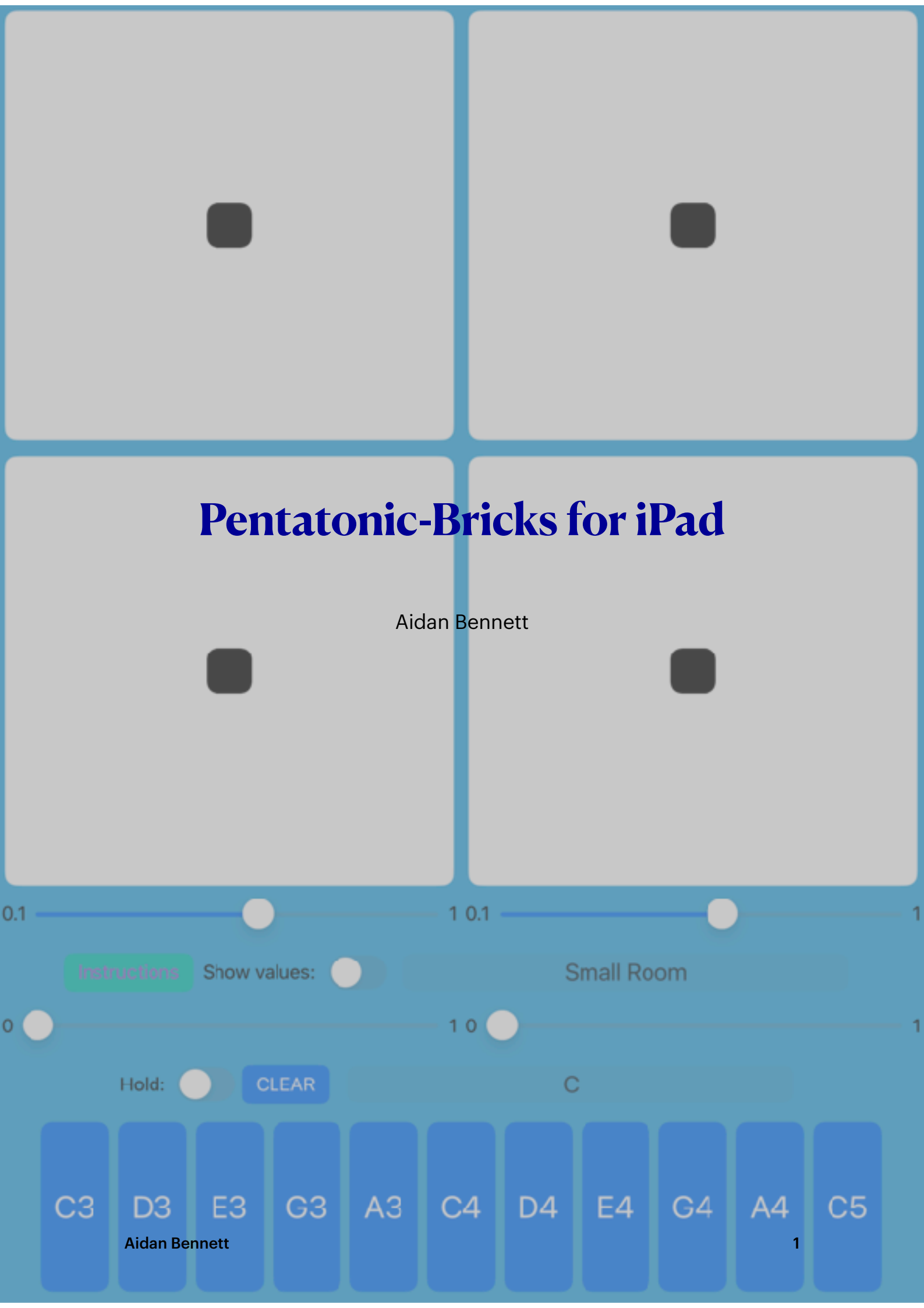
Pentatonic-Bricks for iPad
Aidan Bennett
0.1
1
0.1
1
Instructions
Show values:
Small Room
0
1
0
1
Hold:
CLEAR
C
C3
D3
E3
G3
A3
C4
D4
E4
G4
A4
C5

1. Main functionality

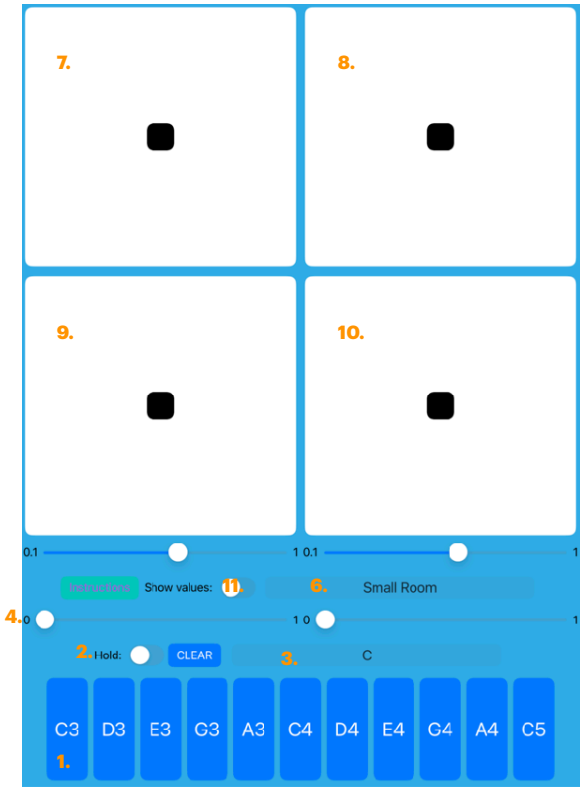

Figure 1 - The Pentatonic-Bricks user Interface

1. The main User Interface (UI) of the code has a series of 11 blue blocks at the bottom, which are the “Bricks”, and these are labelled with a note name, and octave number, that they activate via MIDI messages in the audio engine.
2. In the initial preset, these activate notes when the user pressed down, and release the notes when they release, although the “Hold” toggle button can be set such that pressing on a note once will activate it, and it will stay activated until it is pressed again. This feature is accompanied with an ability to stop all notes.
3. The root note can be selected from 12 options to cover all notes in a typical western tuning.
4. There is a slider for controlling vibrato of the note, which defines a fraction of semitones above and below which the outputted sound will stray from the the fundamental pitch in an oscillating manner.
5. This slider controls the dry/wet mix of the reverb as a ratio of the wet signal to the dry signal.
6. The user can select from several reverb presets.

7. The top left XY pad maps the delay time in seconds to the X axis, and the delay filter cutoff to the Y axis.

8. The top right XY pad maps the phaser feedback from 0 to 0.8 to the X axis, and the rate of the phaser LFO in beats per minute (bpm) on the Y axis.

9. The bottom left XY pad maps the release time in seconds to the X axis, and the attack and decay time in seconds to the Y axis, both out of 4 seconds.

10. The bottom right XY pad maps the filter resonance to the X axis, and the filter envelope attack and decay, out of 2 seconds, to the Y axis.

11. The “Show values” toggle button reveals labels for all of these parameters which update in real time as the user interacts with the synth interface, and change colour when that element is being edited so it is clear which label relates to which UI element, which puts the UI in the state shown below:

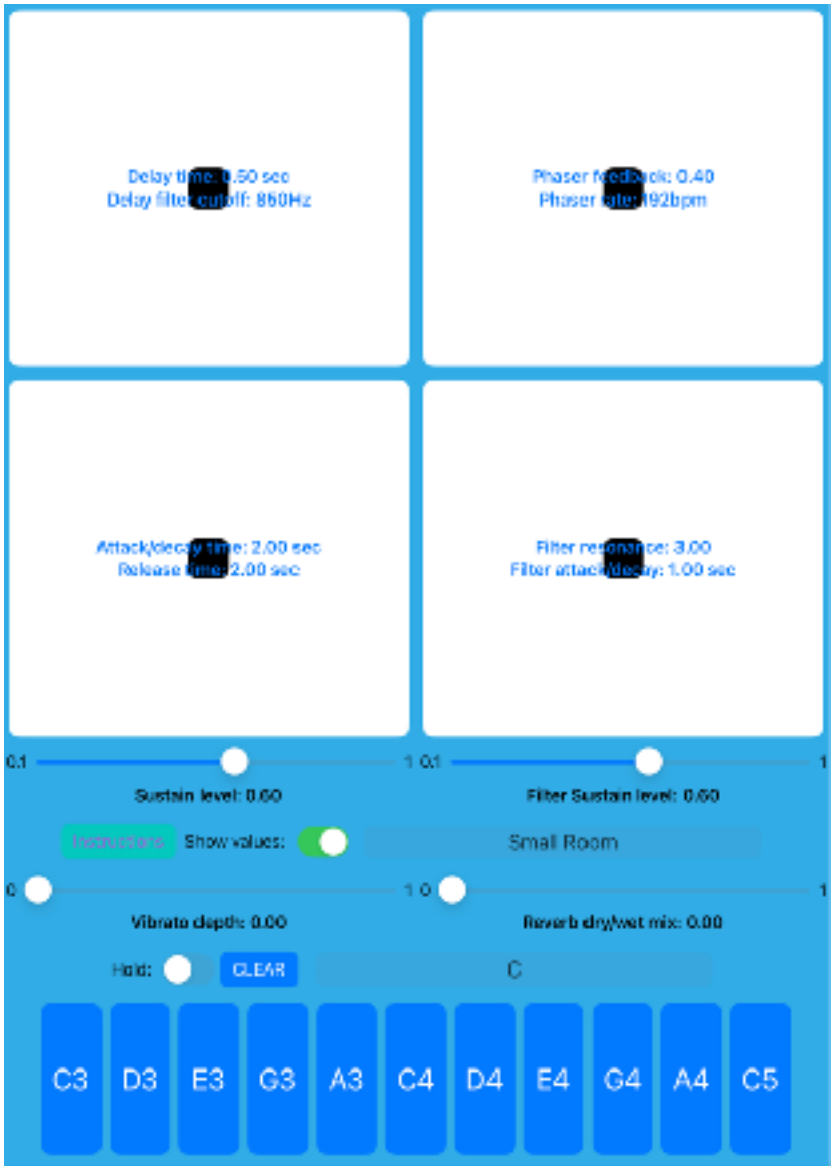

Figure 2 - The UI with Information Labels Revealed

2. Designing the App

2.(1) User interface iterations

The user interface went through several design iterations, from initial pen and paper sketches, to versions with better layouts. I have included below a visual timeline of the evolution of the user interface in several snapshots:

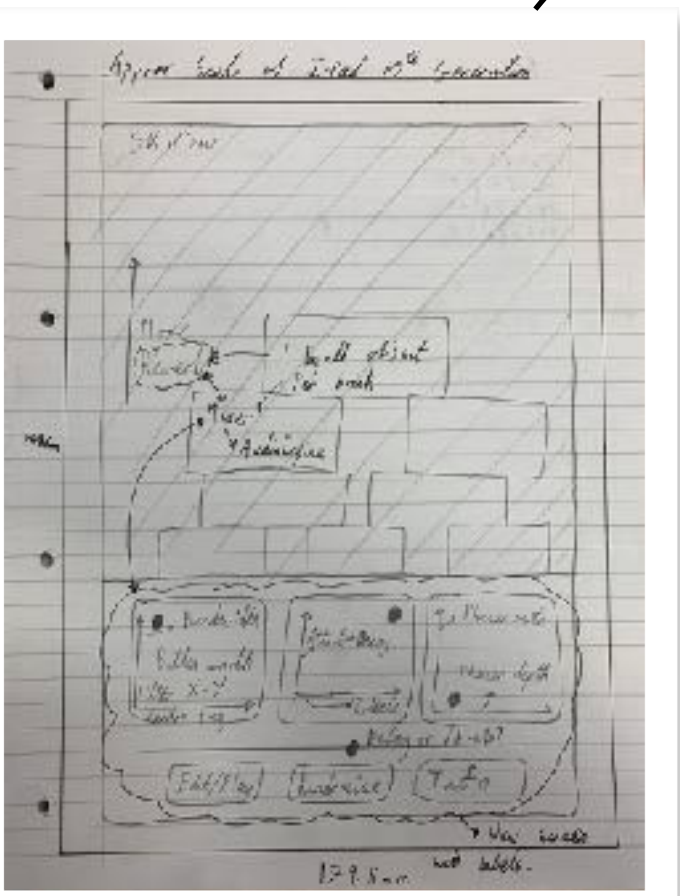

Figure 3 - The first concept sketch of the app

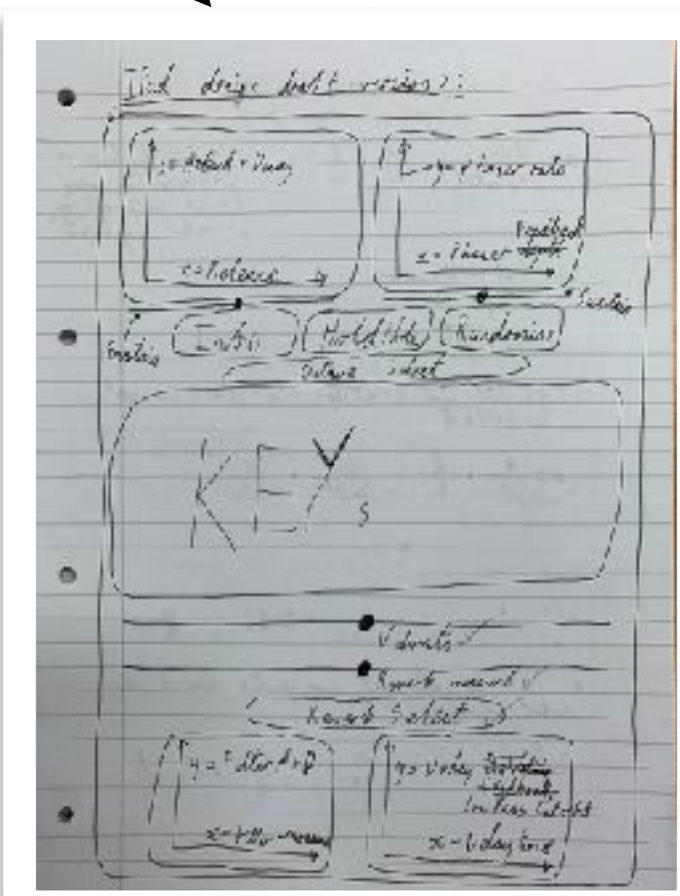

Figure 4 - Concept sketch 2

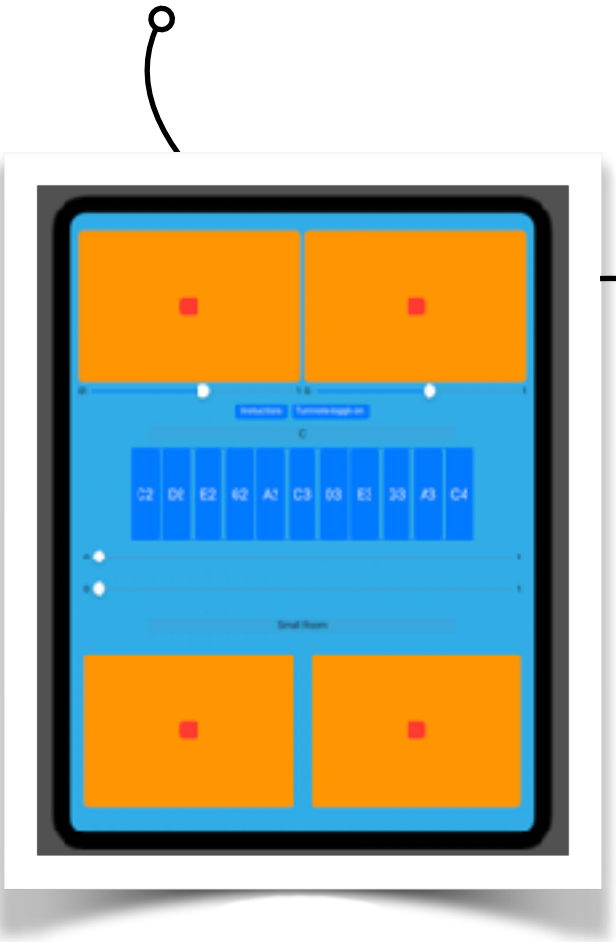

Figure 5 - An early iteration

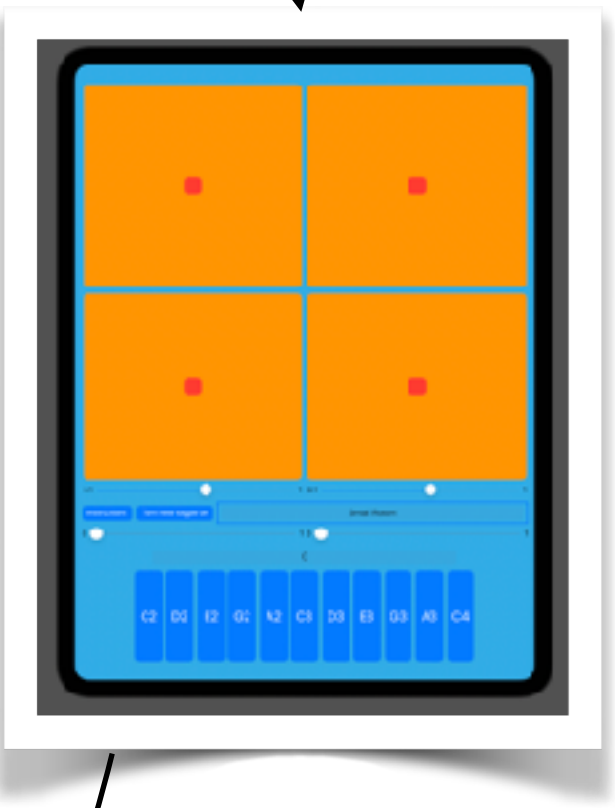

Figure 6 - A later iteration

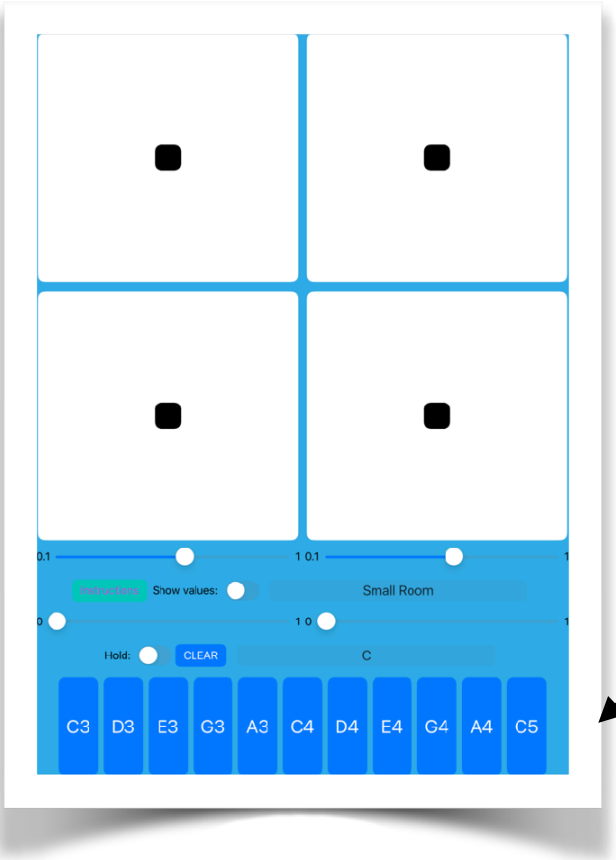

Figure 7 - Final design iteration