

Criterion B: Design

Inputs/Outputs:

Add Song UI

Input	Data Type	Normal Range etc.	Example												
Song Name	String	1 - 50	“Bohemian Rhapsody”												
Artist	String	1 - 50	“Bob Marley”												
Album	String	1 - 50	“Doo-Wops & Hooligans”												
Genre	String	1 - 20	“Pop rock”												
Chord	String	1 - 12	“C#m7”												
Bar	Chord	1-4	<div><div>Base ChordMinorVarianceOut of Key</div><div>Insert Chords: Select<div></div><div><input type="checkbox"/></div><div>-<div></div></div><div><input type="checkbox"/></div><div>Add Chord</div><div>Next Bar</div></div><div>“D/F# Bm”</div></div>												
Output	Data Type	Normal Range etc.	Example												
Chart	[Bar]	1 - 120	<table><tr><td>[A]</td><td></td><td></td><td></td></tr><tr><td>F</td><td>G</td><td>Em</td><td>Am</td></tr><tr><td>F</td><td>G</td><td>Em</td><td>-</td></tr></table>	[A]				F	G	Em	Am	F	G	Em	-
[A]															
F	G	Em	Am												
F	G	Em	-												

Display UI

Output	Data Type	Normal Range etc.	Example																														
Chart	Song	1 - 120	<table><tr><th>Date</th><th>Artist</th><th>Song</th><th>Album</th><th>Genre</th><th>Key</th></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td></td><td></td><td></td><td></td><td></td><td></td></tr></table>	Date	Artist	Song	Album	Genre	Key																								
			Date	Artist	Song	Album	Genre	Key																									

## Transpose UI

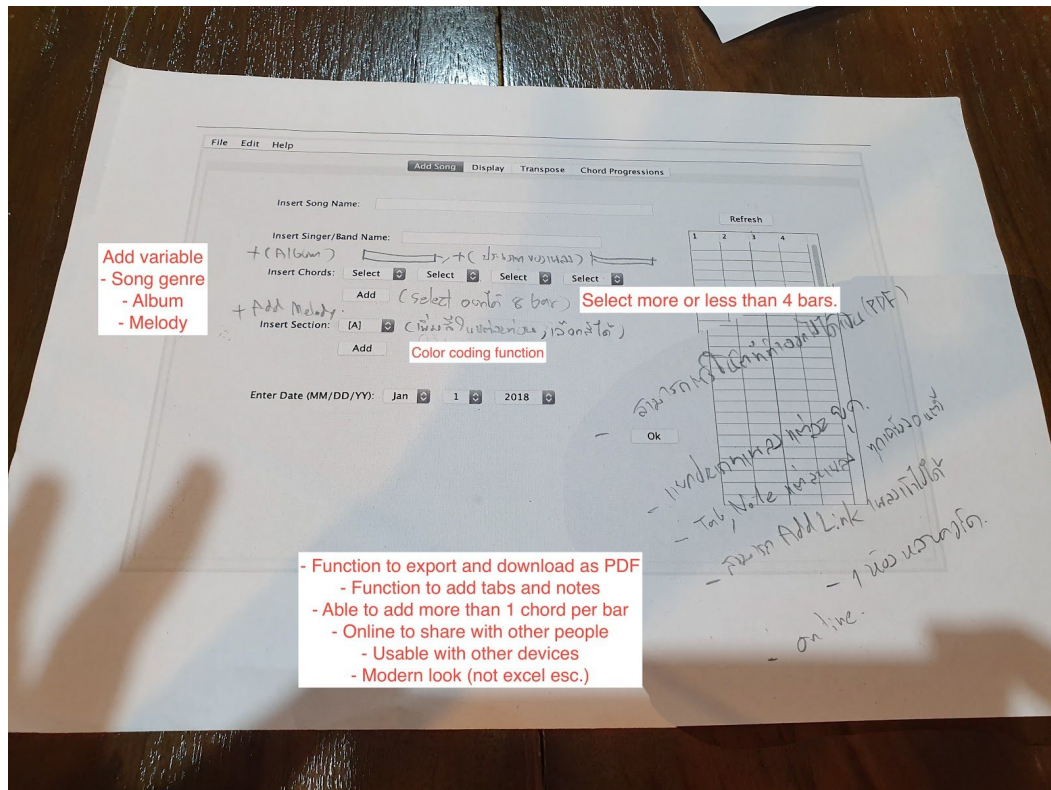
Input	Data Type	Normal Range etc.	Example																								
Song name	String	1 - 100	“Sky full of stars”																								
Change Key	String	1 - 3	“B ♭ ”																								
Change to Chord Progression	Boolean	1	“True”																								
Output	Data Type	Normal Range etc.	Example																								
Chart	[Bar]	1 - 120	<table border="1"> <tr> <td>[A]</td><td></td><td></td><td></td></tr> <tr> <td>F</td><td>G</td><td>Em</td><td>Am</td></tr> <tr> <td>F</td><td>G</td><td>Em</td><td>-</td></tr> </table> <table border="1"> <tr> <td>[A]</td><td></td><td></td><td></td></tr> <tr> <td>IV</td><td>V</td><td>iii</td><td>vi</td></tr> <tr> <td>IV</td><td>V</td><td>vi</td><td>-</td></tr> </table>	[A]				F	G	Em	Am	F	G	Em	-	[A]				IV	V	iii	vi	IV	V	vi	-
[A]																											
F	G	Em	Am																								
F	G	Em	-																								
[A]																											
IV	V	iii	vi																								
IV	V	vi	-																								

## Development Plan

1. Interview Client - Create GUI
  - a. First interview
    - i. Create tabbed pane for users to add songs
    - ii. Create 2nd tabbed pane for displaying the added songs
    - iii. Create 3rd tabbed pane for transposing the key of a saved song
    - iv. Create 4th tabbed pane for turning a saved song into chord progressions
  - b. Second interview
    - i. Rework GUI, add more attributes to songs to suit clients needs
2. Create template classes
3. Create sorting class
4. Programming
  - a. Add song tab
    - i. Create Chord
    - ii. Add Bar
    - iii. Save
  - b. Display tab
  - c. Transpose tab
5. Create class for Song template
6. Program methods for adding Songs
  - a. Adding information to songs
  - b. Adding bars to a song's chord chart
7. Create classes for sorting methods/functions
  - a. Methods for sort according
    - i. Date (Most Recent)
    - ii. Artist (A-Z)
    - iii. Song (A-Z)
    - iv. Album (A-Z)
    - V. Genre (A-Z)
    - vi. Key (C - B)
8. Program methods for refreshing display table
9. Execute testing plan to test program
  - a. Fix errors
  - b. Program missed error handlings
10. Final interview with client
  - a. Instruct client on how to use program
  - b. Receive feedback
  - c. Fix unaccounted error handling issues

## Prototyping Process:

### Initial Prototype:



File Edit Help

Add Song Display **Transpose** Chord Progressions

Insert Song Name:

Select Key: C Select + Search

- +

Information:

Refresh

1	2	3	4

Insert find by - artist, album, song name

Have a display list to select the songs from after sorting with the artist, album, etc.



[illegible][illegible]

## Testing plan

Input	Normal	Border	Abnormal	Extreme
Song Name	“Catch the Moment”	Short names - <5 characters  <i>- Short names are OK, but no name results in a re-entry Warning message</i>	Users may input special characters or numbers	Long name - >30 characters  - No limit on what allowed here.
Artist Name	“LiSA”	Short names - <5 characters	Users may input special characters or numbers	Long name - >30 characters  - No limit on what allowed here.
Album Name	“LiTTLE DEViL PARADE”	Short names - <5 characters  No name input	Users may input special characters or numbers	Long name - >30 characters  - No limit on what allowed here.
Genre Name	“J-Pop”	Short names - <5 characters  No name input	N/A	Long name - >30 characters  Users may input special characters or numbers  - No limit on what allowed here.
Insert Section	“[A]”	N/A	N/A	N/A
Add Bar	Single Chord	$\leq 4$ Chords	- Out of key chords - > 4 chords - Many variances used	- No limit on what allowed here.
Date	Jan 27, 2020	N/A	N/A	N/A