**Virtual library app**

Goal:

* Create an application which allows users to add books to a list by scanning its barcode or enter its detail manually, and stores that list in a database.

Features:

* User can add new books by typing its details
* User can add their book’s details by scanning its barcode (CameraX, MLKit Vision - Barcode scanning, Retrofit)
* App stores data in a Room database
* App shows all stored books using GridLayoutManager and RecyclerView
* When user clicks on a selected book, the app navigate to another fragment to show all stored information
* If user wants to update any data, they can in a given fragment

Minimal Viable Product:

* Single activity app using Navigation Controller for fragment navigation.
* 4 fragments needed:
  + ListFragment = Shows the list of stored books
  + AddFragment = A form to add information about selected book either by scanning or typing manually
  + DetailFragment = Showing selected saved book’s details
  + EditFragment = Update changed part of a book which has already been saved
* Activity based barcode scanning using CameraX and MLKit Vision’s Barcode scanning part
* Search for details on a RESTful API server using Retrofit
  + Retrived data held in local models using Moshi
  + Performs on the appropriate threads to avoid stalling the UI
* List of saved books displayed using GridLayoutManager and RecyclerView
* Added books saved into a Room database
* MVVM architecture using observer pattern with LiveData
* Handles system orientation changes, application switching, notifications
* Utilize system hardware for advanced features
  + At least one hardware component -> camera
  + Permissions requested at runtime
  + Only accessed after permissions are granted

Extra:

* At least one part utilize MotionLayout, defined in MotionScene using Transition nodes and ConstraintSet blocks
* Loading remote image resources using Glide
  + Displays placeholders while being loaded and handle failed network request gracefully
  + Perform async on proper threads