Experiment No. 3

AIM : To include icons, images, fonts in Flutter app

Theory:

To include icons, images, and fonts in a Flutter app, you need to understand the following core concepts related to asset management in Flutter. Here's the theory behind including these resources:

1. Assets in Flutter:

Assets are files or resources such as images, fonts, icons, or sounds that you include in your app and bundle within the app package. In Flutter, you can include these assets in your project and then use them in your app.

2. Adding Assets to pubspec.yaml:

In Flutter, you declare assets in the pubspec.yaml file. This is where you specify which assets should be bundled with your app during the build process.

Example for adding assets:

```
flutter:

  assets:

    - assets/images/

    - assets/icons/
```

In this example, the images are stored in the assets/images directory, and icons in the assets/icons directory. You can also specify specific files instead of directories.

3. Including Images:

Flutter provides several ways to include images in your app, including network images, asset images, and file images. To use asset images, you reference them by their file path relative to the assets directory.

Example of including an asset image:

```
Image.asset('assets/images/my_image.png')
```

For this to work, the image (my_image.png) must be listed in the pubspec.yaml file under the flutter section, like this:

```
flutter:
  assets:
    - assets/distribute-your-music.png
    - assets/floating-lyrics.png
```

4. Including Icons:

Flutter allows you to use custom icons in your app. You can add icon files (e.g., .png or .svg) to your assets folder and use them in the app. Alternatively, Flutter provides built-in icons via the Icons class.

Example of using an asset icon:

```
Image.asset('assets/icons/my_icon.png')
```

5. Including Fonts:

To include custom fonts, you place your font files (e.g., .ttf or .otf files) in a folder inside your assets directory. Then, you declare these fonts in the pubspec.yaml file and use them in your app.

Example of adding custom fonts in pubspec.yaml:

```
flutter:
  fonts:
    - family: CustomFont
      fonts:
        - asset: assets/fonts/CustomFont-Regular.ttf
        - asset: assets/fonts/CustomFont-Bold.ttf
```

Example of using the custom font in Flutter:

```
Text(
  'Hello, World!',
  style: TextStyle(fontFamily: 'CustomFont', fontSize: 20),
)
```

6. Font Weight and Style:

When specifying fonts, you can also define specific font weights and styles (like bold, italic) to support different text styles in your app.

7. Working with Icon Libraries:

While you can use custom icon files, Flutter also supports popular icon libraries like **FontAwesome**, **MaterialIcons**, etc. For example, Flutter's built-in Icons class provides access to the Material Design icons.

Example of using a Material icon:

```
Icon(Icons.home)
```

8. Caching and Optimization:

- **Images**: Flutter caches images, but you might want to use libraries like cached_network_image for better image loading and caching.
- **Fonts**: Custom fonts are loaded from assets when the app is first started, and they remain available for the lifecycle of the app.

9. SVG Images:

If you want to use vector-based images (like SVG), you can include them using packages like flutter_svg, which allows you to display scalable vector graphics (SVG files) in Flutter.

Example of including an SVG:

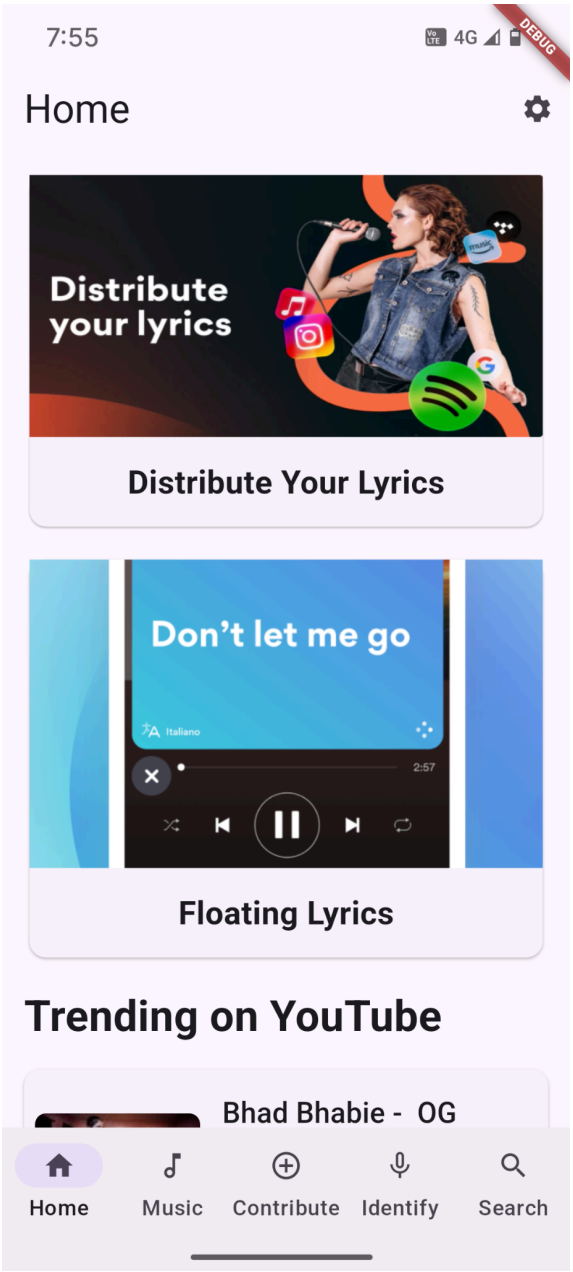
```
import 'package:flutter_svg/flutter_svg.dart';

SvgPicture.asset('assets/icons/my_icon.svg')
```

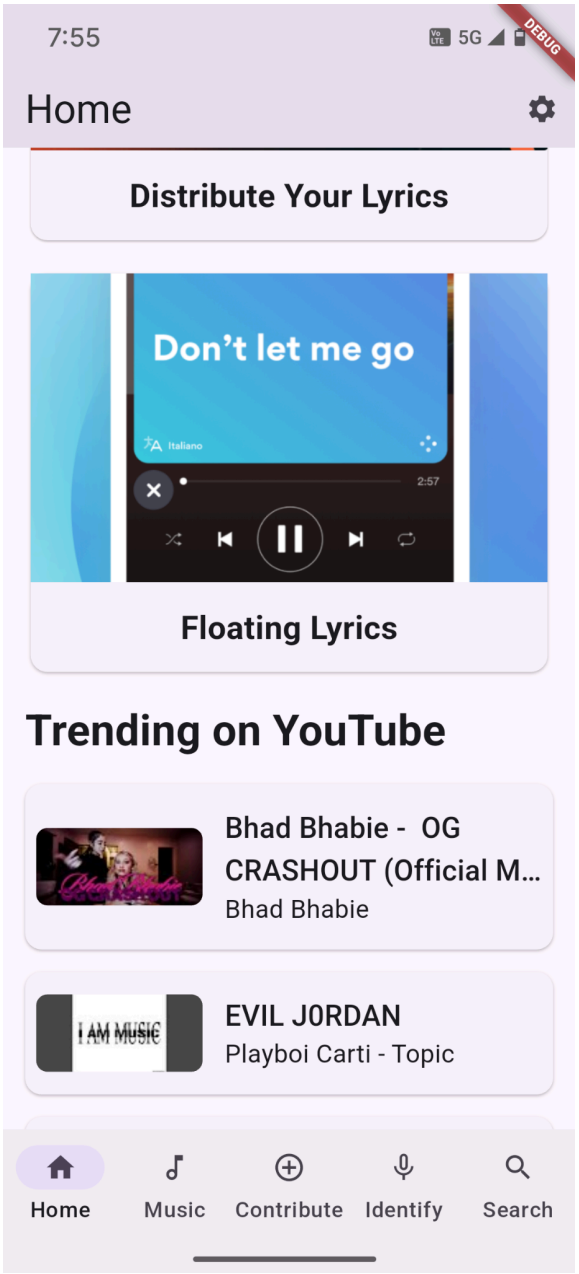
Summary of Key Steps:

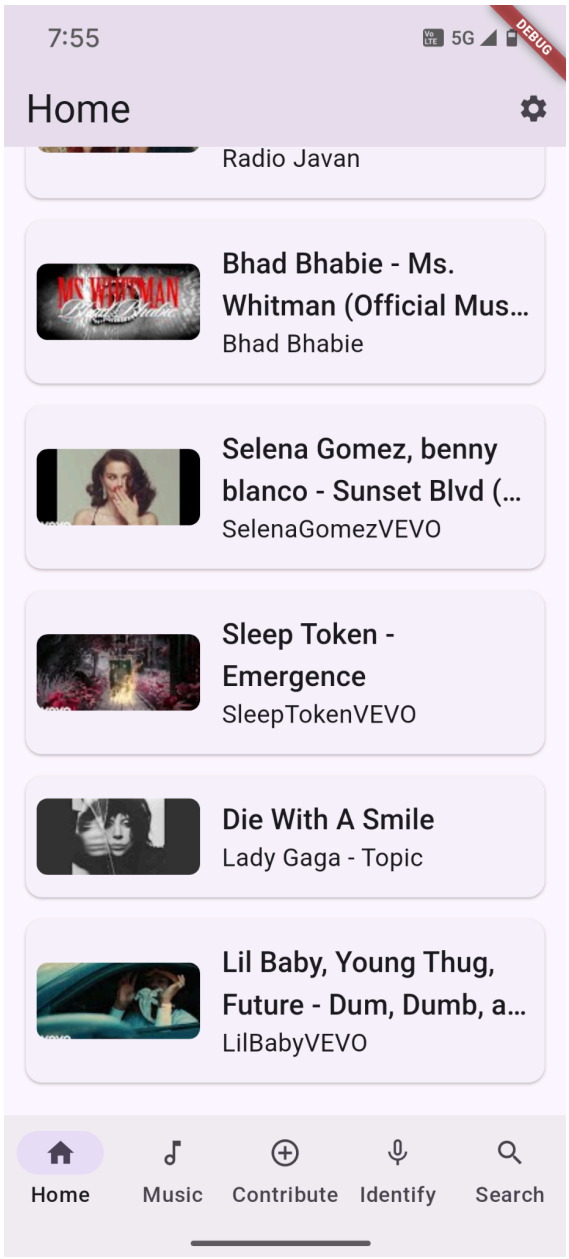
1. **Declare assets in pubspec.yaml.**
2. **For images and icons**, use Image.asset('path/to/image') and Image.asset('path/to/icon').
3. **For fonts**, declare them under the flutter section in pubspec.yaml, then use them via the TextStyle class.
4. **Use Icon Libraries**: Use Flutter's built-in Icons class or third-party icon libraries.
5. **For SVGs**, use packages like flutter_svg.

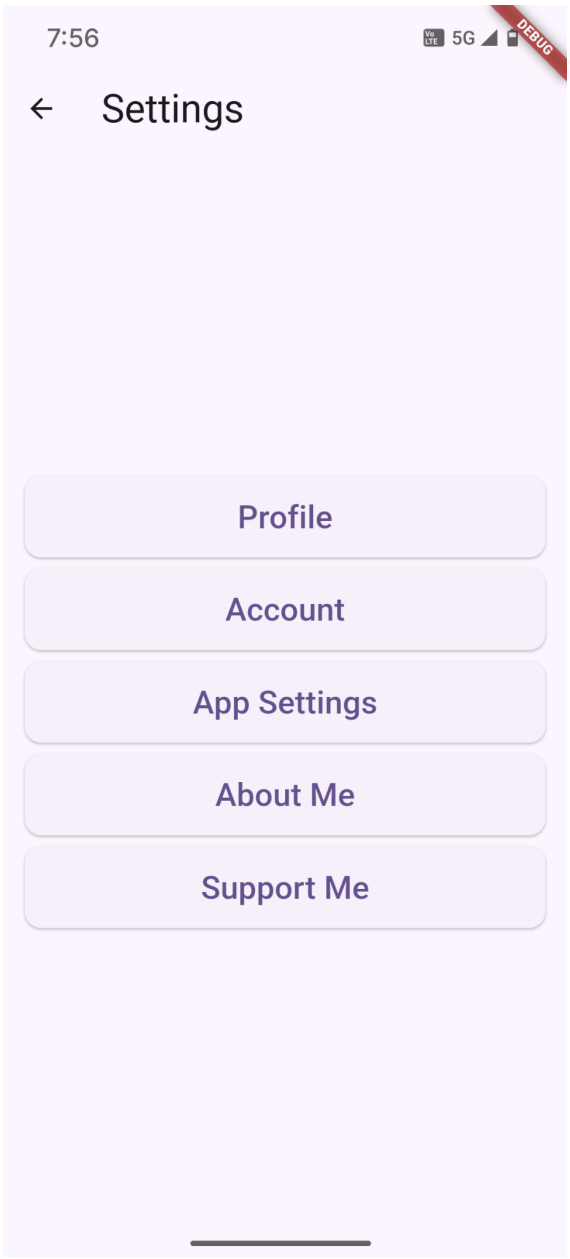
Understanding these concepts will help you effectively use images, icons, and fonts in your Flutter app.

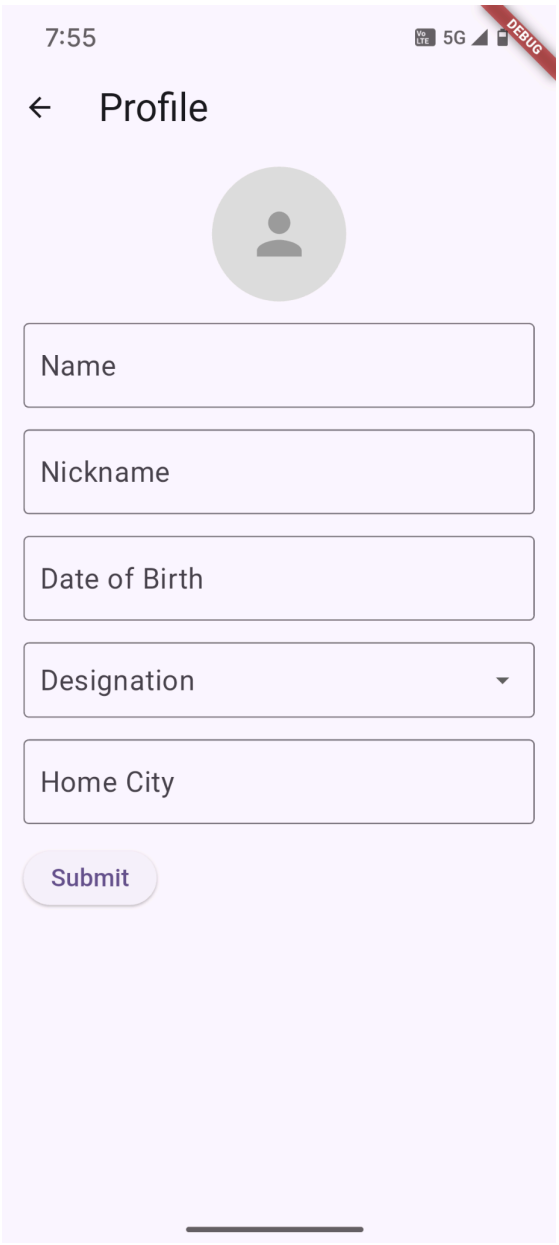
Screenshots:

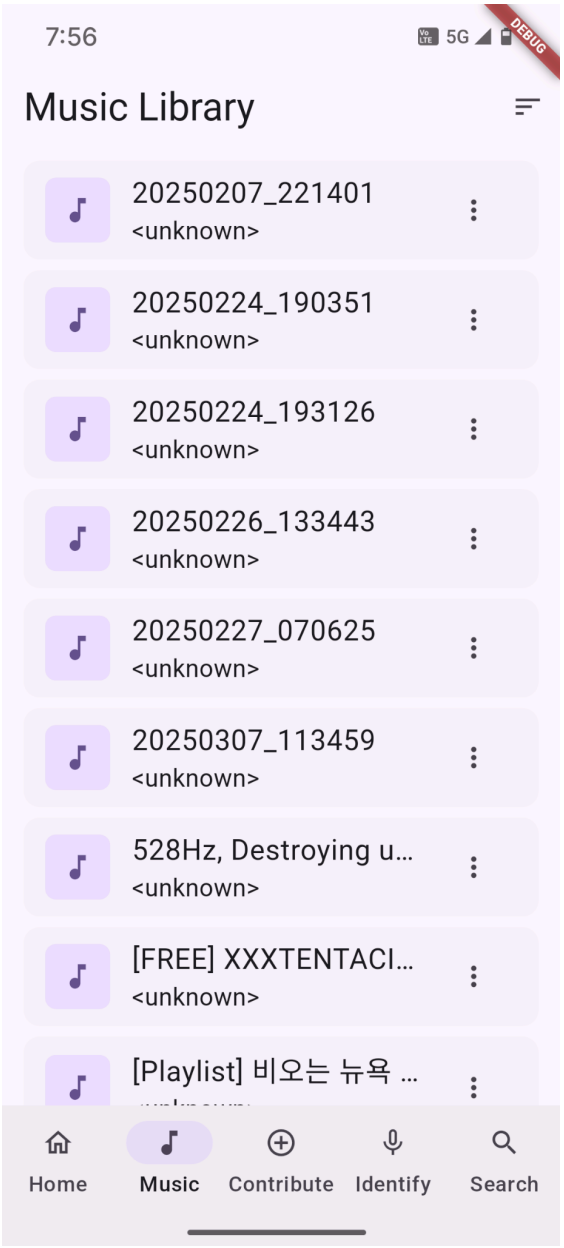


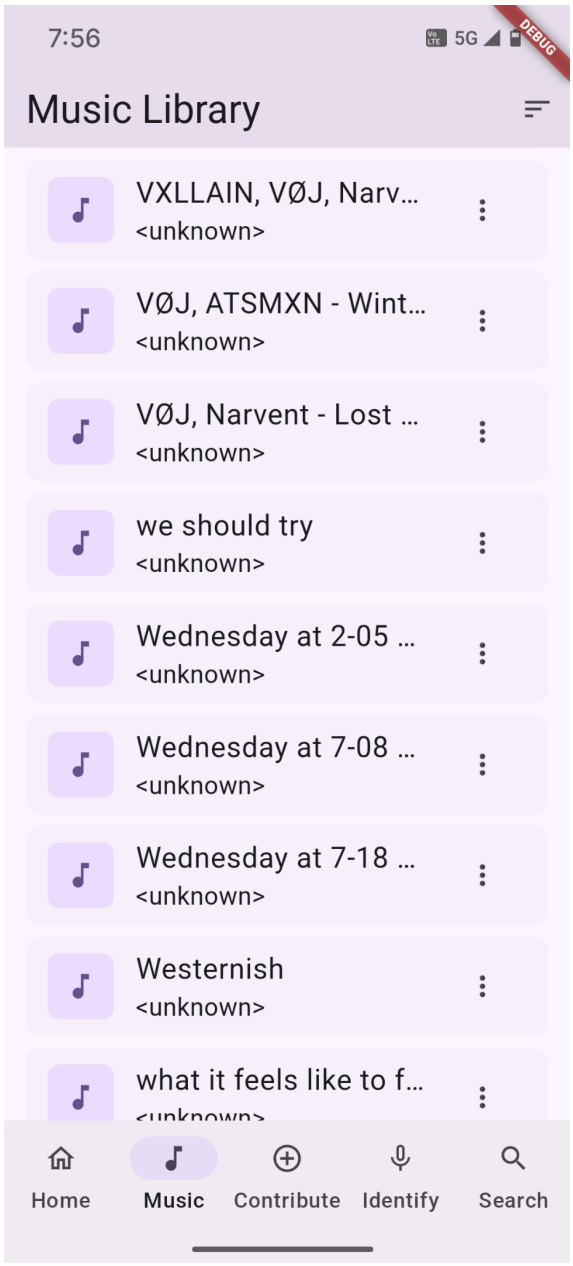


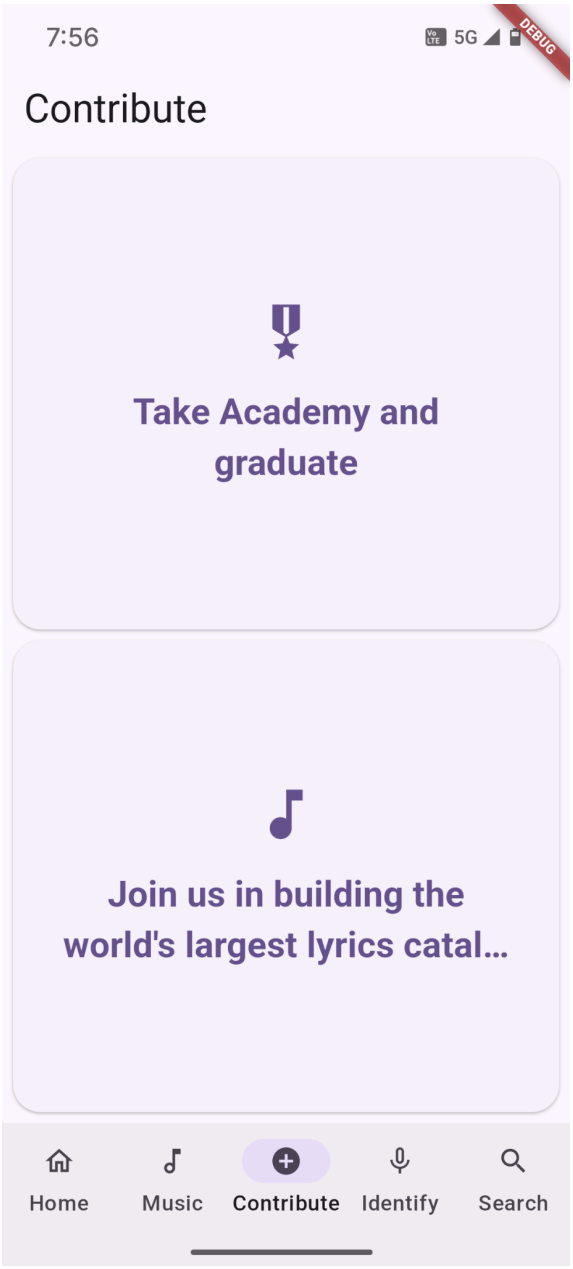

7:55
5G
DEBUG
Home
Radio Javan
Bhad Bhabie - Ms. Whitman (Official Mus...
Bhad Bhabie
Selena Gomez, benny blanco - Sunset Blvd (...
SelenaGomezVEVO
Sleep Token - Emergence
SleepTokenVEVO
Die With A Smile
Lady Gaga - Topic
Lil Baby, Young Thug, Future - Dum, Dumb, a...
LilBabyVEVO
Home
Music
Contribute
Identify
Search

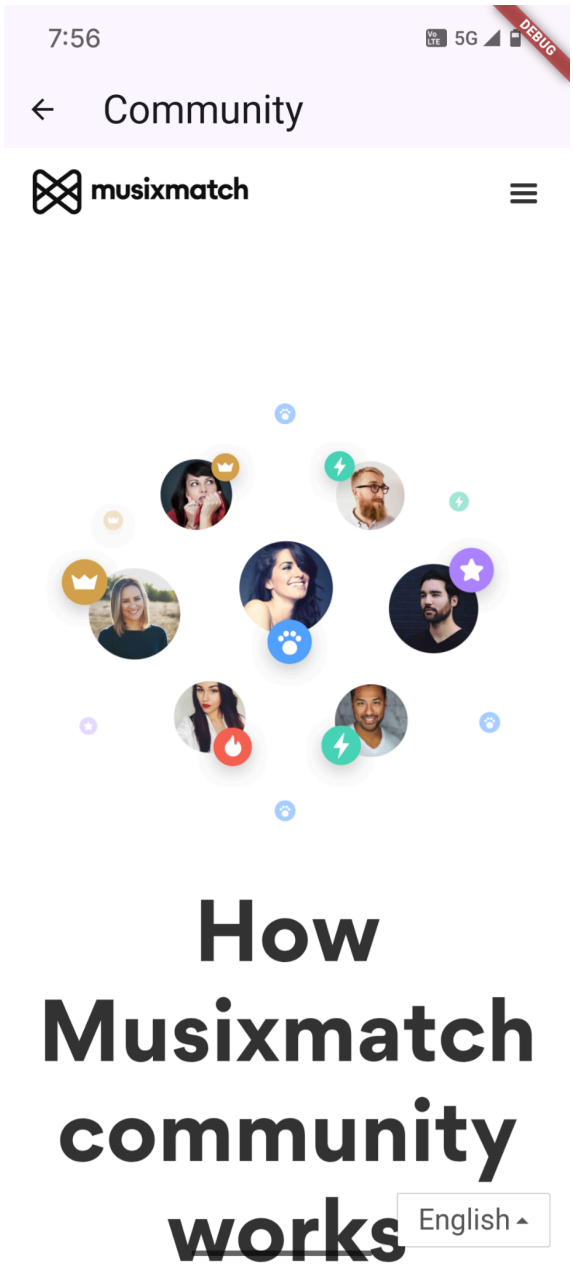

7:56
5G
DEBUG
Settings
Profile
Account
App Settings
About Me
Support Me

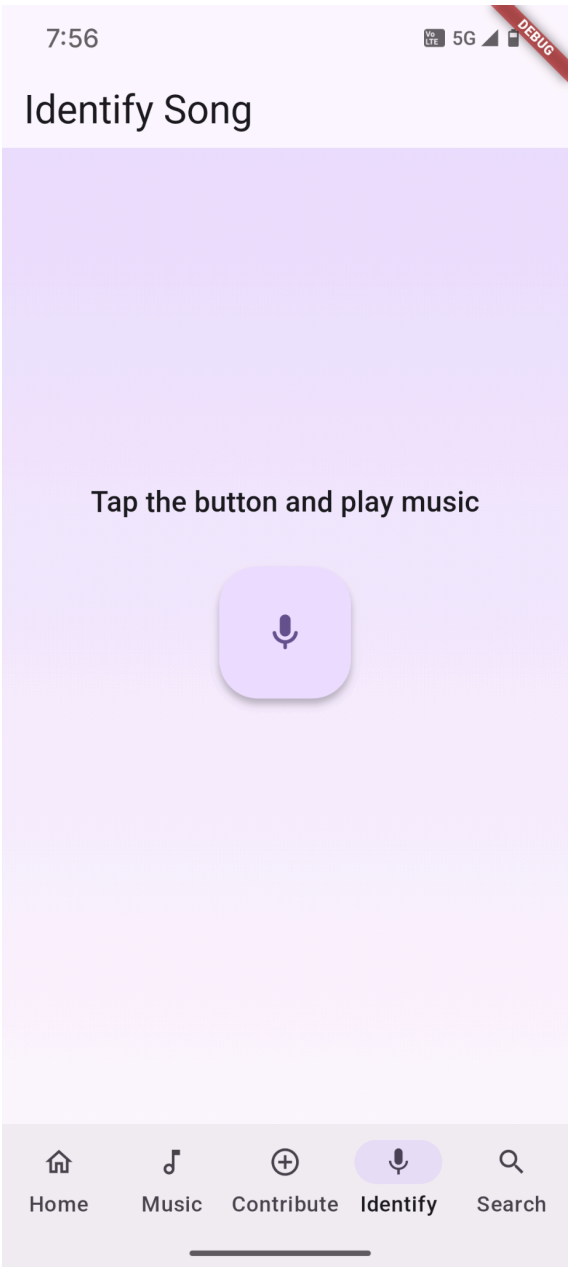

7:55
5G
DEBUG
Profile
Name
Nickname
Date of Birth
Designation
Home City
Submit


7:56
5G
DEBUG
Music Library
20250207_221401
<unknown>
20250224_190351
<unknown>
20250224_193126
<unknown>
20250226_133443
<unknown>
20250227_070625
<unknown>
20250307_113459
<unknown>
528Hz, Destroying u...
<unknown>
[FREE] XXXTENTACI...
<unknown>
[Playlist] 비오는 뉴욕 ...
Home
Music
Contribute
Identify
Search

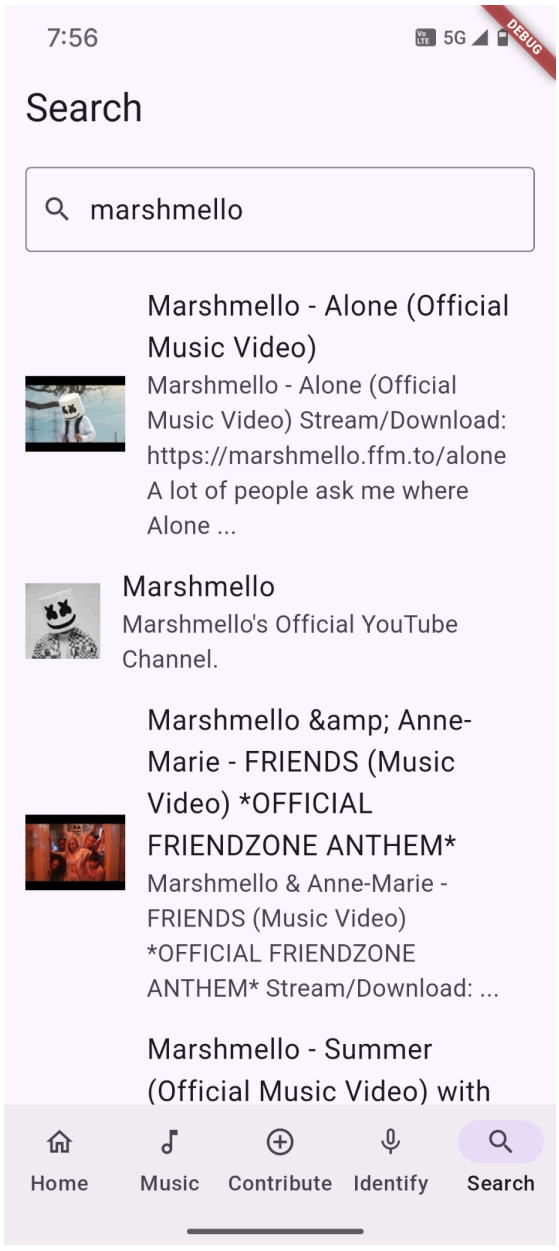

7:56
5G
DEBUG
Music Library
VXLLAIN, VØJ, Narv...
<unknown>
VØJ, ATSMXN - Wint...
<unknown>
VØJ, Narvent - Lost ...
<unknown>
we should try
<unknown>
Wednesday at 2-05 ...
<unknown>
Wednesday at 7-08 ...
<unknown>
Wednesday at 7-18 ...
<unknown>
Westernish
<unknown>
what it feels like to f...
Home
Music
Contribute
Identify
Search

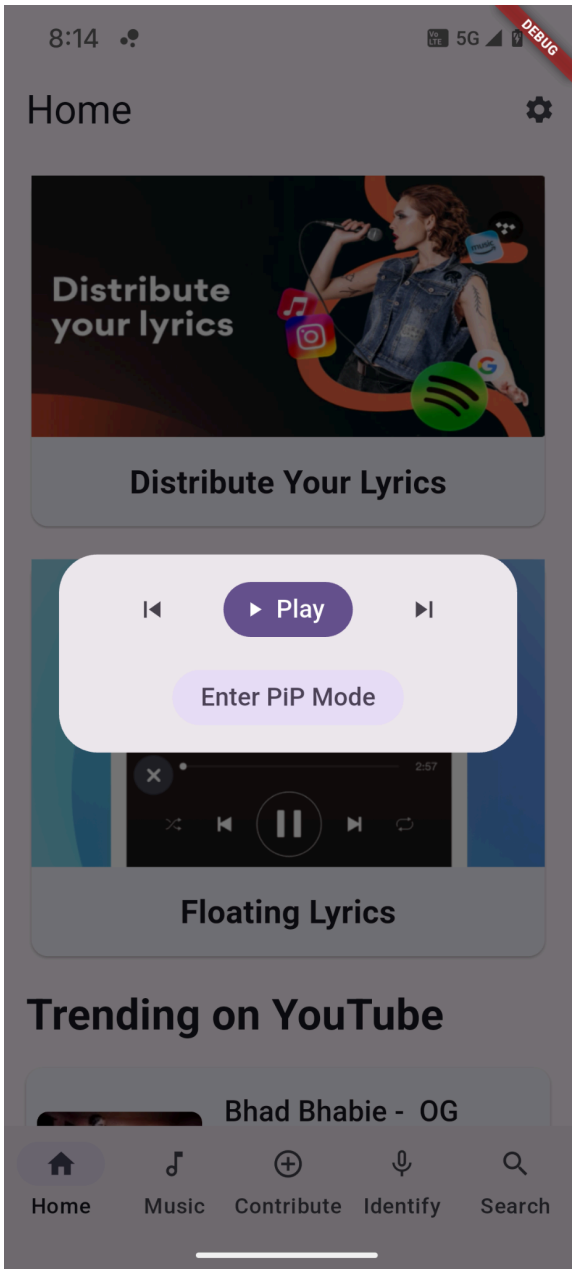

7:56
5G
DEBUG
Contribute
Take Academy and graduate
Join us in building the world's largest lyrics catal...
Home
Music
Contribute
Identify
Search

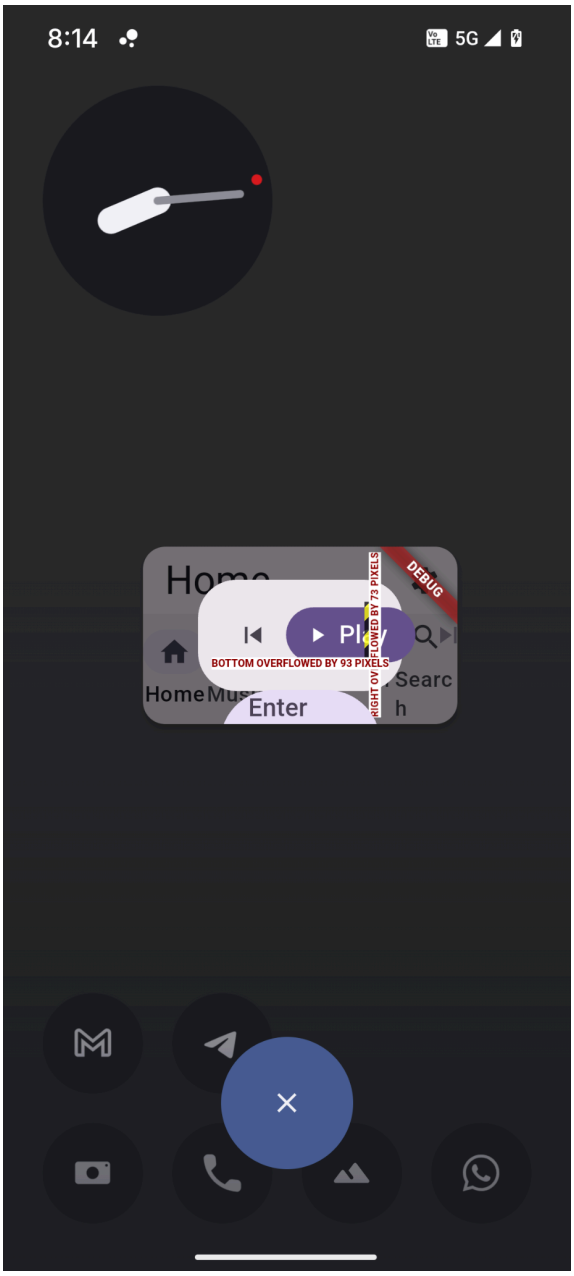

7:56
5G
DEBUG
Community
musixmatch
How Musixmatch community works
English


7:56
5G
DEBUG
Identify Song
Tap the button and play music
Home
Music
Contribute
Identify
Search


7:57
5G
DEBUG
Search
Search...
Home
Music
Contribute
Identify
Search


7:56
5G
DEBUG
Search
marshmello
Marshmello - Alone (Official Music Video)
Marshmello - Alone (Official Music Video) Stream/Download: https://marshmello.ffm.to/alone A lot of people ask me where Alone ...
Marshmello
Marshmello's Official YouTube Channel.
Marshmello & Anne-Marie - FRIENDS (Music Video) *OFFICIAL FRIENDZONE ANTHEM*
Marshmello & Anne-Marie - FRIENDS (Music Video) *OFFICIAL FRIENDZONE ANTHEM* Stream/Download: ...
Marshmello - Summer (Official Music Video) with
Home
Music
Contribute
Identify
Search


8:14
5G
DEBUG
Home
Distribute your lyrics
Distribute Your Lyrics
Play
Enter PiP Mode
Floating Lyrics
Trending on YouTube
Bhad Bhabie - OG
Home
Music
Contribute
Identify
Search


8:14
5G
DEBUG
BOTTOM OVERFLOWED BY 93 PIXELS
RIGHT OVERFLOWED BY 73 PIXELS
Enter

Code Snippets:

Icons

1. Search Icon

```
child: Row(
    children: [
     Icon(Icons.search, color: Colors.black54),
     SizedBox(width: 8),
     Text("Start your search",
        style: Theme.of(context).textTheme.bodyMedium),
    ])
```

2. Icons for bottom Navigation

```
BottomNavigationBarItem(icon: Icon(Icons.explore), label: "Explore"),
BottomNavigationBarItem(icon: Icon(Icons.favorite), label: "Wishlists"),
BottomNavigationBarItem(icon: Icon(Icons.airplanemode_active), label: "Trips"),
BottomNavigationBarItem(icon: Icon(Icons.message), label: "Messages"),
BottomNavigationBarItem(icon: Icon(Icons.person), label: "Profile"),
```

Images

1.
```
Image.asset(
  "assets/images/logo-airbnb.png",
  height: 70,
  fit: BoxFit.cover,
),
```

2.
```
Image.asset(
    "assets/images/property.png"
    , width: double.infinity,
    height: 235,
    fit: BoxFit.cover,
  ),
```

3.
```
final List<Map<String, String>> categories = [
{"name": "Amazing views", "icon": "assets/icons/airbnb_views.jpg"},
{"name": "Beach", "icon": "assets/icons/airbnb_beach.jpg"},
{"name": "Amazing pools", "icon": "assets/icons/airbnb_pool.jpg"},
{"name": "Farms", "icon": "assets/icons/airbnb_farm.jpg"}];

 Image.asset(
```

```
category["icon"]!,
width: 28,
height: 28,
fit: BoxFit.cover),
```

Fonts

1. Add google fonts in pubspec.yaml

```
dependencies:
  flutter:
    sdk: flutter
  google_fonts: ^6.2.1
```

2. Import google fonts in themes

```
import 'package:google_fonts/google_fonts.dart';
```

3. Create a theme and add it to textTheme

```
final TextStyle montserratBodyTextStyle = GoogleFonts.montserrat(
  fontSize: 18,
  color: Colors.black,
);

 displaySmall: montserratBodyTextStyle.copyWith(fontSize: 21),
```

4. Use it wherever required

```
child: Text(
            'Login',
            style: Theme.of(context).textTheme.displaySmall?.copyWith(
                color: Theme.of(context).colorScheme.onPrimary,
              ),
          ),
```