

# **Application Report**

## **--Android Smart App Development**

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Me-lyrics is an image-based lyric share app, combining the feature of the lyric sharing function from a Music Player and Image-editing function from an image share App.

### **1. Background Research**

- ✓ Why images?

As a saying goes "a picture is worth a thousand words", images play irreplaceable role in conveying one's emotion or express ideas. Pure text share is seldom seen among all social medias, taken Instagram as a straightforward example, it's famous as an online mobile photo-sharing, video-sharing, and social networking app. The digital filters and professional image quality editor add its popularity when users could make more interactive actions.

- ✓ Why Lyrics?

Music is everywhere. Nowadays, equipped with smart phones and advanced music player/apps, listening to music might be the top3 answer when asking someone's hobby. People have their own favor in music style even they do not personally listen much.

Besides, the reason why people like one song lies in not only the rhythm , but sometimes more the lyrics. The expression

lyricist creates often strike our heart and make us feel the same. Then if we want to share it to the social media, pure text and together with a pic will be two main choices. Based on this scenario , now we look at the app stores and pick 3 apps that meets our need:

### Similar Apps:

#### ➤Musicmatch

Musicmatch serves as a normal music player along with a large music library with lyrics and typical lyrics-sharing function. It owns a sufficient song and lyric database in many languages.

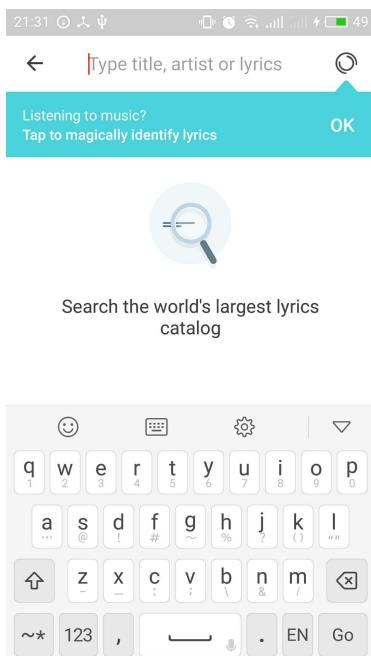


Figure 1 lyrics-search page

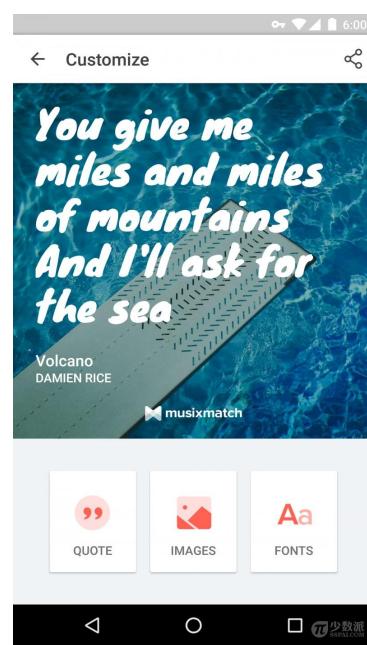


Figure 2 lyrics-card making

The image is designed to be a square shape with a background image and text on it. The info of singer and song and the logo of musixmatch. There are 25 great sample

images for users to choose, and there are light adjustments for final images.

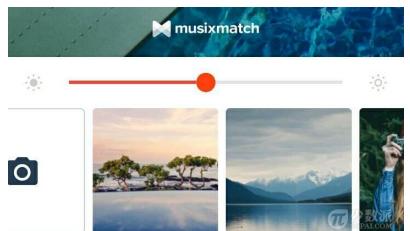


Figure 3 background image

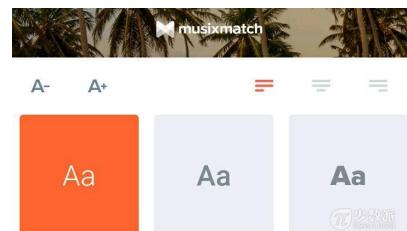


Figure 4 fonts

Only ten- fonts included, it works better for English songs. Function works bad while choosing the lyrics...

### ➤Netease Music

Netease Music is a good music player quite popular and professional. The comments of each song often raise similar emotion among listeners and the lyrics-share function is also enabled when long pressing one line of the lyrics.

Focused on the latter function, there is two ways to share lyrics, only the text or with the image that is initially set with the album cover photo. As the style is set as the image followed by text, sharing content could be as long as you want.

But no adjustment could be made inside the style, neither font choices nor the font size. But images could be changed to one in the local album.



Figure 5 home page



Figure 6 lyrics select

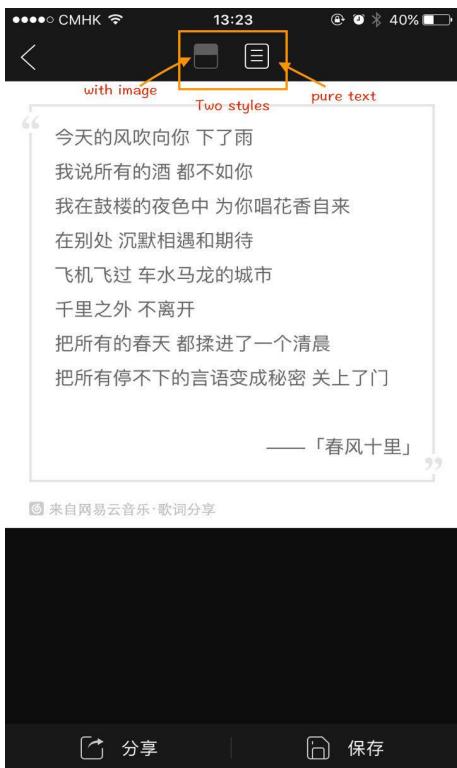


Figure 7 style choice-style 1



Figure 8 style choice-style 2

Guess it's the lyrics that they want to highlight instead of making one nice lyric-card.

### ➤XiamiMusic

Same as the previous two app, there are lyric-sharing function in XiamiMusic when long pressing the text, there are text-limit but sometimes longer sometimes short. Two rows will be perfect out of experiments.



Figure 9 lyrics select



Figure 10 lyric poster



Figure 11 poster style change

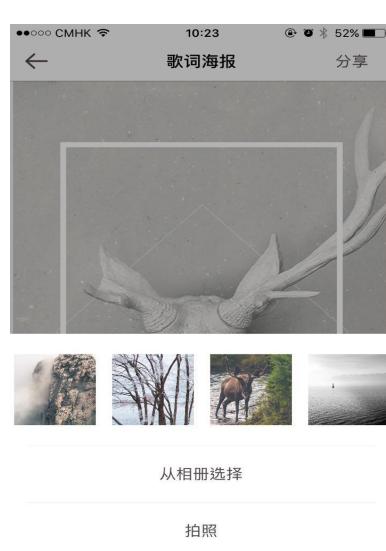


Figure 12 background change

5 sample images are provided , along with 4 poster styles

## To summarize

App	Music Player	Sample Image	Style Type	Fonts choice	Lyrics length	Lightness Adjust
Musicmatch	✓	✗	1	10	150	✓
NetCloudMusic	✓	✓	2	✗	No limit	✗
Xiami Music	✓	✓	5	✗	3 rows	✗
TencentMusic <sup>1</sup>	✓	✓	Lots (VIP)	Lots (VIP)	6 rows	✗

Though these app developed by big companies have been rather mature, we want to focus on the lyric part in which most of them have not yet put lots of attention to. Especially for Chinese songs, less text fonts and styles are provided. And the camera and image sharing apps have nice function on text editing but never provide the access for lyrics.

So here comes the idea to develop an android app realizing image edit function with lyrics provided inside to better express one's feeling for a song or for that image.

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<sup>1</sup> Tencent Music is analyzed but not included to reduce the redundancy

## 2.Application Design

### Main Function

We want our app to be able to display the lyric first according to user's search and then create a demo image with the lyrics sentences user want to share. The fonts and position of texts are flexible enough as one wishes. Then we could share the image to social media and save it to the phone album.

### Logic applied

Start the app → *{lyric search}* input name of the song or singer → choose from the search result list → *{lyric display}* long press, checked lines, choose one of the style1,2,3 → *{image display and adjust}* –change the background image , adjust the fonts , brightness, →*{image share}* click save/share → finish.

#### 2.1 Lyrics Search and Display

Api: provided by baidu

- Search Url : returned Json file of all possible songs , get the songid

[http://tingapi.ting.baidu.com/v1/restserver/ting?format=xml&callback=&from=webapp\\_music&method=baidu.ting.search.catalogSug&query=%E4%BD%A0](http://tingapi.ting.baidu.com/v1/restserver/ting?format=xml&callback=&from=webapp_music&method=baidu.ting.search.catalogSug&query=%E4%BD%A0)



read each search result as a hashmap containing key words “song” (songname and artistname as song information) and “songid” as the

important identifier for next step. The entire result is saved into one list and make up to form the dataset for the adapter of the research result listView.

- Display Url: get xml file for the chosen song via songid

[http://tingapi.ting.baidu.com/v1/restserver/ting?format=xml&callback=&from=webapp\\_music&method=baidu.ting.song.lry&songid=](http://tingapi.ting.baidu.com/v1/restserver/ting?format=xml&callback=&from=webapp_music&method=baidu.ting.song.lry&songid=)



This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<song_lry_response xmlns="http://openapi.baidu.com/1.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://openapi.baidu.com/1.0 http://openapi.baidu.com/1.0/baidu.xsd" list="true">
  <song_lry_response_elt>春风十里</song_lry_response_elt>
  <song_lry_response_elt>
    《春风十里》词曲：倍倍 编曲：鹿先森乐队 我在二环路的里边 想着你 你在远方的山上 春风十里 这里的风吹向你 下了雨 我说所有的酒 都不如你 我在鼓楼的夜色中 为你唱花香
    自来 在别处 沉默相遇和期待 飞机飞过 车水马龙的城市 千里之外 不离开 把所有的春天都揉进一个清晨 把停不下的言语变成秘密 关上了门 莫名的情愫啊 请问 谁来将它带走呢
    只好把岁月化成歌 留在山河
  </song_lry_response_elt>
</song_lry_response>
```

the xml file contents the lyrics of the song user chose, with the tag `<song_lry_response_elt>` we could get the song name and the content .



This XML file does not appear to have any style information associated with it. The document tree is shown below.

```
<song_lry_response xmlns="http://openapi.baidu.com/1.0" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://openapi.baidu.com/1.0 http://openapi.baidu.com/1.0/baidu.xsd" list="true">
  <song_lry_response_elt>海阔天空</song_lry_response_elt>
  <song_lry_response_elt>
    [ti:] [ar:] [al:] [00:01.33]海阔天空 [00:02.87]作词：黄家驹 作曲：黄家驹 [00:04.61]演唱：林忆莲 [00:06.51] [00:13.54]今天我 寒夜里看雪飘过
    [00:20.41]怀着冷却了的心窝漂远方 [00:26.49]风雨里追赶 雾里分不清影踪 [00:33.23]天空海阔你与我可会变 [00:40.06]多少次 迎着冷眼与嘲笑 [00:47.19]从没有放弃
    过心中的理想 [00:53.48]一刹那恍惚 若有所失的感觉 [01:00.21]不知不觉已变淡心里爱 [01:07.77]原谅我这一生不羁放纵爱自由 [01:15.27]也怕有一天会跌倒
    [01:22.15]背弃了理想 谁人都可以 [01:28.67]哪会怕有一天只你共我 [01:36.15] [01:43.94]今天我 寒夜里看雪飘过 [01:50.81]怀着冷却了的心窝漂远方 [01:56.83]
    风雨里追赶 雾里分不清影踪 [02:03.35]天空海阔你与我可会变 [02:10.30]原谅我这一生不羁放纵爱自由 [02:17.47]也会怕有一天会跌倒 [02:23.91]背弃了理想 谁人都可以
    [02:30.38]哪会怕有一天只你共我 [02:36.44] [02:40.25]仍然自由自我 [02:43.33]永远高唱我歌 走遍千里 [02:51.75]原谅我这一生不羁放纵爱自由 [02:58.76]也会怕
    有一天会跌倒 [03:05.06]背弃了理想 谁人都可以 [03:11.54]哪会怕有一天只你共我 [03:31.13]原谅我这一生不羁放纵爱自由 [03:37.72]也会怕有一天会跌倒 [03:43.83]
    [03:18.16]背弃了理想 谁人都可以 [03:50.13][03:24.79]哪会怕有一天只你共我 [03:57.28]
  </song_lry_response_elt>
</song_lry_response>
```

dom4j is used to interpret the xml file and get the contents of label `<song_lry_response_elt>`.

## 2.2 Image Process and style choice

Select images: Call the system function to view pictures of gallery and take photos.

Color picker: Use the Api AndroidPhotoshopColorPicker

The following table shows the feature of 3 different styles:

	Style1	Style2	Style3
Length limit	Less than 5 lines, 2 lines suggested	No Limit	Less than 3 lines,, 1 line suggested
Text position	On image	Follows image	On image
Text dragging	✓	✗	✓
Font color	White	Black	White
Font size adjustment	✓	✓	✓
Font provided	10	10	10
Luminance adjustment	✓	✓	✓
Background Image	Photos / samples	Photos / samples	Pure Color
Sample Images	10	10	10
Camera usage	✓	✓	✗

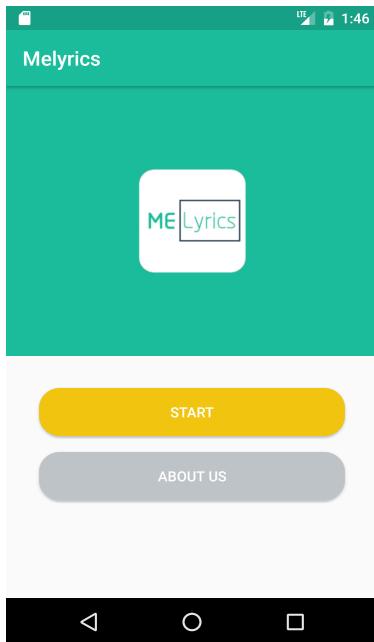
### 2.3 Image Share and save

Save: Save in the folder named melyrics of SD card. If there is no such folder, a new folder will be created. The image file will be named in the time format.

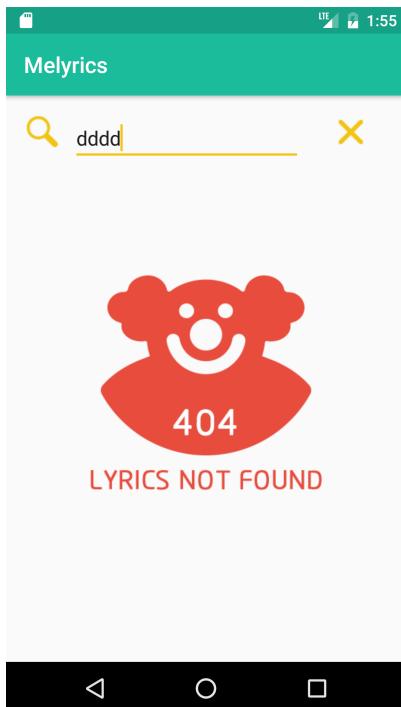
Share: Call the system function to share the image.

### 3. UI Design and User Guide

#### Step 1: start and about us



**Step 2: Search the lyric by the name of song /artist**  
Input the text and click the one in the list item, if there is no such a song or artist, a not-found reminder will appear, and following function will not be in use if there is no song chosen.



## Step 03: Choose the words

A line by line lyric will be displayed if there is suitable return result from the baidu api. By long-pressing any word, choice box will appear in each line. Choose lines that you would like to place in your image.



Notice there are 3 buttons in the bottom, here comes step 04

## Step 04: Edit in a suitable style

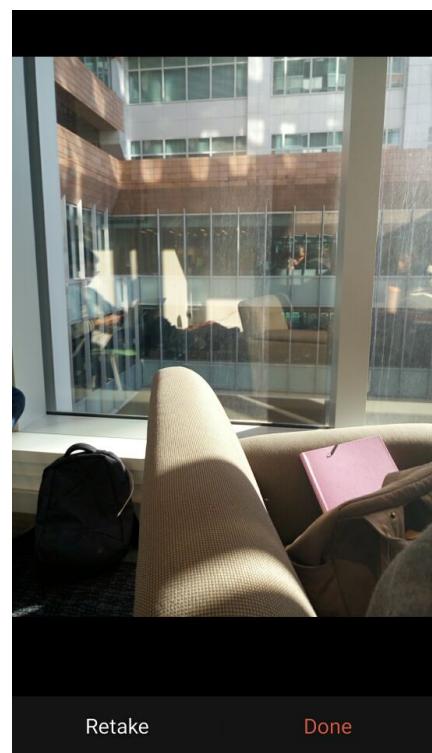
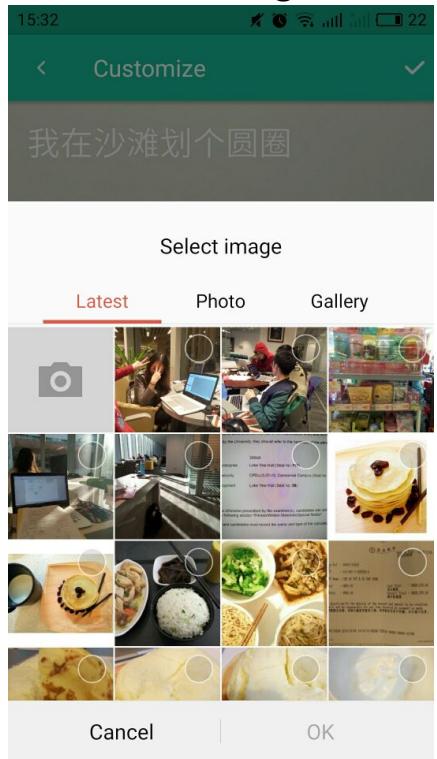
Three buttons above are “words on image”, “words follow image”, “words on pure color” respectively.

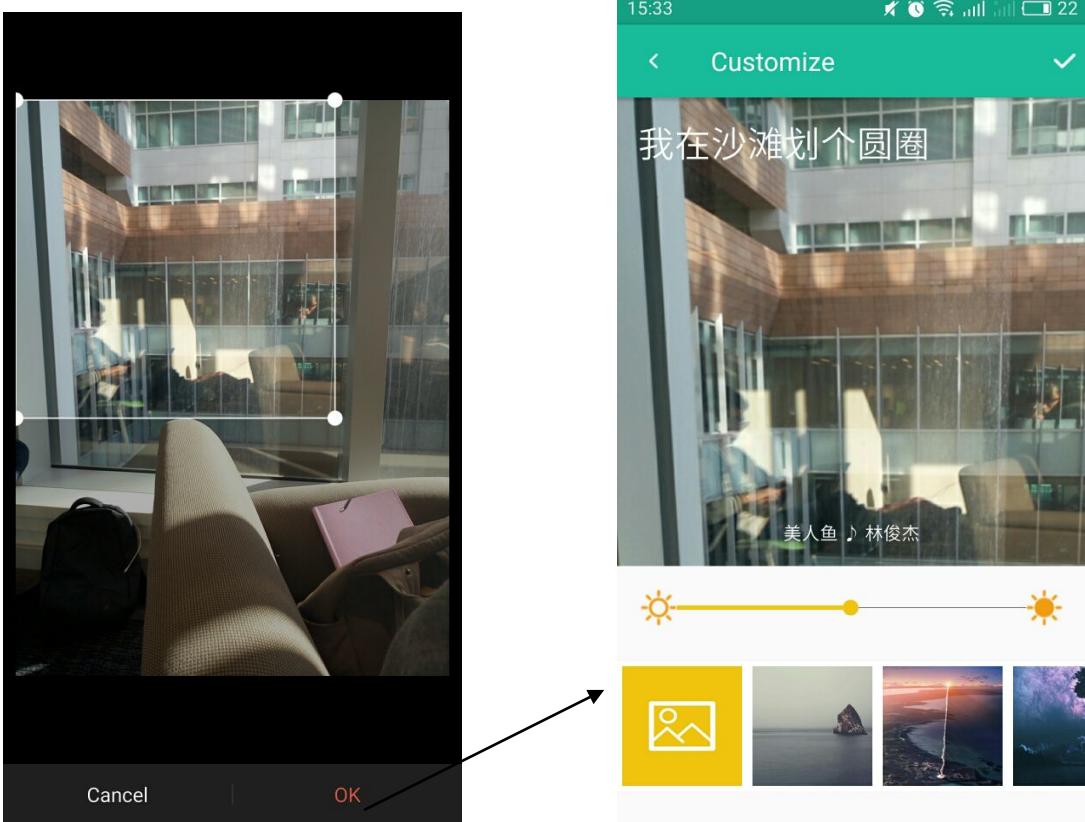
- a) Edit as style 1

➤ Choose background image from samples

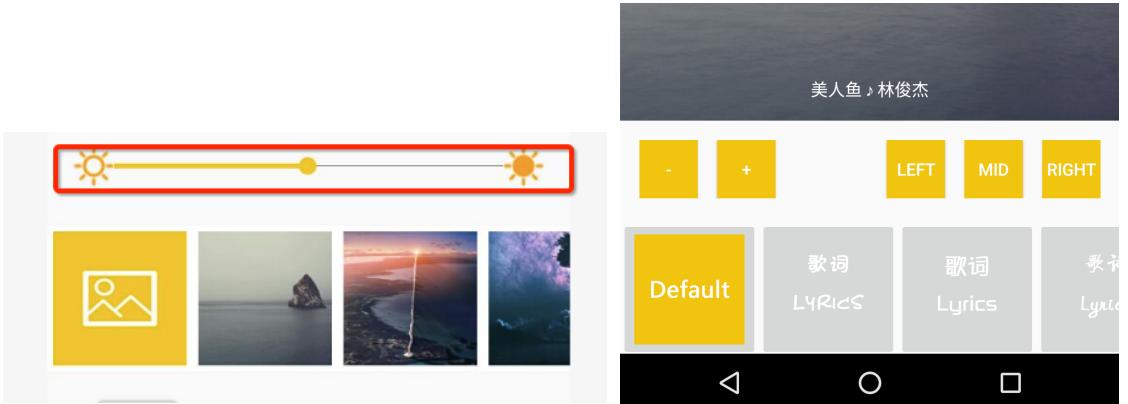


➤ Choose background image from photo gallery or camera





➤Adjust luminance and text

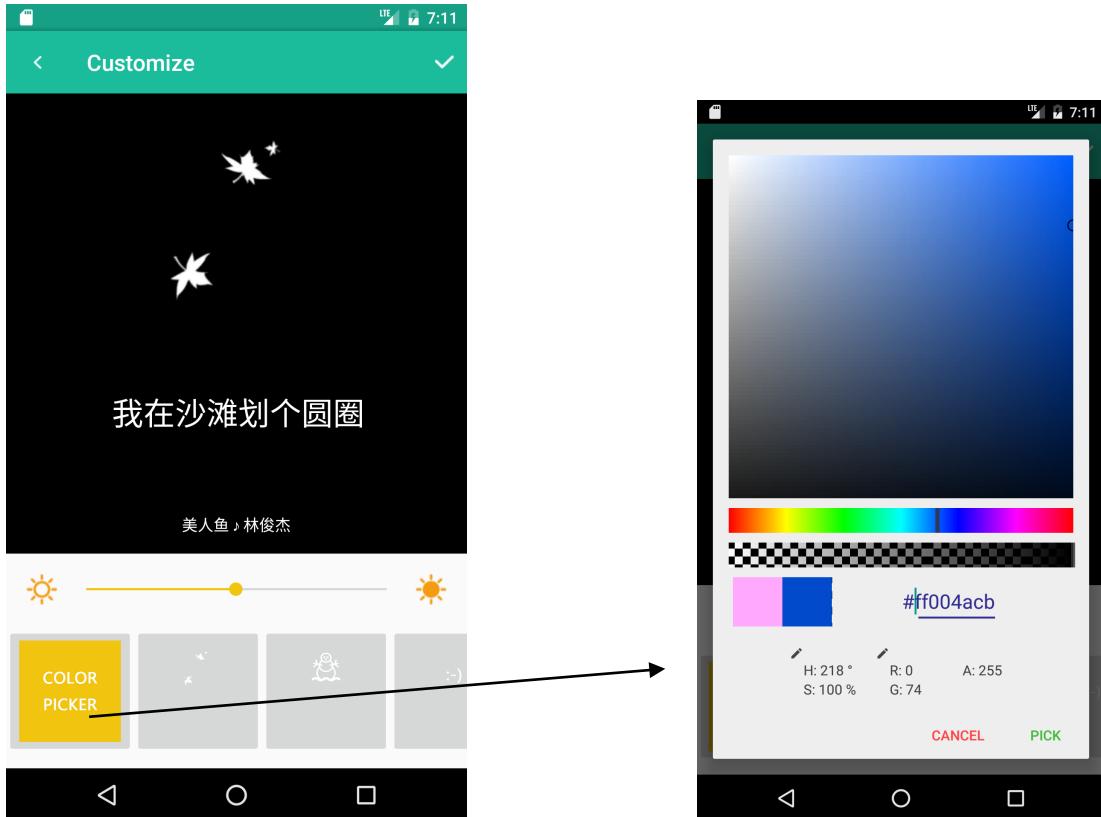


b) Edit as style 2

Same operation way as style1, expect that you would not change the text position. Better choice when you would like to share long words.

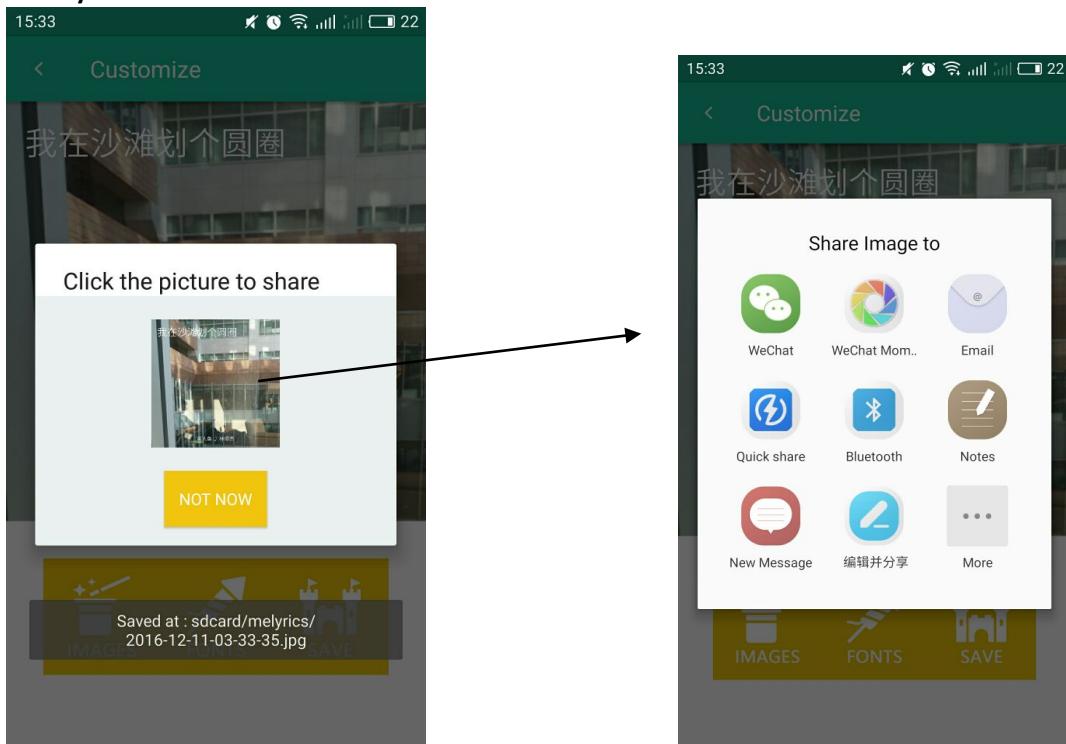
c) Edit as style 3

➤ Change patterns and Background color from color panel

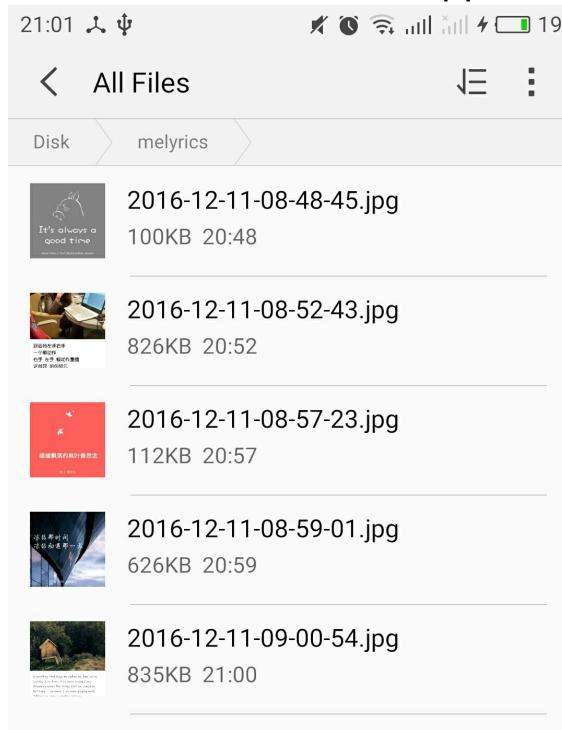


## Step 06: Save and Share

Click the save button, a dialog will appear with the final image and ask you whether to share it.



Click not now and will stay in the page to edit more or go back to home and start a new one by clicking “Not now”. Click the image to share it to the your friends or other social application.



The image now could be found in your new file folder “melyrics”, which is named in time format.

Done!

# Appendix

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## Contribution of each member:

Chai Xinyun	Choose the lyrics	Yeyaya	Search function
	Image processing		Display lyrics
	Save function		Sharing Function
	demo video recording		the application report

Thanks to be our user !

Any suggestion is welcomed to [xinyunch@hku.hk](mailto:xinyunch@hku.hk) or [yeyaya@hku.hk](mailto:yeyaya@hku.hk)

Some of our work :





缓缓飘落的枫叶像思念

枫 ♪ 周杰伦



It's always a  
good time

Good Time ♪ Owl City,Carly Rae Jepsen



狼牙月 伊人憔悴  
我举杯 饮尽了风雪  
是谁打翻前世柜 茫尘埃是非

发如雪 ♪ 周杰伦



Everything that kills me makes me feel alive  
Lately, I've been, I've been losing sleep  
Dreaming about the things that we could be  
But baby, I've been, I've been playing hard,  
sitting, no more counting dollars  
we'll be counting stars

Counting Stars ♪ OneRepublic