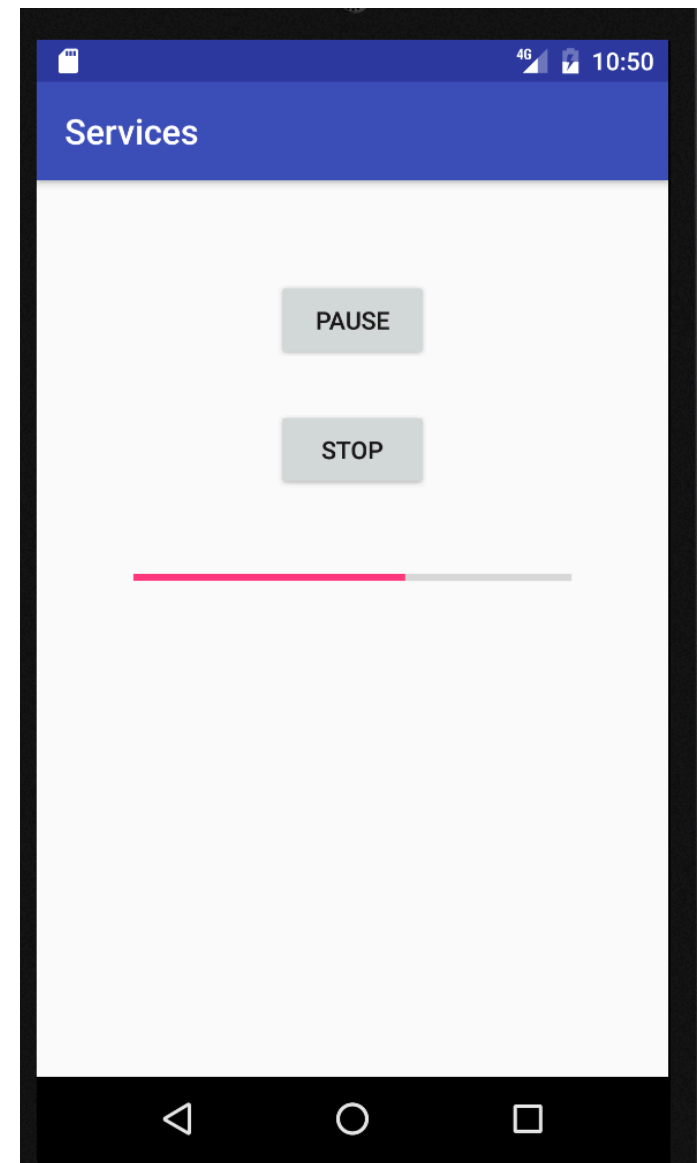# HW14

Objective

- You can
  - Create a Bound Service
  - Play music with MediaPlayer
  - Interact with the bound service
  - Use broadcasts to monitor the music progress
  - Use ProgressBar(Horizontal)
  - Use Thread for looping task

Goal

- Description
  - Click Upper button when "Play"
    - starts music, progress bar starts moving, "Play" becomes "Pause"
  - Click Upper button when "Pause"
    - pauses the music, progress bar stops moving, "Pause" becomes "Play"
  - Click "Stop" button stops the music, resets the progress bar to 0, changes the upper button to "Play"
  - When music play completes, toast "Music complete"

Guidelines

- Play music in Bound Service
- The bound service provides the following functions
  - start(), stop(), pause(), isPlaying()
- The Bound Service sends a broadcast every 100 ms with a integer parameter for progress (0~100%), and the receiving activity updates the progress bar according to the parameter in the intent
- To implement periodic broadcasting, you must use a thread

Creating a Thread with Periodic Loop

- ```
  new Thread(new Runnable() {
      @Override
      public void run() {
          try {
              while (...) {
              ...
                  Thread.sleep(100);
              }
          } catch( InterruptedException e )
              e.printStackTrace();
      }
  }).start();
  ```

Evaluation Points

- Proper set of the first button (Play or Pause)
- Proper behavior of the progress bar
    - cleared before play, stop progress when paused, resume progress when played, full progress when the music reaches to the end
- Do not crash the APP (-5)
- Deadline: 12/5 11am