Ptolemy on Android

User Guide

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Description

The purpose of this application is to enable users of Android-powered handheld devices, particularly smart phones and tablets, to execute Ptolemy simulations on the move. No longer is it necessary for users to be sitting at their desktop to gather and analyze live simulation data. Rather, simulations may be executed in any environment that has a Ptolemy server and active wireless network connection. In addition, as users of the same Ptolemy model may have very different needs, the application enables engineers to use a customized layout that provides only the information and displays that are appropriate for their purpose.

Configuring the Server
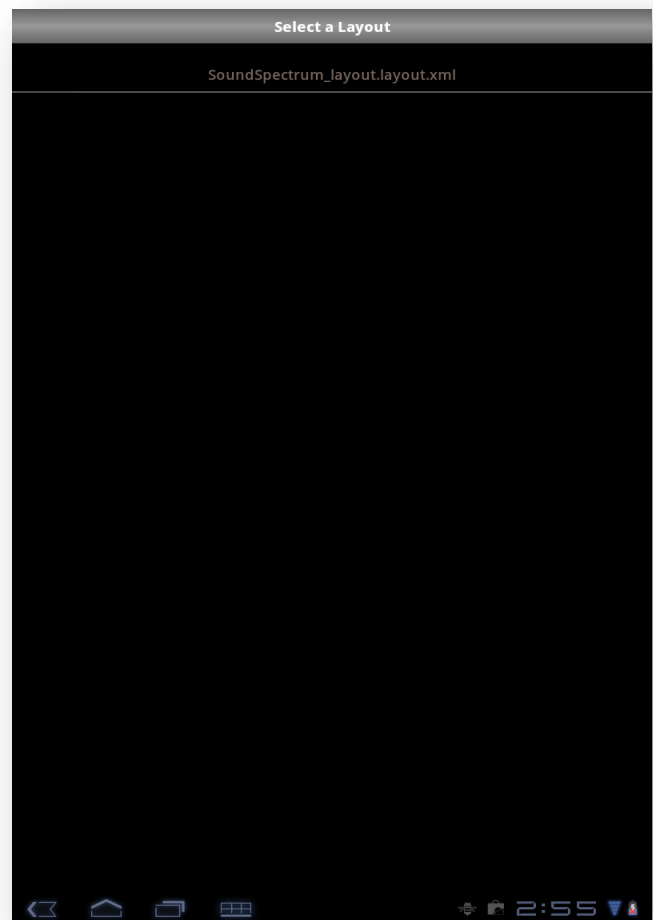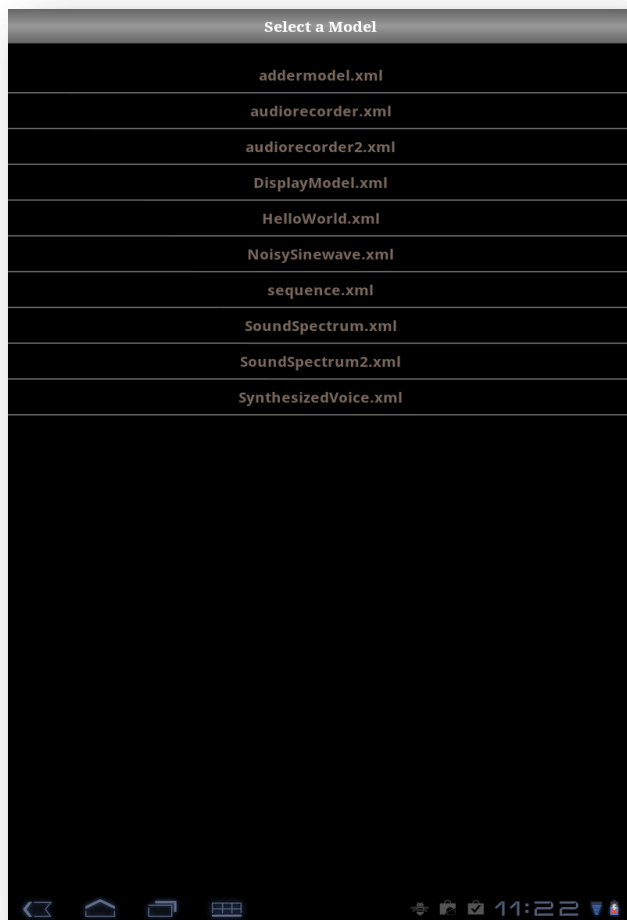
Adding, editing, or deleting a server

To use the Ptolemy Android application, you must have a Ptolemy server. As part of the Android application, you can maintain a list of all the servers you may, at any time, need to connect to and access model files on. To begin the process of adding a server to list, click the "Add Server" button in the lower right-hand corner of the screen. Doing so will present you with the following prompt into which you must enter the IP/host address of the Ptolemy server, the port number on which you will connect to it, and the username/password combination for accessing the authenticated resource. Once you've filled in each of the fields with the required information, click the "Save Settings" button to save your server configuration. If at any time you need to modify the configuration of particular server's settings or remove it from the list, long press on the item and select the appropriate action, "Edit" or "Delete", from the menu. To move onto selecting a model, click the server you'd like to connect to in the list. If the server is unavailable or unresponsive, a dialog will be displayed indicating the problem.
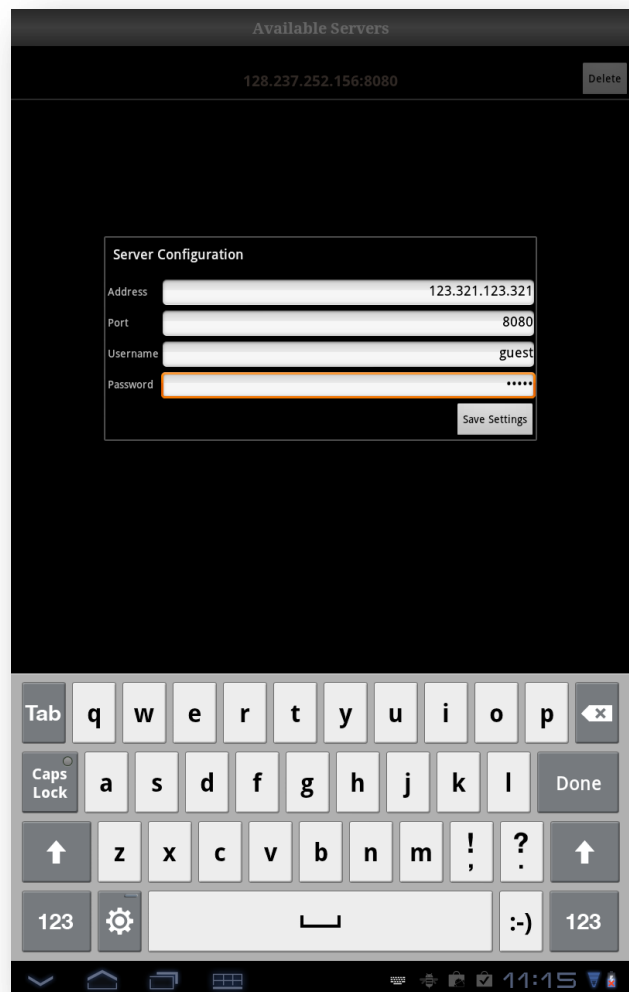
Configuring the Simulation

Selecting a model

Upon selecting a server to connect to, you will be presented with a listing of available model files that may be run on the Android device. These are the model files currently available on the selected Ptolemy server. Select on from the list by tapping on the item to move onto the customized user interface selection. A similar screen will then be displayed that lists the layout files available for the model file you have selected. It is important to note the naming scheme for identifying layout files for a specific model. Layout files must be named after the original model file followed by "_uniquename_layout.xml". (ex. *SoundSpectrum_layout.xml).*

Select a Model
addermodel.xml
audiorecorder.xml
audiorecorder2.xml
DisplayModel.xml
HelloWorld.xml
NoisySinewave.xml
sequence.xml
SoundSpectrum.xml
SoundSpectrum2.xml
SynthesizedVoice.xml

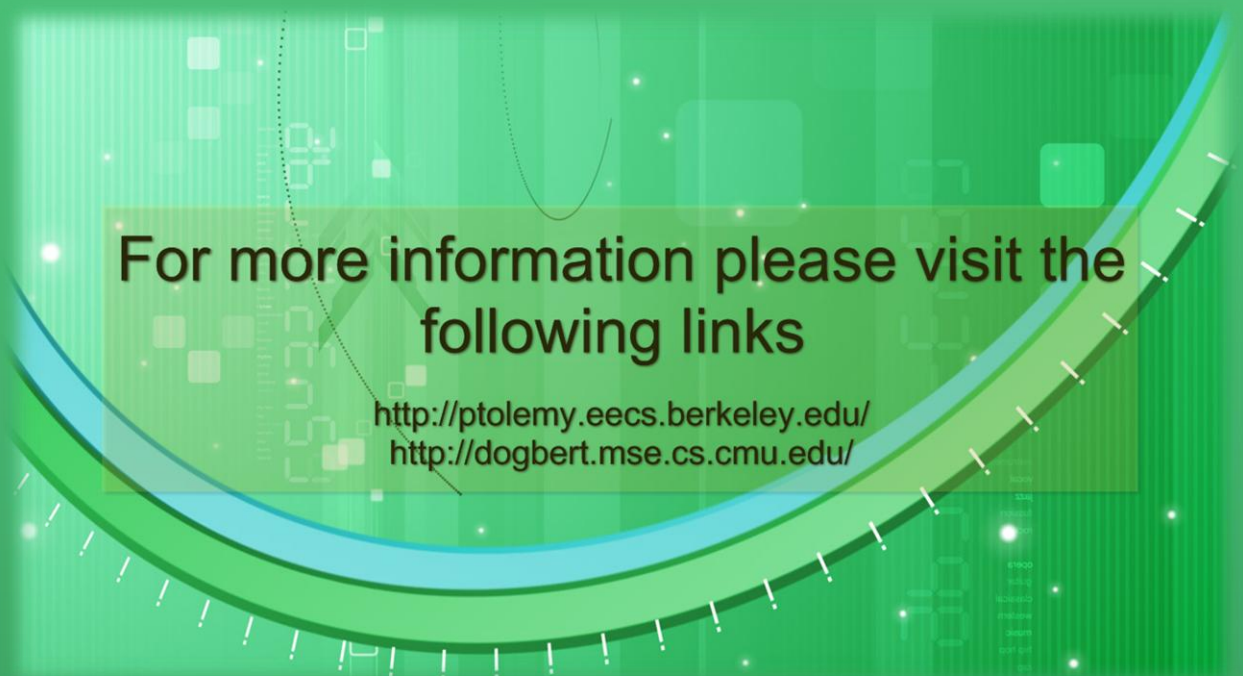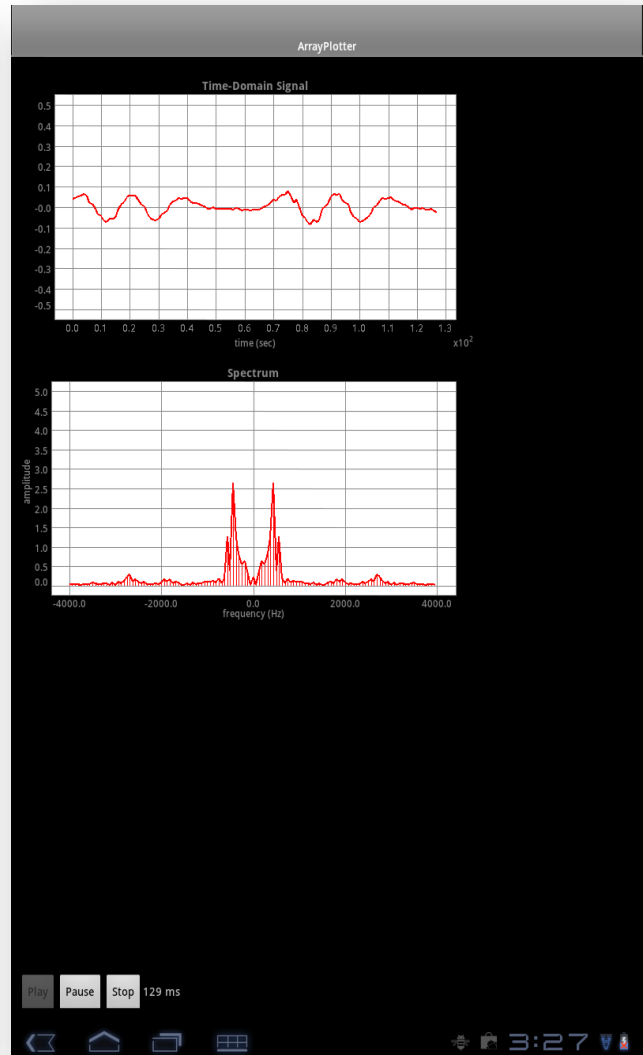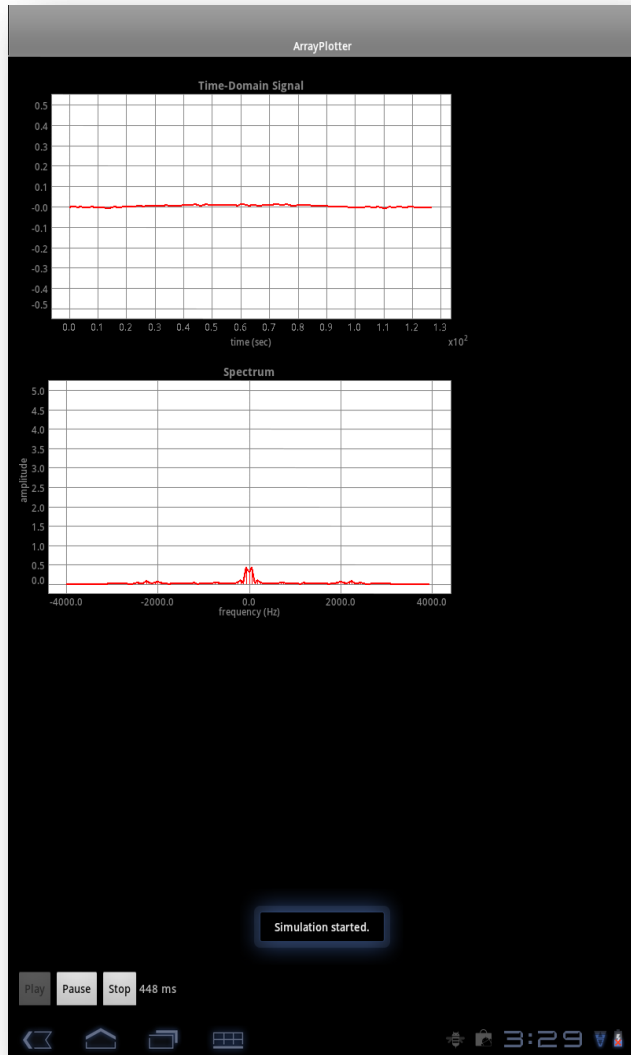| Select a Layout |
| --- |
| SoundSpectrum_layout.layout.xml |

Running the Simulation

Setting Attributes

To set an attribute, tap the widget (dropdown, textbox, checkbox) that corresponds to the attribute you would like to set. If the attribute requires a textual or numerical entry, the keyboard will be displayed. For attributes that have a finite number of choices, a scrolling list of selections will be displayed. Attributes may also be marked as being required in the Homer UI designer tool. Those required attributes must be set prior to executing the simulation. In the event that they are left empty, the application will not start the simulation and instead, will display an error message indicating which attribute must be set. This process will be repeated until required attributes have been given a value.
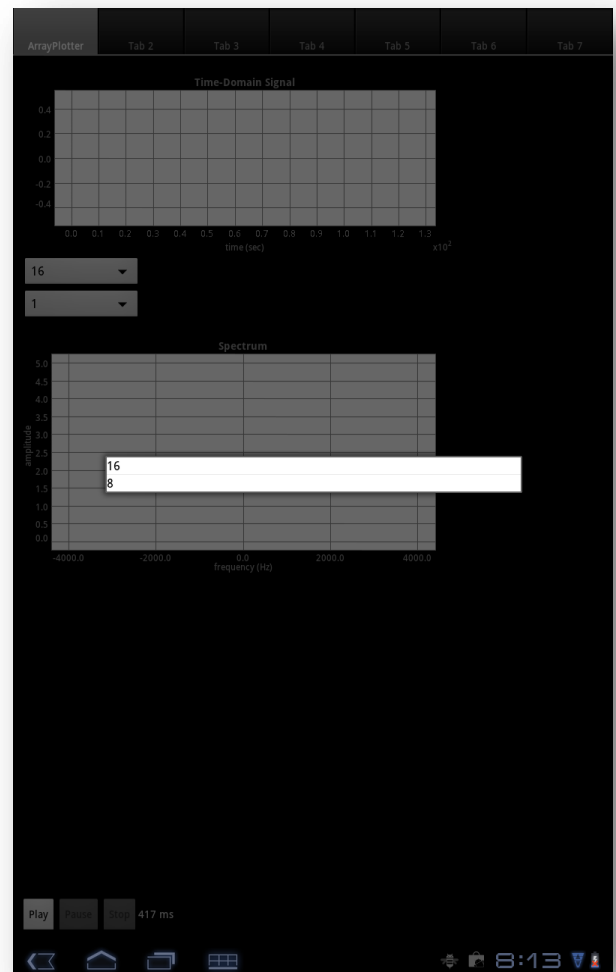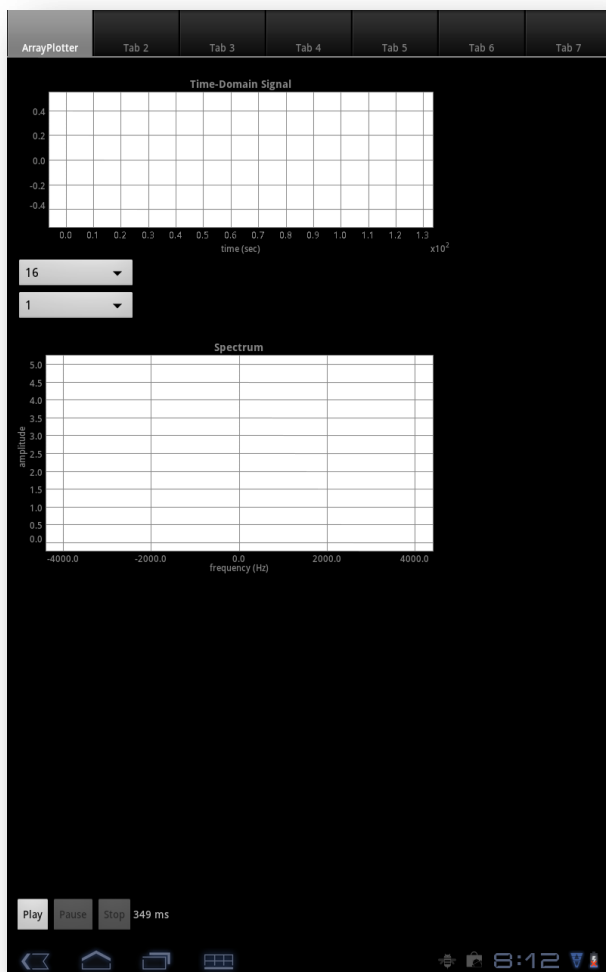
Starting, Pausing, Resuming, and Stopping

Once the model and customized layout configuration files have been loaded, you have the ability to start, pause, resume, and stop the simulation by using the appropriately labeled buttons along the bottom of the screen. Layouts involving multiple tabs and displays can be navigated to simply by selecting/tapping the appropriate tab. This may be done at any time regardless of the execution state of the simulation.

For more information please visit the following links

http://ptolemy.eecs.berkeley.edu/
http://dogbert.mse.cs.cmu.edu/