Aswin S L

Native Android App Development/Native Mobile UI/Embedded | Kotlin/C/GO/Core-Java/Scripting/Greenplum Analytics

Technical Team Lead | **Android Architect** | **Technical Manager** | **Individual Contributor**

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EXPERIENCE SUMMARY

- Good experience in Mobile, Embedded, Android Apps, Android Automation Framework Development and Kotlin/C/Golang/Core-Java/Scripting with a good understanding of delivery management processes and product engineering.
- Extensive experience in customer interaction, technical collaboration as onsite coordinator, technical lead, Architect, Scrum Master, and Technical Manager and working with cross cultural teams in US, India, Japan, UK and Europe
- Very good exposure to cloud migration from legacy environment
- Expert in developing features such as Augmented Reality using ARCore Multimedia, Navigation, Shop, and book etc.
- End-to-end implementation experience in providing IT Strategy and Roadmaps, business analysis, requirements gathering, solution design, efforts estimation, application configuration, customization, integration with legacy systems, functional testing, user training and production support.
- Developed several applications (few from scratch) using MVC, MVP, MVVM and clean architecture.
- Proven results in supporting organization building including talent recruitment, management and team building activities.
- Expertise in all phases of product development process that involves requirement analysis, planning, design, development, troubleshooting, testing/automation testing and operations.
- Comprehensive experience in handling multimedia applications involving asynchronous callbacks from the underlying OEM layers.
- Comprehensive knowledge of both Software Development Life Cycle (SDLC)/Agile Software Development Methodology.
- Development of mobile automation framework such as Calabash, Robotium, Monkey Runner, JBehave, Junit, Ruby Scripting and so on
- Comprehensive experience in shell scripting to develop automated scripts for supporting weekly/monthly complex jobs leading to minimal manual efforts, cron-jobs etc.
- Experience in ingesting and extracting large datasets for analytics.
- Comprehensive knowledge in hardware debugging using JTAG.
- Used the tools such as JIRA, Confluence, FishEye, Figma, Rally for better tracking and reviewing.
- Used IDE tools such as Android Studio, Eclipse, Source Insight, QT IDE and GDB for the development and debugging of applications.
- Proficient understanding of code versioning tools - Perforce, Git, SVN & familiarity with continuous integration process like Jenkins and Quick-build
- Experience in both TDD (Test Driven Development) and BDD (Behavioral Driven Development)

TECHNICAL SKILLS

- **Languages:** Kotlin, Embedded C, Golang, Core Java, Shell Scripting, Ruby Scripting
- **Android Key Skills:** MVVM/MVC/MVP, Jetpack Libraries, Jetpack Compose, Jetpack Navigation, Coroutines, Flows, FMS (Firebase Messaging), LiveData, Retrofit, RxJava, Dagger, OAuth, Paging, Databinding, Room DB, ARCore
- **Code Coverage Tools:** Jacoco, mockK, mokito.
- **Automation Tools:** JUnit, Calabash, JBehave, Cucumber, Apium, Robotium, Monkey runner
- **Cloud:** GCP, Cloud Functions
- **Database:** Firestore, Greenplum, DB2, Oracle PSQL
- **Mobile Application Frameworks:** Android, QT, Qualcomm's BREW, Qualcomm's BUIW
- **Software Debugging Tools:** Android Studio, DDMS, Eclipse, GDB, Crash Dump Analyzer, Qualcomm's QXDM
- **Hardware Debugging Tools:** JTAG, Trace32, crash-dump analyzer, QXDM (Qualcomm eXtensible Diagnostic Monitor)
- **IDEs:** Android Studio, Source Insight, Eclipse, QT IDE
- **Repository/CI/CD Tools:** Perforce, SVN, Git, Jenkins, Quickbuild
- **Other Tools:** JIRA, Confluence, FishEye, Rally, ServiceNow
- **Familiarity in:** Amazon Web Services, GCP, Google Cloud Functions, System Programming (Linux Internals), RTOS (VxWorks, REX), ARM Microcontrollers, Python, Docker, MS Visio, Selenium

WORK EXPERIENCE

Oct 2017 till date **Alpharetta GA**

Android Architect and Developer

Client: Genuine Parts Company, Atlanta

Apr 2023 till date

Software Suite: Kotlin, Kotlin DSL, Jetpack Compose, Google Cloud Platform, Google's Gen1 & Gen-2 Cloud Functions, Android Studio, Sonar, Gradle, GitHub, Sonar, 3rd Party SDKs, Jenkins, VersionOne, Figma, Automation using mockK.

Development of Freight Delivery Android Application (from scratch**)**

- Worked as Android architect/developer for developing the freight delivery application using clean architecture.
- All the UI screens is developed using the Android's Jetpack Compose Library.
- Followed best practices like MVVM, MutableState, Kotlin Coroutines & Flows, code coverage and so on.
- Introduced Android Geofencing feature in the app
- Used Google's Firebase Authentication service for managing the users.
- Used Firebase/Google Cloud Functions to address admin related functionalities such as assigning the user claims, updating the claims within the app for admin user etc.
- Used Google's Firestore database to store trip data and manage online/offline deliveries. Sync between the device's data and the server's data were achieved whenever the user gets connected to the network.
- Automation of AndroidTests using mockK framework
- Owned code review process to have good code quality and full code coverage, used mockK for android tests.
- Managed inbound and outbound file deliveries through Google's Cloud functions using Python.
- Implemented automatic product flavor creation and was automated and added to the CI/CD pipeline.
- Implemented gradle tasks for building different app flavors like devRelease, devDebug, qaRelease, qaDebug, prodDebug, prodRelease etc.
- Implemented product flavors (Dev, UAT and Prod) using Gradle.
- Created GitHub Actions/Tasks to check Build, Code Coverage (using Jacoco), AndroidTests and Snyk (for code scanning), as pre-checks before merging the code changes to main.

Android Architect/Technical Lead

Client: Fidelity Investments

Oct 2022 - Apr 2023

Software Suite: Kotlin, Jetpack Compose, Android Studio, Sonar, Gradle, Retrofit, RxJava, Room DB, GitLab, Sonar, 3rd Party SDKs, Jenkins, VersionOne, Figma

Development of FDAS Android Application (from scratch**)**

- Worked as Lead Android developer for developing the Fidelity Digital Assets Android Application with the clean architecture.
- Developed 2FA login authentication and push notification implementation (from scratch) using third party SDKs like Akamai, DAON and handled biometric authentication as well.
- Used Android Jetpack Compose library for all the new UI components/screens that were developed
- Handled single sign-on and deep-linking that involves user navigation to and from web pages without providing the credentials between transitions.
- Used components such as Retrofit to access HTTP APIs to access the backend network components.
- Had developed a brand-new modular banner that is customizable and configurable at the runtime using Apptimize SDK
- Used Apptimize SDK for setting up the banners dynamically to the app in Production.
- GitLab for version control and code reviews
- Owned code review process to have good code quality and full code coverage.

Android Technical Lead

Client: Walmart Global Tech

Mar 2022 - Oct 2022

Software Suite: Kotlin, ARCore, Android Studio, Sonar, Gradle, Retrofit, RxJava, GitLab, Sonar, Firebase, Jenkins, mockK, Figma.

Development of Extended Reality feature in Walmart's Android Consumer App (from scratch**)**

- Lead Android developer for developing the extended reality features using ARCore.
- Had developed a POC to demonstrate the features of ARCore before integrating in the main consumer app.
- Developed applications using the latest Android's Jetpack libraries and the latest Android architectural components such as Live Data, flows, Lifecycle, Paging, Navigation, View Model and Databinding
- Built a new feature that consists of AR features required for the app.
- Followed best practices like MVVM, MutableState, Kotlin Coroutines & Flows, code coverage.
- Automation of Android UI tests were done using mockK and had achieved almost 100% coverage.
- Used components such as Retrofit to access HTTP APIs to access the backend network components.
- GitLab for version control and code reviews
- Owned code review process to have good code quality and full code coverage.

Android Technical Lead

Client: Delta AirLines Inc, GA

Jan 2020 – Feb 2022

Software Suite: Kotlin, Jetpack Compose, OAuth, Android Studio, Sonar, Gradle, Retrofit, RxJava, Room DB, GitLab, Sonar, Firebase, Go (build pipelines), Mockito, VersionOne, Figma

Development of FlyDelta Android Application

- Worked as a lead android developer for developing the Delta's FlyDelta App.
- Major contribution for the UI transformation and migration using Google's Jetpack libraries including Compose, Kotlin, Kotlin Coroutines, Kotlin Flows etc by following best practices like MVVM, Code Coverage and so on.
- Building a Jetpack Compose library that consist of all the reusable components for the application.
- Used OAuth for authorizing the user.
- Reskinning of the entire module using the Jetpack Compose
- Used components such as Retrofit to access HTTP APIs to access the backend network components.
- Automation of Android UI tests were done using mockK.
- Used Go pipelines for managing the code submissions and made sure all the automation tests are green before publishing the app to the PlayStore
- Used GitLab for version control and code reviews.
- Owned code reviews to have good code quality.
- Followed best practices by enforcing to have full code coverage.
- Used tools such as Lint, Sonar etc. for better code syntax.
- Developed features such as eDocs (eCertificate, eCredit, eGiftCard) for addressing the cancellations made due to Pandemic.
- Playstore link: https://play.google.com/store/apps/details?id=com.delta.mobile.android

Technical Architect for Cloud Migration

Client: Equifax, GA

Oct 2017 – Dec 2019

Software Suite: Shell Scripting, Greenplum DB, Apica, Eclipse, Jenkins, Perforce, JIRA, Confluence, FishEye, ServiceNow

Migration of Commercial Applications to GCP: Migration of all the commercial application developed in Java and C++ to GCP.

- Worked also as a tech lead and scrum master for planning all the activities to be tracked.
- Resolved all the dependencies for the team to make progress on their respective tasks.
- Contributed and helped the team to make progress on tasks.
- Followed up with the team to get all the issues reported by Fortify scan.
- Communicate the progress and milestones to various stakeholders in Equifax.
- Worked on providing the performance analysis to compare the application's behavior after the migration.
- Migrated 7 online applications and 6 batch applications to cloud without missing deadlines.
- All the monitors such as CPU, memory and space monitors were added to monitor and handle issues on time.
- Synthetic checks were introduced to make sure the response is as expected.
- All the applications are now on cloud without issues.

Technical Lead/Onsite Co-Ordinator

Client: Equifax, GA

Oct 2017 – Dec 2019

Software Suite: C, Core Java, Shell Scripting, Oracle, DB2, Greenplum, Apica, Eclipse, Jenkins, Perforce, JIRA, Confluence, FishEye, ServiceNow

Commercial Application for Credit Scores: Maintenance of backend credit score processing for small businesses for generating credit score, alerts such as bankruptcy, lien, and so on. This application is developed using Java, C and shell scripting using client-server architecture using Tuxedo framework.

- Worked as a scrum master for planning the backlogs during sprint planning based on the priorities set in the production environments with the help of SREs.
- Debugging production issues faced in both C and Java applications during online transactions.
- Development and automation of batch jobs for backend processing using shell scripting.
- Debugging batch jobs developed in shell scripting.
- Management of Greenplum and DB2 databases.
- Manage team for addressing customer reported issues based on priority using JIRA and RALLY as the tracking tools, ServiceNow for change request management.
- Used Eclipse as IDE to develop and debug the applications both in Linux and Windows environments.
- Used confluence for documentation of the entire process and Apica for application monitoring.
- Automation of Monthly/Weekly data extraction from DB2 database in 1000s of threads for parallel processing.
- Complete automation of Monthly/Weekly load process into Greenplum Database that was extracted from DB2 database.
- Involved in the implementation of security remediation for handling these applications in a secured protocol.
- Involved in CyberArk - security feature integration to production environments.

Sep 2003 – Oct 2017 **Bangalore, India**

Android Technical Architect

Client: TomTom International

Jan 2011 – Oct 2017

Software Suite: Core Java, Android, JUnit, Eclipse, Jenkins, Perforce, JIRA, Confluence, FishEye, Calabash, Static Code Analyzer, MS Visio

Development of Next Gen TomTom Android Navigation Application (Nav4): TomTom's new Android Navigation application was developed with all new architecture. UI Features include Route Planning, Finding Shortest Route, Finding fastest Route, NIP (Next Instruction Panel), Speed Camera Alerts, Showing Terrain information on Map, Zoom In/Out, Pinch In/Out, Media etc.

- This application was developed in Android using Core Java during the development phase. This is now a base platform for all the Navigation devices in TomTom.
- Application design using microservices architecture for scalability and ease of maintenance including other benefits of microservices.
- Eclipse IDE was used for development and debugging the application, Perforce for version control and code maintenance.
- Porting of TomTom Navigation Application to various devices with different Android versions and screen sizes. Cosmetic changes while porting the application were also addressed.
- FishEye was used for code reviews that were integrated with the version control tool.
- Proposed many new features/enhancements to TomTom's Navigation App.
- Static Code Analyzer was integrated in the build process to catch the code defects before committing the code.
- Followed TDD approach by developing automated tests using JUnit and Calabash for all the new features being developed.
- Used Jenkins for continuous integration process to identify errors in code submissions.
- Confluence was used for managing the design and all other project documentation.
- Playstore link: https://play.google.com/store/apps/details?id=com.tomtom.gplay.navapp

Android Automation Architect

Client: TomTom International

Jan 2011 – Jun 2017

Software Suite: Core Java, Ruby, Calabash, JUnit, Robotium, Cucumber, Monkey Runner, Static code analyzer, Eclipse, Jenkins, Perforce, JIRA, Confluence, FishEye

New Automation Framework Development for Android Nav4 Apps: Design and development of automation framework for automating all the scenarios for the new application being developed. All the features related to the TomTom Navigation application were covered as part of the automation. UI Features such as Route Planning, Finding Shortest Route, Finding the Fastest Route, NIP (Next Instruction Panel), Speed Camera Alerts, Showing Terrain on Map, Zoom In/Out and Pinch In/Out were covered in automation tests.

- Played a critical role in gathering requirements, gap analysis, draft functional and technical specs and involved in development and design of the framework.
- Involved in the identification and recommendation of a best tool that serves the purpose of automation considering the application architecture. Considered tools were Calabash, Apium, Monkey Runner, JBehave, Cucumber, Robotium etc.
- Developed a new custom framework using the client server architecture to automate as much as possible to avoid/minimize manual testing that covered 98% of test scenarios. This new framework was an extension to Calabash.
- New framework was designed to measure application KPI that helped in measuring and tuning the performance for application optimization.
- This new framework gained the customer confidence and was implemented globally across all divisions in TomTom.
- The tool was implemented to work in different versions of Android and screen sizes.
- Followed Agile methodology using tools such as JIRA for user story tracking, Eclipse IDE for development. FishEye for Code review and Perforce of code maintenance and version control

Android Automation Lead

Client: TomTom International

Jan 2010 – Dec 2010

Software Suite: Core Java, Eclipse, JUnit, Jenkins, Perforce, JIRA, Confluence, FishEye

Multimedia Framework Validation for Android: Requirement was to develop a framework using JUnit for all the supporting multimedia features by TomTom's navigation engine.

- Engaged in solution design and development of new multimedia automation framework using JUnit for validation of all multimedia features in TomTom maps. Simulated mass storage devices such as SD Card, USB Ports during validation.
- Development IDE was Eclipse and JUnit tests were written in Core Java
- Followed Agile methodology for tracking all the user stories in JIRA.
- Version control tool was Perforce to maintain the code and different branches.

Technical Team Lead

Client: TomTom International

Jan 2010 – Jul 2010

Software Suite: C++, QT IDE, Docker, Jenkins, Perforce, JIRA, Confluence, FishEye

Development of TomTom's RRC: TomTom's RRC (Reference Reflection Context) framework was used by Herman for development of Navigation UI by making use of TomTom's Navigation Engine. RRC was developed in QT IDE and using Docker**.** All the navigation features supported by TomTom's navigation engine were exposed in RRC, so that Herman could develop their custom UI using the TomTom's Navigation engine as the backend.

- Design and development of new features/requirements specified by Harman to map the usage of TomTom's navigation engine and the QT UI developed by Harman.
- Identified and mitigated risks, engaged in development, testing, bug fixes and prepared cutover tasks for package release.
- Development of TomTom's RRC framework using Docker, QT IDE, and C++ in Linux environment
- Development of application using standard library, STLs, algorithms in C++
- Worked as Technical Scrum Master to track and help the team to progress on the sprint deliverables. JIRA was the tracking tool used.
- Used FishEye for code reviews that helps in managing the comments with multiple versions of code check-ins.
- Used Perforce for code submissions and maintaining branches.
- All new features were tested end to end with unit tests to minimize manual QA and regression testing process.
- Every feature that was implemented was demonstrated using the QT test application for all user stories.

Technical Team Lead

Client: Intel Corporation

Jan 2010 – Mar 2010

Software Suite: Core Java, Intel CIT Boards

POC – Demonstration of Intel's CIT technology using new CIT Intel Boards

- Demonstration of Cloud Integrity Technology using Intel Boards.
- This was a proof of concept to demonstrate the ability to work in Mindtree on the latest technologies developed by Intel. Intel's CIT boards were used to gain customer confidence.

Technical Team Lead

Client: Kyocera Wireless India, Bangalore

Jan 2009 – Dec 2009

Software Suite: JTAG, Trace32, Perforce, Crashdump analyzer, QXDM (Qualcomm eXtensible Diagnostic Monitor), CRMDB

OEM/Porting Layer Development and Enhancements: Design, Development, and customization of new touch-based features in Qualcomm's BUIW framework for the applications developed in Kyocera.

Handled daily CCB Meetings for the important change requests to be performed.

- Worked as a technical team lead for resolving and driving the open issues to closure by helping the team as required.
- Development of custom screens that could be used as a base screen for all the applications.
- Worked in Kyocera's Porting layer (Qualcomm's BREW/BUIW) for development/enhancement and maintenance using C Language
- Trace32 was used for hardware debugging CrashDump Analyzer was used for debugging memory leaks.
- QXDM logs were used for debugging scenarios involving interactions between multiple applications.
- Tools such as CRMDB for tracking the change requests, Perforce for Version control and code maintenance and Source Insight for Application Debugging were used.

Senior Software Engineer

Client: Kyocera Wireless India, Bangalore

Jan 2007 – Dec 2008

Software Suite: JTAG, Trace32, Perforce, Crash dump analyzer, QXDM (Qualcomm eXtensible Diagnostic Monitor), CRMDB

Development of Media Gallery, Music Player, and Photo Editor: Media Gallery, Music Player and Photo Editor were developed using Qualcomm's BUIW framework from scratch. All the three applications supported both the list and icon view for browsing and viewing/playing the media files. These applications were developed for the new touch-based phones using the all new BUIW framework.

- Worked as a senior engineer to develop multimedia applications starting from design till the implementation was complete.
- All applications were developed in C language using Qualcomm's BUIW framework.
- Faced challenges while designing and developing applications as the new BUIW framework was used and the applications were developed from scratch.
- Development of applications involved asynchronous calls to and from the OEM/device-drivers layer. Designed application UI to handle such asynchronous calls/
- Comprehensive knowledge in hardware debugging using JTAG and software debugging using QXDM to analyze application logs, CrashDump Analyzer for analyzing memory leaks and Eclipse IDE for Development on the applications.
- Change requests were managed in CRMDB, code was maintained using Perforce.

Senior Software Engineer

Kyocera Wireless India, Bangalore

Jul 2005 – Dec 2006

Software Suite: Qualcomm's BREW framework, JTAG, Trace32, Perforce, CrashDump Analyzer, QXDM (Qualcomm eXtensible Diagnostic Monitor), CRMDB

Maintenance of Multimedia Mobile Applications: Applications including Media Gallery, Camera, Photo Editor, Music Player, Calculator, Settings, Timer and few gaming applications like Brick Attack and so on were developed using Qualcomm's BREW platform.

- All these applications were developed in C language using Qualcomm's BREW Platform.

- Major contribution in porting the applications to different Kyocera mobile handsets. Issues faced during porting: Device slowness in low-end handsets, cosmetic changes for different screen sizes, processing time when media files were huge in number and so on...
- Comprehensive knowledge in hardware debugging of Embedded applications using JTAG.
- Applications were developed to handle asynchronous calls to/from OEM/Device driver layers.
- Tools such as QXDM, Trace32, CrashDump Analyzer were used for debugging.
- Source Insight was used for coding and development.
- All the reported issues and CRs were tracked using CRMDB.
- Different branches specific to different phone models were maintained using Perforce.

Software Engineer
Gammon Software, Bangalore
Sep 2003 – Jun 2005
Software Suite: Embedded C, PIC Microcontroller, Assembly language

- Worked for development of temperature alert system and power line control system.
- Debugging and bug-fixing of in-house control systems

AWARDS AND HONORS

- Received customer appreciations for developing the freight delivery application as a sole developer.
- Gained customer confidence after delivering the Augmented reality application into Walmart's Consumer Application using ARCore - 2022
- Customer appreciation for delivering phase 1 of UI transformation using new Google's Jetpack Compose library and Kotlin - 2021
- Achievement award for transforming on-prem applications to GCP - 2020
- Spot-on awards for gaining the customer confidence and handling the onsite offshore model - 2017, 2018, 2019.
- Spot-On awarded for winning a couple of proposals in Mindtree – 2014
- Won the title during TomTom innovation day for the idea presented during 2014. The idea is now part of TomTom navigation devices as 'Combined Driving'.
- Team spot award for winning the automation projects - 2011.
- Demonstrated ECG in CDMA based Kyocera Phones in the annual technical fare by Kyocera Wireless India in 2008

EDUCATION AND CERTIFICATION

Bachelor of Engineering (Electronics and Communication) - 2002

The National Institute of Engineering, Mysore *(University: Visveswaraiah Technological University)*

Diploma in Real Time Embedded Systems - 2005

Mistral Solutions, Bangalore