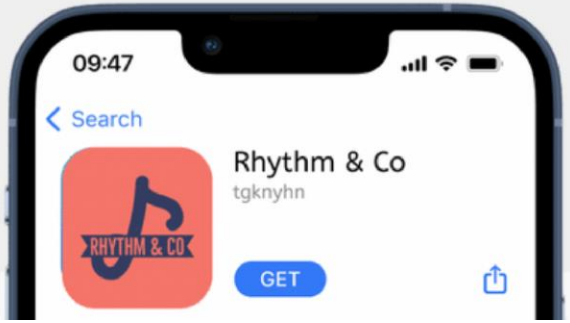
GEBZE TEKNİK ÜNİVERSİTESİ

Guitar Player Assistant

CSE495 Fall 2022-2023 FINAL MEETING PRESENTATION



Ahmet Tuğkan Ayhan
Student

Gökhan Kaya
Supervisor

Rhythm & Co

User Interface

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Home Screen

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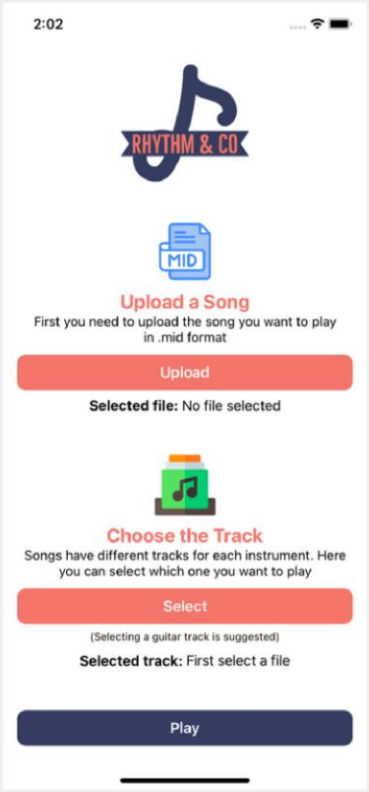
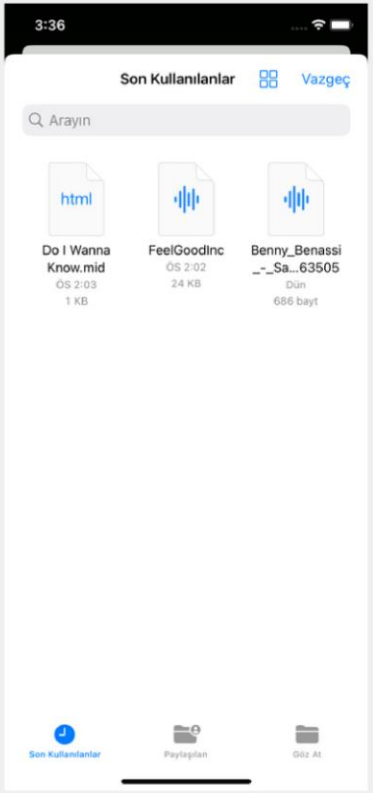
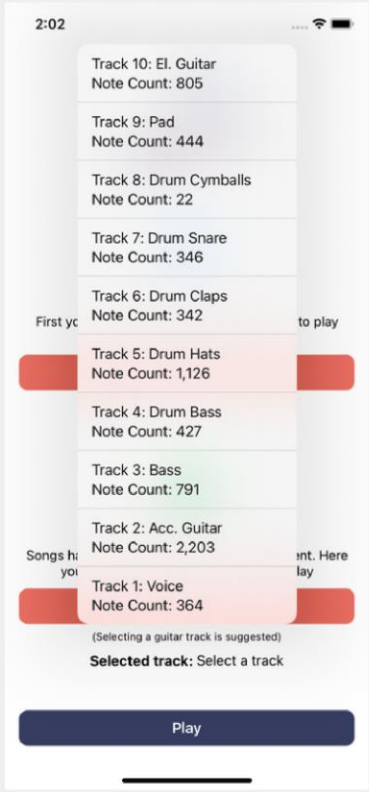
1. Press Upload



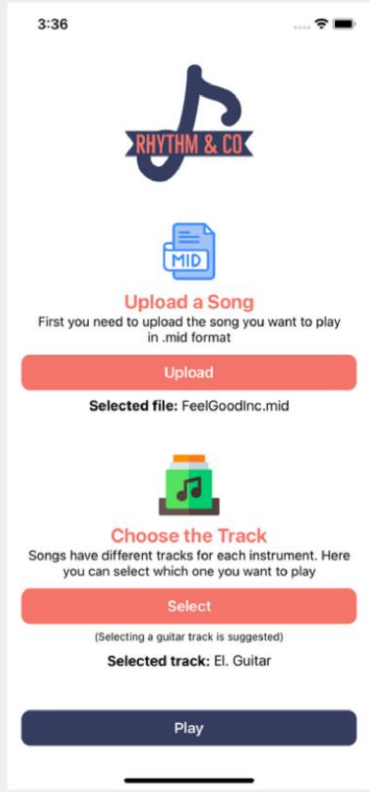
2. Select a Song



3. Select a Track



4. Press Play



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User Interface

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Play Screen

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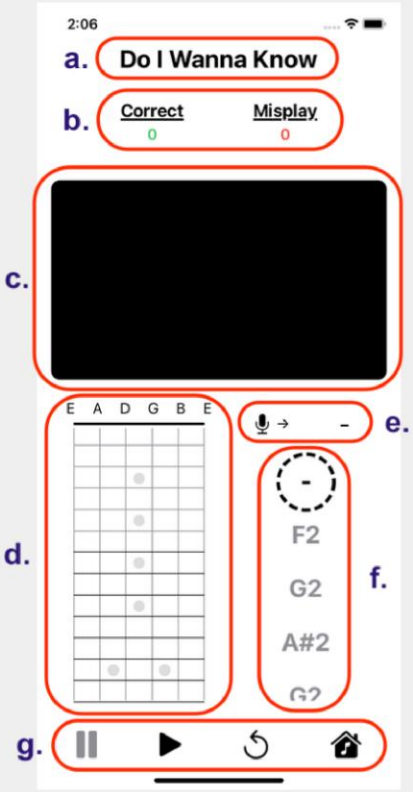
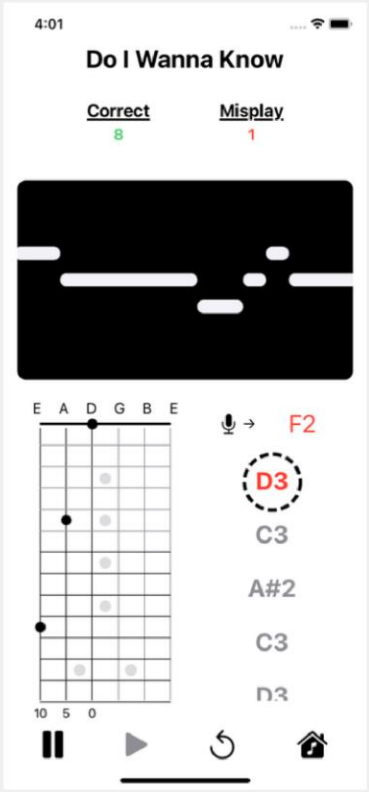
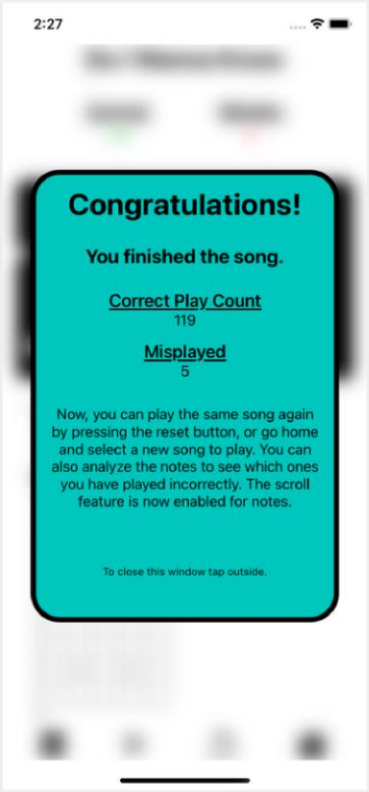
1. Press Play Button



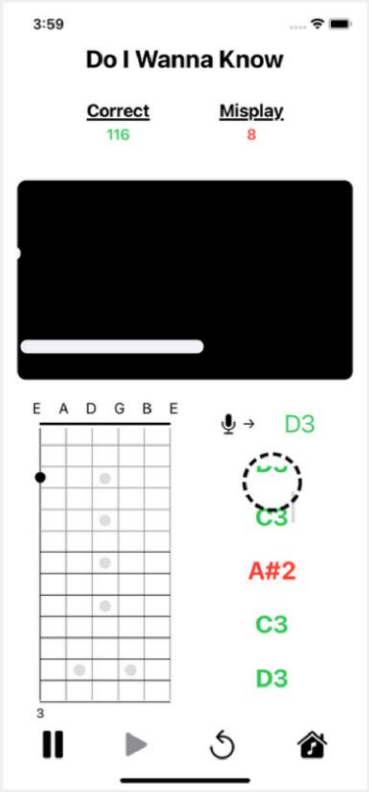
2. Try making the note sound



3. Screen After Finishing the Song



4. Look at your mistakes



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What did I do during the semester?

1. Researched the MIDI format
2. Learned how to use the MIDI Player (Sequencer)
3. Designed the user interface
4. Received audio from the phone and converted it to note names
5. Saved the location of all the musical notes on the guitar in a JSON file and displayed them on the fretboard
6. Implemented the user interface
7. Improved the user experience and added correct and mistake count
8. Added note comparison and synchronized the fretboard, MIDI player, and notes view
9. Added a result screen to allow the user to see their correct and misplayed notes
10. Implemented the home screen to allow the user to upload any file they want

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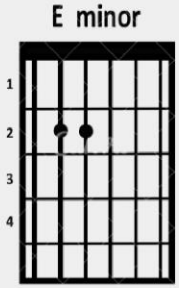
Success Criteria

01 The application must be able to run without delay. Therefore, the application will have near real-time detection and feedback generation.

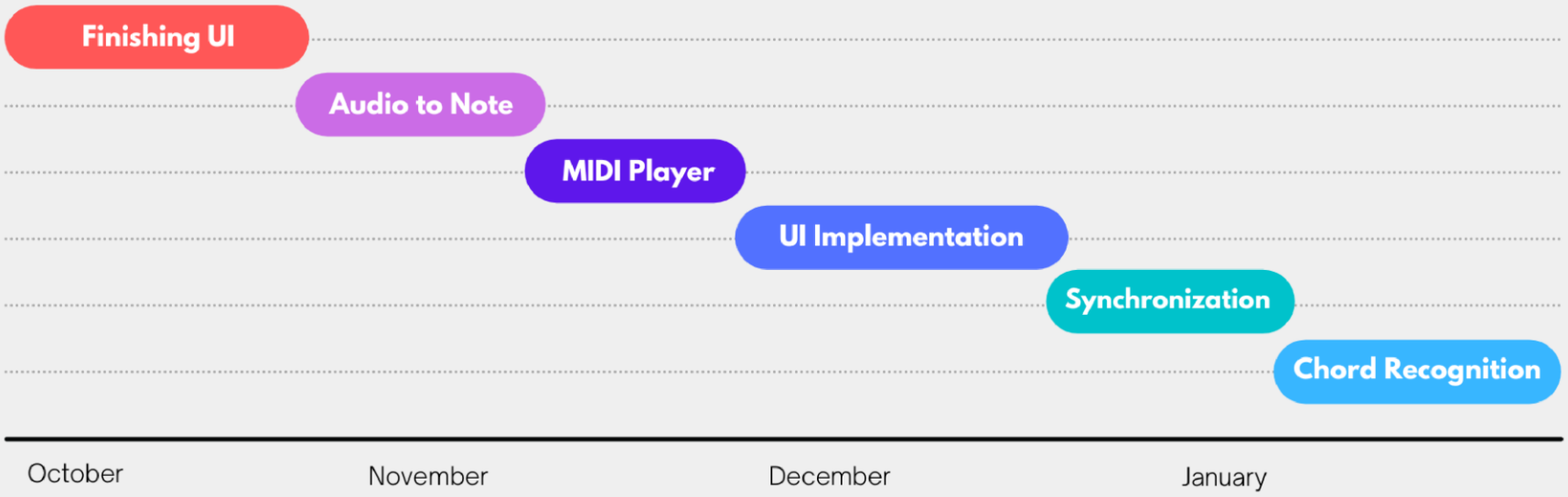
02 The application should be able to recognize chords as well as notes.



03 The app should be able to convert the received audio into a note or chord with at least 90% accuracy.

Roadmap

Expected delivery of each feature.



Thank You

References

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https://github.com/AudioKit/AudioKit
https://www.adobe.com/express/create/logo/random
https://www.musicca.com/guitar?notes=a5&highlighted=&inverted=
https://www.figma.com/