

RoomCast Configuration and Enactment Guide

RoomCast is a web-based configuration and distribution system for digital learning resources. It is designed for instructional units involving multiple stakeholders with distinctive resource needs that vary across multiple activity contexts.

Configuring your unit using RoomCast

Step 1: Select/configure digital resources

The screenshot shows the RoomCast 2.0 interface. At the top, there is a header bar with the text "roomQuake · RQ-DEMO · 0 · planning · designer · manager". Below the header is a navigation bar with tabs: "resources", "activities", "portals", "names", "distribution", and "designs". The "resources" tab is currently selected and highlighted in grey. The main content area is titled "resources" and contains a list of resource items. The items are listed in a vertical stack, each enclosed in a small rectangular box. The items are: "about", "aggregate", "instant", "reading", "room", "schedule", "seismogram", "seismograph", "aggregate [noClear]", and "reading [stations]". At the bottom of this list is a button labeled "new resource". In the bottom right corner of the main content area, the text "roomCast 2.0" is visible.

The *resources* tab is used to manage the set of digital resources (web pages) that will be available to other users of the system. If this is a *specialized* gateway, it comes pre-populated with a set of 'starter' resources specifically designed to support instructional

units focused around a particular domain. (Here, we are using a RoomQuake gateway, so it contains a set of resources centering on earthquakes and seismology.) If this were a generic gateway, no default resources would be provided.

roomQuake · RQ-DEMO · 0 · planning · designer · manager

resources activities portals names distribution designs

resources

- about
- aggregate
- instant
- reading
- room
- schedule
- seismogram
- seismograph**
- aggregate [noClear]
- reading [stations]

new resource

info

seismograph

200mm
150
100
50
-50
-100
-150
-200mm

200mm
150
100
50
-50
-100
-150
-200mm

200mm
150
100
50
-50
-100
-150
-200mm

Back Forward Live

include in distribution

This resource is an animated seismograph that responds to simulated earthquakes generated using the 'instant' or 'schedule' resources.

roomCast 2.0

Clicking on an item in the resources list will present you with a thumbnail image of the resource and a description of its functionality. Depending on the unit that you are designing, you may not want to use all of the resources that are provided within the application gateway. If you are planning to use a particular resource, you should click the textbox 'include in distribution.'

roomQuake · RQ-DEMO · 0 · planning · designer · manager

resources activities portals names distribution designs

resources	wikipedia
about	 WIKIPEDIA The Free Encyclopedia
aggregate	Not logged in Talk Contributions Create account Log in
instant	
reading	Earthquake More Search Wikipedia
room	From Wikipedia, the free encyclopedia
schedule	For other uses, see Earthquake (disambiguation) . "Seismic event" redirects here. For seismic migration, see Seismic
seismogram	
seismograph	
aggregate [noClear]	
reading [stations]	
wikipedia	<input checked="" type="checkbox"/> include in distribution
	This is the wikipedia entry for 'Earthquake.'
	new resource info
	label wikipedia link https://en.wikipedia.org/wiki/Earthquake
	save resource delete resource

roomCast 2.0

Clicking on the 'new resource' button allows you to define a new web resource to be added to the set. Here we have supplemented the built-in RoomQuake resources with the Wikipedia page for earthquakes by giving the resource a label, the link to the resource, and a description. Not every web page can be embedded within a RoomCast configuration; some require special action to make them 'public' (e.g., Google docs), and others are prohibited due to intellectual property issues (not everyone wants you to embed their work inside your application).

Step 2: Specify activities

Once your resources have been configured, it is time to specify the activities that will comprise your curriculum unit. The *activities* tab lists the set of activities for your unit. By default, all units include a "planning" activity; all other activities need to be added by the designer.

The screenshot shows the 'activities' tab in the roomQuake software. At the top, there is a header bar with the text 'roomQuake · RQ-DEMO · 0 · planning · designer · manager'. Below the header, there is a navigation bar with tabs: 'resources', 'activities', 'portals', 'names', 'distribution', and 'designs'. The 'activities' tab is currently selected. On the left side, there is a sidebar with a 'new activity' button. In the main area, there is a list of activities. The first activity is 'planning', which is highlighted with a grey background. The second activity is 'remote sensing', which is highlighted with a black background. To the right of each activity, there is an 'info' section containing a description. Below the activities, there are fields for 'label' and 'slides'. At the bottom, there are 'save activity' and 'delete activity' buttons, and the text 'roomCast 2.0'.

roomQuake · RQ-DEMO · 0 · planning · designer · manager

resources activities portals names distribution designs

activities

remote sensing

planning

remote sensing

new activity

info

In this activity, the teacher initiates simulated earthquakes and students learn to read seismograms to estimate the distance of the event from their seismograph's location.

label remote sensing

slides

save activity delete activity

roomCast 2.0

To add an activity, click on the *new activity* button, and give the activity a *label* and a *description*. (Teacher may also add a URL linking to presentation *slides* associated with this activity. To add Google slides, publish to web, then copy the URL provided into the slides field.) You may add as many activities as you like. Activities do not have to be enacted in any particular order during the unit.

Step 3: Specify portals

Once you have specified the activities comprising your unit, the next task is to specify the *portals* that various stakeholders will be using during the unit. You do not need to define a separate portal for each individual; in Step 5 you'll see how multiple users can each get their own "copy" of the portal.

The screenshot shows the roomQuake software interface with the following details:

- Top Bar:** roomQuake · RQ-DEMO · 0 · planning · designer · manager
- Header:** resources activities portals names distribution designs
- Left Sidebar:** portals (with options for designer, educator, and seismic station)
- Right Panel:**
 - seismic station**: This portal is used to present simulated seismographs on public computers positioned around the classroom.
 - info**: A large text area for portal description.
 - label**: seismic station
 - type**: learner (radio button) is selected, while public and partner are unselected.
 - pw**: A password field.
- Bottom Buttons:** save portal, delete portal

roomCast 2.0

Clicking on the *portals* tab brings up the list of portals currently defined for your unit. By default, there are only two special portals: one for the designer and one for the educator. In this example, the designer has added a new portal, 'seismic station,' and provided information on how it will be used.

There are three types of portals. *Learner* portals are intended for use by individuals or groups. (Note that as activities change, students may switch to a different portal. For example, a designer might specify both "student" and "group" portals, or use different portals to develop "jigsaw" cooperative learning designs.) *Public* portals are intended for use on large displays or computer 'kiosks' situated around the classroom, accessible to all participants. (These

might be used, for example, to create specialized activity stations or information resources, to present shared simulations for whole-class use.) *Partner* portals are intended for use by other stakeholders. These might include domain expert partners, school administrators, software developers, researchers, student teachers, or any other specialized role that you would like to include. In this case, because the seismic stations are intended for continuous public display, we have designated them as public portals.

With the exception of the designer and educator, by default, all portals can be chosen through the gateway URL. You may, however, specify that a password be required to use a particular portal (just as you provide a password when you chose the designer or educator portals).

Step 4: Specify distribution plan

roomQuake · RQ-DEMO · 0 · planning · designer · manager					
resources	activities	portals	names	distribution	designs
		portals	activities		resources
		educator		planning	aggregate
		seismic station		remote sensing	instant
					reading
					room
					schedule
					seismograph
					wikipedia

roomCast 2.0

The *distribution* tab presents a three-column "distribution grid" summarizing the portals, activities, and resources that you have specified for use in your unit. (The resources list presents only those you have specified to "include in distribution" in Step 1. If you need to include a new resource, you can change that at any time and this page will automatically update the list accordingly.)

The distribution grid specifies the resources that will be made available to each kind of portal during each of the unit activities. To see a resource list, select a portal and an activity; the highlighted items in the resource list are the ones that will be made available to that portal during that activity. During enactment, the educator has the ability to switch to a different activity at any time; when activities change, all active users will immediately receive the new set of resources specified in the distribution grid.

roomQuake · RQ-DEMO · 0 · planning · designer · manager					
resources	activities	portals	names	distribution	designs
		portals	activities		resources
		educator		planning	aggregate
		seismic station		remote sensing	instant
					reading
					room
					schedule
					seismograph
					wikipedia
roomCast 2.0					

In this example, we see that the educator, during the planning activity, will be provided with two resources: a *room* configuration resource (to help them in specifying the locations of the seismic stations in the classroom), and the *Wikipedia* earthquakes page to provide them a reference document for the unit. To add a resource, simply click on its name; it will immediately become available to anyone logged in through that portal during the designated activity.

Providing a full distribution plan requires that you work your way through all combinations of portals and activities. Some designers like to select a portal, and then proceed to specify the resources that portal will need during each activity. In other cases, designers may "lock down" the activity, and then systematically select the

resources needed for each portal. You can drag the three columns left and right to rearrange them to fit your style.

roomQuake · RQ-DEMO · 0 · planning · designer · manager					
resources	activities	portals	names	distribution	designs
		portals	activities		resources
		educator		planning	
		seismic station		remote sensing	
					aggregate
					instant
					reading
					room
					schedule
					seismograph
					wikipedia

roomCast 2.0

In this example, we leave the 'educator' portal selected, and choose the "remote sensing" activity. We specify that during the 'remote sensing' activity, the teacher will be provided with a resource ('instant') that allows them to generate simulated "instant" earthquakes in the classroom.

roomQuake · RQ-DEMO · 0 · planning · designer · manager					
resources	activities	portals	names	distribution	designs
		portals	activities		resources
		educator		planning	
		seismic station		remote sensing	
					aggregate
					instant
					reading
					room
					schedule
					seismograph
					wikipedia

roomCast 2.0

In this distribution plan, seismic stations do not require any resources during the planning activity. Opening a seismic station

portal during planning would produce a page with no available resources.

roomQuake · RQ-DEMO · 0 · planning · designer · manager					
resources	activities	portals	names	distribution	designs
portals		activities		resources	
educator		planning		aggregate	
seismic station		remote sensing		instant	
				reading	
				room	
				schedule	
				seismograph	
				wikipedia	

roomCast 2.0

But during the 'remote sensing' activity, seismic stations set of resources will include the simulated 'seismograph' resource that we saw earlier when we introduced our resources. When the teacher generates "instant" earthquakes, each seismograph will respond with a distinctive waveform reflecting its distance from epicenter of the simulated earthquake.

Step 5: Specify names

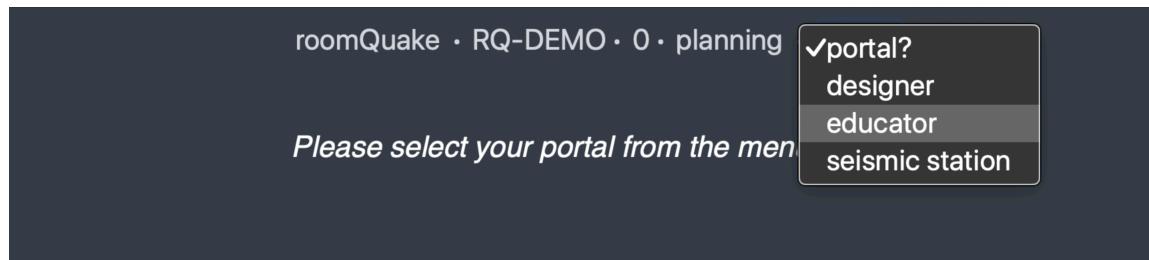
The screenshot shows the roomQuake software interface with the following details:

- Top navigation bar: roomQuake · RQ-DEMO · 0 · planning · designer · manager
- Tab bar: resources, activities, portals, names, distribution, designs (with 'portals' selected)
- Sub-tab bar: portals, names (with 'names' selected)
- Content area:
 - Left column: designer, educator, seismic station (with 'seismic station' selected)
 - Middle column: names (1, 2, 3)
 - Right column:
 - label: 3
 - Buttons: save name, delete name
- Bottom right corner: roomCast 2.0

As mentioned in Step 3, portals represent a kind of 'template' for individual users or public devices. Associated with each type of portal is a list of *names* distinguishing those individuals. In this example, we clicked on the *names* tab, selected the 'seismic station' portal, and defined three individual instances, named 1, 2, and 3. While all three instances will have the same basic functionality (digital resources), they will operate independently. (Here, for example, all 'seismic station' portals will present simulated seismographs, but they will show different waveforms based on their distance from simulated earthquakes.) Similarly, for 'learner' portals, you are able to provide individual names for students and groups (and use those names to differentiate activity on each instance of a portal). Student can then log in by name. In the present version of RoomCast, no *individual* passwords are used; however, all individuals using a portal may need to provide the password ("classword") for that portal if one was specified (see Step 3).

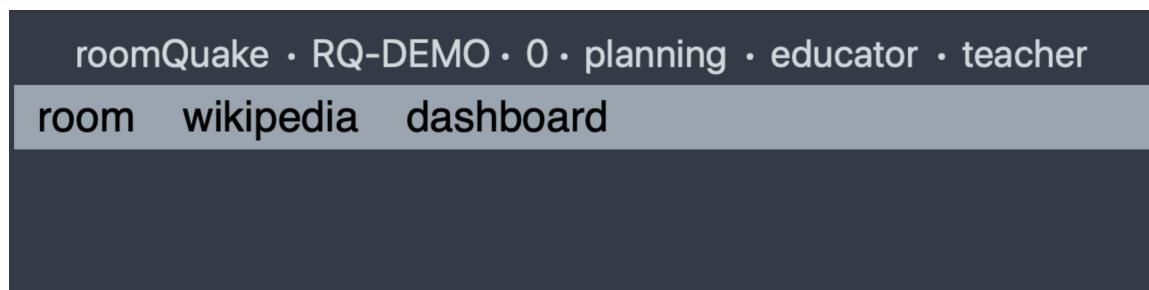
Enacting your unit using RoomCast

You are now ready to enact your unit. You have finished your job as designer, so it is time to select one of the portals that you need to use during class.

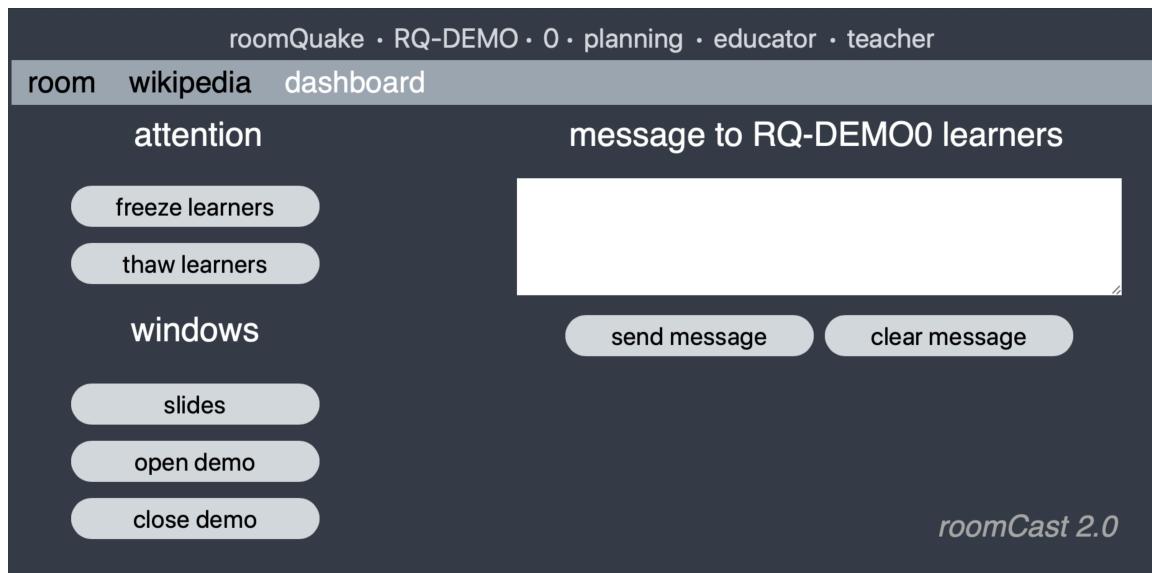


All users of the system enter through the same *gateway URL* that was provided for your class; different classes will have different gateways. Upon entering the URL, they will be shown the page above. The line of words at the top of the page is called the *status bar*. From left to right, it specifies the name of the unit ('roomQuake'), your institution (RQ-DEMO) and class (0), the current activity ('planning'), and the selected portal. When you first log in, RoomQuake asks you to select a portal.

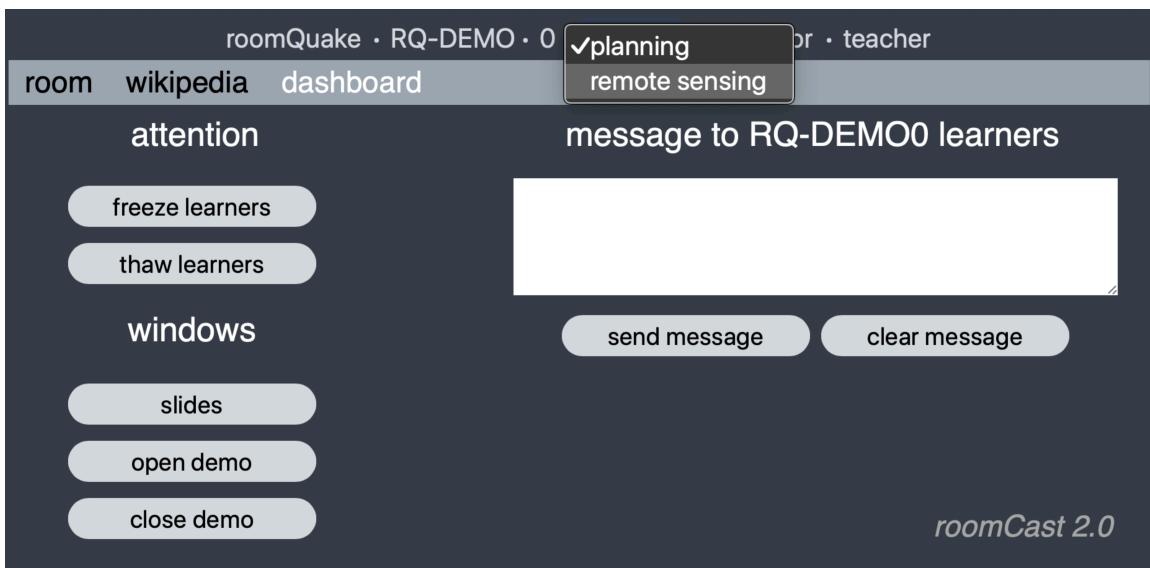
In the status bar you can click on (some) items to make new selections. Here, you can click on 'designer' and change your portal to 'educator.' (Or, on another device, use the gateway URL, select the 'educator' portal instead of the 'designer' portal that we have been using.) When there is only one individual name associated with a portal, the user is automatically "logged in" under that name.



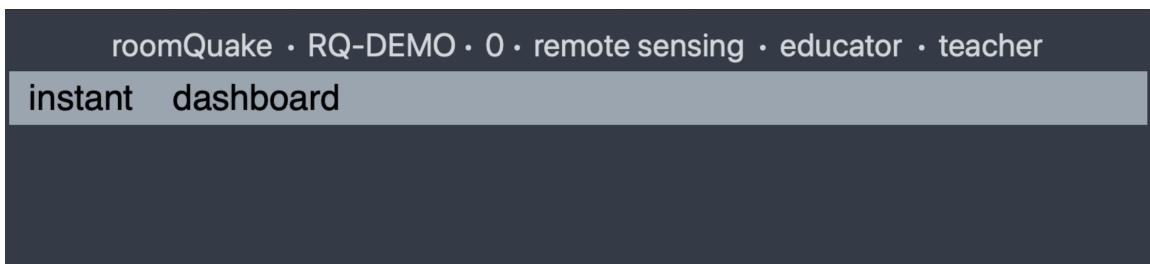
Because we are in the 'planning' activity, the *resources bar* includes the two resources that we specified for educators during planning in our distribution plan: the room configuration tool (one of the RoomQuake resources) and the Wikipedia page that we added as a resource to our unit. Clicking on a resource will make it available in the space beneath the bar.



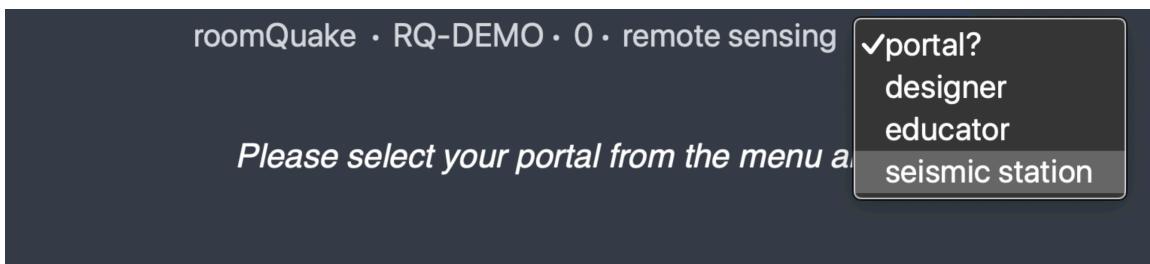
One resource, the *dashboard*, is always added as a resource for the educator, regardless of the current activity. It allows teachers to temporarily "freeze" learner devices, rendering them unresponsive when teachers need student attention, and to "thaw" them allowing normal operation to continue. Teachers can also broadcast messages to students; these will immediately appear as pop-up dialog boxes on student devices. The other buttons pop up new windows on the teacher's device, including slides associated with the current activity (see above); these are added as a separate tab in the web browser.



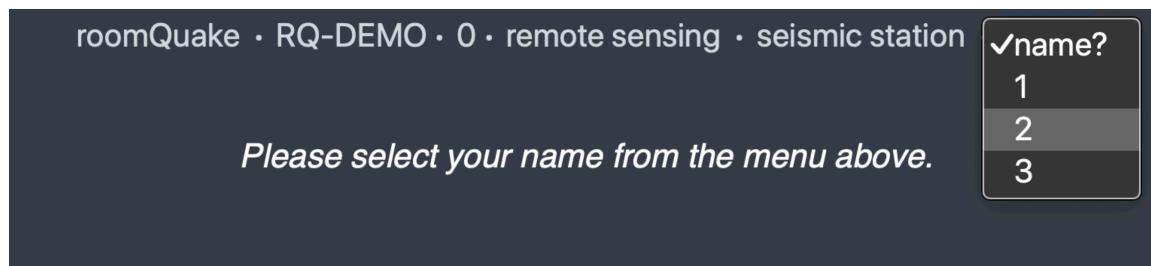
During planning, the teacher would use the 'room' configuration tool to configure the location of the seismic stations (not shown). Once configured, the teacher changes from the 'planning' activity to the 'remote sensing' activity by selecting that activity in the status bar.



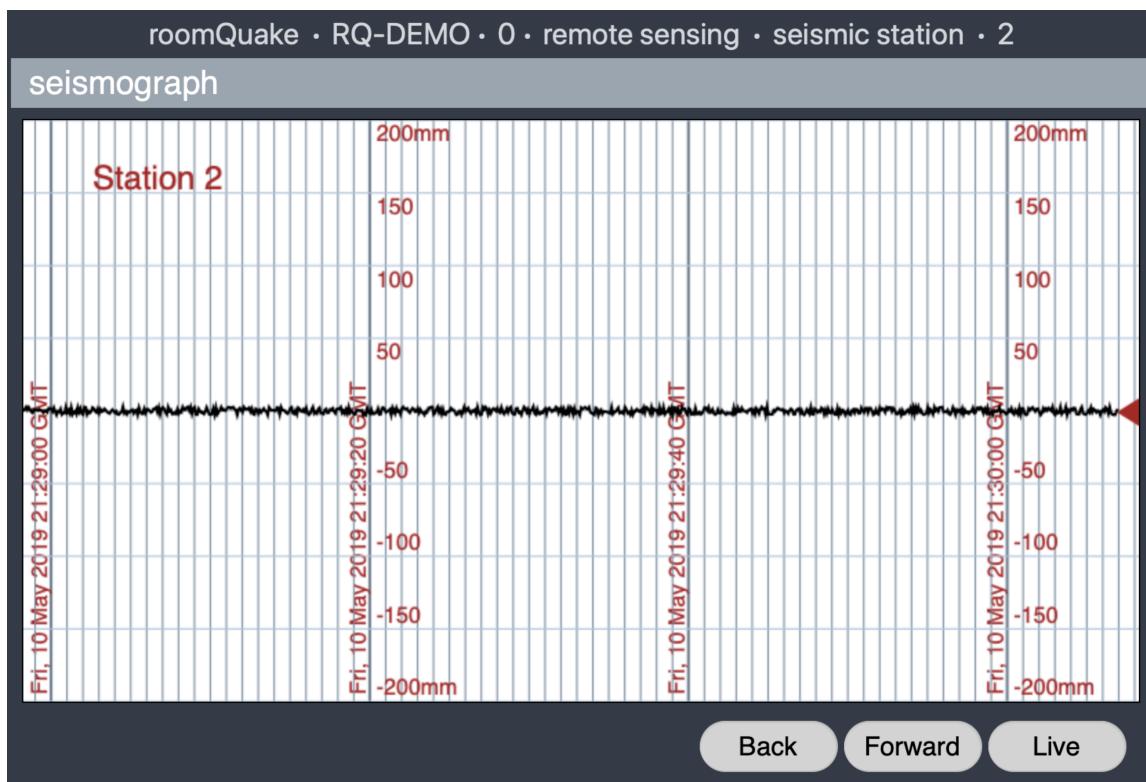
When the teacher changes the activity, all of the devices serving as portals for the unit are immediately updated to reflect the set of resources that were configured that portal/activity combination. Here, the room configuration and Wikipedia resources have been replaced by the 'instant' earthquake tool that the teacher will use to generate simulated earthquakes.



To bring the seismic stations into the picture, the teacher (or students) enter the *gateway* URL on the browsers running on each computer serving as a seismic station, and specify that they want to run a 'seismic station' portal.



Because there is more than one seismic station, we need to specify which one this portal is intended to represent. (Again, different seismic stations will produce different waveforms depending on their location in the classroom, which the teacher specified using the room configuration resource).



Because the portal was launched during the 'remote sensing' activity, the portal will immediately construct the appropriate resource bar for that activity, based on our distribution plan. (When only one resource is available for an activity, it is automatically displayed in the area beneath the resource bar.)

During enactment, if the web page loses internet connectivity, the user will be presented with the following window. Clicking on the *reconnect* button will send a message to restore connectivity (if possible).

