Saunders, Jerren

FY'19 Year-End Performance review (1-Mar-2018 - 28-Feb-2019)

Systems Software Developer II

Organization: QNX Wireless Framework (Karen [redacted])

Manager: Karen [redacted]

Location: Cary, CG2

Evaluated By: Karen [redacted]

03/01/2018 - 02/28/2019

Overall

Manager Overall Evaluation

Rating: Fully Meets Expectations

Goals

FY19 Goal 1 (30%): Help to achieve $[redacted] in QNX revenue

Help to achieve $[redacted] in QNX revenue:

- Ensure development, testing and delivery of gated products;
- Maintain existing product baselines including GA patch development and testing;
- Determine important roadmap features to maintain and grow customer base;
- Provide engineering support for sales opportunities.

Due Date: 02/28/2019 Status: In Progress Completion Date:

FY19 Goal 2 (25%): Help to achieve $[redacted] in Services Revenue

Help to achieve $[redacted] in Services Revenue:

- Ensure that all billable work is properly billed to customer support plans;
- Ensure timely responses to customer cases/emails to increase customer satisfaction;
- Ensure quality development and testing of customer services releases;
- Ensure that your timesheets are entered in a timely & accurate fashion;
- Find ways to go above and beyond for our customers

Due Date: 02/28/2019 Status: In Progress Completion Date:

FY19 Goal 3 (15%): Help to achieve a Contribution Margin of $[redacted]

Help to achieve a Contribution Margin of $[redacted]:

- Capitalize on potential new customer engagements;
- Help customers achieve production status which in turn enables the run-time income;
- Look for opportunities to keep costs down;
- Helping to make inefficiencies better
- Optimize effort required to produce and track quality deliveries (examples include automation, process improvements, new ways to visualize results, etc.)

Due Date: 02/28/2019 Status: In Progress Completion Date:

FY19 Goal 4 (10%): Support the closing of [redacted] new revenue generator

While the goals of closing [redacted] and of innovating [redacted] new revenue generator is not directly achieved by our team, help to support these goals however possible if you are asked to get involved (ie: meetings, conference calls, design reviews, effort estimates, dog food days, etc).

Due Date: 02/28/2019 Status: Not Started Completion Date:

Performance Evaluation Questions

Highlight Key Accomplishments/Achievements:

Manager Evaluation

Response: Jerren's contributions this year have been mainly focused on creating and deploying a solution to process, store and display test results. He has diligently pursued this objective, learning new technology areas, creating the solution, testing performance, importing existing test results to validate the solution. Jerren has been very active in the effort to create a partnership with NCState and use students to help implement the dashboard solution. The NCState partnership has been very successful and beneficial for both QNX and the students. The database/dashboard solution is in a position to go live this year, and I look forward to the impact it will have on the QNX test organization.

Jerren's accomplishments this year are solid and innovative and he can always be counted on to deliver solutions.

Employee Evaluation

Response: This year has been a year of many new adventures. The initial work on the BlackFishDB system was continued to incorporate the weekend regression test results. This work entailed analyzing the table structure of the current MySQL database being used, re-learning SQL query syntax and writing queries to extract the data, learning the Python language, writing scripts to mine the data from the database, and organize it into a JSON schema that we designed to allow efficient storage and rapid retrieval of the data within MongoDB. Once the data was stored into the database, M[redacted] [redacted] and I pursued development of a web dashboard, requiring us to learn web development techniques and new languages including JavaScript, Node.js, JQuery, several other JavaScript frameworks so that we could develop a RESTful API and a front-end user interface to interact with the underlying MongoDB. This web development and NoSQL database arena required an extreme paradigm shift from my previous developer experience. The need to learn so many radically different and new concepts all while designing and building out the BlackFishDB system from all these individual pieces was challenging and very fun. In the end, we were able to produce a dashboard that provided additional functionality over the current offering (regression test result report comparisons), but more importantly showed that the new backend allowed for much faster analysis of the data. The current solution takes approximately 2 to 3 hours to generate a report comparing the most recent

weekend regression test run against the previous week's, and that report only shows those test that changed from the previous run. Generating a report that includes more detail or additional suites would require an even greater amount of time. The system M[redacted] and I developed allowed for the same report to be generated in about 45 seconds and also provided additional functionality for the user to sort, filter and quickly identify issues.
The BlackFishDB system has been designed to be dynamic, so now that the underlying structure has been started, adding test results from other areas and products should be quicker and also provide the same performance improvements as seen in the regression reports. Being based on a NoSQL database, storing additional information to new test results will no longer require re-working on the backend; the data can simply be added to the information output from the test, and the front end updated to utilize those new fields. Also, now that the data is stored in a more flexible and faster database, we have the potential to create additional reports and develop tools that can monitor and analyze the test as they are run to automatically detect anomalies quicker. The adage is "the sooner an issue is found during the development cycle, the easier and cheaper it is to fix." We have designed this system to support not just the current data collected during test runs, but adapts to the needs of future test requirements and also supports adding features that will facilitate the development of a system that will help automate task that are currently performed manually and are extremely time consuming, so that issues can be identified sooner and also so those resources can be utilized elsewhere.

Highlight areas where company values have been demonstrated. Share specific examples about how the goals were achieved in a way that supported the BlackBerry values of Customer Focus, Innovation, Integrity, Team Work, Mutual Respect and Accountability:

Manager Evaluation		Employee Evaluation	
Response:	Jerren consistently demonstrates company values. He focuses on his internal customers and is willing to go above and beyond,	Response:	My customers are typically internal; my co-workers. This past year, I have continued filling the role of being the local hands and

learning new technologies to complete the database&dashboard solution. Jerren also extends his role serving as the local IT contact. He can be counted on to keep track of QNX Cary IT needs and addressing issues when they arise.

Jerren shows a lot of integrity as he is willing to get involved and investigate concerns. Examples are the Beyond Compare issue, the qnx cary drive issue, making suggestions as the [redacted] accountability officer and arranging for tech talks. Basically Jerren is a doer, and it is much appreciated. Jerren is a respectful and productive team member. He takes ownership of his assigned tasks and completes them in a timely manner.

feet for IT, assisting with troubleshooting, replacing, verifying and configuring equipment in the server room. I also frequently help co-workers to identify and resolve issues they are having with their computers and other equipment.

As the local contact for many things IT, it was brought to my attention this year that the QNXCary drive was approaching its capacity. After working with IT and investigating the contents of the drive, I discovered that we were using the drive to store extremely large image files used for testing. These files took a considerable amount of time to generate, and were frequently needed for testing, but because of their size, keeping multiple copies on an employee's computer was not possible. However, storing them on QNXCary, with the backup policy that was in place for the share, was overtaxing the Network Filer. After investigating the problem, I worked with members of the Test Team to implement a new way of working that not only reduced the stress on the Network Filer, but also provided a new computer and procedure that sped up the image generation process and reduced the image writing times for test devices. I also worked with IT to split the QNXCary share into three separate shares, each implementing their own backup policy that was fitting for the contents being stored.

While helping a new team member get started, I reached out to IT to request a license for Beyond Compare 4 Pro. The initial response back was that we needed to put in a procurement request to purchase a new license because there were no available license remaining. After a little digging, I learned that we had many unused license for the previous version of Beyond Compare that were eligible for a free upgrade because they were purchased shortly before v4 was released. This discovery saved the company several thousands of dollars in license fees cost, and made it possible to upgrade many users to new functionality in the software. The investigation also showed us that this particular software provider had a generous upgrade policy, and that when needed in the future, the cost to upgrade

existing, unused license would be a more cost effective solution than acquiring new licenses.

I continued to arrange Tech Talks the first part of this year, to encourage the team to share their knowledge, shortcuts and other helpful pieces of information. However, they slowly tampered off in Q1 and we haven't had any the last several months of 2018. The feedback from the team was that the talks were beneficial, but as I dropped the ball on scheduling and arranging for presenters, nobody else from the team has stepped up to fill in and continue the sessions. I would like to gather feedback from the team and if there is still interest in these talks, begin scheduling them again, but maybe at a slower frequency as to not pull me away from other work.

This year, I was selected to be one of the Accountability Officers for the Cary site for the [redacted] system. In this role, I am tasked with overseeing those in our region during an [redacted] event, to make sure that everyone is accounted for by them having properly responded to the notification alert or by contacting them directly and updating their status within the [redacted] system. In this role, during some test events, I noticed several areas of concerns and short-fallings of the system that we are providing to customers. I wrote up the feedback and offered it to those within BlackBerry who oversee our implementation of the tool, so that they could get it back to the [redacted] team for consideration. The suggestions included ways to reduce invalid responses, technique that could provide additional information to accountability officers and reduce time wasted on unnecessary situations, improvements to the web UI, strategies for gaining additional insight of users during an event, and identifying several use-cases where the current implementation fails to identify a person who actually needs assistance. The feedback was well received and since that initial offering, the team has followed up with several phone calls to gather additional details and discuss the suggestions that were provided. Some suggestions are scheduled to be added into

production this February (2019).

Innovation came again in the form of a submission to BBIdeas ([redacted]Ideas/idea_details.jsp?ideaId=8213). In September I submitted an idea for a feature that could be added to the BlackBerry [redacted] device. The suggestion centered around [redacted] which would allow additional security, audit trails, safety, information dashboard, redundancy communication channel, alternate feedback mechanism if [redacted] fail, [redacted] form, new [redacted] alarms, and rapid notifications to the [redacted] to quickly address some existing alarms. While the idea has received a few upvotes from fellow employees, it appears the people responsible for reviewing and screening these ideas ([redacted]) have not been reviewing them.

Highlight areas of improvement required in the current role:

Manager Evaluation

Response: Jerren has successfully broadened his technical skills to accomplish his work this past year. He proactively researches and improves his expertise to complete his tasks. I would encourage Jerren to continue pursuing the competencies needed for the database&dashboard work.

Employee Evaluation

Response: This past year, working on the BlackFishDB system has brought me into a lot of areas that I have never ventured into before. Some of these areas include NoSQL database concepts, MongoDB aggregate markup language, JavaScript development, including Node.js, Express, Jquery, and many other JavaScript frameworks, REST API development, Python scripting and even LDAP authentication. It has been a challenge to learn all of these new languages and design concepts, which are major paradigm shifts from stuff I've worked on in the past. But at the same time, it has been extremely fun to dig into these new fields and to design and build a system that will be beneficial to many others in the company.
The more I work with the BlackFish system to design and build the supporting scripts and tools needed, the more it is evident how important it is to fully understand how the underlying systems operate in order to provide optimal performance. It is a difficult balancing act to get something implemented quickly and at the same time design a

foundation that will demonstrate the potential of the system and support the addition of future feature enhancements later as time allows. Having a good understanding of how MongoDB aggregates work, optimizing SQL queries, the MongoDB API, etc. is extremely important when building BlackFishDB. On several occasions this year, after getting more familiar with MongoDB, I was able to change aggregates to run much faster; In one case, reducing a frequently run process down from 45+ seconds to 0.004 seconds. In another, simply enabling a feature in MongoDB reduced a script's total run time from 192 to 19 seconds. In itself, the measurement in seconds seems insignificant, but when scaled out to the full system and its daily use, these small optimization convert into hours and days of saved time. Additional research, studying and testing is needed for the implementation of all components of the BlackFishDB system as it matures to ensure other features and implementation techniques are used so that the system continues to scale optimally and to avoid a single component becoming a bottle neck for the whole system.

Highlight areas that can support you in your career development (12 - 18 months):

Manager Evaluation

Response: Agree with Jerren's assessment. Please suggest any specific training that could help.

Employee Evaluation

Response: I see a lot of potential for making improvements in the testing realm: both for collecting, storing and aggregating results, as well as automating and improving our testing capacity. With the planned setup of a "[redacted]Lab Lite" here in Cary, I am looking forward to working with J[redacted], I[redacted], and M[redacted] to learn more about our current process and to identify areas where things could be improved and possibly made more efficient. I believe that there are several areas that could easily be optimized to help improve our testing capacity, which is crucial as QNX continues to grow and needs to support additional platform configurations and customer's needs.

I also need to continue to expand my knowledge and understanding of the languages and systems that we have used to build BlackFishDB. With a system

composed of several different pieces, one part that is poorly executed or implemented effects the operation of the whole system. Already we've seen where minor changes have meant the difference between execution in milliseconds instead of minutes. Ensuring that the system continues to operate efficiently and that it can scale optimally means getting very familiar with all of the components used so that the best decision can be made before other components become dependent on it.

With M[redacted] focused on [redacted] testing, the sponsorship duties of the Spring semester Senior Design team at NC State will fall more on me than the previous semester. The work with the students has been a beneficial experience and I'm looking forward improving my mentorship abilities in the upcoming semester(s).

I need to continue to expand my knowledge in MongoDB design and development so that information can be leveraged in improving our testing capabilities. I also need to continue learning JavaScript and related frameworks so that features available in the underlying database can be easily and quickly be developed and made accessible through web browsers to provide a true cross-platform solution across the company.

Section Summary

Manager Evaluation

Comment: Jerren is an effective member of the QNX team. He tackles his assignments with enthusiasm and efficiency, delivering solid results for the company. Jerren's work has fully met expectations and contributed to corporate goals of QNX revenue (efficiancy improvements) and maintaining QNX product baseline. Good job Jerren!

Employee Evaluation

Comment: