

Florida International University

Summer 2024 Senior Design Project

<Flex Workout App>

Students: Raul Lizazo

Mentor: *Masaoud Sadjadi*

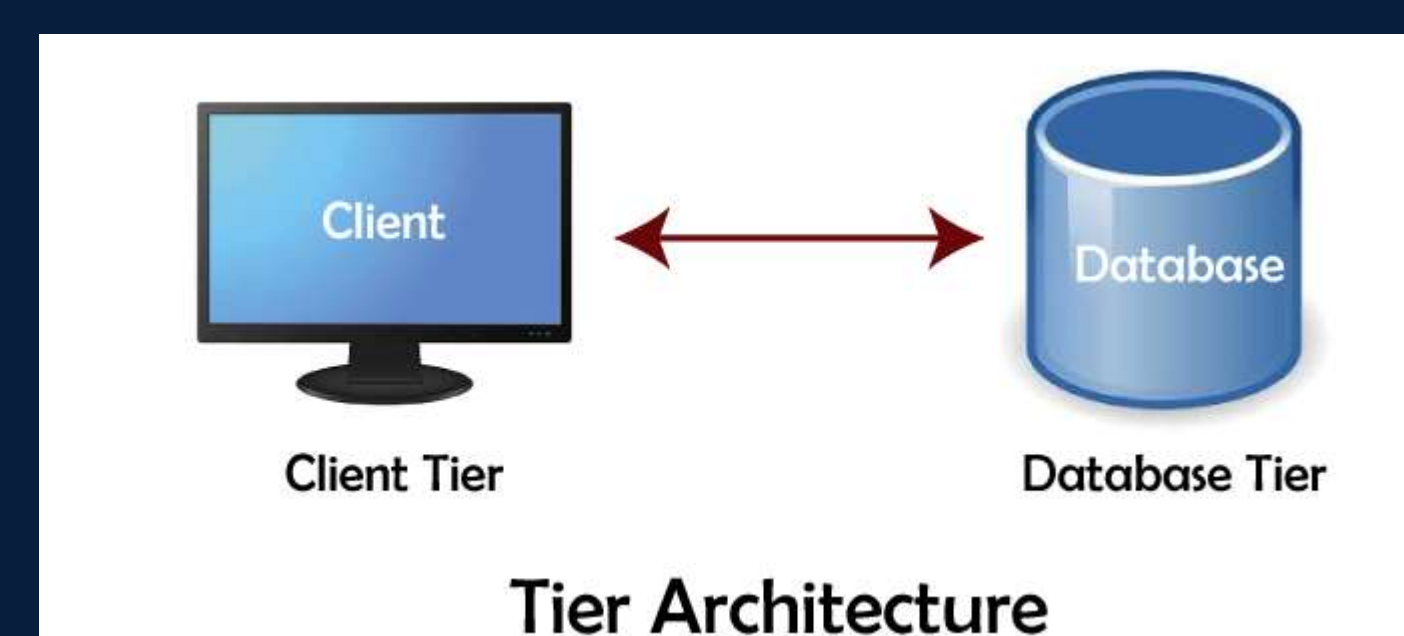
Instructor/Faculty: *Masaoud Sadjadi*, Florida International University

PROBLEM

The objective of this project is to create an intuitive application that simplifies the management of workout routines for users. This app is designed to enable users to log exercises, track their progress, and calculate essential metrics like calories burned and metabolic rates. Moreover, it allows for the creation and customization of workout plans tailored to individual fitness goals.

SYSTEM DESIGN

- 2-Tier Architecture:** This design was chosen to ensure scalability and maintainability of the application.
- Integration with YouTube:** Users can link exercises to YouTube videos for guided workouts.

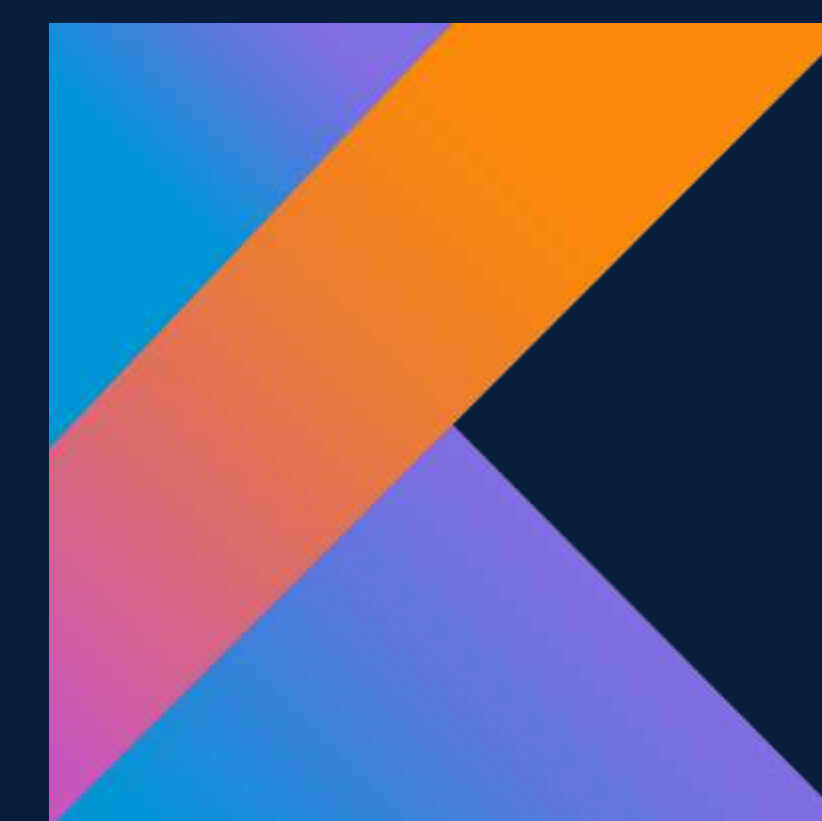


VERIFICATION

The system underwent manual regression testing, debugging, and validation to ensure accuracy and reliability.

CURRENT SYSTEM

Kotlin and Local Database



OBJECT DESIGN

The app includes functionalities for creating routines with names and descriptions, as well as exercises with associated details like YouTube URLs, sets, and repetitions.

SUMMARY

We created an app to easily track workouts, calculate metrics, customize plans, share, and get recommendations in a simplified and more appealing manner.

REQUIREMENTS

- Workout tracking
- Metabolic rate and One Rep Max calculation
- Customization and search functionality
- Personalized recommendations

IMPLEMENTATION

- Kotlin and Local.
- Android Studio.
- Database development using SQL for efficient storage and retrieval of workout data.



REFERENCES

- <https://m3.material.io/>
- <https://kotlinlang.org/>
- <https://www.athleanx.com/calculators/one-rep-max>
- <https://www.calculator.net/calorie-calculator.html>
- <https://github.com/PierfrancescoSoffritti/android-youtube-player>

ACKNOWLEDGEMENT

The material presented in this poster is based upon the work supported by XXXXX (name of the project sponsor: federal, state or local government, or corporate partners, where applicable). We/I thank XXXX for his/her/their assistance and mentorship that I/we received throughout the senior design project.