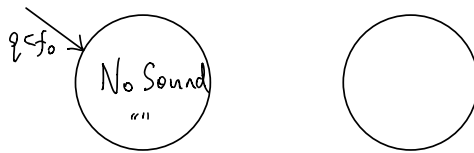# Main Logic (processFreq) state machine diagram:

current frequency : q

expected frequency : a

error allowance rate : ε

error range : $[2^{-\frac{\varepsilon}{12}} a , 2^{\frac{\varepsilon}{12}} a]$
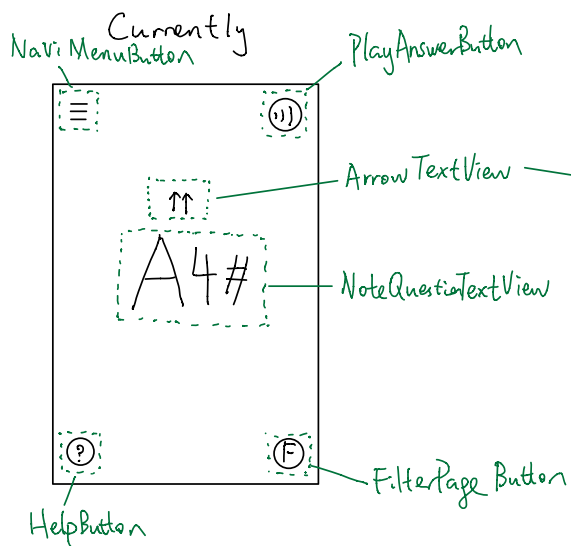
least stable time : Δt

detect sound threshold : f_0

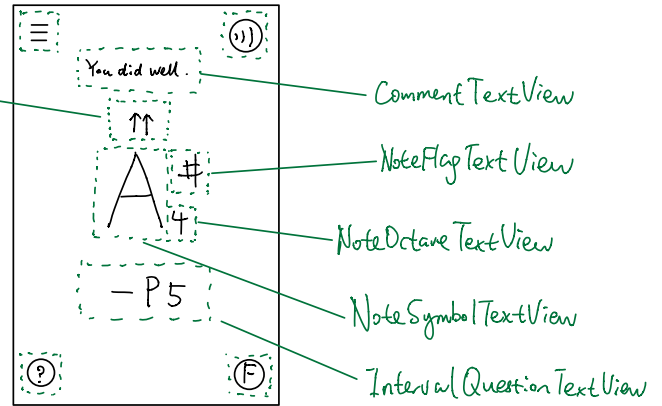error warning factor : C
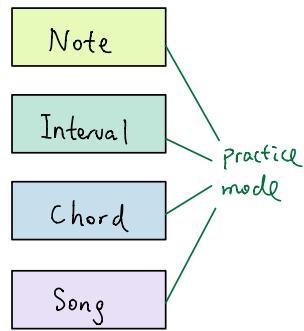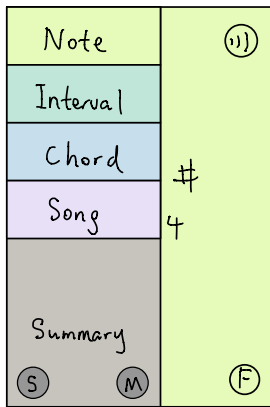
second error range : $C *$ error range

TODO

$q < f_0$ → No Sound ""

General Main Screen

Currently

NaviMenuButton

PlayAnswerButton

Arrow TextView

NoteQuestionTextView

HelpButton

FilterPage Button

☰   ⑴)

↑↑

A4#

?   Ⓕ

Ideally

☰   ⑴)

You did well.

↑↑

A #
  4

— P 5

?   Ⓕ

Comment TextView

NoteFlag TextView

NoteOctave TextView

NoteSymbol TextView

Interval Question TextView

Navi Menu

Note	•))
Interval	
Chord	♯
Song	4
Summary Ⓢ Ⓜ	Ⓕ

Note, Interval, Chord, Song — practice mode

Summary

Ⓢ —— Setting Page Button

Ⓜ —— More Page Button
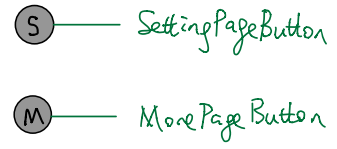
Note Practice Mode

☰   (•))

↑↑

$A_4^\#$

?   F
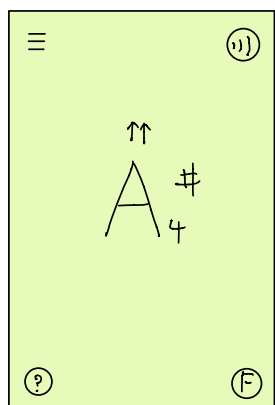
Note Practice Filter Page

←

From	C_2
To	A_3
Key Sig	D_2
Scale	Natural Minor

Ⓐ   Ⓒ

D_2	E_2	F_2
G_2	A_2	B_2
C_3	D_3	E_3

Interval Practice Mode

☰ · · ·)

. . .

D_4

+ P5

? · F
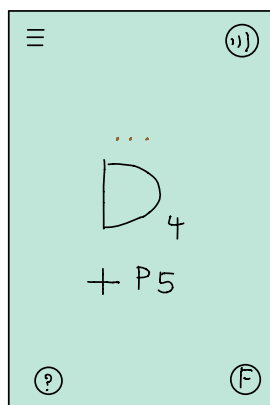
·))
- single tap:
  play D4
- long press:
  play A4

Interval Practice Filter Page

←
● ●

From C_2
To A_3
Key Sig D_2
Scale   Natural
              Minor
         Ⓐ   Ⓒ

D_2	E_2	F_2
G_2	A_2	B_2
C_3	D_3	E_3

←
− ● +
●

M7	m7		m2	M2
M6	m6		m3	M3
	P5			P4
A4	P4		A4	P5
M3	m3		m6	M6
M2	m2		m7	M7
P8	U			P8
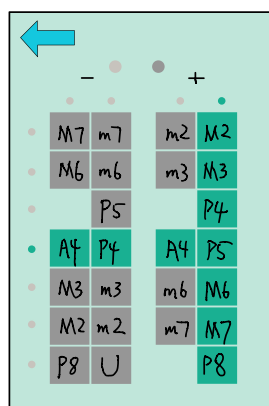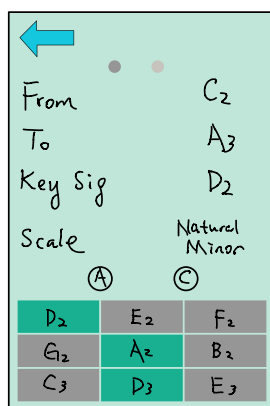
Chord Practice Mode

≡   ·))

C₃ ↑

E♭₃ ···

G₃ ↓

B♭₃ ⤵

?   Ⓕ

·))
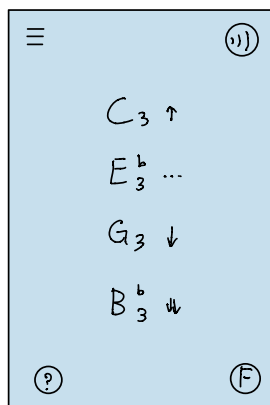
- single tap:
  play chord

- long press:
  play notes
  in order

Chord Practice Filter Page

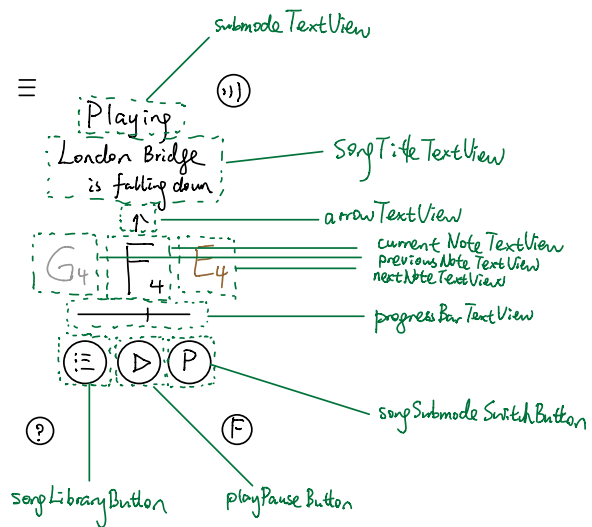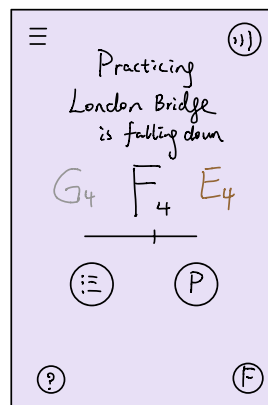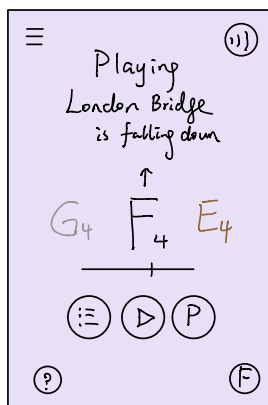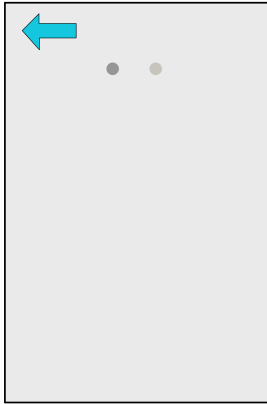Key sig   C₃

Num of Notes   4

−   +

M7	m7		m2	M2
M6	m6		m3	M3
	P5			P4
A4	P4		A4	P5
M3	m3		m6	M6
M2	m2		m7	M7
P8	U			P8

Song Practice Mode

Screen 1 (song list)

≡ ⬝))

| Little Star |
| London Bridge |
| Auld Lang Syne |

? F

Screen 2 (Playing)

≡ ⬝))

Playing
London Bridge
is falling down

↑

G_4 F_4 E_4

———|———

(⋮≡) (▷) (P)

? F

Annotated screen

submode TextView

≡ ⬝))

Playing
London Bridge
is falling down

↑ — arrow TextView

Song Title TextView

G_4 F_4 E_4
— current Note TextView
— previous Note TextView
— next Note TextView

———|——— — progress Bar TextView

(⋮≡) (▷) (P) — song Submode Switch Button

? F

song Library Button   play Pause Button

Screen 3 (Practicing)

≡ ⬝))

Practicing
London Bridge
is falling down

G_4 F_4 E_4

———|———

(⋮≡)   (P)

? F

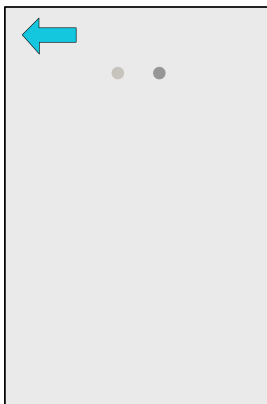# Setting Page

toggle

- auto play back answer when correct

- debugging mode (show current pitch...)
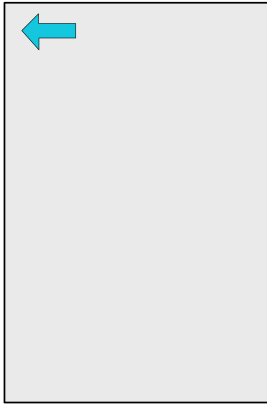
hardcore

error allowance rate : ε

error warning factor : C

least stable time : Δt

detect sound threshold : f_0

More Page

- FAQ
- About us
- Donate
- Contact us

Summary Page

- Graph ?
- Top 10 notes mastered :
- Need to practice notes :