

Usman Ajmal

Industrial Experience (~ 6 years)

Member Technical Staff, [PLUMgrid Inc.](#)

November 2014 – Present (11 months)

- **Web application for Cloud based Network Virtualization Platform**

Team lead for building PLUMgrid Console - a web based front end for our next generation Software Defined Networking based product.

Basic duties:

- Project planning and management using Agile model
- Design, development and maintenance of PLUMgrid Console
- Automated Testing Framework
- Troubleshooting and debugging tool to make operations and debugging more efficient

Technologies Used: HTML5, Object-Oriented JavaScript, CSS3, Selenium, JSON, Promises, Ajax, Web Sockets, D3 (Data Driven Documents), JSPlumb, AngularJS*

Senior Design Engineer, [Xgrid Solutions \(Private\) Limited](#)

July 2012 – November 2014 (2 Years 5 months)

- **Web application for Cloud based Network Virtualization Platform**

Team lead for development of web based tool to make management and configuration of Cloud based Virtualized Networks easier.

Basic duties:

- Designing and development of the web based tool
- Automated Testing Framework
- Large data visualization using D3

Technologies Used: HTML5, Object-Oriented JavaScript, JQuery, CSS3, Selenium, JSON, Ajax, Web Sockets, D3 (Data Driven Documents)

Senior Development Engineer, [xFlow Research Inc.](#)

June 2011 – July 2012 (1 year 2 months)

- **Open vSwitch Port to Netgear GSM735XX family of switches**

Developed Graphical User Interface for configuration and management of Netgear GSM735XX Network Switches. GUI included support for management of [Open vSwitch](#) (virtual switch and control stack for switching silicon) related functionalities too.

Technologies Used: HTML5, JavaScript, Bash scripting, Common Gateway Interface (CGI)*, Haserl*

xSwitch

Developed Graphical User Interface for xSwitch - a Software Defined Network (SDN) based prototype in collaboration with [Cavium Networks](#).

Technologies Used: Adobe Flex, PHP

Crash Lab

Build Crash Lab - a testing unit for enabling developers produce good quality code.

Technologies Used: Linux Bash scripting

Software Defined Networking (SDN) based solution for Enterprise and Cloud Networks

Managed a small team for development of SDN based software prototype for Enterprise and Cloud Networks which was demonstrated at [Open Networking Summit 2011](#) and at [Caltech's Super Computing Conference 2011](#). I developed the Graphical User Interface of the prototype too.

Technologies Used: Adobe Flex, PHP, Fusion Charts

NOX-at-Home

Developed Graphical User Interface in Adobe Flex and PHP for NOX-at-Home, a SDN based prototype for Home networks. NOX-at-Home was demonstrated at [10th GENI Engineering Conference \(GEC10\) March 15-17, 2011 held at Puerto Rico](#).

Technologies Used: Adobe Flex, PHP, Fusion Charts

Open vSwitch Port to an Embedded ARM Platform

Worked in a team for porting Open vSwitch to [Marvell](#) XCAT family of switches. I was responsible for porting network devices components of Open vSwitch.

Technologies Used: C Programming Language

Development Engineer, [Baltoros](#)

September 2009 – June 2011 (1 year 10 months)

Fresh Start 2 (FS2): Linux-based security solution for fast recovery of Window 7, XP and Linux systems from malicious software and accidental changes

FS2 is a Linux-based system which recovers Windows 7, Windows XP or Linux system from intentional and unintentional corruptions.

FS2 provides a clean OS (free from viruses, malwares, worms etc.) with less than 60 seconds bootup time. FS2 provides Faronics' DeepFreeze like functionality. However, DeepFreeze can be bypassed before OS bootloading as it works as a device driver within the host OS. On the other hand, FS2 deals with the boot loader, partition tables, MBRs outside of the host OS using partition hiding and cleanup via Linux (residing in a separate partition), thereby offering more security than DeepFreeze.

I performed extensive bash scripting to develop Linux part of FS2 series and wrote packaging software for the solution too which decreased time of installation and configuration of the whole system from several hours to 30-40 minutes. This process involved creation of 10+ partitions and cloning of Windows and/or Linux partitions to all of them.

Technologies used: Linux Bash scripting, C Programming Language

Hidden Peak: UI Design and Implementation for a Network Traffic Analyzer

Designed and developed a web based application for analysing packets flowing through a network. Main purpose of this product was to classify and regulate network traffic for improving performance of data flowing through the network.

Technologies Used: Adobe Flex, Action Script, PHP, SQL, Fusion Charts

Honors and Awards

- Outstanding Achievement Award (2014)
- Critical Achievement Program Award (2014)
- **Usman's Corner** - Conference Room named after Usman at PLUMgrid, Bay Area Office (2013)
- PLUMgrid Performance Award (2012)
- Baltoros Performance Award (2010)

Undergraduate Experience

Undergraduate Projects

- Memviz: Memory visualization toolkit for analyzing contents of Linux managed main memory and presentation of information retrieved in a graphical format. *(C++, Qt)*
- Compiler for a test language C--. *(C++)*
- Information hider application based on the concept of Steganography. *(MATLAB)*
- PAC-Man game. *(C++)*
- Operating System scheduling algorithms simulator. *(C++)*
- Snake game redesigned according to the Object Oriented techniques. *(C++)*
- Two simulations of Pyramids of Egypt. *(OpenGL with C++)*
- Graphical User Interface for a Flight Reservation System. *(.NET)*
- System Requirement Specification document for a prospected Linux distribution for [National University of Sciences and Technology, Pakistan](#).

Internship at CERN Lab, NUST

July 2007 - September 2007 (3 months)

Worked with a team working on PhantomOS - a project aimed at developing a customized Linux based Operating System for computers connected via Grid.

Education

Human Computer Interaction | Coursera

Human Computer Interaction by [Scott Klemmer](#) (2012)

[National University of Sciences and Technology, Pakistan](#)

B.E. Software Engineering (2005-2009)

Interests

- Traveling and Photograph (www.worotos.com)
- Recently started writing (www.usmanajmal.com)
- Reading about businesses (especially startups)
- Front End Design
- Data Visualization
- Mountain Biking