

Tyrel Carlson

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SUMMARY

A forward-thinking developer with 10 years of hands-on experience in Android applications and web sites for the high-paced business. Over 8 years of hands-on experience in native Android development, architecture, building, integrating, unit test & UI test, manual test, debugging, analyzing.

- Strong Architecture (Define, OOP, SOLID, design patterns and drive) and Migration experience.
 - Full life cycle software development to launch, demo apps and prototyping, maintaining.
 - Capable of working autonomously and embracing technical challenges.
 - Adhere to best practices and design standards in Android.
 - Proficient in continuous integration principles and maintaining high unit test coverage.
 - Effective verbal and written communication skills, collaboration with other teams, PM, customers.
 - Efficient with Agile development methodology, expert in version control system management.
 - Experienced analyzer of critical issues, maintainer of apps in the market and Google Play Store.
 - A curiosity-driven engineer offering app solutions with the latest technology, design theory, and a large dose of creativity considering optimization, performance, UI/UX and maintainability.
 - Experience in entertainment industry, Fin-tech industry, e-commerce industry, privacy policy & security industry.
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EXPERIENCE

Senior Android Engineer Siri Info Solutions

July 2020 – December 2023, Westminster, CO

- Increased the unit test coverage of the Android app from 80% to 95% by establishing and following Test Driven Development (TDD) approach in the Android app.
- Refactored legacy code and code smells by removing usages of shared ViewModels across the project which led to a decrease in code complexity, number of bugs reported, and improved developer productivity.
- Experienced in using Google Cast SDK to cast media content onto Chromecast supported devices.
- Migrated from LiveData to StateFlow and SharedFlow which resulted in a more consistent and readable code.
- Utilized Turbine library to test and analyze Coroutine Flows inside the project.
- Refactored data layer to expose flows for streams of data to higher level code, which reduced the amount of boilerplate code and improved maintainability.
- Redesigned the architecture for an Android app using Google's architecture guidelines which led to a more concise and extendable code and reduced the number of crashes.
- Played a key role on various SPIKE tickets and investigated Google monetization platform which resulted in more profit.
- Investigated technical obstacles regarding Gradle's long build time by analyzing and profiling Gradle builds to monitor different ways to reduce build time and proposed ways to reduce the build time by 60%.
- Migrate from view-based UIs to Jetpack Compose, resulting in more readable and architected UI layer, and implement state management in UI layer.
- Improved the most visited pages of the application, including the main feed and the product detail page, by implementing tracking in various pages, which led to a more organized and correct workflow.
- Follow Unidirectional Data Flow (UDF) to separate state and events in UI layer to reduce the number of malfunctions in a particular flow.
- Hands-on experience of working with Content Management Systems to provide CMD driven app to avoid publishing new version upon a feature change.
- Fixed crashes introduced by monitoring libraries such as NewRelic by studying obfuscated stack traces and tackling various unknown edge cases.
- Introduce build variants to provide different types of the app e.g. free, paid and depending on different markets to a wide range of users.
- Upgraded to Android SDK API 33 that required refactoring in manifest, permissions, local storage access, Gradle, 3rd party libraries upgrade, etc.
- Redesign and refactor the app to support multiple platforms Mobile, Tablet, Android TV, Fire TV.

Mobile Application Engineer 42 Technologies

June 2016 – May 2020, Westminster, CO

- Developed streaming and fintech applications which used RxJava, Coroutines heavily.
- Developed MVVM, MVP, and Clean Architecture environment.

- Wrote functional tests using JUnit which increased code coverage and resulted in a decrease of 10% in overall bugs reported.
- Managed risks, focuses on solving technical issues, resulting deduction of 5% of development time.
- Mastered complex tasks on Gradle, Maven for management of library projects.
- Overhauled the obsolete legacy source code of 3 production applications, resulting in improved usability and reduced runtime by 50%.
- Facilitated continuous interaction between users, developers, and QA teams throughout the SDLC, resulting in a 95% testing success rate.
- Experienced in building & modifying the AOSP and UI part of the framework with Kotlin and Java, C/C++.
- Implemented Push Notification features with Urban Airship, maps features with Google Map, AMap.
- Updated Dagger dependency injection to Hilt.
- Developed POC samples for major features of client's application using Kotlin Multi Platform technology to support Android and iOS.
- Implement Analytics and Crashlytics by Firebase frameworks, Datadog, Splunk.
- Participated in CI/CD process by using Github Actions/Workflows, Jenkins.
- Experience in backend development using Node.JS.
- Handled team communication through multiple systems, including Teams, Slack, and JIRA.

Full Stack Engineer

AirTreks

August 2014 - April 2016, Claremont, CA

- Implemented complex UIs efficiently and implemented MVC pattern with Java.
- Wrote unit test codes and improved test coverage more than 80%.
- Used Crashlytics to troubleshoot issues, utilizing crash reporting to isolate root causes.
- Integrated with Rest APIs with Retrofit2, OKHttp, Gson.
- Collaborated with Backend team using Swagger, Postman, Fiddler to integrate with Rest API.
- Fix critical defects on iOS application using Objective-C.
- Participated in web development using HTML5, CSS, Javascript, .NET.
- Experienced in establishment of CI/CD using Bitrise.

EDUCATION

Bachelors of Science, Computer Science

Harvey Mudd College • Claremont, California • 2014

- Software engineering, Object-Oriented Programming, Operating System, Database Science. Computer Network, Information Security

CERTIFICATIONS

Android Certified Application Engineer

Android ATC

SKILLS

- **Programming Languages:** Kotlin, Java, C++, Objective-C, .Net, Python
- **Version Control:** Github, BitBucket, GitLab, Azure
- **Major Frameworks & Libraries:** Jetpack, Dagger Hilt, Dagger2, Kotlin Multiplatform, Retrofit, OKHttp3, Gson, Moshi, Firebase libraries, JUnit, Mockk, Mockito, Espresso, Robolectric, gRPC
- **UI Implementation:** Jetpack Compose, XML, Canvas Draw, Customization of View, Animations, ViewBinding, DataBinding
- **Principles:** SOLID, Clean Architecture, DRY
- **Design Patterns:** Singleton, Builder, Factory, Facade, Dependency Injection, Adapter
- **Architecture Patterns:** MVI, MVVM, MVP, MVC
- **Database:** SQLite, MySQL, Firebase, Firestore, MongoDB
- **Threading:** Java Threads, Executors, AsyncTask, Loaders, Coroutines, RxJava, Loopers/Handlers
- **Services & Background Tasks:** WorkManager, Services, JobScheduler, Alarm Manager
- **Backend:** GraphQL, REST APIs, XML, JSON
- **Build:** Gradle, Groovy, Kotlin DSL
- **Issue Tracking:** Jira, Azure
- **Project Methodologies:** Agile, Scrum, Waterfall