

# Andrey B.

## Senior Software Engineer

### GENERAL QUALIFICATION

- 10+ of experience of programming in C/C++ and other languages;
- Strong knowledge of system engineering and understanding of assembly languages;
- Advanced knowledge in network programming, GNU/Linux, computer science;
- Extended experience in system analysis and design;
- Good leading and communication skills.

<b>Build tools:</b>	Jenkins.
<b>Networking:</b>	TCP, Networking, HTTP, IP.
<b>Version Control systems:</b>	Mercurial, GIT, CVS.
<b>Database:</b>	SQLite, MySQL.
<b>Mobile:</b>	iOS, Cocoa Touch, Eclipse.
<b>Technologies:</b>	ANTLR, GNU Bison.
<b>Backend:</b>	C, Asm x86, Java, Python, C++, PHP, Pascal, Asm ARM.
<b>Operating Systems:</b>	Windows, Linux, FreeRTOS.
<b>Development tools:</b>	QT Creator, Android Studio, NetBeans.

### EMPLOYMENT HISTORY

**2011 – Present**, QArea.

*Software Developer*

- Reverse-engineering and implementation of Skype protocols (C++, Boost, IDA Pro, GDB, Python);
- Development of a mobile travel guide application set (Symbian Anna, Belle, Qt, QML, C++, SQLite);
- Development of a custom mobile internet radio application (Symbian Anna, Belle, Qt, QML, C++, SQLite);

- Development of a mobile dictionary application set (Symbian, Qt, QML, C++, SQLite);
- Development and support of a wireless positioning system (Cross-platform Linux, Windows, Mac OS X, BREW, Android, C++, Java, Python, NPAPI, Wi-Fi, GPS, CMake).
- Code review and implementation of unit tests for existing software (C++)
- Refactoring of CUDA-based RTP video receiver (C++, CUDA)
- Development of bluetooth low energy medical data acquisition platform (C, Dbus, glib2, OpenWRT, Bluez, MQTT, IBM Watson, Amazon IOT)

**2008 – 2011**, Company A.

*Software Developer*

- Development of the GNU/Linux kernel drivers (input devices);
- Development of an automated call-center system with voice recognition (Asterisk, LumenVox, PHP, MySQL);
- Development of a distributed tracking and monitoring system (PHP, Python, C, C++, ASM ARM, MySQL, GPS, GSM).

**2008 – 2010**, V.N. Karazin Kharkiv National University.

*Laboratory Assistant*

- Development of a students' personal records control system (J2SE, MySQL).

## COMMUNICATION SKILLS

- **English** – Upper-Intermediate.

## EXPERIENCE

### **Skyhook projects cluster**

**Description:** The first location technologies, GPS and cell tower triangulation were inadequate - leaving frustrated mobile consumers with slow and inaccurate positioning information. In response, Skyhook developed a software-only location system based on Wi-Fi positioning, GPS and cell tower triangulation. Skyhook Wireless can determine your location based on the nearest WiFi router that it picks up through your computer and is the core basis of MyLoki.

**Technologies:** jQuery, ApacheSolr, Vagrant, MySQL, HubSpot, Android, SCSS, Python, Angular 2+, Confluence, Java (Android), Salesforce.com, SWIFT, Github, Express.js, Sass, Angular.JS, C++, Zendesk, Docker, LinkedIn API, Zend, Node.js, Objective C, PHP.

### **Surveillance and Debriefing System for the Military Industry**

**Description:** Advanced surveillance and debriefing recording and playback software. We created an integrated solution for video surveillance and debriefing to be used on Linux CentOS and Red Hat Linux platforms.

### **Project for a digital health company**

**Description:** This project for a digital health company that develops connected medical services. It enables the urologist to collect multiple uroflowmetries & voiding diary data in the comfort of the patients' daily life and the allows the clinician to access this data in an online portal. This app is a patientfriendly, flexible alternative for the current stationary uroflowmeters in hospitals or private practices.

**Role:** Software Developer.

### **An application to unit-test distributed system**

**Description:** This application allows to unit-test distributed system. It allows to define test cases, test suites and create custom testing modules.

**Technologies:** Python, XML-RPC.

### **Development of Bluetooth low energy medical data acquisition platform**

**Description:** IoT platform allows collecting medical data from customer-made devices.

OpenWRT-based firmware is augmented with a custom application suite that allows to:

- Collect data via Bluetooth from the devices;
- On-site configuration utility to setup network connectivity (Ethernet, WiFi Personal, WiFi Enterprise, Proxy settings);
- Remote management software via MQTT.

#### **Responsibilities:**

- Implementation of the software
- Integration with OpenWRT system;
- Bug fixing of the system code.

**Technologies:** C, Linux, Bluez, Mosquitto, OpenWRT.

**Duration & Team:** 22 months, 1 developer.

### **Refactoring of CUDA-based RTP video receiver**

**Description:** Customer requested refactoring of a custom made video receiver component, that uses Nvidia CUDA to decode H.264 video stream. The component also implements retrieval of the video stream via RTP and RTSP protocols.

**Responsibilities:** Review of customer code, refactoring, bug fixing, customer support, documentation.

**Technologies:** C++, Linux, CUDA.

**Duration & Team:** 2 months, 1 developer.

### **Static code analysis, review and testing**

**Description:** Customer requested review of their code and implementation of unit testing.

#### **Responsibilities:**

- Review of customer code;
- Search for security issues;

- Unit testing.

**Technologies:** C++, Linux.

**Duration & Team:** 2 months, 1 developer.

### **Skyhook Wireless**

**Description:** This programming library allows other developers to add positioning capabilities to their applications. It utilizes Wi-Fi and GPS data to calculate user position.

The Tizen part is implemented to collect WiFi access point data and handle their processing to the library.

**Responsibilities:**

- Support of existing code;
- Adding new features and porting to new platforms.

**Technologies:** C++, Java, NPAPI, Wi-Fi, GPS, Tizen, Linux, Windows, Mac OS X, BREW.

**Duration & Team:** 4 years, 5 developers.

### **Dictionary application**

**Description:** Set of applications allows users to check translations of words, phrases and their pronunciation. Also, there is a flashcards feature for easy memorization of words and phrases. There was a huge number (around 200) of individual applications, where each instance supports a particular set of languages.

**Responsibilities:**

- Implementing the application prototype;
- Creating the build system;
- Converting existing data into the DB format supported by the platform (SQLite).

**Technologies:** Symbian, Qt, QML, C++, SQLite.

**Duration & Team:** 3 month, 1 developer.

### **A custom mobile internet radio application**

**Description:** The application allows users to listen to music stations, check the latest fashion news, check out a program guide and listen to tracks on demand.

**Responsibilities:** Implementing this application.

**Technologies:** Symbian 5<sup>th</sup> Ed, Anna, Belle, Qt, QMT, C++, SQLite.

**Duration & Team:** 6 month, 1 developer.

## **EDUCATION**

- **2010 – 2011**, Master of Science, V.N. Karazin Kharkiv National University. Master of informatics, teacher of mathematics and informatics;
- **2006 – 2010**, Bachelor of Science, V. N. Karazin Kharkiv National University. Bachelor of applied mathematics.