Musical Scales

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Vision Statement

This is where you put the vision for what your program will do. It should summarize key features, explain why this will be useful, and discuss what's planned for immediate release and what's envisioned for future development (stretch goals).

The Musical Scales app will enable users to quickly find the musical scale they desire. In this application, users will input which type of scale they want and then will be able to select the key for the scale. The app will then display the notes that are included in the selected key's scale. Drop-down lists will be used to select both the scale and key. Drop-down lists ensure that no wrong input will occur, such as if the app were using user-text input instead.

Features:

- Scale selection - a drop-down list to select the scale
- Key selection - a drop down list to select the key
- Musical key view - a view that will show the notes that are included in the selected key's scale

This app will be used for both information and education. Users who are making music or learning music theory will benefit from this app.

Future development/stretch goals:

- Modes - including the option to select a mode instead of a scale
- Chords - ability to select a specific chord to see the notes included within that chord

Requirements

A discussion of what your application is required to have in functionality. It should identify user roles and goals/actions, and what the key features of the app should be.

Actor	**Goal**
User	Be able to easily use and navigate the app
Developer	Design the user interface
	Write the code
	Ensure all features are properly working

Product Backlog

This will be updated throughout the semester as new PBIs are added, larger items are broken into smaller ones, and completed items removed.

Story ID	Story	Story Points (in est. hours)	Priority	Status
~~1~~	~~Research how to design drop-down lists and Implement the first drop-down list~~	~~7~~	~~Very High~~	~~COMPLETE~~
~~2~~	~~Implement the second drop-down list~~	~~2~~	~~Very High~~	~~COMPLETE~~
~~3~~	~~Code the algorithm for creating the musical scales~~	~~7~~	~~Very High~~	~~COMPLETE~~
~~4~~	~~Improve the UI for the scale and key selection page~~	~~15~~	~~High~~	~~COMPLETE~~
~~5~~	~~Improve the UI for the info page~~	~~2~~	~~High~~	~~COMPLETE~~
~~6~~	~~Add support for different scales (harmonic minor, melodic minor, etc.)~~	~~8~~	~~Medium~~	~~COMPLETE~~
7	Change how the scale is displayed	6	Medium	Incomplete
8	Documentation	2	Medium	Incomplete
9	Refactoring	6	Medium	Incomplete

Sprint #1

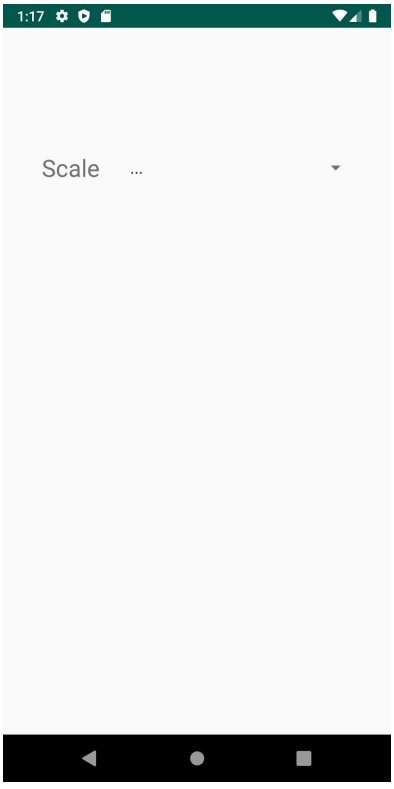
Sprint Backlog

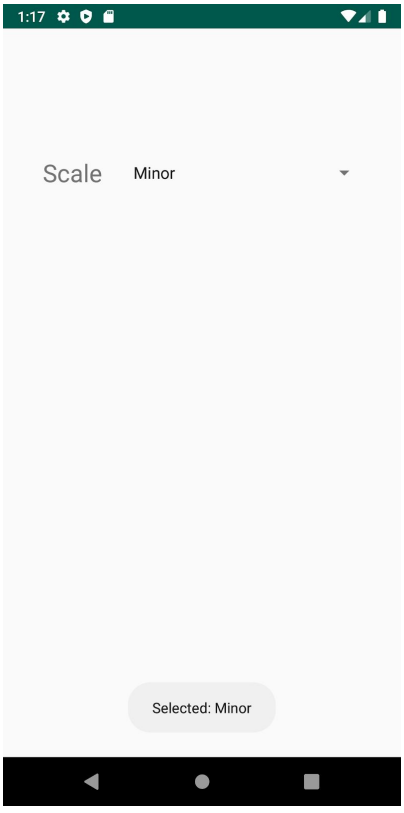
Story ID	Story / Task	Estimated Hours	Actual Hours
1	Research how to design drop-down lists	4	3
1	Code first drop-down list	1	1
	Create tests for drop-down list	1	1
	Design drop-down list	1	1

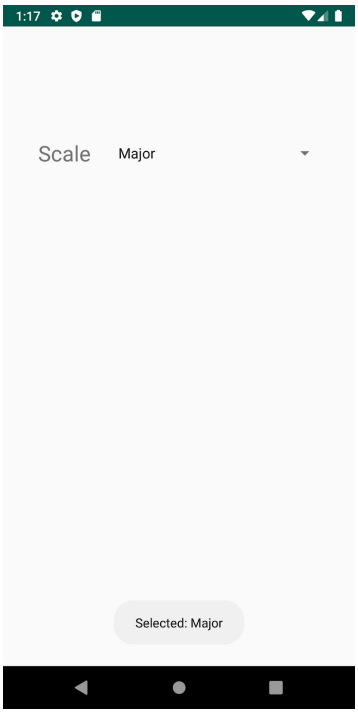
Velocity: 6

Review

[Screenshots, etc go here. This is where you discuss the product, describing what was done this sprint (potentially shippable product increment) and what was planned for the sprint but was not done.]







For this sprint, I focused on learning how to use, create, test, and design spinners. I created the first spinner for selecting the musical scale the user wants. The first option is the "...", which is the default option. Upon selection of a different item, there will be a popup on the bottom of the screen detailing which item is selected. Everything that was planned for this sprint was completed. The spinner and its code are documented and tested.

Retrospective

[This is where you discuss the process. What went well (and are you planning to do more of that?) What didn't go so well (and do you have a way to do less of that)? What changes are you planning to make in how you plan & carry out the next sprint?]

Everything in this sprint went very well. The only issues I had were with the testing but once I figured the issues out, the tests started to fully work. I think this sprint was a little less work than what I will undertake for the upcoming sprints. I plan to complete more work in the upcoming sprints. This sprint helped me in learning the Java language as well as understanding the product I have.

Sprint #2

Sprint Backlog

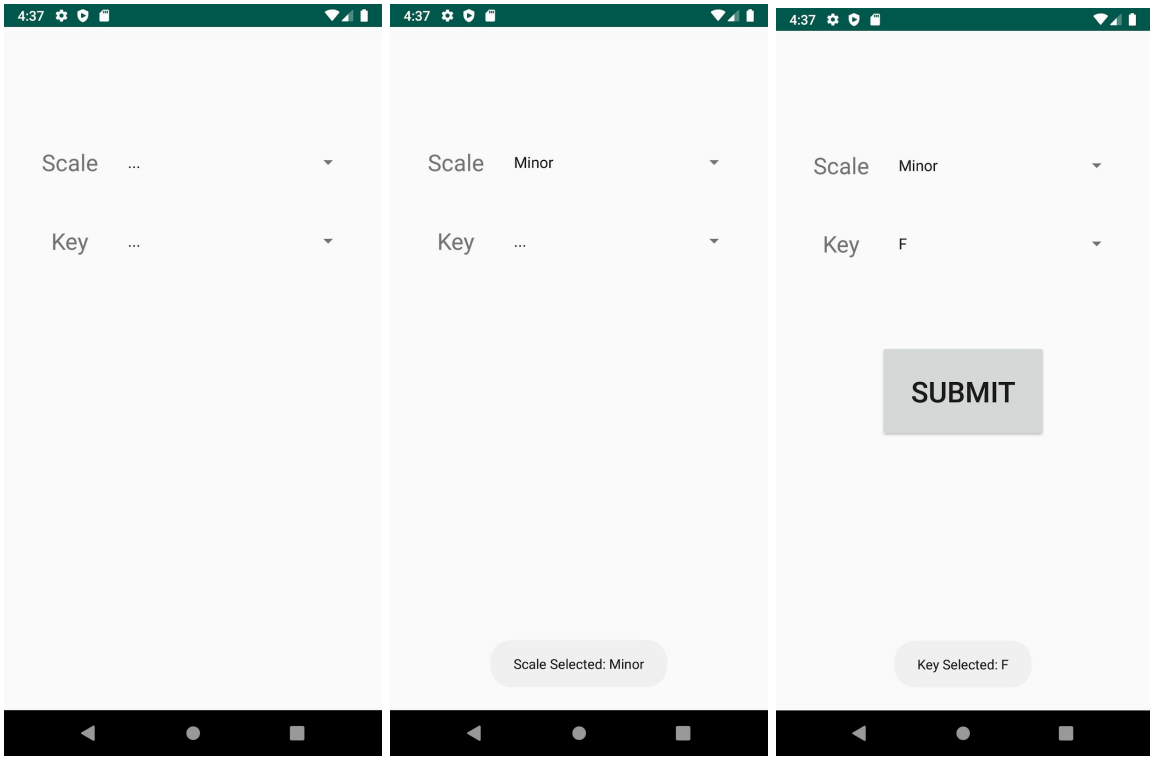
Story ID	Story / Task	Estimated Hours	Actual Hours
2	Implement the second drop-down list	Total: 3	Total: 1
	create tests for second drop-down list	1	0
	design second drop-down list	1	.5
	code the second drop-down list	1	.5
3	Code the algorithm for creating the musical scales	Total: 7	Total: 6
	research method of selecting scales	1	0
	create tests for the algorithm	2	2
	design the algorithm	1	1
	code the algorithm	3	3
4	Improve the UI for the scale selection page	Total: 4	Total: 4
	test, design, code a submit button	2	2
	test, design, code the scale viewer	2	2

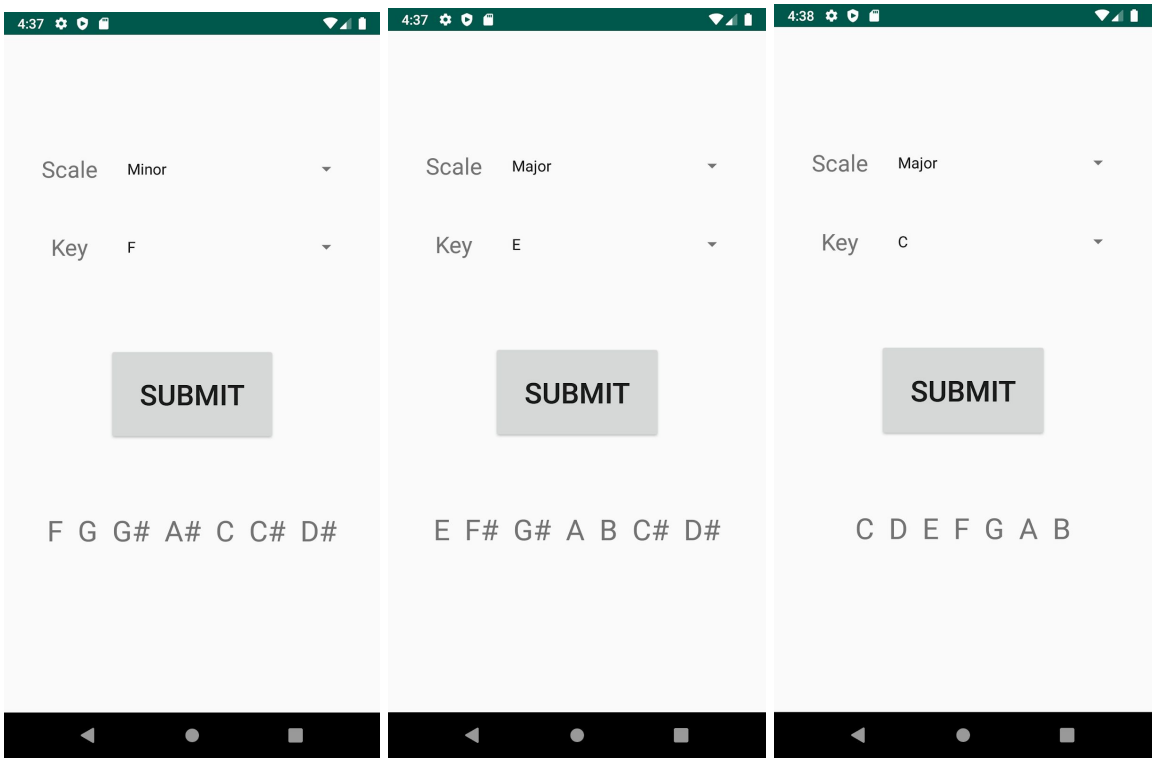
Velocity: 7

Review

[Screenshots, etc go here. This is where you discuss the product, describing what was done this sprint (potentially shippable product increment) and what was planned for the sprint but was not done.]

This sprint, I created the second drop-down list, the algorithm for creating the musical scales, the submit button, and the scale viewer. The drop-down list and the algorithm have been tested. The submit button and the scale viewer have not been fully tested and documented so those items will go back onto the product backlog. The submit button becomes visible once a scale and key are selected. Once the submit button is pressed, the designated key's scale will be shown below the submit button.


4:37
Scale ...
Key ...
4:37
Scale Minor
Key ...
Scale Selected: Minor
4:37
Scale Minor
Key F
SUBMIT
Key Selected: F


4:37
Scale Minor
Key F
SUBMIT
F G G# A# C C# D#
4:37
Scale Major
Key E
SUBMIT
E F# G# A B C# D#
4:38
Scale Major
Key C
SUBMIT
C D E F G A B

Retrospective

[This is where you discuss the process. What went well (and are you planning to do more of that?) What didn't go so well (and do you have a way to do less of that)? What changes are you planning to make in how you plan & carry out the next sprint?]

This sprint went very well. I struggled a little bit with the JUnit testing at first but once I figured it out, I was able to proceed with my project as normal. I need to work on documenting my code while I'm coding it. That is the biggest area in which I am struggling. I don't plan on making many changes at all in regards to how I will plan and carry out the next sprint. I will continue with the same amount of work and will continue to work on proper documentation.

Sprint #3

Sprint Backlog

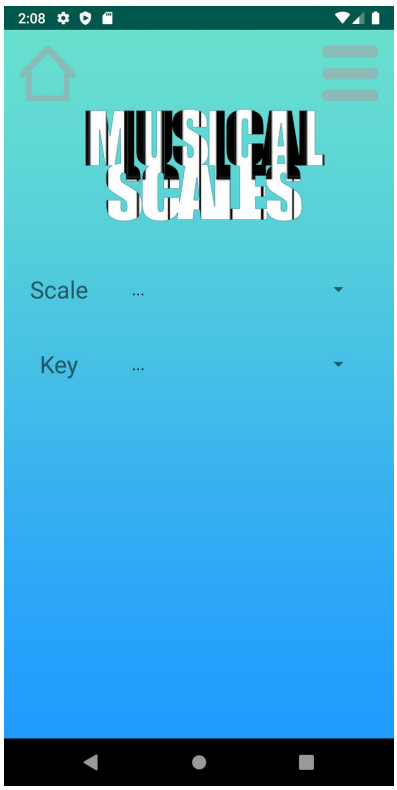
Story ID	Story / Task	Estimated Hours	Actual Hours
4	Improve the UI for the scale and key selection page	Total: 10	10
	review photoshop and how to use it	2	3
	create new UI	5	3
	implement new UI in the app	2	3
	create UI tests	1	-
5	Improve the UI for the info page	2	2
	create the UI	1	0
	implement the UI in the app	1	1
	create UI tests	1	-
7	Documentation	7	-
	document submit button	1	-
	document scale viewer	1	-

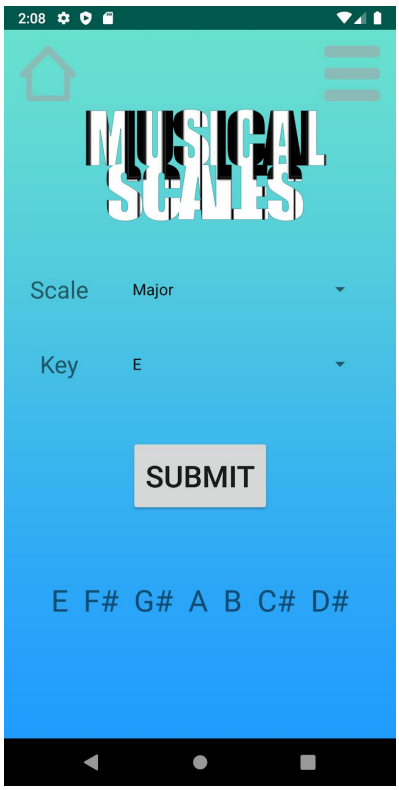
Velocity: 0

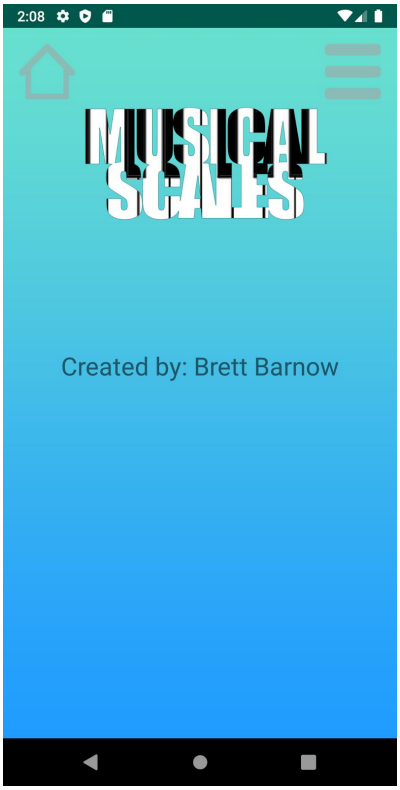
Review

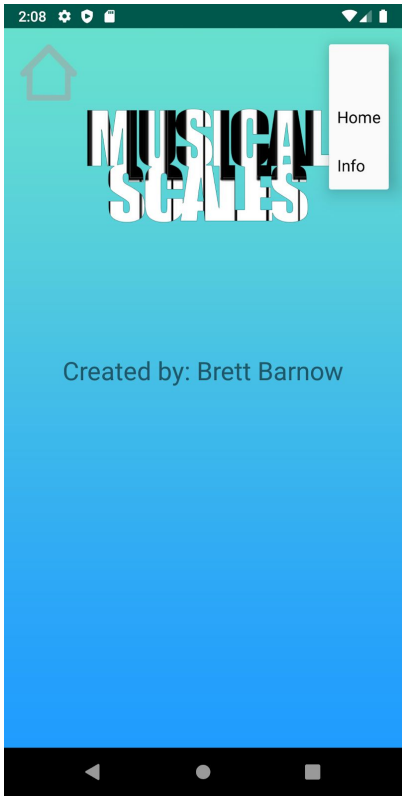
[Screenshots, etc go here. This is where you discuss the product, describing what was done this sprint (potentially shippable product increment) and what was planned for the sprint but was not done.]

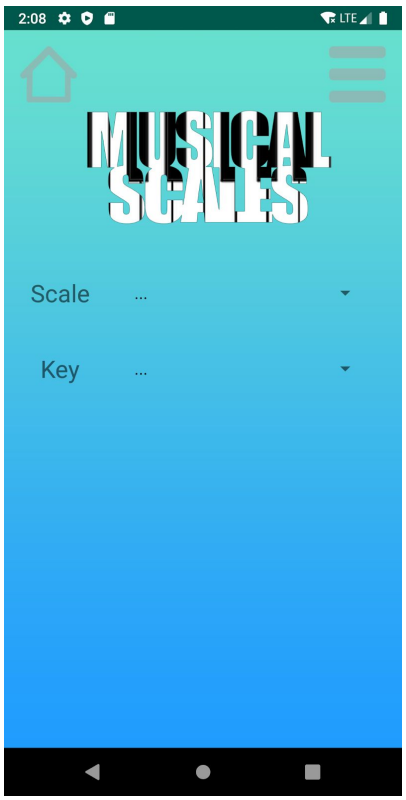
This sprint went very well—even though the velocity is zero. The UI for the scale selection page and info page were both started, but since I did not create the UI tests for them, they do not count towards the velocity since they are unfinished. The UI looks alright but I do think I need to clean it up a bit and make it more visually pleasing. I planned to do documentation during this sprint but I didn't get to it. The UI right now is an alright start but I think it can be better.


2:08
MUSICAL SCALES
Scale ...
Key ...


2:08
MUSICAL SCALES
Scale Major
Key E
SUBMIT
E F# G# A B C# D#


2:08
MUSICAL SCALES
Created by: Brett Barnow


2:08
MUSICAL SCALES
Home
Info
Created by: Brett Barnow


2:08
MUSICAL SCALES
Scale ...
Key ...

Retrospective

[This is where you discuss the process. What went well (and are you planning to do more of that?) What didn't go so well (and do you have a way to do less of that)? What changes are you planning to make in how you plan & carry out the next sprint?]

I had a very easy time relearning how to use photoshop. I think the UI creation went very well and the product is a good start, but the UI definitely needs some work in order to look more visually pleasing. I did not do any documentation during this sprint and that is hindering my velocity and keeps adding onto the code I need to document. I will be sure to document during the next sprint as I need to complete these PBIs. The main change I am going to make is that I will need to start documenting as I am writing.

Sprint #4

Sprint Backlog

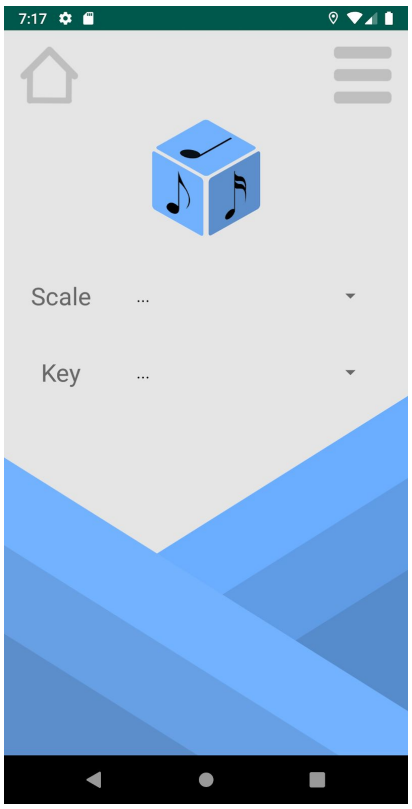
Story ID	Story / Task	Estimated Hours	Actual Hours
4	Improve the UI for the scale and key selection page	3	4
	redesign the UI	2	3
	implement the new design	0.5	.5
	documentation	0.5	.5
5	improve the UI for the info page	2	2
	redesign the UI	1	1
	implement the new design	0.5	.5
	documentation	0.5	.5

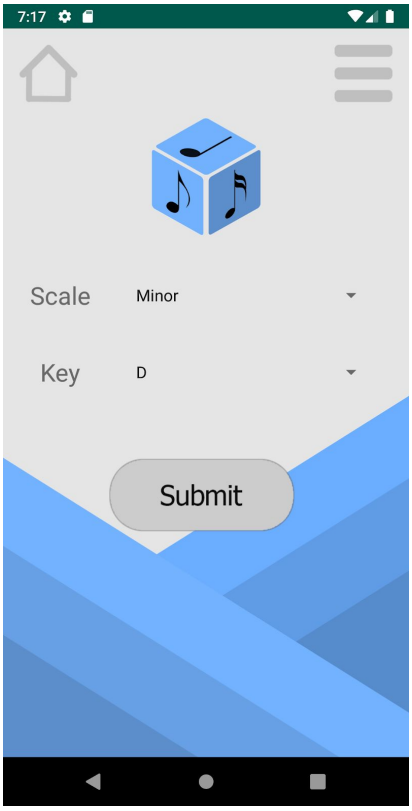
Velocity: 6

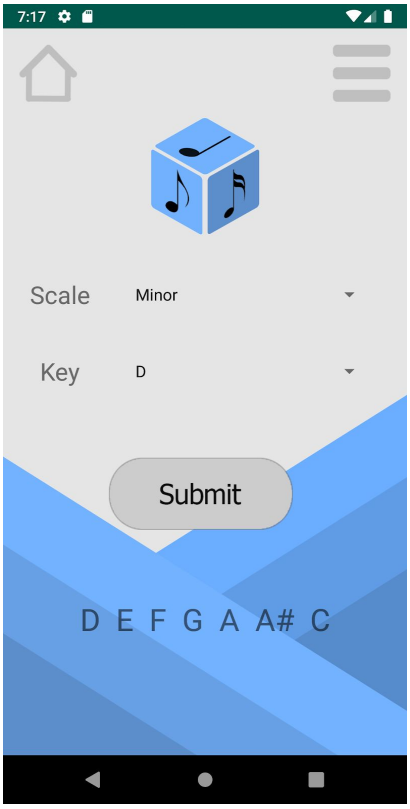
Review

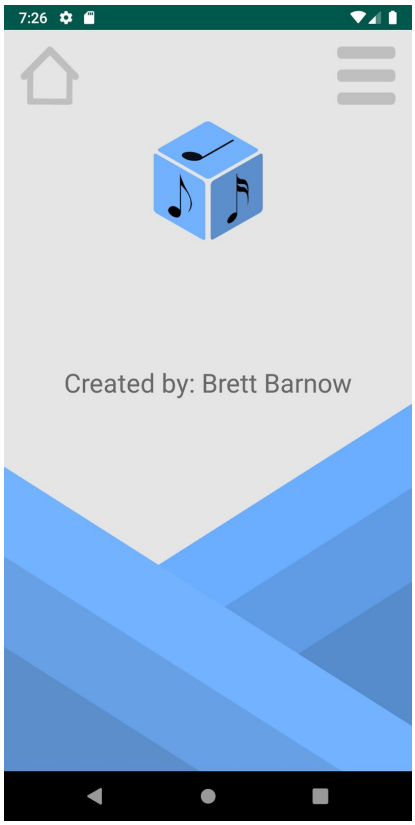
[Screenshots, etc go here. This is where you discuss the product, describing what was done this sprint (potentially shippable product increment) and what was planned for the sprint but was not done.]

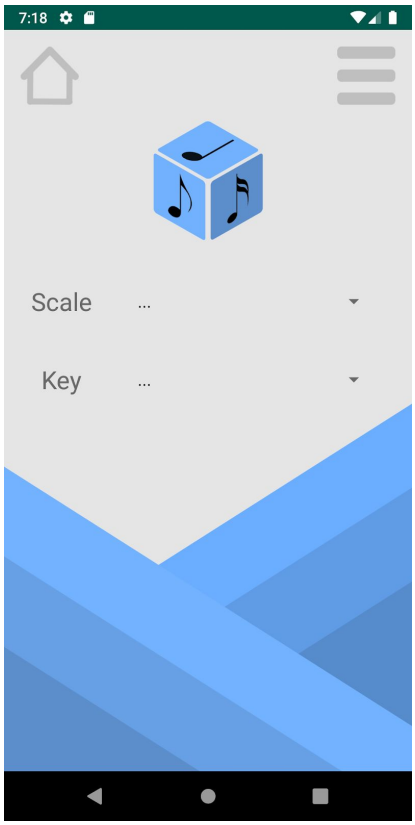
I completely redid the design during this sprint. I think it looks a lot more clean and minimalist—I like how it turned out. Everything that was planned for the sprint was fully completed. I'm glad that I decided to redo the design and I will keep the current design the way it is.


7:17
Scale ...
Key ...


7:17
Scale Minor
Key D
Submit


7:17
Scale Minor
Key D
Submit
D E F G A A# C


7:26
Created by: Brett Barnow


7:18
Scale ...
Key ...

Retrospective

[This is where you discuss the process. What went well (and are you planning to do more of that?) What didn't go so well (and do you have a way to do less of that)? What changes are you planning to make in how you plan & carry out the next sprint?]

This sprint went very well. I got a lot of good work done, finally finished up some documentation that I had been putting off, and the code looks pretty clean. I need to work on spacing the work out more across multiple days, but other than that the sprint was good. I didn't do too much programming this sprint but I will definitely be doing more coding during the next sprint.

Sprint #5

Sprint Backlog

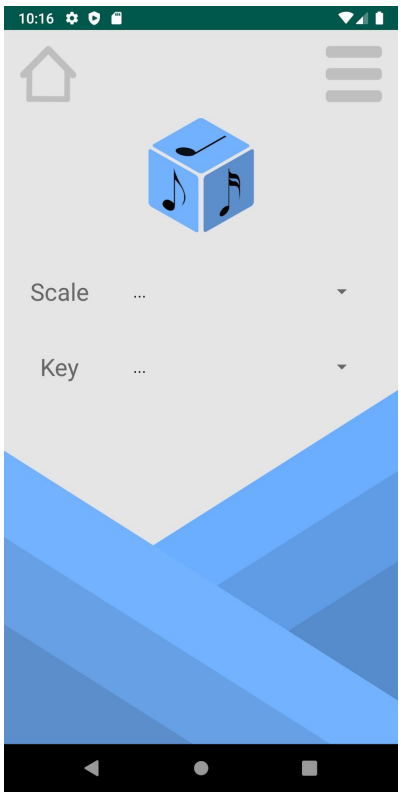
Story ID	Story / Task	Estimated Hours	Actual Hours
6	Add support for different scales (harmonic minor, melodic minor, etc.)	8	7
	Add support for harmonic minor in scale creation algorithm	2	2
	Add support for melodic minor in scale creation algorithm	2	2
	Add both new scales to the spinner	1	.5
	create tests for both spinners	2	2
	documentation	1	.5

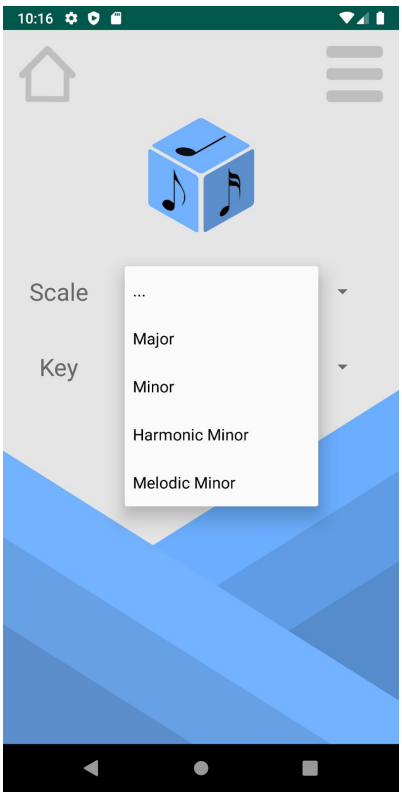
Velocity: 7

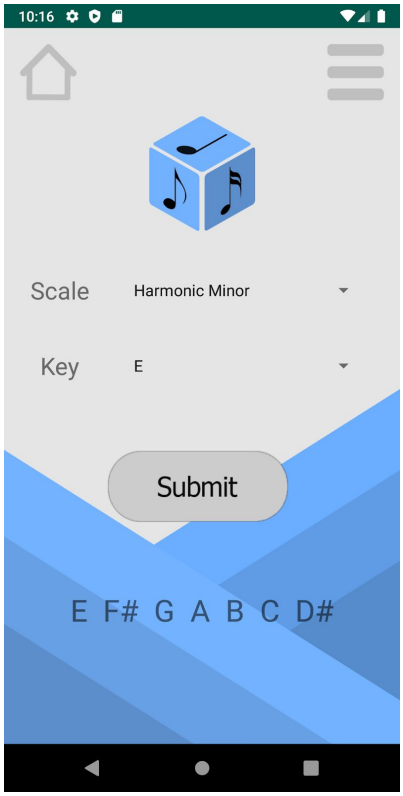
Review

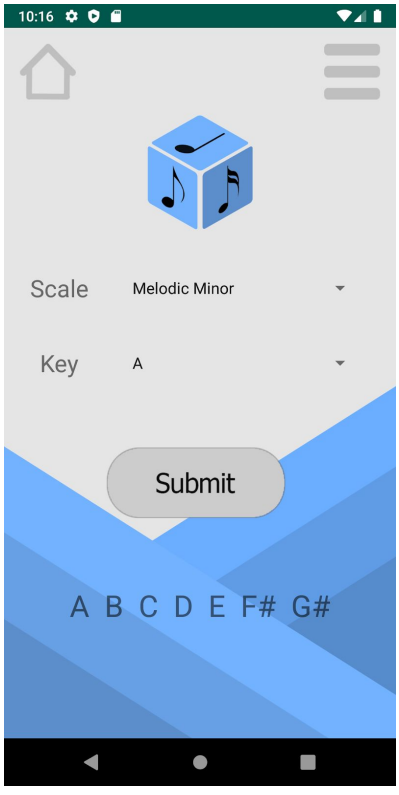
[Screenshots, etc go here. This is where you discuss the product, describing what was done this sprint (potentially shippable product increment) and what was planned for the sprint but was not done.]

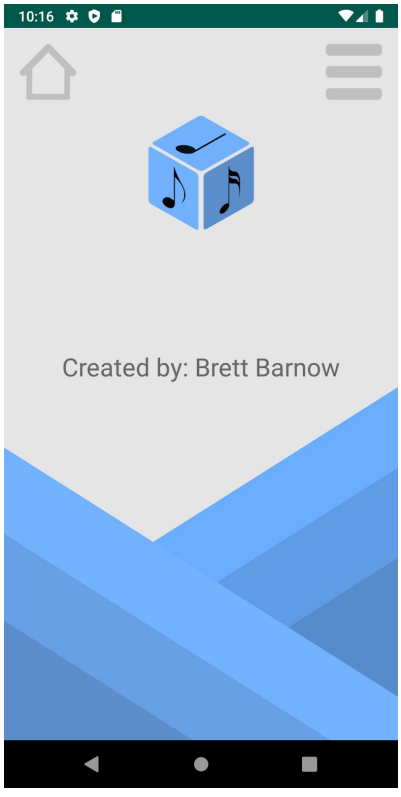
During this sprint, I added functionality for harmonic minor and melodic minor. I added both harmonic minor and melodic minor to the arrays and spinners so that they would work in the UI. I also documented all the scale building algorithms.


10:16
Scale ...
Key ...


10:16
Scale ...
Key
Major
Minor
Harmonic Minor
Melodic Minor


10:16
Scale Harmonic Minor
Key E
Submit
E F# G A B C D#


10:16
Scale Melodic Minor
Key A
Submit
A B C D E F# G#


10:16
Created by: Brett Barnow

Retrospective

[This is where you discuss the process. What went well (and are you planning to do more of that?) What didn't go so well (and do you have a way to do less of that)? What changes are you planning to make in how you plan & carry out the next sprint?]

I think everything in this sprint went very well. I got all the work done that I had planned to do. The scale building algorithms got reworked a little bit and they are much cleaner and easier to understand. I will continue to do the same amount of work that I did during this sprint.

Sprint #6

Sprint Backlog

Story ID	Story / Task	Estimated Hours	Actual Hours
7	Change how the scale is displayed	6	
	Research which notes need to be flats or sharps	1	
	Design a way to implement that in the code	1	
	Implement the design in the code	2	
	Documentation	1	
	Write tests	1	

Review

[Screenshots, etc go here. This is where you discuss the product, describing what was done this sprint (potentially shippable product increment) and what was planned for the sprint but was not done.]

Retrospective

[This is where you discuss the process. What went well (and are you planning to do more of that?) What didn't go so well (and do you have a way to do less of that)? What changes are you planning to make in how you plan & carry out the next sprint?]