Anatoliy Bilenko

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Contents

1 CONTACTS

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2 BACKGROUND

- Linux systems programmer with some experience in Linux kernel;
- Leading and mentoring people;
- Fluent in C/C++, assembly, bash, python;

- Distributed systems;
- Telecommunications and protocols;
- Statistics, Data mining, Machine Learning, Computer vision, DSP;
- Discrete event simulation;
- Solution-wide performance debugging;
- Open source contributor.

3 EXPERIENCE

3.1 2011-now: Distributed object store

Company: SEAGATE/XYRATEX

Remote work, globally distributed team.

`https://github.com/Seagate/cortx-motr`

Involved into develpement of distributed object storage system designed for great efficiency, massive capacity, and high HDD-utilization.

Technologies: C/asm/python/bash/various cluster hardware, network and storage controllers.

- **2020 - now:** Distributed transaction management team lead (4 engineers);
- **2019 - 2020:** Performance team lead (8-15 engineers);
- **2018 - now:** A part of architectural group. Software product design, including requirements gathering, use-case definition, milestone planning, and integration with complementary subsystems. Communication of technical decisions, development plans to software developers, team leads, product management.
- RAID NxPxK library design and implementation;
- Distributed configuration component implementation;
- Preemptive locking primitive design and implementation;
- "Parity-math" component as a part of SNS-repair (from HLD to TESTING);

- HLD and DLD development of "rpc-layer-core" component;
- Misc. tasks from CODE to TESTING like lib improvement, etc;
- Transaction engine component design and implementation;
- Designed implementation plan for the transaction engine integration (overall work was around ~5k hours);
- Designed and implemented one of the “RUM Conjecture” persistent structures;
- Designed approaches (based on existing but with significant project specifics) allowing to increase parallelism level for storage structures of transaction engine;
- Performance tuning and optimization in different contexts: from application to system-wide;
- Page Daemon design and implementation;
- Designed implementation plan for the Page Daemon component integration (an alternative was to rewrite the whole project code base);
- Distributed transaction manager detailed level design (high level design was proposed by the architect);
- Different kinds of library algorithms and improvements mostly related to parallel and asynchronous programming (ex: parallel_for() implementation, async termination implementation, etc);
- Different kinds of scientific work like system performance modeling (queuing theory);
- Designed and implemented distributed profiler;
- Designed and lead implementation of the cluster-wide performance harness (telemetry).

3.2 2009-2011: Face detection and recognition engine

Company: VIEWDLE, Kiev
SENIOR SOFTWARE ENGINEER
SENIOR RESEARCH (CV/DSP) ENGINEER
Technologies: Technologies: C++/matlab/opencl/opencv

- Responsible for tuning of Viewdle's core algorithms and implementation of processing engine for platforms containing GPU. Responsible for engine and algorithms rewriting, deep code optimization. Provide quality engine work and quality engine and algorithms code.

- Responsible for all development steps of new light-independent normalization algorithms for Viewdle engine (modeling, development, implementation, tuning, testing, integration). Viewdle engine is a bunch of core face detection algorithms and provides clean APIs for further integration. It can operate as a part of complex system over different hardware/software platforms.

3.3 2007-2009: Emergency Call controller

Company: LUXOFT/BAYMARK, Odessa
SENIOR EMBEDDED ENGINEER
Technologies: C++/RTOS/VME/QNX

- Provided technical leadership to a team of three developers. Monitored progress and managed priorities to ensure timely delivery. Responsible for design, implementation, debugging, documenting and SCM (Software Configuration Management) of parts of telecommunication emergency system, a part of embedded real-time safety-critical application for automotive industry.

- Emergency Call (eCall) controller works as a part of automotive HSS (Human Safety System). It interacts with most of control systems of a vehicle. eCall system is based on GSM-module with shared application processor. The main goal of eCall is vehicle data collection, sending current vehicle information to service-centers and making emergency calls in accident states.

3.4 2006-2007: Graphical rasterizer library

Company: LUXOFT, Odessa
SOFTWARE ENGINEER
Technologies: C++/RTOS/VME/QNX

- Responsible for implementation, documentation, debugging and SCM (Software Configuration Management). Designed cross-platform software capable of running on Win32 and QNX operating systems and various hardware architectures (x86 and ARM9).

- Graphical rasterizer module works as a part of a portable navigation device. It interacts with positioning module and draws current 2d-map view. The main feature of graphic rasterizer is design and application of fast computer-graphics algorithms (drawing base primitives) and optimization for target device and platform (ARM9 / QNX).

3.5 2002-2006: Hardware related projects

- This part of CV does not include precise and full list of completed projects;
- Hardware-related experience mostly in airspace and telecommunication;
- Software and hardware for sensors and actuators, digital engine control systems, telemetry systems in airspace domain.
- Software and hardware components for telephone station switch.
- At least several significant career aspects cannot be covered due to NDAs.

4 EDUCATION

- Odessa National Polytechnic University, 2001 - 2007, Master of Science in EECS. GPA: 98/100;
- Odessa National Polytechnic University, 2008 - 2013, PhD in EECS: "Methods of performance increase in reconfigurable computing systems by means of new algorithmic and structural organization".

5 COMMUNITY

- Provided lectures on "Processor design" and "Compiler design" read in Odessa National Polytechnic University, 2009-2015. My role: volunteer, leader, organizer;
- Elm study group.
- Seagate | Meet the Architect – CORTX Observability with Anatoily Bilenko

- Seagate | Meet the Architect – CORTX DTM: Resiliency in Distributed Systems