Project Proposal

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Green Drum Machine



Green Drum Machine

This proposal is for the development of an Android OS app called 'Green Drum Machine'.

**App Definition Statement**

'Green Drum Machine' (GDM) is an Android app that allows the user to create a drum sequence anywhere by emulating physical beat machine hardware. The user can create and edit full length beats by using the midi sequencer.'

**Key Features**

* Allow users to create and edit beats on their phone or tablet, without the requirement of any extra physical hardware.
* Record and edit drum beat sequences using the sequence editor
* For maximum real estate, smaller devices such as phones will automatically orient to landscape mode
* Edit the volume of each of the 8 tracks using the Mixer
  + Mixer tracks consists of a volume fader, mute and solo button
  + Solo will mute all of the other tracks except for the selected track
  + Each track is then bussed into the master track, which controls the total volume
  + The VU meter for each track will display that track's volume independent of the other sounds
* Users can load sounds from external storage to each of the pad to add for a diverse set of sounds
  + Small sound bank on the side for quick access to different sound files
  + Shows information such as the name of the sound, the duration, and (if possible) the wave form
* Users can save and load beats and corresponding information
  + Name of the file
  + Saves midi sequence, sounds assigned to pads, fader levels of each track, etc.

**Technology Items**

* Android MIDI APIs. Reference: <http://developer.android.com/reference/android/media/midi/package-summary.html>
* Media Player APIs. Reference: http://developer.android.com/reference/android/media/MediaPlayer.html
* STM32 Nucleo FPGA Board

\*\*Images with items that leave the screen will be scrollable in final product





