

Audio Sampler iOS Application

Senior Project

Hunter Walker - Fall 2020

Young At Heart, Inc.

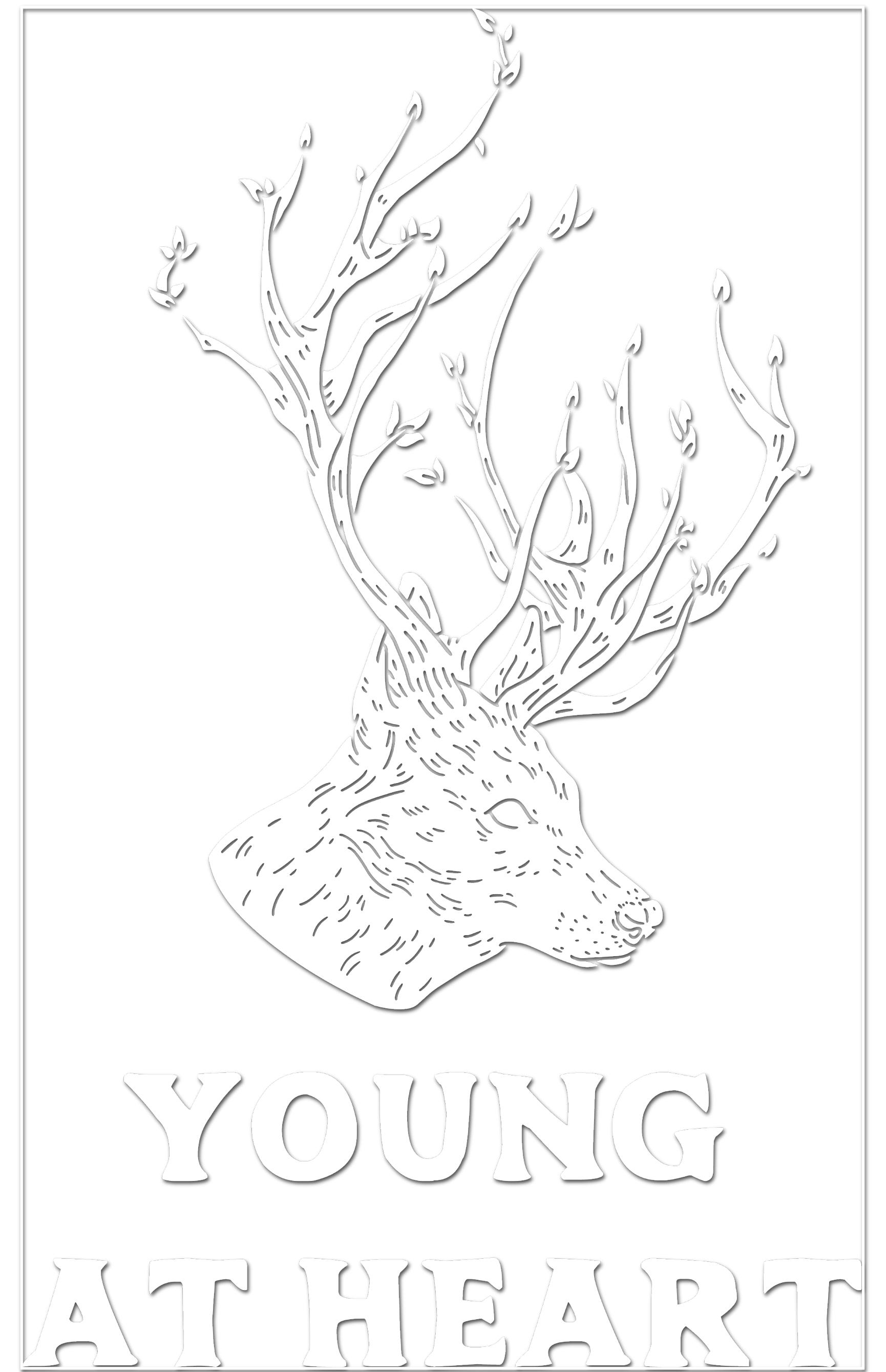
Client

- What is Young At Heart?
- Why does a mobile application make sense for the business?

(Why did I perform this project in this context)

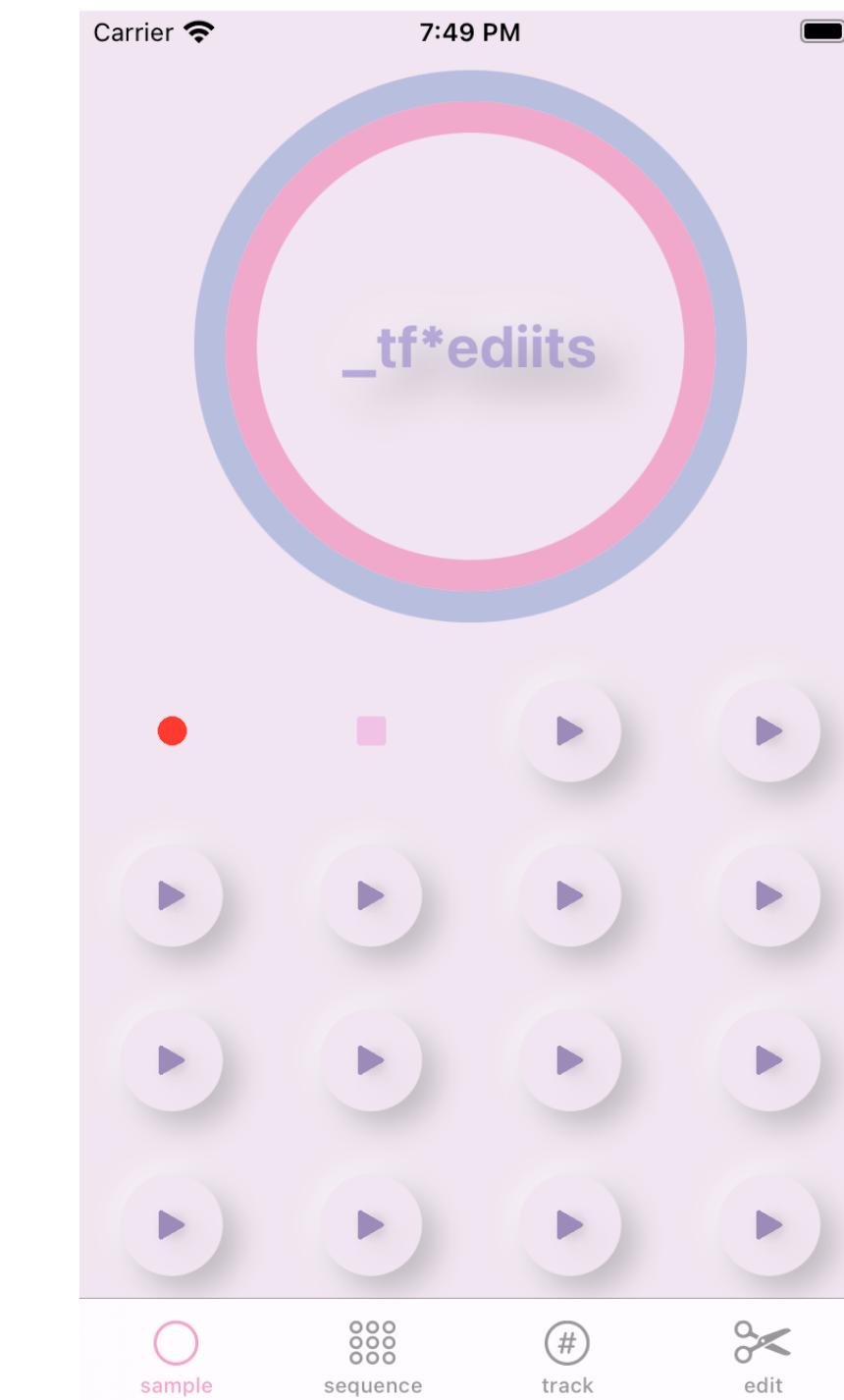
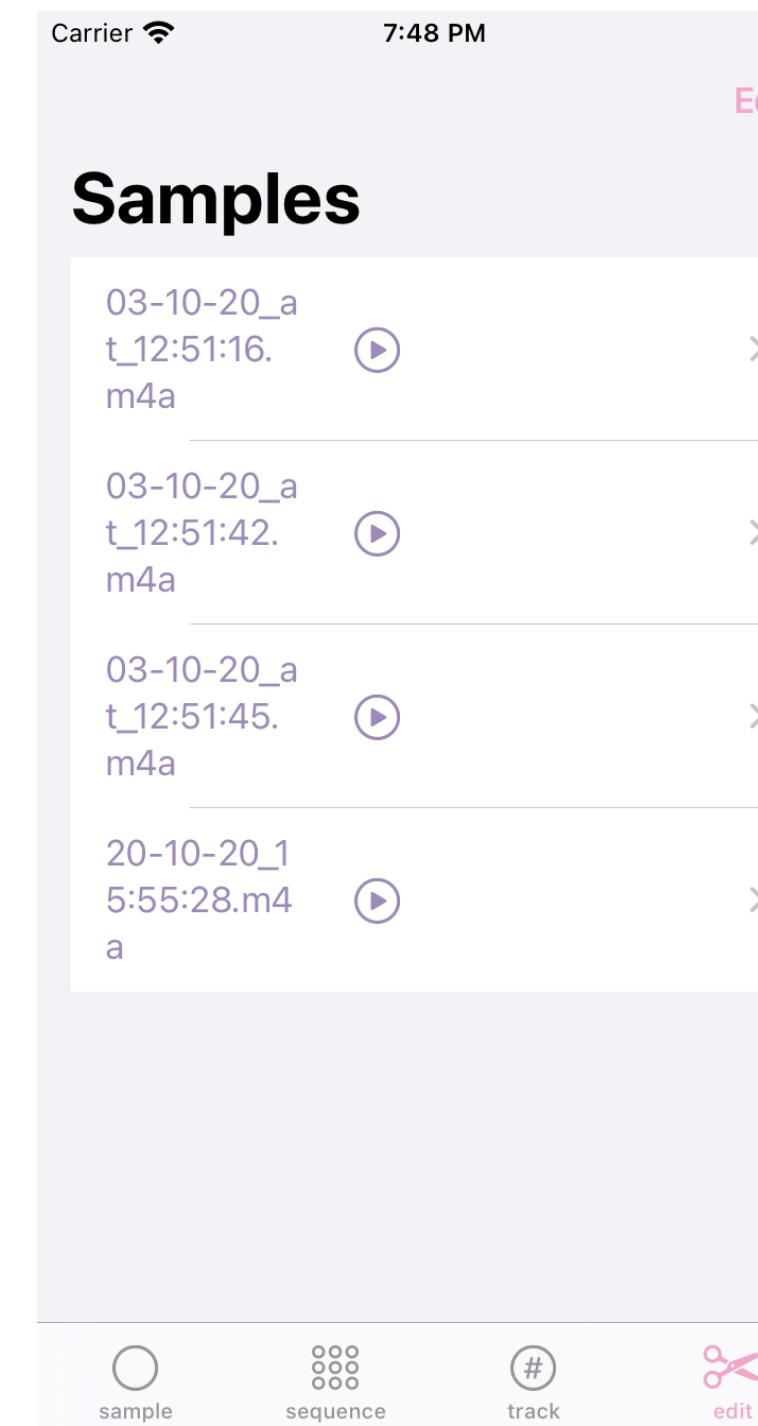
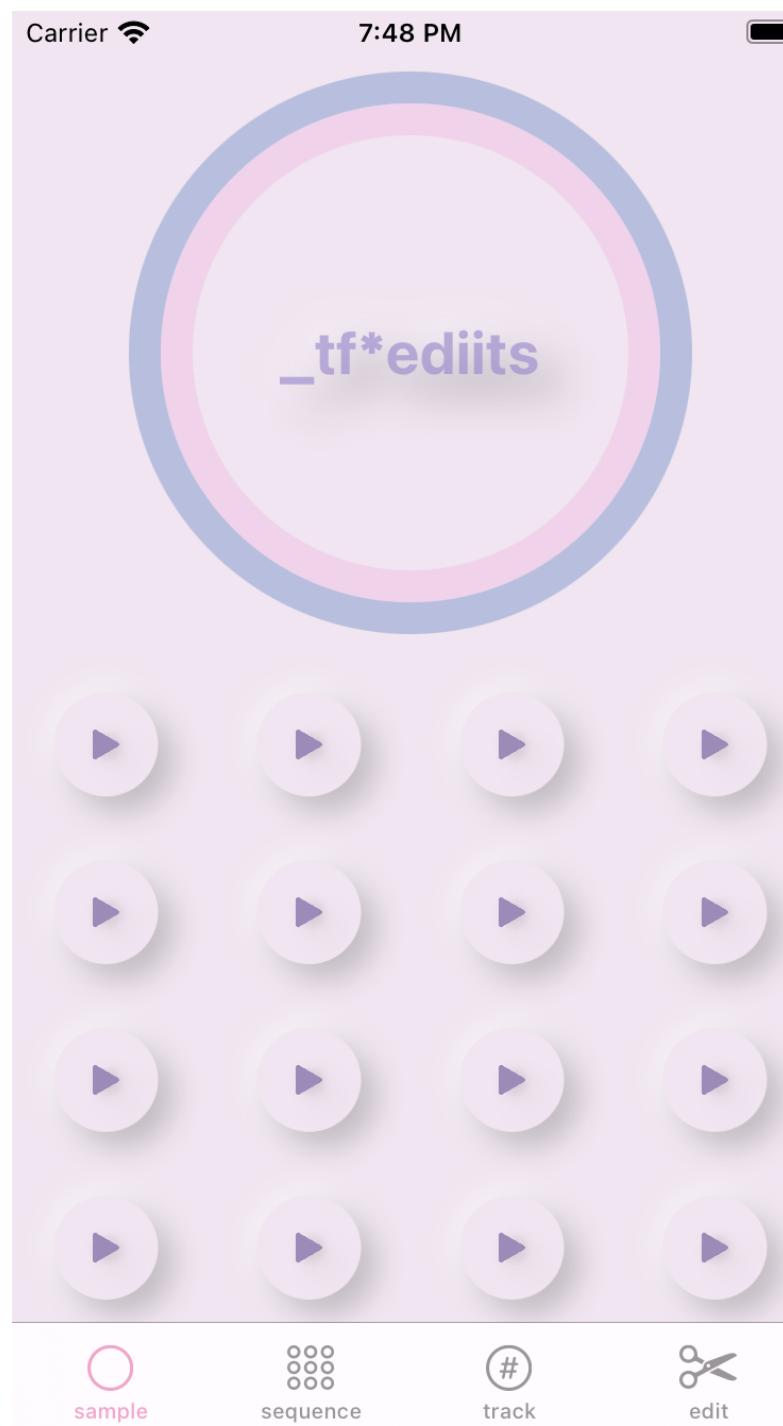
- What is the application and what is a sample?

Akai MPC Sampler/Sequencer



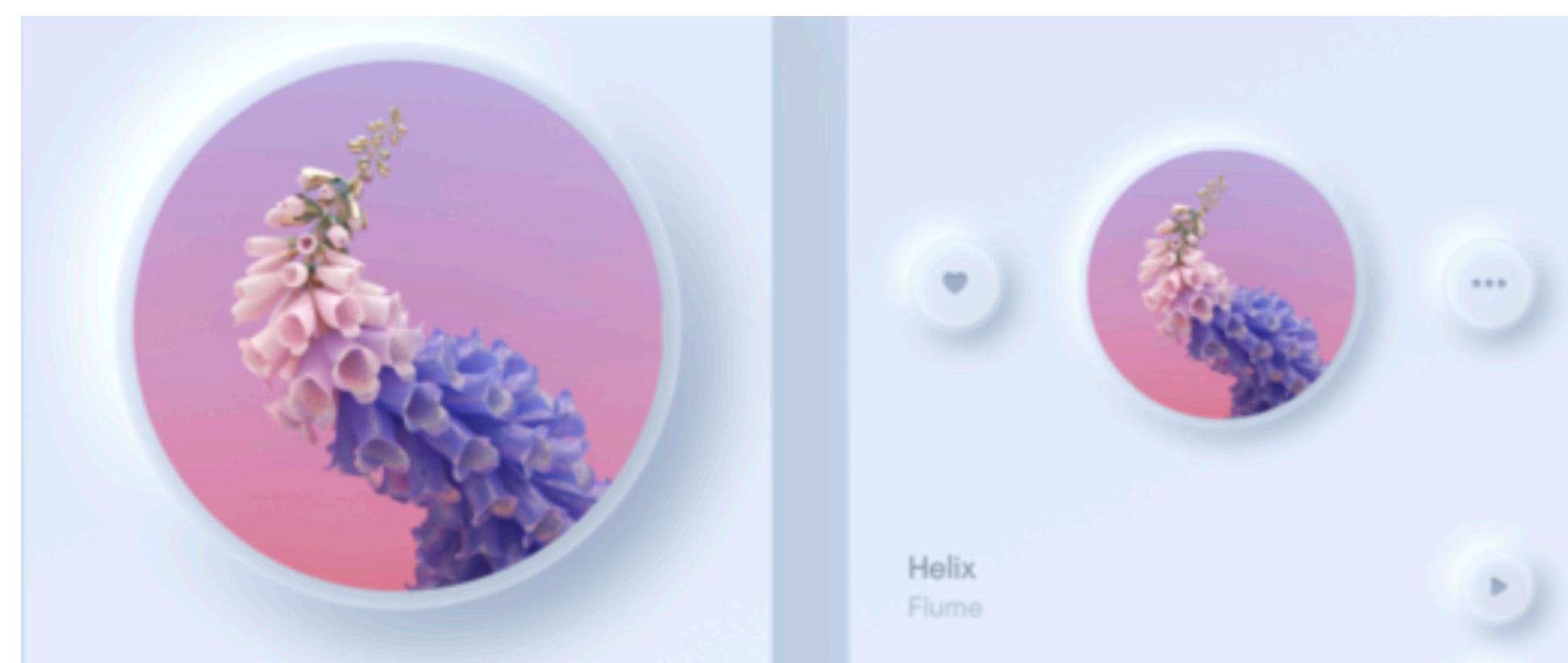
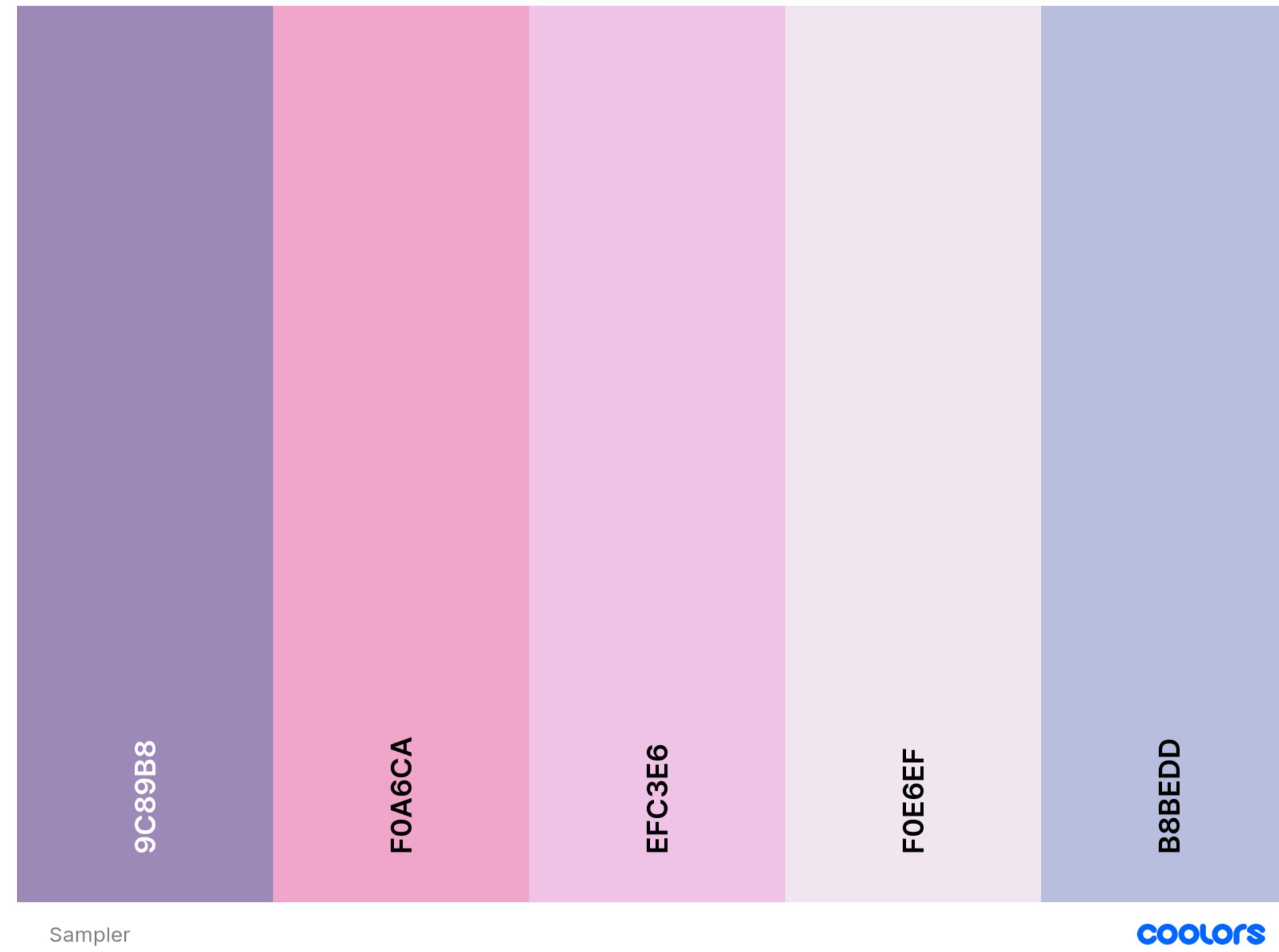
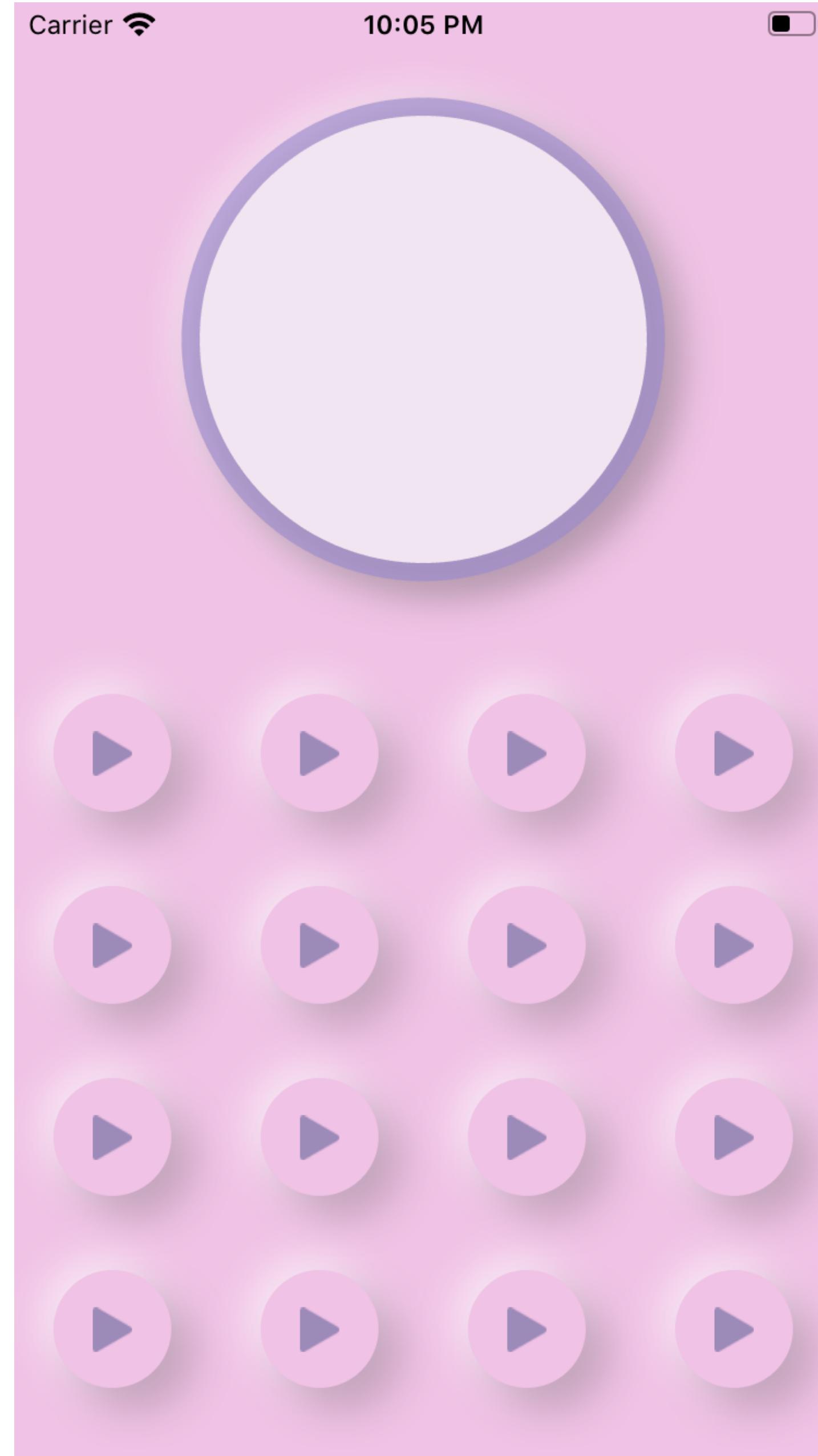
Objectives

- Fully functional sampler fundamentals (recording, storing and playback)
- Intuitive and visually appealing yet extremely simple UI
- Usable within the context of writing or performing music

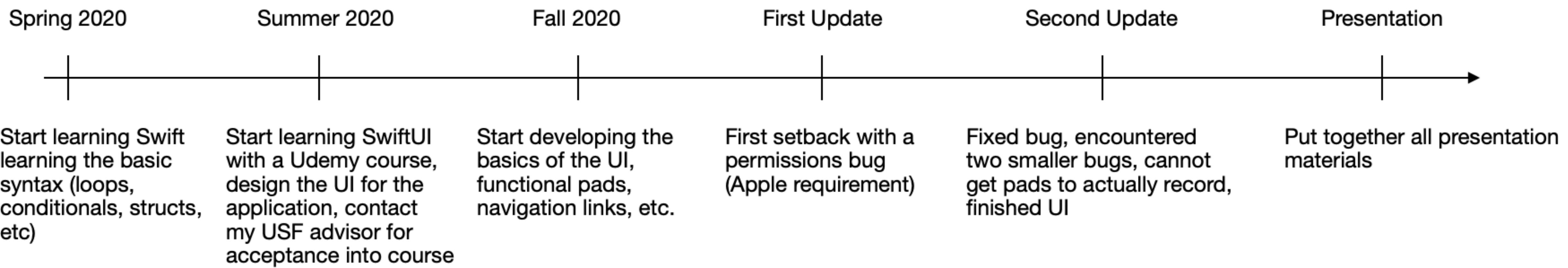


Background

- The idea for the application has been around since around the same time that we started the business.
- Future additions include the progress slider, sequence window, tracker window, fully realized editing window, physical unit, sample sharing, video inclusion and more.
- Why Swift and SwiftUI?



Project Timeline



Timeline Setbacks

- Permissions
- Gestures vs buttons
- Resetting the progress bar
- Learning curve associated with the relatively new framework
- Optimizing code that was far too complex

Key	Type	Value
Localization native development region	String	\$(DEVELOPMENT_LANGUAGE)
Executable file	String	\$(EXECUTABLE_NAME)
Bundle identifier	String	\$(PRODUCT_BUNDLE_IDENTIFIER)
InfoDictionary version	String	6.0
Bundle name	String	\$(PRODUCT_NAME)
Bundle OS Type code	String	\$(PRODUCT_BUNDLE_PACKAGE_TYPE)
Bundle version string (short)	String	1.0
Bundle version	String	1
Application requires iPhone environment	Boolean	YES
Privacy - Microphone Usage Description	String	May I access your microphone, please?
Application Scene Manifest	Dictionary	(2 items)
Launch screen interface file base name	String	LaunchScreen
Required device capabilities	Array	(1 item)
Supported interface orientations	Array	(3 items)
Supported interface orientations (iPad)	Array	(4 items)

```
28 .onEnded({  
29     self.audioPlayer.startPlayback(audio: self.audioURL)  
30     self.states[whichButtonPressed] = !self.states[whichButtonPressed]  
31     self.isPressedStates[whichButtonPressed].toggle()  
32     self.startLoading(pointOfPlay: self.point_ofPlay) ⚠ | Result of call to 'startLoading(p  
33     self.point_ofPlay = 0.0  
34 })  
35 )  
36 .gesture(  
37     LongPressGesture(minimumDuration: 0.5)  
38     .onEnded({ _ in  
39         self.longPressStates[whichButtonPressed] = !self.longPressStates[whichButtonPressed]  
40         self.isPressedStates[whichButtonPressed].toggle()  
41         self.audioRecorder.startRecording()  
42         self.states[whichButtonPressed] = false  
43     })  
44 )  
45 .onTapGesture(count: 2, perform: {  
46     self.audioRecorder.stopRecording()  
47     self.longPressStates[whichButtonPressed] = false  
48 })  
49 if(longPressStates[whichButtonPressed] == true) {  
50     Button(action: {self.audioRecorder.stopRecording()})  
51 } {  
52     if(audioRecorder.recording == true) {  
53         Image(systemName: "circle.fill") .resizable()  
54         .modifier(SymbolModifier())
```

```
44 Text("\(audioURL.lastPathComponent)")  
45 Spacer()  
46  
47 if audioPlayer.isPlaying == false {  
48     Button(action: {  
49         self.audioPlayer.startPlayback(audio: self.audioURL)  
50     }) {  
51         Image(systemName: "play.circle")  
52             .imageScale(.large)  
53             .foregroundColor(Color(red: 0.61, green: 0.54, blue: 0.72))  
54             .padding(.horizontal)  
55     }  
56 } else {  
57     Button(action: {  
58         self.audioPlayer.stopPlayback()  
59     }) {  
60         Image(systemName: "stop.fill")  
61             .imageScale(.large)  
62             .foregroundColor(Color(red: 0.94, green: 0.76, blue: 0.90))  
63     }  
64 }
```

Requirements

- Not many, my judgement was mostly trusted
- Current conversations for where to go from here for our business including the future of the product
- Some requests for future advanced features such as vintage emulations by decade

Quality Assurance

- Regularly tested within Xcode iPhone simulator - Xcode provides build options for most Apple devices
- Built on my own physical device regularly
- There are still bugs within the application that I need to work out before I, or Apple, would consider it ready for the app store
- Will continue to work on the application to work out these bugs and further the product

Implementation Thoughts

- Performance
- Capturing audio even outside of an artistic setting
- Song writing on the go
- All future additions, including sharing abilities
- Eventual sale through the company

Conclusion And Reflection

