

CIS 3515 Assignment 9

Instructions: Create a branch of your previous app and update it with new features.

Your application will allow a user to play the audio from any book in the collection available on the web service. To facilitate the audio feature, you will use a library linked in the appendix below. Your goal will be to integrate the library, and thereafter provide controls and feedback to the user when playing an audiobook.

1. Start a new branch of your previous project (Or **FORK** the Instructors version as a starting point if you prefer)
2. Refactor your Book class to add a new field:

duration: int – the length of the book in seconds

You will find this value available in the JSON book objects received from the web service API.

3. Download the library file linked in the appendix below. The library will provide you with a service implementation, **edu.temple.audlibplayer.PlayerService**, capable of playing an audiobook hosted on the web service by simply providing the ID for the book you wish to play. NOTE you should **not** use the method in the service that allows you to play an audiobook by using a file. Only use the method that asks for the book ID. The service will stream the book automatically.
4. Add the library to your project as a dependency by following the instructions here: <https://developer.android.com/studio/projects/android-library#psd-add-aar-jar-dependency>. This will allow you to access PlayerService. **Do NOT download the source code of the service to add it to your project manually. Be sure to add it as a library!**
5. Once added, modify your app to add the following features:
 1. Allow a user to play the book they are currently viewing
 2. Display the title of the currently playing book with a “Now Playing” header or prefix
 3. Allow a user to pause the currently playing book
 4. Allow a user to stop the currently playing book
 5. Show the progress of the currently playing book (between 0 and 100%) using a SeekBar
 6. Allow the user to move forward and backward within a book (between 0 and 100%) by dragging the position of the same SeekBar that shows book progress
6. Audiobook controls (the Play button, Pause button, Stop button, and SeekBar) and the *Now Playing* label will be placed in their own fragment called ControlFragment. This fragment must

be visible in all device orientations (portrait and landscape). Note that even though the control buttons are located inside a fragment, communication with the service should only be performed in your main activity. That is, ControlFragment must not have access to the binder object or communicate with the service directly. Any event generated from any fragment that impacts the service (or vice versa) must be routed through the activity.

7. There should be no interruption in audio playback if the activity is restarted. That is, if the user, for example, rotates the device and forces a configuration change while a book is playing, the audio should continue to play uninterrupted while the activity restarts, and the user must still be able to control the book once the activity is restarted.
8. If the user exits the activity while the book is playing, the book should continue to play until it is completed, or until the user relauches the main activity and stops playback.
9. If the user closes and then relauches the activity while a book is playing, they should see the currently playing book being displayed in a BookDetailsFragment, as well as the Now Playing label showing the name, and the SeekBar showing the current progress. The API to fetch information on a book using its ID can be found in the Appendix.

Appendix

Source code, the aar (library) file, and instructions on using the library can be found here:

<https://github.com/karlmorris/AudLibPlayer>

AudioBB API

1. Get a specific book in JSON format based on a provided ID:

Format: <https://kamorris.com/lab/cis3515/book.php?id=id>

Return value: JSON Object representing a book matching the provided ID with the following string:value pairs:

1. id: Number – the ID of the book
2. title: String – the name of the book
3. author: String – the author of the book
4. duration: Number – the duration (length) of the book in seconds
5. cover_url: String – the URL of an image of the book cover

Example:

Query URL: <https://kamorris.com/lab/cis3515/book.php?id=5>

Result: {"id": "5", "title": "Through the Looking-Glass", "author": "Lewis Carroll", "duration": "1104", "cover_url": "https://kamorris.com/lab/abp/covers/through_the_looking_glass.jpeg"}

Rubric

| | |
|--|-----|
| Integrated AudioBookService | 10% |
| Properly integrate controls (Play, Stop, Pause) in ControlFragment with <i>Now Playing</i> label | 20% |
| SeekBar progress is associated with book duration | 10% |
| SeekBar updates as book plays to show current progress | 10% |
| SeekBar controls book progress when user moves progress bar | 20% |
| Book continues playing when activity is restarted | 20% |
| Controls continue to function and <i>Now Playing</i> shows correct book when activity is restarted | 10% |