iPads in Music Education GarageBand

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Part A: GarageBand As A Performance Tool

Why play virtual instruments?

Why play iPad instruments when you can play the real thing?

- One single iPad can become hundreds of different instruments

- Many schools are rolling out 1:1 iPad programs, but may not be spending a lot of money on a vast array of instruments for the music department

- An iPad can give you access to instruments you may never have in a classroom

- You can play and record your performance all at once

- You can have 25 students playing simultaneously (with headphones on) and not hear a sound!

- You still use musical ability to play virtual instruments

- You can simplify instruments for those less capable (eg. use the Smart Instruments in GarageBand)

- You can plug a real guitar or keyboard into an iPad

- You can combine real instruments with iPad instruments in an ensemble and have the best of both worlds

- They're portable (timpani in your backpack…)

- It's fun!

Drawbacks of using iPad instruments

- iPad keyboards encourage poor technique

- For the most part, you can't experience blowing and fingering a wind or brass instrument (with the exception of the Ocarina app on iPhone)

- You can't experience bowing a string instrument

- You need amplification for each iPad if you want to perform as a group

- It's not the same as playing the real thing

The bottom line is, iPad instruments are fantastic when used in conjunction with real instruments.

Using GarageBand for performance

GarageBand has a range of inbuilt Touch Instruments that can be used for performance purposes.

Multiple levels of difficulty

GarageBand is set up to allow you to play at multiple levels of difficulty:

- If you work with young students, or beginner students you can use pre-set chords in the "Smart" instruments in GarageBand. Students can play chords with minimal effort: simply by pressing a chord name in time with the music. You can customise the chords if you like (see below)

- You can use the **Autoplay** knob which allows you to select a variety of in-built comping patterns

- Most of the instruments also allow you to set a scale or mode which eliminates the notes that are not part of the chosen scale

- Intermediate or advanced students can play the instruments in the "regular" way: by playing individual notes, strumming chords or playing drum patterns

Spend some time experimenting with each instrument to discover the flexibility each one offers

Some tips

Guitar Amp

In order to use the guitar amp, you need to connect an electric guitar to your iPad. There are a number of 3rd party devices that allow you to connect your guitar, such as the iRig by IK Multimedia.

Edit chords: Smart Instruments

You can edit the chords that are used by the Smart Instruments (guitar, keyboard, bass and strings). Even if the ones you need are already present, you may want to edit them so that you can alter the order in which they appear, making it easier for students to play.

- Choose a **Smart Instrument** (guitar, keyboard, bass or strings)

- Tap the **Song Settings** button and then tap **Edit chords**

- On the instrument, tap one of the chord strips

- Edit the chord by swiping the chord wheels. Choose the chord, quality and alternate bass note

- When you're finished, tap **Done**

Keyboards

- There are a wide variety of keyboard sounds: in some categories, you can swipe from left to right to see more choices

- You can choose how big the keys are and how many octaves show by tapping on the Keyboard button

- You can also limit the scale/mode used (great for class ensemble performances with less-experienced players). Choose from Major, Minor, Pentatonic, Dorian and more

- There's a velocity control switch which you can turn on by tapping the Keyboard button (see left of image above)

- If you adjust the sounds of a particular keyboard instrument, you can save the setup. The saved instrument will appear in the Custom category

Drums

- There are both acoustic and electronic drum set options

- The drums are touch-sensitive: you can play them harder/louder or softer

- Some drums (like hi-hat and snare drum) make different sounds when you tap different parts of them

- Touching and holding a drum with two (or more) fingers plays a repeating pattern. By changing the distance between your fingers, you can make the repeats faster or slower. Moving a finger up or down makes the repeats play louder or softer

Bass parts

If you need to create a bass part you can use the Smart Bass instrument which has a choice of electric, acoustic and synth bass sounds. Don't forget that you can also choose the Keyboard instrument and then select one of the Synth Bass sounds.
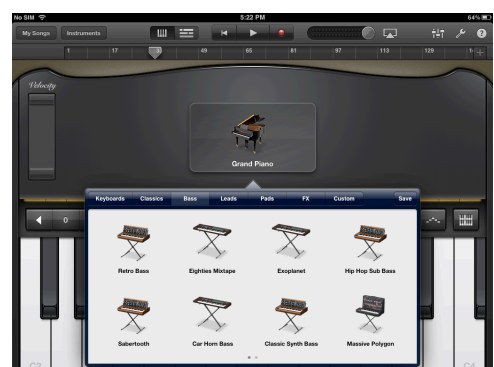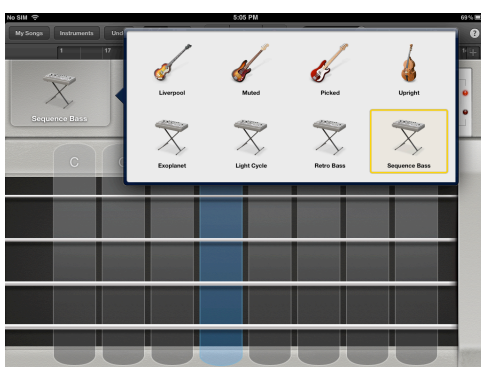
Smart Strings

In Chords mode, you can play chords in different inversions by tapping each section of the chord strip. The pizzicato (plucked) sound is made on the release of your finger, not on the tap. If you want to play a sustained chord, stroke your finger back and forth over the chord strip.

In Notes mode, you can play individual notes on the fretboard. Notes will play back with an arco effect (bowed), but you can also play pizzicato (plucked) notes by holding one finger on the Articulation button on the left while you tap the string briefly.

Jam Sessions

If you have 3 friends and you're sharing a WI-FI or Bluetooth connection, you can start a jam session which allows you to share song settings and record all parts on one device. One player is designated the bandleader who controls playback and recording, or allows other members to share control.

There's more extensive information in the Apple GarageBand for iPad manual here:

http://help.apple.com/garageband/ipad/1.2/index.html#chsf2f99f1b

Part B: GarageBand for Recording

Recording a song step-by-step

Set up a new song

Starting a new song

- Open GarageBand

- Start a new song by tapping the + sign in the top left corner

- Tap New Song

- Choose your first instrument by swiping through the options. Tap on your choice

- When the Instrument view opens, make any necessary adjustments to the instrument sound

- Create custom-chords if needed (see below)

Set up the song parameters

Choose your song settings:

- Tap the **Song Settings** button (wrench)

- Turn on **metronome**

- Turn on **count-in**

- Tap **Tempo** and set the tempo for the song

- Tap **Key** and select the key for the song

- Tap **Time Signature** and choose the time signature for the song

About song sections

GarageBand is set up to work with song sections (ie. intro, verse, chorus and so on) which are labelled with letters.

When you create a GarageBand song, by default it contains one 8-bar repeating section. You can add more sections and adjust the length of each section. Having your project organised in sections this way makes it easy to copy and paste sections, or move them around.

To add, change or copy sections, tap the Song Section button on the right edge of the Ruler
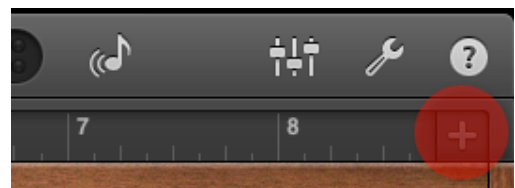
Set up the length of the first section

- Tap on the **Song Section** button

- Tap **Section A**

- Set the number bars by tapping the up or down arrows next to **Manual**. You can swipe vertically to change it in larger values. A section can be any number of bars, and the overall song can be up to 320 bars long

- Tap anywhere in Tracks view to close the song section controls

- We'll add more sections later on
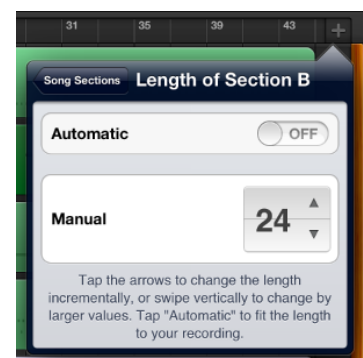
Quantize

Quantization allows you to correct the timing of your performance to a certain note value. It's advisable to use quantization because you (and your students) will be happier with the results! After you turn on quantization for a track, any new recordings or loops you add to the track are also quantized.

Choose your quantization setting

- In Tracks view, tap the **Mixer** button

- Tap **Quantization**, then choose your preferred note value (usually the smallest note value you will play). Note that you can also choose Swing settings here

- The quantization setting applies to all regions on the track in the current song section, but you can choose different quantization values for the same track for different song sections

- If you move or copy a region to a different section with a different quantization value, the value appears as **Multiple**

Record a Touch Instrument, Guitar Amp or Audio Recorder

Recording a part

- Choose the instrument you want to record

- Make sure you're in **Instrument View**, not Tracks View

- Move the **Playhead** to the place you want to start recording: rewind to move it to start, or tap on the ruler to choose a specific bar/beat

- Tap **Record**

- Play the first section of the song (remember that if your song uses a repeated riff/ostinato, you only need to record it once because you can loop it or copy/paste it later)

- Tap **Stop** when finished

- Rewind the Playhead and tap **Play** to listen back to recorded part

- If you don't like what you recorded, tap **Undo**

Record another part or move on?

At this point, you can decide whether to add a new track (using the New Track + button) and record their part for this section, or move on and set up Section B.

Set up the next section

If you decide to set up Section B, read on...

- Tap on the **Song Section** button

- Tap **Add**. Section B will be added to the list of sections

- Tap on the **blue arrow** next to Section B

- Set the number bars by tapping the up or down arrows next to Manual
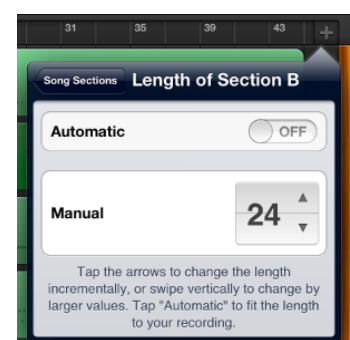
- Tap anywhere in Tracks view to close the song section controls

- Record the same instrument in Section B

You can move between song sections by swiping left or right in the Tracks View.

Recording drum parts

The easy way

Use Smart drums to build up and record a drum groove:

- Tap the **Add Track** button and then tap the **Smart Drums** instrument

- Choose the type of drum kit by tapping the drum kit icon on the top left side

- Set up a beat by dragging elements of the kit on to the grid

- Move the **Playhead** to the desired bar

- Tap **Record** and do nothing :)

- Tap **Stop**

Drum parts from scratch: merge recordings

Sometimes it's easier to record an instrument one bit at a time in order to build up a groove. This is particularly useful when recording drum parts: rather than play all the parts of the kit at the same time, you can record the bass drum first, then hi-hat, then snare – all on the same track. This technique is also useful for keyboard parts, especially if you're not an experienced keyboard player.

Set up

- Select the instrument in the track header area

- Tap the **Mixer** button

- Check that **Merge Recordings** is on (it's on by default for the Drums, but not for the other instruments)

- Tap **Quantization** and choose your setting

- Tap **Record**

- Play the first part and tap **Stop**

- Move the **Playhead** to the beginning of the region and tap **Record** to record the next part of the drum kit

Selecting and editing regions

What is a region?

When you record an instrument, a region appears in the Tracks view. You can edit these regions in multiple ways to build your song.

There are 3 different types of regions:

- **Purple** regions: recorded regions from the Guitar Amp or Audio Recorder

- **Green** regions: other Touch Instrument recordings

- **Blue** regions: Apple Loops

Selecting a single region

- To select a single region, tap the region in Tracks view

Selecting multiple regions

- To select multiple regions, touch and hold a region, then tap the other region or regions you want to select while holding the first one

- To select all regions in a track, tap the **track header**

- To select all regions in the current song section, tap an empty area, then tap **Select All**

- When you tap a region, a frame appears around it. When selecting multiple regions, the frame appears around the last selected region. If you do not see the frame, try zooming until the left and right edges of the region are easily visible

- To edit a multiple selection after you have lifted your fingers, tap a region in the selection, then tap unselected regions to add them to the selection, or tap selected regions to remove them from the selection

To repeat a region (loop the region)

- Tap the region to select it

- Tap the region again so that the Edit Menu appears

- Tap **Loop**

- GarageBand will automatically loop the region for you for the length of the song section

- You can shorten or lengthen the loop by tapping the region and dragging the end of it

Copy and paste

To copy a region to another place in your song:

- Tap the region to select it

- Tap the region again so that the Edit Menu appears

- Tap **Copy**

- Move the Playhead to the beginning of the destination bar (the place you want to paste the region)

- Double-tap in an empty space on the track and choose **Paste**

Split region

- Tap the region to select it

- Tap the region again so that the **Edit Menu** appears

- Tap **Split**

- Drag the **Split marker** (with the scissors icon) left or right to the point where you want to split the region

- Drag the **Split marker** down

- To cancel the split, tap anywhere outside the region before dragging the Split marker down

- You can make multiple splits by moving the Split marker to different parts of a region, and dragging it down in each part.
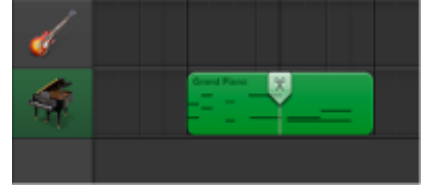
Joining regions

- Make sure the regions you want to join are on the same track, with no other regions between them

- Touch and hold the first region, then tap the other region or regions while holding the first one
The regions change color to show they are selected, and a frame appears around the last selected region

- Tap one of the selected regions, then tap **Join**

Cut or Delete

- Tap the region to select it

- Tap the region again, then tap **Cut** or **Delete**

- When you choose **Cut**, the region is placed on the Clipboard so you can paste it in a different location.

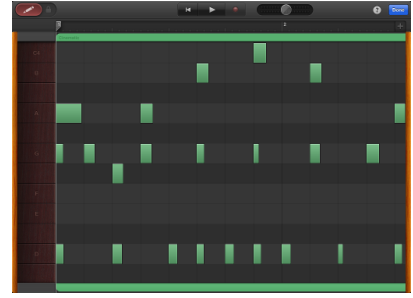# Editing notes within a region

To open the editor

Do one of the following:

- Double-tap a region, then tap **Edit**

- Swipe up or down in a region with two fingers

- The Editor will open

Viewing different parts of the region

- Swipe left or right to move back or forward in the editor

- Swipe up or down to view higher or lower notes

- Pinch to zoom in or out

Selecting notes in the editor

Do one of the following:

- Tap a single note to select it (it will turn dark green)

- Touch and hold a note, then tap other notes to select them

- Touch and hold an empty part of the editor, then drag around multiple notes to select them

- Touch and hold a note bar on the left edge of the editor to select all notes of a certain pitch

- In drum set parts, touch and hold an instrument on the left edge of the editor to select all the notes played by that instrument

Add notes

If you want to add new notes, you'll need to switch to Add Notes mode. You can enter Add Notes mode temporarily, or turn it on for a longer period of time by "locking" it in place

- Temporarily enter notes mode by touching and holding the Add Notes button on the left side of the control bar, then tap in the editor to create the new note

- Lock the Add Notes mode by dragging the **Add Notes** button to the right

- While in Add Notes mode, tapping a note that is already there will delete it

Copy notes:

- Select one or more notes, then tap any one of the selected notes to open the Edit Menu

- Tap **Copy**

- Move the playhead to the point where you want to paste the notes

- Tap an empty area of Tracks view, then tap **Paste**

Adjust position of notes

- Select a note or multiple notes

- Drag them left or right

Change pitch (all instruments except drums)

- Select a note or multiple notes

- Drag up or down (doing this in a drum track will change the sound)

Change volume (velocity) of a note

- Select one or more notes, then tap any one of the selected notes to open the Edit Menu

- Tap **Velocity**

- Drag the slider left or right

Change the articulation of notes (Smart Strings only)

- Select one or more notes

- Tap again to show the **Edit Menu**

- Tap **More**, then tap **Articulation**

- Select the articulation you want the notes to use (legato, staccacto or pizzicato)
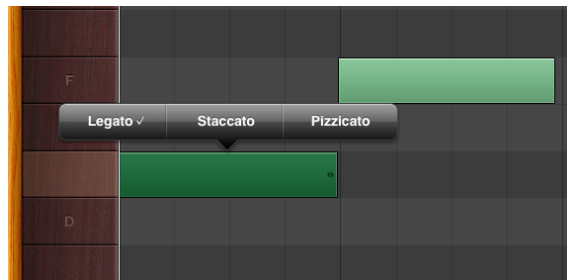
Change the instrument that plays selected notes (Smart Strings only)

- Select one or more notes

- Tap again to show the Edit Menu

- Tap More, then tap Instrument

- Choose which instrument you want to play the notes

Return to Tracks View

- When you've finished editing notes, tap Done in the top right corner

Adding pre-existing loops

Using Apple Loops

- Go to **Track** view

- Tap on the **Loop** icon

- Choose an instrument, or search by genre or keyword

- Preview a loop by tapping on it

- When you find one you like, drag it into an empty part of the Tracks View screen

- The loop will automatically extend to the end of the current song section, or to the beginning of the next region in the track

- You can then shorten it by tapping on it and dragging the end of the loop backwards
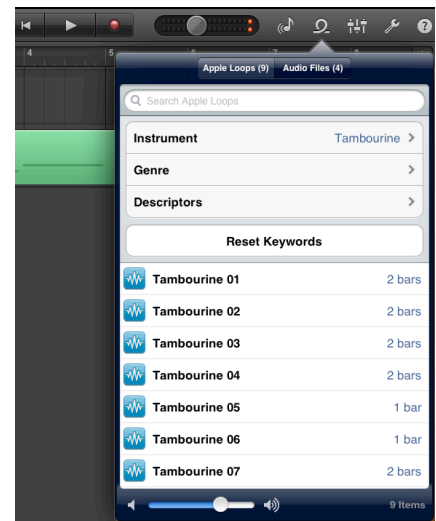
Playback

A few tips

- Use the playback controls at top of screen

- Tap on timeline to move the Playhead to a specific place, then tap the **Play** button

- Drag the **Playhead** to a specific bar/beat (as you drag, the bar and beat will show on the Playhead)
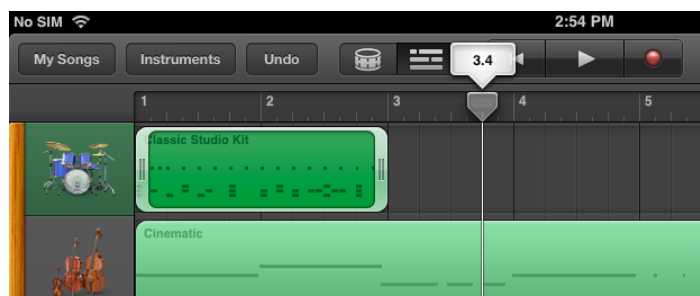
- Double-tap on timeline to playback instantly from that position

Playback of song sections

- By default, only the current song section will play and it will playback in a loop. To hear all of the song sections play continuously, do the following:

- Tap the **Song Section** button

- Tap **All sections**

- Tap in Track view to close the Song Section area

- Tap **Play** to play all sections

Track Controls (solo, mute and volume)

- Drag a track icon (the instrument picture) to the right to show the Track Controls. Drag the icon left to hide them again

- Use the **Solo** and **Mute** buttons to listen to different instruments

- To mute a multiple adjacent tracks, tap the **Mute** button on the topmost track and swipe down across the mute buttons on the tracks below (also works for the Solo button)

- Use the volume slider on each track to adjust the balance between instruments

- Double-tap a volume slider to reset it to 0db

Sharing of Files

Getting songs off the iPad

Once you or your students have finished creating a piece, you'll probably want to get it off the iPad somehow.

First of all:

- Tap the My Songs button to return to the main menu

- Tap and hold on one of the song icons. Everything should start to "jiggle" and some new buttons will appear in the menu at the top left of the screen

- Tap on the Share button (it looks like a curved arrow)
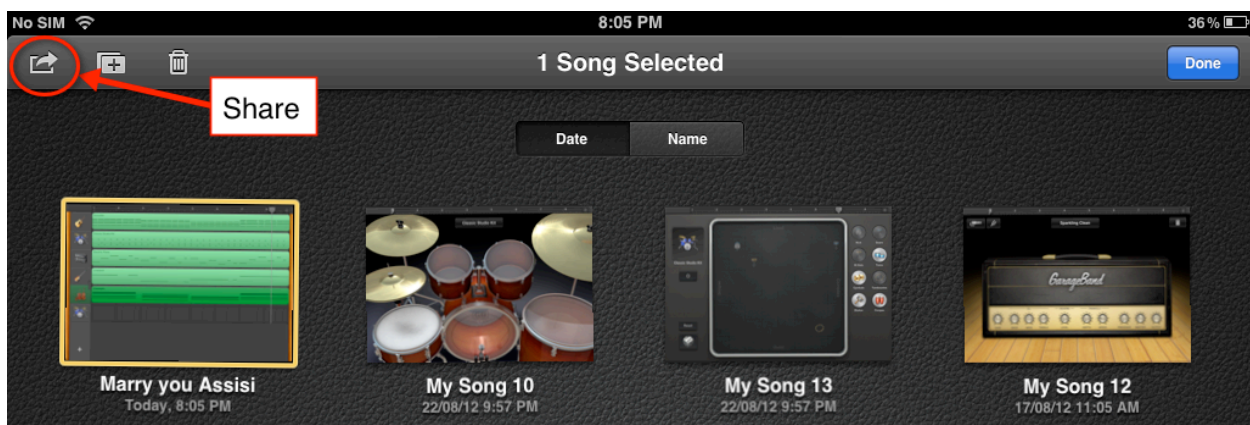
From here, there are a few options:

- You can share your song directly to Facebook, Youtube, Soundcloud (an audio-sharing site) or iMovie (available if you have iMovie installed on the iPad)

- You can also share the song to iTunes or Mail

Sharing to iTunes

When you choose to share to iTunes you can choose one of two formats: as iTunes (audio) file, or as a GarageBand project file.

- **iTunes:** choosing iTunes means that the file will be exported as an audio file and will be playable in iTunes itself, or in any other program that accepts audio files. This means that you can do some further editing of the file in programs like Mixcraft, Acid Music Studio, GarageBand, Logic, Pro Tools and Audacity. Note that the audio file is just a single track - all the separate tracks that appeared in GarageBand on the iPad will be mixed down to one track

- **GarageBand:** Choosing the GarageBand option is only useful for people that have a Mac laptop or desktop computer that has GarageBand on it. If you choose this option, the project will be exported as a GarageBand file with all the separate tracks intact, allowing you to further edit (or add to) each one in the desktop version of the program.
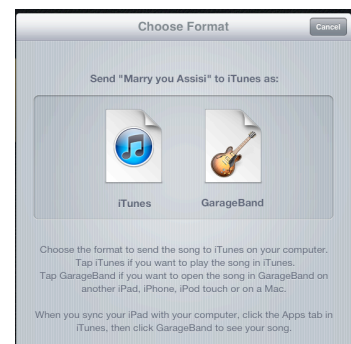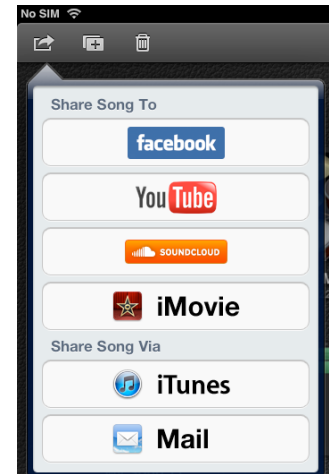
Next, sync your iPad with your computer, then to locate your file follow the steps in the image below:
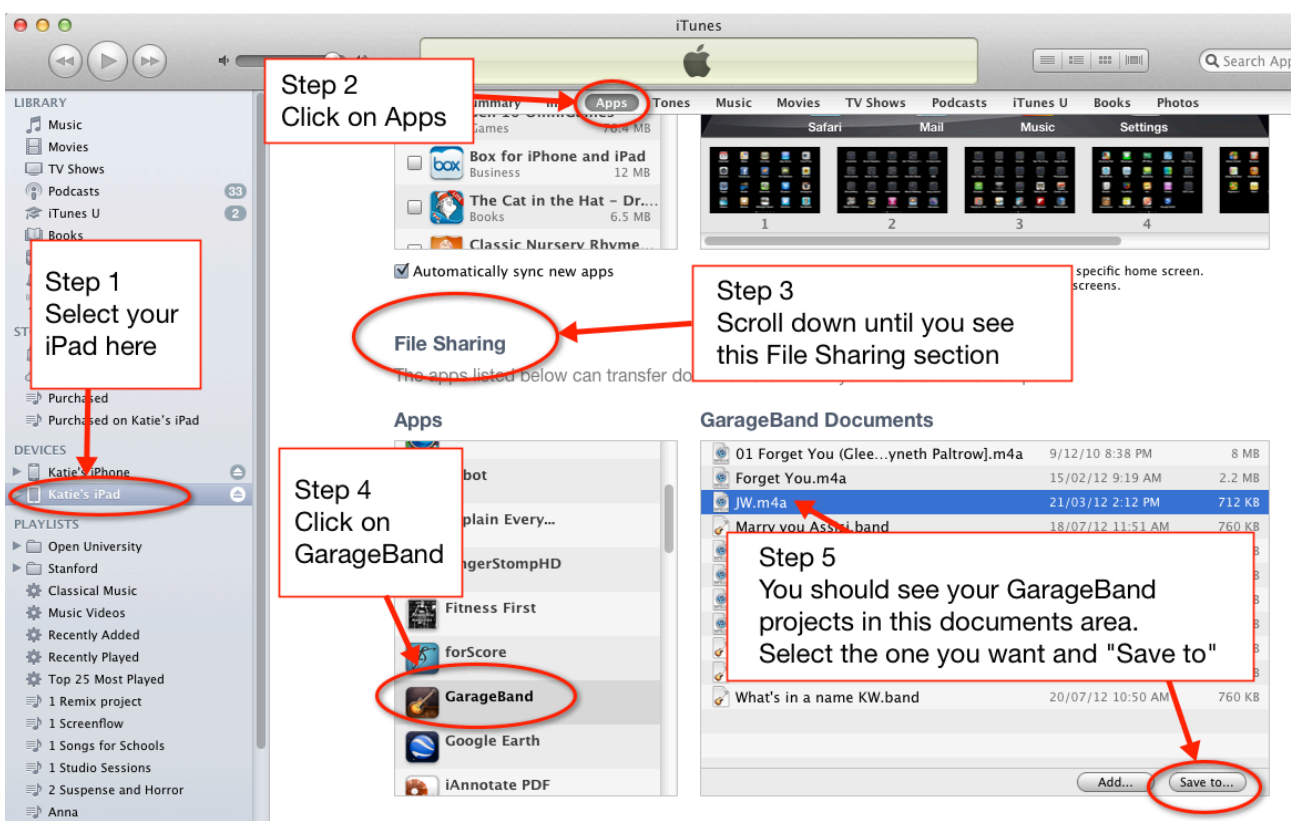
Classroom projects using GarageBand

What's In A Name?

Students use the Sampler to record their first name. Trim the sample and then test out playback of the sample at different pitches. Press record and play the name sample in a rhythm. Add a new track - the Smart Drums and create a drum part to accompany the first track.

Extension - Ternary form: go into the Song Sections and add section B. Students can add a new track (the Sampler again) and then create a second sample by recording their surname. Add a new, contrasting drum part to this section. Lastly, copy Section A to the end to create a Ternary form piece.

Compose The Blues

Put together a 12 bar blues backing consisting of bass, drums and guitar. Record an improvised solo over the top using the Audio Recorder, Guitar Amp or one of the Touch Instruments. You can limit the scale being used by the chosen improvisation instrument to a blues scale.

Podcasting

Almost any research-type project can be made into a podcast. Students can create an oral report for a music research assignment that includes narration, intro and outro music and musical examples. Remember to adjust the Song Section settings to Auto so that you can freely record for a longer period of time.

Old-Style Radio Show or Digital Storytelling

Students can script a radio show or story and record themselves reading the parts in GarageBand. If you have multiple iPads, they can use additional iPads to trigger sound effects which have been recorded in GarageBand or in another app such as MadPad or Soundslate. Add mood music using GarageBand instruments.

Performance

Use the iPads as (very) flexible classroom ensemble instruments. iPads work well in an instrument "rotation" setting, where they are interspersed with regular classroom instruments.

Form an iBand

Students can form an iBand using their iPads and a little amplification. There are a number of examples on Youtube, such as the North Point iPad band and the Burlington High School band. Groups of up to 4 students can use the Jam Session feature.

Online tutorials and articles

Apple GarageBand for iPad Manual

http://help.apple.com/garageband/ipad/1.2/index.html

5 Essential Workflow Tips for GarageBand for iPad

http://www.macprovideo.com/hub/garageband-ilife-2/5-essential-tips-garageband-ipad

Connecting your Guitar to Your iPhone, iPod or iPad

http://www.easylearn2playguitar.com/recording/connecting-your-guitar-to-your-iphone-ipod-or-ipad/

9 Things You Didn't Know About GarageBand For iPad

http://www.midnightmusic.com.au/2012/04/9-things-you-didnt-know-about-garageband-for-ipad/