Sumit Kumar

Alpharetta, GA - Email me on Indeed: indeed.com/r/Sumit-Kumar/af7cb54524ea2844

• Over 7 years of experience in the area of software development for mobiles and embedded systems, which includes understanding requirement specification, working on software design, coding, testing and maintenance.
• Skilled in developing APIs for middle ware Framework modules for mobile platforms using C and C++ and Java.
• Experienced of working on Android platform and frameworks and customizing it as per requirements.
• Undertaken full life cycle of Android Application Development which includes testing on device and simulator as well.
• Working on implementation of OMA-DM device management protocol for android devices.
• Expertise in using Design patterns and object oriented methodologies to design software for mobile phones.
• Experience of i Phone mobile application development and testing on device and simulator using x code and Objective C.
• Experience of code optimization using tools like Valgrind, Bullseye, lcov, gcov etc.
• Web Development experience using Php, Python, Java Script, CSS3, HTML5, DJango.
• Working Experience of MySQL and JDBC.
• Experience of developing unit test cases in C using C unit test frame work.
• Experience of using version control and bug reporting tools like clear case, clear quest, svn, perforce and git etc.

WORK EXPERIENCE

Android Developer

Samsung Telecommunication (Worldlink) - April 2012 to Present

Project: EDF Validator
Tehnologies Used: Java, MySQL, EDF, Bar Code Scanner.
This application is used to validate EDF files before submitting them to Sprint. It finds out invalid entry in EDF file, duplicated entry in EDF file. MySQL is used as Database to store validated EDF entries.
Technical Roles and Responsibilities:
• Developed application.
• Tested it.
Project: QR Code Activation
Technologies Used: Java, Android, Camera APIs, zxing, adb, json.

QR code activation project activates a cell phone using QR code. All necessary information for the activation are encoded in QR code. User scans the image using barcode scanner and device gets activated.

Technical Roles and Responsibilities:
• Wrote Barcode Scanner application using Camera APIs and zxing library.
• Built Qrcode for activation after converting binary structures into string.
• Wrote OMADM client wrapper to activate device using the data obtained from bar code reader.

Project: Voice Over WiFi
Technologies Used: Java, Web Services, SOAP, xml, ksoap2, jibx, wireshark.

VO-WiFi application allows user to make calls using wifi access points. This application verifies sprint network coverage at specific access point location using web services over wifi.

Technical Roles and Responsibilities:
• Wrote web service client application using jibx and ksoap 2 libraries.
• Tested it using wireshark.

Project: OMA-DM/OMA-CP
Technologies Used: Java, OMADM, OMACP, android, C, C++, QXDM, QPST, git, perforce, Odin, wireshark, Syncml protocol, adb, Linux, Eclipse.

OMA-DM and OMA-CP applications are used to synchronize and activate the devices. UI of these applications are made using android UI framework.

Technical Roles and Responsibilities:
• Designed OMACP application and implemented WAPPUSH parser.
• Designing different modules of project using good design methodologies.
• Implemented user interface for android OMA-DM application.
• Writing core libraries in C++, C and interfacing them with java using JNI.
• Working on maintenance release of old android Models.
• Analyze Syncml Messages and adb logs.

Android Developer
Qualcomm - January 2012 to April 2012

Project: Core BSP team.

Technologies Used: perl, C++, C, Perforce, Wire Shark, Windows, adb, QPST, QXDM, TRACE 32, JTAG.

This team is qualcomm is responsible for testing device drivers on new chip sets.
Technical Roles and Responsibilities:
• Writing automation Test Scripts to make test tools automated.
• Responsible for fuzzing APIs.

Android Developer
Kyocera Communications - October 2011 to January 2012

Project: Android Platform for Oblique Phones.
Technologies Used: Eclipse, JAVA, C++, Android open source, Perforce, WireShark, Linux, Android NDK, adb, QPST, QXDM.

Oblique is the code name for the Android platform project of kyocera android Milano phones. This project undertakes complete life cycle of bringing up full fledged Android mobile phone. It deals with bringing up hardware, porting android open source on it, modifying and adding new features to it, doing changes in it according to Service providers requirements, testing it in real time environment etc.

Technical Roles and Responsibilities:
• Adding new features to android stack.
• Fixing bugs reported by service providers and testing team.
• Modifying existing features as per the requirements of service providers.
• Writing JNI code to synchronize Android UI layer with modem layer.

Android Developer

Simbiosys Mobile Solutions - June 2011 to September 2011

Project: Calorie Burn Calculator
Technologies Used: Eclipse, JAVA, android framework.
Calorie Burn Calculator is an android application. Users can use this application to measure the amount of calorie burnt while running in open space. It uses GPS coordinates to measure the distance.

Technical Roles and Responsibilities:
• Wrote application in JAVA using Android Framework in Eclipse.
• Tested this application on simulator and on device.

Android Developer

ISIS Lab, NYU Poly - March 2009 to January 2010

Project: iSignOn Application
Site: www.identouch.com

Technology Used: Xcode, objective c, svn, http Protocol, paros, COCOA Environment.

iSignOn is an i-phone application. It uses signature recognition technologies to protect web accounts and secret passwords. User can log in to application by drawing his signature on i-phone screen from where he can access his web accounts and secret passwords.
Technical Roles & Responsibilities:
• Wrote application in Objective C using COCOA Development Environment.
• Tested this application on simulator and on i-phone device.
• Worked on finding a method of bypassing authentication in web accounts.

Android Developer

Samsung s/w Lab - August 2006 to November 2008

Project: Context-aware collaborative middleware for mobile applications
Client: Samsung s/w Lab. (South Korea)
Site: www.samsung.com

Technology used: C, C++, STL, COM, MS visual studio, Linux, WM6, c unit test Frame work, lcov, gcov, Bullseye, Valgrind, RDF, xml, webdav, ARMS, OMAP3 and many more.

Matrix is a pervasive computing project. In this project, Samsung is developing a context aware collaborative frame work for mobile devices. This frame work is supposed to provide public APIs for developers so that they can write their own applications of context aware Matrix functionalities.
Technical Roles & Responsibilities:
•N Location Module
APIs in Location module are C and C++ language implementation of JSR 179. It uses GPS as location provider. Location module uses GPS service daemon to access location information from GPS system.
• Implemented location APIs.
• Implemented unit test cases using c unit frame work.
• Implemented some small scenario applications using these APIs.
•N Sensor Framework
Sensor Framework module comprises of multiple sensors and an upper layer above all the sensors. This upper layer, known as common interface layer, hides heterogeneity of sensors and allows user to access

functionalities of sensors using same APIs. The sensors developed in sensor framework are location sensor, colleague sensor, weather sensor and environment sensor.
• Implemented weather sensor APIs.
• Implemented common interface layer.
• Implemented unit test cases for them using c unit frame work.
• N Porting and maintenance of Entire Platform
We were responsible for porting entire framework to WM6, Windows and two other Samsung proprietary operating systems. We were also responsible for the maintenance of first version of this platform.

Android Developer
Universities - December 2005 to May 2006

Project: Built Embedded Linux Systems
Client: Universities
Technology used: gcc, Linux kernel compilation, busy box, bin-utils and many other open source software

The objective of this project was to build an embedded Linux system with real time features for research labs of Indian universities. The hardware used for this system were VIA boards and strong ARM boards.

Technical Roles & Responsibilities:
• Scaled down kernel to fit board requirements
• Compiled kernel for X86 and ARM architecture
• Built cross compilation tool chain for ARM
• Configured and compiled gcc, busy box, bin-utils
• Installed embedded Linux software along with eclipse on customer's machines

Project: Finger print sensor Driver for Biometric system
Technology used: gdb, Linux box, arm cross compiler
Veridicom FPS200 is a direct contact finger print sensor. It is heavily used in Biometric systems. This sensor was embedded in simputer, a PDA with strong ARM processor and Linux operating system. This device driver is an usb interfaced module.
Technical Roles & Responsibilities:
• Wrote driver code and tested it on target device

Android Developer
A major defense lab in India - September 2004 to November 2005

Project: Logic for Radar PCI card
Client: A major defense lab in India
Technology used: c, Linux box, gdb, Linux internals.

This project is about developing logic for transferring real time radar data from hard disk to Half PCI card, processing it as per the logic given by customer and then printing this output on TTL and RS422 board.
Technical Roles & Responsibilities:
• Wrote the C program on the kernel side, which is the PDW card driver. The driver is compiled as modules using kernel headers, and using insmod installed in the kernel.

Name: Development of touch pad driver for Hand held LINUX PDA

Synaptic touch pad is used in hand held PDAs for inputting data. Basically this device is a serial interface module. The interface to this is through an insmod driver. The driver is a character mode driver.

Technical Roles & Responsibilities:
• Wrote the touch sense and output keypad modules interface
• Carried out the unit testing for the same

Name: Test development for loom machine card

This project was to develop a software for a loom machine to automate printing in some predefined patterns. The controller used in this project was MSP430.
Technical Roles & Responsibilities:
• Developed test plan and test cases for a MSP430 based embedded controller used in textile yarn controller.
• Was responsible for collecting bugs from the tests and reporting it to the development team.

EDUCATION

Masters in Computer Science
NYU-Poly

ADDITIONAL INFORMATION

Technical Skill Set

Languages C, C++, objective c, java, XML, java script, HTML5
Scripting Languages Perl, Bash Shell Script
Platforms Linux, Windows, Unix, WM6, OS X, Xen Server, android
Tools and Utilities MS Visual Studio, Xcode, Eclipse, clear case, clear quest, Bullseye, GDB, lcov, gcov, Valgrind.
Concepts
Linux Internals, Context aware Computing, system software development, mobile S/W development, machine learning, Open Mobile Alliance - Device Management

Open Source S/W Raptor, gpsd, Open SSL, PCRE, light httpd, AceDB, Android Open Source

Android Applications
Calendar
Link: https://play.google.com/store/apps/details?id=com.sumit.calendar
This is a demo calendar application. It allows user to add and delete events. It uses SQLite as data base and GridView to display the calendar

Calorie Burn Calculator
Link: https://play.google.com/store/apps/details?id=com.sim.sumit.caloriecalculator
Calorie Burn Calculator is an android application. Users can use this application to measure the amount of calorie burnt while running in open space. It uses GPS coordinates to measure the distance.

Projects Undertaken