Bruce Rabe

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Professional Experience

HPE and SimpliVity Corporation 2015-present

Architect and Technical Lead for HPE SimpliVity, creating a new management solution that scales the product from 32 nodes to several hundred nodes

- Created a microservices architecture with transition steps to convert existing Java Spring services into Golang microservices running in docker containers
- Secured the solution using OAuth2 RBAC authentication and authorization
- Developed a Go service to SSH into VMs and create support capture bundles using Gin as a REST router, greatly enhancing product supportability
- Prototyped a Go service with MongoDB acting as a cache manager and document store – improved response time from 45 seconds to 100 milliseconds
- Instrumented Java and Go services using OpenTrace and Prometheus/Grafana
- Re-used about 66% of existing Java Spring and SQL code in the transition process
- Mentored junior team members by providing technical guidance and support
- Increased team velocity sprint over sprint by identifying impediments, and then creating Kaizon experiments to reduce the impediments

Technical Product Owner for SimpliVity REST API, defining product direction in consultation with internal and external customer, creating/prioritizing scrum backlog, communicating clear product vision

- Created a new REST API using Java, Spring MVC, PostgreSQL, and Apache Thrift. Lead a small team by creating the scrum backlog of stories, prioritizing stories with input from the team and product management, consulting with stakeholders, etc.
- Improved API performance by 15x by converting from Thrift API access to direct JDBC database queries against optimized SQL views. Converted C++ code to multi-threaded Java code to perform role based authorization and access control.
- Implemented a REST API test framework in Java resulting in much faster test runs (hours vs. minutes), less test code, increased code coverage, and 10x faster implementation of new tests.
- Extracted analytics from JIRA and BitBucket and then created interactive data visualizations to influence the team to create more incremental pull requests and provide more feedback to each other. Resulted in higher team velocity and fewer defects. Written in R and Python.
- Wrote example REST client programs for customers in Python, PowerShell, Node.js, and Perl.
- Analyzed customer usage of SimpliVity REST API by writing tools to parse 22TB of customer support logs and web page analytics resulting in product and documentation enhancements to avoid common syntax misunderstandings found in the analysis.

Full Stack Developer

- Developed the SimpliVity Web Client Extension for vSphere, making it easy to manage a software-defined datacenter. This is written in Adobe Flex and Java.
- Created a plan and prototype for moving from Flex to Angular 2 and HTML5
- Focused on Simple Storage Management in a hyper-converged infrastructure

EMC Corporation
Consultant UX Designer, 2012-2015

User Experience Designer (UXD) for VNX product line, specializing in user research, competitive analysis, wireframes, storyboards, interaction design, usability testing, prototyping, etc.

- Designed UX for cloud storage project. Interviewed customers on their cloud storage use cases and requirements. Synthesized requirements and functional components into a House of Quality Report, working closely with engineering and product management. Created Balsamiq storyboards for top use cases and wrote an Adobe Flex plug-in for a proof of concept.
- Created a UX Community of Practice to train engineers in best practices using social media, wikis, seminars, and design/implementation reviews.
- Sponsored UXD for several component areas, created and validated requirements for various user personas, designed intuitive workflows, evaluated competitors, tested usability, and worked closely with developers to ensure implementation met the design.
- Set direction as Advisory board member of the cross-company EMC Common User Experience group, focused on design patterns, mobile development, common branding, evangelism, etc.
- Worked with the office of the CTO to extract and analyze AD project information using Python and then created data visualizations showing the portfolio broken down by IP theme, business unit, product, and geography using Excel, Gephi, CartoDB, and Tableau.

Consultant Software Engineer, 2007-2012

GUI architect, coordinating global technical decisions between different teams, evaluating technologies and implementations, creating functional specs and presentations and working with other business units on education and adoption of the Unisphere GUI frameworks.

- Served as feature lead for VNXe storage provisioning, ensuring ease of use while porting code from a mid-tier to an entry level product. Influenced a cross-functional team to simplify the most common workflows using intelligent defaults and removing unneeded legacy options. Created an end-to-end provisioning design for FC/iSCSI ports, hosts/initiators, and applications.
- Created a Unisphere Mobile prototype iPad app by learning Objective C and iOS programming, conducting user research on mobile use cases and platform adoption, and leading a small international team to complete the app. UM was featured in an EMC World keynote address.
- Invented an alternate interface for storage management, using a mobile device camera and augmenting the picture with visual displays of equipment health, temperature, power consumption, and performance. Won an EMC Innovation Showcase award for the idea.

Education

University of Pennsylvania, Philadelphia, PA
  Masters in Computer Science. Major in Computer Graphics
  Bachelors of Science in Engineering and Economics. Major in Systems Engineering and Finance

Online certificates in Human-Computer Interaction, data science/analytics/visualization, machine learning, social network analysis, statistics, computer vision, R, Python, Hadoop, Spring, Security Certified Product Owner and Scrum Master

Awards and Patents

- 41 US Patents granted in augmented reality, storage management, plug-in architectures, caching techniques, mobile app development, QOS, sonification, UI dashboards