Main Logic (processFreq) state machine diagram:

current frequency : q

expected frequency : a

error allowance rate : ε

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

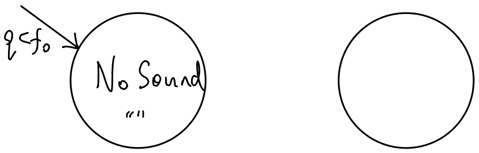
least stable time : Δt

detect sound threshold : f_0

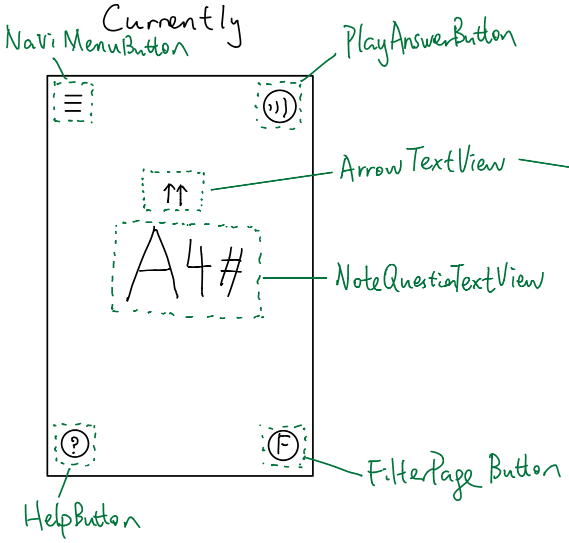
error warning factor : C

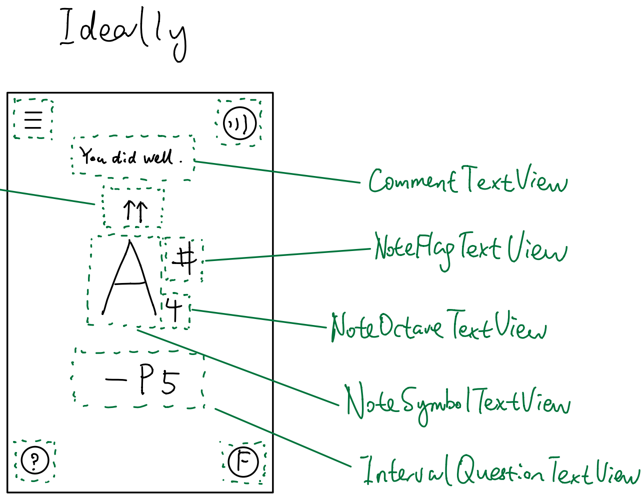
second error range : $C *$ error range

TOPO

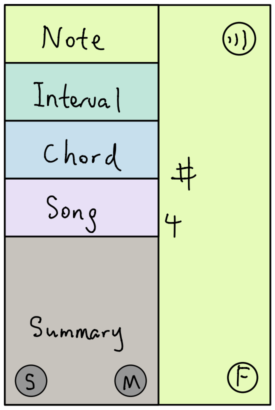


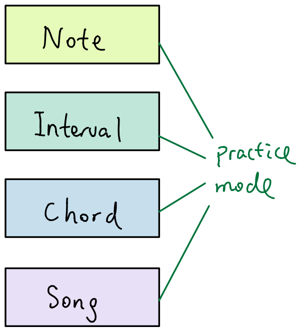
General Main Screen


Currently
NaviMenuButton
PlayAnswerButton
ArrowTextView
↑↑
A4#
NoteQuestionTextView
?
F
FilterPage Button
HelpButton

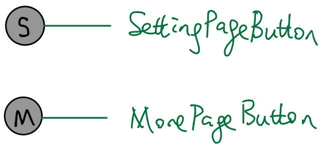

Ideally
You did well.
CommentTextView
↑↑
A
#
4
NoteFlagTextView
NoteOctaveTextView
NoteSymbolTextView
−P5
IntervalQuestionTextView
?
F

Navi Menu

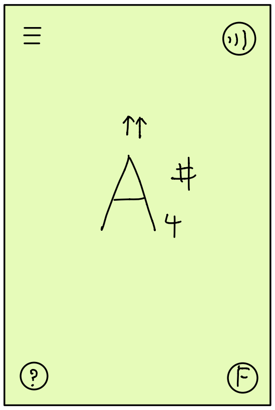

Note
Interval
Chord
Song
Summary
S
M
♯
4
F


Note
Interval
Chord
Song
practice mode

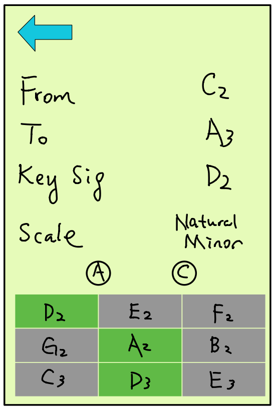
Summary


S
SettingPageButton
M
MorePageButton

Note Practice Mode



Note Practice Filter Page



From C_2
To A_3
Key Sig D_2
Scale Natural Minor

can be more intuitive design

Ⓐ: select / unselect all

e.g. toggle to select all

toggle again to unselect all

©: select complement

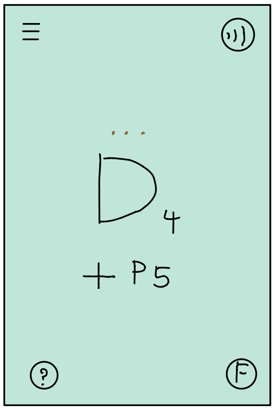
e.g. $U = \{1, 2, 3, 4, 5\}$

selected → $S = \{3, 5\}$

toggle ⇒ $S \leftarrow U \setminus S$

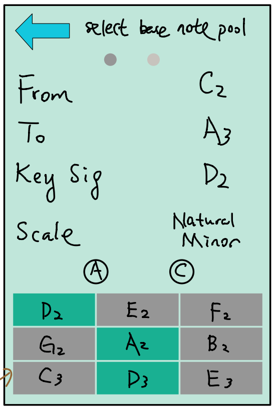
toggle again ⇒ $S \leftarrow U \setminus S$

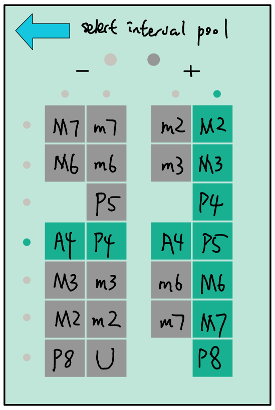
Interval Practice Mode



- single tap:
  play D4
- long press:
  play A4

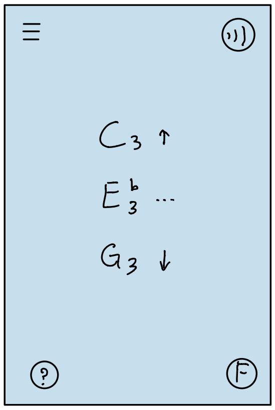
Interval Practice Filter Page


select base note pool
From C2
To A3
Key Sig D2
Scale Natural Minor
Ⓐ Ⓒ
D2 E2 F2
G2 A2 B2
C3 D3 E3


select interval pool
−
+
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

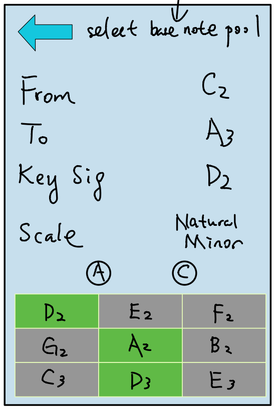
note pool (candidate notes) generated by the filters above

Chord Pratice Mode



- single tap:
  play chord
- long press:
  play notes
  in order

Chord Practice Filter Page

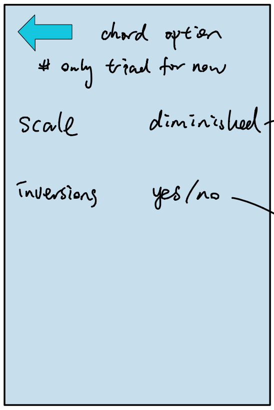

key signature

select base note pool

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

in this case
key signature pool will be
$\{D_2, A_2, D_3\}$


chord option
# only triad for now

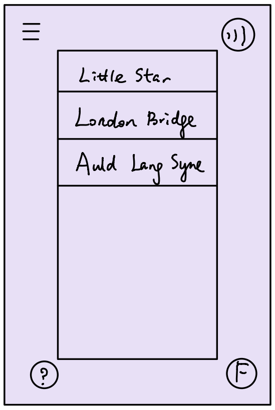
Scale diminished
Inversions yes/no

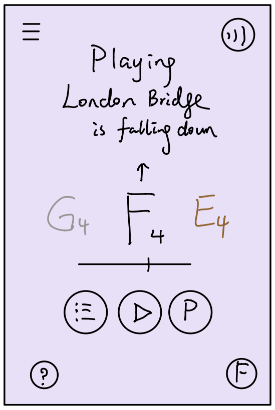
only support triad for now

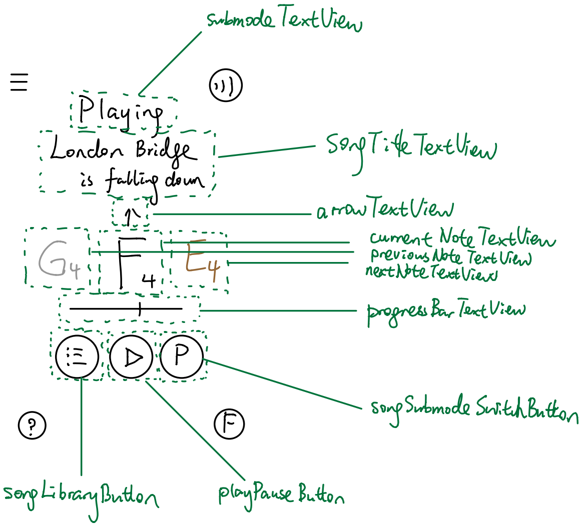
major	e.g.	C E G
minor	e.g.	C E^{b} G
diminished	e.g.	C E^{b} G^{b}
augmented	e.g.	C E $G^{\#}$

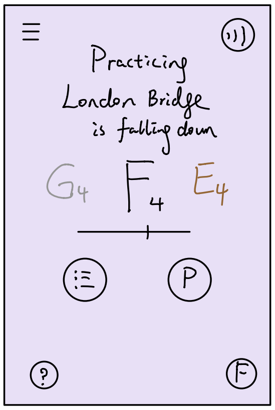
e.g. · G_2 C_3 E_3
· E_2 G_2 C_3

Song Practice Mode

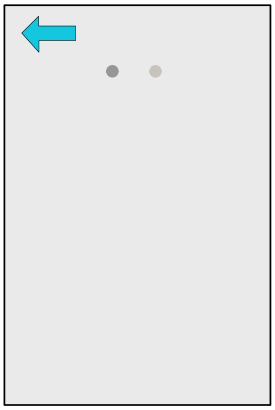

Little Star
London Bridge
Auld Lang Syne


Playing
London Bridge
is falling down
↑
G4
F4
E4
P


submodeTextView
Playing
London Bridge
is falling down
songTitleTextView
↑
arrowTextView
G4
F4
E4
currentNoteTextView
previousNoteTextView
nextNoteTextView
progressBarTextView
P
songSubmodeSwitchButton
songLibraryButton
playPauseButton


Practicing
London Bridge
is falling down
G4
F4
E4
P

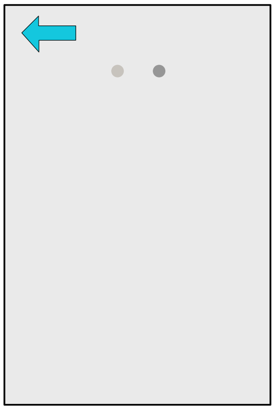
Setting Page



toggle

- auto play back answer when correct
- debugging mode (show current pitch...)

hardcore



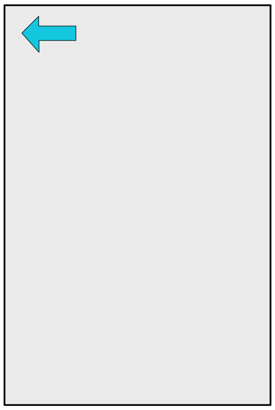
error allowance rate : ε

error warning factor : C

least stable time : Δt

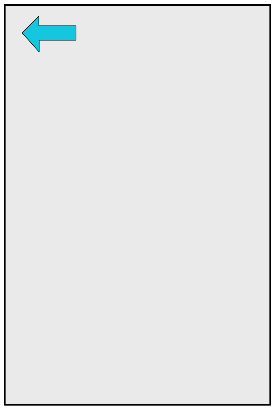
detect sound threshold : f_0

More Page



- FAQ
- About us
- Donate
- Contact us

Summary Page



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