with a detailed troubleshooting section. This is your first stop for server-related troubleshooting or for trouble with RACHEL.